# Nautical Almanac

# 2025

Generated using Skyfield
http://rhodesmill.org/skyfield/

March 30, 2025

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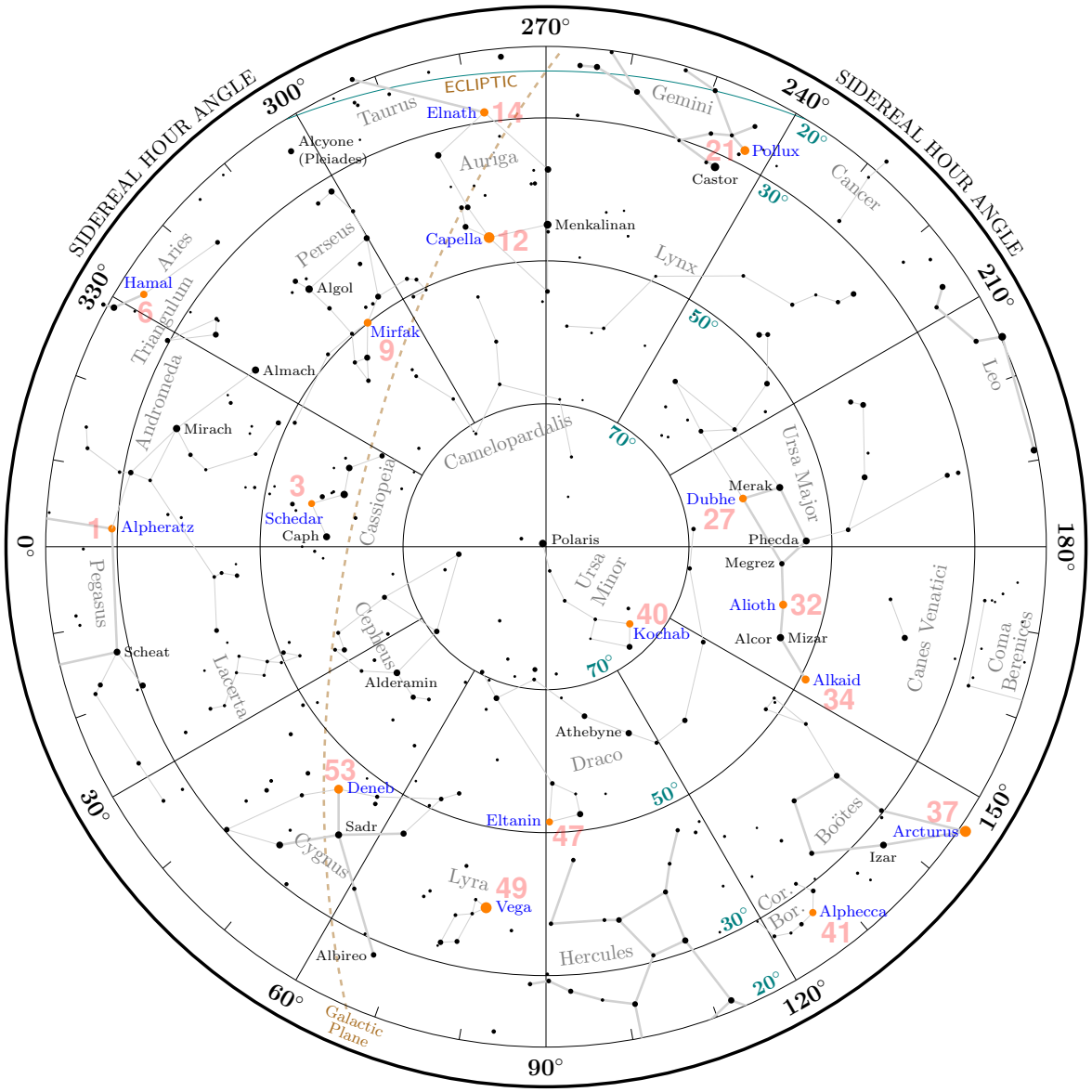
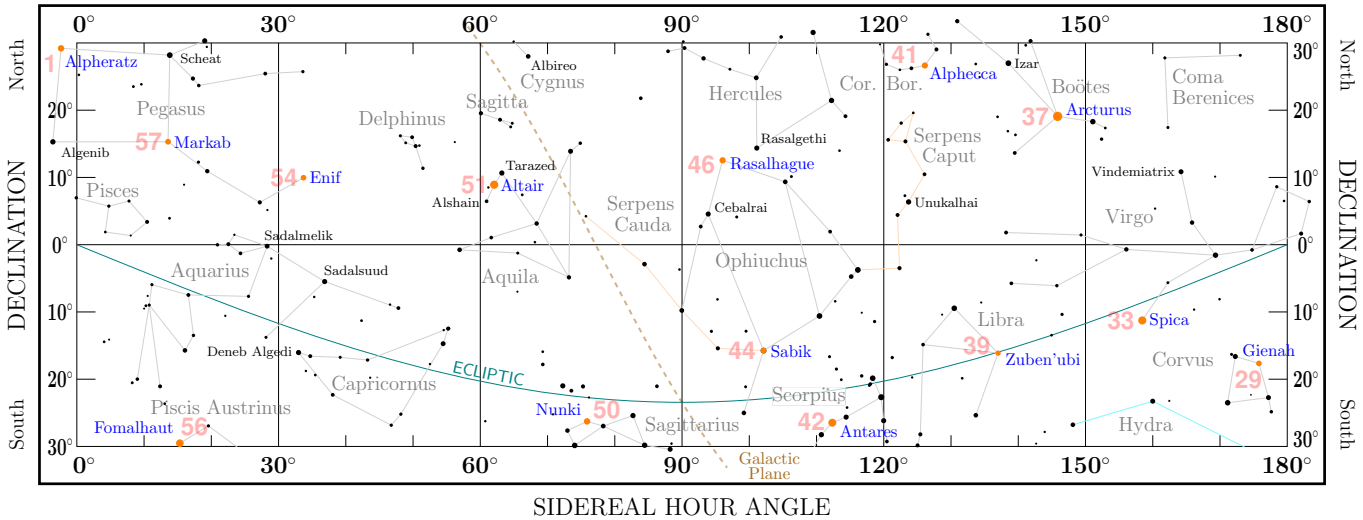
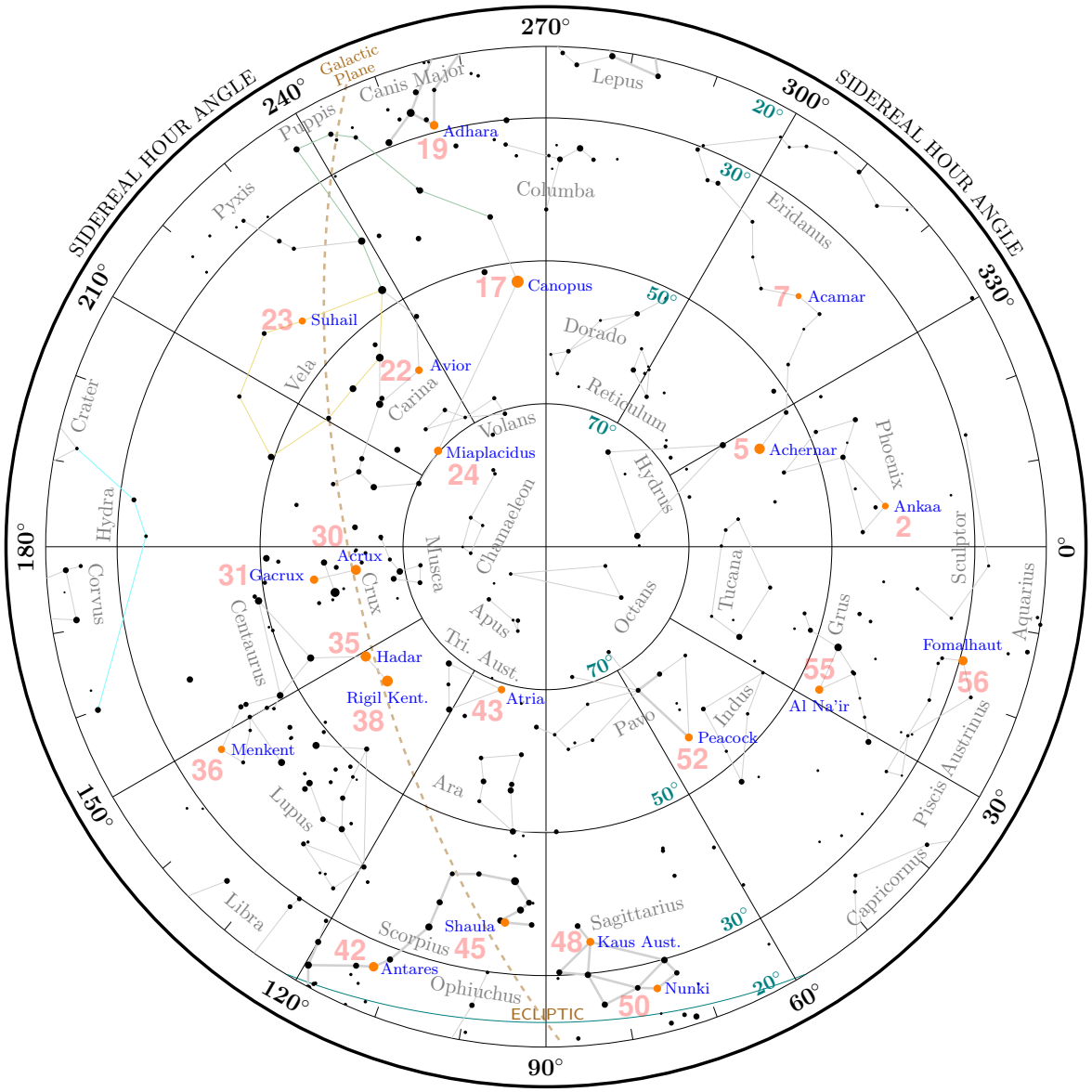
## NORTHERN STARS



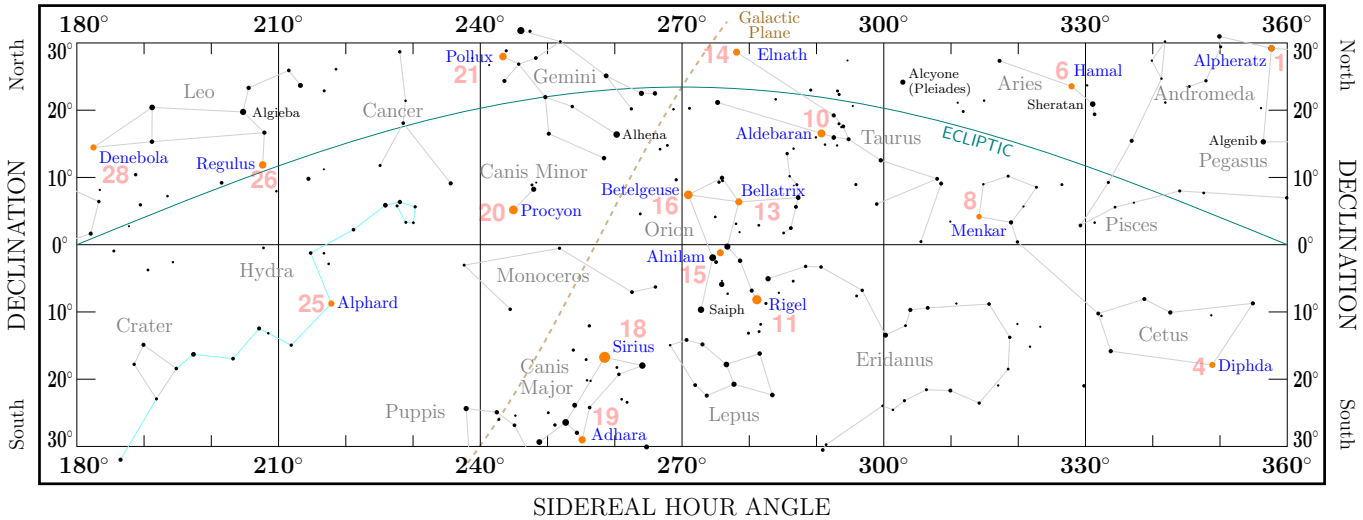

## EQUATORIAL STARS (SHA 0° to 180°)



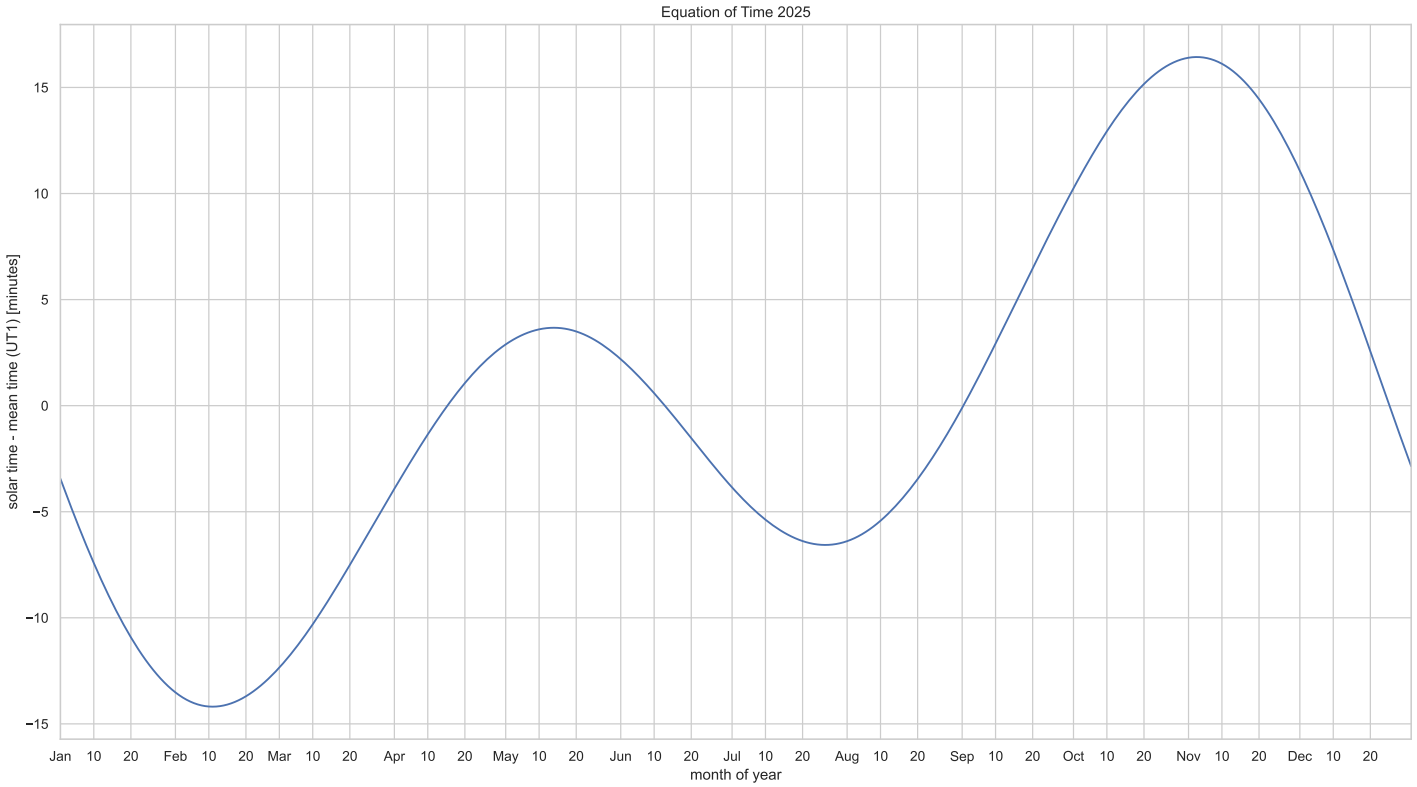
## SOUTHERN STARS

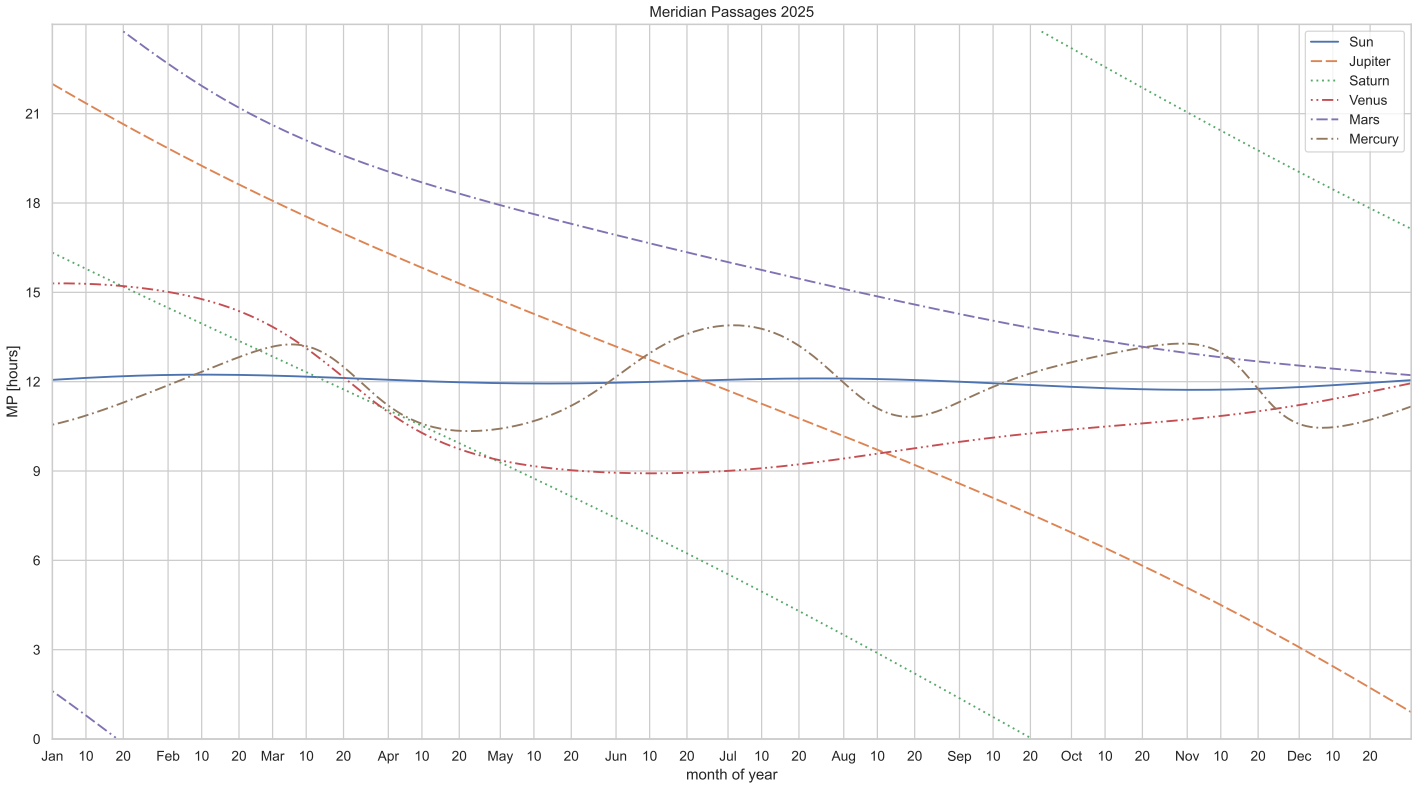



## EQUATORIAL STARS (SHA 180° to 360°)



# Equation of Time and Meridian Passages



# Conversion of Arc to Time

| 0°-59° | | 60°-119° | | 120°-179° | | 180°-239° | | 240°-299° | | 300°-359° | | | 0.00′ | 0.25′ | 0.50′ | 0.75′ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° | h m | ° | h m | ° | h m | ° | h m | ° | h m | ° | h m | ′ | m s | m s | m s | m s | ′ ″ | s |
| **0** | 00:00 | **60** | 04:00 | **120** | 08:00 | **180** | 12:00 | **240** | 16:00 | **300** | 20:00 | **0** | 00:00 | 00:00 | 00:00 | 00:00 | **0.0=00** | 0.00 |
| **1** | 00:04 | **61** | 04:04 | **121** | 08:04 | **181** | 12:04 | **241** | 16:04 | **301** | 20:04 | **1** | 00:00 | 00:00 | 00:00 | 00:00 | **01** | 0.07 |
| **2** | 00:08 | **62** | 04:08 | **122** | 08:08 | **182** | 12:08 | **242** | 16:08 | **302** | 20:08 | **2** | 00:00 | 00:00 | 00:00 | 00:00 | **02** | 0.13 |
| **3** | 00:12 | **63** | 04:12 | **123** | 08:12 | **183** | 12:12 | **243** | 16:12 | **303** | 20:12 | **3** | 00:00 | 00:00 | 00:00 | 00:00 | **03** | 0.20 |
| **4** | 00:16 | **64** | 04:16 | **124** | 08:16 | **184** | 12:16 | **244** | 16:16 | **304** | 20:16 | **4** | 00:00 | 00:00 | 00:00 | 00:00 | **04** | 0.27 |
| **5** | 00:20 | **65** | 04:20 | **125** | 08:20 | **185** | 12:20 | **245** | 16:20 | **305** | 20:20 | **5** | 00:00 | 00:00 | 00:00 | 00:00 | **05** | 0.33 |
| **6** | 00:24 | **66** | 04:24 | **126** | 08:24 | **186** | 12:24 | **246** | 16:24 | **306** | 20:24 | **6** | 00:00 | 00:00 | 00:00 | 00:00 | **0.1=06** | 0.40 |
| **7** | 00:28 | **67** | 04:28 | **127** | 08:28 | **187** | 12:28 | **247** | 16:28 | **307** | 20:28 | **7** | 00:00 | 00:00 | 00:01 | 00:01 | **07** | 0.47 |
| **8** | 00:32 | **68** | 04:32 | **128** | 08:32 | **188** | 12:32 | **248** | 16:32 | **308** | 20:32 | **8** | 00:01 | 00:01 | 00:01 | 00:01 | **08** | 0.53 |
| **9** | 00:36 | **69** | 04:36 | **129** | 08:36 | **189** | 12:36 | **249** | 16:36 | **309** | 20:36 | **9** | 00:01 | 00:01 | 00:01 | 00:01 | **09** | 0.60 |
| **10** | 00:40 | **70** | 04:40 | **130** | 08:40 | **190** | 12:40 | **250** | 16:40 | **310** | 20:40 | **10** | 00:01 | 00:01 | 00:01 | 00:01 | **10** | 0.67 |
| **11** | 00:44 | **71** | 04:44 | **131** | 08:44 | **191** | 12:44 | **251** | 16:44 | **311** | 20:44 | **11** | 00:01 | 00:01 | 00:01 | 00:01 | **11** | 0.73 |
| **12** | 00:48 | **72** | 04:48 | **132** | 08:48 | **192** | 12:48 | **252** | 16:48 | **312** | 20:48 | **12** | 00:01 | 00:01 | 00:01 | 00:01 | **0.2=12** | 0.80 |
| **13** | 00:52 | **73** | 04:52 | **133** | 08:52 | **193** | 12:52 | **253** | 16:52 | **313** | 20:52 | **13** | 00:01 | 00:01 | 00:01 | 00:01 | **13** | 0.87 |
| **14** | 00:56 | **74** | 04:56 | **134** | 08:56 | **194** | 12:56 | **254** | 16:56 | **314** | 20:56 | **14** | 00:01 | 00:01 | 00:01 | 00:01 | **14** | 0.93 |
| **15** | 01:00 | **75** | 05:00 | **135** | 09:00 | **195** | 13:00 | **255** | 17:00 | **315** | 21:00 | **15** | 00:01 | 00:01 | 00:01 | 00:01 | **15** | 1.00 |
| **16** | 01:04 | **76** | 05:04 | **136** | 09:04 | **196** | 13:04 | **256** | 17:04 | **316** | 21:04 | **16** | 00:01 | 00:01 | 00:01 | 00:01 | **16** | 1.07 |
| **17** | 01:08 | **77** | 05:08 | **137** | 09:08 | **197** | 13:08 | **257** | 17:08 | **317** | 21:08 | **17** | 00:01 | 00:01 | 00:01 | 00:01 | **17** | 1.13 |
| **18** | 01:12 | **78** | 05:12 | **138** | 09:12 | **198** | 13:12 | **258** | 17:12 | **318** | 21:12 | **18** | 00:01 | 00:01 | 00:01 | 00:01 | **0.3=18** | 1.20 |
| **19** | 01:16 | **79** | 05:16 | **139** | 09:16 | **199** | 13:16 | **259** | 17:16 | **319** | 21:16 | **19** | 00:01 | 00:01 | 00:01 | 00:01 | **19** | 1.27 |
| **20** | 01:20 | **80** | 05:20 | **140** | 09:20 | **200** | 13:20 | **260** | 17:20 | **320** | 21:20 | **20** | 00:01 | 00:01 | 00:01 | 00:01 | **20** | 1.33 |
| **21** | 01:24 | **81** | 05:24 | **141** | 09:24 | **201** | 13:24 | **261** | 17:24 | **321** | 21:24 | **21** | 00:01 | 00:01 | 00:01 | 00:01 | **21** | 1.40 |
| **22** | 01:28 | **82** | 05:28 | **142** | 09:28 | **202** | 13:28 | **262** | 17:28 | **322** | 21:28 | **22** | 00:01 | 00:01 | 00:02 | 00:02 | **22** | 1.47 |
| **23** | 01:32 | **83** | 05:32 | **143** | 09:32 | **203** | 13:32 | **263** | 17:32 | **323** | 21:32 | **23** | 00:02 | 00:02 | 00:02 | 00:02 | **23** | 1.53 |
| **24** | 01:36 | **84** | 05:36 | **144** | 09:36 | **204** | 13:36 | **264** | 17:36 | **324** | 21:36 | **24** | 00:02 | 00:02 | 00:02 | 00:02 | **0.4=24** | 1.60 |
| **25** | 01:40 | **85** | 05:40 | **145** | 09:40 | **205** | 13:40 | **265** | 17:40 | **325** | 21:40 | **25** | 00:02 | 00:02 | 00:02 | 00:02 | **25** | 1.67 |
| **26** | 01:44 | **86** | 05:44 | **146** | 09:44 | **206** | 13:44 | **266** | 17:44 | **326** | 21:44 | **26** | 00:02 | 00:02 | 00:02 | 00:02 | **26** | 1.73 |
| **27** | 01:48 | **87** | 05:48 | **147** | 09:48 | **207** | 13:48 | **267** | 17:48 | **327** | 21:48 | **27** | 00:02 | 00:02 | 00:02 | 00:02 | **27** | 1.80 |
| **28** | 01:52 | **88** | 05:52 | **148** | 09:52 | **208** | 13:52 | **268** | 17:52 | **328** | 21:52 | **28** | 00:02 | 00:02 | 00:02 | 00:02 | **28** | 1.87 |
| **29** | 01:56 | **89** | 05:56 | **149** | 09:56 | **209** | 13:56 | **269** | 17:56 | **329** | 21:56 | **29** | 00:02 | 00:02 | 00:02 | 00:02 | **29** | 1.93 |
| **30** | 02:00 | **90** | 06:00 | **150** | 10:00 | **210** | 14:00 | **270** | 18:00 | **330** | 22:00 | **30** | 00:02 | 00:02 | 00:02 | 00:02 | **0.5=30** | 2.00 |
| **31** | 02:04 | **91** | 06:04 | **151** | 10:04 | **211** | 14:04 | **271** | 18:04 | **331** | 22:04 | **31** | 00:02 | 00:02 | 00:02 | 00:02 | **31** | 2.07 |
| **32** | 02:08 | **92** | 06:08 | **152** | 10:08 | **212** | 14:08 | **272** | 18:08 | **332** | 22:08 | **32** | 00:02 | 00:02 | 00:02 | 00:02 | **32** | 2.13 |
| **33** | 02:12 | **93** | 06:12 | **153** | 10:12 | **213** | 14:12 | **273** | 18:12 | **333** | 22:12 | **33** | 00:02 | 00:02 | 00:02 | 00:02 | **33** | 2.20 |
| **34** | 02:16 | **94** | 06:16 | **154** | 10:16 | **214** | 14:16 | **274** | 18:16 | **334** | 22:16 | **34** | 00:02 | 00:02 | 00:02 | 00:02 | **34** | 2.27 |
| **35** | 02:20 | **95** | 06:20 | **155** | 10:20 | **215** | 14:20 | **275** | 18:20 | **335** | 22:20 | **35** | 00:02 | 00:02 | 00:02 | 00:02 | **35** | 2.33 |
| **36** | 02:24 | **96** | 06:24 | **156** | 10:24 | **216** | 14:24 | **276** | 18:24 | **336** | 22:24 | **36** | 00:02 | 00:02 | 00:02 | 00:02 | **0.6=36** | 2.40 |
| **37** | 02:28 | **97** | 06:28 | **157** | 10:28 | **217** | 14:28 | **277** | 18:28 | **337** | 22:28 | **37** | 00:02 | 00:02 | 00:03 | 00:03 | **37** | 2.47 |
| **38** | 02:32 | **98** | 06:32 | **158** | 10:32 | **218** | 14:32 | **278** | 18:32 | **338** | 22:32 | **38** | 00:03 | 00:03 | 00:03 | 00:03 | **38** | 2.53 |
| **39** | 02:36 | **99** | 06:36 | **159** | 10:36 | **219** | 14:36 | **279** | 18:36 | **339** | 22:36 | **39** | 00:03 | 00:03 | 00:03 | 00:03 | **39** | 2.60 |
| **40** | 02:40 | **100** | 06:40 | **160** | 10:40 | **220** | 14:40 | **280** | 18:40 | **340** | 22:40 | **40** | 00:03 | 00:03 | 00:03 | 00:03 | **40** | 2.67 |
| **41** | 02:44 | **101** | 06:44 | **161** | 10:44 | **221** | 14:44 | **281** | 18:44 | **341** | 22:44 | **41** | 00:03 | 00:03 | 00:03 | 00:03 | **41** | 2.73 |
| **42** | 02:48 | **102** | 06:48 | **162** | 10:48 | **222** | 14:48 | **282** | 18:48 | **342** | 22:48 | **42** | 00:03 | 00:03 | 00:03 | 00:03 | **0.7=42** | 2.80 |
| **43** | 02:52 | **103** | 06:52 | **163** | 10:52 | **223** | 14:52 | **283** | 18:52 | **343** | 22:52 | **43** | 00:03 | 00:03 | 00:03 | 00:03 | **43** | 2.87 |
| **44** | 02:56 | **104** | 06:56 | **164** | 10:56 | **224** | 14:56 | **284** | 18:56 | **344** | 22:56 | **44** | 00:03 | 00:03 | 00:03 | 00:03 | **44** | 2.93 |
| **45** | 03:00 | **105** | 07:00 | **165** | 11:00 | **225** | 15:00 | **285** | 19:00 | **345** | 23:00 | **45** | 00:03 | 00:03 | 00:03 | 00:03 | **45** | 3.00 |
| **46** | 03:04 | **106** | 07:04 | **166** | 11:04 | **226** | 15:04 | **286** | 19:04 | **346** | 23:04 | **46** | 00:03 | 00:03 | 00:03 | 00:03 | **46** | 3.07 |
| **47** | 03:08 | **107** | 07:08 | **167** | 11:08 | **227** | 15:08 | **287** | 19:08 | **347** | 23:08 | **47** | 00:03 | 00:03 | 00:03 | 00:03 | **47** | 3.13 |
| **48** | 03:12 | **108** | 07:12 | **168** | 11:12 | **228** | 15:12 | **288** | 19:12 | **348** | 23:12 | **48** | 00:03 | 00:03 | 00:03 | 00:03 | **0.8=48** | 3.20 |
| **49** | 03:16 | **109** | 07:16 | **169** | 11:16 | **229** | 15:16 | **289** | 19:16 | **349** | 23:16 | **49** | 00:03 | 00:03 | 00:03 | 00:03 | **49** | 3.27 |
| **50** | 03:20 | **110** | 07:20 | **170** | 11:20 | **230** | 15:20 | **290** | 19:20 | **350** | 23:20 | **50** | 00:03 | 00:03 | 00:03 | 00:03 | **50** | 3.33 |
| **51** | 03:24 | **111** | 07:24 | **171** | 11:24 | **231** | 15:24 | **291** | 19:24 | **351** | 23:24 | **51** | 00:03 | 00:03 | 00:03 | 00:03 | **51** | 3.40 |
| **52** | 03:28 | **112** | 07:28 | **172** | 11:28 | **232** | 15:28 | **292** | 19:28 | **352** | 23:28 | **52** | 00:03 | 00:03 | 00:04 | 00:04 | **52** | 3.47 |
| **53** | 03:32 | **113** | 07:32 | **173** | 11:32 | **233** | 15:32 | **293** | 19:32 | **353** | 23:32 | **53** | 00:04 | 00:04 | 00:04 | 00:04 | **53** | 3.53 |
| **54** | 03:36 | **114** | 07:36 | **174** | 11:36 | **234** | 15:36 | **294** | 19:36 | **354** | 23:36 | **54** | 00:04 | 00:04 | 00:04 | 00:04 | **0.9=54** | 3.60 |
| **55** | 03:40 | **115** | 07:40 | **175** | 11:40 | **235** | 15:40 | **295** | 19:40 | **355** | 23:40 | **55** | 00:04 | 00:04 | 00:04 | 00:04 | **55** | 3.67 |
| **56** | 03:44 | **116** | 07:44 | **176** | 11:44 | **236** | 15:44 | **296** | 19:44 | **356** | 23:44 | **56** | 00:04 | 00:04 | 00:04 | 00:04 | **56** | 3.73 |
| **57** | 03:48 | **117** | 07:48 | **177** | 11:48 | **237** | 15:48 | **297** | 19:48 | **357** | 23:48 | **57** | 00:04 | 00:04 | 00:04 | 00:04 | **57** | 3.80 |
| **58** | 03:52 | **118** | 07:52 | **178** | 11:52 | **238** | 15:52 | **298** | 19:52 | **358** | 23:52 | **58** | 00:04 | 00:04 | 00:04 | 00:04 | **58** | 3.87 |
| **59** | 03:56 | **119** | 07:56 | **179** | 11:56 | **239** | 15:56 | **299** | 19:56 | **359** | 23:56 | **59** | 00:04 | 00:04 | 00:04 | 00:04 | **59** | 3.93 |
| **60** | 04:00 | **120** | 08:00 | **180** | 12:00 | **240** | 16:00 | **300** | 20:00 | **360** | 24:00 | **60** | 00:04 | 00:04 | 00:04 | 00:04 | **1.0=60** | 4.00 |

# Altitude Correction Tables 0°–10°

| | Stars | Oct – Mar Sun Apr – Sept | | | |
|---|---|---|---|---|---|
| Alt | corr | Lower | Upper | Lower | Upper |
| ° ′ | ′ | ′ | ′ | ′ | ′ |
| 0 0 | -33.8 | -17.5 | -49.8 | -17.8 | -49.6 |
| 0 3 | -33.2 | -16.9 | -49.2 | -17.2 | -49.0 |
| 0 6 | -32.6 | -16.3 | -48.6 | -16.6 | -48.4 |
| 0 9 | -32.0 | -15.7 | -48.0 | -16.0 | -47.8 |
| 0 12 | -31.5 | -15.2 | -47.5 | -15.5 | -47.3 |
| 0 15 | -30.9 | -14.6 | -46.9 | -14.9 | -46.7 |
| 0 18 | -30.4 | -14.1 | -46.4 | -14.4 | -46.2 |
| 0 21 | -29.8 | -13.5 | -45.8 | -13.8 | -45.6 |
| 0 24 | -29.3 | -13.0 | -45.3 | -13.3 | -45.1 |
| 0 27 | -28.8 | -12.5 | -44.8 | -12.8 | -44.6 |
| 0 30 | -28.3 | -12.0 | -44.3 | -12.3 | -44.1 |
| 0 33 | -27.9 | -11.6 | -43.9 | -11.9 | -43.7 |
| 0 36 | -27.4 | -11.1 | -43.4 | -11.4 | -43.2 |
| 0 39 | -26.9 | -10.6 | -42.9 | -10.9 | -42.7 |
| 0 42 | -26.5 | -10.2 | -42.5 | -10.5 | -42.3 |
| 0 45 | -26.1 | -9.8 | -42.1 | -10.1 | -41.9 |
| 0 48 | -25.7 | -9.4 | -41.7 | -9.7 | -41.5 |
| 0 51 | -25.3 | -9.0 | -41.3 | -9.3 | -41.1 |
| 0 54 | -24.9 | -8.6 | -40.9 | -8.9 | -40.7 |
| 0 57 | -24.5 | -8.2 | -40.5 | -8.5 | -40.3 |
| 1 0 | -24.1 | -7.8 | -40.1 | -8.1 | -39.9 |
| 1 3 | -23.7 | -7.4 | -39.7 | -7.7 | -39.5 |
| 1 6 | -23.4 | -7.1 | -39.4 | -7.4 | -39.2 |
| 1 9 | -23.0 | -6.7 | -39.0 | -7.0 | -38.8 |
| 1 12 | -22.7 | -6.4 | -38.7 | -6.7 | -38.5 |
| 1 15 | -22.3 | -6.0 | -38.3 | -6.3 | -38.1 |
| 1 18 | -22.0 | -5.7 | -38.0 | -6.0 | -37.8 |
| 1 21 | -21.7 | -5.4 | -37.7 | -5.7 | -37.5 |
| 1 24 | -21.4 | -5.1 | -37.4 | -5.4 | -37.2 |
| 1 27 | -21.1 | -4.8 | -37.1 | -5.1 | -36.9 |
| 1 30 | -20.8 | -4.5 | -36.8 | -4.8 | -36.6 |
| 1 35 | -20.3 | -4.0 | -36.3 | -4.3 | -36.1 |
| 1 40 | -19.9 | -3.6 | -35.9 | -3.9 | -35.7 |
| 1 45 | -19.4 | -3.1 | -35.4 | -3.4 | -35.2 |
| 1 50 | -19.0 | -2.7 | -35.0 | -3.0 | -34.8 |
| 1 55 | -18.6 | -2.3 | -34.6 | -2.6 | -34.4 |
| 2 0 | -18.2 | -1.9 | -34.2 | -2.2 | -34.0 |
| 2 5 | -17.8 | -1.5 | -33.8 | -1.8 | -33.6 |
| 2 10 | -17.4 | -1.1 | -33.4 | -1.4 | -33.2 |
| 2 15 | -17.1 | -0.8 | -33.1 | -1.1 | -32.9 |
| 2 20 | -16.7 | -0.4 | -32.7 | -0.7 | -32.5 |
| 2 25 | -16.4 | -0.1 | -32.4 | -0.4 | -32.2 |
| 2 30 | -16.1 | +0.2 | -32.1 | -0.1 | -31.9 |
| 2 35 | -15.8 | +0.5 | -31.8 | +0.2 | -31.6 |
| 2 40 | -15.4 | +0.9 | -31.4 | +0.6 | -31.2 |
| 2 45 | -15.2 | +1.1 | -31.2 | +0.8 | -31.0 |
| 2 50 | -14.9 | +1.4 | -30.9 | +1.1 | -30.7 |
| 2 55 | -14.6 | +1.7 | -30.6 | +1.4 | -30.4 |
| 3 0 | -14.3 | +2.0 | -30.3 | +1.7 | -30.1 |
| 3 5 | -14.1 | +2.2 | -30.1 | +1.9 | -29.9 |
| 3 10 | -13.8 | +2.5 | -29.8 | +2.2 | -29.6 |
| 3 15 | -13.6 | +2.7 | -29.6 | +2.4 | -29.4 |
| 3 20 | -13.4 | +2.9 | -29.4 | +2.6 | -29.2 |
| 3 25 | -13.1 | +3.2 | -29.1 | +2.9 | -28.9 |
| 3 30 | -12.9 | +3.4 | -28.9 | +3.1 | -28.7 |

| | Stars | Oct – Mar Sun Apr – Sept | | | |
|---|---|---|---|---|---|
| Alt | corr | Lower | Upper | Lower | Upper |
| ° ′ | ′ | ′ | ′ | ′ | ′ |
| 3 30 | -12.9 | +3.4 | -28.9 | +3.1 | -28.7 |
| 3 35 | -12.7 | +3.6 | -28.7 | +3.3 | -28.5 |
| 3 40 | -12.5 | +3.8 | -28.5 | +3.5 | -28.3 |
| 3 45 | -12.3 | +4.0 | -27.9 | +3.8 | -28.0 |
| 3 50 | -12.1 | +4.2 | -28.1 | +3.9 | -27.9 |
| 3 55 | -11.9 | +4.4 | -27.9 | +4.1 | -27.7 |
| 4 0 | -11.7 | +4.6 | -27.7 | +4.3 | -27.5 |
| 4 5 | -11.5 | +4.8 | -27.5 | +4.5 | -27.3 |
| 4 10 | -11.4 | +4.9 | -27.4 | +4.6 | -27.2 |
| 4 15 | -11.2 | +5.1 | -27.2 | +4.8 | -27.0 |
| 4 20 | -11.0 | +5.3 | -27.0 | +5.0 | -26.8 |
| 4 25 | -10.9 | +5.4 | -26.9 | +5.1 | -26.7 |
| 4 30 | -10.7 | +5.6 | -26.7 | +5.3 | -26.5 |
| 4 35 | -10.6 | +5.7 | -26.6 | +5.4 | -26.4 |
| 4 40 | -10.4 | +5.9 | -26.4 | +5.6 | -26.2 |
| 4 45 | -10.3 | +6.0 | -26.3 | +5.7 | -26.1 |
| 4 50 | -10.1 | +6.2 | -26.1 | +5.9 | -25.9 |
| 4 55 | -10.0 | +6.3 | -26.0 | +6.0 | -25.8 |
| 5 0 | -9.8 | +6.5 | -25.8 | +6.2 | -25.6 |
| 5 5 | -9.7 | +6.6 | -25.7 | +6.3 | -25.5 |
| 5 10 | -9.6 | +6.7 | -25.6 | +6.4 | -25.4 |
| 5 15 | -9.5 | +6.8 | -25.5 | +6.5 | -25.3 |
| 5 20 | -9.3 | +7.0 | -25.3 | +6.7 | -25.1 |
| 5 25 | -9.2 | +7.1 | -25.2 | +6.8 | -25.0 |
| 5 30 | -9.1 | +7.2 | -25.1 | +6.9 | -24.9 |
| 5 35 | -9.0 | +7.3 | -25.0 | +7.0 | -24.8 |
| 5 40 | -8.9 | +7.4 | -24.9 | +7.1 | -24.7 |
| 5 45 | -8.8 | +7.5 | -24.8 | +7.2 | -24.6 |
| 5 50 | -8.7 | +7.6 | -24.7 | +7.3 | -24.5 |
| 5 55 | -8.6 | +7.7 | -24.6 | +7.4 | -24.4 |
| 6 0 | -8.5 | +7.8 | -24.5 | +7.5 | -24.3 |
| 6 10 | -8.3 | +8.0 | -24.3 | +7.7 | -24.1 |
| 6 20 | -8.1 | +8.2 | -24.1 | +7.9 | -23.9 |
| 6 30 | -7.9 | +8.4 | -23.9 | +8.1 | -23.7 |
| 6 40 | -7.7 | +8.6 | -23.7 | +8.3 | -23.5 |
| 6 50 | -7.6 | +8.7 | -23.6 | +8.4 | -23.4 |
| 7 0 | -7.4 | +8.9 | -23.4 | +8.6 | -23.2 |
| 7 10 | -7.2 | +9.1 | -23.2 | +8.8 | -23.0 |
| 7 20 | -7.1 | +9.2 | -23.1 | +8.9 | -22.9 |
| 7 30 | -6.9 | +9.4 | -22.9 | +9.1 | -22.7 |
| 7 40 | -6.8 | +9.5 | -22.8 | +9.2 | -22.6 |
| 7 50 | -6.7 | +9.6 | -22.7 | +9.3 | -22.5 |
| 8 0 | -6.6 | +9.7 | -22.6 | +9.4 | -22.4 |
| 8 10 | -6.4 | +9.9 | -22.4 | +9.6 | -22.2 |
| 8 20 | -6.3 | +10.0 | -22.3 | +9.7 | -22.1 |
| 8 30 | -6.2 | +10.1 | -22.2 | +9.8 | -22.0 |
| 8 40 | -6.1 | +10.2 | -22.1 | +9.9 | -21.9 |
| 8 50 | -6.0 | +10.3 | -22.0 | +10.0 | -21.8 |
| 9 0 | -5.9 | +10.4 | -21.9 | +10.1 | -21.7 |
| 9 10 | -5.8 | +10.5 | -21.8 | +10.2 | -21.6 |
| 9 20 | -5.7 | +10.6 | -21.7 | +10.3 | -21.5 |
| 9 30 | -5.6 | +10.7 | -21.6 | +10.4 | -21.4 |
| 9 40 | -5.5 | +10.8 | -21.5 | +10.6 | -21.2 |
| 9 50 | -5.4 | +10.9 | -21.4 | +10.7 | -21.1 |
| 10 0 | -5.3 | +11.0 | -21.3 | +10.7 | -21.1 |

| Dip | | |
|---|---|---|
| HoE | corr | HoE |
| m | ′ | ft |
| 0.9 | -1.7 | 2.9 |
| 1.0 | -1.8 | 3.3 |
| 1.1 | -1.9 | 3.7 |
| 1.3 | -2.0 | 4.1 |
| 1.4 | -2.1 | 4.5 |
| 1.5 | -2.2 | 5.0 |
| 1.7 | -2.3 | 5.4 |
| 1.8 | -2.4 | 5.9 |
| 2.0 | -2.5 | 6.4 |
| 2.1 | -2.6 | 6.9 |
| 2.3 | -2.7 | 7.5 |
| 2.5 | -2.8 | 8.1 |
| 2.7 | -2.9 | 8.7 |
| 2.8 | -3.0 | 9.3 |
| 3.0 | -3.1 | 9.9 |
| 3.2 | -3.2 | 10.6 |
| 3.4 | -3.3 | 11.3 |
| 3.7 | -3.4 | 12.0 |
| 3.9 | -3.5 | 12.7 |
| 4.1 | -3.6 | 13.4 |
| 4.3 | -3.7 | 14.2 |
| 4.6 | -3.8 | 15.0 |
| 4.8 | -3.9 | 15.8 |
| 5.1 | -4.0 | 16.6 |
| 5.3 | -4.1 | 17.4 |
| 5.6 | -4.2 | 18.3 |
| 5.8 | -4.3 | 19.2 |
| 6.1 | -4.4 | 20.1 |
| 6.4 | -4.5 | 21.1 |
| 6.7 | -4.6 | 22.0 |
| 7.0 | -4.7 | 23.0 |
| 7.3 | -4.8 | 24.0 |
| 7.6 | -4.9 | 25.0 |
| 7.9 | -5.0 | 26.0 |
| 8.2 | -5.1 | 27.1 |
| 8.6 | -5.2 | 28.2 |
| 8.9 | -5.3 | 29.3 |
| 9.2 | -5.4 | 30.4 |
| 9.6 | -5.5 | 31.6 |
| 9.9 | -5.6 | 32.7 |
| 10.3 | -5.7 | 33.9 |
| 10.7 | -5.8 | 35.1 |
| 11.0 | -5.9 | 36.3 |
| 11.4 | -6.0 | 37.6 |
| 11.8 | -6.1 | 38.9 |
| 12.2 | -6.2 | 40.2 |
| 12.6 | -6.3 | 41.5 |
| 13.0 | -6.4 | 42.8 |
| 13.4 | -6.5 | 44.2 |
| 13.8 | -6.6 | 45.6 |
| 14.2 | -6.7 | 47.0 |
| 14.7 | -6.8 | 48.4 |
| 15.1 | -6.9 | 49.8 |
| 15.6 | -7.0 | 51.3 |
| 16.0 | | 52.8 |

| Dip | | |
|---|---|---|
| HoE | corr | HoE |
| m | ′ | ft |
| 16.0 | -7.1 | 52.8 |
| 16.5 | -7.2 | 54.3 |
| 16.9 | -7.3 | 55.8 |
| 17.4 | -7.4 | 57.3 |
| 17.9 | -7.5 | 58.9 |
| 18.3 | -7.6 | 60.5 |
| 18.8 | -7.7 | 62.1 |
| 19.3 | -7.8 | 63.8 |
| 19.8 | -7.9 | 65.4 |
| 20.3 | -8.0 | 67.1 |
| 20.9 | -8.1 | 68.8 |
| 21.4 | -8.2 | 70.5 |
| 21.9 | -8.3 | 72.2 |
| 22.4 | -8.4 | 74.0 |
| 23.0 | -8.5 | 75.8 |
| 23.5 | -8.6 | 77.6 |
| 24.1 | -8.7 | 79.4 |
| 24.6 | -8.8 | 81.3 |
| 25.2 | -8.9 | 83.1 |
| 25.8 | -9.0 | 85.0 |
| 26.3 | -9.1 | 86.9 |
| 26.9 | -9.2 | 88.8 |
| 27.5 | -9.3 | 90.8 |
| 28.1 | -9.4 | 92.8 |
| 28.7 | -9.5 | 94.8 |
| 29.3 | -9.6 | 96.8 |
| 29.9 | -9.7 | 98.8 |
| 30.6 | -9.8 | 100.9 |
| 31.2 | -9.9 | 103.0 |
| 31.8 | -10.0 | 105.1 |
| 32.5 | -10.1 | 107.2 |
| 33.1 | -10.2 | 109.3 |
| 33.8 | -10.3 | 111.5 |
| 34.4 | -10.4 | 113.7 |
| 35.1 | -10.5 | 115.9 |
| 35.8 | -10.6 | 118.1 |
| 36.5 | -10.7 | 120.3 |
| 37.1 | -10.8 | 122.6 |
| 37.8 | -10.9 | 124.9 |
| 38.5 | -11.0 | 127.2 |
| 39.2 | -11.1 | 129.6 |
| 40.0 | -11.2 | 131.9 |
| 40.7 | -11.3 | 134.3 |
| 41.4 | -11.4 | 136.7 |
| 42.1 | -11.5 | 139.1 |
| 42.9 | -11.6 | 141.5 |
| 43.6 | -11.7 | 144.0 |
| 44.4 | -11.8 | 146.5 |
| 45.1 | -11.9 | 149.0 |
| 45.9 | -12.0 | 151.5 |
| 46.7 | -12.1 | 154.1 |
| 47.4 | -12.2 | 156.6 |
| 48.2 | -12.3 | 159.2 |
| 49.0 | -12.4 | 161.8 |
| 49.8 | | 164.4 |

| Stars | |
|---|---|
| Alt | corr |
| ° ′ | ′ |
| 9 55 | -5.3 |
| 10 7 | -5.2 |
| 10 20 | -5.1 |
| 10 32 | -5.0 |
| 10 46 | -4.9 |
| 10 59 | -4.8 |
| 11 14 | -4.7 |
| 11 29 | -4.6 |
| 11 44 | -4.5 |
| 12 0 | -4.4 |
| 12 17 | -4.3 |
| 12 35 | -4.2 |
| 12 53 | -4.1 |
| 13 12 | -4.0 |
| 13 32 | -3.9 |
| 13 53 | -3.8 |
| 14 16 | -3.7 |
| 14 39 | -3.6 |
| 15 3 | -3.5 |
| 15 29 | -3.4 |
| 15 56 | -3.3 |
| 16 25 | -3.2 |
| 16 55 | -3.1 |
| 17 27 | -3.0 |
| 18 1 | -2.9 |
| 18 37 | -2.8 |
| 19 16 | -2.7 |
| 19 56 | -2.6 |
| 20 40 | -2.5 |
| 21 27 | -2.4 |
| 22 17 | -2.3 |
| 23 11 | -2.2 |
| 24 9 | -2.1 |
| 25 12 | -2.0 |
| 26 20 | -1.9 |
| 27 34 | -1.8 |
| 28 54 | -1.7 |
| 30 22 | -1.6 |
| 31 58 | -1.5 |
| 33 43 | -1.4 |
| 35 38 | -1.3 |
| 37 45 | -1.2 |
| 40 6 | -1.1 |
| 42 42 | -1.0 |
| 45 34 | -0.9 |
| 48 45 | -0.8 |
| 52 16 | -0.7 |
| 56 9 | -0.6 |
| 60 26 | -0.5 |
| 65 6 | -0.4 |
| 70 9 | -0.3 |
| 75 32 | -0.2 |
| 81 12 | -0.1 |
| 87 3 | 0.0 |
| 90 0 | |

| Sun Oct – Mar | | |
|---|---|---|
| Alt | Lower | Upper |
| ° ′ | ′ | ′ |
| 9 33 | +10.8 | -21.5 |
| 9 45 | +10.9 | -21.4 |
| 9 56 | +11.0 | -21.3 |
| 10 8 | +11.1 | -21.2 |
| 10 20 | +11.2 | -21.1 |
| 10 33 | +11.3 | -21.0 |
| 10 46 | +11.4 | -20.9 |
| 11 0 | +11.5 | -20.8 |
| 11 15 | +11.6 | -20.7 |
| 11 30 | +11.7 | -20.6 |
| 11 45 | +11.8 | -20.5 |
| 12 1 | +11.9 | -20.4 |
| 12 18 | +12.0 | -20.3 |
| 12 36 | +12.1 | -20.2 |
| 12 54 | +12.2 | -20.1 |
| 13 14 | +12.3 | -20.0 |
| 13 34 | +12.4 | -19.9 |
| 13 55 | +12.5 | -19.8 |
| 14 17 | +12.6 | -19.7 |
| 14 41 | +12.7 | -19.6 |
| 15 5 | +12.8 | -19.5 |
| 15 31 | +12.9 | -19.4 |
| 15 59 | +13.0 | -19.3 |
| 16 27 | +13.1 | -19.2 |
| 16 58 | +13.2 | -19.1 |
| 17 30 | +13.3 | -19.0 |
| 18 5 | +13.4 | -18.9 |
| 18 41 | +13.5 | -18.8 |
| 19 20 | +13.6 | -18.7 |
| 20 2 | +13.7 | -18.6 |
| 20 46 | +13.8 | -18.5 |
| 21 34 | +13.9 | -18.4 |
| 22 25 | +14.0 | -18.3 |
| 23 20 | +14.1 | -18.2 |
| 24 20 | +14.2 | -18.1 |
| 25 24 | +14.3 | -18.0 |
| 26 34 | +14.4 | -17.9 |
| 27 50 | +14.5 | -17.8 |
| 29 13 | +14.6 | -17.7 |
| 30 44 | +14.7 | -17.6 |
| 32 24 | +14.8 | -17.5 |
| 34 15 | +14.9 | -17.4 |
| 36 17 | +15.0 | -17.3 |
| 38 34 | +15.1 | -17.2 |
| 41 6 | +15.2 | -17.1 |
| 43 56 | +15.3 | -17.0 |
| 47 7 | +15.4 | -16.9 |
| 50 43 | +15.5 | -16.8 |
| 54 46 | +15.6 | -16.7 |
| 59 21 | +15.7 | -16.6 |
| 64 28 | +15.8 | -16.5 |
| 70 10 | +15.9 | -16.4 |
| 76 24 | +16.0 | -16.3 |
| 83 5 | +16.1 | -16.2 |
| 90 0 | | |

| Sun Apr – Sept | | |
|---|---|---|
| Alt | Lower | Upper |
| ° ′ | ′ | ′ |
| 9 39 | +10.6 | -21.2 |
| 9 50 | +10.7 | -21.1 |
| 10 2 | +10.8 | -21.0 |
| 10 14 | +10.9 | -20.9 |
| 10 27 | +11.0 | -20.8 |
| 10 40 | +11.1 | -20.7 |
| 10 53 | +11.2 | -20.6 |
| 11 7 | +11.3 | -20.5 |
| 11 22 | +11.4 | -20.4 |
| 11 37 | +11.5 | -20.3 |
| 11 53 | +11.6 | -20.2 |
| 12 10 | +11.7 | -20.1 |
| 12 27 | +11.8 | -20.0 |
| 12 45 | +11.9 | -19.9 |
| 13 4 | +12.0 | -19.8 |
| 13 24 | +12.1 | -19.7 |
| 13 44 | +12.2 | -19.6 |
| 14 6 | +12.3 | -19.5 |
| 14 29 | +12.4 | -19.4 |
| 14 53 | +12.5 | -19.3 |
| 15 18 | +12.6 | -19.2 |
| 15 45 | +12.7 | -19.1 |
| 16 13 | +12.8 | -19.0 |
| 16 43 | +12.9 | -18.9 |
| 17 14 | +13.0 | -18.8 |
| 17 47 | +13.1 | -18.7 |
| 18 23 | +13.2 | -18.6 |
| 19 0 | +13.3 | -18.5 |
| 19 41 | +13.4 | -18.4 |
| 20 24 | +13.5 | -18.3 |
| 21 10 | +13.6 | -18.2 |
| 21 59 | +13.7 | -18.1 |
| 22 52 | +13.8 | -18.0 |
| 23 49 | +13.9 | -17.9 |
| 24 51 | +14.0 | -17.8 |
| 25 58 | +14.1 | -17.7 |
| 27 11 | +14.2 | -17.6 |
| 28 31 | +14.3 | -17.5 |
| 29 58 | +14.4 | -17.4 |
| 31 33 | +14.5 | -17.3 |
| 33 18 | +14.6 | -17.2 |
| 35 15 | +14.7 | -17.1 |
| 37 24 | +14.8 | -17.0 |
| 39 48 | +14.9 | -16.9 |
| 42 28 | +15.0 | -16.8 |
| 45 29 | +15.1 | -16.7 |
| 48 52 | +15.2 | -16.6 |
| 52 41 | +15.3 | -16.5 |
| 56 59 | +15.4 | -16.4 |
| 61 50 | +15.5 | -16.3 |
| 67 15 | +15.6 | -16.2 |
| 73 14 | +15.7 | -16.1 |
| 79 42 | +15.8 | -16.0 |
| 86 31 | +15.9 | -15.9 |
| 90 0 | | |

HoE = Height of Eye, Alt = Apparent Altitude = Sextant altitude corrected for index error and dip.

Index to Selected Stars

| Name | No | Mag | SHA | Dec |
|---|---|---|---|---|
| Acamar | **7** | 2.9 | 315 | -40 |
| Achernar | **5** | 0.5 | 335 | -57 |
| Acrux | **30** | 0.8 | 173 | -63 |
| Adhara | **19** | 1.5 | 255 | -29 |
| Aldebaran | **10** | 0.9 | 291 | 17 |
| Alioth | **32** | 1.8 | 166 | 56 |
| Alkaid | **34** | 1.9 | 153 | 49 |
| Alnair | **55** | 1.7 | 28 | -47 |
| Alnilam | **15** | 1.7 | 276 | -1 |
| Alphard | **25** | 2.0 | 218 | -9 |
| Alphecca | **41** | 2.2 | 126 | 27 |
| Alpheratz | **1** | 2.1 | 358 | 29 |
| Altair | **51** | 0.8 | 62 | 9 |
| Ankaa | **2** | 2.4 | 353 | -42 |
| Antares | **42** | 1.1 | 112 | -26 |
| Arcturus | **37** | -0.1 | 146 | 19 |
| Atria | **43** | 1.9 | 107 | -69 |
| Avior | **22** | 1.9 | 234 | -60 |
| Bellatrix | **13** | 1.6 | 278 | 6 |
| Betelgeuse | **16** | 0.5 | 271 | 7 |
| Canopus | **17** | -0.6 | 264 | -53 |
| Capella | **12** | 0.1 | 280 | 46 |
| Deneb | **53** | 1.3 | 49 | 45 |
| Denebola | **28** | 2.1 | 182 | 14 |
| Diphda | **4** | 2.0 | 349 | -18 |
| Dubhe | **27** | 1.8 | 194 | 62 |
| Elnath | **14** | 1.7 | 278 | 29 |
| Eltanin | **47** | 2.2 | 91 | 51 |
| Enif | **54** | 2.4 | 34 | 10 |
| Fomalhaut | **56** | 1.2 | 15 | -29 |
| Gacrux | **31** | 1.6 | 172 | -57 |
| Gienah | **29** | 2.6 | 176 | -18 |
| Hadar | **35** | 0.6 | 149 | -60 |
| Hamal | **6** | 2.0 | 328 | 24 |
| Kaus Aust. | **48** | 1.8 | 84 | -34 |
| Kochab | **40** | 2.1 | 137 | 74 |
| Markab | **57** | 2.5 | 14 | 15 |
| Menkar | **8** | 2.5 | 314 | 4 |
| Menkent | **36** | 2.1 | 148 | -36 |
| Miaplacidus | **24** | 1.7 | 222 | -70 |
| Mirfak | **9** | 1.8 | 308 | 50 |
| Nunki | **50** | 2.1 | 76 | -26 |
| Peacock | **52** | 1.9 | 53 | -57 |
| Pollux | **21** | 1.2 | 243 | 28 |
| Procyon | **20** | 0.4 | 245 | 5 |
| Rasalhague | **46** | 2.1 | 96 | 13 |
| Regulus | **26** | 1.4 | 208 | 12 |
| Rigel | **11** | 0.2 | 281 | -8 |
| Rigil Kent. | **38** | 0.0 | 140 | -61 |
| Sabik | **44** | 2.4 | 102 | -16 |
| Schedar | **3** | 2.2 | 350 | 57 |
| Shaula | **45** | 1.6 | 96 | -37 |
| Sirius | **18** | -1.4 | 258 | -17 |
| Spica | **33** | 1.0 | 158 | -11 |
| Suhail | **23** | 2.2 | 223 | -44 |
| Vega | **49** | 0.0 | 81 | 39 |
| Zuben'ubi | **39** | 2.8 | 137 | -16 |

| No | Name | Mag | SHA | Dec |
|---|---|---|---|---|
| **1** | Alpheratz | 2.1 | 358 | 29 |
| **2** | Ankaa | 2.4 | 353 | -42 |
| **3** | Schedar | 2.2 | 350 | 57 |
| **4** | Diphda | 2.0 | 349 | -18 |
| **5** | Achernar | 0.5 | 335 | -57 |
| **6** | Hamal | 2.0 | 328 | 24 |
| **7** | Acamar | 2.9 | 315 | -40 |
| **8** | Menkar | 2.5 | 314 | 4 |
| **9** | Mirfak | 1.8 | 308 | 50 |
| **10** | Aldebaran | 0.9 | 291 | 17 |
| **11** | Rigel | 0.2 | 281 | -8 |
| **12** | Capella | 0.1 | 280 | 46 |
| **13** | Bellatrix | 1.6 | 278 | 6 |
| **14** | Elnath | 1.7 | 278 | 29 |
| **15** | Alnilam | 1.7 | 276 | -1 |
| **16** | Betelgeuse | 0.5 | 271 | 7 |
| **17** | Canopus | -0.6 | 264 | -53 |
| **18** | Sirius | -1.4 | 258 | -17 |
| **19** | Adhara | 1.5 | 255 | -29 |
| **20** | Procyon | 0.4 | 245 | 5 |
| **21** | Pollux | 1.2 | 243 | 28 |
| **22** | Avior | 1.9 | 234 | -60 |
| **23** | Suhail | 2.2 | 223 | -44 |
| **24** | Miaplacidus | 1.7 | 222 | -70 |
| **25** | Alphard | 2.0 | 218 | -9 |
| **26** | Regulus | 1.4 | 208 | 12 |
| **27** | Dubhe | 1.8 | 194 | 62 |
| **28** | Denebola | 2.1 | 182 | 14 |
| **29** | Gienah | 2.6 | 176 | -18 |
| **30** | Acrux | 0.8 | 173 | -63 |
| **31** | Gacrux | 1.6 | 172 | -57 |
| **32** | Alioth | 1.8 | 166 | 56 |
| **33** | Spica | 1.0 | 158 | -11 |
| **34** | Alkaid | 1.9 | 153 | 49 |
| **35** | Hadar | 0.6 | 149 | -60 |
| **36** | Menkent | 2.1 | 148 | -36 |
| **37** | Arcturus | -0.1 | 146 | 19 |
| **38** | Rigil Kent. | 0.0 | 140 | -61 |
| **39** | Zuben'ubi | 2.8 | 137 | -16 |
| **40** | Kochab | 2.1 | 137 | 74 |
| **41** | Alphecca | 2.2 | 126 | 27 |
| **42** | Antares | 1.1 | 112 | -26 |
| **43** | Atria | 1.9 | 107 | -69 |
| **44** | Sabik | 2.4 | 102 | -16 |
| **45** | Shaula | 1.6 | 96 | -37 |
| **46** | Rasalhague | 2.1 | 96 | 13 |
| **47** | Eltanin | 2.2 | 91 | 51 |
| **48** | Kaus Aust. | 1.8 | 84 | -34 |
| **49** | Vega | 0.0 | 81 | 39 |
| **50** | Nunki | 2.1 | 76 | -26 |
| **51** | Altair | 0.8 | 62 | 9 |
| **52** | Peacock | 1.9 | 53 | -57 |
| **53** | Deneb | 1.3 | 49 | 45 |
| **54** | Enif | 2.4 | 34 | 10 |
| **55** | Alnair | 1.7 | 28 | -47 |
| **56** | Fomalhaut | 1.2 | 15 | -29 |
| **57** | Markab | 2.5 | 14 | 15 |

## 2025 January 01, 02, 03 (Wed, Thu, Fri)

| | | Aries | Venus -4.4 | | Mars -1.2 | | Jupiter -2.7 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 01 Wednesday | 0 | 100 54.0 | 130 30.3 | -13 35.2 | 335 46.4 | 23 32.7 | 29 1.0 | 21 47.2 | 114 23.0 | -7 55.0 |
| | 1 | 115 56.4 | 145 30.2 | -13 34.1 | 350 49.7 | 23 33.0 | 44 3.8 | 21 47.2 | 129 25.3 | -7 54.9 |
| | 2 | 130 58.9 | 160 30.2 | -13 33.0 | 5 53.1 | 23 33.3 | 59 6.5 | 21 47.2 | 144 27.6 | -7 54.8 |
| | 3 | 146 1.4 | 175 30.1 | -13 31.9 | 20 56.4 | 23 33.5 | 74 9.3 | 21 47.2 | 159 29.9 | -7 54.8 |
| | 4 | 161 3.8 | 190 30.0 | -13 30.8 | 35 59.7 | 23 33.8 | 89 12.0 | 21 47.1 | 174 32.2 | -7 54.7 |
| | 5 | 176 6.3 | 205 30.0 | -13 29.7 | 51 3.0 | 23 34.1 | 104 14.8 | 21 47.1 | 189 34.4 | -7 54.6 |
| | 6 | 191 8.8 | 220 29.9 | -13 28.6 | 66 6.3 | 23 34.4 | 119 17.5 | 21 47.1 | 204 36.7 | -7 54.5 |
| | 7 | 206 11.2 | 235 29.9 | -13 27.5 | 81 9.6 | 23 34.6 | 134 20.3 | 21 47.1 | 219 39.0 | -7 54.5 |
| | 8 | 221 13.7 | 250 29.8 | -13 26.4 | 96 13.0 | 23 34.9 | 149 23.0 | 21 47.0 | 234 41.3 | -7 54.4 |
| | 9 | 236 16.2 | 265 29.7 | -13 25.4 | 111 16.3 | 23 35.2 | 164 25.8 | 21 47.0 | 249 43.6 | -7 54.3 |
| | 10 | 251 18.6 | 280 29.7 | -13 24.3 | 126 19.6 | 23 35.5 | 179 28.5 | 21 47.0 | 264 45.9 | -7 54.2 |
| | 11 | 266 21.1 | 295 29.6 | -13 23.2 | 141 22.9 | 23 35.7 | 194 31.3 | 21 47.0 | 279 48.2 | -7 54.1 |
| | 12 | 281 23.5 | 310 29.6 | -13 22.1 | 156 26.2 | 23 36.0 | 209 34.0 | 21 46.9 | 294 50.5 | -7 54.1 |
| | 13 | 296 26.0 | 325 29.5 | -13 21.0 | 171 29.6 | 23 36.3 | 224 36.8 | 21 46.9 | 309 52.8 | -7 54.0 |
| | 14 | 311 28.5 | 340 29.5 | -13 19.9 | 186 32.9 | 23 36.6 | 239 39.5 | 21 46.9 | 324 55.0 | -7 53.9 |
| | 15 | 326 30.9 | 355 29.4 | -13 18.8 | 201 36.2 | 23 36.8 | 254 42.3 | 21 46.9 | 339 57.3 | -7 53.8 |
| | 16 | 341 33.4 | 10 29.4 | -13 17.7 | 216 39.5 | 23 37.1 | 269 45.0 | 21 46.9 | 354 59.6 | -7 53.7 |
| | 17 | 356 35.9 | 25 29.3 | -13 16.6 | 231 42.9 | 23 37.4 | 284 47.7 | 21 46.8 | 10 1.9 | -7 53.7 |
| | 18 | 11 38.3 | 40 29.3 | -13 15.5 | 246 46.2 | 23 37.7 | 299 50.5 | 21 46.8 | 25 4.2 | -7 53.6 |
| | 19 | 26 40.8 | 55 29.2 | -13 14.4 | 261 49.5 | 23 37.9 | 314 53.2 | 21 46.8 | 40 6.5 | -7 53.5 |
| | 20 | 41 43.3 | 70 29.2 | -13 13.3 | 276 52.9 | 23 38.2 | 329 56.0 | 21 46.8 | 55 8.8 | -7 53.4 |
| | 21 | 56 45.7 | 85 29.1 | -13 12.2 | 291 56.2 | 23 38.5 | 344 58.7 | 21 46.7 | 70 11.1 | -7 53.4 |
| | 22 | 71 48.2 | 100 29.1 | -13 11.1 | 306 59.5 | 23 38.8 | 0 1.5 | 21 46.7 | 85 13.4 | -7 53.3 |
| | 23 | 86 50.7 | 115 29.1 | -13 10.0 | 322 2.9 | 23 39.0 | 15 4.2 | 21 46.7 | 100 15.6 | -7 53.2 |
| | | MP 17:15 | *v* -0.1 | *d* -1.1 | *v* 3.3 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 Thursday | 0 | 101 53.1 | 130 29.0 | -13 8.9 | 337 6.2 | 23 39.3 | 30 7.0 | 21 46.7 | 115 17.9 | -7 53.1 |
| | 1 | 116 55.6 | 145 29.0 | -13 7.8 | 352 9.6 | 23 39.6 | 45 9.7 | 21 46.6 | 130 20.2 | -7 53.0 |
| | 2 | 131 58.0 | 160 28.9 | -13 6.7 | 7 12.9 | 23 39.9 | 60 12.4 | 21 46.6 | 145 22.5 | -7 53.0 |
| | 3 | 147 0.5 | 175 28.9 | -13 5.6 | 22 16.2 | 23 40.1 | 75 15.2 | 21 46.6 | 160 24.8 | -7 52.9 |
| | 4 | 162 3.0 | 190 28.9 | -13 4.5 | 37 19.6 | 23 40.4 | 90 17.9 | 21 46.6 | 175 27.1 | -7 52.8 |
| | 5 | 177 5.4 | 205 28.8 | -13 3.4 | 52 22.9 | 23 40.7 | 105 20.7 | 21 46.5 | 190 29.4 | -7 52.7 |
| | 6 | 192 7.9 | 220 28.8 | -13 2.3 | 67 26.3 | 23 41.0 | 120 23.4 | 21 46.5 | 205 31.6 | -7 52.6 |
| | 7 | 207 10.4 | 235 28.7 | -13 1.2 | 82 29.6 | 23 41.3 | 135 26.2 | 21 46.5 | 220 33.9 | -7 52.6 |
| | 8 | 222 12.8 | 250 28.7 | -13 0.1 | 97 33.0 | 23 41.5 | 150 28.9 | 21 46.5 | 235 36.2 | -7 52.5 |
| | 9 | 237 15.3 | 265 28.7 | -12 59.0 | 112 36.3 | 23 41.8 | 165 31.6 | 21 46.4 | 250 38.5 | -7 52.4 |
| | 10 | 252 17.8 | 280 28.6 | -12 57.9 | 127 39.7 | 23 42.1 | 180 34.4 | 21 46.4 | 265 40.8 | -7 52.3 |
| | 11 | 267 20.2 | 295 28.6 | -12 56.8 | 142 43.0 | 23 42.4 | 195 37.1 | 21 46.4 | 280 43.1 | -7 52.2 |
| | 12 | 282 22.7 | 310 28.6 | -12 55.7 | 157 46.4 | 23 42.6 | 210 39.9 | 21 46.4 | 295 45.4 | -7 52.2 |
| | 13 | 297 25.2 | 325 28.6 | -12 54.5 | 172 49.7 | 23 42.9 | 225 42.6 | 21 46.3 | 310 47.7 | -7 52.1 |
| | 14 | 312 27.6 | 340 28.5 | -12 53.4 | 187 53.1 | 23 43.2 | 240 45.3 | 21 46.3 | 325 49.9 | -7 52.0 |
| | 15 | 327 30.1 | 355 28.5 | -12 52.3 | 202 56.4 | 23 43.5 | 255 48.1 | 21 46.3 | 340 52.2 | -7 51.9 |
| | 16 | 342 32.5 | 10 28.5 | -12 51.2 | 217 59.8 | 23 43.7 | 270 50.8 | 21 46.3 | 355 54.5 | -7 51.8 |
| | 17 | 357 35.0 | 25 28.4 | -12 50.1 | 233 3.1 | 23 44.0 | 285 53.6 | 21 46.3 | 10 56.8 | -7 51.8 |
| | 18 | 12 37.5 | 40 28.4 | -12 49.0 | 248 6.5 | 23 44.3 | 300 56.3 | 21 46.2 | 25 59.1 | -7 51.7 |
| | 19 | 27 39.9 | 55 28.4 | -12 47.9 | 263 9.8 | 23 44.6 | 315 59.0 | 21 46.2 | 41 1.4 | -7 51.6 |
| | 20 | 42 42.4 | 70 28.4 | -12 46.8 | 278 13.2 | 23 44.8 | 331 1.8 | 21 46.2 | 56 3.6 | -7 51.5 |
| | 21 | 57 44.9 | 85 28.3 | -12 45.7 | 293 16.6 | 23 45.1 | 346 4.5 | 21 46.2 | 71 5.9 | -7 51.4 |
| | 22 | 72 47.3 | 100 28.3 | -12 44.6 | 308 19.9 | 23 45.4 | 1 7.2 | 21 46.1 | 86 8.2 | -7 51.4 |
| | 23 | 87 49.8 | 115 28.3 | -12 43.5 | 323 23.3 | 23 45.7 | 16 10.0 | 21 46.1 | 101 10.5 | -7 51.3 |
| | | MP 17:11 | *v* 0.0 | *d* -1.1 | *v* 3.3 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 03 Friday | 0 | 102 52.3 | 130 28.3 | -12 42.4 | 338 26.6 | 23 45.9 | 31 12.7 | 21 46.1 | 116 12.8 | -7 51.2 |
| | 1 | 117 54.7 | 145 28.3 | -12 41.2 | 353 30.0 | 23 46.2 | 46 15.5 | 21 46.1 | 131 15.1 | -7 51.1 |
| | 2 | 132 57.2 | 160 28.3 | -12 40.1 | 8 33.4 | 23 46.5 | 61 18.2 | 21 46.0 | 146 17.4 | -7 51.0 |
| | 3 | 147 59.6 | 175 28.2 | -12 39.0 | 23 36.7 | 23 46.8 | 76 20.9 | 21 46.0 | 161 19.6 | -7 50.9 |
| | 4 | 163 2.1 | 190 28.2 | -12 37.9 | 38 40.1 | 23 47.1 | 91 23.7 | 21 46.0 | 176 21.9 | -7 50.9 |
| | 5 | 178 4.6 | 205 28.2 | -12 36.8 | 53 43.5 | 23 47.3 | 106 26.4 | 21 46.0 | 191 24.2 | -7 50.8 |
| | 6 | 193 7.0 | 220 28.2 | -12 35.7 | 68 46.8 | 23 47.6 | 121 29.1 | 21 45.9 | 206 26.5 | -7 50.7 |
| | 7 | 208 9.5 | 235 28.2 | -12 34.6 | 83 50.2 | 23 47.9 | 136 31.9 | 21 45.9 | 221 28.8 | -7 50.6 |
| | 8 | 223 12.0 | 250 28.2 | -12 33.5 | 98 53.6 | 23 48.2 | 151 34.6 | 21 45.9 | 236 31.1 | -7 50.5 |
| | 9 | 238 14.4 | 265 28.2 | -12 32.3 | 113 57.0 | 23 48.4 | 166 37.3 | 21 45.9 | 251 33.3 | -7 50.5 |
| | 10 | 253 16.9 | 280 28.1 | -12 31.2 | 129 0.3 | 23 48.7 | 181 40.1 | 21 45.9 | 266 35.6 | -7 50.4 |
| | 11 | 268 19.4 | 295 28.1 | -12 30.1 | 144 3.7 | 23 49.0 | 196 42.8 | 21 45.8 | 281 37.9 | -7 50.3 |
| | 12 | 283 21.8 | 310 28.1 | -12 29.0 | 159 7.1 | 23 49.3 | 211 45.5 | 21 45.8 | 296 40.2 | -7 50.2 |
| | 13 | 298 24.3 | 325 28.1 | -12 27.9 | 174 10.5 | 23 49.5 | 226 48.3 | 21 45.8 | 311 42.5 | -7 50.1 |
| | 14 | 313 26.8 | 340 28.1 | -12 26.8 | 189 13.8 | 23 49.8 | 241 51.0 | 21 45.8 | 326 44.8 | -7 50.1 |
| | 15 | 328 29.2 | 355 28.1 | -12 25.7 | 204 17.2 | 23 50.1 | 256 53.7 | 21 45.7 | 341 47.0 | -7 50.0 |
| | 16 | 343 31.7 | 10 28.1 | -12 24.5 | 219 20.6 | 23 50.4 | 271 56.5 | 21 45.7 | 356 49.3 | -7 49.9 |
| | 17 | 358 34.1 | 25 28.1 | -12 23.4 | 234 24.0 | 23 50.6 | 286 59.2 | 21 45.7 | 11 51.6 | -7 49.8 |
| | 18 | 13 36.6 | 40 28.1 | -12 22.3 | 249 27.4 | 23 50.9 | 302 1.9 | 21 45.7 | 26 53.9 | -7 49.7 |
| | 19 | 28 39.1 | 55 28.1 | -12 21.2 | 264 30.8 | 23 51.2 | 317 4.7 | 21 45.6 | 41 56.2 | -7 49.6 |
| | 20 | 43 41.5 | 70 28.1 | -12 20.1 | 279 34.1 | 23 51.5 | 332 7.4 | 21 45.6 | 56 58.4 | -7 49.6 |
| | 21 | 58 44.0 | 85 28.1 | -12 19.0 | 294 37.5 | 23 51.7 | 347 10.1 | 21 45.6 | 72 0.7 | -7 49.5 |
| | 22 | 73 46.5 | 100 28.1 | -12 17.8 | 309 40.9 | 23 52.0 | 2 12.9 | 21 45.6 | 87 3.0 | -7 49.4 |
| | 23 | 88 48.9 | 115 28.1 | -12 16.7 | 324 44.3 | 23 52.3 | 17 15.6 | 21 45.6 | 102 5.3 | -7 49.3 |
| | | MP 17:07 | *v* 0.0 | *d* -1.1 | *v* 3.4 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.5 | -40 12.4 |
| Achernar | 335 20.0 | -57 6.9 |
| Acrux | 173 0.1 | -63 14.0 |
| Adhara | 255 5.5 | -29 0.3 |
| Aldebaran | 290 39.3 | 16 33.6 |
| Alioth | 166 13.0 | 55 49.1 |
| Alkaid | 152 52.2 | 49 11.0 |
| Alnair | 27 33.2 | -46 50.6 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 4.0 | 26 37.7 |
| Alpheratz | 357 34.8 | 29 13.9 |
| Altair | 62 0.3 | 8 56.0 |
| Ankaa | 353 7.2 | -42 10.4 |
| Antares | 112 16.2 | -26 29.2 |
| Arcturus | 145 48.1 | 19 3.0 |
| Atria | 107 11.0 | -69 4.2 |
| Avior | 234 14.2 | -59 35.2 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.8 | -52 42.5 |
| Capella | 280 21.4 | 46 1.4 |
| Deneb | 49 26.2 | 45 22.2 |
| Denebola | 182 24.9 | 14 25.8 |
| Diphda | 348 47.3 | -17 51.1 |
| Dubhe | 193 40.7 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.7 |
| Eltanin | 90 42.7 | 51 29.0 |
| Enif | 33 39.1 | 9 59.4 |
| Fomalhaut | 15 14.7 | -29 29.6 |
| Gacrux | 171 51.7 | -57 14.9 |
| Gienah | 175 43.6 | -17 40.8 |
| Hadar | 148 36.3 | -60 29.3 |
| Hamal | 327 51.1 | 23 34.9 |
| Kaus Aust. | 83 32.9 | -34 22.4 |
| Kochab | 137 20.4 | 74 2.8 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.3 |
| Menkent | 147 57.8 | -36 29.4 |
| Miaplacidus | 221 37.5 | -69 48.9 |
| Mirfak | 308 27.9 | 49 57.2 |
| Nunki | 75 48.2 | -26 16.0 |
| Peacock | 53 6.3 | -56 39.4 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.7 | -60 56.1 |
| Sabik | 102 3.1 | -15 45.4 |
| Schedar | 349 31.1 | 56 40.7 |
| Shaula | 96 10.8 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.0 |
| Spica | 158 22.4 | -11 17.5 |
| Suhail | 222 46.0 | -43 31.8 |
| Vega | 80 33.7 | 38 48.3 |
| Zuben'ubi | 136 56.2 | -16 8.7 |

| 01 Wed | SHA | MP |
|---|---|---|
| Venus | 29 36.3 | 15:18 |
| Mars | 234 52.5 | 01:37 |
| Jupiter | 288 7.1 | 22:00 |
| Saturn | 13 29.0 | 16:20 |

| 02 Thu | SHA | MP |
|---|---|---|
| Venus | 28 35.9 | 15:18 |
| Mars | 235 13.1 | 01:31 |
| Jupiter | 288 13.8 | 21:56 |
| Saturn | 13 24.8 | 16:16 |

| 03 Fri | SHA | MP |
|---|---|---|
| Venus | 27 36.0 | 15:18 |
| Mars | 235 34.4 | 01:26 |
| Jupiter | 288 20.5 | 21:51 |
| Saturn | 13 20.5 | 16:13 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **01 Wednesday** | 0 | 179 8.4 | -22 59.9 | 164 13.2 | 7.1 | -25 51.6 | -7.2 | 57.4 |
| | 1 | 194 8.1 | -22 59.7 | 178 39.2 | 7.1 | -25 44.4 | -7.4 | 57.5 |
| | 2 | 209 7.8 | -22 59.5 | 193 5.4 | 7.2 | -25 37.1 | -7.5 | 57.5 |
| | 3 | 224 7.5 | -22 59.3 | 207 31.6 | 7.2 | -25 29.5 | -7.7 | 57.5 |
| | 4 | 239 7.2 | -22 59.1 | 221 57.8 | 7.3 | -25 21.9 | -7.8 | 57.5 |
| | 5 | 254 6.9 | -22 58.8 | 236 24.1 | 7.3 | -25 14.0 | -8.0 | 57.5 |
| | 6 | 269 6.6 | -22 58.6 | 250 50.4 | 7.4 | -25 6.1 | -8.1 | 57.6 |
| | 7 | 284 6.3 | -22 58.4 | 265 16.8 | 7.5 | -24 57.9 | -8.3 | 57.6 |
| | 8 | 299 6.0 | -22 58.2 | 279 43.3 | 7.5 | -24 49.7 | -8.4 | 57.6 |
| | 9 | 314 5.7 | -22 58.0 | 294 9.8 | 7.6 | -24 41.2 | -8.6 | 57.6 |
| | 10 | 329 5.4 | -22 57.8 | 308 36.4 | 7.6 | -24 32.6 | -8.7 | 57.6 |
| | 11 | 344 5.1 | -22 57.6 | 323 3.0 | 7.7 | -24 23.9 | -8.9 | 57.7 |
| | 12 | 359 4.8 | -22 57.4 | 337 29.7 | 7.8 | -24 15.0 | -9.0 | 57.7 |
| | 13 | 14 4.5 | -22 57.1 | 351 56.5 | 7.8 | -24 6.0 | -9.2 | 57.7 |
| | 14 | 29 4.2 | -22 56.9 | 6 23.3 | 7.9 | -23 56.9 | -9.3 | 57.7 |
| | 15 | 44 3.9 | -22 56.7 | 20 50.1 | 7.9 | -23 47.6 | -9.4 | 57.7 |
| | 16 | 59 3.7 | -22 56.5 | 35 17.1 | 8.0 | -23 38.1 | -9.6 | 57.8 |
| | 17 | 74 3.4 | -22 56.3 | 49 44.1 | 8.1 | -23 28.5 | -9.7 | 57.8 |
| | 18 | 89 3.1 | -22 56.0 | 64 11.2 | 8.1 | -23 18.8 | -9.9 | 57.8 |
| | 19 | 104 2.8 | -22 55.8 | 78 38.3 | 8.2 | -23 8.9 | -10.0 | 57.8 |
| | 20 | 119 2.5 | -22 55.6 | 93 5.5 | 8.3 | -22 58.9 | -10.1 | 57.8 |
| | 21 | 134 2.2 | -22 55.4 | 107 32.8 | 8.3 | -22 48.8 | -10.3 | 57.9 |
| | 22 | 149 1.9 | -22 55.2 | 122 0.1 | 8.4 | -22 38.5 | -10.4 | 57.9 |
| | 23 | 164 1.6 | -22 54.9 | 136 27.5 | 8.5 | -22 28.1 | -10.5 | 57.9 |
| | | *v* -0.3 SD 16.3 *d* -0.2 | | SD 15.7 | | | | |
| **02 Thursday** | 0 | 179 1.3 | -22 54.7 | 150 55.0 | 8.5 | -22 17.6 | -10.7 | 57.9 |
| | 1 | 194 1.0 | -22 54.5 | 165 22.5 | 8.6 | -22 6.9 | -10.8 | 57.9 |
| | 2 | 209 0.7 | -22 54.3 | 179 50.1 | 8.7 | -21 56.1 | -10.9 | 58.0 |
| | 3 | 224 0.4 | -22 54.0 | 194 17.8 | 8.7 | -21 45.1 | -11.1 | 58.0 |
| | 4 | 239 0.1 | -22 53.8 | 208 45.5 | 8.8 | -21 34.1 | -11.2 | 58.0 |
| | 5 | 253 59.9 | -22 53.6 | 223 13.3 | 8.9 | -21 22.9 | -11.3 | 58.0 |
| | 6 | 268 59.6 | -22 53.3 | 237 41.2 | 9.0 | -21 11.6 | -11.4 | 58.0 |
| | 7 | 283 59.3 | -22 53.1 | 252 9.2 | 9.0 | -21 0.2 | -11.6 | 58.0 |
| | 8 | 298 59.0 | -22 52.9 | 266 37.2 | 9.1 | -20 48.6 | -11.7 | 58.1 |
| | 9 | 313 58.7 | -22 52.6 | 281 5.3 | 9.2 | -20 36.9 | -11.8 | 58.1 |
| | 10 | 328 58.4 | -22 52.4 | 295 33.4 | 9.2 | -20 25.1 | -11.9 | 58.1 |
| | 11 | 343 58.1 | -22 52.2 | 310 1.7 | 9.3 | -20 13.2 | -12.0 | 58.1 |
| | 12 | 358 57.8 | -22 51.9 | 324 30.0 | 9.4 | -20 1.2 | -12.1 | 58.1 |
| | 13 | 13 57.5 | -22 51.7 | 338 58.3 | 9.4 | -19 49.0 | -12.3 | 58.1 |
| | 14 | 28 57.2 | -22 51.5 | 353 26.8 | 9.5 | -19 36.8 | -12.4 | 58.2 |
| | 15 | 43 56.9 | -22 51.2 | 7 55.3 | 9.6 | -19 24.4 | -12.5 | 58.2 |
| | 16 | 58 56.7 | -22 51.0 | 22 23.9 | 9.7 | -19 11.9 | -12.6 | 58.2 |
| | 17 | 73 56.4 | -22 50.8 | 36 52.5 | 9.7 | -18 59.3 | -12.7 | 58.2 |
| | 18 | 88 56.1 | -22 50.5 | 51 21.3 | 9.8 | -18 46.6 | -12.8 | 58.2 |
| | 19 | 103 55.8 | -22 50.3 | 65 50.0 | 9.9 | -18 33.8 | -12.9 | 58.2 |
| | 20 | 118 55.5 | -22 50.0 | 80 18.9 | 9.9 | -18 20.9 | -13.0 | 58.3 |
| | 21 | 133 55.2 | -22 49.8 | 94 47.8 | 10.0 | -18 7.8 | -13.1 | 58.3 |
| | 22 | 148 54.9 | -22 49.5 | 109 16.8 | 10.1 | -17 54.7 | -13.2 | 58.3 |
| | 23 | 163 54.6 | -22 49.3 | 123 45.9 | 10.1 | -17 41.5 | -13.3 | 58.3 |
| | | *v* -0.3 SD 16.3 *d* -0.2 | | SD 15.8 | | | | |
| **03 Friday** | 0 | 178 54.3 | -22 49.1 | 138 15.0 | 10.2 | -17 28.2 | -13.4 | 58.3 |
| | 1 | 193 54.1 | -22 48.8 | 152 44.2 | 10.3 | -17 14.7 | -13.5 | 58.3 |
| | 2 | 208 53.8 | -22 48.6 | 167 13.5 | 10.3 | -17 1.2 | -13.6 | 58.4 |
| | 3 | 223 53.5 | -22 48.3 | 181 42.8 | 10.4 | -16 47.6 | -13.7 | 58.4 |
| | 4 | 238 53.2 | -22 48.1 | 196 12.2 | 10.5 | -16 33.9 | -13.8 | 58.4 |
| | 5 | 253 52.9 | -22 47.8 | 210 41.7 | 10.5 | -16 20.1 | -13.9 | 58.4 |
| | 6 | 268 52.6 | -22 47.6 | 225 11.2 | 10.6 | -16 6.2 | -14.0 | 58.4 |
| | 7 | 283 52.3 | -22 47.3 | 239 40.8 | 10.7 | -15 52.2 | -14.1 | 58.4 |
| | 8 | 298 52.0 | -22 47.1 | 254 10.4 | 10.7 | -15 38.1 | -14.2 | 58.4 |
| | 9 | 313 51.8 | -22 46.8 | 268 40.1 | 10.8 | -15 24.0 | -14.2 | 58.5 |
| | 10 | 328 51.5 | -22 46.6 | 283 9.9 | 10.8 | -15 9.7 | -14.3 | 58.5 |
| | 11 | 343 51.2 | -22 46.3 | 297 39.8 | 10.9 | -14 55.4 | -14.4 | 58.5 |
| | 12 | 358 50.9 | -22 46.1 | 312 9.6 | 11.0 | -14 41.0 | -14.5 | 58.5 |
| | 13 | 13 50.6 | -22 45.8 | 326 39.6 | 11.0 | -14 26.5 | -14.6 | 58.5 |
| | 14 | 28 50.3 | -22 45.6 | 341 9.6 | 11.1 | -14 11.9 | -14.7 | 58.5 |
| | 15 | 43 50.0 | -22 45.3 | 355 39.7 | 11.1 | -13 57.2 | -14.7 | 58.5 |
| | 16 | 58 49.7 | -22 45.0 | 10 9.8 | 11.2 | -13 42.5 | -14.8 | 58.5 |
| | 17 | 73 49.5 | -22 44.8 | 24 40.0 | 11.2 | -13 27.7 | -14.9 | 58.6 |
| | 18 | 88 49.2 | -22 44.5 | 39 10.2 | 11.3 | -13 12.8 | -15.0 | 58.6 |
| | 19 | 103 48.9 | -22 44.3 | 53 40.5 | 11.3 | -12 57.8 | -15.0 | 58.6 |
| | 20 | 118 48.6 | -22 44.0 | 68 10.9 | 11.4 | -12 42.8 | -15.1 | 58.6 |
| | 21 | 133 48.3 | -22 43.7 | 82 41.3 | 11.4 | -12 27.7 | -15.2 | 58.6 |
| | 22 | 148 48.0 | -22 43.5 | 97 11.7 | 11.5 | -12 12.5 | -15.2 | 58.6 |
| | 23 | 163 47.8 | -22 43.2 | 111 42.2 | 11.5 | -11 57.3 | -15.3 | 58.6 |
| | | *v* -0.3 SD 16.3 *d* -0.2 | | SD 15.9 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:24 | 10:42 | ▬ | ▬ | 13:26 | 15:44 |
| 70 | 08:05 | 09:49 | ▬ | ▬ | 14:19 | 16:03 |
| 68 | 07:50 | 09:17 | ▬ | ▬ | 14:51 | 16:18 |
| 66 | 07:37 | 08:53 | 10:27 | 13:40 | 15:15 | 16:31 |
| 64 | 07:27 | 08:34 | 09:49 | 14:18 | 15:34 | 16:41 |
| 62 | 07:17 | 08:19 | 09:23 | 14:45 | 15:49 | 16:50 |
| 60 | 07:09 | 08:06 | 09:02 | 15:05 | 16:02 | 16:58 |
| 58 | 07:02 | 07:54 | 08:45 | 15:22 | 16:13 | 17:06 |
| 56 | 06:56 | 07:44 | 08:31 | 15:36 | 16:23 | 17:12 |
| 54 | 06:50 | 07:36 | 08:19 | 15:49 | 16:32 | 17:18 |
| 52 | 06:44 | 07:28 | 08:08 | 15:59 | 16:40 | 17:23 |
| 50 | 06:39 | 07:20 | 07:58 | 16:09 | 16:47 | 17:29 |
| 45 | 06:28 | 07:05 | 07:38 | 16:29 | 17:03 | 17:40 |
| 40 | 06:18 | 06:52 | 07:22 | 16:46 | 17:16 | 17:50 |
| 35 | 06:08 | 06:40 | 07:08 | 16:59 | 17:27 | 17:59 |
| 30 | 06:00 | 06:30 | 06:56 | 17:11 | 17:38 | 18:08 |
| 20 | 05:44 | 06:11 | 06:35 | 17:32 | 17:56 | 18:24 |
| 10 | 05:28 | 05:54 | 06:17 | 17:50 | 18:13 | 18:39 |
| 0 | 05:11 | 05:37 | 06:00 | 18:07 | 18:30 | 18:56 |
| -10 | 04:53 | 05:20 | 05:43 | 18:25 | 18:48 | 19:15 |
| -20 | 04:31 | 05:00 | 05:24 | 18:43 | 19:08 | 19:37 |
| -30 | 04:02 | 04:35 | 05:03 | 19:05 | 19:32 | 20:05 |
| -35 | 03:44 | 04:20 | 04:50 | 19:17 | 19:47 | 20:23 |
| -40 | 03:21 | 04:02 | 04:35 | 19:32 | 20:05 | 20:46 |
| -45 | 02:51 | 03:40 | 04:17 | 19:50 | 20:27 | 21:15 |
| -50 | 02:08 | 03:11 | 03:55 | 20:11 | 20:55 | 21:59 |
| -52 | 01:42 | 02:57 | 03:45 | 20:22 | 21:10 | 22:25 |
| -54 | 01:01 | 02:40 | 03:33 | 20:34 | 21:27 | 23:04 |
| -56 | //// | 02:18 | 03:19 | 20:48 | 21:48 | //// |
| -58 | //// | 01:50 | 03:03 | 21:04 | 22:16 | //// |
| -60 | //// | 01:07 | 02:43 | 21:23 | 22:58 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **01** | **02** | **03** | **01** | **02** | **03** |
| 72 | ▬ | ▬ | 12:47 | ▬ | ▬ | 18:17 |
| 70 | ▬ | 13:51 | 12:17 | ▬ | 15:25 | 18:45 |
| 68 | ▬ | 12:41 | 11:55 | ▬ | 16:33 | 19:05 |
| 66 | ▬ | 12:04 | 11:38 | ▬ | 17:09 | 19:21 |
| 64 | 12:03 | 11:38 | 11:23 | 15:16 | 17:34 | 19:34 |
| 62 | 11:24 | 11:17 | 11:11 | 15:55 | 17:53 | 19:44 |
| 60 | 10:57 | 11:00 | 11:01 | 16:21 | 18:09 | 19:54 |
| 58 | 10:35 | 10:46 | 10:52 | 16:42 | 18:23 | 20:02 |
| 56 | 10:18 | 10:33 | 10:43 | 16:59 | 18:34 | 20:09 |
| 54 | 10:03 | 10:22 | 10:36 | 17:14 | 18:45 | 20:15 |
| 52 | 09:50 | 10:13 | 10:30 | 17:26 | 18:53 | 20:20 |
| 50 | 09:38 | 10:04 | 10:24 | 17:37 | 19:01 | 20:25 |
| 45 | 09:14 | 09:46 | 10:11 | 18:00 | 19:18 | 20:36 |
| 40 | 08:55 | 09:31 | 10:01 | 18:19 | 19:32 | 20:45 |
| 35 | 08:39 | 09:18 | 09:52 | 18:34 | 19:44 | 20:53 |
| 30 | 08:25 | 09:07 | 09:44 | 18:47 | 19:54 | 20:59 |
| 20 | 08:01 | 08:47 | 09:30 | 19:09 | 20:11 | 21:11 |
| 10 | 07:40 | 08:30 | 09:18 | 19:29 | 20:26 | 21:20 |
| 0 | 07:20 | 08:15 | 09:06 | 19:47 | 20:40 | 21:30 |
| -10 | 07:01 | 07:59 | 08:55 | 20:04 | 20:53 | 21:39 |
| -20 | 06:40 | 07:42 | 08:42 | 20:23 | 21:08 | 21:48 |
| -30 | 06:15 | 07:22 | 08:28 | 20:45 | 21:24 | 21:59 |
| -35 | 06:01 | 07:10 | 08:20 | 20:58 | 21:34 | 22:05 |
| -40 | 05:44 | 06:57 | 08:10 | 21:12 | 21:45 | 22:12 |
| -45 | 05:24 | 06:41 | 07:59 | 21:29 | 21:57 | 22:21 |
| -50 | 04:59 | 06:21 | 07:46 | 21:50 | 22:13 | 22:30 |
| -52 | 04:46 | 06:12 | 07:39 | 22:00 | 22:20 | 22:35 |
| -54 | 04:32 | 06:01 | 07:32 | 22:11 | 22:28 | 22:40 |
| -56 | 04:16 | 05:50 | 07:24 | 22:24 | 22:36 | 22:45 |
| -58 | 03:56 | 05:36 | 07:15 | 22:38 | 22:46 | 22:51 |
| -60 | 03:31 | 05:19 | 07:05 | 22:56 | 22:58 | 22:58 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **01** | 03:27 | 03:41 | 12:04 | 13:33 | 01:06 | 1 | 1 |
| **02** | 03:55 | 04:09 | 12:04 | 14:27 | 02:01 | 2 | 5 |
| **03** | 04:23 | 04:36 | 12:05 | 15:18 | 02:53 | 3 | 11 |

## 2025 January 04, 05, 06 (Sat, Sun, Monday)

| | | Aries | Venus -4.5 | | Mars -1.3 | | Jupiter -2.7 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 04 Saturday | 0 | 103 51.4 | 130 28.1 | -12 15.6 | 339 47.7 | 23 52.6 | 32 18.3 | 21 45.5 | 117 7.6 | -7 49.2 |
| | 1 | 118 53.9 | 145 28.1 | -12 14.5 | 354 51.1 | 23 52.8 | 47 21.1 | 21 45.5 | 132 9.9 | -7 49.2 |
| | 2 | 133 56.3 | 160 28.1 | -12 13.4 | 9 54.5 | 23 53.1 | 62 23.8 | 21 45.5 | 147 12.1 | -7 49.1 |
| | 3 | 148 58.8 | 175 28.1 | -12 12.2 | 24 57.9 | 23 53.4 | 77 26.5 | 21 45.5 | 162 14.4 | -7 49.0 |
| | 4 | 164 1.3 | 190 28.1 | -12 11.1 | 40 1.2 | 23 53.7 | 92 29.2 | 21 45.4 | 177 16.7 | -7 48.9 |
| | 5 | 179 3.7 | 205 28.1 | -12 10.0 | 55 4.6 | 23 53.9 | 107 32.0 | 21 45.4 | 192 19.0 | -7 48.8 |
| | 6 | 194 6.2 | 220 28.2 | -12 8.9 | 70 8.0 | 23 54.2 | 122 34.7 | 21 45.4 | 207 21.3 | -7 48.7 |
| | 7 | 209 8.6 | 235 28.2 | -12 7.8 | 85 11.4 | 23 54.5 | 137 37.4 | 21 45.4 | 222 23.5 | -7 48.7 |
| | 8 | 224 11.1 | 250 28.2 | -12 6.6 | 100 14.8 | 23 54.8 | 152 40.2 | 21 45.3 | 237 25.8 | -7 48.6 |
| | 9 | 239 13.6 | 265 28.2 | -12 5.5 | 115 18.2 | 23 55.1 | 167 42.9 | 21 45.3 | 252 28.1 | -7 48.5 |
| | 10 | 254 16.0 | 280 28.2 | -12 4.4 | 130 21.6 | 23 55.3 | 182 45.6 | 21 45.3 | 267 30.4 | -7 48.4 |
| | 11 | 269 18.5 | 295 28.2 | -12 3.3 | 145 25.0 | 23 55.6 | 197 48.3 | 21 45.3 | 282 32.7 | -7 48.3 |
| | 12 | 284 21.0 | 310 28.2 | -12 2.1 | 160 28.4 | 23 55.9 | 212 51.1 | 21 45.3 | 297 34.9 | -7 48.3 |
| | 13 | 299 23.4 | 325 28.3 | -12 1.0 | 175 31.8 | 23 56.2 | 227 53.8 | 21 45.2 | 312 37.2 | -7 48.2 |
| | 14 | 314 25.9 | 340 28.3 | -11 59.9 | 190 35.2 | 23 56.4 | 242 56.5 | 21 45.2 | 327 39.5 | -7 48.1 |
| | 15 | 329 28.4 | 355 28.3 | -11 58.8 | 205 38.6 | 23 56.7 | 257 59.2 | 21 45.2 | 342 41.8 | -7 48.0 |
| | 16 | 344 30.8 | 10 28.3 | -11 57.6 | 220 42.0 | 23 57.0 | 273 2.0 | 21 45.2 | 357 44.1 | -7 47.9 |
| | 17 | 359 33.3 | 25 28.3 | -11 56.5 | 235 45.4 | 23 57.3 | 288 4.7 | 21 45.1 | 12 46.3 | -7 47.8 |
| | 18 | 14 35.7 | 40 28.3 | -11 55.4 | 250 48.8 | 23 57.5 | 303 7.4 | 21 45.1 | 27 48.6 | -7 47.8 |
| | 19 | 29 38.2 | 55 28.4 | -11 54.3 | 265 52.2 | 23 57.8 | 318 10.1 | 21 45.1 | 42 50.9 | -7 47.7 |
| | 20 | 44 40.7 | 70 28.4 | -11 53.1 | 280 55.7 | 23 58.1 | 333 12.9 | 21 45.1 | 57 53.2 | -7 47.6 |
| | 21 | 59 43.1 | 85 28.4 | -11 52.0 | 295 59.1 | 23 58.4 | 348 15.6 | 21 45.1 | 72 55.5 | -7 47.5 |
| | 22 | 74 45.6 | 100 28.4 | -11 50.9 | 311 2.5 | 23 58.6 | 3 18.3 | 21 45.0 | 87 57.7 | -7 47.4 |
| | 23 | 89 48.1 | 115 28.5 | -11 49.8 | 326 5.9 | 23 58.9 | 18 21.0 | 21 45.0 | 103 0.0 | -7 47.3 |
| | | MP 17:03 | *v* 0.0 | *d* -1.1 | *v* 3.4 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Sunday | 0 | 104 50.5 | 130 28.5 | -11 48.6 | 341 9.3 | 23 59.2 | 33 23.8 | 21 45.0 | 118 2.3 | -7 47.3 |
| | 1 | 119 53.0 | 145 28.5 | -11 47.5 | 356 12.7 | 23 59.5 | 48 26.5 | 21 45.0 | 133 4.6 | -7 47.2 |
| | 2 | 134 55.5 | 160 28.6 | -11 46.4 | 11 16.1 | 23 59.7 | 63 29.2 | 21 44.9 | 148 6.8 | -7 47.1 |
| | 3 | 149 57.9 | 175 28.6 | -11 45.2 | 26 19.5 | 24 0.0 | 78 31.9 | 21 44.9 | 163 9.1 | -7 47.0 |
| | 4 | 165 0.4 | 190 28.6 | -11 44.1 | 41 22.9 | 24 0.3 | 93 34.7 | 21 44.9 | 178 11.4 | -7 46.9 |
| | 5 | 180 2.9 | 205 28.6 | -11 43.0 | 56 26.4 | 24 0.5 | 108 37.4 | 21 44.9 | 193 13.7 | -7 46.8 |
| | 6 | 195 5.3 | 220 28.7 | -11 41.9 | 71 29.8 | 24 0.8 | 123 40.1 | 21 44.9 | 208 16.0 | -7 46.8 |
| | 7 | 210 7.8 | 235 28.7 | -11 40.7 | 86 33.2 | 24 1.1 | 138 42.8 | 21 44.8 | 223 18.2 | -7 46.7 |
| | 8 | 225 10.2 | 250 28.7 | -11 39.6 | 101 36.6 | 24 1.4 | 153 45.5 | 21 44.8 | 238 20.5 | -7 46.6 |
| | 9 | 240 12.7 | 265 28.8 | -11 38.5 | 116 40.0 | 24 1.6 | 168 48.3 | 21 44.8 | 253 22.8 | -7 46.5 |
| | 10 | 255 15.2 | 280 28.8 | -11 37.3 | 131 43.5 | 24 1.9 | 183 51.0 | 21 44.8 | 268 25.1 | -7 46.4 |
| | 11 | 270 17.6 | 295 28.9 | -11 36.2 | 146 46.9 | 24 2.2 | 198 53.7 | 21 44.8 | 283 27.3 | -7 46.3 |
| | 12 | 285 20.1 | 310 28.9 | -11 35.1 | 161 50.3 | 24 2.5 | 213 56.4 | 21 44.7 | 298 29.6 | -7 46.3 |
| | 13 | 300 22.6 | 325 28.9 | -11 33.9 | 176 53.7 | 24 2.7 | 228 59.1 | 21 44.7 | 313 31.9 | -7 46.2 |
| | 14 | 315 25.0 | 340 29.0 | -11 32.8 | 191 57.1 | 24 3.0 | 244 1.9 | 21 44.7 | 328 34.2 | -7 46.1 |
| | 15 | 330 27.5 | 355 29.0 | -11 31.7 | 207 0.6 | 24 3.3 | 259 4.6 | 21 44.7 | 343 36.4 | -7 46.0 |
| | 16 | 345 30.0 | 10 29.1 | -11 30.5 | 222 4.0 | 24 3.6 | 274 7.3 | 21 44.6 | 358 38.7 | -7 45.9 |
| | 17 | 0 32.4 | 25 29.1 | -11 29.4 | 237 7.4 | 24 3.8 | 289 10.0 | 21 44.6 | 13 41.0 | -7 45.8 |
| | 18 | 15 34.9 | 40 29.2 | -11 28.3 | 252 10.8 | 24 4.1 | 304 12.7 | 21 44.6 | 28 43.3 | -7 45.8 |
| | 19 | 30 37.4 | 55 29.2 | -11 27.1 | 267 14.3 | 24 4.4 | 319 15.5 | 21 44.6 | 43 45.6 | -7 45.7 |
| | 20 | 45 39.8 | 70 29.2 | -11 26.0 | 282 17.7 | 24 4.7 | 334 18.2 | 21 44.6 | 58 47.8 | -7 45.6 |
| | 21 | 60 42.3 | 85 29.3 | -11 24.9 | 297 21.1 | 24 4.9 | 349 20.9 | 21 44.5 | 73 50.1 | -7 45.5 |
| | 22 | 75 44.7 | 100 29.3 | -11 23.7 | 312 24.6 | 24 5.2 | 4 23.6 | 21 44.5 | 88 52.4 | -7 45.4 |
| | 23 | 90 47.2 | 115 29.4 | -11 22.6 | 327 28.0 | 24 5.5 | 19 26.3 | 21 44.5 | 103 54.7 | -7 45.3 |
| | | MP 16:59 | *v* 0.0 | *d* -1.1 | *v* 3.4 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 06 Monday | 0 | 105 49.7 | 130 29.4 | -11 21.5 | 342 31.4 | 24 5.8 | 34 29.0 | 21 44.5 | 118 56.9 | -7 45.2 |
| | 1 | 120 52.1 | 145 29.5 | -11 20.3 | 357 34.9 | 24 6.0 | 49 31.8 | 21 44.4 | 133 59.2 | -7 45.2 |
| | 2 | 135 54.6 | 160 29.5 | -11 19.2 | 12 38.3 | 24 6.3 | 64 34.5 | 21 44.4 | 149 1.5 | -7 45.1 |
| | 3 | 150 57.1 | 175 29.6 | -11 18.1 | 27 41.7 | 24 6.6 | 79 37.2 | 21 44.4 | 164 3.8 | -7 45.0 |
| | 4 | 165 59.5 | 190 29.7 | -11 16.9 | 42 45.2 | 24 6.8 | 94 39.9 | 21 44.4 | 179 6.0 | -7 44.9 |
| | 5 | 181 2.0 | 205 29.7 | -11 15.8 | 57 48.6 | 24 7.1 | 109 42.6 | 21 44.4 | 194 8.3 | -7 44.8 |
| | 6 | 196 4.5 | 220 29.8 | -11 14.6 | 72 52.0 | 24 7.4 | 124 45.3 | 21 44.3 | 209 10.6 | -7 44.7 |
| | 7 | 211 6.9 | 235 29.8 | -11 13.5 | 87 55.5 | 24 7.7 | 139 48.0 | 21 44.3 | 224 12.9 | -7 44.7 |
| | 8 | 226 9.4 | 250 29.9 | -11 12.4 | 102 58.9 | 24 7.9 | 154 50.8 | 21 44.3 | 239 15.1 | -7 44.6 |
| | 9 | 241 11.8 | 265 29.9 | -11 11.2 | 118 2.4 | 24 8.2 | 169 53.5 | 21 44.3 | 254 17.4 | -7 44.5 |
| | 10 | 256 14.3 | 280 30.0 | -11 10.1 | 133 5.8 | 24 8.5 | 184 56.2 | 21 44.3 | 269 19.7 | -7 44.4 |
| | 11 | 271 16.8 | 295 30.1 | -11 8.9 | 148 9.2 | 24 8.7 | 199 58.9 | 21 44.2 | 284 22.0 | -7 44.3 |
| | 12 | 286 19.2 | 310 30.1 | -11 7.8 | 163 12.7 | 24 9.0 | 215 1.6 | 21 44.2 | 299 24.2 | -7 44.2 |
| | 13 | 301 21.7 | 325 30.2 | -11 6.7 | 178 16.1 | 24 9.3 | 230 4.3 | 21 44.2 | 314 26.5 | -7 44.1 |
| | 14 | 316 24.2 | 340 30.3 | -11 5.5 | 193 19.6 | 24 9.6 | 245 7.0 | 21 44.2 | 329 28.8 | -7 44.1 |
| | 15 | 331 26.6 | 355 30.3 | -11 4.4 | 208 23.0 | 24 9.8 | 260 9.7 | 21 44.2 | 344 31.0 | -7 44.0 |
| | 16 | 346 29.1 | 10 30.4 | -11 3.2 | 223 26.5 | 24 10.1 | 275 12.5 | 21 44.1 | 359 33.3 | -7 43.9 |
| | 17 | 1 31.6 | 25 30.5 | -11 2.1 | 238 29.9 | 24 10.4 | 290 15.2 | 21 44.1 | 14 35.6 | -7 43.8 |
| | 18 | 16 34.0 | 40 30.5 | -11 1.0 | 253 33.4 | 24 10.6 | 305 17.9 | 21 44.1 | 29 37.9 | -7 43.7 |
| | 19 | 31 36.5 | 55 30.6 | -10 59.8 | 268 36.8 | 24 10.9 | 320 20.6 | 21 44.1 | 44 40.1 | -7 43.6 |
| | 20 | 46 39.0 | 70 30.7 | -10 58.7 | 283 40.2 | 24 11.2 | 335 23.3 | 21 44.0 | 59 42.4 | -7 43.6 |
| | 21 | 61 41.4 | 85 30.7 | -10 57.5 | 298 43.7 | 24 11.5 | 350 26.0 | 21 44.0 | 74 44.7 | -7 43.5 |
| | 22 | 76 43.9 | 100 30.8 | -10 56.4 | 313 47.1 | 24 11.7 | 5 28.7 | 21 44.0 | 89 47.0 | -7 43.4 |
| | 23 | 91 46.3 | 115 30.9 | -10 55.3 | 328 50.6 | 24 12.0 | 20 31.4 | 21 44.0 | 104 49.2 | -7 43.3 |
| | | MP 16:55 | *v* 0.1 | *d* -1.1 | *v* 3.4 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.5 | -40 12.4 |
| Achernar | 335 20.0 | -57 6.9 |
| Acrux | 173 0.1 | -63 14.0 |
| Adhara | 255 5.5 | -29 0.3 |
| Aldebaran | 290 39.3 | 16 33.6 |
| Alioth | 166 13.0 | 55 49.1 |
| Alkaid | 152 52.1 | 49 11.0 |
| Alnair | 27 33.2 | -46 50.6 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 4.0 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.9 |
| Altair | 62 0.3 | 8 56.0 |
| Ankaa | 353 7.2 | -42 10.4 |
| Antares | 112 16.2 | -26 29.2 |
| Arcturus | 145 48.0 | 19 3.0 |
| Atria | 107 10.9 | -69 4.2 |
| Avior | 234 14.1 | -59 35.2 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.8 | -52 42.5 |
| Capella | 280 21.4 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.2 |
| Denebola | 182 24.9 | 14 25.8 |
| Diphda | 348 47.3 | -17 51.1 |
| Dubhe | 193 40.7 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.7 |
| Eltanin | 90 42.7 | 51 29.0 |
| Enif | 33 39.1 | 9 59.4 |
| Fomalhaut | 15 14.7 | -29 29.6 |
| Gacrux | 171 51.6 | -57 14.9 |
| Gienah | 175 43.5 | -17 40.8 |
| Hadar | 148 36.3 | -60 29.3 |
| Hamal | 327 51.1 | 23 34.9 |
| Kaus Aust. | 83 32.9 | -34 22.4 |
| Kochab | 137 20.4 | 74 2.8 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.3 |
| Menkent | 147 57.8 | -36 29.4 |
| Miaplacidus | 221 37.5 | -69 49.0 |
| Mirfak | 308 27.9 | 49 57.2 |
| Nunki | 75 48.1 | -26 16.0 |
| Peacock | 53 6.3 | -56 39.4 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.6 | -60 56.1 |
| Sabik | 102 3.1 | -15 45.4 |
| Schedar | 349 31.1 | 56 40.7 |
| Shaula | 96 10.8 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.0 |
| Spica | 158 22.4 | -11 17.5 |
| Suhail | 222 45.9 | -43 31.9 |
| Vega | 80 33.7 | 38 48.3 |
| Zuben'ubi | 136 56.2 | -16 8.7 |

| 04 Sat | SHA | MP |
|---|---|---|
| Venus | 26 36.7 | 15:18 |
| Mars | 235 56.3 | 01:21 |
| Jupiter | 288 26.9 | 21:47 |
| Saturn | 13 16.2 | 16:09 |

| 05 Sun | SHA | MP |
|---|---|---|
| Venus | 25 38.0 | 15:18 |
| Mars | 236 18.8 | 01:15 |
| Jupiter | 288 33.2 | 21:42 |
| Saturn | 13 11.8 | 16:05 |

| 06 Mon | SHA | MP |
|---|---|---|
| Venus | 24 39.8 | 15:18 |
| Mars | 236 41.8 | 01:10 |
| Jupiter | 288 39.4 | 21:38 |
| Saturn | 13 7.3 | 16:02 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **04 Saturday** | 0 | 178 47.5 | -22 43.0 | 126 12.8 | 11.6 | -11 42.0 | -15.4 | 58.6 |
| | 1 | 193 47.2 | -22 42.7 | 140 43.4 | 11.6 | -11 26.6 | -15.4 | 58.7 |
| | 2 | 208 46.9 | -22 42.4 | 155 14.0 | 11.7 | -11 11.2 | -15.5 | 58.7 |
| | 3 | 223 46.6 | -22 42.2 | 169 44.7 | 11.7 | -10 55.7 | -15.5 | 58.7 |
| | 4 | 238 46.3 | -22 41.9 | 184 15.4 | 11.8 | -10 40.2 | -15.6 | 58.7 |
| | 5 | 253 46.0 | -22 41.6 | 198 46.2 | 11.8 | -10 24.6 | -15.7 | 58.7 |
| | 6 | 268 45.8 | -22 41.4 | 213 17.0 | 11.9 | -10 8.9 | -15.7 | 58.7 |
| | 7 | 283 45.5 | -22 41.1 | 227 47.9 | 11.9 | -9 53.2 | -15.8 | 58.7 |
| | 8 | 298 45.2 | -22 40.8 | 242 18.8 | 11.9 | -9 37.4 | -15.8 | 58.7 |
| | 9 | 313 44.9 | -22 40.6 | 256 49.8 | 12.0 | -9 21.6 | -15.9 | 58.8 |
| | 10 | 328 44.6 | -22 40.3 | 271 20.7 | 12.0 | -9 5.7 | -15.9 | 58.8 |
| | 11 | 343 44.4 | -22 40.0 | 285 51.8 | 12.1 | -8 49.8 | -16.0 | 58.8 |
| | 12 | 358 44.1 | -22 39.7 | 300 22.8 | 12.1 | -8 33.8 | -16.0 | 58.8 |
| | 13 | 13 43.8 | -22 39.5 | 314 53.9 | 12.1 | -8 17.8 | -16.1 | 58.8 |
| | 14 | 28 43.5 | -22 39.2 | 329 25.0 | 12.2 | -8 1.8 | -16.1 | 58.8 |
| | 15 | 43 43.2 | -22 38.9 | 343 56.2 | 12.2 | -7 45.6 | -16.2 | 58.8 |
| | 16 | 58 42.9 | -22 38.6 | 358 27.4 | 12.2 | -7 29.5 | -16.2 | 58.8 |
| | 17 | 73 42.7 | -22 38.4 | 12 58.6 | 12.3 | -7 13.3 | -16.2 | 58.8 |
| | 18 | 88 42.4 | -22 38.1 | 27 29.9 | 12.3 | -6 57.1 | -16.3 | 58.8 |
| | 19 | 103 42.1 | -22 37.8 | 42 1.2 | 12.3 | -6 40.8 | -16.3 | 58.9 |
| | 20 | 118 41.8 | -22 37.5 | 56 32.5 | 12.3 | -6 24.5 | -16.3 | 58.9 |
| | 21 | 133 41.5 | -22 37.3 | 71 3.8 | 12.4 | -6 8.1 | -16.4 | 58.9 |
| | 22 | 148 41.3 | -22 37.0 | 85 35.2 | 12.4 | -5 51.8 | -16.4 | 58.9 |
| | 23 | 163 41.0 | -22 36.7 | 100 6.5 | 12.4 | -5 35.3 | -16.4 | 58.9 |
| | | *v* -0.3 | SD 16.3 | *d* -0.3 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **05 Sunday** | 0 | 178 40.7 | -22 36.4 | 114 37.9 | 12.4 | -5 18.9 | -16.5 | 58.9 |
| | 1 | 193 40.4 | -22 36.1 | 129 9.4 | 12.4 | -5 2.4 | -16.5 | 58.9 |
| | 2 | 208 40.1 | -22 35.8 | 143 40.8 | 12.5 | -4 45.9 | -16.5 | 58.9 |
| | 3 | 223 39.9 | -22 35.6 | 158 12.3 | 12.5 | -4 29.4 | -16.6 | 58.9 |
| | 4 | 238 39.6 | -22 35.3 | 172 43.7 | 12.5 | -4 12.8 | -16.6 | 58.9 |
| | 5 | 253 39.3 | -22 35.0 | 187 15.2 | 12.5 | -3 56.3 | -16.6 | 58.9 |
| | 6 | 268 39.0 | -22 34.7 | 201 46.7 | 12.5 | -3 39.7 | -16.6 | 58.9 |
| | 7 | 283 38.8 | -22 34.4 | 216 18.2 | 12.5 | -3 23.0 | -16.6 | 59.0 |
| | 8 | 298 38.5 | -22 34.1 | 230 49.8 | 12.5 | -3 6.4 | -16.7 | 59.0 |
| | 9 | 313 38.2 | -22 33.8 | 245 21.3 | 12.5 | -2 49.7 | -16.7 | 59.0 |
| | 10 | 328 37.9 | -22 33.5 | 259 52.9 | 12.6 | -2 33.0 | -16.7 | 59.0 |
| | 11 | 343 37.6 | -22 33.3 | 274 24.4 | 12.6 | -2 16.3 | -16.7 | 59.0 |
| | 12 | 358 37.4 | -22 33.0 | 288 56.0 | 12.6 | -1 59.6 | -16.7 | 59.0 |
| | 13 | 13 37.1 | -22 32.7 | 303 27.5 | 12.6 | -1 42.9 | -16.7 | 59.0 |
| | 14 | 28 36.8 | -22 32.4 | 317 59.1 | 12.6 | -1 26.2 | -16.7 | 59.0 |
| | 15 | 43 36.5 | -22 32.1 | 332 30.7 | 12.6 | -1 9.4 | -16.8 | 59.0 |
| | 16 | 58 36.3 | -22 31.8 | 347 2.2 | 12.6 | -0 52.7 | -16.8 | 59.0 |
| | 17 | 73 36.0 | -22 31.5 | 1 33.8 | 12.6 | -0 35.9 | -16.8 | 59.0 |
| | 18 | 88 35.7 | -22 31.2 | 16 5.4 | 12.6 | -0 19.1 | -16.8 | 59.0 |
| | 19 | 103 35.4 | -22 30.9 | 30 36.9 | 12.6 | -0 2.4 | 16.8 | 59.0 |
| | 20 | 118 35.2 | -22 30.6 | 45 8.5 | 12.5 | 0 14.4 | 16.8 | 59.1 |
| | 21 | 133 34.9 | -22 30.3 | 59 40.0 | 12.5 | 0 31.2 | 16.8 | 59.1 |
| | 22 | 148 34.6 | -22 30.0 | 74 11.5 | 12.5 | 0 48.0 | 16.8 | 59.1 |
| | 23 | 163 34.3 | -22 29.7 | 88 43.1 | 12.5 | 1 4.7 | 16.8 | 59.1 |
| | | *v* -0.3 | SD 16.3 | *d* -0.3 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **06 Monday** | 0 | 178 34.1 | -22 29.4 | 103 14.6 | 12.5 | 1 21.5 | 16.8 | 59.1 |
| | 1 | 193 33.8 | -22 29.1 | 117 46.1 | 12.5 | 1 38.3 | 16.8 | 59.1 |
| | 2 | 208 33.5 | -22 28.8 | 132 17.6 | 12.5 | 1 55.1 | 16.8 | 59.1 |
| | 3 | 223 33.2 | -22 28.5 | 146 49.1 | 12.5 | 2 11.8 | 16.8 | 59.1 |
| | 4 | 238 33.0 | -22 28.2 | 161 20.5 | 12.4 | 2 28.6 | 16.7 | 59.1 |
| | 5 | 253 32.7 | -22 27.9 | 175 52.0 | 12.4 | 2 45.3 | 16.7 | 59.1 |
| | 6 | 268 32.4 | -22 27.6 | 190 23.4 | 12.4 | 3 2.1 | 16.7 | 59.1 |
| | 7 | 283 32.1 | -22 27.3 | 204 54.8 | 12.4 | 3 18.8 | 16.7 | 59.1 |
| | 8 | 298 31.9 | -22 27.0 | 219 26.2 | 12.4 | 3 35.5 | 16.7 | 59.1 |
| | 9 | 313 31.6 | -22 26.7 | 233 57.5 | 12.3 | 3 52.2 | 16.7 | 59.1 |
| | 10 | 328 31.3 | -22 26.4 | 248 28.9 | 12.3 | 4 8.9 | 16.7 | 59.1 |
| | 11 | 343 31.0 | -22 26.1 | 263 0.2 | 12.3 | 4 25.5 | 16.6 | 59.1 |
| | 12 | 358 30.8 | -22 25.7 | 277 31.5 | 12.2 | 4 42.1 | 16.6 | 59.1 |
| | 13 | 13 30.5 | -22 25.4 | 292 2.7 | 12.2 | 4 58.8 | 16.6 | 59.1 |
| | 14 | 28 30.2 | -22 25.1 | 306 33.9 | 12.2 | 5 15.4 | 16.6 | 59.1 |
| | 15 | 43 30.0 | -22 24.8 | 321 5.1 | 12.2 | 5 31.9 | 16.5 | 59.2 |
| | 16 | 58 29.7 | -22 24.5 | 335 36.3 | 12.1 | 5 48.5 | 16.5 | 59.2 |
| | 17 | 73 29.4 | -22 24.2 | 350 7.4 | 12.1 | 6 5.0 | 16.5 | 59.2 |
| | 18 | 88 29.1 | -22 23.9 | 4 38.5 | 12.0 | 6 21.5 | 16.5 | 59.2 |
| | 19 | 103 28.9 | -22 23.6 | 19 9.5 | 12.0 | 6 38.0 | 16.4 | 59.2 |
| | 20 | 118 28.6 | -22 23.2 | 33 40.5 | 12.0 | 6 54.4 | 16.4 | 59.2 |
| | 21 | 133 28.3 | -22 22.9 | 48 11.5 | 11.9 | 7 10.8 | 16.4 | 59.2 |
| | 22 | 148 28.1 | -22 22.6 | 62 42.4 | 11.9 | 7 27.1 | 16.3 | 59.2 |
| | 23 | 163 27.8 | -22 22.3 | 77 13.3 | 11.8 | 7 43.5 | 16.3 | 59.2 |
| | | *v* -0.3 | SD 16.3 | *d* -0.3 | | SD 16.1 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:20 | 10:32 | ▬ | ▬ | 13:38 | 15:50 |
| 70 | 08:02 | 09:44 | ▬ | ▬ | 14:27 | 16:08 |
| 68 | 07:48 | 09:13 | 11:35 | 12:35 | 14:57 | 16:23 |
| 66 | 07:36 | 08:50 | 10:21 | 13:49 | 15:20 | 16:35 |
| 64 | 07:25 | 08:32 | 09:46 | 14:25 | 15:38 | 16:45 |
| 62 | 07:16 | 08:17 | 09:20 | 14:50 | 15:53 | 16:54 |
| 60 | 07:08 | 08:04 | 09:00 | 15:10 | 16:06 | 17:02 |
| 58 | 07:01 | 07:53 | 08:44 | 15:27 | 16:17 | 17:09 |
| 56 | 06:55 | 07:44 | 08:30 | 15:40 | 16:27 | 17:15 |
| 54 | 06:49 | 07:35 | 08:18 | 15:52 | 16:35 | 17:21 |
| 52 | 06:44 | 07:27 | 08:07 | 16:03 | 16:43 | 17:26 |
| 50 | 06:39 | 07:20 | 07:58 | 16:12 | 16:50 | 17:31 |
| 45 | 06:28 | 07:05 | 07:38 | 16:32 | 17:06 | 17:43 |
| 40 | 06:18 | 06:52 | 07:22 | 16:48 | 17:19 | 17:52 |
| 35 | 06:09 | 06:40 | 07:08 | 17:02 | 17:30 | 18:01 |
| 30 | 06:01 | 06:30 | 06:57 | 17:14 | 17:40 | 18:10 |
| 20 | 05:45 | 06:12 | 06:36 | 17:34 | 17:58 | 18:25 |
| 10 | 05:29 | 05:55 | 06:18 | 17:52 | 18:15 | 18:41 |
| 0 | 05:13 | 05:39 | 06:01 | 18:09 | 18:31 | 18:57 |
| -10 | 04:54 | 05:21 | 05:44 | 18:26 | 18:49 | 19:16 |
| -20 | 04:33 | 05:02 | 05:26 | 18:44 | 19:08 | 19:37 |
| -30 | 04:04 | 04:38 | 05:05 | 19:05 | 19:32 | 20:05 |
| -35 | 03:46 | 04:23 | 04:52 | 19:18 | 19:47 | 20:23 |
| -40 | 03:24 | 04:05 | 04:38 | 19:32 | 20:05 | 20:45 |
| -45 | 02:55 | 03:44 | 04:20 | 19:49 | 20:26 | 21:15 |
| -50 | 02:12 | 03:15 | 03:59 | 20:11 | 20:54 | 21:57 |
| -52 | 01:47 | 03:01 | 03:48 | 20:21 | 21:09 | 22:21 |
| -54 | 01:10 | 02:44 | 03:37 | 20:33 | 21:25 | 22:57 |
| -56 | //// | 02:23 | 03:23 | 20:46 | 21:46 | //// |
| -58 | //// | 01:57 | 03:07 | 21:02 | 22:12 | //// |
| -60 | //// | 01:17 | 02:48 | 21:21 | 22:51 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **04** | **05** | **06** | **04** | **05** | **06** |
| 72 | 11:51 | 11:12 | 10:36 | 20:56 | 23:18 | –:– |
| 70 | 11:39 | 11:09 | 10:41 | 21:06 | 23:17 | –:– |
| 68 | 11:28 | 11:06 | 10:46 | 21:13 | 23:15 | –:– |
| 66 | 11:20 | 11:04 | 10:50 | 21:20 | 23:14 | –:– |
| 64 | 11:12 | 11:02 | 10:53 | 21:25 | 23:14 | –:– |
| 62 | 11:06 | 11:01 | 10:56 | 21:30 | 23:13 | –:– |
| 60 | 11:00 | 10:59 | 10:58 | 21:34 | 23:12 | –:– |
| 58 | 10:55 | 10:58 | 11:01 | 21:37 | 23:12 | –:– |
| 56 | 10:51 | 10:57 | 11:03 | 21:40 | 23:11 | –:– |
| 54 | 10:47 | 10:56 | 11:05 | 21:43 | 23:11 | –:– |
| 52 | 10:43 | 10:55 | 11:06 | 21:46 | 23:10 | –:– |
| 50 | 10:40 | 10:54 | 11:08 | 21:48 | 23:10 | –:– |
| 45 | 10:33 | 10:52 | 11:11 | 21:53 | 23:09 | –:– |
| 40 | 10:27 | 10:51 | 11:14 | 21:57 | 23:08 | –:– |
| 35 | 10:21 | 10:49 | 11:17 | 22:00 | 23:08 | –:– |
| 30 | 10:17 | 10:48 | 11:19 | 22:04 | 23:07 | –:– |
| 20 | 10:09 | 10:46 | 11:23 | 22:09 | 23:06 | –:– |
| 10 | 10:02 | 10:44 | 11:26 | 22:13 | 23:05 | 23:58 |
| 0 | 09:55 | 10:42 | 11:30 | 22:18 | 23:05 | 23:52 |
| -10 | 09:48 | 10:41 | 11:33 | 22:22 | 23:04 | 23:46 |
| -20 | 09:41 | 10:39 | 11:36 | 22:26 | 23:03 | 23:40 |
| -30 | 09:33 | 10:37 | 11:41 | 22:31 | 23:02 | 23:33 |
| -35 | 09:28 | 10:36 | 11:43 | 22:34 | 23:01 | 23:29 |
| -40 | 09:23 | 10:34 | 11:46 | 22:37 | 23:01 | 23:25 |
| -45 | 09:16 | 10:33 | 11:49 | 22:41 | 23:00 | 23:19 |
| -50 | 09:09 | 10:31 | 11:53 | 22:45 | 22:59 | 23:13 |
| -52 | 09:05 | 10:30 | 11:55 | 22:47 | 22:59 | 23:10 |
| -54 | 09:01 | 10:29 | 11:57 | 22:49 | 22:58 | 23:07 |
| -56 | 08:57 | 10:28 | 11:59 | 22:52 | 22:58 | 23:04 |
| -58 | 08:52 | 10:27 | 12:01 | 22:54 | 22:57 | 23:00 |
| -60 | 08:47 | 10:26 | 12:04 | 22:57 | 22:56 | 22:56 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **04** | 04:50 | 05:04 | 12:05 | 16:06 | 03:42 | 4 | 19 |
| **05** | 05:17 | 05:31 | 12:06 | 16:54 | 04:30 | 5 | 28 |
| **06** | 05:44 | 05:57 | 12:06 | 17:41 | 05:17 | 6 | 39 |

## 2025 January 07, 08, 09 (Tue, Wed, Thu)

| | | Aries | Venus -4.5 | | Mars -1.3 | | Jupiter -2.7 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 07 Tuesday | 0 | 106 48.8 | 130 31.0 | -10 54.1 | 343 54.1 | 24 12.3 | 35 34.1 | 21 44.0 | 119 51.5 | -7 43.2 |
| | 1 | 121 51.3 | 145 31.0 | -10 53.0 | 358 57.5 | 24 12.5 | 50 36.8 | 21 43.9 | 134 53.8 | -7 43.1 |
| | 2 | 136 53.7 | 160 31.1 | -10 51.8 | 14 1.0 | 24 12.8 | 65 39.6 | 21 43.9 | 149 56.0 | -7 43.0 |
| | 3 | 151 56.2 | 175 31.2 | -10 50.7 | 29 4.4 | 24 13.1 | 80 42.3 | 21 43.9 | 164 58.3 | -7 43.0 |
| | 4 | 166 58.7 | 190 31.3 | -10 49.5 | 44 7.9 | 24 13.4 | 95 45.0 | 21 43.9 | 180 0.6 | -7 42.9 |
| | 5 | 182 1.1 | 205 31.3 | -10 48.4 | 59 11.3 | 24 13.6 | 110 47.7 | 21 43.9 | 195 2.9 | -7 42.8 |
| | 6 | 197 3.6 | 220 31.4 | -10 47.3 | 74 14.8 | 24 13.9 | 125 50.4 | 21 43.8 | 210 5.1 | -7 42.7 |
| | 7 | 212 6.1 | 235 31.5 | -10 46.1 | 89 18.2 | 24 14.2 | 140 53.1 | 21 43.8 | 225 7.4 | -7 42.6 |
| | 8 | 227 8.5 | 250 31.6 | -10 45.0 | 104 21.7 | 24 14.4 | 155 55.8 | 21 43.8 | 240 9.7 | -7 42.5 |
| | 9 | 242 11.0 | 265 31.7 | -10 43.8 | 119 25.2 | 24 14.7 | 170 58.5 | 21 43.8 | 255 11.9 | -7 42.4 |
| | 10 | 257 13.5 | 280 31.7 | -10 42.7 | 134 28.6 | 24 15.0 | 186 1.2 | 21 43.8 | 270 14.2 | -7 42.4 |
| | 11 | 272 15.9 | 295 31.8 | -10 41.5 | 149 32.1 | 24 15.2 | 201 3.9 | 21 43.7 | 285 16.5 | -7 42.3 |
| | 12 | 287 18.4 | 310 31.9 | -10 40.4 | 164 35.5 | 24 15.5 | 216 6.6 | 21 43.7 | 300 18.8 | -7 42.2 |
| | 13 | 302 20.8 | 325 32.0 | -10 39.2 | 179 39.0 | 24 15.8 | 231 9.3 | 21 43.7 | 315 21.0 | -7 42.1 |
| | 14 | 317 23.3 | 340 32.1 | -10 38.1 | 194 42.5 | 24 16.1 | 246 12.0 | 21 43.7 | 330 23.3 | -7 42.0 |
| | 15 | 332 25.8 | 355 32.2 | -10 36.9 | 209 45.9 | 24 16.3 | 261 14.7 | 21 43.7 | 345 25.6 | -7 41.9 |
| | 16 | 347 28.2 | 10 32.3 | -10 35.8 | 224 49.4 | 24 16.6 | 276 17.4 | 21 43.6 | 0 27.8 | -7 41.8 |
| | 17 | 2 30.7 | 25 32.4 | -10 34.6 | 239 52.8 | 24 16.9 | 291 20.1 | 21 43.6 | 15 30.1 | -7 41.8 |
| | 18 | 17 33.2 | 40 32.5 | -10 33.5 | 254 56.3 | 24 17.1 | 306 22.8 | 21 43.6 | 30 32.4 | -7 41.7 |
| | 19 | 32 35.6 | 55 32.6 | -10 32.3 | 269 59.8 | 24 17.4 | 321 25.5 | 21 43.6 | 45 34.7 | -7 41.6 |
| | 20 | 47 38.1 | 70 32.6 | -10 31.2 | 285 3.2 | 24 17.7 | 336 28.3 | 21 43.6 | 60 36.9 | -7 41.5 |
| | 21 | 62 40.6 | 85 32.7 | -10 30.0 | 300 6.7 | 24 17.9 | 351 31.0 | 21 43.5 | 75 39.2 | -7 41.4 |
| | 22 | 77 43.0 | 100 32.8 | -10 28.9 | 315 10.2 | 24 18.2 | 6 33.7 | 21 43.5 | 90 41.5 | -7 41.3 |
| | 23 | 92 45.5 | 115 32.9 | -10 27.7 | 330 13.6 | 24 18.5 | 21 36.4 | 21 43.5 | 105 43.7 | -7 41.2 |
| | | MP 16:51 | *v* 0.1 | *d* -1.1 | *v* 3.5 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Wednesday | 0 | 107 47.9 | 130 33.0 | -10 26.6 | 345 17.1 | 24 18.7 | 36 39.1 | 21 43.5 | 120 46.0 | -7 41.1 |
| | 1 | 122 50.4 | 145 33.1 | -10 25.4 | 0 20.6 | 24 19.0 | 51 41.8 | 21 43.5 | 135 48.3 | -7 41.1 |
| | 2 | 137 52.9 | 160 33.2 | -10 24.3 | 15 24.1 | 24 19.3 | 66 44.5 | 21 43.4 | 150 50.5 | -7 41.0 |
| | 3 | 152 55.3 | 175 33.3 | -10 23.1 | 30 27.5 | 24 19.5 | 81 47.2 | 21 43.4 | 165 52.8 | -7 40.9 |
| | 4 | 167 57.8 | 190 33.4 | -10 22.0 | 45 31.0 | 24 19.8 | 96 49.9 | 21 43.4 | 180 55.1 | -7 40.8 |
| | 5 | 183 0.3 | 205 33.5 | -10 20.8 | 60 34.5 | 24 20.1 | 111 52.6 | 21 43.4 | 195 57.4 | -7 40.7 |
| | 6 | 198 2.7 | 220 33.6 | -10 19.7 | 75 37.9 | 24 20.3 | 126 55.3 | 21 43.4 | 210 59.6 | -7 40.6 |
| | 7 | 213 5.2 | 235 33.7 | -10 18.5 | 90 41.4 | 24 20.6 | 141 58.0 | 21 43.3 | 226 1.9 | -7 40.5 |
| | 8 | 228 7.7 | 250 33.9 | -10 17.4 | 105 44.9 | 24 20.9 | 157 0.7 | 21 43.3 | 241 4.2 | -7 40.5 |
| | 9 | 243 10.1 | 265 34.0 | -10 16.2 | 120 48.4 | 24 21.1 | 172 3.4 | 21 43.3 | 256 6.4 | -7 40.4 |
| | 10 | 258 12.6 | 280 34.1 | -10 15.1 | 135 51.8 | 24 21.4 | 187 6.1 | 21 43.3 | 271 8.7 | -7 40.3 |
| | 11 | 273 15.1 | 295 34.2 | -10 13.9 | 150 55.3 | 24 21.7 | 202 8.8 | 21 43.3 | 286 11.0 | -7 40.2 |
| | 12 | 288 17.5 | 310 34.3 | -10 12.8 | 165 58.8 | 24 21.9 | 217 11.5 | 21 43.2 | 301 13.2 | -7 40.1 |
| | 13 | 303 20.0 | 325 34.4 | -10 11.6 | 181 2.3 | 24 22.2 | 232 14.2 | 21 43.2 | 316 15.5 | -7 40.0 |
| | 14 | 318 22.4 | 340 34.5 | -10 10.5 | 196 5.8 | 24 22.5 | 247 16.8 | 21 43.2 | 331 17.8 | -7 39.9 |
| | 15 | 333 24.9 | 355 34.6 | -10 9.3 | 211 9.2 | 24 22.7 | 262 19.5 | 21 43.2 | 346 20.0 | -7 39.8 |
| | 16 | 348 27.4 | 10 34.7 | -10 8.2 | 226 12.7 | 24 23.0 | 277 22.2 | 21 43.2 | 1 22.3 | -7 39.8 |
| | 17 | 3 29.8 | 25 34.9 | -10 7.0 | 241 16.2 | 24 23.3 | 292 24.9 | 21 43.1 | 16 24.6 | -7 39.7 |
| | 18 | 18 32.3 | 40 35.0 | -10 5.9 | 256 19.7 | 24 23.5 | 307 27.6 | 21 43.1 | 31 26.8 | -7 39.6 |
| | 19 | 33 34.8 | 55 35.1 | -10 4.7 | 271 23.2 | 24 23.8 | 322 30.3 | 21 43.1 | 46 29.1 | -7 39.5 |
| | 20 | 48 37.2 | 70 35.2 | -10 3.6 | 286 26.6 | 24 24.1 | 337 33.0 | 21 43.1 | 61 31.4 | -7 39.4 |
| | 21 | 63 39.7 | 85 35.3 | -10 2.4 | 301 30.1 | 24 24.3 | 352 35.7 | 21 43.1 | 76 33.6 | -7 39.3 |
| | 22 | 78 42.2 | 100 35.4 | -10 1.2 | 316 33.6 | 24 24.6 | 7 38.4 | 21 43.1 | 91 35.9 | -7 39.2 |
| | 23 | 93 44.6 | 115 35.6 | -10 0.1 | 331 37.1 | 24 24.9 | 22 41.1 | 21 43.0 | 106 38.2 | -7 39.1 |
| | | MP 16:47 | *v* 0.1 | *d* -1.1 | *v* 3.5 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Thursday | 0 | 108 47.1 | 130 35.7 | -9 58.9 | 346 40.6 | 24 25.1 | 37 43.8 | 21 43.0 | 121 40.4 | -7 39.1 |
| | 1 | 123 49.6 | 145 35.8 | -9 57.8 | 1 44.1 | 24 25.4 | 52 46.5 | 21 43.0 | 136 42.7 | -7 39.0 |
| | 2 | 138 52.0 | 160 35.9 | -9 56.6 | 16 47.5 | 24 25.6 | 67 49.2 | 21 43.0 | 151 45.0 | -7 38.9 |
| | 3 | 153 54.5 | 175 36.1 | -9 55.5 | 31 51.0 | 24 25.9 | 82 51.9 | 21 43.0 | 166 47.2 | -7 38.8 |
| | 4 | 168 56.9 | 190 36.2 | -9 54.3 | 46 54.5 | 24 26.2 | 97 54.6 | 21 42.9 | 181 49.5 | -7 38.7 |
| | 5 | 183 59.4 | 205 36.3 | -9 53.2 | 61 58.0 | 24 26.4 | 112 57.3 | 21 42.9 | 196 51.8 | -7 38.6 |
| | 6 | 199 1.9 | 220 36.4 | -9 52.0 | 77 1.5 | 24 26.7 | 128 0.0 | 21 42.9 | 211 54.0 | -7 38.5 |
| | 7 | 214 4.3 | 235 36.6 | -9 50.8 | 92 5.0 | 24 27.0 | 143 2.7 | 21 42.9 | 226 56.3 | -7 38.4 |
| | 8 | 229 6.8 | 250 36.7 | -9 49.7 | 107 8.5 | 24 27.2 | 158 5.3 | 21 42.9 | 241 58.6 | -7 38.4 |
| | 9 | 244 9.3 | 265 36.8 | -9 48.5 | 122 12.0 | 24 27.5 | 173 8.0 | 21 42.8 | 257 0.8 | -7 38.3 |
| | 10 | 259 11.7 | 280 37.0 | -9 47.4 | 137 15.5 | 24 27.7 | 188 10.7 | 21 42.8 | 272 3.1 | -7 38.2 |
| | 11 | 274 14.2 | 295 37.1 | -9 46.2 | 152 18.9 | 24 28.0 | 203 13.4 | 21 42.8 | 287 5.4 | -7 38.1 |
| | 12 | 289 16.7 | 310 37.2 | -9 45.0 | 167 22.4 | 24 28.3 | 218 16.1 | 21 42.8 | 302 7.6 | -7 38.0 |
| | 13 | 304 19.1 | 325 37.4 | -9 43.9 | 182 25.9 | 24 28.5 | 233 18.8 | 21 42.8 | 317 9.9 | -7 37.9 |
| | 14 | 319 21.6 | 340 37.5 | -9 42.7 | 197 29.4 | 24 28.8 | 248 21.5 | 21 42.7 | 332 12.2 | -7 37.8 |
| | 15 | 334 24.1 | 355 37.6 | -9 41.6 | 212 32.9 | 24 29.1 | 263 24.2 | 21 42.7 | 347 14.4 | -7 37.7 |
| | 16 | 349 26.5 | 10 37.8 | -9 40.4 | 227 36.4 | 24 29.3 | 278 26.9 | 21 42.7 | 2 16.7 | -7 37.6 |
| | 17 | 4 29.0 | 25 37.9 | -9 39.3 | 242 39.9 | 24 29.6 | 293 29.6 | 21 42.7 | 17 19.0 | -7 37.6 |
| | 18 | 19 31.4 | 40 38.1 | -9 38.1 | 257 43.4 | 24 29.8 | 308 32.2 | 21 42.7 | 32 21.2 | -7 37.5 |
| | 19 | 34 33.9 | 55 38.2 | -9 36.9 | 272 46.9 | 24 30.1 | 323 34.9 | 21 42.7 | 47 23.5 | -7 37.4 |
| | 20 | 49 36.4 | 70 38.4 | -9 35.8 | 287 50.4 | 24 30.4 | 338 37.6 | 21 42.6 | 62 25.8 | -7 37.3 |
| | 21 | 64 38.8 | 85 38.5 | -9 34.6 | 302 53.9 | 24 30.6 | 353 40.3 | 21 42.6 | 77 28.0 | -7 37.2 |
| | 22 | 79 41.3 | 100 38.6 | -9 33.5 | 317 57.4 | 24 30.9 | 8 43.0 | 21 42.6 | 92 30.3 | -7 37.1 |
| | 23 | 94 43.8 | 115 38.8 | -9 32.3 | 333 0.9 | 24 31.1 | 23 45.7 | 21 42.6 | 107 32.5 | -7 37.0 |
| | | MP 16:43 | *v* 0.1 | *d* -1.2 | *v* 3.5 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.5 | -40 12.5 |
| Achernar | 335 20.1 | -57 6.9 |
| Acrux | 173 0.0 | -63 14.0 |
| Adhara | 255 5.5 | -29 0.4 |
| Aldebaran | 290 39.3 | 16 33.6 |
| Alioth | 166 12.9 | 55 49.1 |
| Alkaid | 152 52.1 | 49 11.0 |
| Alnair | 27 33.2 | -46 50.6 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 4.0 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.8 |
| Altair | 62 0.3 | 8 56.0 |
| Ankaa | 353 7.2 | -42 10.4 |
| Antares | 112 16.1 | -26 29.2 |
| Arcturus | 145 48.0 | 19 3.0 |
| Atria | 107 10.9 | -69 4.2 |
| Avior | 234 14.1 | -59 35.2 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.8 | -52 42.5 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.3 | 45 22.2 |
| Denebola | 182 24.8 | 14 25.8 |
| Diphda | 348 47.3 | -17 51.1 |
| Dubhe | 193 40.6 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.7 |
| Eltanin | 90 42.7 | 51 29.0 |
| Enif | 33 39.1 | 9 59.4 |
| Fomalhaut | 15 14.7 | -29 29.6 |
| Gacrux | 171 51.6 | -57 14.9 |
| Gienah | 175 43.5 | -17 40.8 |
| Hadar | 148 36.2 | -60 29.3 |
| Hamal | 327 51.1 | 23 34.9 |
| Kaus Aust. | 83 32.9 | -34 22.4 |
| Kochab | 137 20.3 | 74 2.8 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.3 |
| Menkent | 147 57.8 | -36 29.4 |
| Miaplacidus | 221 37.5 | -69 49.0 |
| Mirfak | 308 28.0 | 49 57.2 |
| Nunki | 75 48.1 | -26 16.0 |
| Peacock | 53 6.3 | -56 39.4 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.6 | -60 56.1 |
| Sabik | 102 3.1 | -15 45.4 |
| Schedar | 349 31.1 | 56 40.7 |
| Shaula | 96 10.8 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.0 |
| Spica | 158 22.3 | -11 17.5 |
| Suhail | 222 45.9 | -43 31.9 |
| Vega | 80 33.7 | 38 48.3 |
| Zuben'ubi | 136 56.2 | -16 8.7 |

| 07 Tue | SHA | MP |
|---|---|---|
| Venus | 23 42.1 | 15:18 |
| Mars | 237 5.2 | 01:04 |
| Jupiter | 288 45.3 | 21:34 |
| Saturn | 13 2.7 | 15:58 |

| 08 Wed | SHA | MP |
|---|---|---|
| Venus | 22 45.1 | 15:18 |
| Mars | 237 29.2 | 00:59 |
| Jupiter | 288 51.1 | 21:30 |
| Saturn | 12 58.1 | 15:55 |

| 09 Thu | SHA | MP |
|---|---|---|
| Venus | 21 48.6 | 15:17 |
| Mars | 237 53.5 | 00:53 |
| Jupiter | 288 56.7 | 21:25 |
| Saturn | 12 53.4 | 15:51 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **07 Tuesday** | 0 | 178 27.5 | -22 22.0 | 91 44.1 | 11.8 | 7 59.8 | 16.3 | 59.2 |
| | 1 | 193 27.3 | -22 21.6 | 106 14.9 | 11.7 | 8 16.0 | 16.2 | 59.2 |
| | 2 | 208 27.0 | -22 21.3 | 120 45.7 | 11.7 | 8 32.2 | 16.2 | 59.2 |
| | 3 | 223 26.7 | -22 21.0 | 135 16.4 | 11.6 | 8 48.4 | 16.1 | 59.2 |
| | 4 | 238 26.4 | -22 20.7 | 149 47.0 | 11.6 | 9 4.5 | 16.1 | 59.2 |
| | 5 | 253 26.2 | -22 20.4 | 164 17.6 | 11.5 | 9 20.6 | 16.0 | 59.2 |
| | 6 | 268 25.9 | -22 20.0 | 178 48.2 | 11.5 | 9 36.7 | 16.0 | 59.2 |
| | 7 | 283 25.6 | -22 19.7 | 193 18.7 | 11.4 | 9 52.7 | 15.9 | 59.2 |
| | 8 | 298 25.4 | -22 19.4 | 207 49.1 | 11.4 | 10 8.6 | 15.9 | 59.2 |
| | 9 | 313 25.1 | -22 19.1 | 222 19.5 | 11.3 | 10 24.5 | 15.8 | 59.2 |
| | 10 | 328 24.8 | -22 18.7 | 236 49.8 | 11.3 | 10 40.3 | 15.8 | 59.2 |
| | 11 | 343 24.6 | -22 18.4 | 251 20.1 | 11.2 | 10 56.1 | 15.7 | 59.2 |
| | 12 | 358 24.3 | -22 18.1 | 265 50.3 | 11.1 | 11 11.8 | 15.7 | 59.2 |
| | 13 | 13 24.0 | -22 17.8 | 280 20.4 | 11.1 | 11 27.5 | 15.6 | 59.2 |
| | 14 | 28 23.8 | -22 17.4 | 294 50.5 | 11.0 | 11 43.1 | 15.6 | 59.2 |
| | 15 | 43 23.5 | -22 17.1 | 309 20.5 | 11.0 | 11 58.7 | 15.5 | 59.2 |
| | 16 | 58 23.2 | -22 16.8 | 323 50.5 | 10.9 | 12 14.2 | 15.4 | 59.2 |
| | 17 | 73 23.0 | -22 16.4 | 338 20.4 | 10.8 | 12 29.6 | 15.4 | 59.2 |
| | 18 | 88 22.7 | -22 16.1 | 352 50.2 | 10.8 | 12 45.0 | 15.3 | 59.2 |
| | 19 | 103 22.4 | -22 15.8 | 7 20.0 | 10.7 | 13 0.3 | 15.2 | 59.2 |
| | 20 | 118 22.2 | -22 15.4 | 21 49.7 | 10.6 | 13 15.5 | 15.2 | 59.2 |
| | 21 | 133 21.9 | -22 15.1 | 36 19.3 | 10.5 | 13 30.7 | 15.1 | 59.2 |
| | 22 | 148 21.7 | -22 14.8 | 50 48.8 | 10.5 | 13 45.8 | 15.0 | 59.2 |
| | 23 | 163 21.4 | -22 14.4 | 65 18.3 | 10.4 | 14 0.8 | 14.9 | 59.2 |
| | | *v* -0.3 | SD 16.3 | *d* -0.3 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **08 Wednesday** | 0 | 178 21.1 | -22 14.1 | 79 47.7 | 10.3 | 14 15.8 | 14.9 | 59.2 |
| | 1 | 193 20.9 | -22 13.8 | 94 17.0 | 10.3 | 14 30.6 | 14.8 | 59.2 |
| | 2 | 208 20.6 | -22 13.4 | 108 46.3 | 10.2 | 14 45.4 | 14.7 | 59.2 |
| | 3 | 223 20.3 | -22 13.1 | 123 15.5 | 10.1 | 15 0.1 | 14.6 | 59.2 |
| | 4 | 238 20.1 | -22 12.7 | 137 44.6 | 10.0 | 15 14.8 | 14.6 | 59.2 |
| | 5 | 253 19.8 | -22 12.4 | 152 13.6 | 9.9 | 15 29.3 | 14.5 | 59.2 |
| | 6 | 268 19.5 | -22 12.0 | 166 42.5 | 9.9 | 15 43.8 | 14.4 | 59.2 |
| | 7 | 283 19.3 | -22 11.7 | 181 11.4 | 9.8 | 15 58.2 | 14.3 | 59.2 |
| | 8 | 298 19.0 | -22 11.4 | 195 40.2 | 9.7 | 16 12.5 | 14.2 | 59.2 |
| | 9 | 313 18.8 | -22 11.0 | 210 8.9 | 9.6 | 16 26.7 | 14.1 | 59.2 |
| | 10 | 328 18.5 | -22 10.7 | 224 37.5 | 9.5 | 16 40.8 | 14.0 | 59.2 |
| | 11 | 343 18.2 | -22 10.3 | 239 6.0 | 9.5 | 16 54.8 | 13.9 | 59.2 |
| | 12 | 358 18.0 | -22 10.0 | 253 34.5 | 9.4 | 17 8.8 | 13.8 | 59.2 |
| | 13 | 13 17.7 | -22 9.6 | 268 2.9 | 9.3 | 17 22.6 | 13.7 | 59.2 |
| | 14 | 28 17.5 | -22 9.3 | 282 31.1 | 9.2 | 17 36.3 | 13.6 | 59.2 |
| | 15 | 43 17.2 | -22 8.9 | 296 59.3 | 9.1 | 17 50.0 | 13.5 | 59.2 |
| | 16 | 58 16.9 | -22 8.6 | 311 27.4 | 9.0 | 18 3.5 | 13.4 | 59.2 |
| | 17 | 73 16.7 | -22 8.2 | 325 55.5 | 8.9 | 18 17.0 | 13.3 | 59.2 |
| | 18 | 88 16.4 | -22 7.9 | 340 23.4 | 8.8 | 18 30.3 | 13.2 | 59.2 |
| | 19 | 103 16.2 | -22 7.5 | 354 51.2 | 8.8 | 18 43.5 | 13.1 | 59.2 |
| | 20 | 118 15.9 | -22 7.2 | 9 19.0 | 8.7 | 18 56.6 | 13.0 | 59.2 |
| | 21 | 133 15.6 | -22 6.8 | 23 46.7 | 8.6 | 19 9.7 | 12.9 | 59.2 |
| | 22 | 148 15.4 | -22 6.5 | 38 14.2 | 8.5 | 19 22.6 | 12.8 | 59.2 |
| | 23 | 163 15.1 | -22 6.1 | 52 41.7 | 8.4 | 19 35.4 | 12.7 | 59.2 |
| | | *v* -0.3 | SD 16.3 | *d* -0.3 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **09 Thursday** | 0 | 178 14.9 | -22 5.8 | 67 9.1 | 8.3 | 19 48.0 | 12.6 | 59.2 |
| | 1 | 193 14.6 | -22 5.4 | 81 36.4 | 8.2 | 20 0.6 | 12.4 | 59.2 |
| | 2 | 208 14.3 | -22 5.1 | 96 3.7 | 8.1 | 20 13.1 | 12.3 | 59.2 |
| | 3 | 223 14.1 | -22 4.7 | 110 30.8 | 8.0 | 20 25.4 | 12.2 | 59.2 |
| | 4 | 238 13.8 | -22 4.3 | 124 57.8 | 7.9 | 20 37.6 | 12.1 | 59.2 |
| | 5 | 253 13.6 | -22 4.0 | 139 24.8 | 7.8 | 20 49.7 | 12.0 | 59.2 |
| | 6 | 268 13.3 | -22 3.6 | 153 51.6 | 7.8 | 21 1.6 | 11.8 | 59.2 |
| | 7 | 283 13.1 | -22 3.3 | 168 18.4 | 7.7 | 21 13.5 | 11.7 | 59.2 |
| | 8 | 298 12.8 | -22 2.9 | 182 45.0 | 7.6 | 21 25.2 | 11.6 | 59.1 |
| | 9 | 313 12.5 | -22 2.5 | 197 11.6 | 7.5 | 21 36.8 | 11.5 | 59.1 |
| | 10 | 328 12.3 | -22 2.2 | 211 38.1 | 7.4 | 21 48.2 | 11.3 | 59.1 |
| | 11 | 343 12.0 | -22 1.8 | 226 4.5 | 7.3 | 21 59.5 | 11.2 | 59.1 |
| | 12 | 358 11.8 | -22 1.5 | 240 30.8 | 7.2 | 22 10.7 | 11.1 | 59.1 |
| | 13 | 13 11.5 | -22 1.1 | 254 57.0 | 7.1 | 22 21.8 | 10.9 | 59.1 |
| | 14 | 28 11.3 | -22 0.7 | 269 23.1 | 7.0 | 22 32.7 | 10.8 | 59.1 |
| | 15 | 43 11.0 | -22 0.4 | 283 49.1 | 6.9 | 22 43.5 | 10.6 | 59.1 |
| | 16 | 58 10.8 | -22 0.0 | 298 15.0 | 6.8 | 22 54.1 | 10.5 | 59.1 |
| | 17 | 73 10.5 | -21 59.6 | 312 40.9 | 6.8 | 23 4.6 | 10.4 | 59.1 |
| | 18 | 88 10.2 | -21 59.2 | 327 6.6 | 6.7 | 23 15.0 | 10.2 | 59.1 |
| | 19 | 103 10.0 | -21 58.9 | 341 32.3 | 6.6 | 23 25.2 | 10.1 | 59.1 |
| | 20 | 118 9.7 | -21 58.5 | 355 57.9 | 6.5 | 23 35.2 | 9.9 | 59.1 |
| | 21 | 133 9.5 | -21 58.1 | 10 23.4 | 6.4 | 23 45.2 | 9.8 | 59.1 |
| | 22 | 148 9.2 | -21 57.8 | 24 48.8 | 6.3 | 23 54.9 | 9.6 | 59.1 |
| | 23 | 163 9.0 | -21 57.4 | 39 14.1 | 6.2 | 24 4.5 | 9.5 | 59.1 |
| | | *v* -0.3 | SD 16.3 | *d* -0.4 | | SD 16.1 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:16 | 10:22 | | | 13:52 | 15:57 |
| 70 | 07:59 | 09:38 | | | 14:35 | 16:15 |
| 68 | 07:45 | 09:09 | 11:14 | 13:00 | 15:05 | 16:29 |
| 66 | 07:33 | 08:47 | 10:14 | 13:59 | 15:26 | 16:40 |
| 64 | 07:23 | 08:29 | 09:41 | 14:32 | 15:44 | 16:50 |
| 62 | 07:15 | 08:15 | 09:17 | 14:56 | 15:58 | 16:59 |
| 60 | 07:07 | 08:02 | 08:58 | 15:16 | 16:11 | 17:06 |
| 58 | 07:00 | 07:52 | 08:42 | 15:31 | 16:21 | 17:13 |
| 56 | 06:54 | 07:42 | 08:28 | 15:45 | 16:31 | 17:19 |
| 54 | 06:48 | 07:34 | 08:17 | 15:56 | 16:39 | 17:25 |
| 52 | 06:43 | 07:26 | 08:06 | 16:07 | 16:47 | 17:30 |
| 50 | 06:38 | 07:19 | 07:57 | 16:16 | 16:54 | 17:35 |
| 45 | 06:28 | 07:04 | 07:38 | 16:35 | 17:09 | 17:45 |
| 40 | 06:18 | 06:52 | 07:22 | 16:51 | 17:21 | 17:55 |
| 35 | 06:09 | 06:41 | 07:09 | 17:04 | 17:32 | 18:04 |
| 30 | 06:01 | 06:31 | 06:57 | 17:16 | 17:42 | 18:12 |
| 20 | 05:46 | 06:13 | 06:37 | 17:36 | 18:00 | 18:27 |
| 10 | 05:30 | 05:57 | 06:19 | 17:54 | 18:16 | 18:42 |
| 0 | 05:14 | 05:40 | 06:03 | 18:10 | 18:32 | 18:58 |
| -10 | 04:56 | 05:23 | 05:46 | 18:27 | 18:50 | 19:16 |
| -20 | 04:35 | 05:04 | 05:28 | 18:45 | 19:09 | 19:38 |
| -30 | 04:07 | 04:40 | 05:07 | 19:05 | 19:33 | 20:05 |
| -35 | 03:49 | 04:25 | 04:55 | 19:18 | 19:47 | 20:23 |
| -40 | 03:28 | 04:08 | 04:41 | 19:32 | 20:04 | 20:45 |
| -45 | 02:59 | 03:47 | 04:24 | 19:49 | 20:25 | 21:13 |
| -50 | 02:18 | 03:19 | 04:02 | 20:10 | 20:53 | 21:54 |
| -52 | 01:54 | 03:05 | 03:52 | 20:20 | 21:07 | 22:17 |
| -54 | 01:20 | 02:49 | 03:41 | 20:31 | 21:23 | 22:50 |
| -56 | //// | 02:29 | 03:28 | 20:44 | 21:42 | //// |
| -58 | //// | 02:04 | 03:12 | 20:59 | 22:07 | //// |
| -60 | //// | 01:27 | 02:54 | 21:17 | 22:43 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **07** | **08** | **09** | **07** | **08** | **09** |
| 72 | 09:54 | 08:44 | | 01:43 | 04:39 | |
| 70 | 10:10 | 09:25 | | 01:30 | 04:00 | |
| 68 | 10:23 | 09:53 | 08:46 | 01:19 | 03:34 | 06:33 |
| 66 | 10:34 | 10:14 | 09:42 | 01:10 | 03:14 | 05:38 |
| 64 | 10:43 | 10:31 | 10:15 | 01:03 | 02:59 | 05:06 |
| 62 | 10:51 | 10:46 | 10:40 | 00:57 | 02:45 | 04:42 |
| 60 | 10:58 | 10:58 | 11:00 | 00:52 | 02:34 | 04:23 |
| 58 | 11:04 | 11:08 | 11:16 | 00:47 | 02:25 | 04:07 |
| 56 | 11:09 | 11:18 | 11:30 | 00:43 | 02:17 | 03:54 |
| 54 | 11:14 | 11:26 | 11:42 | 00:39 | 02:09 | 03:43 |
| 52 | 11:19 | 11:33 | 11:53 | 00:36 | 02:03 | 03:33 |
| 50 | 11:23 | 11:40 | 12:03 | 00:32 | 01:57 | 03:24 |
| 45 | 11:31 | 11:55 | 12:23 | 00:26 | 01:44 | 03:05 |
| 40 | 11:39 | 12:07 | 12:40 | 00:20 | 01:34 | 02:49 |
| 35 | 11:45 | 12:17 | 12:54 | 00:16 | 01:25 | 02:36 |
| 30 | 11:51 | 12:26 | 13:06 | 00:11 | 01:17 | 02:25 |
| 20 | 12:01 | 12:42 | 13:27 | 00:04 | 01:04 | 02:06 |
| 10 | 12:10 | 12:56 | 13:46 | –:– | 00:52 | 01:50 |
| 0 | 12:18 | 13:09 | 14:03 | –:– | 00:42 | 01:34 |
| -10 | 12:26 | 13:22 | 14:21 | –:– | 00:31 | 01:19 |
| -20 | 12:35 | 13:36 | 14:40 | –:– | 00:19 | 01:03 |
| -30 | 12:46 | 13:53 | 15:02 | –:– | 00:06 | 00:44 |
| -35 | 12:52 | 14:02 | 15:14 | 23:59 | –:– | 00:33 |
| -40 | 12:59 | 14:13 | 15:29 | 23:51 | –:– | 00:21 |
| -45 | 13:07 | 14:26 | 15:47 | 23:41 | –:– | 00:06 |
| -50 | 13:16 | 14:42 | 16:10 | 23:29 | 23:48 | –:– |
| -52 | 13:21 | 14:50 | 16:20 | 23:23 | 23:40 | –:– |
| -54 | 13:26 | 14:58 | 16:33 | 23:17 | 23:31 | 23:51 |
| -56 | 13:32 | 15:08 | 16:47 | 23:11 | 23:21 | 23:36 |
| -58 | 13:38 | 15:19 | 17:03 | 23:03 | 23:09 | 23:19 |
| -60 | 13:45 | 15:31 | 17:23 | 22:55 | 22:55 | 22:58 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **07** | 06:10 | 06:23 | 12:06 | 18:30 | 06:05 | 7 | 50 |
| **08** | 06:36 | 06:48 | 12:07 | 19:21 | 06:55 | 8 | 61 |
| **09** | 07:01 | 07:13 | 12:07 | 20:17 | 07:49 | 9 | 72 |

## 2025 January 10, 11, 12 (Fri, Sat, Sun)

| d | h | Aries GHA | Venus -4.5 GHA | Venus -4.5 Dec | Mars -1.4 GHA | Mars -1.4 Dec | Jupiter -2.7 GHA | Jupiter -2.7 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **10 Friday** | 0 | 109 46.2 | 130 38.9 | -9 31.1 | 348 4.4 | 24 31.4 | 38 48.4 | 21 42.6 | 122 34.8 | -7 36.9 |
| | 1 | 124 48.7 | 145 39.1 | -9 30.0 | 3 7.9 | 24 31.7 | 53 51.1 | 21 42.5 | 137 37.1 | -7 36.8 |
| | 2 | 139 51.2 | 160 39.2 | -9 28.8 | 18 11.4 | 24 31.9 | 68 53.7 | 21 42.5 | 152 39.3 | -7 36.8 |
| | 3 | 154 53.6 | 175 39.4 | -9 27.6 | 33 14.9 | 24 32.2 | 83 56.4 | 21 42.5 | 167 41.6 | -7 36.7 |
| | 4 | 169 56.1 | 190 39.5 | -9 26.5 | 48 18.4 | 24 32.4 | 98 59.1 | 21 42.5 | 182 43.9 | -7 36.6 |
| | 5 | 184 58.5 | 205 39.7 | -9 25.3 | 63 21.9 | 24 32.7 | 114 1.8 | 21 42.5 | 197 46.1 | -7 36.5 |
| | 6 | 200 1.0 | 220 39.8 | -9 24.2 | 78 25.4 | 24 33.0 | 129 4.5 | 21 42.5 | 212 48.4 | -7 36.4 |
| | 7 | 215 3.5 | 235 40.0 | -9 23.0 | 93 28.9 | 24 33.2 | 144 7.2 | 21 42.4 | 227 50.7 | -7 36.3 |
| | 8 | 230 5.9 | 250 40.1 | -9 21.8 | 108 32.4 | 24 33.5 | 159 9.8 | 21 42.4 | 242 52.9 | -7 36.2 |
| | 9 | 245 8.4 | 265 40.3 | -9 20.7 | 123 35.9 | 24 33.7 | 174 12.5 | 21 42.4 | 257 55.2 | -7 36.1 |
| | 10 | 260 10.9 | 280 40.5 | -9 19.5 | 138 39.4 | 24 34.0 | 189 15.2 | 21 42.4 | 272 57.4 | -7 36.0 |
| | 11 | 275 13.3 | 295 40.6 | -9 18.3 | 153 42.9 | 24 34.2 | 204 17.9 | 21 42.4 | 287 59.7 | -7 36.0 |
| | 12 | 290 15.8 | 310 40.8 | -9 17.2 | 168 46.4 | 24 34.5 | 219 20.6 | 21 42.3 | 303 2.0 | -7 35.9 |
| | 13 | 305 18.3 | 325 40.9 | -9 16.0 | 183 49.9 | 24 34.8 | 234 23.3 | 21 42.3 | 318 4.2 | -7 35.8 |
| | 14 | 320 20.7 | 340 41.1 | -9 14.9 | 198 53.4 | 24 35.0 | 249 25.9 | 21 42.3 | 333 6.5 | -7 35.7 |
| | 15 | 335 23.2 | 355 41.3 | -9 13.7 | 213 56.9 | 24 35.3 | 264 28.6 | 21 42.3 | 348 8.8 | -7 35.6 |
| | 16 | 350 25.7 | 10 41.4 | -9 12.5 | 229 0.4 | 24 35.5 | 279 31.3 | 21 42.3 | 3 11.0 | -7 35.5 |
| | 17 | 5 28.1 | 25 41.6 | -9 11.4 | 244 3.9 | 24 35.8 | 294 34.0 | 21 42.3 | 18 13.3 | -7 35.4 |
| | 18 | 20 30.6 | 40 41.8 | -9 10.2 | 259 7.4 | 24 36.0 | 309 36.7 | 21 42.2 | 33 15.5 | -7 35.3 |
| | 19 | 35 33.0 | 55 41.9 | -9 9.0 | 274 11.0 | 24 36.3 | 324 39.3 | 21 42.2 | 48 17.8 | -7 35.2 |
| | 20 | 50 35.5 | 70 42.1 | -9 7.9 | 289 14.5 | 24 36.6 | 339 42.0 | 21 42.2 | 63 20.1 | -7 35.2 |
| | 21 | 65 38.0 | 85 42.3 | -9 6.7 | 304 18.0 | 24 36.8 | 354 44.7 | 21 42.2 | 78 22.3 | -7 35.1 |
| | 22 | 80 40.4 | 100 42.4 | -9 5.5 | 319 21.5 | 24 37.1 | 9 47.4 | 21 42.2 | 93 24.6 | -7 35.0 |
| | 23 | 95 42.9 | 115 42.6 | -9 4.4 | 334 25.0 | 24 37.3 | 24 50.1 | 21 42.2 | 108 26.9 | -7 34.9 |
| | | MP 16:39 | *v* 0.1 | *d* -1.2 | *v* 3.5 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **11 Saturday** | 0 | 110 45.4 | 130 42.8 | -9 3.2 | 349 28.5 | 24 37.6 | 39 52.7 | 21 42.1 | 123 29.1 | -7 34.8 |
| | 1 | 125 47.8 | 145 42.9 | -9 2.0 | 4 32.0 | 24 37.8 | 54 55.4 | 21 42.1 | 138 31.4 | -7 34.7 |
| | 2 | 140 50.3 | 160 43.1 | -9 0.9 | 19 35.5 | 24 38.1 | 69 58.1 | 21 42.1 | 153 33.6 | -7 34.6 |
| | 3 | 155 52.8 | 175 43.3 | -8 59.7 | 34 39.0 | 24 38.3 | 85 0.8 | 21 42.1 | 168 35.9 | -7 34.5 |
| | 4 | 170 55.2 | 190 43.5 | -8 58.5 | 49 42.5 | 24 38.6 | 100 3.5 | 21 42.1 | 183 38.2 | -7 34.4 |
| | 5 | 185 57.7 | 205 43.6 | -8 57.4 | 64 46.1 | 24 38.9 | 115 6.1 | 21 42.1 | 198 40.4 | -7 34.3 |
| | 6 | 201 0.2 | 220 43.8 | -8 56.2 | 79 49.6 | 24 39.1 | 130 8.8 | 21 42.0 | 213 42.7 | -7 34.3 |
| | 7 | 216 2.6 | 235 44.0 | -8 55.0 | 94 53.1 | 24 39.4 | 145 11.5 | 21 42.0 | 228 44.9 | -7 34.2 |
| | 8 | 231 5.1 | 250 44.2 | -8 53.9 | 109 56.6 | 24 39.6 | 160 14.2 | 21 42.0 | 243 47.2 | -7 34.1 |
| | 9 | 246 7.5 | 265 44.4 | -8 52.7 | 125 0.1 | 24 39.9 | 175 16.8 | 21 42.0 | 258 49.5 | -7 34.0 |
| | 10 | 261 10.0 | 280 44.5 | -8 51.5 | 140 3.6 | 24 40.1 | 190 19.5 | 21 42.0 | 273 51.7 | -7 33.9 |
| | 11 | 276 12.5 | 295 44.7 | -8 50.4 | 155 7.1 | 24 40.4 | 205 22.2 | 21 42.0 | 288 54.0 | -7 33.8 |
| | 12 | 291 14.9 | 310 44.9 | -8 49.2 | 170 10.7 | 24 40.6 | 220 24.9 | 21 41.9 | 303 56.2 | -7 33.7 |
| | 13 | 306 17.4 | 325 45.1 | -8 48.0 | 185 14.2 | 24 40.9 | 235 27.5 | 21 41.9 | 318 58.5 | -7 33.6 |
| | 14 | 321 19.9 | 340 45.3 | -8 46.9 | 200 17.7 | 24 41.1 | 250 30.2 | 21 41.9 | 334 0.8 | -7 33.5 |
| | 15 | 336 22.3 | 355 45.5 | -8 45.7 | 215 21.2 | 24 41.4 | 265 32.9 | 21 41.9 | 349 3.0 | -7 33.4 |
| | 16 | 351 24.8 | 10 45.6 | -8 44.5 | 230 24.7 | 24 41.6 | 280 35.6 | 21 41.9 | 4 5.3 | -7 33.3 |
| | 17 | 6 27.3 | 25 45.8 | -8 43.4 | 245 28.2 | 24 41.9 | 295 38.2 | 21 41.9 | 19 7.5 | -7 33.3 |
| | 18 | 21 29.7 | 40 46.0 | -8 42.2 | 260 31.8 | 24 42.1 | 310 40.9 | 21 41.8 | 34 9.8 | -7 33.2 |
| | 19 | 36 32.2 | 55 46.2 | -8 41.0 | 275 35.3 | 24 42.4 | 325 43.6 | 21 41.8 | 49 12.1 | -7 33.1 |
| | 20 | 51 34.7 | 70 46.4 | -8 39.8 | 290 38.8 | 24 42.6 | 340 46.2 | 21 41.8 | 64 14.3 | -7 33.0 |
| | 21 | 66 37.1 | 85 46.6 | -8 38.7 | 305 42.3 | 24 42.9 | 355 48.9 | 21 41.8 | 79 16.6 | -7 32.9 |
| | 22 | 81 39.6 | 100 46.8 | -8 37.5 | 320 45.8 | 24 43.1 | 10 51.6 | 21 41.8 | 94 18.8 | -7 32.8 |
| | 23 | 96 42.0 | 115 47.0 | -8 36.3 | 335 49.3 | 24 43.4 | 25 54.3 | 21 41.8 | 109 21.1 | -7 32.7 |
| | | MP 16:36 | *v* 0.2 | *d* -1.2 | *v* 3.5 | *d* 0.3 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **12 Sunday** | 0 | 111 44.5 | 130 47.2 | -8 35.2 | 350 52.9 | 24 43.6 | 40 56.9 | 21 41.7 | 124 23.4 | -7 32.6 |
| | 1 | 126 47.0 | 145 47.4 | -8 34.0 | 5 56.4 | 24 43.9 | 55 59.6 | 21 41.7 | 139 25.6 | -7 32.5 |
| | 2 | 141 49.4 | 160 47.6 | -8 32.8 | 20 59.9 | 24 44.1 | 71 2.3 | 21 41.7 | 154 27.9 | -7 32.4 |
| | 3 | 156 51.9 | 175 47.8 | -8 31.7 | 36 3.4 | 24 44.4 | 86 4.9 | 21 41.7 | 169 30.1 | -7 32.3 |
| | 4 | 171 54.4 | 190 48.0 | -8 30.5 | 51 6.9 | 24 44.6 | 101 7.6 | 21 41.7 | 184 32.4 | -7 32.3 |
| | 5 | 186 56.8 | 205 48.2 | -8 29.3 | 66 10.5 | 24 44.9 | 116 10.3 | 21 41.7 | 199 34.6 | -7 32.2 |
| | 6 | 201 59.3 | 220 48.4 | -8 28.1 | 81 14.0 | 24 45.1 | 131 12.9 | 21 41.6 | 214 36.9 | -7 32.1 |
| | 7 | 217 1.8 | 235 48.6 | -8 27.0 | 96 17.5 | 24 45.4 | 146 15.6 | 21 41.6 | 229 39.2 | -7 32.0 |
| | 8 | 232 4.2 | 250 48.8 | -8 25.8 | 111 21.0 | 24 45.6 | 161 18.3 | 21 41.6 | 244 41.4 | -7 31.9 |
| | 9 | 247 6.7 | 265 49.0 | -8 24.6 | 126 24.6 | 24 45.9 | 176 21.0 | 21 41.6 | 259 43.7 | -7 31.8 |
| | 10 | 262 9.2 | 280 49.2 | -8 23.5 | 141 28.1 | 24 46.1 | 191 23.6 | 21 41.6 | 274 45.9 | -7 31.7 |
| | 11 | 277 11.6 | 295 49.4 | -8 22.3 | 156 31.6 | 24 46.4 | 206 26.3 | 21 41.6 | 289 48.2 | -7 31.6 |
| | 12 | 292 14.1 | 310 49.6 | -8 21.1 | 171 35.1 | 24 46.6 | 221 29.0 | 21 41.5 | 304 50.4 | -7 31.5 |
| | 13 | 307 16.5 | 325 49.8 | -8 19.9 | 186 38.7 | 24 46.9 | 236 31.6 | 21 41.5 | 319 52.7 | -7 31.4 |
| | 14 | 322 19.0 | 340 50.0 | -8 18.8 | 201 42.2 | 24 47.1 | 251 34.3 | 21 41.5 | 334 55.0 | -7 31.3 |
| | 15 | 337 21.5 | 355 50.3 | -8 17.6 | 216 45.7 | 24 47.4 | 266 37.0 | 21 41.5 | 349 57.2 | -7 31.3 |
| | 16 | 352 23.9 | 10 50.5 | -8 16.4 | 231 49.2 | 24 47.6 | 281 39.6 | 21 41.5 | 4 59.5 | -7 31.2 |
| | 17 | 7 26.4 | 25 50.7 | -8 15.3 | 246 52.8 | 24 47.8 | 296 42.3 | 21 41.5 | 20 1.7 | -7 31.1 |
| | 18 | 22 28.9 | 40 50.9 | -8 14.1 | 261 56.3 | 24 48.1 | 311 44.9 | 21 41.4 | 35 4.0 | -7 31.0 |
| | 19 | 37 31.3 | 55 51.1 | -8 12.9 | 276 59.8 | 24 48.3 | 326 47.6 | 21 41.4 | 50 6.2 | -7 30.9 |
| | 20 | 52 33.8 | 70 51.3 | -8 11.7 | 292 3.3 | 24 48.6 | 341 50.3 | 21 41.4 | 65 8.5 | -7 30.8 |
| | 21 | 67 36.3 | 85 51.6 | -8 10.6 | 307 6.9 | 24 48.8 | 356 52.9 | 21 41.4 | 80 10.8 | -7 30.7 |
| | 22 | 82 38.7 | 100 51.8 | -8 9.4 | 322 10.4 | 24 49.1 | 11 55.6 | 21 41.4 | 95 13.0 | -7 30.6 |
| | 23 | 97 41.2 | 115 52.0 | -8 8.2 | 337 13.9 | 24 49.3 | 26 58.3 | 21 41.4 | 110 15.3 | -7 30.5 |
| | | MP 16:32 | *v* 0.2 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 12.5 |
| Achernar | 335 20.1 | -57 6.9 |
| Acrux | 173 0.0 | -63 14.0 |
| Adhara | 255 5.5 | -29 0.4 |
| Aldebaran | 290 39.3 | 16 33.6 |
| Alioth | 166 12.9 | 55 49.1 |
| Alkaid | 152 52.1 | 49 11.0 |
| Alnair | 27 33.2 | -46 50.6 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 4.0 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.8 |
| Altair | 62 0.3 | 8 56.0 |
| Ankaa | 353 7.2 | -42 10.4 |
| Antares | 112 16.1 | -26 29.2 |
| Arcturus | 145 48.0 | 19 2.9 |
| Atria | 107 10.8 | -69 4.2 |
| Avior | 234 14.1 | -59 35.3 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.8 | -52 42.6 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.3 | 45 22.2 |
| Denebola | 182 24.8 | 14 25.8 |
| Diphda | 348 47.3 | -17 51.1 |
| Dubhe | 193 40.6 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.7 |
| Eltanin | 90 42.7 | 51 28.9 |
| Enif | 33 39.1 | 9 59.4 |
| Fomalhaut | 15 14.7 | -29 29.6 |
| Gacrux | 171 51.6 | -57 14.9 |
| Gienah | 175 43.5 | -17 40.8 |
| Hadar | 148 36.2 | -60 29.4 |
| Hamal | 327 51.1 | 23 34.9 |
| Kaus Aust. | 83 32.9 | -34 22.4 |
| Kochab | 137 20.3 | 74 2.8 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.3 |
| Menkent | 147 57.7 | -36 29.4 |
| Miaplacidus | 221 37.5 | -69 49.0 |
| Mirfak | 308 28.0 | 49 57.2 |
| Nunki | 75 48.1 | -26 16.0 |
| Peacock | 53 6.3 | -56 39.4 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.6 | -60 56.1 |
| Sabik | 102 3.1 | -15 45.4 |
| Schedar | 349 31.1 | 56 40.7 |
| Shaula | 96 10.7 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.3 | -11 17.5 |
| Suhail | 222 45.9 | -43 31.9 |
| Vega | 80 33.7 | 38 48.3 |
| Zuben'ubi | 136 56.2 | -16 8.7 |

| **10 Fri** | SHA | MP |
|---|---|---|
| Venus | 20 52.7 | 15:17 |
| Mars | 238 18.2 | 00:48 |
| Jupiter | 289 2.1 | 21:21 |
| Saturn | 12 48.6 | 15:47 |

| **11 Sat** | SHA | MP |
|---|---|---|
| Venus | 19 57.4 | 15:17 |
| Mars | 238 43.1 | 00:42 |
| Jupiter | 289 7.4 | 21:17 |
| Saturn | 12 43.7 | 15:44 |

| **12 Sun** | SHA | MP |
|---|---|---|
| Venus | 19 2.7 | 15:17 |
| Mars | 239 8.4 | 00:36 |
| Jupiter | 289 12.4 | 21:12 |
| Saturn | 12 38.8 | 15:40 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **10 Friday** | 0 | 178 8.7 | -21 57.0 | 53 39.3 | 6.1 | 24 14.0 | 9.3 | 59.0 |
| | 1 | 193 8.5 | -21 56.6 | 68 4.5 | 6.1 | 24 23.3 | 9.2 | 59.0 |
| | 2 | 208 8.2 | -21 56.3 | 82 29.5 | 6.0 | 24 32.5 | 9.0 | 59.0 |
| | 3 | 223 8.0 | -21 55.9 | 96 54.5 | 5.9 | 24 41.5 | 8.8 | 59.0 |
| | 4 | 238 7.7 | -21 55.5 | 111 19.4 | 5.8 | 24 50.3 | 8.7 | 59.0 |
| | 5 | 253 7.5 | -21 55.1 | 125 44.2 | 5.7 | 24 59.0 | 8.5 | 59.0 |
| | 6 | 268 7.2 | -21 54.8 | 140 9.0 | 5.7 | 25 7.5 | 8.4 | 59.0 |
| | 7 | 283 7.0 | -21 54.4 | 154 33.6 | 5.6 | 25 15.9 | 8.2 | 59.0 |
| | 8 | 298 6.7 | -21 54.0 | 168 58.2 | 5.5 | 25 24.1 | 8.0 | 59.0 |
| | 9 | 313 6.5 | -21 53.6 | 183 22.7 | 5.4 | 25 32.1 | 7.9 | 59.0 |
| | 10 | 328 6.2 | -21 53.3 | 197 47.1 | 5.4 | 25 40.0 | 7.7 | 59.0 |
| | 11 | 343 6.0 | -21 52.9 | 212 11.5 | 5.3 | 25 47.7 | 7.5 | 59.0 |
| | 12 | 358 5.7 | -21 52.5 | 226 35.8 | 5.2 | 25 55.2 | 7.4 | 58.9 |
| | 13 | 13 5.5 | -21 52.1 | 241 0.0 | 5.1 | 26 2.6 | 7.2 | 58.9 |
| | 14 | 28 5.2 | -21 51.7 | 255 24.1 | 5.1 | 26 9.8 | 7.0 | 58.9 |
| | 15 | 43 5.0 | -21 51.3 | 269 48.2 | 5.0 | 26 16.8 | 6.9 | 58.9 |
| | 16 | 58 4.7 | -21 51.0 | 284 12.2 | 4.9 | 26 23.7 | 6.7 | 58.9 |
| | 17 | 73 4.5 | -21 50.6 | 298 36.1 | 4.9 | 26 30.4 | 6.5 | 58.9 |
| | 18 | 88 4.2 | -21 50.2 | 313 0.0 | 4.8 | 26 36.9 | 6.3 | 58.9 |
| | 19 | 103 4.0 | -21 49.8 | 327 23.8 | 4.8 | 26 43.2 | 6.1 | 58.9 |
| | 20 | 118 3.7 | -21 49.4 | 341 47.6 | 4.7 | 26 49.3 | 6.0 | 58.9 |
| | 21 | 133 3.5 | -21 49.0 | 356 11.3 | 4.7 | 26 55.3 | 5.8 | 58.8 |
| | 22 | 148 3.2 | -21 48.6 | 10 35.0 | 4.6 | 27 1.1 | 5.6 | 58.8 |
| | 23 | 163 3.0 | -21 48.2 | 24 58.6 | 4.5 | 27 6.7 | 5.4 | 58.8 |
| | | *v* -0.3 SD 16.3 *d* -0.4 | | SD 16.1 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **11 Saturday** | 0 | 178 2.8 | -21 47.8 | 39 22.1 | 4.5 | 27 12.1 | 5.3 | 58.8 |
| | 1 | 193 2.5 | -21 47.5 | 53 45.6 | 4.5 | 27 17.4 | 5.1 | 58.8 |
| | 2 | 208 2.3 | -21 47.1 | 68 9.1 | 4.4 | 27 22.5 | 4.9 | 58.8 |
| | 3 | 223 2.0 | -21 46.7 | 82 32.5 | 4.4 | 27 27.3 | 4.7 | 58.8 |
| | 4 | 238 1.8 | -21 46.3 | 96 55.8 | 4.3 | 27 32.0 | 4.5 | 58.8 |
| | 5 | 253 1.5 | -21 45.9 | 111 19.2 | 4.3 | 27 36.6 | 4.3 | 58.7 |
| | 6 | 268 1.3 | -21 45.5 | 125 42.4 | 4.3 | 27 40.9 | 4.1 | 58.7 |
| | 7 | 283 1.0 | -21 45.1 | 140 5.7 | 4.2 | 27 45.0 | 4.0 | 58.7 |
| | 8 | 298 0.8 | -21 44.7 | 154 28.9 | 4.2 | 27 49.0 | 3.8 | 58.7 |
| | 9 | 313 0.5 | -21 44.3 | 168 52.1 | 4.2 | 27 52.8 | 3.6 | 58.7 |
| | 10 | 328 0.3 | -21 43.9 | 183 15.3 | 4.1 | 27 56.4 | 3.4 | 58.7 |
| | 11 | 343 0.1 | -21 43.5 | 197 38.4 | 4.1 | 27 59.8 | 3.2 | 58.7 |
| | 12 | 357 59.8 | -21 43.1 | 212 1.5 | 4.1 | 28 3.0 | 3.0 | 58.6 |
| | 13 | 12 59.6 | -21 42.7 | 226 24.6 | 4.1 | 28 6.0 | 2.8 | 58.6 |
| | 14 | 27 59.3 | -21 42.3 | 240 47.7 | 4.1 | 28 8.8 | 2.6 | 58.6 |
| | 15 | 42 59.1 | -21 41.9 | 255 10.7 | 4.0 | 28 11.5 | 2.5 | 58.6 |
| | 16 | 57 58.8 | -21 41.5 | 269 33.8 | 4.0 | 28 13.9 | 2.3 | 58.6 |
| | 17 | 72 58.6 | -21 41.1 | 283 56.8 | 4.0 | 28 16.2 | 2.1 | 58.6 |
| | 18 | 87 58.4 | -21 40.7 | 298 19.8 | 4.0 | 28 18.2 | 1.9 | 58.6 |
| | 19 | 102 58.1 | -21 40.3 | 312 42.8 | 4.0 | 28 20.1 | 1.7 | 58.5 |
| | 20 | 117 57.9 | -21 39.9 | 327 5.8 | 4.0 | 28 21.8 | 1.5 | 58.5 |
| | 21 | 132 57.6 | -21 39.5 | 341 28.8 | 4.0 | 28 23.3 | 1.3 | 58.5 |
| | 22 | 147 57.4 | -21 39.1 | 355 51.9 | 4.0 | 28 24.6 | 1.1 | 58.5 |
| | 23 | 162 57.2 | -21 38.7 | 10 14.9 | 4.0 | 28 25.7 | 0.9 | 58.5 |
| | | *v* -0.2 SD 16.3 *d* -0.4 | | SD 16.0 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **12 Sunday** | 0 | 177 56.9 | -21 38.2 | 24 37.9 | 4.0 | 28 26.7 | 0.7 | 58.5 |
| | 1 | 192 56.7 | -21 37.8 | 39 0.9 | 4.1 | 28 27.4 | 0.5 | 58.4 |
| | 2 | 207 56.4 | -21 37.4 | 53 24.0 | 4.1 | 28 27.9 | 0.4 | 58.4 |
| | 3 | 222 56.2 | -21 37.0 | 67 47.1 | 4.1 | 28 28.3 | 0.2 | 58.4 |
| | 4 | 237 56.0 | -21 36.6 | 82 10.1 | 4.1 | 28 28.5 | 0.0 | 58.4 |
| | 5 | 252 55.7 | -21 36.2 | 96 33.3 | 4.1 | 28 28.5 | -0.2 | 58.4 |
| | 6 | 267 55.5 | -21 35.8 | 110 56.4 | 4.2 | 28 28.2 | -0.4 | 58.4 |
| | 7 | 282 55.3 | -21 35.4 | 125 19.5 | 4.2 | 28 27.8 | -0.6 | 58.3 |
| | 8 | 297 55.0 | -21 35.0 | 139 42.7 | 4.2 | 28 27.3 | -0.8 | 58.3 |
| | 9 | 312 54.8 | -21 34.5 | 154 5.9 | 4.2 | 28 26.5 | -1.0 | 58.3 |
| | 10 | 327 54.5 | -21 34.1 | 168 29.2 | 4.3 | 28 25.5 | -1.1 | 58.3 |
| | 11 | 342 54.3 | -21 33.7 | 182 52.5 | 4.3 | 28 24.4 | -1.3 | 58.3 |
| | 12 | 357 54.1 | -21 33.3 | 197 15.8 | 4.4 | 28 23.0 | -1.5 | 58.2 |
| | 13 | 12 53.8 | -21 32.9 | 211 39.2 | 4.4 | 28 21.5 | -1.7 | 58.2 |
| | 14 | 27 53.6 | -21 32.5 | 226 2.6 | 4.5 | 28 19.8 | -1.9 | 58.2 |
| | 15 | 42 53.4 | -21 32.0 | 240 26.0 | 4.5 | 28 17.9 | -2.1 | 58.2 |
| | 16 | 57 53.1 | -21 31.6 | 254 49.5 | 4.6 | 28 15.8 | -2.3 | 58.2 |
| | 17 | 72 52.9 | -21 31.2 | 269 13.1 | 4.6 | 28 13.6 | -2.4 | 58.1 |
| | 18 | 87 52.7 | -21 30.8 | 283 36.7 | 4.7 | 28 11.1 | -2.6 | 58.1 |
| | 19 | 102 52.4 | -21 30.4 | 298 0.4 | 4.7 | 28 8.5 | -2.8 | 58.1 |
| | 20 | 117 52.2 | -21 29.9 | 312 24.1 | 4.8 | 28 5.7 | -3.0 | 58.1 |
| | 21 | 132 51.9 | -21 29.5 | 326 47.9 | 4.9 | 28 2.7 | -3.2 | 58.1 |
| | 22 | 147 51.7 | -21 29.1 | 341 11.7 | 4.9 | 27 59.6 | -3.3 | 58.0 |
| | 23 | 162 51.5 | -21 28.7 | 355 35.7 | 5.0 | 27 56.2 | -3.5 | 58.0 |
| | | *v* -0.2 SD 16.3 *d* -0.4 | | SD 15.9 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:11 | 10:10 | ▬ | ▬ | 14:06 | 16:05 |
| 70 | 07:54 | 09:31 | ▬ | ▬ | 14:45 | 16:22 |
| 68 | 07:41 | 09:03 | 10:57 | 13:19 | 15:12 | 16:35 |
| 66 | 07:30 | 08:43 | 10:07 | 14:09 | 15:33 | 16:46 |
| 64 | 07:21 | 08:26 | 09:36 | 14:40 | 15:50 | 16:55 |
| 62 | 07:12 | 08:12 | 09:13 | 15:03 | 16:04 | 17:03 |
| 60 | 07:05 | 08:00 | 08:54 | 15:21 | 16:16 | 17:11 |
| 58 | 06:59 | 07:50 | 08:39 | 15:37 | 16:26 | 17:17 |
| 56 | 06:53 | 07:41 | 08:26 | 15:50 | 16:35 | 17:23 |
| 54 | 06:47 | 07:32 | 08:15 | 16:01 | 16:43 | 17:28 |
| 52 | 06:42 | 07:25 | 08:05 | 16:11 | 16:51 | 17:33 |
| 50 | 06:38 | 07:18 | 07:56 | 16:20 | 16:57 | 17:38 |
| 45 | 06:27 | 07:04 | 07:37 | 16:39 | 17:12 | 17:48 |
| 40 | 06:18 | 06:51 | 07:21 | 16:54 | 17:24 | 17:58 |
| 35 | 06:09 | 06:41 | 07:08 | 17:07 | 17:35 | 18:06 |
| 30 | 06:01 | 06:31 | 06:57 | 17:18 | 17:44 | 18:14 |
| 20 | 05:46 | 06:14 | 06:37 | 17:38 | 18:02 | 18:29 |
| 10 | 05:31 | 05:58 | 06:20 | 17:55 | 18:18 | 18:44 |
| 0 | 05:16 | 05:42 | 06:04 | 18:11 | 18:34 | 19:00 |
| -10 | 04:58 | 05:25 | 05:48 | 18:28 | 18:50 | 19:17 |
| -20 | 04:37 | 05:06 | 05:30 | 18:45 | 19:09 | 19:38 |
| -30 | 04:10 | 04:43 | 05:10 | 19:05 | 19:32 | 20:05 |
| -35 | 03:53 | 04:28 | 04:57 | 19:17 | 19:47 | 20:22 |
| -40 | 03:31 | 04:11 | 04:44 | 19:31 | 20:03 | 20:43 |
| -45 | 03:03 | 03:51 | 04:27 | 19:48 | 20:24 | 21:11 |
| -50 | 02:24 | 03:24 | 04:06 | 20:08 | 20:51 | 21:50 |
| -52 | 02:01 | 03:10 | 03:57 | 20:18 | 21:04 | 22:12 |
| -54 | 01:30 | 02:55 | 03:46 | 20:29 | 21:20 | 22:43 |
| -56 | 00:21 | 02:36 | 03:33 | 20:41 | 21:38 | 23:41 |
| -58 | //// | 02:12 | 03:18 | 20:56 | 22:02 | //// |
| -60 | //// | 01:38 | 03:00 | 21:14 | 22:34 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **10** | **11** | **12** | **10** | **11** | **12** |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 64 | 09:38 | ▭ | ▭ | 07:43 | ▭ | ▭ |
| 62 | 10:33 | 10:16 | ▭ | 06:48 | 09:12 | ▭ |
| 60 | 11:06 | 11:25 | 12:18 | 06:16 | 08:03 | 09:20 |
| 58 | 11:31 | 12:00 | 12:57 | 05:52 | 07:28 | 08:41 |
| 56 | 11:51 | 12:26 | 13:24 | 05:32 | 07:03 | 08:14 |
| 54 | 12:07 | 12:46 | 13:45 | 05:16 | 06:43 | 07:52 |
| 52 | 12:22 | 13:03 | 14:03 | 05:02 | 06:26 | 07:34 |
| 50 | 12:34 | 13:18 | 14:18 | 04:50 | 06:11 | 07:19 |
| 45 | 13:00 | 13:48 | 14:48 | 04:25 | 05:42 | 06:49 |
| 40 | 13:21 | 14:11 | 15:12 | 04:05 | 05:19 | 06:25 |
| 35 | 13:38 | 14:31 | 15:32 | 03:49 | 05:00 | 06:05 |
| 30 | 13:53 | 14:47 | 15:49 | 03:35 | 04:43 | 05:48 |
| 20 | 14:19 | 15:16 | 16:17 | 03:11 | 04:16 | 05:19 |
| 10 | 14:41 | 15:40 | 16:41 | 02:50 | 03:52 | 04:55 |
| 0 | 15:02 | 16:03 | 17:04 | 02:31 | 03:30 | 04:32 |
| -10 | 15:22 | 16:25 | 17:27 | 02:11 | 03:08 | 04:09 |
| -20 | 15:45 | 16:50 | 17:51 | 01:51 | 02:45 | 03:44 |
| -30 | 16:11 | 17:18 | 18:19 | 01:27 | 02:18 | 03:16 |
| -35 | 16:27 | 17:35 | 18:36 | 01:13 | 02:02 | 02:59 |
| -40 | 16:45 | 17:55 | 18:55 | 00:57 | 01:43 | 02:39 |
| -45 | 17:07 | 18:19 | 19:19 | 00:38 | 01:20 | 02:15 |
| -50 | 17:35 | 18:50 | 19:49 | 00:15 | 00:52 | 01:43 |
| -52 | 17:48 | 19:05 | 20:04 | 00:03 | 00:38 | 01:28 |
| -54 | 18:04 | 19:24 | 20:22 | –:– | 00:21 | 01:10 |
| -56 | 18:23 | 19:45 | 20:43 | –:– | 00:02 | 00:48 |
| -58 | 18:46 | 20:14 | 21:09 | 23:39 | –:– | 00:19 |
| -60 | 19:17 | 20:55 | 21:46 | 23:07 | 23:38 | –:– |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **10** | 07:25 | 07:37 | 12:08 | 21:16 | 08:46 | 10 | 82 |
| **11** | 07:49 | 08:01 | 12:08 | 22:17 | 09:46 | 11 | 90 |
| **12** | 08:12 | 08:24 | 12:08 | 23:18 | 10:48 | 12 | 95 |

## 2025 January 13, 14, 15 (Mon, Tue, Wed)

| | | Aries | Venus -4.6 | | Mars -1.4 | | Jupiter -2.7 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 13 Monday | 0 | 112 43.7 | 130 52.2 | -8 7.0 | 352 17.4 | 24 49.6 | 42 0.9 | 21 41.4 | 125 17.5 | -7 30.4 |
| | 1 | 127 46.1 | 145 52.4 | -8 5.9 | 7 21.0 | 24 49.8 | 57 3.6 | 21 41.3 | 140 19.8 | -7 30.3 |
| | 2 | 142 48.6 | 160 52.7 | -8 4.7 | 22 24.5 | 24 50.0 | 72 6.3 | 21 41.3 | 155 22.0 | -7 30.2 |
| | 3 | 157 51.0 | 175 52.9 | -8 3.5 | 37 28.0 | 24 50.3 | 87 8.9 | 21 41.3 | 170 24.3 | -7 30.1 |
| | 4 | 172 53.5 | 190 53.1 | -8 2.3 | 52 31.6 | 24 50.5 | 102 11.6 | 21 41.3 | 185 26.6 | -7 30.1 |
| | 5 | 187 56.0 | 205 53.3 | -8 1.2 | 67 35.1 | 24 50.8 | 117 14.2 | 21 41.3 | 200 28.8 | -7 30.0 |
| | 6 | 202 58.4 | 220 53.6 | -8 0.0 | 82 38.6 | 24 51.0 | 132 16.9 | 21 41.3 | 215 31.1 | -7 29.9 |
| | 7 | 218 0.9 | 235 53.8 | -7 58.8 | 97 42.1 | 24 51.3 | 147 19.6 | 21 41.2 | 230 33.3 | -7 29.8 |
| | 8 | 233 3.4 | 250 54.0 | -7 57.7 | 112 45.7 | 24 51.5 | 162 22.2 | 21 41.2 | 245 35.6 | -7 29.7 |
| | 9 | 248 5.8 | 265 54.3 | -7 56.5 | 127 49.2 | 24 51.7 | 177 24.9 | 21 41.2 | 260 37.8 | -7 29.6 |
| | 10 | 263 8.3 | 280 54.5 | -7 55.3 | 142 52.7 | 24 52.0 | 192 27.5 | 21 41.2 | 275 40.1 | -7 29.5 |
| | 11 | 278 10.8 | 295 54.7 | -7 54.1 | 157 56.3 | 24 52.2 | 207 30.2 | 21 41.2 | 290 42.3 | -7 29.4 |
| | 12 | 293 13.2 | 310 55.0 | -7 53.0 | 172 59.8 | 24 52.5 | 222 32.9 | 21 41.2 | 305 44.6 | -7 29.3 |
| | 13 | 308 15.7 | 325 55.2 | -7 51.8 | 188 3.3 | 24 52.7 | 237 35.5 | 21 41.2 | 320 46.8 | -7 29.2 |
| | 14 | 323 18.2 | 340 55.4 | -7 50.6 | 203 6.8 | 24 52.9 | 252 38.2 | 21 41.1 | 335 49.1 | -7 29.1 |
| | 15 | 338 20.6 | 355 55.7 | -7 49.4 | 218 10.4 | 24 53.2 | 267 40.8 | 21 41.1 | 350 51.4 | -7 29.0 |
| | 16 | 353 23.1 | 10 55.9 | -7 48.2 | 233 13.9 | 24 53.4 | 282 43.5 | 21 41.1 | 5 53.6 | -7 28.9 |
| | 17 | 8 25.5 | 25 56.1 | -7 47.1 | 248 17.4 | 24 53.7 | 297 46.1 | 21 41.1 | 20 55.9 | -7 28.9 |
| | 18 | 23 28.0 | 40 56.4 | -7 45.9 | 263 21.0 | 24 53.9 | 312 48.8 | 21 41.1 | 35 58.1 | -7 28.8 |
| | 19 | 38 30.5 | 55 56.6 | -7 44.7 | 278 24.5 | 24 54.1 | 327 51.5 | 21 41.1 | 51 0.4 | -7 28.7 |
| | 20 | 53 32.9 | 70 56.9 | -7 43.5 | 293 28.0 | 24 54.4 | 342 54.1 | 21 41.0 | 66 2.6 | -7 28.6 |
| | 21 | 68 35.4 | 85 57.1 | -7 42.4 | 308 31.6 | 24 54.6 | 357 56.8 | 21 41.0 | 81 4.9 | -7 28.5 |
| | 22 | 83 37.9 | 100 57.4 | -7 41.2 | 323 35.1 | 24 54.9 | 12 59.4 | 21 41.0 | 96 7.1 | -7 28.4 |
| | 23 | 98 40.3 | 115 57.6 | -7 40.0 | 338 38.6 | 24 55.1 | 28 2.1 | 21 41.0 | 111 9.4 | -7 28.3 |
| | | MP 16:28 | *v* 0.2 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 Tuesday | 0 | 113 42.8 | 130 57.8 | -7 38.8 | 353 42.2 | 24 55.3 | 43 4.7 | 21 41.0 | 126 11.6 | -7 28.2 |
| | 1 | 128 45.3 | 145 58.1 | -7 37.7 | 8 45.7 | 24 55.6 | 58 7.4 | 21 41.0 | 141 13.9 | -7 28.1 |
| | 2 | 143 47.7 | 160 58.3 | -7 36.5 | 23 49.2 | 24 55.8 | 73 10.0 | 21 41.0 | 156 16.1 | -7 28.0 |
| | 3 | 158 50.2 | 175 58.6 | -7 35.3 | 38 52.8 | 24 56.0 | 88 12.7 | 21 40.9 | 171 18.4 | -7 27.9 |
| | 4 | 173 52.7 | 190 58.8 | -7 34.1 | 53 56.3 | 24 56.3 | 103 15.4 | 21 40.9 | 186 20.7 | -7 27.8 |
| | 5 | 188 55.1 | 205 59.1 | -7 33.0 | 68 59.8 | 24 56.5 | 118 18.0 | 21 40.9 | 201 22.9 | -7 27.7 |
| | 6 | 203 57.6 | 220 59.4 | -7 31.8 | 84 3.4 | 24 56.8 | 133 20.7 | 21 40.9 | 216 25.2 | -7 27.6 |
| | 7 | 219 0.0 | 235 59.6 | -7 30.6 | 99 6.9 | 24 57.0 | 148 23.3 | 21 40.9 | 231 27.4 | -7 27.6 |
| | 8 | 234 2.5 | 250 59.9 | -7 29.4 | 114 10.4 | 24 57.2 | 163 26.0 | 21 40.9 | 246 29.7 | -7 27.5 |
| | 9 | 249 5.0 | 266 0.1 | -7 28.2 | 129 14.0 | 24 57.5 | 178 28.6 | 21 40.9 | 261 31.9 | -7 27.4 |
| | 10 | 264 7.4 | 281 0.4 | -7 27.1 | 144 17.5 | 24 57.7 | 193 31.3 | 21 40.8 | 276 34.2 | -7 27.3 |
| | 11 | 279 9.9 | 296 0.6 | -7 25.9 | 159 21.0 | 24 57.9 | 208 33.9 | 21 40.8 | 291 36.4 | -7 27.2 |
| | 12 | 294 12.4 | 311 0.9 | -7 24.7 | 174 24.6 | 24 58.2 | 223 36.6 | 21 40.8 | 306 38.7 | -7 27.1 |
| | 13 | 309 14.8 | 326 1.2 | -7 23.5 | 189 28.1 | 24 58.4 | 238 39.2 | 21 40.8 | 321 40.9 | -7 27.0 |
| | 14 | 324 17.3 | 341 1.4 | -7 22.4 | 204 31.6 | 24 58.6 | 253 41.9 | 21 40.8 | 336 43.2 | -7 26.9 |
| | 15 | 339 19.8 | 356 1.7 | -7 21.2 | 219 35.2 | 24 58.9 | 268 44.5 | 21 40.8 | 351 45.4 | -7 26.8 |
| | 16 | 354 22.2 | 11 1.9 | -7 20.0 | 234 38.7 | 24 59.1 | 283 47.2 | 21 40.8 | 6 47.7 | -7 26.7 |
| | 17 | 9 24.7 | 26 2.2 | -7 18.8 | 249 42.3 | 24 59.3 | 298 49.8 | 21 40.7 | 21 49.9 | -7 26.6 |
| | 18 | 24 27.1 | 41 2.5 | -7 17.6 | 264 45.8 | 24 59.6 | 313 52.5 | 21 40.7 | 36 52.2 | -7 26.5 |
| | 19 | 39 29.6 | 56 2.7 | -7 16.5 | 279 49.3 | 24 59.8 | 328 55.1 | 21 40.7 | 51 54.4 | -7 26.4 |
| | 20 | 54 32.1 | 71 3.0 | -7 15.3 | 294 52.9 | 25 0.0 | 343 57.8 | 21 40.7 | 66 56.7 | -7 26.3 |
| | 21 | 69 34.5 | 86 3.3 | -7 14.1 | 309 56.4 | 25 0.3 | 359 0.4 | 21 40.7 | 81 58.9 | -7 26.2 |
| | 22 | 84 37.0 | 101 3.5 | -7 12.9 | 324 59.9 | 25 0.5 | 14 3.1 | 21 40.7 | 97 1.2 | -7 26.1 |
| | 23 | 99 39.5 | 116 3.8 | -7 11.8 | 340 3.5 | 25 0.7 | 29 5.7 | 21 40.7 | 112 3.4 | -7 26.1 |
| | | MP 16:24 | *v* 0.2 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 Wednesday | 0 | 114 41.9 | 131 4.1 | -7 10.6 | 355 7.0 | 25 1.0 | 44 8.3 | 21 40.7 | 127 5.7 | -7 26.0 |
| | 1 | 129 44.4 | 146 4.4 | -7 9.4 | 10 10.5 | 25 1.2 | 59 11.0 | 21 40.6 | 142 7.9 | -7 25.9 |
| | 2 | 144 46.9 | 161 4.6 | -7 8.2 | 25 14.1 | 25 1.4 | 74 13.6 | 21 40.6 | 157 10.2 | -7 25.8 |
| | 3 | 159 49.3 | 176 4.9 | -7 7.0 | 40 17.6 | 25 1.6 | 89 16.3 | 21 40.6 | 172 12.4 | -7 25.7 |
| | 4 | 174 51.8 | 191 5.2 | -7 5.9 | 55 21.1 | 25 1.9 | 104 18.9 | 21 40.6 | 187 14.7 | -7 25.6 |
| | 5 | 189 54.3 | 206 5.5 | -7 4.7 | 70 24.7 | 25 2.1 | 119 21.6 | 21 40.6 | 202 16.9 | -7 25.5 |
| | 6 | 204 56.7 | 221 5.8 | -7 3.5 | 85 28.2 | 25 2.3 | 134 24.2 | 21 40.6 | 217 19.2 | -7 25.4 |
| | 7 | 219 59.2 | 236 6.0 | -7 2.3 | 100 31.8 | 25 2.6 | 149 26.9 | 21 40.6 | 232 21.4 | -7 25.3 |
| | 8 | 235 1.6 | 251 6.3 | -7 1.1 | 115 35.3 | 25 2.8 | 164 29.5 | 21 40.5 | 247 23.7 | -7 25.2 |
| | 9 | 250 4.1 | 266 6.6 | -7 0.0 | 130 38.8 | 25 3.0 | 179 32.2 | 21 40.5 | 262 25.9 | -7 25.1 |
| | 10 | 265 6.6 | 281 6.9 | -6 58.8 | 145 42.4 | 25 3.2 | 194 34.8 | 21 40.5 | 277 28.2 | -7 25.0 |
| | 11 | 280 9.0 | 296 7.2 | -6 57.6 | 160 45.9 | 25 3.5 | 209 37.4 | 21 40.5 | 292 30.4 | -7 24.9 |
| | 12 | 295 11.5 | 311 7.4 | -6 56.4 | 175 49.4 | 25 3.7 | 224 40.1 | 21 40.5 | 307 32.7 | -7 24.8 |
| | 13 | 310 14.0 | 326 7.7 | -6 55.2 | 190 53.0 | 25 3.9 | 239 42.7 | 21 40.5 | 322 34.9 | -7 24.7 |
| | 14 | 325 16.4 | 341 8.0 | -6 54.1 | 205 56.5 | 25 4.2 | 254 45.4 | 21 40.5 | 337 37.2 | -7 24.6 |
| | 15 | 340 18.9 | 356 8.3 | -6 52.9 | 221 0.1 | 25 4.4 | 269 48.0 | 21 40.5 | 352 39.4 | -7 24.5 |
| | 16 | 355 21.4 | 11 8.6 | -6 51.7 | 236 3.6 | 25 4.6 | 284 50.6 | 21 40.4 | 7 41.7 | -7 24.5 |
| | 17 | 10 23.8 | 26 8.9 | -6 50.5 | 251 7.1 | 25 4.8 | 299 53.3 | 21 40.4 | 22 43.9 | -7 24.4 |
| | 18 | 25 26.3 | 41 9.2 | -6 49.3 | 266 10.7 | 25 5.1 | 314 55.9 | 21 40.4 | 37 46.2 | -7 24.3 |
| | 19 | 40 28.8 | 56 9.5 | -6 48.2 | 281 14.2 | 25 5.3 | 329 58.6 | 21 40.4 | 52 48.4 | -7 24.2 |
| | 20 | 55 31.2 | 71 9.8 | -6 47.0 | 296 17.7 | 25 5.5 | 345 1.2 | 21 40.4 | 67 50.7 | -7 24.1 |
| | 21 | 70 33.7 | 86 10.1 | -6 45.8 | 311 21.3 | 25 5.7 | 0 3.8 | 21 40.4 | 82 52.9 | -7 24.0 |
| | 22 | 85 36.1 | 101 10.4 | -6 44.6 | 326 24.8 | 25 6.0 | 15 6.5 | 21 40.4 | 97 55.2 | -7 23.9 |
| | 23 | 100 38.6 | 116 10.7 | -6 43.4 | 341 28.4 | 25 6.2 | 30 9.1 | 21 40.4 | 112 57.4 | -7 23.8 |
| | | MP 16:20 | *v* 0.3 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 12.5 |
| Achernar | 335 20.1 | -57 6.9 |
| Acrux | 172 59.9 | -63 14.0 |
| Adhara | 255 5.5 | -29 0.4 |
| Aldebaran | 290 39.3 | 16 33.6 |
| Alioth | 166 12.9 | 55 49.1 |
| Alkaid | 152 52.0 | 49 11.0 |
| Alnair | 27 33.2 | -46 50.6 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.0 |
| Alphecca | 126 3.9 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.8 |
| Altair | 62 0.3 | 8 56.0 |
| Ankaa | 353 7.2 | -42 10.4 |
| Antares | 112 16.1 | -26 29.2 |
| Arcturus | 145 48.0 | 19 2.9 |
| Atria | 107 10.8 | -69 4.1 |
| Avior | 234 14.1 | -59 35.3 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.7 | 7 24.7 |
| Canopus | 263 51.8 | -52 42.6 |
| Capella | 280 21.4 | 46 1.5 |
| Deneb | 49 26.3 | 45 22.2 |
| Denebola | 182 24.8 | 14 25.8 |
| Diphda | 348 47.3 | -17 51.1 |
| Dubhe | 193 40.5 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.7 |
| Eltanin | 90 42.7 | 51 28.9 |
| Enif | 33 39.1 | 9 59.4 |
| Fomalhaut | 15 14.7 | -29 29.6 |
| Gacrux | 171 51.5 | -57 15.0 |
| Gienah | 175 43.5 | -17 40.8 |
| Hadar | 148 36.1 | -60 29.4 |
| Hamal | 327 51.1 | 23 34.9 |
| Kaus Aust. | 83 32.9 | -34 22.4 |
| Kochab | 137 20.2 | 74 2.8 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.3 |
| Menkent | 147 57.7 | -36 29.4 |
| Miaplacidus | 221 37.4 | -69 49.0 |
| Mirfak | 308 28.0 | 49 57.2 |
| Nunki | 75 48.1 | -26 16.0 |
| Peacock | 53 6.3 | -56 39.4 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.8 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.5 | -60 56.1 |
| Sabik | 102 3.1 | -15 45.4 |
| Schedar | 349 31.2 | 56 40.7 |
| Shaula | 96 10.7 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.3 | -11 17.5 |
| Suhail | 222 45.9 | -43 31.9 |
| Vega | 80 33.6 | 38 48.3 |
| Zuben'ubi | 136 56.1 | -16 8.7 |

| 13 Mon | SHA | MP |
|---|---|---|
| Venus | 18 8.6 | 15:16 |
| Mars | 239 33.8 | 00:31 |
| Jupiter | 289 17.3 | 21:08 |
| Saturn | 12 33.9 | 15:36 |

| 14 Tue | SHA | MP |
|---|---|---|
| Venus | 17 15.1 | 15:16 |
| Mars | 239 59.4 | 00:25 |
| Jupiter | 289 21.9 | 21:04 |
| Saturn | 12 28.8 | 15:33 |

| 15 Wed | SHA | MP |
|---|---|---|
| Venus | 16 22.2 | 15:15 |
| Mars | 240 25.1 | 00:19 |
| Jupiter | 289 26.4 | 21:00 |
| Saturn | 12 23.8 | 15:29 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **13 Monday** | 0 | 177 51.2 | -21 28.2 | 9 59.6 | 5.1 | 27 52.7 | -3.7 | 58.0 |
| | 1 | 192 51.0 | -21 27.8 | 24 23.7 | 5.1 | 27 49.0 | -3.9 | 58.0 |
| | 2 | 207 50.8 | -21 27.4 | 38 47.8 | 5.2 | 27 45.2 | -4.0 | 58.0 |
| | 3 | 222 50.5 | -21 27.0 | 53 12.0 | 5.3 | 27 41.1 | -4.2 | 57.9 |
| | 4 | 237 50.3 | -21 26.5 | 67 36.3 | 5.4 | 27 36.9 | -4.4 | 57.9 |
| | 5 | 252 50.1 | -21 26.1 | 82 0.6 | 5.4 | 27 32.5 | -4.6 | 57.9 |
| | 6 | 267 49.9 | -21 25.7 | 96 25.1 | 5.5 | 27 28.0 | -4.7 | 57.9 |
| | 7 | 282 49.6 | -21 25.2 | 110 49.6 | 5.6 | 27 23.3 | -4.9 | 57.8 |
| | 8 | 297 49.4 | -21 24.8 | 125 14.2 | 5.7 | 27 18.4 | -5.1 | 57.8 |
| | 9 | 312 49.2 | -21 24.4 | 139 38.9 | 5.8 | 27 13.3 | -5.2 | 57.8 |
| | 10 | 327 48.9 | -21 23.9 | 154 3.6 | 5.9 | 27 8.1 | -5.4 | 57.8 |
| | 11 | 342 48.7 | -21 23.5 | 168 28.5 | 5.9 | 27 2.7 | -5.5 | 57.8 |
| | 12 | 357 48.5 | -21 23.1 | 182 53.4 | 6.0 | 26 57.2 | -5.7 | 57.7 |
| | 13 | 12 48.2 | -21 22.6 | 197 18.5 | 6.1 | 26 51.5 | -5.9 | 57.7 |
| | 14 | 27 48.0 | -21 22.2 | 211 43.6 | 6.2 | 26 45.6 | -6.0 | 57.7 |
| | 15 | 42 47.8 | -21 21.8 | 226 8.8 | 6.3 | 26 39.6 | -6.2 | 57.7 |
| | 16 | 57 47.6 | -21 21.3 | 240 34.2 | 6.4 | 26 33.4 | -6.3 | 57.6 |
| | 17 | 72 47.3 | -21 20.9 | 254 59.6 | 6.5 | 26 27.1 | -6.5 | 57.6 |
| | 18 | 87 47.1 | -21 20.5 | 269 25.1 | 6.6 | 26 20.6 | -6.6 | 57.6 |
| | 19 | 102 46.9 | -21 20.0 | 283 50.7 | 6.7 | 26 13.9 | -6.8 | 57.6 |
| | 20 | 117 46.6 | -21 19.6 | 298 16.4 | 6.8 | 26 7.2 | -6.9 | 57.5 |
| | 21 | 132 46.4 | -21 19.1 | 312 42.3 | 6.9 | 26 0.2 | -7.1 | 57.5 |
| | 22 | 147 46.2 | -21 18.7 | 327 8.2 | 7.0 | 25 53.1 | -7.2 | 57.5 |
| | 23 | 162 46.0 | -21 18.2 | 341 34.2 | 7.1 | 25 45.9 | -7.4 | 57.5 |
| | | *v* -0.2 | SD 16.3 | *d* -0.4 | | SD 15.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **14 Tuesday** | 0 | 177 45.7 | -21 17.8 | 356 0.4 | 7.2 | 25 38.5 | -7.5 | 57.4 |
| | 1 | 192 45.5 | -21 17.4 | 10 26.6 | 7.4 | 25 31.0 | -7.7 | 57.4 |
| | 2 | 207 45.3 | -21 16.9 | 24 53.0 | 7.5 | 25 23.3 | -7.8 | 57.4 |
| | 3 | 222 45.1 | -21 16.5 | 39 19.4 | 7.6 | 25 15.5 | -7.9 | 57.4 |
| | 4 | 237 44.8 | -21 16.0 | 53 46.0 | 7.7 | 25 7.6 | -8.1 | 57.3 |
| | 5 | 252 44.6 | -21 15.6 | 68 12.7 | 7.8 | 24 59.5 | -8.2 | 57.3 |
| | 6 | 267 44.4 | -21 15.1 | 82 39.5 | 7.9 | 24 51.3 | -8.4 | 57.3 |
| | 7 | 282 44.2 | -21 14.7 | 97 6.4 | 8.0 | 24 42.9 | -8.5 | 57.3 |
| | 8 | 297 43.9 | -21 14.2 | 111 33.4 | 8.1 | 24 34.4 | -8.6 | 57.2 |
| | 9 | 312 43.7 | -21 13.8 | 126 0.5 | 8.2 | 24 25.8 | -8.7 | 57.2 |
| | 10 | 327 43.5 | -21 13.3 | 140 27.7 | 8.4 | 24 17.1 | -8.9 | 57.2 |
| | 11 | 342 43.3 | -21 12.9 | 154 55.1 | 8.5 | 24 8.2 | -9.0 | 57.2 |
| | 12 | 357 43.0 | -21 12.4 | 169 22.6 | 8.6 | 23 59.2 | -9.1 | 57.1 |
| | 13 | 12 42.8 | -21 12.0 | 183 50.1 | 8.7 | 23 50.1 | -9.2 | 57.1 |
| | 14 | 27 42.6 | -21 11.5 | 198 17.8 | 8.8 | 23 40.8 | -9.4 | 57.1 |
| | 15 | 42 42.4 | -21 11.1 | 212 45.7 | 8.9 | 23 31.5 | -9.5 | 57.1 |
| | 16 | 57 42.1 | -21 10.6 | 227 13.6 | 9.0 | 23 22.0 | -9.6 | 57.0 |
| | 17 | 72 41.9 | -21 10.2 | 241 41.6 | 9.2 | 23 12.4 | -9.7 | 57.0 |
| | 18 | 87 41.7 | -21 9.7 | 256 9.8 | 9.3 | 23 2.7 | -9.8 | 57.0 |
| | 19 | 102 41.5 | -21 9.3 | 270 38.0 | 9.4 | 22 52.8 | -9.9 | 57.0 |
| | 20 | 117 41.3 | -21 8.8 | 285 6.4 | 9.5 | 22 42.9 | -10.1 | 56.9 |
| | 21 | 132 41.0 | -21 8.3 | 299 34.9 | 9.6 | 22 32.8 | -10.2 | 56.9 |
| | 22 | 147 40.8 | -21 7.9 | 314 3.5 | 9.7 | 22 22.7 | -10.3 | 56.9 |
| | 23 | 162 40.6 | -21 7.4 | 328 32.3 | 9.8 | 22 12.4 | -10.4 | 56.9 |
| | | *v* -0.2 | SD 16.3 | *d* -0.4 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **15 Wednesday** | 0 | 177 40.4 | -21 7.0 | 343 1.1 | 10.0 | 22 2.0 | -10.5 | 56.8 |
| | 1 | 192 40.2 | -21 6.5 | 357 30.1 | 10.1 | 21 51.5 | -10.6 | 56.8 |
| | 2 | 207 39.9 | -21 6.0 | 11 59.1 | 10.2 | 21 40.9 | -10.7 | 56.8 |
| | 3 | 222 39.7 | -21 5.6 | 26 28.3 | 10.3 | 21 30.3 | -10.8 | 56.8 |
| | 4 | 237 39.5 | -21 5.1 | 40 57.6 | 10.4 | 21 19.5 | -10.9 | 56.7 |
| | 5 | 252 39.3 | -21 4.7 | 55 27.0 | 10.5 | 21 8.6 | -11.0 | 56.7 |
| | 6 | 267 39.1 | -21 4.2 | 69 56.6 | 10.6 | 20 57.6 | -11.1 | 56.7 |
| | 7 | 282 38.8 | -21 3.7 | 84 26.2 | 10.8 | 20 46.5 | -11.2 | 56.7 |
| | 8 | 297 38.6 | -21 3.3 | 98 56.0 | 10.9 | 20 35.4 | -11.3 | 56.6 |
| | 9 | 312 38.4 | -21 2.8 | 113 25.8 | 11.0 | 20 24.1 | -11.3 | 56.6 |
| | 10 | 327 38.2 | -21 2.3 | 127 55.8 | 11.1 | 20 12.8 | -11.4 | 56.6 |
| | 11 | 342 38.0 | -21 1.9 | 142 25.9 | 11.2 | 20 1.3 | -11.5 | 56.5 |
| | 12 | 357 37.8 | -21 1.4 | 156 56.1 | 11.3 | 19 49.8 | -11.6 | 56.5 |
| | 13 | 12 37.5 | -21 0.9 | 171 26.4 | 11.4 | 19 38.2 | -11.7 | 56.5 |
| | 14 | 27 37.3 | -21 0.5 | 185 56.8 | 11.5 | 19 26.5 | -11.8 | 56.5 |
| | 15 | 42 37.1 | -21 0.0 | 200 27.4 | 11.6 | 19 14.7 | -11.9 | 56.4 |
| | 16 | 57 36.9 | -20 59.5 | 214 58.0 | 11.7 | 19 2.9 | -11.9 | 56.4 |
| | 17 | 72 36.7 | -20 59.0 | 229 28.7 | 11.9 | 18 50.9 | -12.0 | 56.4 |
| | 18 | 87 36.5 | -20 58.6 | 243 59.6 | 12.0 | 18 38.9 | -12.1 | 56.4 |
| | 19 | 102 36.3 | -20 58.1 | 258 30.6 | 12.1 | 18 26.8 | -12.2 | 56.3 |
| | 20 | 117 36.0 | -20 57.6 | 273 1.6 | 12.2 | 18 14.7 | -12.2 | 56.3 |
| | 21 | 132 35.8 | -20 57.2 | 287 32.8 | 12.3 | 18 2.4 | -12.3 | 56.3 |
| | 22 | 147 35.6 | -20 56.7 | 302 4.1 | 12.4 | 17 50.1 | -12.4 | 56.3 |
| | 23 | 162 35.4 | -20 56.2 | 316 35.4 | 12.5 | 17 37.7 | -12.4 | 56.2 |
| | | *v* -0.2 | SD 16.3 | *d* -0.5 | | SD 15.5 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:05 | 09:59 | ▬ | ▬ | 14:20 | 16:14 |
| 70 | 07:49 | 09:23 | ▬ | ▬ | 14:56 | 16:29 |
| 68 | 07:37 | 08:57 | 10:41 | 13:37 | 15:21 | 16:42 |
| 66 | 07:26 | 08:38 | 09:58 | 14:20 | 15:41 | 16:52 |
| 64 | 07:17 | 08:22 | 09:29 | 14:49 | 15:57 | 17:01 |
| 62 | 07:09 | 08:08 | 09:08 | 15:10 | 16:10 | 17:09 |
| 60 | 07:03 | 07:57 | 08:50 | 15:28 | 16:21 | 17:16 |
| 58 | 06:56 | 07:47 | 08:36 | 15:42 | 16:31 | 17:22 |
| 56 | 06:51 | 07:38 | 08:23 | 15:55 | 16:40 | 17:27 |
| 54 | 06:46 | 07:30 | 08:12 | 16:06 | 16:48 | 17:32 |
| 52 | 06:41 | 07:23 | 08:03 | 16:15 | 16:55 | 17:37 |
| 50 | 06:36 | 07:17 | 07:54 | 16:24 | 17:01 | 17:42 |
| 45 | 06:26 | 07:03 | 07:36 | 16:42 | 17:15 | 17:52 |
| 40 | 06:17 | 06:51 | 07:21 | 16:57 | 17:27 | 18:00 |
| 35 | 06:09 | 06:40 | 07:08 | 17:10 | 17:37 | 18:09 |
| 30 | 06:02 | 06:31 | 06:57 | 17:21 | 17:47 | 18:16 |
| 20 | 05:47 | 06:14 | 06:38 | 17:40 | 18:04 | 18:31 |
| 10 | 05:32 | 05:58 | 06:21 | 17:57 | 18:19 | 18:45 |
| 0 | 05:17 | 05:43 | 06:05 | 18:12 | 18:35 | 19:00 |
| -10 | 05:00 | 05:26 | 05:49 | 18:28 | 18:51 | 19:18 |
| -20 | 04:39 | 05:08 | 05:32 | 18:45 | 19:10 | 19:38 |
| -30 | 04:13 | 04:45 | 05:12 | 19:05 | 19:32 | 20:04 |
| -35 | 03:56 | 04:31 | 05:00 | 19:17 | 19:46 | 20:21 |
| -40 | 03:35 | 04:15 | 04:47 | 19:30 | 20:02 | 20:42 |
| -45 | 03:08 | 03:55 | 04:31 | 19:46 | 20:22 | 21:08 |
| -50 | 02:30 | 03:29 | 04:11 | 20:06 | 20:48 | 21:46 |
| -52 | 02:09 | 03:16 | 04:01 | 20:16 | 21:01 | 22:07 |
| -54 | 01:40 | 03:00 | 03:50 | 20:26 | 21:16 | 22:35 |
| -56 | 00:52 | 02:42 | 03:38 | 20:38 | 21:34 | 23:20 |
| -58 | //// | 02:20 | 03:24 | 20:52 | 21:56 | //// |
| -60 | //// | 01:49 | 03:07 | 21:09 | 22:26 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **13** | **14** | **15** | **13** | **14** | **15** |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | 14:46 | ▭ | ▭ | 12:44 |
| 68 | ▭ | ▭ | 15:46 | ▭ | ▭ | 11:43 |
| 66 | ▭ | 13:28 | 16:20 | ▭ | 12:14 | 11:08 |
| 64 | ▭ | 14:37 | 16:45 | ▭ | 11:04 | 10:42 |
| 62 | 13:06 | 15:12 | 17:04 | 10:37 | 10:28 | 10:22 |
| 60 | 13:51 | 15:37 | 17:20 | 09:51 | 10:02 | 10:06 |
| 58 | 14:21 | 15:57 | 17:33 | 09:22 | 09:41 | 09:51 |
| 56 | 14:44 | 16:14 | 17:44 | 08:59 | 09:24 | 09:39 |
| 54 | 15:02 | 16:28 | 17:54 | 08:40 | 09:10 | 09:29 |
| 52 | 15:18 | 16:40 | 18:03 | 08:24 | 08:57 | 09:19 |
| 50 | 15:31 | 16:51 | 18:11 | 08:10 | 08:46 | 09:11 |
| 45 | 15:59 | 17:13 | 18:27 | 07:42 | 08:22 | 08:53 |
| 40 | 16:20 | 17:31 | 18:41 | 07:20 | 08:03 | 08:38 |
| 35 | 16:38 | 17:46 | 18:52 | 07:01 | 07:47 | 08:25 |
| 30 | 16:54 | 17:59 | 19:02 | 06:45 | 07:34 | 08:14 |
| 20 | 17:20 | 18:21 | 19:19 | 06:18 | 07:10 | 07:55 |
| 10 | 17:42 | 18:40 | 19:34 | 05:55 | 06:49 | 07:38 |
| 0 | 18:03 | 18:58 | 19:48 | 05:33 | 06:30 | 07:23 |
| -10 | 18:24 | 19:16 | 20:02 | 05:11 | 06:10 | 07:07 |
| -20 | 18:46 | 19:34 | 20:16 | 04:47 | 05:50 | 06:50 |
| -30 | 19:12 | 19:56 | 20:33 | 04:19 | 05:25 | 06:30 |
| -35 | 19:27 | 20:09 | 20:43 | 04:03 | 05:11 | 06:18 |
| -40 | 19:44 | 20:23 | 20:54 | 03:44 | 04:54 | 06:05 |
| -45 | 20:05 | 20:40 | 21:07 | 03:21 | 04:34 | 05:49 |
| -50 | 20:32 | 21:01 | 21:22 | 02:51 | 04:08 | 05:29 |
| -52 | 20:45 | 21:11 | 21:30 | 02:36 | 03:56 | 05:20 |
| -54 | 20:59 | 21:22 | 21:38 | 02:19 | 03:42 | 05:09 |
| -56 | 21:16 | 21:35 | 21:47 | 01:58 | 03:25 | 04:57 |
| -58 | 21:37 | 21:50 | 21:57 | 01:32 | 03:05 | 04:43 |
| -60 | 22:02 | 22:07 | 22:08 | 00:55 | 02:40 | 04:26 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **13** | 08:35 | 08:46 | 12:09 | –:– | 11:48 | 13 | 99 |
| **14** | 08:57 | 09:08 | 12:09 | 00:17 | 12:44 | 14 | 100 |
| **15** | 09:18 | 09:29 | 12:09 | 01:10 | 13:35 | 15 | 99 |

## 2025 January 16, 17, 18 (Thu, Fri, Sat)

| | | Aries | Venus -4.6 | | Mars -1.4 | | Jupiter -2.6 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 16 Thursday | 0 | 115 41.1 | 131 11.0 | -6 42.3 | 356 31.9 | 25 6.4 | 45 11.8 | 21 40.3 | 127 59.7 | -7 23.7 |
| | 1 | 130 43.5 | 146 11.3 | -6 41.1 | 11 35.4 | 25 6.6 | 60 14.4 | 21 40.3 | 143 1.9 | -7 23.6 |
| | 2 | 145 46.0 | 161 11.6 | -6 39.9 | 26 39.0 | 25 6.8 | 75 17.0 | 21 40.3 | 158 4.2 | -7 23.5 |
| | 3 | 160 48.5 | 176 11.9 | -6 38.7 | 41 42.5 | 25 7.1 | 90 19.7 | 21 40.3 | 173 6.4 | -7 23.4 |
| | 4 | 175 50.9 | 191 12.2 | -6 37.5 | 56 46.0 | 25 7.3 | 105 22.3 | 21 40.3 | 188 8.7 | -7 23.3 |
| | 5 | 190 53.4 | 206 12.5 | -6 36.3 | 71 49.6 | 25 7.5 | 120 24.9 | 21 40.3 | 203 10.9 | -7 23.2 |
| | 6 | 205 55.9 | 221 12.8 | -6 35.2 | 86 53.1 | 25 7.7 | 135 27.6 | 21 40.3 | 218 13.2 | -7 23.1 |
| | 7 | 220 58.3 | 236 13.1 | -6 34.0 | 101 56.7 | 25 8.0 | 150 30.2 | 21 40.3 | 233 15.4 | -7 23.0 |
| | 8 | 236 0.8 | 251 13.4 | -6 32.8 | 117 0.2 | 25 8.2 | 165 32.9 | 21 40.2 | 248 17.7 | -7 22.9 |
| | 9 | 251 3.3 | 266 13.7 | -6 31.6 | 132 3.7 | 25 8.4 | 180 35.5 | 21 40.2 | 263 19.9 | -7 22.8 |
| | 10 | 266 5.7 | 281 14.0 | -6 30.4 | 147 7.3 | 25 8.6 | 195 38.1 | 21 40.2 | 278 22.2 | -7 22.7 |
| | 11 | 281 8.2 | 296 14.3 | -6 29.3 | 162 10.8 | 25 8.8 | 210 40.8 | 21 40.2 | 293 24.4 | -7 22.6 |
| | 12 | 296 10.6 | 311 14.6 | -6 28.1 | 177 14.3 | 25 9.1 | 225 43.4 | 21 40.2 | 308 26.7 | -7 22.5 |
| | 13 | 311 13.1 | 326 14.9 | -6 26.9 | 192 17.9 | 25 9.3 | 240 46.0 | 21 40.2 | 323 28.9 | -7 22.5 |
| | 14 | 326 15.6 | 341 15.3 | -6 25.7 | 207 21.4 | 25 9.5 | 255 48.7 | 21 40.2 | 338 31.1 | -7 22.4 |
| | 15 | 341 18.0 | 356 15.6 | -6 24.5 | 222 25.0 | 25 9.7 | 270 51.3 | 21 40.2 | 353 33.4 | -7 22.3 |
| | 16 | 356 20.5 | 11 15.9 | -6 23.4 | 237 28.5 | 25 9.9 | 285 53.9 | 21 40.1 | 8 35.6 | -7 22.2 |
| | 17 | 11 23.0 | 26 16.2 | -6 22.2 | 252 32.0 | 25 10.2 | 300 56.6 | 21 40.1 | 23 37.9 | -7 22.1 |
| | 18 | 26 25.4 | 41 16.5 | -6 21.0 | 267 35.6 | 25 10.4 | 315 59.2 | 21 40.1 | 38 40.1 | -7 22.0 |
| | 19 | 41 27.9 | 56 16.8 | -6 19.8 | 282 39.1 | 25 10.6 | 331 1.8 | 21 40.1 | 53 42.4 | -7 21.9 |
| | 20 | 56 30.4 | 71 17.2 | -6 18.6 | 297 42.6 | 25 10.8 | 346 4.5 | 21 40.1 | 68 44.6 | -7 21.8 |
| | 21 | 71 32.8 | 86 17.5 | -6 17.4 | 312 46.2 | 25 11.0 | 1 7.1 | 21 40.1 | 83 46.9 | -7 21.7 |
| | 22 | 86 35.3 | 101 17.8 | -6 16.3 | 327 49.7 | 25 11.2 | 16 9.7 | 21 40.1 | 98 49.1 | -7 21.6 |
| | 23 | 101 37.7 | 116 18.1 | -6 15.1 | 342 53.3 | 25 11.5 | 31 12.3 | 21 40.1 | 113 51.4 | -7 21.5 |
| | | MP 16:16 | *v* 0.3 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 Friday | 0 | 116 40.2 | 131 18.5 | -6 13.9 | 357 56.8 | 25 11.7 | 46 15.0 | 21 40.0 | 128 53.6 | -7 21.4 |
| | 1 | 131 42.7 | 146 18.8 | -6 12.7 | 13 0.3 | 25 11.9 | 61 17.6 | 21 40.0 | 143 55.9 | -7 21.3 |
| | 2 | 146 45.1 | 161 19.1 | -6 11.5 | 28 3.9 | 25 12.1 | 76 20.2 | 21 40.0 | 158 58.1 | -7 21.2 |
| | 3 | 161 47.6 | 176 19.4 | -6 10.4 | 43 7.4 | 25 12.3 | 91 22.9 | 21 40.0 | 174 0.3 | -7 21.1 |
| | 4 | 176 50.1 | 191 19.8 | -6 9.2 | 58 10.9 | 25 12.5 | 106 25.5 | 21 40.0 | 189 2.6 | -7 21.0 |
| | 5 | 191 52.5 | 206 20.1 | -6 8.0 | 73 14.5 | 25 12.7 | 121 28.1 | 21 40.0 | 204 4.8 | -7 20.9 |
| | 6 | 206 55.0 | 221 20.4 | -6 6.8 | 88 18.0 | 25 13.0 | 136 30.7 | 21 40.0 | 219 7.1 | -7 20.8 |
| | 7 | 221 57.5 | 236 20.8 | -6 5.6 | 103 21.5 | 25 13.2 | 151 33.4 | 21 40.0 | 234 9.3 | -7 20.7 |
| | 8 | 236 59.9 | 251 21.1 | -6 4.4 | 118 25.1 | 25 13.4 | 166 36.0 | 21 40.0 | 249 11.6 | -7 20.6 |
| | 9 | 252 2.4 | 266 21.4 | -6 3.3 | 133 28.6 | 25 13.6 | 181 38.6 | 21 39.9 | 264 13.8 | -7 20.5 |
| | 10 | 267 4.9 | 281 21.8 | -6 2.1 | 148 32.2 | 25 13.8 | 196 41.3 | 21 39.9 | 279 16.1 | -7 20.4 |
| | 11 | 282 7.3 | 296 22.1 | -6 0.9 | 163 35.7 | 25 14.0 | 211 43.9 | 21 39.9 | 294 18.3 | -7 20.3 |
| | 12 | 297 9.8 | 311 22.4 | -5 59.7 | 178 39.2 | 25 14.2 | 226 46.5 | 21 39.9 | 309 20.6 | -7 20.2 |
| | 13 | 312 12.2 | 326 22.8 | -5 58.5 | 193 42.8 | 25 14.5 | 241 49.1 | 21 39.9 | 324 22.8 | -7 20.2 |
| | 14 | 327 14.7 | 341 23.1 | -5 57.3 | 208 46.3 | 25 14.7 | 256 51.8 | 21 39.9 | 339 25.0 | -7 20.1 |
| | 15 | 342 17.2 | 356 23.5 | -5 56.2 | 223 49.8 | 25 14.9 | 271 54.4 | 21 39.9 | 354 27.3 | -7 20.0 |
| | 16 | 357 19.6 | 11 23.8 | -5 55.0 | 238 53.4 | 25 15.1 | 286 57.0 | 21 39.9 | 9 29.5 | -7 19.9 |
| | 17 | 12 22.1 | 26 24.1 | -5 53.8 | 253 56.9 | 25 15.3 | 301 59.6 | 21 39.9 | 24 31.8 | -7 19.8 |
| | 18 | 27 24.6 | 41 24.5 | -5 52.6 | 269 0.4 | 25 15.5 | 317 2.3 | 21 39.8 | 39 34.0 | -7 19.7 |
| | 19 | 42 27.0 | 56 24.8 | -5 51.4 | 284 4.0 | 25 15.7 | 332 4.9 | 21 39.8 | 54 36.3 | -7 19.6 |
| | 20 | 57 29.5 | 71 25.2 | -5 50.2 | 299 7.5 | 25 15.9 | 347 7.5 | 21 39.8 | 69 38.5 | -7 19.5 |
| | 21 | 72 32.0 | 86 25.5 | -5 49.1 | 314 11.0 | 25 16.1 | 2 10.1 | 21 39.8 | 84 40.7 | -7 19.4 |
| | 22 | 87 34.4 | 101 25.9 | -5 47.9 | 329 14.6 | 25 16.3 | 17 12.7 | 21 39.8 | 99 43.0 | -7 19.3 |
| | 23 | 102 36.9 | 116 26.2 | -5 46.7 | 344 18.1 | 25 16.5 | 32 15.4 | 21 39.8 | 114 45.2 | -7 19.2 |
| | | MP 16:12 | *v* 0.3 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Saturday | 0 | 117 39.4 | 131 26.6 | -5 45.5 | 359 21.6 | 25 16.8 | 47 18.0 | 21 39.8 | 129 47.5 | -7 19.1 |
| | 1 | 132 41.8 | 146 26.9 | -5 44.3 | 14 25.2 | 25 17.0 | 62 20.6 | 21 39.8 | 144 49.7 | -7 19.0 |
| | 2 | 147 44.3 | 161 27.3 | -5 43.2 | 29 28.7 | 25 17.2 | 77 23.2 | 21 39.8 | 159 52.0 | -7 18.9 |
| | 3 | 162 46.7 | 176 27.6 | -5 42.0 | 44 32.2 | 25 17.4 | 92 25.9 | 21 39.7 | 174 54.2 | -7 18.8 |
| | 4 | 177 49.2 | 191 28.0 | -5 40.8 | 59 35.8 | 25 17.6 | 107 28.5 | 21 39.7 | 189 56.5 | -7 18.7 |
| | 5 | 192 51.7 | 206 28.4 | -5 39.6 | 74 39.3 | 25 17.8 | 122 31.1 | 21 39.7 | 204 58.7 | -7 18.6 |
| | 6 | 207 54.1 | 221 28.7 | -5 38.4 | 89 42.8 | 25 18.0 | 137 33.7 | 21 39.7 | 220 0.9 | -7 18.5 |
| | 7 | 222 56.6 | 236 29.1 | -5 37.2 | 104 46.4 | 25 18.2 | 152 36.3 | 21 39.7 | 235 3.2 | -7 18.4 |
| | 8 | 237 59.1 | 251 29.4 | -5 36.1 | 119 49.9 | 25 18.4 | 167 38.9 | 21 39.7 | 250 5.4 | -7 18.3 |
| | 9 | 253 1.5 | 266 29.8 | -5 34.9 | 134 53.4 | 25 18.6 | 182 41.6 | 21 39.7 | 265 7.7 | -7 18.2 |
| | 10 | 268 4.0 | 281 30.2 | -5 33.7 | 149 57.0 | 25 18.8 | 197 44.2 | 21 39.7 | 280 9.9 | -7 18.1 |
| | 11 | 283 6.5 | 296 30.5 | -5 32.5 | 165 0.5 | 25 19.0 | 212 46.8 | 21 39.7 | 295 12.2 | -7 18.0 |
| | 12 | 298 8.9 | 311 30.9 | -5 31.3 | 180 4.0 | 25 19.2 | 227 49.4 | 21 39.7 | 310 14.4 | -7 17.9 |
| | 13 | 313 11.4 | 326 31.3 | -5 30.1 | 195 7.6 | 25 19.4 | 242 52.0 | 21 39.6 | 325 16.6 | -7 17.8 |
| | 14 | 328 13.8 | 341 31.6 | -5 29.0 | 210 11.1 | 25 19.6 | 257 54.7 | 21 39.6 | 340 18.9 | -7 17.7 |
| | 15 | 343 16.3 | 356 32.0 | -5 27.8 | 225 14.6 | 25 19.8 | 272 57.3 | 21 39.6 | 355 21.1 | -7 17.6 |
| | 16 | 358 18.8 | 11 32.4 | -5 26.6 | 240 18.2 | 25 20.0 | 287 59.9 | 21 39.6 | 10 23.4 | -7 17.5 |
| | 17 | 13 21.2 | 26 32.7 | -5 25.4 | 255 21.7 | 25 20.2 | 303 2.5 | 21 39.6 | 25 25.6 | -7 17.4 |
| | 18 | 28 23.7 | 41 33.1 | -5 24.2 | 270 25.2 | 25 20.4 | 318 5.1 | 21 39.6 | 40 27.8 | -7 17.3 |
| | 19 | 43 26.2 | 56 33.5 | -5 23.0 | 285 28.7 | 25 20.6 | 333 7.7 | 21 39.6 | 55 30.1 | -7 17.2 |
| | 20 | 58 28.6 | 71 33.9 | -5 21.9 | 300 32.3 | 25 20.8 | 348 10.3 | 21 39.6 | 70 32.3 | -7 17.1 |
| | 21 | 73 31.1 | 86 34.2 | -5 20.7 | 315 35.8 | 25 21.0 | 3 13.0 | 21 39.6 | 85 34.6 | -7 17.0 |
| | 22 | 88 33.6 | 101 34.6 | -5 19.5 | 330 39.3 | 25 21.2 | 18 15.6 | 21 39.6 | 100 36.8 | -7 16.9 |
| | 23 | 103 36.0 | 116 35.0 | -5 18.3 | 345 42.9 | 25 21.4 | 33 18.2 | 21 39.5 | 115 39.1 | -7 16.8 |
| | | MP 16:08 | *v* 0.4 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 12.5 |
| Achernar | 335 20.1 | -57 6.9 |
| Acrux | 172 59.9 | -63 14.0 |
| Adhara | 255 5.5 | -29 0.4 |
| Aldebaran | 290 39.3 | 16 33.6 |
| Alioth | 166 12.8 | 55 49.1 |
| Alkaid | 152 52.0 | 49 11.0 |
| Alnair | 27 33.2 | -46 50.6 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.0 |
| Alphecca | 126 3.9 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.8 |
| Altair | 62 0.3 | 8 56.0 |
| Ankaa | 353 7.2 | -42 10.4 |
| Antares | 112 16.1 | -26 29.2 |
| Arcturus | 145 47.9 | 19 2.9 |
| Atria | 107 10.7 | -69 4.1 |
| Avior | 234 14.1 | -59 35.3 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.7 | 7 24.7 |
| Canopus | 263 51.9 | -52 42.6 |
| Capella | 280 21.4 | 46 1.5 |
| Deneb | 49 26.3 | 45 22.2 |
| Denebola | 182 24.8 | 14 25.8 |
| Diphda | 348 47.3 | -17 51.1 |
| Dubhe | 193 40.5 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.8 |
| Eltanin | 90 42.7 | 51 28.9 |
| Enif | 33 39.1 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.6 |
| Gacrux | 171 51.5 | -57 15.0 |
| Gienah | 175 43.4 | -17 40.8 |
| Hadar | 148 36.1 | -60 29.4 |
| Hamal | 327 51.1 | 23 34.9 |
| Kaus Aust. | 83 32.9 | -34 22.4 |
| Kochab | 137 20.1 | 74 2.8 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.3 |
| Menkent | 147 57.7 | -36 29.4 |
| Miaplacidus | 221 37.4 | -69 49.0 |
| Mirfak | 308 28.0 | 49 57.2 |
| Nunki | 75 48.1 | -26 16.0 |
| Peacock | 53 6.3 | -56 39.4 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.8 | 12 32.4 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.5 | -60 56.1 |
| Sabik | 102 3.0 | -15 45.4 |
| Schedar | 349 31.2 | 56 40.7 |
| Shaula | 96 10.7 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.3 | -11 17.5 |
| Suhail | 222 45.9 | -43 31.9 |
| Vega | 80 33.6 | 38 48.3 |
| Zuben'ubi | 136 56.1 | -16 8.7 |

| 16 Thu | SHA | MP |
|---|---|---|
| Venus | 15 29.9 | 15:15 |
| Mars | 240 50.8 | 00:14 |
| Jupiter | 289 30.7 | 20:56 |
| Saturn | 12 18.6 | 15:26 |

| 17 Fri | SHA | MP |
|---|---|---|
| Venus | 14 38.2 | 15:14 |
| Mars | 241 16.6 | 00:08 |
| Jupiter | 289 34.8 | 20:51 |
| Saturn | 12 13.4 | 15:22 |

| 18 Sat | SHA | MP |
|---|---|---|
| Venus | 13 47.2 | 15:14 |
| Mars | 241 42.3 | 00:03 |
| Jupiter | 289 38.6 | 20:47 |
| Saturn | 12 8.1 | 15:19 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **16 Thursday** | 0 | 177 35.2 | -20 55.7 | 331 6.9 | 12.6 | 17 25.3 | -12.5 | 56.2 |
| | 1 | 192 35.0 | -20 55.3 | 345 38.5 | 12.7 | 17 12.8 | -12.6 | 56.2 |
| | 2 | 207 34.8 | -20 54.8 | 0 10.2 | 12.8 | 17 0.2 | -12.6 | 56.2 |
| | 3 | 222 34.6 | -20 54.3 | 14 41.9 | 12.9 | 16 47.6 | -12.7 | 56.1 |
| | 4 | 237 34.3 | -20 53.8 | 29 13.8 | 13.0 | 16 34.8 | -12.8 | 56.1 |
| | 5 | 252 34.1 | -20 53.3 | 43 45.8 | 13.1 | 16 22.1 | -12.8 | 56.1 |
| | 6 | 267 33.9 | -20 52.9 | 58 17.9 | 13.2 | 16 9.2 | -12.9 | 56.0 |
| | 7 | 282 33.7 | -20 52.4 | 72 50.0 | 13.3 | 15 56.4 | -12.9 | 56.0 |
| | 8 | 297 33.5 | -20 51.9 | 87 22.3 | 13.4 | 15 43.4 | -13.0 | 56.0 |
| | 9 | 312 33.3 | -20 51.4 | 101 54.6 | 13.4 | 15 30.4 | -13.1 | 56.0 |
| | 10 | 327 33.1 | -20 50.9 | 116 27.1 | 13.5 | 15 17.3 | -13.1 | 55.9 |
| | 11 | 342 32.9 | -20 50.4 | 130 59.6 | 13.6 | 15 4.2 | -13.2 | 55.9 |
| | 12 | 357 32.7 | -20 50.0 | 145 32.3 | 13.7 | 14 51.1 | -13.2 | 55.9 |
| | 13 | 12 32.5 | -20 49.5 | 160 5.0 | 13.8 | 14 37.8 | -13.3 | 55.9 |
| | 14 | 27 32.2 | -20 49.0 | 174 37.8 | 13.9 | 14 24.6 | -13.3 | 55.8 |
| | 15 | 42 32.0 | -20 48.5 | 189 10.7 | 14.0 | 14 11.2 | -13.4 | 55.8 |
| | 16 | 57 31.8 | -20 48.0 | 203 43.7 | 14.1 | 13 57.9 | -13.4 | 55.8 |
| | 17 | 72 31.6 | -20 47.5 | 218 16.8 | 14.2 | 13 44.5 | -13.5 | 55.8 |
| | 18 | 87 31.4 | -20 47.0 | 232 49.9 | 14.2 | 13 31.0 | -13.5 | 55.7 |
| | 19 | 102 31.2 | -20 46.5 | 247 23.1 | 14.3 | 13 17.5 | -13.5 | 55.7 |
| | 20 | 117 31.0 | -20 46.1 | 261 56.5 | 14.4 | 13 4.0 | -13.6 | 55.7 |
| | 21 | 132 30.8 | -20 45.6 | 276 29.9 | 14.5 | 12 50.4 | -13.6 | 55.7 |
| | 22 | 147 30.6 | -20 45.1 | 291 3.4 | 14.6 | 12 36.8 | -13.7 | 55.6 |
| | 23 | 162 30.4 | -20 44.6 | 305 36.9 | 14.6 | 12 23.1 | -13.7 | 55.6 |
| | | *v* -0.2 | SD 16.3 | *d* -0.5 | | SD 15.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **17 Friday** | 0 | 177 30.2 | -20 44.1 | 320 10.6 | 14.7 | 12 9.4 | -13.7 | 55.6 |
| | 1 | 192 30.0 | -20 43.6 | 334 44.3 | 14.8 | 11 55.7 | -13.8 | 55.6 |
| | 2 | 207 29.8 | -20 43.1 | 349 18.1 | 14.9 | 11 41.9 | -13.8 | 55.6 |
| | 3 | 222 29.6 | -20 42.6 | 3 51.9 | 14.9 | 11 28.1 | -13.8 | 55.5 |
| | 4 | 237 29.4 | -20 42.1 | 18 25.9 | 15.0 | 11 14.2 | -13.9 | 55.5 |
| | 5 | 252 29.1 | -20 41.6 | 32 59.9 | 15.1 | 11 0.3 | -13.9 | 55.5 |
| | 6 | 267 28.9 | -20 41.1 | 47 34.0 | 15.2 | 10 46.4 | -13.9 | 55.5 |
| | 7 | 282 28.7 | -20 40.6 | 62 8.1 | 15.2 | 10 32.5 | -14.0 | 55.4 |
| | 8 | 297 28.5 | -20 40.1 | 76 42.4 | 15.3 | 10 18.5 | -14.0 | 55.4 |
| | 9 | 312 28.3 | -20 39.6 | 91 16.7 | 15.4 | 10 4.5 | -14.0 | 55.4 |
| | 10 | 327 28.1 | -20 39.1 | 105 51.0 | 15.4 | 9 50.5 | -14.0 | 55.4 |
| | 11 | 342 27.9 | -20 38.6 | 120 25.4 | 15.5 | 9 36.5 | -14.1 | 55.3 |
| | 12 | 357 27.7 | -20 38.1 | 134 59.9 | 15.6 | 9 22.4 | -14.1 | 55.3 |
| | 13 | 12 27.5 | -20 37.6 | 149 34.5 | 15.6 | 9 8.3 | -14.1 | 55.3 |
| | 14 | 27 27.3 | -20 37.1 | 164 9.1 | 15.7 | 8 54.2 | -14.1 | 55.3 |
| | 15 | 42 27.1 | -20 36.6 | 178 43.8 | 15.7 | 8 40.0 | -14.2 | 55.3 |
| | 16 | 57 26.9 | -20 36.1 | 193 18.5 | 15.8 | 8 25.9 | -14.2 | 55.2 |
| | 17 | 72 26.7 | -20 35.6 | 207 53.3 | 15.8 | 8 11.7 | -14.2 | 55.2 |
| | 18 | 87 26.5 | -20 35.1 | 222 28.1 | 15.9 | 7 57.5 | -14.2 | 55.2 |
| | 19 | 102 26.3 | -20 34.6 | 237 3.0 | 16.0 | 7 43.3 | -14.2 | 55.2 |
| | 20 | 117 26.1 | -20 34.1 | 251 38.0 | 16.0 | 7 29.0 | -14.3 | 55.2 |
| | 21 | 132 25.9 | -20 33.6 | 266 13.0 | 16.1 | 7 14.8 | -14.3 | 55.1 |
| | 22 | 147 25.7 | -20 33.1 | 280 48.1 | 16.1 | 7 0.5 | -14.3 | 55.1 |
| | 23 | 162 25.5 | -20 32.6 | 295 23.2 | 16.2 | 6 46.2 | -14.3 | 55.1 |
| | | *v* -0.2 | SD 16.3 | *d* -0.5 | | SD 15.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **18 Saturday** | 0 | 177 25.3 | -20 32.1 | 309 58.4 | 16.2 | 6 31.9 | -14.3 | 55.1 |
| | 1 | 192 25.1 | -20 31.5 | 324 33.6 | 16.3 | 6 17.6 | -14.3 | 55.0 |
| | 2 | 207 24.9 | -20 31.0 | 339 8.8 | 16.3 | 6 3.3 | -14.3 | 55.0 |
| | 3 | 222 24.7 | -20 30.5 | 353 44.1 | 16.4 | 5 48.9 | -14.3 | 55.0 |
| | 4 | 237 24.5 | -20 30.0 | 8 19.5 | 16.4 | 5 34.6 | -14.4 | 55.0 |
| | 5 | 252 24.3 | -20 29.5 | 22 54.9 | 16.4 | 5 20.2 | -14.4 | 55.0 |
| | 6 | 267 24.1 | -20 29.0 | 37 30.3 | 16.5 | 5 5.8 | -14.4 | 55.0 |
| | 7 | 282 23.9 | -20 28.5 | 52 5.8 | 16.5 | 4 51.5 | -14.4 | 54.9 |
| | 8 | 297 23.8 | -20 28.0 | 66 41.3 | 16.6 | 4 37.1 | -14.4 | 54.9 |
| | 9 | 312 23.6 | -20 27.4 | 81 16.9 | 16.6 | 4 22.7 | -14.4 | 54.9 |
| | 10 | 327 23.4 | -20 26.9 | 95 52.5 | 16.6 | 4 8.3 | -14.4 | 54.9 |
| | 11 | 342 23.2 | -20 26.4 | 110 28.1 | 16.7 | 3 53.9 | -14.4 | 54.9 |
| | 12 | 357 23.0 | -20 25.9 | 125 3.8 | 16.7 | 3 39.5 | -14.4 | 54.8 |
| | 13 | 12 22.8 | -20 25.4 | 139 39.5 | 16.7 | 3 25.1 | -14.4 | 54.8 |
| | 14 | 27 22.6 | -20 24.9 | 154 15.2 | 16.8 | 3 10.7 | -14.4 | 54.8 |
| | 15 | 42 22.4 | -20 24.3 | 168 51.0 | 16.8 | 2 56.3 | -14.4 | 54.8 |
| | 16 | 57 22.2 | -20 23.8 | 183 26.8 | 16.8 | 2 41.9 | -14.4 | 54.8 |
| | 17 | 72 22.0 | -20 23.3 | 198 2.6 | 16.9 | 2 27.5 | -14.4 | 54.8 |
| | 18 | 87 21.8 | -20 22.8 | 212 38.5 | 16.9 | 2 13.1 | -14.4 | 54.7 |
| | 19 | 102 21.6 | -20 22.3 | 227 14.4 | 16.9 | 1 58.7 | -14.4 | 54.7 |
| | 20 | 117 21.4 | -20 21.7 | 241 50.3 | 16.9 | 1 44.3 | -14.4 | 54.7 |
| | 21 | 132 21.2 | -20 21.2 | 256 26.2 | 17.0 | 1 29.9 | -14.4 | 54.7 |
| | 22 | 147 21.0 | -20 20.7 | 271 2.1 | 17.0 | 1 15.5 | -14.4 | 54.7 |
| | 23 | 162 20.9 | -20 20.2 | 285 38.1 | 17.0 | 1 1.1 | -14.4 | 54.7 |
| | | *v* -0.2 | SD 16.3 | *d* -0.5 | | SD 15.0 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:58 | 09:46 | | | 14:34 | 16:23 |
| 70 | 07:43 | 09:14 | | | 15:07 | 16:37 |
| 68 | 07:32 | 08:50 | 10:27 | 13:53 | 15:30 | 16:49 |
| 66 | 07:22 | 08:32 | 09:49 | 14:31 | 15:49 | 16:59 |
| 64 | 07:13 | 08:17 | 09:23 | 14:58 | 16:04 | 17:07 |
| 62 | 07:06 | 08:04 | 09:02 | 15:18 | 16:16 | 17:14 |
| 60 | 07:00 | 07:53 | 08:46 | 15:35 | 16:27 | 17:21 |
| 58 | 06:54 | 07:44 | 08:32 | 15:48 | 16:36 | 17:27 |
| 56 | 06:48 | 07:35 | 08:20 | 16:00 | 16:45 | 17:32 |
| 54 | 06:43 | 07:28 | 08:09 | 16:11 | 16:52 | 17:37 |
| 52 | 06:39 | 07:21 | 08:00 | 16:20 | 16:59 | 17:41 |
| 50 | 06:35 | 07:15 | 07:52 | 16:28 | 17:05 | 17:45 |
| 45 | 06:25 | 07:01 | 07:34 | 16:46 | 17:19 | 17:55 |
| 40 | 06:17 | 06:50 | 07:20 | 17:00 | 17:30 | 18:03 |
| 35 | 06:09 | 06:40 | 07:07 | 17:13 | 17:40 | 18:11 |
| 30 | 06:01 | 06:31 | 06:56 | 17:23 | 17:49 | 18:19 |
| 20 | 05:47 | 06:14 | 06:38 | 17:42 | 18:05 | 18:33 |
| 10 | 05:33 | 05:59 | 06:22 | 17:58 | 18:21 | 18:46 |
| 0 | 05:18 | 05:44 | 06:06 | 18:13 | 18:36 | 19:01 |
| -10 | 05:02 | 05:28 | 05:51 | 18:29 | 18:51 | 19:18 |
| -20 | 04:41 | 05:10 | 05:34 | 18:45 | 19:09 | 19:38 |
| -30 | 04:16 | 04:48 | 05:15 | 19:05 | 19:31 | 20:04 |
| -35 | 03:59 | 04:34 | 05:03 | 19:16 | 19:45 | 20:20 |
| -40 | 03:39 | 04:19 | 04:50 | 19:29 | 20:01 | 20:40 |
| -45 | 03:13 | 03:59 | 04:34 | 19:45 | 20:20 | 21:06 |
| -50 | 02:37 | 03:34 | 04:15 | 20:04 | 20:45 | 21:41 |
| -52 | 02:17 | 03:21 | 04:06 | 20:13 | 20:57 | 22:01 |
| -54 | 01:51 | 03:07 | 03:56 | 20:23 | 21:11 | 22:26 |
| -56 | 01:11 | 02:50 | 03:44 | 20:35 | 21:28 | 23:04 |
| -58 | //// | 02:28 | 03:30 | 20:48 | 21:49 | //// |
| -60 | //// | 02:00 | 03:14 | 21:04 | 22:16 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **16** | **17** | **18** | **16** | **17** | **18** |
| 72 | 17:15 | 19:38 | 21:40 | 11:54 | 11:02 | 10:26 |
| 70 | 17:44 | 19:49 | 21:42 | 11:24 | 10:48 | 10:21 |
| 68 | 18:04 | 19:59 | 21:43 | 11:02 | 10:37 | 10:17 |
| 66 | 18:21 | 20:06 | 21:44 | 10:44 | 10:27 | 10:13 |
| 64 | 18:34 | 20:13 | 21:45 | 10:29 | 10:19 | 10:10 |
| 62 | 18:45 | 20:18 | 21:46 | 10:17 | 10:12 | 10:07 |
| 60 | 18:54 | 20:23 | 21:47 | 10:06 | 10:06 | 10:05 |
| 58 | 19:03 | 20:27 | 21:48 | 09:57 | 10:00 | 10:02 |
| 56 | 19:10 | 20:31 | 21:48 | 09:49 | 09:55 | 10:00 |
| 54 | 19:16 | 20:34 | 21:49 | 09:42 | 09:51 | 09:59 |
| 52 | 19:22 | 20:37 | 21:50 | 09:35 | 09:47 | 09:57 |
| 50 | 19:27 | 20:40 | 21:50 | 09:29 | 09:44 | 09:56 |
| 45 | 19:38 | 20:46 | 21:51 | 09:16 | 09:36 | 09:52 |
| 40 | 19:47 | 20:51 | 21:52 | 09:06 | 09:29 | 09:50 |
| 35 | 19:55 | 20:55 | 21:53 | 08:57 | 09:23 | 09:47 |
| 30 | 20:02 | 20:59 | 21:53 | 08:48 | 09:18 | 09:45 |
| 20 | 20:14 | 21:05 | 21:54 | 08:34 | 09:09 | 09:42 |
| 10 | 20:24 | 21:11 | 21:55 | 08:22 | 09:02 | 09:39 |
| 0 | 20:34 | 21:16 | 21:56 | 08:10 | 08:54 | 09:35 |
| -10 | 20:43 | 21:21 | 21:57 | 07:59 | 08:47 | 09:32 |
| -20 | 20:53 | 21:27 | 21:58 | 07:46 | 08:39 | 09:29 |
| -30 | 21:05 | 21:33 | 21:59 | 07:31 | 08:30 | 09:25 |
| -35 | 21:11 | 21:37 | 22:00 | 07:23 | 08:24 | 09:23 |
| -40 | 21:19 | 21:41 | 22:01 | 07:13 | 08:18 | 09:20 |
| -45 | 21:28 | 21:45 | 22:01 | 07:02 | 08:11 | 09:18 |
| -50 | 21:38 | 21:51 | 22:02 | 06:48 | 08:03 | 09:14 |
| -52 | 21:43 | 21:54 | 22:03 | 06:41 | 07:59 | 09:12 |
| -54 | 21:48 | 21:56 | 22:03 | 06:34 | 07:54 | 09:11 |
| -56 | 21:54 | 22:00 | 22:04 | 06:26 | 07:49 | 09:09 |
| -58 | 22:01 | 22:03 | 22:05 | 06:16 | 07:44 | 09:06 |
| -60 | 22:08 | 22:07 | 22:05 | 06:06 | 07:38 | 09:04 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **16** | 09:39 | 09:49 | 12:10 | 01:59 | 14:22 | 16 | 95 |
| **17** | 09:59 | 10:09 | 12:10 | 02:44 | 15:05 | 17 | 90 |
| **18** | 10:19 | 10:28 | 12:10 | 03:26 | 15:46 | 18 | 83 |

## 2025 January 19, 20, 21 (Sun, Monday, Tue)

| d | h | Aries GHA | Venus -4.6 GHA | Venus -4.6 Dec | Mars -1.4 GHA | Mars -1.4 Dec | Jupiter -2.6 GHA | Jupiter -2.6 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 Sunday | 0 | 118 38.5 | 131 35.4 | -5 17.1 | 0 46.4 | 25 21.6 | 48 20.8 | 21 39.5 | 130 41.3 | -7 16.7 |
| | 1 | 133 41.0 | 146 35.7 | -5 16.0 | 15 49.9 | 25 21.8 | 63 23.4 | 21 39.5 | 145 43.5 | -7 16.7 |
| | 2 | 148 43.4 | 161 36.1 | -5 14.8 | 30 53.4 | 25 22.0 | 78 26.0 | 21 39.5 | 160 45.8 | -7 16.6 |
| | 3 | 163 45.9 | 176 36.5 | -5 13.6 | 45 57.0 | 25 22.2 | 93 28.6 | 21 39.5 | 175 48.0 | -7 16.5 |
| | 4 | 178 48.3 | 191 36.9 | -5 12.4 | 61 0.5 | 25 22.4 | 108 31.2 | 21 39.5 | 190 50.3 | -7 16.4 |
| | 5 | 193 50.8 | 206 37.3 | -5 11.2 | 76 4.0 | 25 22.6 | 123 33.9 | 21 39.5 | 205 52.5 | -7 16.3 |
| | 6 | 208 53.3 | 221 37.7 | -5 10.0 | 91 7.6 | 25 22.8 | 138 36.5 | 21 39.5 | 220 54.7 | -7 16.2 |
| | 7 | 223 55.7 | 236 38.0 | -5 8.9 | 106 11.1 | 25 23.0 | 153 39.1 | 21 39.5 | 235 57.0 | -7 16.1 |
| | 8 | 238 58.2 | 251 38.4 | -5 7.7 | 121 14.6 | 25 23.2 | 168 41.7 | 21 39.5 | 250 59.2 | -7 16.0 |
| | 9 | 254 0.7 | 266 38.8 | -5 6.5 | 136 18.1 | 25 23.4 | 183 44.3 | 21 39.5 | 266 1.5 | -7 15.9 |
| | 10 | 269 3.1 | 281 39.2 | -5 5.3 | 151 21.7 | 25 23.6 | 198 46.9 | 21 39.4 | 281 3.7 | -7 15.8 |
| | 11 | 284 5.6 | 296 39.6 | -5 4.1 | 166 25.2 | 25 23.8 | 213 49.5 | 21 39.4 | 296 5.9 | -7 15.7 |
| | 12 | 299 8.1 | 311 40.0 | -5 2.9 | 181 28.7 | 25 24.0 | 228 52.1 | 21 39.4 | 311 8.2 | -7 15.6 |
| | 13 | 314 10.5 | 326 40.4 | -5 1.8 | 196 32.2 | 25 24.2 | 243 54.7 | 21 39.4 | 326 10.4 | -7 15.5 |
| | 14 | 329 13.0 | 341 40.8 | -5 0.6 | 211 35.8 | 25 24.4 | 258 57.3 | 21 39.4 | 341 12.7 | -7 15.4 |
| | 15 | 344 15.4 | 356 41.2 | -4 59.4 | 226 39.3 | 25 24.6 | 274 0.0 | 21 39.4 | 356 14.9 | -7 15.3 |
| | 16 | 359 17.9 | 11 41.6 | -4 58.2 | 241 42.8 | 25 24.8 | 289 2.6 | 21 39.4 | 11 17.1 | -7 15.2 |
| | 17 | 14 20.4 | 26 42.0 | -4 57.0 | 256 46.3 | 25 25.0 | 304 5.2 | 21 39.4 | 26 19.4 | -7 15.1 |
| | 18 | 29 22.8 | 41 42.4 | -4 55.8 | 271 49.9 | 25 25.2 | 319 7.8 | 21 39.4 | 41 21.6 | -7 15.0 |
| | 19 | 44 25.3 | 56 42.8 | -4 54.7 | 286 53.4 | 25 25.4 | 334 10.4 | 21 39.4 | 56 23.9 | -7 14.9 |
| | 20 | 59 27.8 | 71 43.2 | -4 53.5 | 301 56.9 | 25 25.6 | 349 13.0 | 21 39.4 | 71 26.1 | -7 14.8 |
| | 21 | 74 30.2 | 86 43.6 | -4 52.3 | 317 0.4 | 25 25.8 | 4 15.6 | 21 39.3 | 86 28.3 | -7 14.7 |
| | 22 | 89 32.7 | 101 44.0 | -4 51.1 | 332 3.9 | 25 25.9 | 19 18.2 | 21 39.3 | 101 30.6 | -7 14.6 |
| | 23 | 104 35.2 | 116 44.4 | -4 49.9 | 347 7.5 | 25 26.1 | 34 20.8 | 21 39.3 | 116 32.8 | -7 14.5 |
| | | MP 16:04 | *v* 0.4 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | Venus -4.6 GHA | Venus -4.6 Dec | Mars -1.4 GHA | Mars -1.4 Dec | Jupiter -2.6 GHA | Jupiter -2.6 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Monday | 0 | 119 37.6 | 131 44.8 | -4 48.8 | 2 11.0 | 25 26.3 | 49 23.4 | 21 39.3 | 131 35.1 | -7 14.4 |
| | 1 | 134 40.1 | 146 45.2 | -4 47.6 | 17 14.5 | 25 26.5 | 64 26.0 | 21 39.3 | 146 37.3 | -7 14.3 |
| | 2 | 149 42.6 | 161 45.6 | -4 46.4 | 32 18.0 | 25 26.7 | 79 28.6 | 21 39.3 | 161 39.5 | -7 14.2 |
| | 3 | 164 45.0 | 176 46.0 | -4 45.2 | 47 21.6 | 25 26.9 | 94 31.2 | 21 39.3 | 176 41.8 | -7 14.1 |
| | 4 | 179 47.5 | 191 46.4 | -4 44.0 | 62 25.1 | 25 27.1 | 109 33.8 | 21 39.3 | 191 44.0 | -7 14.0 |
| | 5 | 194 49.9 | 206 46.8 | -4 42.8 | 77 28.6 | 25 27.3 | 124 36.4 | 21 39.3 | 206 46.2 | -7 13.9 |
| | 6 | 209 52.4 | 221 47.3 | -4 41.7 | 92 32.1 | 25 27.5 | 139 39.0 | 21 39.3 | 221 48.5 | -7 13.8 |
| | 7 | 224 54.9 | 236 47.7 | -4 40.5 | 107 35.6 | 25 27.7 | 154 41.6 | 21 39.3 | 236 50.7 | -7 13.7 |
| | 8 | 239 57.3 | 251 48.1 | -4 39.3 | 122 39.1 | 25 27.8 | 169 44.2 | 21 39.2 | 251 53.0 | -7 13.6 |
| | 9 | 254 59.8 | 266 48.5 | -4 38.1 | 137 42.7 | 25 28.0 | 184 46.8 | 21 39.2 | 266 55.2 | -7 13.5 |
| | 10 | 270 2.3 | 281 48.9 | -4 36.9 | 152 46.2 | 25 28.2 | 199 49.4 | 21 39.2 | 281 57.4 | -7 13.4 |
| | 11 | 285 4.7 | 296 49.3 | -4 35.8 | 167 49.7 | 25 28.4 | 214 52.0 | 21 39.2 | 296 59.7 | -7 13.3 |
| | 12 | 300 7.2 | 311 49.8 | -4 34.6 | 182 53.2 | 25 28.6 | 229 54.6 | 21 39.2 | 312 1.9 | -7 13.2 |
| | 13 | 315 9.7 | 326 50.2 | -4 33.4 | 197 56.7 | 25 28.8 | 244 57.2 | 21 39.2 | 327 4.1 | -7 13.1 |
| | 14 | 330 12.1 | 341 50.6 | -4 32.2 | 213 0.3 | 25 29.0 | 259 59.8 | 21 39.2 | 342 6.4 | -7 13.0 |
| | 15 | 345 14.6 | 356 51.0 | -4 31.0 | 228 3.8 | 25 29.1 | 275 2.4 | 21 39.2 | 357 8.6 | -7 12.9 |
| | 16 | 0 17.1 | 11 51.5 | -4 29.8 | 243 7.3 | 25 29.3 | 290 5.0 | 21 39.2 | 12 10.9 | -7 12.8 |
| | 17 | 15 19.5 | 26 51.9 | -4 28.7 | 258 10.8 | 25 29.5 | 305 7.6 | 21 39.2 | 27 13.1 | -7 12.7 |
| | 18 | 30 22.0 | 41 52.3 | -4 27.5 | 273 14.3 | 25 29.7 | 320 10.2 | 21 39.2 | 42 15.3 | -7 12.6 |
| | 19 | 45 24.4 | 56 52.7 | -4 26.3 | 288 17.8 | 25 29.9 | 335 12.8 | 21 39.2 | 57 17.6 | -7 12.5 |
| | 20 | 60 26.9 | 71 53.2 | -4 25.1 | 303 21.3 | 25 30.1 | 350 15.4 | 21 39.2 | 72 19.8 | -7 12.4 |
| | 21 | 75 29.4 | 86 53.6 | -4 23.9 | 318 24.9 | 25 30.3 | 5 18.0 | 21 39.1 | 87 22.0 | -7 12.3 |
| | 22 | 90 31.8 | 101 54.0 | -4 22.8 | 333 28.4 | 25 30.4 | 20 20.6 | 21 39.1 | 102 24.3 | -7 12.2 |
| | 23 | 105 34.3 | 116 54.5 | -4 21.6 | 348 31.9 | 25 30.6 | 35 23.2 | 21 39.1 | 117 26.5 | -7 12.1 |
| | | MP 16:00 | *v* 0.4 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | Venus -4.6 GHA | Venus -4.6 Dec | Mars -1.4 GHA | Mars -1.4 Dec | Jupiter -2.6 GHA | Jupiter -2.6 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 Tuesday | 0 | 120 36.8 | 131 54.9 | -4 20.4 | 3 35.4 | 25 30.8 | 50 25.8 | 21 39.1 | 132 28.8 | -7 12.0 |
| | 1 | 135 39.2 | 146 55.3 | -4 19.2 | 18 38.9 | 25 31.0 | 65 28.4 | 21 39.1 | 147 31.0 | -7 11.9 |
| | 2 | 150 41.7 | 161 55.8 | -4 18.0 | 33 42.4 | 25 31.2 | 80 31.0 | 21 39.1 | 162 33.2 | -7 11.8 |
| | 3 | 165 44.2 | 176 56.2 | -4 16.9 | 48 45.9 | 25 31.3 | 95 33.6 | 21 39.1 | 177 35.5 | -7 11.7 |
| | 4 | 180 46.6 | 191 56.6 | -4 15.7 | 63 49.4 | 25 31.5 | 110 36.2 | 21 39.1 | 192 37.7 | -7 11.6 |
| | 5 | 195 49.1 | 206 57.1 | -4 14.5 | 78 52.9 | 25 31.7 | 125 38.8 | 21 39.1 | 207 39.9 | -7 11.5 |
| | 6 | 210 51.5 | 221 57.5 | -4 13.3 | 93 56.5 | 25 31.9 | 140 41.4 | 21 39.1 | 222 42.2 | -7 11.4 |
| | 7 | 225 54.0 | 236 58.0 | -4 12.1 | 109 0.0 | 25 32.1 | 155 44.0 | 21 39.1 | 237 44.4 | -7 11.3 |
| | 8 | 240 56.5 | 251 58.4 | -4 10.9 | 124 3.5 | 25 32.2 | 170 46.6 | 21 39.1 | 252 46.6 | -7 11.2 |
| | 9 | 255 58.9 | 266 58.9 | -4 9.8 | 139 7.0 | 25 32.4 | 185 49.1 | 21 39.1 | 267 48.9 | -7 11.1 |
| | 10 | 271 1.4 | 281 59.3 | -4 8.6 | 154 10.5 | 25 32.6 | 200 51.7 | 21 39.0 | 282 51.1 | -7 11.0 |
| | 11 | 286 3.9 | 296 59.7 | -4 7.4 | 169 14.0 | 25 32.8 | 215 54.3 | 21 39.0 | 297 53.3 | -7 10.9 |
| | 12 | 301 6.3 | 312 0.2 | -4 6.2 | 184 17.5 | 25 33.0 | 230 56.9 | 21 39.0 | 312 55.6 | -7 10.8 |
| | 13 | 316 8.8 | 327 0.6 | -4 5.0 | 199 21.0 | 25 33.1 | 245 59.5 | 21 39.0 | 327 57.8 | -7 10.7 |
| | 14 | 331 11.3 | 342 1.1 | -4 3.9 | 214 24.5 | 25 33.3 | 261 2.1 | 21 39.0 | 343 0.1 | -7 10.6 |
| | 15 | 346 13.7 | 357 1.5 | -4 2.7 | 229 28.0 | 25 33.5 | 276 4.7 | 21 39.0 | 358 2.3 | -7 10.5 |
| | 16 | 1 16.2 | 12 2.0 | -4 1.5 | 244 31.5 | 25 33.7 | 291 7.3 | 21 39.0 | 13 4.5 | -7 10.4 |
| | 17 | 16 18.7 | 27 2.5 | -4 0.3 | 259 35.0 | 25 33.8 | 306 9.9 | 21 39.0 | 28 6.8 | -7 10.3 |
| | 18 | 31 21.1 | 42 2.9 | -3 59.1 | 274 38.5 | 25 34.0 | 321 12.5 | 21 39.0 | 43 9.0 | -7 10.2 |
| | 19 | 46 23.6 | 57 3.4 | -3 58.0 | 289 42.0 | 25 34.2 | 336 15.0 | 21 39.0 | 58 11.2 | -7 10.1 |
| | 20 | 61 26.0 | 72 3.8 | -3 56.8 | 304 45.5 | 25 34.4 | 351 17.6 | 21 39.0 | 73 13.5 | -7 10.0 |
| | 21 | 76 28.5 | 87 4.3 | -3 55.6 | 319 49.0 | 25 34.5 | 6 20.2 | 21 39.0 | 88 15.7 | -7 9.9 |
| | 22 | 91 31.0 | 102 4.7 | -3 54.4 | 334 52.5 | 25 34.7 | 21 22.8 | 21 39.0 | 103 17.9 | -7 9.8 |
| | 23 | 106 33.4 | 117 5.2 | -3 53.3 | 349 56.0 | 25 34.9 | 36 25.4 | 21 39.0 | 118 20.2 | -7 9.7 |
| | | MP 15:56 | *v* 0.4 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 12.5 |
| Achernar | 335 20.2 | -57 6.9 |
| Acrux | 172 59.9 | -63 14.0 |
| Adhara | 255 5.5 | -29 0.4 |
| Aldebaran | 290 39.3 | 16 33.6 |
| Alioth | 166 12.8 | 55 49.1 |
| Alkaid | 152 52.0 | 49 11.0 |
| Alnair | 27 33.3 | -46 50.6 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.1 |
| Alphecca | 126 3.9 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.8 |
| Altair | 62 0.3 | 8 56.0 |
| Ankaa | 353 7.2 | -42 10.4 |
| Antares | 112 16.0 | -26 29.2 |
| Arcturus | 145 47.9 | 19 2.9 |
| Atria | 107 10.7 | -69 4.1 |
| Avior | 234 14.1 | -59 35.3 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.7 | 7 24.7 |
| Canopus | 263 51.9 | -52 42.6 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.3 | 45 22.2 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.5 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.8 |
| Eltanin | 90 42.6 | 51 28.9 |
| Enif | 33 39.1 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.6 |
| Gacrux | 171 51.4 | -57 15.0 |
| Gienah | 175 43.4 | -17 40.8 |
| Hadar | 148 36.0 | -60 29.4 |
| Hamal | 327 51.1 | 23 34.9 |
| Kaus Aust. | 83 32.8 | -34 22.4 |
| Kochab | 137 20.1 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.3 |
| Menkent | 147 57.6 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.0 |
| Mirfak | 308 28.0 | 49 57.2 |
| Nunki | 75 48.1 | -26 16.0 |
| Peacock | 53 6.3 | -56 39.3 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.8 | 12 32.4 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.4 | -60 56.1 |
| Sabik | 102 3.0 | -15 45.4 |
| Schedar | 349 31.2 | 56 40.7 |
| Shaula | 96 10.7 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.2 | -11 17.5 |
| Suhail | 222 45.9 | -43 32.0 |
| Vega | 80 33.6 | 38 48.2 |
| Zuben'ubi | 136 56.1 | -16 8.7 |

| 19 Sun | SHA | MP |
|---|---|---|
| Venus | 12 56.9 | 15:13 |
| Mars | 242 7.9 | 23:51 |
| Jupiter | 289 42.3 | 20:43 |
| Saturn | 12 2.8 | 15:15 |

| 20 Mon | SHA | MP |
|---|---|---|
| Venus | 12 7.2 | 15:13 |
| Mars | 242 33.4 | 23:46 |
| Jupiter | 289 45.8 | 20:39 |
| Saturn | 11 57.4 | 15:11 |

| 21 Tue | SHA | MP |
|---|---|---|
| Venus | 11 18.1 | 15:12 |
| Mars | 242 58.6 | 23:40 |
| Jupiter | 289 49.0 | 20:35 |
| Saturn | 11 52.0 | 15:08 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **19 Sunday** | 0 | 177 20.7 | -20 19.6 | 300 14.1 | 17.0 | 0 46.7 | -14.4 | 54.6 |
| | 1 | 192 20.5 | -20 19.1 | 314 50.1 | 17.0 | 0 32.3 | -14.4 | 54.6 |
| | 2 | 207 20.3 | -20 18.6 | 329 26.2 | 17.1 | 0 18.0 | -14.4 | 54.6 |
| | 3 | 222 20.1 | -20 18.1 | 344 2.2 | 17.1 | 0 3.6 | -14.4 | 54.6 |
| | 4 | 237 19.9 | -20 17.5 | 358 38.3 | 17.1 | -0 10.8 | 14.3 | 54.6 |
| | 5 | 252 19.7 | -20 17.0 | 13 14.4 | 17.1 | -0 25.1 | 14.3 | 54.6 |
| | 6 | 267 19.5 | -20 16.5 | 27 50.5 | 17.1 | -0 39.4 | 14.3 | 54.6 |
| | 7 | 282 19.3 | -20 15.9 | 42 26.6 | 17.1 | -0 53.8 | 14.3 | 54.5 |
| | 8 | 297 19.1 | -20 15.4 | 57 2.7 | 17.1 | -1 8.1 | 14.3 | 54.5 |
| | 9 | 312 19.0 | -20 14.9 | 71 38.9 | 17.1 | -1 22.4 | 14.3 | 54.5 |
| | 10 | 327 18.8 | -20 14.3 | 86 15.0 | 17.2 | -1 36.7 | 14.3 | 54.5 |
| | 11 | 342 18.6 | -20 13.8 | 100 51.2 | 17.2 | -1 51.0 | 14.3 | 54.5 |
| | 12 | 357 18.4 | -20 13.3 | 115 27.3 | 17.2 | -2 5.2 | 14.3 | 54.5 |
| | 13 | 12 18.2 | -20 12.7 | 130 3.5 | 17.2 | -2 19.5 | 14.2 | 54.5 |
| | 14 | 27 18.0 | -20 12.2 | 144 39.6 | 17.2 | -2 33.7 | 14.2 | 54.5 |
| | 15 | 42 17.8 | -20 11.7 | 159 15.8 | 17.2 | -2 47.9 | 14.2 | 54.4 |
| | 16 | 57 17.6 | -20 11.1 | 173 52.0 | 17.2 | -3 2.1 | 14.2 | 54.4 |
| | 17 | 72 17.5 | -20 10.6 | 188 28.2 | 17.2 | -3 16.3 | 14.2 | 54.4 |
| | 18 | 87 17.3 | -20 10.1 | 203 4.3 | 17.2 | -3 30.5 | 14.2 | 54.4 |
| | 19 | 102 17.1 | -20 9.5 | 217 40.5 | 17.2 | -3 44.6 | 14.1 | 54.4 |
| | 20 | 117 16.9 | -20 9.0 | 232 16.7 | 17.2 | -3 58.8 | 14.1 | 54.4 |
| | 21 | 132 16.7 | -20 8.4 | 246 52.8 | 17.2 | -4 12.9 | 14.1 | 54.4 |
| | 22 | 147 16.5 | -20 7.9 | 261 29.0 | 17.2 | -4 27.0 | 14.1 | 54.4 |
| | 23 | 162 16.4 | -20 7.4 | 276 5.1 | 17.1 | -4 41.1 | 14.0 | 54.4 |
| | | *v* -0.2 | SD 16.3 | *d* -0.5 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Monday** | 0 | 177 16.2 | -20 6.8 | 290 41.3 | 17.1 | -4 55.1 | 14.0 | 54.4 |
| | 1 | 192 16.0 | -20 6.3 | 305 17.4 | 17.1 | -5 9.1 | 14.0 | 54.4 |
| | 2 | 207 15.8 | -20 5.7 | 319 53.6 | 17.1 | -5 23.1 | 14.0 | 54.3 |
| | 3 | 222 15.6 | -20 5.2 | 334 29.7 | 17.1 | -5 37.1 | 14.0 | 54.3 |
| | 4 | 237 15.4 | -20 4.7 | 349 5.8 | 17.1 | -5 51.1 | 13.9 | 54.3 |
| | 5 | 252 15.3 | -20 4.1 | 3 41.9 | 17.1 | -6 5.0 | 13.9 | 54.3 |
| | 6 | 267 15.1 | -20 3.6 | 18 17.9 | 17.1 | -6 18.9 | 13.9 | 54.3 |
| | 7 | 282 14.9 | -20 3.0 | 32 54.0 | 17.0 | -6 32.8 | 13.9 | 54.3 |
| | 8 | 297 14.7 | -20 2.5 | 47 30.0 | 17.0 | -6 46.6 | 13.8 | 54.3 |
| | 9 | 312 14.5 | -20 1.9 | 62 6.1 | 17.0 | -7 0.5 | 13.8 | 54.3 |
| | 10 | 327 14.4 | -20 1.4 | 76 42.1 | 17.0 | -7 14.2 | 13.8 | 54.3 |
| | 11 | 342 14.2 | -20 0.8 | 91 18.1 | 17.0 | -7 28.0 | 13.7 | 54.3 |
| | 12 | 357 14.0 | -20 0.3 | 105 54.0 | 16.9 | -7 41.8 | 13.7 | 54.3 |
| | 13 | 12 13.8 | -19 59.7 | 120 30.0 | 16.9 | -7 55.5 | 13.7 | 54.3 |
| | 14 | 27 13.6 | -19 59.2 | 135 5.9 | 16.9 | -8 9.1 | 13.6 | 54.3 |
| | 15 | 42 13.5 | -19 58.6 | 149 41.8 | 16.9 | -8 22.8 | 13.6 | 54.3 |
| | 16 | 57 13.3 | -19 58.1 | 164 17.7 | 16.8 | -8 36.4 | 13.6 | 54.3 |
| | 17 | 72 13.1 | -19 57.5 | 178 53.5 | 16.8 | -8 50.0 | 13.5 | 54.3 |
| | 18 | 87 12.9 | -19 57.0 | 193 29.3 | 16.8 | -9 3.5 | 13.5 | 54.3 |
| | 19 | 102 12.7 | -19 56.4 | 208 5.1 | 16.8 | -9 17.0 | 13.5 | 54.3 |
| | 20 | 117 12.6 | -19 55.9 | 222 40.9 | 16.7 | -9 30.5 | 13.4 | 54.2 |
| | 21 | 132 12.4 | -19 55.3 | 237 16.6 | 16.7 | -9 43.9 | 13.4 | 54.2 |
| | 22 | 147 12.2 | -19 54.8 | 251 52.3 | 16.7 | -9 57.4 | 13.4 | 54.2 |
| | 23 | 162 12.0 | -19 54.2 | 266 27.9 | 16.6 | -10 10.7 | 13.3 | 54.2 |
| | | *v* -0.2 | SD 16.3 | *d* -0.5 | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **21 Tuesday** | 0 | 177 11.9 | -19 53.6 | 281 3.6 | 16.6 | -10 24.0 | 13.3 | 54.2 |
| | 1 | 192 11.7 | -19 53.1 | 295 39.2 | 16.6 | -10 37.3 | 13.3 | 54.2 |
| | 2 | 207 11.5 | -19 52.5 | 310 14.7 | 16.5 | -10 50.6 | 13.2 | 54.2 |
| | 3 | 222 11.3 | -19 52.0 | 324 50.2 | 16.5 | -11 3.8 | 13.2 | 54.2 |
| | 4 | 237 11.2 | -19 51.4 | 339 25.7 | 16.4 | -11 17.0 | 13.1 | 54.2 |
| | 5 | 252 11.0 | -19 50.8 | 354 1.1 | 16.4 | -11 30.1 | 13.1 | 54.2 |
| | 6 | 267 10.8 | -19 50.3 | 8 36.5 | 16.3 | -11 43.2 | 13.0 | 54.2 |
| | 7 | 282 10.6 | -19 49.7 | 23 11.9 | 16.3 | -11 56.2 | 13.0 | 54.2 |
| | 8 | 297 10.5 | -19 49.2 | 37 47.2 | 16.3 | -12 9.3 | 13.0 | 54.2 |
| | 9 | 312 10.3 | -19 48.6 | 52 22.4 | 16.2 | -12 22.2 | 12.9 | 54.2 |
| | 10 | 327 10.1 | -19 48.0 | 66 57.7 | 16.2 | -12 35.1 | 12.9 | 54.2 |
| | 11 | 342 10.0 | -19 47.5 | 81 32.8 | 16.1 | -12 48.0 | 12.8 | 54.2 |
| | 12 | 357 9.8 | -19 46.9 | 96 7.9 | 16.1 | -13 0.8 | 12.8 | 54.2 |
| | 13 | 12 9.6 | -19 46.3 | 110 43.0 | 16.0 | -13 13.6 | 12.7 | 54.2 |
| | 14 | 27 9.4 | -19 45.8 | 125 18.0 | 16.0 | -13 26.3 | 12.7 | 54.2 |
| | 15 | 42 9.3 | -19 45.2 | 139 53.0 | 15.9 | -13 39.0 | 12.6 | 54.3 |
| | 16 | 57 9.1 | -19 44.6 | 154 27.9 | 15.9 | -13 51.6 | 12.6 | 54.3 |
| | 17 | 72 8.9 | -19 44.1 | 169 2.8 | 15.8 | -14 4.2 | 12.5 | 54.3 |
| | 18 | 87 8.8 | -19 43.5 | 183 37.6 | 15.8 | -14 16.7 | 12.5 | 54.3 |
| | 19 | 102 8.6 | -19 42.9 | 198 12.4 | 15.7 | -14 29.2 | 12.4 | 54.3 |
| | 20 | 117 8.4 | -19 42.4 | 212 47.1 | 15.6 | -14 41.7 | 12.4 | 54.3 |
| | 21 | 132 8.3 | -19 41.8 | 227 21.7 | 15.6 | -14 54.0 | 12.3 | 54.3 |
| | 22 | 147 8.1 | -19 41.2 | 241 56.3 | 15.5 | -15 6.4 | 12.3 | 54.3 |
| | 23 | 162 7.9 | -19 40.7 | 256 30.8 | 15.5 | -15 18.6 | 12.2 | 54.3 |
| | | *v* -0.2 | SD 16.3 | *d* -0.6 | | SD 14.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:50 | 09:34 | ▬ | ▬ | 14:49 | 16:33 |
| 70 | 07:37 | 09:05 | 11:12 | 13:10 | 15:18 | 16:46 |
| 68 | 07:26 | 08:43 | 10:13 | 14:09 | 15:40 | 16:57 |
| 66 | 07:17 | 08:26 | 09:40 | 14:43 | 15:57 | 17:06 |
| 64 | 07:09 | 08:11 | 09:15 | 15:07 | 16:11 | 17:13 |
| 62 | 07:02 | 07:59 | 08:56 | 15:26 | 16:23 | 17:20 |
| 60 | 06:56 | 07:49 | 08:41 | 15:42 | 16:33 | 17:26 |
| 58 | 06:51 | 07:40 | 08:27 | 15:55 | 16:42 | 17:32 |
| 56 | 06:45 | 07:32 | 08:16 | 16:06 | 16:50 | 17:37 |
| 54 | 06:41 | 07:25 | 08:06 | 16:16 | 16:57 | 17:41 |
| 52 | 06:37 | 07:19 | 07:57 | 16:25 | 17:04 | 17:45 |
| 50 | 06:33 | 07:13 | 07:49 | 16:33 | 17:09 | 17:49 |
| 45 | 06:24 | 07:00 | 07:32 | 16:50 | 17:22 | 17:58 |
| 40 | 06:15 | 06:49 | 07:18 | 17:04 | 17:33 | 18:06 |
| 35 | 06:08 | 06:39 | 07:06 | 17:16 | 17:43 | 18:14 |
| 30 | 06:01 | 06:30 | 06:56 | 17:26 | 17:52 | 18:21 |
| 20 | 05:47 | 06:14 | 06:38 | 17:44 | 18:07 | 18:34 |
| 10 | 05:34 | 06:00 | 06:22 | 18:00 | 18:22 | 18:48 |
| 0 | 05:19 | 05:45 | 06:07 | 18:14 | 18:36 | 19:02 |
| -10 | 05:03 | 05:30 | 05:52 | 18:29 | 18:52 | 19:18 |
| -20 | 04:44 | 05:12 | 05:36 | 18:45 | 19:09 | 19:38 |
| -30 | 04:19 | 04:51 | 05:17 | 19:04 | 19:30 | 20:02 |
| -35 | 04:03 | 04:38 | 05:06 | 19:15 | 19:43 | 20:18 |
| -40 | 03:43 | 04:22 | 04:54 | 19:27 | 19:59 | 20:37 |
| -45 | 03:18 | 04:03 | 04:38 | 19:42 | 20:17 | 21:02 |
| -50 | 02:44 | 03:39 | 04:20 | 20:01 | 20:41 | 21:36 |
| -52 | 02:25 | 03:27 | 04:11 | 20:09 | 20:53 | 21:55 |
| -54 | 02:01 | 03:13 | 04:01 | 20:19 | 21:07 | 22:18 |
| -56 | 01:27 | 02:57 | 03:50 | 20:30 | 21:23 | 22:51 |
| -58 | //// | 02:37 | 03:37 | 20:43 | 21:42 | //// |
| -60 | //// | 02:12 | 03:22 | 20:58 | 22:07 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **19** | **20** | **21** | **19** | **20** | **21** |
| 72 | 23:38 | –:– | 01:44 | 09:54 | 09:21 | 08:40 |
| 70 | 23:31 | –:– | 01:25 | 09:56 | 09:31 | 09:01 |
| 68 | 23:25 | –:– | 01:10 | 09:58 | 09:39 | 09:18 |
| 66 | 23:20 | –:– | 00:58 | 10:00 | 09:46 | 09:31 |
| 64 | 23:16 | –:– | 00:48 | 10:01 | 09:52 | 09:42 |
| 62 | 23:13 | –:– | 00:40 | 10:02 | 09:57 | 09:52 |
| 60 | 23:10 | –:– | 00:32 | 10:03 | 10:02 | 10:00 |
| 58 | 23:07 | –:– | 00:26 | 10:04 | 10:06 | 10:08 |
| 56 | 23:04 | –:– | 00:21 | 10:05 | 10:09 | 10:14 |
| 54 | 23:02 | –:– | 00:16 | 10:06 | 10:12 | 10:20 |
| 52 | 23:00 | –:– | 00:11 | 10:06 | 10:15 | 10:25 |
| 50 | 22:59 | –:– | 00:07 | 10:07 | 10:18 | 10:30 |
| 45 | 22:55 | 23:59 | –:– | 10:08 | 10:24 | 10:41 |
| 40 | 22:52 | 23:51 | –:– | 10:09 | 10:29 | 10:49 |
| 35 | 22:49 | 23:45 | –:– | 10:10 | 10:33 | 10:57 |
| 30 | 22:46 | 23:40 | –:– | 10:11 | 10:37 | 11:03 |
| 20 | 22:42 | 23:31 | –:– | 10:13 | 10:43 | 11:15 |
| 10 | 22:39 | 23:22 | –:– | 10:14 | 10:49 | 11:25 |
| 0 | 22:35 | 23:15 | 23:56 | 10:15 | 10:54 | 11:34 |
| -10 | 22:32 | 23:07 | 23:44 | 10:16 | 11:00 | 11:44 |
| -20 | 22:29 | 23:00 | 23:32 | 10:18 | 11:06 | 11:54 |
| -30 | 22:25 | 22:51 | 23:18 | 10:19 | 11:12 | 12:06 |
| -35 | 22:22 | 22:45 | 23:10 | 10:20 | 11:16 | 12:13 |
| -40 | 22:20 | 22:40 | 23:01 | 10:21 | 11:20 | 12:21 |
| -45 | 22:17 | 22:33 | 22:51 | 10:22 | 11:25 | 12:30 |
| -50 | 22:13 | 22:25 | 22:38 | 10:23 | 11:32 | 12:41 |
| -52 | 22:12 | 22:21 | 22:32 | 10:24 | 11:34 | 12:46 |
| -54 | 22:10 | 22:17 | 22:26 | 10:24 | 11:38 | 12:52 |
| -56 | 22:08 | 22:13 | 22:19 | 10:25 | 11:41 | 12:58 |
| -58 | 22:06 | 22:08 | 22:11 | 10:26 | 11:45 | 13:05 |
| -60 | 22:04 | 22:02 | 22:02 | 10:27 | 11:49 | 13:13 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **19** | 10:37 | 10:46 | 12:11 | 04:06 | 16:25 | 19 | 76 |
| **20** | 10:55 | 11:04 | 12:11 | 04:45 | 17:05 | 20 | 67 |
| **21** | 11:13 | 11:21 | 12:11 | 05:25 | 17:45 | 21 | 58 |

## 2025 January 22, 23, 24 (Wed, Thu, Fri)

| d | h | Aries GHA | Venus -4.7 GHA | Venus -4.7 Dec | Mars -1.3 GHA | Mars -1.3 Dec | Jupiter -2.6 GHA | Jupiter -2.6 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 Wednesday | 0 | 121 35.9 | 132 5.7 | -3 52.1 | 4 59.5 | 25 35.1 | 51 28.0 | 21 39.0 | 133 22.4 | -7 9.6 |
| | 1 | 136 38.4 | 147 6.1 | -3 50.9 | 20 3.0 | 25 35.2 | 66 30.6 | 21 38.9 | 148 24.6 | -7 9.5 |
| | 2 | 151 40.8 | 162 6.6 | -3 49.7 | 35 6.5 | 25 35.4 | 81 33.2 | 21 38.9 | 163 26.9 | -7 9.4 |
| | 3 | 166 43.3 | 177 7.1 | -3 48.5 | 50 10.0 | 25 35.6 | 96 35.7 | 21 38.9 | 178 29.1 | -7 9.3 |
| | 4 | 181 45.8 | 192 7.5 | -3 47.4 | 65 13.5 | 25 35.7 | 111 38.3 | 21 38.9 | 193 31.3 | -7 9.2 |
| | 5 | 196 48.2 | 207 8.0 | -3 46.2 | 80 17.0 | 25 35.9 | 126 40.9 | 21 38.9 | 208 33.6 | -7 9.1 |
| | 6 | 211 50.7 | 222 8.5 | -3 45.0 | 95 20.5 | 25 36.1 | 141 43.5 | 21 38.9 | 223 35.8 | -7 9.0 |
| | 7 | 226 53.2 | 237 8.9 | -3 43.8 | 110 24.0 | 25 36.3 | 156 46.1 | 21 38.9 | 238 38.0 | -7 8.9 |
| | 8 | 241 55.6 | 252 9.4 | -3 42.6 | 125 27.5 | 25 36.4 | 171 48.7 | 21 38.9 | 253 40.3 | -7 8.8 |
| | 9 | 256 58.1 | 267 9.9 | -3 41.5 | 140 31.0 | 25 36.6 | 186 51.2 | 21 38.9 | 268 42.5 | -7 8.7 |
| | 10 | 272 0.5 | 282 10.4 | -3 40.3 | 155 34.5 | 25 36.8 | 201 53.8 | 21 38.9 | 283 44.7 | -7 8.6 |
| | 11 | 287 3.0 | 297 10.8 | -3 39.1 | 170 38.0 | 25 36.9 | 216 56.4 | 21 38.9 | 298 47.0 | -7 8.5 |
| | 12 | 302 5.5 | 312 11.3 | -3 37.9 | 185 41.5 | 25 37.1 | 231 59.0 | 21 38.9 | 313 49.2 | -7 8.4 |
| | 13 | 317 7.9 | 327 11.8 | -3 36.7 | 200 45.0 | 25 37.3 | 247 1.6 | 21 38.9 | 328 51.4 | -7 8.3 |
| | 14 | 332 10.4 | 342 12.3 | -3 35.6 | 215 48.5 | 25 37.4 | 262 4.2 | 21 38.9 | 343 53.7 | -7 8.2 |
| | 15 | 347 12.9 | 357 12.8 | -3 34.4 | 230 52.0 | 25 37.6 | 277 6.7 | 21 38.9 | 358 55.9 | -7 8.1 |
| | 16 | 2 15.3 | 12 13.2 | -3 33.2 | 245 55.5 | 25 37.8 | 292 9.3 | 21 38.9 | 13 58.1 | -7 8.0 |
| | 17 | 17 17.8 | 27 13.7 | -3 32.0 | 260 59.0 | 25 37.9 | 307 11.9 | 21 38.9 | 29 0.4 | -7 7.9 |
| | 18 | 32 20.3 | 42 14.2 | -3 30.9 | 276 2.5 | 25 38.1 | 322 14.5 | 21 38.8 | 44 2.6 | -7 7.8 |
| | 19 | 47 22.7 | 57 14.7 | -3 29.7 | 291 5.9 | 25 38.3 | 337 17.1 | 21 38.8 | 59 4.8 | -7 7.7 |
| | 20 | 62 25.2 | 72 15.2 | -3 28.5 | 306 9.4 | 25 38.4 | 352 19.6 | 21 38.8 | 74 7.1 | -7 7.6 |
| | 21 | 77 27.6 | 87 15.7 | -3 27.3 | 321 12.9 | 25 38.6 | 7 22.2 | 21 38.8 | 89 9.3 | -7 7.5 |
| | 22 | 92 30.1 | 102 16.2 | -3 26.2 | 336 16.4 | 25 38.8 | 22 24.8 | 21 38.8 | 104 11.5 | -7 7.4 |
| | 23 | 107 32.6 | 117 16.6 | -3 25.0 | 351 19.9 | 25 38.9 | 37 27.4 | 21 38.8 | 119 13.8 | -7 7.3 |
| | | MP 15:52 | *v* 0.5 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Thursday | 0 | 122 35.0 | 132 17.1 | -3 23.8 | 6 23.4 | 25 39.1 | 52 30.0 | 21 38.8 | 134 16.0 | -7 7.2 |
| | 1 | 137 37.5 | 147 17.6 | -3 22.6 | 21 26.9 | 25 39.3 | 67 32.5 | 21 38.8 | 149 18.2 | -7 7.1 |
| | 2 | 152 40.0 | 162 18.1 | -3 21.4 | 36 30.4 | 25 39.4 | 82 35.1 | 21 38.8 | 164 20.5 | -7 7.0 |
| | 3 | 167 42.4 | 177 18.6 | -3 20.3 | 51 33.8 | 25 39.6 | 97 37.7 | 21 38.8 | 179 22.7 | -7 6.9 |
| | 4 | 182 44.9 | 192 19.1 | -3 19.1 | 66 37.3 | 25 39.8 | 112 40.3 | 21 38.8 | 194 24.9 | -7 6.8 |
| | 5 | 197 47.4 | 207 19.6 | -3 17.9 | 81 40.8 | 25 39.9 | 127 42.8 | 21 38.8 | 209 27.1 | -7 6.7 |
| | 6 | 212 49.8 | 222 20.1 | -3 16.7 | 96 44.3 | 25 40.1 | 142 45.4 | 21 38.8 | 224 29.4 | -7 6.6 |
| | 7 | 227 52.3 | 237 20.6 | -3 15.6 | 111 47.8 | 25 40.2 | 157 48.0 | 21 38.8 | 239 31.6 | -7 6.5 |
| | 8 | 242 54.8 | 252 21.1 | -3 14.4 | 126 51.3 | 25 40.4 | 172 50.6 | 21 38.8 | 254 33.8 | -7 6.4 |
| | 9 | 257 57.2 | 267 21.6 | -3 13.2 | 141 54.7 | 25 40.6 | 187 53.1 | 21 38.8 | 269 36.1 | -7 6.3 |
| | 10 | 272 59.7 | 282 22.1 | -3 12.0 | 156 58.2 | 25 40.7 | 202 55.7 | 21 38.8 | 284 38.3 | -7 6.2 |
| | 11 | 288 2.1 | 297 22.6 | -3 10.9 | 172 1.7 | 25 40.9 | 217 58.3 | 21 38.8 | 299 40.5 | -7 6.1 |
| | 12 | 303 4.6 | 312 23.1 | -3 9.7 | 187 5.2 | 25 41.0 | 233 0.9 | 21 38.8 | 314 42.8 | -7 6.0 |
| | 13 | 318 7.1 | 327 23.6 | -3 8.5 | 202 8.7 | 25 41.2 | 248 3.4 | 21 38.7 | 329 45.0 | -7 5.9 |
| | 14 | 333 9.5 | 342 24.2 | -3 7.3 | 217 12.1 | 25 41.4 | 263 6.0 | 21 38.7 | 344 47.2 | -7 5.8 |
| | 15 | 348 12.0 | 357 24.7 | -3 6.2 | 232 15.6 | 25 41.5 | 278 8.6 | 21 38.7 | 359 49.5 | -7 5.7 |
| | 16 | 3 14.5 | 12 25.2 | -3 5.0 | 247 19.1 | 25 41.7 | 293 11.2 | 21 38.7 | 14 51.7 | -7 5.5 |
| | 17 | 18 16.9 | 27 25.7 | -3 3.8 | 262 22.6 | 25 41.8 | 308 13.7 | 21 38.7 | 29 53.9 | -7 5.4 |
| | 18 | 33 19.4 | 42 26.2 | -3 2.6 | 277 26.0 | 25 42.0 | 323 16.3 | 21 38.7 | 44 56.1 | -7 5.3 |
| | 19 | 48 21.9 | 57 26.7 | -3 1.5 | 292 29.5 | 25 42.1 | 338 18.9 | 21 38.7 | 59 58.4 | -7 5.2 |
| | 20 | 63 24.3 | 72 27.2 | -3 0.3 | 307 33.0 | 25 42.3 | 353 21.4 | 21 38.7 | 75 0.6 | -7 5.1 |
| | 21 | 78 26.8 | 87 27.8 | -2 59.1 | 322 36.5 | 25 42.5 | 8 24.0 | 21 38.7 | 90 2.8 | -7 5.0 |
| | 22 | 93 29.3 | 102 28.3 | -2 57.9 | 337 39.9 | 25 42.6 | 23 26.6 | 21 38.7 | 105 5.1 | -7 4.9 |
| | 23 | 108 31.7 | 117 28.8 | -2 56.8 | 352 43.4 | 25 42.8 | 38 29.2 | 21 38.7 | 120 7.3 | -7 4.8 |
| | | MP 15:48 | *v* 0.5 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 Friday | 0 | 123 34.2 | 132 29.3 | -2 55.6 | 7 46.9 | 25 42.9 | 53 31.7 | 21 38.7 | 135 9.5 | -7 4.7 |
| | 1 | 138 36.6 | 147 29.8 | -2 54.4 | 22 50.3 | 25 43.1 | 68 34.3 | 21 38.7 | 150 11.8 | -7 4.6 |
| | 2 | 153 39.1 | 162 30.4 | -2 53.2 | 37 53.8 | 25 43.2 | 83 36.9 | 21 38.7 | 165 14.0 | -7 4.5 |
| | 3 | 168 41.6 | 177 30.9 | -2 52.1 | 52 57.3 | 25 43.4 | 98 39.4 | 21 38.7 | 180 16.2 | -7 4.4 |
| | 4 | 183 44.0 | 192 31.4 | -2 50.9 | 68 0.8 | 25 43.5 | 113 42.0 | 21 38.7 | 195 18.4 | -7 4.3 |
| | 5 | 198 46.5 | 207 31.9 | -2 49.7 | 83 4.2 | 25 43.7 | 128 44.6 | 21 38.7 | 210 20.7 | -7 4.2 |
| | 6 | 213 49.0 | 222 32.5 | -2 48.5 | 98 7.7 | 25 43.8 | 143 47.1 | 21 38.7 | 225 22.9 | -7 4.1 |
| | 7 | 228 51.4 | 237 33.0 | -2 47.4 | 113 11.2 | 25 44.0 | 158 49.7 | 21 38.7 | 240 25.1 | -7 4.0 |
| | 8 | 243 53.9 | 252 33.5 | -2 46.2 | 128 14.6 | 25 44.1 | 173 52.3 | 21 38.7 | 255 27.4 | -7 3.9 |
| | 9 | 258 56.4 | 267 34.1 | -2 45.0 | 143 18.1 | 25 44.3 | 188 54.8 | 21 38.7 | 270 29.6 | -7 3.8 |
| | 10 | 273 58.8 | 282 34.6 | -2 43.9 | 158 21.6 | 25 44.4 | 203 57.4 | 21 38.7 | 285 31.8 | -7 3.7 |
| | 11 | 289 1.3 | 297 35.1 | -2 42.7 | 173 25.0 | 25 44.6 | 219 0.0 | 21 38.7 | 300 34.1 | -7 3.6 |
| | 12 | 304 3.8 | 312 35.7 | -2 41.5 | 188 28.5 | 25 44.7 | 234 2.5 | 21 38.6 | 315 36.3 | -7 3.5 |
| | 13 | 319 6.2 | 327 36.2 | -2 40.3 | 203 31.9 | 25 44.9 | 249 5.1 | 21 38.6 | 330 38.5 | -7 3.4 |
| | 14 | 334 8.7 | 342 36.7 | -2 39.2 | 218 35.4 | 25 45.0 | 264 7.7 | 21 38.6 | 345 40.7 | -7 3.3 |
| | 15 | 349 11.1 | 357 37.3 | -2 38.0 | 233 38.9 | 25 45.2 | 279 10.2 | 21 38.6 | 0 43.0 | -7 3.2 |
| | 16 | 4 13.6 | 12 37.8 | -2 36.8 | 248 42.3 | 25 45.3 | 294 12.8 | 21 38.6 | 15 45.2 | -7 3.1 |
| | 17 | 19 16.1 | 27 38.4 | -2 35.7 | 263 45.8 | 25 45.5 | 309 15.3 | 21 38.6 | 30 47.4 | -7 3.0 |
| | 18 | 34 18.5 | 42 38.9 | -2 34.5 | 278 49.2 | 25 45.6 | 324 17.9 | 21 38.6 | 45 49.6 | -7 2.9 |
| | 19 | 49 21.0 | 57 39.5 | -2 33.3 | 293 52.7 | 25 45.8 | 339 20.5 | 21 38.6 | 60 51.9 | -7 2.8 |
| | 20 | 64 23.5 | 72 40.0 | -2 32.1 | 308 56.2 | 25 45.9 | 354 23.0 | 21 38.6 | 75 54.1 | -7 2.7 |
| | 21 | 79 25.9 | 87 40.6 | -2 31.0 | 323 59.6 | 25 46.1 | 9 25.6 | 21 38.6 | 90 56.3 | -7 2.6 |
| | 22 | 94 28.4 | 102 41.1 | -2 29.8 | 339 3.1 | 25 46.2 | 24 28.2 | 21 38.6 | 105 58.6 | -7 2.5 |
| | 23 | 109 30.9 | 117 41.7 | -2 28.6 | 354 6.5 | 25 46.4 | 39 30.7 | 21 38.6 | 121 0.8 | -7 2.4 |
| | | MP 15:44 | *v* 0.5 | *d* -1.2 | *v* 3.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 12.5 |
| Achernar | 335 20.2 | -57 6.9 |
| Acrux | 172 59.8 | -63 14.0 |
| Adhara | 255 5.5 | -29 0.4 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.7 | 55 49.1 |
| Alkaid | 152 51.9 | 49 11.0 |
| Alnair | 27 33.3 | -46 50.6 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.1 |
| Alphecca | 126 3.9 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.8 |
| Altair | 62 0.3 | 8 56.0 |
| Ankaa | 353 7.3 | -42 10.4 |
| Antares | 112 16.0 | -26 29.2 |
| Arcturus | 145 47.9 | 19 2.9 |
| Atria | 107 10.6 | -69 4.1 |
| Avior | 234 14.1 | -59 35.3 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.9 | -52 42.6 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.3 | 45 22.1 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.4 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.8 |
| Eltanin | 90 42.6 | 51 28.9 |
| Enif | 33 39.1 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.4 | -57 15.0 |
| Gienah | 175 43.4 | -17 40.8 |
| Hadar | 148 36.0 | -60 29.4 |
| Hamal | 327 51.1 | 23 34.9 |
| Kaus Aust. | 83 32.8 | -34 22.3 |
| Kochab | 137 20.0 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.3 |
| Menkent | 147 57.6 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.1 |
| Mirfak | 308 28.0 | 49 57.2 |
| Nunki | 75 48.1 | -26 16.0 |
| Peacock | 53 6.3 | -56 39.3 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.8 | 12 32.4 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.4 | -60 56.1 |
| Sabik | 102 3.0 | -15 45.4 |
| Schedar | 349 31.2 | 56 40.7 |
| Shaula | 96 10.7 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.2 | -11 17.5 |
| Suhail | 222 45.9 | -43 32.0 |
| Vega | 80 33.6 | 38 48.2 |
| Zuben'ubi | 136 56.1 | -16 8.8 |

| 22 Wed | SHA | MP |
|---|---|---|
| Venus | 10 29.8 | 15:11 |
| Mars | 243 23.6 | 23:35 |
| Jupiter | 289 52.1 | 20:31 |
| Saturn | 11 46.5 | 15:04 |

| 23 Thu | SHA | MP |
|---|---|---|
| Venus | 9 42.1 | 15:10 |
| Mars | 243 48.3 | 23:29 |
| Jupiter | 289 54.9 | 20:26 |
| Saturn | 11 40.9 | 15:01 |

| 24 Fri | SHA | MP |
|---|---|---|
| Venus | 8 55.1 | 15:10 |
| Mars | 244 12.7 | 23:23 |
| Jupiter | 289 57.5 | 20:22 |
| Saturn | 11 35.3 | 14:57 |

| | | Sun | | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **22 Wednesday** | 0 | 177 7.7 | -19 40.1 | 271 5.3 | 15.4 | -15 30.8 | 12.2 | 54.3 |
| | 1 | 192 7.6 | -19 39.5 | 285 39.7 | 15.3 | -15 43.0 | 12.1 | 54.3 |
| | 2 | 207 7.4 | -19 38.9 | 300 14.0 | 15.3 | -15 55.1 | 12.0 | 54.3 |
| | 3 | 222 7.2 | -19 38.4 | 314 48.3 | 15.2 | -16 7.1 | 12.0 | 54.3 |
| | 4 | 237 7.1 | -19 37.8 | 329 22.5 | 15.1 | -16 19.1 | 11.9 | 54.3 |
| | 5 | 252 6.9 | -19 37.2 | 343 56.7 | 15.1 | -16 31.0 | 11.9 | 54.3 |
| | 6 | 267 6.7 | -19 36.6 | 358 30.8 | 15.0 | -16 42.9 | 11.8 | 54.3 |
| | 7 | 282 6.6 | -19 36.1 | 13 4.8 | 14.9 | -16 54.7 | 11.7 | 54.3 |
| | 8 | 297 6.4 | -19 35.5 | 27 38.7 | 14.9 | -17 6.4 | 11.7 | 54.3 |
| | 9 | 312 6.2 | -19 34.9 | 42 12.6 | 14.8 | -17 18.1 | 11.6 | 54.4 |
| | 10 | 327 6.1 | -19 34.3 | 56 46.4 | 14.7 | -17 29.7 | 11.5 | 54.4 |
| | 11 | 342 5.9 | -19 33.7 | 71 20.1 | 14.7 | -17 41.2 | 11.5 | 54.4 |
| | 12 | 357 5.8 | -19 33.2 | 85 53.8 | 14.6 | -17 52.7 | 11.4 | 54.4 |
| | 13 | 12 5.6 | -19 32.6 | 100 27.4 | 14.5 | -18 4.1 | 11.3 | 54.4 |
| | 14 | 27 5.4 | -19 32.0 | 115 0.9 | 14.4 | -18 15.5 | 11.3 | 54.4 |
| | 15 | 42 5.3 | -19 31.4 | 129 34.4 | 14.4 | -18 26.8 | 11.2 | 54.4 |
| | 16 | 57 5.1 | -19 30.8 | 144 7.7 | 14.3 | -18 38.0 | 11.1 | 54.4 |
| | 17 | 72 4.9 | -19 30.3 | 158 41.0 | 14.2 | -18 49.1 | 11.1 | 54.4 |
| | 18 | 87 4.8 | -19 29.7 | 173 14.2 | 14.1 | -19 0.2 | 11.0 | 54.4 |
| | 19 | 102 4.6 | -19 29.1 | 187 47.4 | 14.1 | -19 11.2 | 10.9 | 54.5 |
| | 20 | 117 4.5 | -19 28.5 | 202 20.4 | 14.0 | -19 22.1 | 10.8 | 54.5 |
| | 21 | 132 4.3 | -19 27.9 | 216 53.4 | 13.9 | -19 33.0 | 10.8 | 54.5 |
| | 22 | 147 4.1 | -19 27.3 | 231 26.3 | 13.8 | -19 43.7 | 10.7 | 54.5 |
| | 23 | 162 4.0 | -19 26.7 | 245 59.1 | 13.7 | -19 54.4 | 10.6 | 54.5 |
| | | *v* -0.2 SD 16.3 *d* -0.6 | | SD 14.8 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Thursday** | 0 | 177 3.8 | -19 26.2 | 260 31.9 | 13.7 | -20 5.0 | 10.5 | 54.5 |
| | 1 | 192 3.7 | -19 25.6 | 275 4.5 | 13.6 | -20 15.6 | 10.5 | 54.5 |
| | 2 | 207 3.5 | -19 25.0 | 289 37.1 | 13.5 | -20 26.1 | 10.4 | 54.5 |
| | 3 | 222 3.3 | -19 24.4 | 304 9.6 | 13.4 | -20 36.4 | 10.3 | 54.6 |
| | 4 | 237 3.2 | -19 23.8 | 318 42.0 | 13.3 | -20 46.7 | 10.2 | 54.6 |
| | 5 | 252 3.0 | -19 23.2 | 333 14.3 | 13.2 | -20 57.0 | 10.1 | 54.6 |
| | 6 | 267 2.9 | -19 22.6 | 347 46.5 | 13.1 | -21 7.1 | 10.1 | 54.6 |
| | 7 | 282 2.7 | -19 22.0 | 2 18.7 | 13.1 | -21 17.2 | 10.0 | 54.6 |
| | 8 | 297 2.5 | -19 21.4 | 16 50.7 | 13.0 | -21 27.1 | 9.9 | 54.6 |
| | 9 | 312 2.4 | -19 20.8 | 31 22.7 | 12.9 | -21 37.0 | 9.8 | 54.6 |
| | 10 | 327 2.2 | -19 20.3 | 45 54.6 | 12.8 | -21 46.8 | 9.7 | 54.7 |
| | 11 | 342 2.1 | -19 19.7 | 60 26.4 | 12.7 | -21 56.5 | 9.6 | 54.7 |
| | 12 | 357 1.9 | -19 19.1 | 74 58.1 | 12.6 | -22 6.2 | 9.5 | 54.7 |
| | 13 | 12 1.8 | -19 18.5 | 89 29.7 | 12.5 | -22 15.7 | 9.4 | 54.7 |
| | 14 | 27 1.6 | -19 17.9 | 104 1.2 | 12.4 | -22 25.1 | 9.3 | 54.7 |
| | 15 | 42 1.5 | -19 17.3 | 118 32.6 | 12.3 | -22 34.5 | 9.3 | 54.7 |
| | 16 | 57 1.3 | -19 16.7 | 133 4.0 | 12.2 | -22 43.7 | 9.2 | 54.8 |
| | 17 | 72 1.1 | -19 16.1 | 147 35.2 | 12.2 | -22 52.9 | 9.1 | 54.8 |
| | 18 | 87 1.0 | -19 15.5 | 162 6.4 | 12.1 | -23 2.0 | 9.0 | 54.8 |
| | 19 | 102 0.8 | -19 14.9 | 176 37.4 | 12.0 | -23 10.9 | 8.9 | 54.8 |
| | 20 | 117 0.7 | -19 14.3 | 191 8.4 | 11.9 | -23 19.8 | 8.8 | 54.8 |
| | 21 | 132 0.5 | -19 13.7 | 205 39.3 | 11.8 | -23 28.6 | 8.7 | 54.9 |
| | 22 | 147 0.4 | -19 13.1 | 220 10.1 | 11.7 | -23 37.3 | 8.6 | 54.9 |
| | 23 | 162 0.2 | -19 12.5 | 234 40.8 | 11.6 | -23 45.8 | 8.5 | 54.9 |
| | | *v* -0.2 SD 16.2 *d* -0.6 | | SD 14.9 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **24 Friday** | 0 | 177 0.1 | -19 11.9 | 249 11.4 | 11.5 | -23 54.3 | 8.4 | 54.9 |
| | 1 | 191 59.9 | -19 11.3 | 263 41.9 | 11.4 | -24 2.7 | 8.3 | 54.9 |
| | 2 | 206 59.8 | -19 10.7 | 278 12.3 | 11.3 | -24 10.9 | 8.2 | 55.0 |
| | 3 | 221 59.6 | -19 10.1 | 292 42.6 | 11.2 | -24 19.1 | 8.0 | 55.0 |
| | 4 | 236 59.5 | -19 9.5 | 307 12.8 | 11.1 | -24 27.1 | 7.9 | 55.0 |
| | 5 | 251 59.3 | -19 8.9 | 321 42.9 | 11.0 | -24 35.1 | 7.8 | 55.0 |
| | 6 | 266 59.2 | -19 8.2 | 336 12.9 | 10.9 | -24 42.9 | 7.7 | 55.0 |
| | 7 | 281 59.0 | -19 7.6 | 350 42.9 | 10.8 | -24 50.6 | 7.6 | 55.1 |
| | 8 | 296 58.9 | -19 7.0 | 5 12.7 | 10.7 | -24 58.2 | 7.5 | 55.1 |
| | 9 | 311 58.7 | -19 6.4 | 19 42.5 | 10.6 | -25 5.7 | 7.4 | 55.1 |
| | 10 | 326 58.6 | -19 5.8 | 34 12.1 | 10.6 | -25 13.1 | 7.3 | 55.1 |
| | 11 | 341 58.4 | -19 5.2 | 48 41.7 | 10.5 | -25 20.4 | 7.2 | 55.1 |
| | 12 | 356 58.3 | -19 4.6 | 63 11.1 | 10.4 | -25 27.5 | 7.0 | 55.2 |
| | 13 | 11 58.1 | -19 4.0 | 77 40.5 | 10.3 | -25 34.6 | 6.9 | 55.2 |
| | 14 | 26 58.0 | -19 3.4 | 92 9.7 | 10.2 | -25 41.5 | 6.8 | 55.2 |
| | 15 | 41 57.8 | -19 2.8 | 106 38.9 | 10.1 | -25 48.3 | 6.7 | 55.2 |
| | 16 | 56 57.7 | -19 2.2 | 121 8.0 | 10.0 | -25 55.0 | 6.6 | 55.3 |
| | 17 | 71 57.5 | -19 1.5 | 135 37.0 | 9.9 | -26 1.5 | 6.4 | 55.3 |
| | 18 | 86 57.4 | -19 0.9 | 150 5.9 | 9.8 | -26 8.0 | 6.3 | 55.3 |
| | 19 | 101 57.2 | -19 0.3 | 164 34.7 | 9.7 | -26 14.3 | 6.2 | 55.3 |
| | 20 | 116 57.1 | -18 59.7 | 179 3.4 | 9.6 | -26 20.5 | 6.1 | 55.4 |
| | 21 | 131 57.0 | -18 59.1 | 193 32.0 | 9.5 | -26 26.5 | 5.9 | 55.4 |
| | 22 | 146 56.8 | -18 58.5 | 208 0.5 | 9.4 | -26 32.4 | 5.8 | 55.4 |
| | 23 | 161 56.7 | -18 57.9 | 222 29.0 | 9.3 | -26 38.2 | 5.7 | 55.4 |
| | | *v* -0.2 SD 16.2 *d* -0.6 | | SD 15.0 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:41 | 09:21 | ▬ | ▬ | 15:03 | 16:43 |
| 70 | 07:29 | 08:55 | 10:46 | 13:38 | 15:30 | 16:55 |
| 68 | 07:20 | 08:35 | 10:00 | 14:24 | 15:49 | 17:05 |
| 66 | 07:11 | 08:19 | 09:30 | 14:54 | 16:05 | 17:13 |
| 64 | 07:04 | 08:05 | 09:07 | 15:17 | 16:19 | 17:20 |
| 62 | 06:58 | 07:54 | 08:50 | 15:34 | 16:30 | 17:26 |
| 60 | 06:52 | 07:45 | 08:35 | 15:49 | 16:39 | 17:32 |
| 58 | 06:47 | 07:36 | 08:22 | 16:01 | 16:48 | 17:37 |
| 56 | 06:42 | 07:29 | 08:12 | 16:12 | 16:55 | 17:42 |
| 54 | 06:38 | 07:22 | 08:02 | 16:22 | 17:02 | 17:46 |
| 52 | 06:34 | 07:16 | 07:54 | 16:30 | 17:08 | 17:50 |
| 50 | 06:30 | 07:10 | 07:46 | 16:38 | 17:14 | 17:54 |
| 45 | 06:22 | 06:58 | 07:30 | 16:54 | 17:26 | 18:02 |
| 40 | 06:14 | 06:47 | 07:16 | 17:07 | 17:37 | 18:10 |
| 35 | 06:07 | 06:38 | 07:05 | 17:19 | 17:46 | 18:17 |
| 30 | 06:00 | 06:29 | 06:55 | 17:29 | 17:54 | 18:23 |
| 20 | 05:47 | 06:14 | 06:38 | 17:46 | 18:09 | 18:36 |
| 10 | 05:34 | 06:00 | 06:22 | 18:01 | 18:23 | 18:49 |
| 0 | 05:21 | 05:46 | 06:08 | 18:15 | 18:37 | 19:03 |
| -10 | 05:05 | 05:31 | 05:54 | 18:30 | 18:52 | 19:18 |
| -20 | 04:46 | 05:14 | 05:38 | 18:45 | 19:09 | 19:37 |
| -30 | 04:22 | 04:54 | 05:20 | 19:03 | 19:29 | 20:01 |
| -35 | 04:06 | 04:41 | 05:09 | 19:14 | 19:42 | 20:16 |
| -40 | 03:48 | 04:26 | 04:57 | 19:26 | 19:56 | 20:35 |
| -45 | 03:24 | 04:08 | 04:43 | 19:40 | 20:14 | 20:59 |
| -50 | 02:51 | 03:45 | 04:25 | 19:57 | 20:37 | 21:31 |
| -52 | 02:33 | 03:33 | 04:16 | 20:06 | 20:49 | 21:48 |
| -54 | 02:11 | 03:20 | 04:07 | 20:15 | 21:02 | 22:10 |
| -56 | 01:41 | 03:05 | 03:56 | 20:26 | 21:17 | 22:38 |
| -58 | 00:47 | 02:46 | 03:44 | 20:38 | 21:35 | 23:27 |
| -60 | //// | 02:23 | 03:30 | 20:52 | 21:58 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **22** | **23** | **24** | **22** | **23** | **24** |
| 72 | 04:26 | ▬ | ▬ | 07:24 | ▬ | ▬ |
| 70 | 03:36 | ▬ | ▬ | 08:16 | ▬ | ▬ |
| 68 | 03:05 | 05:42 | ▬ | 08:48 | 07:43 | ▬ |
| 66 | 02:43 | 04:45 | ▬ | 09:12 | 08:41 | ▬ |
| 64 | 02:25 | 04:12 | 06:23 | 09:31 | 09:15 | 08:43 |
| 62 | 02:10 | 03:48 | 05:35 | 09:47 | 09:40 | 09:32 |
| 60 | 01:58 | 03:29 | 05:05 | 10:00 | 10:00 | 10:03 |
| 58 | 01:48 | 03:13 | 04:42 | 10:11 | 10:16 | 10:27 |
| 56 | 01:39 | 03:00 | 04:23 | 10:21 | 10:30 | 10:46 |
| 54 | 01:31 | 02:48 | 04:07 | 10:30 | 10:43 | 11:02 |
| 52 | 01:24 | 02:38 | 03:54 | 10:37 | 10:53 | 11:15 |
| 50 | 01:17 | 02:29 | 03:42 | 10:45 | 11:03 | 11:27 |
| 45 | 01:03 | 02:10 | 03:18 | 11:00 | 11:23 | 11:53 |
| 40 | 00:52 | 01:55 | 02:59 | 11:12 | 11:39 | 12:13 |
| 35 | 00:43 | 01:42 | 02:43 | 11:23 | 11:53 | 12:30 |
| 30 | 00:34 | 01:31 | 02:29 | 11:32 | 12:06 | 12:44 |
| 20 | 00:20 | 01:11 | 02:05 | 11:49 | 12:26 | 13:09 |
| 10 | 00:07 | 00:55 | 01:45 | 12:03 | 12:45 | 13:30 |
| 0 | –:– | 00:39 | 01:27 | 12:17 | 13:02 | 13:51 |
| -10 | –:– | 00:24 | 01:08 | 12:30 | 13:19 | 14:11 |
| -20 | –:– | 00:08 | 00:48 | 12:45 | 13:37 | 14:32 |
| -30 | 23:49 | –:– | 00:25 | 13:01 | 13:58 | 14:58 |
| -35 | 23:39 | –:– | 00:12 | 13:11 | 14:11 | 15:12 |
| -40 | 23:26 | 23:56 | –:– | 13:22 | 14:25 | 15:30 |
| -45 | 23:12 | 23:38 | –:– | 13:35 | 14:43 | 15:51 |
| -50 | 22:54 | 23:16 | 23:45 | 13:51 | 15:04 | 16:17 |
| -52 | 22:46 | 23:05 | 23:32 | 13:59 | 15:14 | 16:30 |
| -54 | 22:37 | 22:53 | 23:17 | 14:08 | 15:26 | 16:45 |
| -56 | 22:27 | 22:39 | 22:59 | 14:17 | 15:39 | 17:02 |
| -58 | 22:15 | 22:23 | 22:38 | 14:28 | 15:55 | 17:23 |
| -60 | 22:02 | 22:04 | 22:10 | 14:41 | 16:13 | 17:50 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **22** | 11:29 | 11:37 | 12:12 | 06:06 | 18:28 | 22 | 49 |
| **23** | 11:45 | 11:52 | 12:12 | 06:50 | 19:14 | 23 | 39 |
| **24** | 12:00 | 12:07 | 12:12 | 07:38 | 20:04 | 24 | 30 |

## 2025 January 25, 26, 27 (Sat, Sun, Mon)

| | | Aries | Venus -4.7 | | Mars -1.3 | | Jupiter -2.6 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 25 Saturday | 0 | 124 33.3 | 132 42.2 | -2 27.5 | 9 10.0 | 25 46.5 | 54 33.3 | 21 38.6 | 136 3.0 | -7 2.3 |
| | 1 | 139 35.8 | 147 42.8 | -2 26.3 | 24 13.4 | 25 46.6 | 69 35.8 | 21 38.6 | 151 5.2 | -7 2.2 |
| | 2 | 154 38.2 | 162 43.3 | -2 25.1 | 39 16.9 | 25 46.8 | 84 38.4 | 21 38.6 | 166 7.5 | -7 2.1 |
| | 3 | 169 40.7 | 177 43.9 | -2 23.9 | 54 20.3 | 25 46.9 | 99 41.0 | 21 38.6 | 181 9.7 | -7 2.0 |
| | 4 | 184 43.2 | 192 44.4 | -2 22.8 | 69 23.8 | 25 47.1 | 114 43.5 | 21 38.6 | 196 11.9 | -7 1.9 |
| | 5 | 199 45.6 | 207 45.0 | -2 21.6 | 84 27.2 | 25 47.2 | 129 46.1 | 21 38.6 | 211 14.2 | -7 1.7 |
| | 6 | 214 48.1 | 222 45.5 | -2 20.4 | 99 30.7 | 25 47.4 | 144 48.6 | 21 38.6 | 226 16.4 | -7 1.6 |
| | 7 | 229 50.6 | 237 46.1 | -2 19.3 | 114 34.1 | 25 47.5 | 159 51.2 | 21 38.6 | 241 18.6 | -7 1.5 |
| | 8 | 244 53.0 | 252 46.7 | -2 18.1 | 129 37.6 | 25 47.6 | 174 53.7 | 21 38.6 | 256 20.8 | -7 1.4 |
| | 9 | 259 55.5 | 267 47.2 | -2 16.9 | 144 41.0 | 25 47.8 | 189 56.3 | 21 38.6 | 271 23.1 | -7 1.3 |
| | 10 | 274 58.0 | 282 47.8 | -2 15.8 | 159 44.5 | 25 47.9 | 204 58.9 | 21 38.6 | 286 25.3 | -7 1.2 |
| | 11 | 290 0.4 | 297 48.4 | -2 14.6 | 174 47.9 | 25 48.1 | 220 1.4 | 21 38.6 | 301 27.5 | -7 1.1 |
| | 12 | 305 2.9 | 312 48.9 | -2 13.4 | 189 51.4 | 25 48.2 | 235 4.0 | 21 38.6 | 316 29.7 | -7 1.0 |
| | 13 | 320 5.4 | 327 49.5 | -2 12.3 | 204 54.8 | 25 48.4 | 250 6.5 | 21 38.6 | 331 32.0 | -7 0.9 |
| | 14 | 335 7.8 | 342 50.1 | -2 11.1 | 219 58.2 | 25 48.5 | 265 9.1 | 21 38.6 | 346 34.2 | -7 0.8 |
| | 15 | 350 10.3 | 357 50.6 | -2 9.9 | 235 1.7 | 25 48.6 | 280 11.6 | 21 38.6 | 1 36.4 | -7 0.7 |
| | 16 | 5 12.7 | 12 51.2 | -2 8.8 | 250 5.1 | 25 48.8 | 295 14.2 | 21 38.6 | 16 38.6 | -7 0.6 |
| | 17 | 20 15.2 | 27 51.8 | -2 7.6 | 265 8.6 | 25 48.9 | 310 16.7 | 21 38.6 | 31 40.9 | -7 0.5 |
| | 18 | 35 17.7 | 42 52.4 | -2 6.4 | 280 12.0 | 25 49.0 | 325 19.3 | 21 38.6 | 46 43.1 | -7 0.4 |
| | 19 | 50 20.1 | 57 52.9 | -2 5.3 | 295 15.4 | 25 49.2 | 340 21.8 | 21 38.6 | 61 45.3 | -7 0.3 |
| | 20 | 65 22.6 | 72 53.5 | -2 4.1 | 310 18.9 | 25 49.3 | 355 24.4 | 21 38.6 | 76 47.6 | -7 0.2 |
| | 21 | 80 25.1 | 87 54.1 | -2 2.9 | 325 22.3 | 25 49.5 | 10 27.0 | 21 38.6 | 91 49.8 | -7 0.1 |
| | 22 | 95 27.5 | 102 54.7 | -2 1.8 | 340 25.8 | 25 49.6 | 25 29.5 | 21 38.6 | 106 52.0 | -7 0.0 |
| | 23 | 110 30.0 | 117 55.3 | -2 0.6 | 355 29.2 | 25 49.7 | 40 32.1 | 21 38.5 | 121 54.2 | -6 59.9 |
| | | MP 15:40 | *v* 0.6 | *d* -1.2 | *v* 3.5 | *d* 0.1 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 Sunday | 0 | 125 32.5 | 132 55.8 | -1 59.4 | 10 32.6 | 25 49.9 | 55 34.6 | 21 38.5 | 136 56.5 | -6 59.8 |
| | 1 | 140 34.9 | 147 56.4 | -1 58.3 | 25 36.1 | 25 50.0 | 70 37.2 | 21 38.5 | 151 58.7 | -6 59.7 |
| | 2 | 155 37.4 | 162 57.0 | -1 57.1 | 40 39.5 | 25 50.1 | 85 39.7 | 21 38.5 | 167 0.9 | -6 59.6 |
| | 3 | 170 39.9 | 177 57.6 | -1 55.9 | 55 42.9 | 25 50.3 | 100 42.3 | 21 38.5 | 182 3.1 | -6 59.5 |
| | 4 | 185 42.3 | 192 58.2 | -1 54.8 | 70 46.4 | 25 50.4 | 115 44.8 | 21 38.5 | 197 5.4 | -6 59.4 |
| | 5 | 200 44.8 | 207 58.8 | -1 53.6 | 85 49.8 | 25 50.5 | 130 47.4 | 21 38.5 | 212 7.6 | -6 59.3 |
| | 6 | 215 47.2 | 222 59.4 | -1 52.4 | 100 53.2 | 25 50.7 | 145 49.9 | 21 38.5 | 227 9.8 | -6 59.2 |
| | 7 | 230 49.7 | 238 0.0 | -1 51.3 | 115 56.6 | 25 50.8 | 160 52.5 | 21 38.5 | 242 12.0 | -6 59.0 |
| | 8 | 245 52.2 | 253 0.6 | -1 50.1 | 131 0.1 | 25 50.9 | 175 55.0 | 21 38.5 | 257 14.3 | -6 58.9 |
| | 9 | 260 54.6 | 268 1.2 | -1 48.9 | 146 3.5 | 25 51.1 | 190 57.6 | 21 38.5 | 272 16.5 | -6 58.8 |
| | 10 | 275 57.1 | 283 1.7 | -1 47.8 | 161 6.9 | 25 51.2 | 206 0.1 | 21 38.5 | 287 18.7 | -6 58.7 |
| | 11 | 290 59.6 | 298 2.3 | -1 46.6 | 176 10.3 | 25 51.3 | 221 2.6 | 21 38.5 | 302 20.9 | -6 58.6 |
| | 12 | 306 2.0 | 313 2.9 | -1 45.4 | 191 13.8 | 25 51.5 | 236 5.2 | 21 38.5 | 317 23.2 | -6 58.5 |
| | 13 | 321 4.5 | 328 3.5 | -1 44.3 | 206 17.2 | 25 51.6 | 251 7.7 | 21 38.5 | 332 25.4 | -6 58.4 |
| | 14 | 336 7.0 | 343 4.1 | -1 43.1 | 221 20.6 | 25 51.7 | 266 10.3 | 21 38.5 | 347 27.6 | -6 58.3 |
| | 15 | 351 9.4 | 358 4.7 | -1 42.0 | 236 24.0 | 25 51.9 | 281 12.8 | 21 38.5 | 2 29.8 | -6 58.2 |
| | 16 | 6 11.9 | 13 5.4 | -1 40.8 | 251 27.5 | 25 52.0 | 296 15.4 | 21 38.5 | 17 32.0 | -6 58.1 |
| | 17 | 21 14.4 | 28 6.0 | -1 39.6 | 266 30.9 | 25 52.1 | 311 17.9 | 21 38.5 | 32 34.3 | -6 58.0 |
| | 18 | 36 16.8 | 43 6.6 | -1 38.5 | 281 34.3 | 25 52.2 | 326 20.5 | 21 38.5 | 47 36.5 | -6 57.9 |
| | 19 | 51 19.3 | 58 7.2 | -1 37.3 | 296 37.7 | 25 52.4 | 341 23.0 | 21 38.5 | 62 38.7 | -6 57.8 |
| | 20 | 66 21.7 | 73 7.8 | -1 36.1 | 311 41.1 | 25 52.5 | 356 25.6 | 21 38.5 | 77 40.9 | -6 57.7 |
| | 21 | 81 24.2 | 88 8.4 | -1 35.0 | 326 44.5 | 25 52.6 | 11 28.1 | 21 38.5 | 92 43.2 | -6 57.6 |
| | 22 | 96 26.7 | 103 9.0 | -1 33.8 | 341 48.0 | 25 52.7 | 26 30.6 | 21 38.5 | 107 45.4 | -6 57.5 |
| | 23 | 111 29.1 | 118 9.6 | -1 32.7 | 356 51.4 | 25 52.9 | 41 33.2 | 21 38.5 | 122 47.6 | -6 57.4 |
| | | MP 15:37 | *v* 0.6 | *d* -1.2 | *v* 3.4 | *d* 0.1 | *v* 2.6 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 Monday | 0 | 126 31.6 | 133 10.2 | -1 31.5 | 11 54.8 | 25 53.0 | 56 35.7 | 21 38.5 | 137 49.8 | -6 57.3 |
| | 1 | 141 34.1 | 148 10.9 | -1 30.3 | 26 58.2 | 25 53.1 | 71 38.3 | 21 38.5 | 152 52.1 | -6 57.2 |
| | 2 | 156 36.5 | 163 11.5 | -1 29.2 | 42 1.6 | 25 53.2 | 86 40.8 | 21 38.5 | 167 54.3 | -6 57.1 |
| | 3 | 171 39.0 | 178 12.1 | -1 28.0 | 57 5.0 | 25 53.4 | 101 43.3 | 21 38.5 | 182 56.5 | -6 57.0 |
| | 4 | 186 41.5 | 193 12.7 | -1 26.9 | 72 8.4 | 25 53.5 | 116 45.9 | 21 38.5 | 197 58.7 | -6 56.9 |
| | 5 | 201 43.9 | 208 13.3 | -1 25.7 | 87 11.8 | 25 53.6 | 131 48.4 | 21 38.5 | 213 1.0 | -6 56.7 |
| | 6 | 216 46.4 | 223 14.0 | -1 24.5 | 102 15.2 | 25 53.7 | 146 51.0 | 21 38.5 | 228 3.2 | -6 56.6 |
| | 7 | 231 48.9 | 238 14.6 | -1 23.4 | 117 18.6 | 25 53.9 | 161 53.5 | 21 38.5 | 243 5.4 | -6 56.5 |
| | 8 | 246 51.3 | 253 15.2 | -1 22.2 | 132 22.1 | 25 54.0 | 176 56.0 | 21 38.5 | 258 7.6 | -6 56.4 |
| | 9 | 261 53.8 | 268 15.8 | -1 21.1 | 147 25.5 | 25 54.1 | 191 58.6 | 21 38.5 | 273 9.8 | -6 56.3 |
| | 10 | 276 56.2 | 283 16.5 | -1 19.9 | 162 28.9 | 25 54.2 | 207 1.1 | 21 38.5 | 288 12.1 | -6 56.2 |
| | 11 | 291 58.7 | 298 17.1 | -1 18.7 | 177 32.3 | 25 54.4 | 222 3.7 | 21 38.5 | 303 14.3 | -6 56.1 |
| | 12 | 307 1.2 | 313 17.7 | -1 17.6 | 192 35.7 | 25 54.5 | 237 6.2 | 21 38.5 | 318 16.5 | -6 56.0 |
| | 13 | 322 3.6 | 328 18.4 | -1 16.4 | 207 39.1 | 25 54.6 | 252 8.7 | 21 38.5 | 333 18.7 | -6 55.9 |
| | 14 | 337 6.1 | 343 19.0 | -1 15.3 | 222 42.5 | 25 54.7 | 267 11.3 | 21 38.5 | 348 21.0 | -6 55.8 |
| | 15 | 352 8.6 | 358 19.6 | -1 14.1 | 237 45.9 | 25 54.8 | 282 13.8 | 21 38.5 | 3 23.2 | -6 55.7 |
| | 16 | 7 11.0 | 13 20.3 | -1 13.0 | 252 49.3 | 25 55.0 | 297 16.3 | 21 38.5 | 18 25.4 | -6 55.6 |
| | 17 | 22 13.5 | 28 20.9 | -1 11.8 | 267 52.7 | 25 55.1 | 312 18.9 | 21 38.5 | 33 27.6 | -6 55.5 |
| | 18 | 37 16.0 | 43 21.5 | -1 10.6 | 282 56.1 | 25 55.2 | 327 21.4 | 21 38.5 | 48 29.8 | -6 55.4 |
| | 19 | 52 18.4 | 58 22.2 | -1 9.5 | 297 59.5 | 25 55.3 | 342 24.0 | 21 38.5 | 63 32.1 | -6 55.3 |
| | 20 | 67 20.9 | 73 22.8 | -1 8.3 | 313 2.8 | 25 55.4 | 357 26.5 | 21 38.5 | 78 34.3 | -6 55.2 |
| | 21 | 82 23.4 | 88 23.5 | -1 7.2 | 328 6.2 | 25 55.6 | 12 29.0 | 21 38.5 | 93 36.5 | -6 55.1 |
| | 22 | 97 25.8 | 103 24.1 | -1 6.0 | 343 9.6 | 25 55.7 | 27 31.6 | 21 38.5 | 108 38.7 | -6 55.0 |
| | 23 | 112 28.3 | 118 24.8 | -1 4.9 | 358 13.0 | 25 55.8 | 42 34.1 | 21 38.5 | 123 41.0 | -6 54.9 |
| | | MP 15:33 | *v* 0.6 | *d* -1.2 | *v* 3.4 | *d* 0.1 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 12.5 |
| Achernar | 335 20.2 | -57 6.9 |
| Acrux | 172 59.8 | -63 14.1 |
| Adhara | 255 5.5 | -29 0.4 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.7 | 55 49.1 |
| Alkaid | 152 51.9 | 49 11.0 |
| Alnair | 27 33.3 | -46 50.5 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.1 |
| Alphecca | 126 3.8 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.8 |
| Altair | 62 0.2 | 8 56.0 |
| Ankaa | 353 7.3 | -42 10.4 |
| Antares | 112 16.0 | -26 29.2 |
| Arcturus | 145 47.9 | 19 2.9 |
| Atria | 107 10.6 | -69 4.1 |
| Avior | 234 14.1 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.9 | -52 42.6 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.3 | 45 22.1 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.4 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.8 |
| Eltanin | 90 42.6 | 51 28.9 |
| Enif | 33 39.1 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.4 | -57 15.0 |
| Gienah | 175 43.4 | -17 40.9 |
| Hadar | 148 36.0 | -60 29.4 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.8 | -34 22.3 |
| Kochab | 137 20.0 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.3 |
| Menkent | 147 57.6 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.1 |
| Mirfak | 308 28.0 | 49 57.2 |
| Nunki | 75 48.1 | -26 16.0 |
| Peacock | 53 6.2 | -56 39.3 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.8 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.3 | -60 56.1 |
| Sabik | 102 3.0 | -15 45.4 |
| Schedar | 349 31.2 | 56 40.7 |
| Shaula | 96 10.6 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.2 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.0 |
| Vega | 80 33.6 | 38 48.2 |
| Zuben'ubi | 136 56.0 | -16 8.8 |

| 25 Sat | SHA | MP |
|---|---|---|
| Venus | 8 8.9 | 15:09 |
| Mars | 244 36.7 | 23:18 |
| Jupiter | 290 0.0 | 20:18 |
| Saturn | 11 29.7 | 14:54 |

| 26 Sun | SHA | MP |
|---|---|---|
| Venus | 7 23.4 | 15:08 |
| Mars | 245 0.2 | 23:13 |
| Jupiter | 290 2.1 | 20:14 |
| Saturn | 11 24.0 | 14:50 |

| 27 Mon | SHA | MP |
|---|---|---|
| Venus | 6 38.6 | 15:07 |
| Mars | 245 23.2 | 23:07 |
| Jupiter | 290 4.1 | 20:10 |
| Saturn | 11 18.2 | 14:46 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **25 Saturday** | 0 | 176 56.5 | -18 57.2 | 236 57.3 | 9.3 | -26 43.9 | 5.5 | 55.5 |
| | 1 | 191 56.4 | -18 56.6 | 251 25.5 | 9.2 | -26 49.5 | 5.4 | 55.5 |
| | 2 | 206 56.2 | -18 56.0 | 265 53.7 | 9.1 | -26 54.9 | 5.3 | 55.5 |
| | 3 | 221 56.1 | -18 55.4 | 280 21.8 | 9.0 | -27 0.1 | 5.1 | 55.5 |
| | 4 | 236 55.9 | -18 54.8 | 294 49.8 | 8.9 | -27 5.3 | 5.0 | 55.6 |
| | 5 | 251 55.8 | -18 54.1 | 309 17.7 | 8.8 | -27 10.3 | 4.9 | 55.6 |
| | 6 | 266 55.7 | -18 53.5 | 323 45.5 | 8.7 | -27 15.1 | 4.7 | 55.6 |
| | 7 | 281 55.5 | -18 52.9 | 338 13.2 | 8.6 | -27 19.9 | 4.6 | 55.6 |
| | 8 | 296 55.4 | -18 52.3 | 352 40.8 | 8.6 | -27 24.5 | 4.5 | 55.7 |
| | 9 | 311 55.2 | -18 51.7 | 7 8.4 | 8.5 | -27 28.9 | 4.3 | 55.7 |
| | 10 | 326 55.1 | -18 51.0 | 21 35.9 | 8.4 | -27 33.2 | 4.2 | 55.7 |
| | 11 | 341 55.0 | -18 50.4 | 36 3.3 | 8.3 | -27 37.4 | 4.0 | 55.7 |
| | 12 | 356 54.8 | -18 49.8 | 50 30.6 | 8.2 | -27 41.4 | 3.9 | 55.8 |
| | 13 | 11 54.7 | -18 49.2 | 64 57.8 | 8.2 | -27 45.3 | 3.7 | 55.8 |
| | 14 | 26 54.5 | -18 48.5 | 79 25.0 | 8.1 | -27 49.0 | 3.6 | 55.8 |
| | 15 | 41 54.4 | -18 47.9 | 93 52.0 | 8.0 | -27 52.6 | 3.4 | 55.9 |
| | 16 | 56 54.3 | -18 47.3 | 108 19.0 | 7.9 | -27 56.1 | 3.3 | 55.9 |
| | 17 | 71 54.1 | -18 46.7 | 122 45.9 | 7.8 | -27 59.4 | 3.1 | 55.9 |
| | 18 | 86 54.0 | -18 46.0 | 137 12.8 | 7.8 | -28 2.5 | 3.0 | 55.9 |
| | 19 | 101 53.8 | -18 45.4 | 151 39.6 | 7.7 | -28 5.5 | 2.8 | 56.0 |
| | 20 | 116 53.7 | -18 44.8 | 166 6.3 | 7.6 | -28 8.3 | 2.7 | 56.0 |
| | 21 | 131 53.6 | -18 44.1 | 180 32.9 | 7.6 | -28 11.0 | 2.5 | 56.0 |
| | 22 | 146 53.4 | -18 43.5 | 194 59.5 | 7.5 | -28 13.6 | 2.4 | 56.1 |
| | 23 | 161 53.3 | -18 42.9 | 209 26.0 | 7.4 | -28 15.9 | 2.2 | 56.1 |
| | | *v* -0.1 | SD 16.2 | *d* -0.6 | | SD 15.1 | | |
| **26 Sunday** | 0 | 176 53.2 | -18 42.2 | 223 52.4 | 7.4 | -28 18.2 | 2.1 | 56.1 |
| | 1 | 191 53.0 | -18 41.6 | 238 18.7 | 7.3 | -28 20.2 | 1.9 | 56.1 |
| | 2 | 206 52.9 | -18 41.0 | 252 45.0 | 7.2 | -28 22.2 | 1.8 | 56.2 |
| | 3 | 221 52.8 | -18 40.4 | 267 11.3 | 7.2 | -28 23.9 | 1.6 | 56.2 |
| | 4 | 236 52.6 | -18 39.7 | 281 37.5 | 7.1 | -28 25.5 | 1.4 | 56.2 |
| | 5 | 251 52.5 | -18 39.1 | 296 3.6 | 7.1 | -28 26.9 | 1.3 | 56.3 |
| | 6 | 266 52.4 | -18 38.4 | 310 29.6 | 7.0 | -28 28.2 | 1.1 | 56.3 |
| | 7 | 281 52.2 | -18 37.8 | 324 55.7 | 7.0 | -28 29.3 | 1.0 | 56.3 |
| | 8 | 296 52.1 | -18 37.2 | 339 21.6 | 6.9 | -28 30.3 | 0.8 | 56.3 |
| | 9 | 311 52.0 | -18 36.5 | 353 47.5 | 6.9 | -28 31.1 | 0.6 | 56.4 |
| | 10 | 326 51.8 | -18 35.9 | 8 13.4 | 6.8 | -28 31.7 | 0.5 | 56.4 |
| | 11 | 341 51.7 | -18 35.3 | 22 39.2 | 6.8 | -28 32.2 | 0.3 | 56.4 |
| | 12 | 356 51.6 | -18 34.6 | 37 4.9 | 6.7 | -28 32.5 | 0.1 | 56.5 |
| | 13 | 11 51.4 | -18 34.0 | 51 30.6 | 6.7 | -28 32.6 | 0.0 | 56.5 |
| | 14 | 26 51.3 | -18 33.3 | 65 56.3 | 6.6 | -28 32.6 | -0.2 | 56.5 |
| | 15 | 41 51.2 | -18 32.7 | 80 21.9 | 6.6 | -28 32.4 | -0.4 | 56.6 |
| | 16 | 56 51.0 | -18 32.1 | 94 47.5 | 6.5 | -28 32.1 | -0.5 | 56.6 |
| | 17 | 71 50.9 | -18 31.4 | 109 13.1 | 6.5 | -28 31.5 | -0.7 | 56.6 |
| | 18 | 86 50.8 | -18 30.8 | 123 38.6 | 6.5 | -28 30.8 | -0.9 | 56.6 |
| | 19 | 101 50.6 | -18 30.1 | 138 4.1 | 6.4 | -28 30.0 | -1.0 | 56.7 |
| | 20 | 116 50.5 | -18 29.5 | 152 29.5 | 6.4 | -28 29.0 | -1.2 | 56.7 |
| | 21 | 131 50.4 | -18 28.9 | 166 54.9 | 6.4 | -28 27.8 | -1.4 | 56.7 |
| | 22 | 146 50.3 | -18 28.2 | 181 20.3 | 6.4 | -28 26.4 | -1.5 | 56.8 |
| | 23 | 161 50.1 | -18 27.6 | 195 45.7 | 6.3 | -28 24.9 | -1.7 | 56.8 |
| | | *v* -0.1 | SD 16.2 | *d* -0.6 | | SD 15.3 | | |
| **27 Monday** | 0 | 176 50.0 | -18 26.9 | 210 11.0 | 6.3 | -28 23.2 | -1.9 | 56.8 |
| | 1 | 191 49.9 | -18 26.3 | 224 36.3 | 6.3 | -28 21.3 | -2.0 | 56.9 |
| | 2 | 206 49.8 | -18 25.6 | 239 1.6 | 6.3 | -28 19.2 | -2.2 | 56.9 |
| | 3 | 221 49.6 | -18 25.0 | 253 26.9 | 6.3 | -28 17.0 | -2.4 | 56.9 |
| | 4 | 236 49.5 | -18 24.3 | 267 52.2 | 6.2 | -28 14.6 | -2.6 | 57.0 |
| | 5 | 251 49.4 | -18 23.7 | 282 17.4 | 6.2 | -28 12.1 | -2.7 | 57.0 |
| | 6 | 266 49.2 | -18 23.0 | 296 42.7 | 6.2 | -28 9.3 | -2.9 | 57.0 |
| | 7 | 281 49.1 | -18 22.4 | 311 7.9 | 6.2 | -28 6.4 | -3.1 | 57.0 |
| | 8 | 296 49.0 | -18 21.7 | 325 33.1 | 6.2 | -28 3.4 | -3.2 | 57.1 |
| | 9 | 311 48.9 | -18 21.1 | 339 58.3 | 6.2 | -28 0.1 | -3.4 | 57.1 |
| | 10 | 326 48.8 | -18 20.4 | 354 23.5 | 6.2 | -27 56.7 | -3.6 | 57.1 |
| | 11 | 341 48.6 | -18 19.8 | 8 48.7 | 6.2 | -27 53.1 | -3.8 | 57.2 |
| | 12 | 356 48.5 | -18 19.1 | 23 13.9 | 6.2 | -27 49.3 | -3.9 | 57.2 |
| | 13 | 11 48.4 | -18 18.5 | 37 39.2 | 6.2 | -27 45.4 | -4.1 | 57.2 |
| | 14 | 26 48.3 | -18 17.8 | 52 4.4 | 6.2 | -27 41.3 | -4.3 | 57.3 |
| | 15 | 41 48.1 | -18 17.2 | 66 29.6 | 6.2 | -27 37.0 | -4.4 | 57.3 |
| | 16 | 56 48.0 | -18 16.5 | 80 54.8 | 6.2 | -27 32.6 | -4.6 | 57.3 |
| | 17 | 71 47.9 | -18 15.9 | 95 20.0 | 6.2 | -27 28.0 | -4.8 | 57.4 |
| | 18 | 86 47.8 | -18 15.2 | 109 45.3 | 6.3 | -27 23.2 | -5.0 | 57.4 |
| | 19 | 101 47.6 | -18 14.5 | 124 10.5 | 6.3 | -27 18.2 | -5.1 | 57.4 |
| | 20 | 116 47.5 | -18 13.9 | 138 35.8 | 6.3 | -27 13.1 | -5.3 | 57.4 |
| | 21 | 131 47.4 | -18 13.2 | 153 1.1 | 6.3 | -27 7.8 | -5.5 | 57.5 |
| | 22 | 146 47.3 | -18 12.6 | 167 26.4 | 6.3 | -27 2.3 | -5.6 | 57.5 |
| | 23 | 161 47.2 | -18 11.9 | 181 51.7 | 6.3 | -26 56.7 | -5.8 | 57.5 |
| | | *v* -0.1 | SD 16.2 | *d* -0.6 | | SD 15.5 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:32 | 09:08 | 12:08 | 12:17 | 15:18 | 16:54 |
| 70 | 07:21 | 08:44 | 10:25 | 14:00 | 15:41 | 17:04 |
| 68 | 07:13 | 08:26 | 09:46 | 14:39 | 16:00 | 17:13 |
| 66 | 07:05 | 08:11 | 09:20 | 15:06 | 16:14 | 17:21 |
| 64 | 06:58 | 07:59 | 08:59 | 15:26 | 16:27 | 17:27 |
| 62 | 06:53 | 07:49 | 08:43 | 15:43 | 16:37 | 17:33 |
| 60 | 06:48 | 07:39 | 08:29 | 15:57 | 16:46 | 17:38 |
| 58 | 06:43 | 07:32 | 08:17 | 16:08 | 16:54 | 17:43 |
| 56 | 06:39 | 07:24 | 08:07 | 16:18 | 17:01 | 17:47 |
| 54 | 06:35 | 07:18 | 07:58 | 16:27 | 17:07 | 17:51 |
| 52 | 06:31 | 07:12 | 07:50 | 16:35 | 17:13 | 17:54 |
| 50 | 06:27 | 07:07 | 07:43 | 16:43 | 17:18 | 17:58 |
| 45 | 06:20 | 06:55 | 07:27 | 16:58 | 17:30 | 18:06 |
| 40 | 06:12 | 06:45 | 07:14 | 17:11 | 17:40 | 18:13 |
| 35 | 06:06 | 06:36 | 07:03 | 17:22 | 17:49 | 18:19 |
| 30 | 05:59 | 06:28 | 06:54 | 17:31 | 17:57 | 18:26 |
| 20 | 05:47 | 06:14 | 06:37 | 17:48 | 18:11 | 18:38 |
| 10 | 05:35 | 06:00 | 06:23 | 18:02 | 18:24 | 18:50 |
| 0 | 05:22 | 05:47 | 06:09 | 18:16 | 18:38 | 19:03 |
| -10 | 05:06 | 05:33 | 05:55 | 18:30 | 18:52 | 19:18 |
| -20 | 04:48 | 05:16 | 05:40 | 18:45 | 19:08 | 19:36 |
| -30 | 04:25 | 04:56 | 05:23 | 19:02 | 19:28 | 19:59 |
| -35 | 04:10 | 04:44 | 05:12 | 19:12 | 19:40 | 20:14 |
| -40 | 03:52 | 04:30 | 05:01 | 19:23 | 19:54 | 20:32 |
| -45 | 03:29 | 04:13 | 04:47 | 19:37 | 20:11 | 20:54 |
| -50 | 02:58 | 03:50 | 04:30 | 19:54 | 20:33 | 21:25 |
| -52 | 02:41 | 03:40 | 04:22 | 20:02 | 20:44 | 21:41 |
| -54 | 02:21 | 03:27 | 04:13 | 20:11 | 20:56 | 22:01 |
| -56 | 01:55 | 03:13 | 04:03 | 20:21 | 21:10 | 22:26 |
| -58 | 01:14 | 02:55 | 03:51 | 20:32 | 21:27 | 23:04 |
| -60 | //// | 02:34 | 03:38 | 20:45 | 21:48 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **25** | **26** | **27** | **25** | **26** | **27** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | | | | |
| 62 | 07:41 | | | 09:14 | | |
| 60 | 06:42 | 08:07 | 08:51 | 10:13 | 10:44 | 12:00 |
| 58 | 06:09 | 07:24 | 08:14 | 10:46 | 11:26 | 12:37 |
| 56 | 05:45 | 06:56 | 07:48 | 11:11 | 11:55 | 13:03 |
| 54 | 05:25 | 06:34 | 07:27 | 11:31 | 12:17 | 13:23 |
| 52 | 05:09 | 06:16 | 07:10 | 11:48 | 12:35 | 13:41 |
| 50 | 04:54 | 06:00 | 06:55 | 12:02 | 12:51 | 13:56 |
| 45 | 04:26 | 05:29 | 06:24 | 12:31 | 13:22 | 14:25 |
| 40 | 04:03 | 05:05 | 06:01 | 12:54 | 13:46 | 14:49 |
| 35 | 03:45 | 04:45 | 05:41 | 13:13 | 14:06 | 15:08 |
| 30 | 03:29 | 04:28 | 05:25 | 13:30 | 14:23 | 15:24 |
| 20 | 03:02 | 04:00 | 04:56 | 13:57 | 14:52 | 15:52 |
| 10 | 02:39 | 03:35 | 04:32 | 14:21 | 15:17 | 16:15 |
| 0 | 02:18 | 03:12 | 04:09 | 14:43 | 15:39 | 16:37 |
| -10 | 01:56 | 02:50 | 03:47 | 15:06 | 16:02 | 16:59 |
| -20 | 01:33 | 02:25 | 03:23 | 15:30 | 16:27 | 17:22 |
| -30 | 01:07 | 01:57 | 02:54 | 15:57 | 16:55 | 17:50 |
| -35 | 00:52 | 01:40 | 02:37 | 16:14 | 17:12 | 18:05 |
| -40 | 00:34 | 01:21 | 02:18 | 16:33 | 17:32 | 18:24 |
| -45 | 00:12 | 00:57 | 01:54 | 16:56 | 17:56 | 18:46 |
| -50 | −:− | 00:27 | 01:24 | 17:26 | 18:27 | 19:14 |
| -52 | −:− | 00:12 | 01:08 | 17:41 | 18:42 | 19:28 |
| -54 | 23:54 | −:− | 00:51 | 17:58 | 19:00 | 19:44 |
| -56 | 23:33 | −:− | 00:29 | 18:19 | 19:21 | 20:03 |
| -58 | 23:07 | −:− | 00:02 | 18:45 | 19:49 | 20:26 |
| -60 | 22:30 | 23:23 | −:− | 19:22 | 20:28 | 20:56 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **25** | 12:14 | 12:21 | 12:12 | 08:30 | 20:58 | 25 | 21 |
| **26** | 12:27 | 12:34 | 12:13 | 09:26 | 21:54 | 26 | 14 |
| **27** | 12:40 | 12:46 | 12:13 | 10:23 | 22:52 | 27 | 7 |

## 2025 January 28, 29, 30 (Tue, Wed, Thu)

| | | Aries | Venus -4.7 | | Mars -1.2 | | Jupiter -2.6 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 28 Tuesday | 0 | 127 30.7 | 133 25.4 | -1 3.7 | 13 16.4 | 25 55.9 | 57 36.6 | 21 38.5 | 138 43.2 | -6 54.7 |
| | 1 | 142 33.2 | 148 26.1 | -1 2.6 | 28 19.8 | 25 56.0 | 72 39.2 | 21 38.5 | 153 45.4 | -6 54.6 |
| | 2 | 157 35.7 | 163 26.7 | -1 1.4 | 43 23.2 | 25 56.1 | 87 41.7 | 21 38.5 | 168 47.6 | -6 54.5 |
| | 3 | 172 38.1 | 178 27.4 | -1 0.2 | 58 26.6 | 25 56.2 | 102 44.2 | 21 38.5 | 183 49.8 | -6 54.4 |
| | 4 | 187 40.6 | 193 28.0 | -0 59.1 | 73 30.0 | 25 56.4 | 117 46.8 | 21 38.5 | 198 52.1 | -6 54.3 |
| | 5 | 202 43.1 | 208 28.7 | -0 57.9 | 88 33.3 | 25 56.5 | 132 49.3 | 21 38.5 | 213 54.3 | -6 54.2 |
| | 6 | 217 45.5 | 223 29.3 | -0 56.8 | 103 36.7 | 25 56.6 | 147 51.8 | 21 38.5 | 228 56.5 | -6 54.1 |
| | 7 | 232 48.0 | 238 30.0 | -0 55.6 | 118 40.1 | 25 56.7 | 162 54.3 | 21 38.5 | 243 58.7 | -6 54.0 |
| | 8 | 247 50.5 | 253 30.6 | -0 54.5 | 133 43.5 | 25 56.8 | 177 56.9 | 21 38.5 | 259 0.9 | -6 53.9 |
| | 9 | 262 52.9 | 268 31.3 | -0 53.3 | 148 46.9 | 25 56.9 | 192 59.4 | 21 38.5 | 274 3.2 | -6 53.8 |
| | 10 | 277 55.4 | 283 32.0 | -0 52.2 | 163 50.3 | 25 57.0 | 208 1.9 | 21 38.5 | 289 5.4 | -6 53.7 |
| | 11 | 292 57.9 | 298 32.6 | -0 51.0 | 178 53.6 | 25 57.2 | 223 4.5 | 21 38.5 | 304 7.6 | -6 53.6 |
| | 12 | 308 0.3 | 313 33.3 | -0 49.9 | 193 57.0 | 25 57.3 | 238 7.0 | 21 38.5 | 319 9.8 | -6 53.5 |
| | 13 | 323 2.8 | 328 33.9 | -0 48.7 | 209 0.4 | 25 57.4 | 253 9.5 | 21 38.5 | 334 12.0 | -6 53.4 |
| | 14 | 338 5.2 | 343 34.6 | -0 47.6 | 224 3.8 | 25 57.5 | 268 12.1 | 21 38.5 | 349 14.3 | -6 53.3 |
| | 15 | 353 7.7 | 358 35.3 | -0 46.4 | 239 7.1 | 25 57.6 | 283 14.6 | 21 38.5 | 4 16.5 | -6 53.2 |
| | 16 | 8 10.2 | 13 36.0 | -0 45.3 | 254 10.5 | 25 57.7 | 298 17.1 | 21 38.5 | 19 18.7 | -6 53.1 |
| | 17 | 23 12.6 | 28 36.6 | -0 44.1 | 269 13.9 | 25 57.8 | 313 19.6 | 21 38.5 | 34 20.9 | -6 52.9 |
| | 18 | 38 15.1 | 43 37.3 | -0 43.0 | 284 17.3 | 25 57.9 | 328 22.2 | 21 38.5 | 49 23.2 | -6 52.8 |
| | 19 | 53 17.6 | 58 38.0 | -0 41.8 | 299 20.6 | 25 58.0 | 343 24.7 | 21 38.5 | 64 25.4 | -6 52.7 |
| | 20 | 68 20.0 | 73 38.7 | -0 40.7 | 314 24.0 | 25 58.1 | 358 27.2 | 21 38.5 | 79 27.6 | -6 52.6 |
| | 21 | 83 22.5 | 88 39.3 | -0 39.5 | 329 27.4 | 25 58.3 | 13 29.7 | 21 38.5 | 94 29.8 | -6 52.5 |
| | 22 | 98 25.0 | 103 40.0 | -0 38.4 | 344 30.7 | 25 58.4 | 28 32.3 | 21 38.5 | 109 32.0 | -6 52.4 |
| | 23 | 113 27.4 | 118 40.7 | -0 37.2 | 359 34.1 | 25 58.5 | 43 34.8 | 21 38.5 | 124 34.2 | -6 52.3 |
| | | MP 15:29 | *v* 0.6 | *d* -1.2 | *v* 3.4 | *d* 0.1 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 Wednesday | 0 | 128 29.9 | 133 41.4 | -0 36.1 | 14 37.5 | 25 58.6 | 58 37.3 | 21 38.5 | 139 36.5 | -6 52.2 |
| | 1 | 143 32.3 | 148 42.1 | -0 34.9 | 29 40.8 | 25 58.7 | 73 39.8 | 21 38.5 | 154 38.7 | -6 52.1 |
| | 2 | 158 34.8 | 163 42.7 | -0 33.8 | 44 44.2 | 25 58.8 | 88 42.4 | 21 38.5 | 169 40.9 | -6 52.0 |
| | 3 | 173 37.3 | 178 43.4 | -0 32.6 | 59 47.6 | 25 58.9 | 103 44.9 | 21 38.5 | 184 43.1 | -6 51.9 |
| | 4 | 188 39.7 | 193 44.1 | -0 31.5 | 74 50.9 | 25 59.0 | 118 47.4 | 21 38.5 | 199 45.3 | -6 51.8 |
| | 5 | 203 42.2 | 208 44.8 | -0 30.3 | 89 54.3 | 25 59.1 | 133 49.9 | 21 38.5 | 214 47.6 | -6 51.7 |
| | 6 | 218 44.7 | 223 45.5 | -0 29.2 | 104 57.6 | 25 59.2 | 148 52.4 | 21 38.5 | 229 49.8 | -6 51.6 |
| | 7 | 233 47.1 | 238 46.2 | -0 28.0 | 120 1.0 | 25 59.3 | 163 55.0 | 21 38.5 | 244 52.0 | -6 51.5 |
| | 8 | 248 49.6 | 253 46.9 | -0 26.9 | 135 4.3 | 25 59.4 | 178 57.5 | 21 38.5 | 259 54.2 | -6 51.3 |
| | 9 | 263 52.1 | 268 47.6 | -0 25.7 | 150 7.7 | 25 59.5 | 194 0.0 | 21 38.5 | 274 56.4 | -6 51.2 |
| | 10 | 278 54.5 | 283 48.3 | -0 24.6 | 165 11.1 | 25 59.6 | 209 2.5 | 21 38.5 | 289 58.7 | -6 51.1 |
| | 11 | 293 57.0 | 298 49.0 | -0 23.4 | 180 14.4 | 25 59.7 | 224 5.1 | 21 38.5 | 305 0.9 | -6 51.0 |
| | 12 | 308 59.5 | 313 49.7 | -0 22.3 | 195 17.8 | 25 59.8 | 239 7.6 | 21 38.5 | 320 3.1 | -6 50.9 |
| | 13 | 324 1.9 | 328 50.4 | -0 21.1 | 210 21.1 | 25 59.9 | 254 10.1 | 21 38.6 | 335 5.3 | -6 50.8 |
| | 14 | 339 4.4 | 343 51.1 | -0 20.0 | 225 24.5 | 26 0.0 | 269 12.6 | 21 38.6 | 350 7.5 | -6 50.7 |
| | 15 | 354 6.8 | 358 51.8 | -0 18.9 | 240 27.8 | 26 0.1 | 284 15.1 | 21 38.6 | 5 9.8 | -6 50.6 |
| | 16 | 9 9.3 | 13 52.5 | -0 17.7 | 255 31.2 | 26 0.2 | 299 17.6 | 21 38.6 | 20 12.0 | -6 50.5 |
| | 17 | 24 11.8 | 28 53.2 | -0 16.6 | 270 34.5 | 26 0.3 | 314 20.2 | 21 38.6 | 35 14.2 | -6 50.4 |
| | 18 | 39 14.2 | 43 53.9 | -0 15.4 | 285 37.9 | 26 0.4 | 329 22.7 | 21 38.6 | 50 16.4 | -6 50.3 |
| | 19 | 54 16.7 | 58 54.6 | -0 14.3 | 300 41.2 | 26 0.5 | 344 25.2 | 21 38.6 | 65 18.6 | -6 50.2 |
| | 20 | 69 19.2 | 73 55.3 | -0 13.1 | 315 44.5 | 26 0.6 | 359 27.7 | 21 38.6 | 80 20.8 | -6 50.1 |
| | 21 | 84 21.6 | 88 56.0 | -0 12.0 | 330 47.9 | 26 0.7 | 14 30.2 | 21 38.6 | 95 23.1 | -6 50.0 |
| | 22 | 99 24.1 | 103 56.7 | -0 10.9 | 345 51.2 | 26 0.8 | 29 32.7 | 21 38.6 | 110 25.3 | -6 49.9 |
| | 23 | 114 26.6 | 118 57.4 | -0 9.7 | 0 54.6 | 26 0.9 | 44 35.3 | 21 38.6 | 125 27.5 | -6 49.7 |
| | | MP 15:25 | *v* 0.7 | *d* -1.1 | *v* 3.4 | *d* 0.1 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Thursday | 0 | 129 29.0 | 133 58.2 | -0 8.6 | 15 57.9 | 26 1.0 | 59 37.8 | 21 38.6 | 140 29.7 | -6 49.6 |
| | 1 | 144 31.5 | 148 58.9 | -0 7.4 | 31 1.2 | 26 1.1 | 74 40.3 | 21 38.6 | 155 31.9 | -6 49.5 |
| | 2 | 159 34.0 | 163 59.6 | -0 6.3 | 46 4.6 | 26 1.2 | 89 42.8 | 21 38.6 | 170 34.1 | -6 49.4 |
| | 3 | 174 36.4 | 179 0.3 | -0 5.1 | 61 7.9 | 26 1.3 | 104 45.3 | 21 38.6 | 185 36.4 | -6 49.3 |
| | 4 | 189 38.9 | 194 1.0 | -0 4.0 | 76 11.2 | 26 1.4 | 119 47.8 | 21 38.6 | 200 38.6 | -6 49.2 |
| | 5 | 204 41.3 | 209 1.8 | -0 2.9 | 91 14.6 | 26 1.5 | 134 50.3 | 21 38.6 | 215 40.8 | -6 49.1 |
| | 6 | 219 43.8 | 224 2.5 | -0 1.7 | 106 17.9 | 26 1.6 | 149 52.9 | 21 38.6 | 230 43.0 | -6 49.0 |
| | 7 | 234 46.3 | 239 3.2 | -0 0.6 | 121 21.2 | 26 1.7 | 164 55.4 | 21 38.6 | 245 45.2 | -6 48.9 |
| | 8 | 249 48.7 | 254 3.9 | 0 0.5 | 136 24.6 | 26 1.8 | 179 57.9 | 21 38.6 | 260 47.5 | -6 48.8 |
| | 9 | 264 51.2 | 269 4.7 | 0 1.7 | 151 27.9 | 26 1.9 | 195 0.4 | 21 38.6 | 275 49.7 | -6 48.7 |
| | 10 | 279 53.7 | 284 5.4 | 0 2.8 | 166 31.2 | 26 2.0 | 210 2.9 | 21 38.6 | 290 51.9 | -6 48.6 |
| | 11 | 294 56.1 | 299 6.1 | 0 4.0 | 181 34.6 | 26 2.1 | 225 5.4 | 21 38.6 | 305 54.1 | -6 48.5 |
| | 12 | 309 58.6 | 314 6.9 | 0 5.1 | 196 37.9 | 26 2.2 | 240 7.9 | 21 38.6 | 320 56.3 | -6 48.4 |
| | 13 | 325 1.1 | 329 7.6 | 0 6.2 | 211 41.2 | 26 2.3 | 255 10.4 | 21 38.6 | 335 58.5 | -6 48.2 |
| | 14 | 340 3.5 | 344 8.3 | 0 7.4 | 226 44.5 | 26 2.3 | 270 12.9 | 21 38.6 | 351 0.8 | -6 48.1 |
| | 15 | 355 6.0 | 359 9.1 | 0 8.5 | 241 47.9 | 26 2.4 | 285 15.5 | 21 38.6 | 6 3.0 | -6 48.0 |
| | 16 | 10 8.5 | 14 9.8 | 0 9.7 | 256 51.2 | 26 2.5 | 300 18.0 | 21 38.6 | 21 5.2 | -6 47.9 |
| | 17 | 25 10.9 | 29 10.6 | 0 10.8 | 271 54.5 | 26 2.6 | 315 20.5 | 21 38.6 | 36 7.4 | -6 47.8 |
| | 18 | 40 13.4 | 44 11.3 | 0 11.9 | 286 57.8 | 26 2.7 | 330 23.0 | 21 38.6 | 51 9.6 | -6 47.7 |
| | 19 | 55 15.8 | 59 12.0 | 0 13.1 | 302 1.1 | 26 2.8 | 345 25.5 | 21 38.6 | 66 11.8 | -6 47.6 |
| | 20 | 70 18.3 | 74 12.8 | 0 14.2 | 317 4.4 | 26 2.9 | 0 28.0 | 21 38.6 | 81 14.0 | -6 47.5 |
| | 21 | 85 20.8 | 89 13.5 | 0 15.3 | 332 7.8 | 26 3.0 | 15 30.5 | 21 38.6 | 96 16.3 | -6 47.4 |
| | 22 | 100 23.2 | 104 14.3 | 0 16.5 | 347 11.1 | 26 3.1 | 30 33.0 | 21 38.6 | 111 18.5 | -6 47.3 |
| | 23 | 115 25.7 | 119 15.0 | 0 17.6 | 2 14.4 | 26 3.2 | 45 35.5 | 21 38.7 | 126 20.7 | -6 47.2 |
| | | MP 15:21 | *v* 0.7 | *d* -1.1 | *v* 3.3 | *d* 0.1 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 12.5 |
| Achernar | 335 20.2 | -57 6.9 |
| Acrux | 172 59.7 | -63 14.1 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.7 | 55 49.1 |
| Alkaid | 152 51.9 | 49 10.9 |
| Alnair | 27 33.3 | -46 50.5 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.1 |
| Alphecca | 126 3.8 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.8 |
| Altair | 62 0.2 | 8 56.0 |
| Ankaa | 353 7.3 | -42 10.4 |
| Antares | 112 16.0 | -26 29.2 |
| Arcturus | 145 47.8 | 19 2.9 |
| Atria | 107 10.5 | -69 4.1 |
| Avior | 234 14.1 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.9 | -52 42.7 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.1 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.4 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.8 |
| Eltanin | 90 42.6 | 51 28.9 |
| Enif | 33 39.1 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.3 | -57 15.0 |
| Gienah | 175 43.4 | -17 40.9 |
| Hadar | 148 35.9 | -60 29.4 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.8 | -34 22.3 |
| Kochab | 137 19.9 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.2 |
| Menkent | 147 57.5 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.1 |
| Mirfak | 308 28.0 | 49 57.2 |
| Nunki | 75 48.0 | -26 16.0 |
| Peacock | 53 6.2 | -56 39.3 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.4 | 5 9.6 |
| Rasalhague | 95 58.7 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.3 | -60 56.1 |
| Sabik | 102 2.9 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.7 |
| Shaula | 96 10.6 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.2 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.0 |
| Vega | 80 33.6 | 38 48.2 |
| Zuben'ubi | 136 56.0 | -16 8.8 |

| 28 Tue | SHA | MP |
|---|---|---|
| Venus | 5 54.7 | 15:06 |
| Mars | 245 45.7 | 23:02 |
| Jupiter | 290 5.9 | 20:06 |
| Saturn | 11 12.4 | 14:43 |

| 29 Wed | SHA | MP |
|---|---|---|
| Venus | 5 11.5 | 15:05 |
| Mars | 246 7.6 | 22:56 |
| Jupiter | 290 7.4 | 20:02 |
| Saturn | 11 6.6 | 14:39 |

| 30 Thu | SHA | MP |
|---|---|---|
| Venus | 4 29.1 | 15:03 |
| Mars | 246 28.9 | 22:51 |
| Jupiter | 290 8.8 | 19:58 |
| Saturn | 11 0.7 | 14:36 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **28 Tuesday** | 0 | 176 47.0 | -18 11.3 | 196 17.1 | 6.4 | -26 50.9 | -6.0 | 57.6 |
| | 1 | 191 46.9 | -18 10.6 | 210 42.4 | 6.4 | -26 44.9 | -6.1 | 57.6 |
| | 2 | 206 46.8 | -18 9.9 | 225 7.8 | 6.4 | -26 38.8 | -6.3 | 57.6 |
| | 3 | 221 46.7 | -18 9.3 | 239 33.3 | 6.5 | -26 32.5 | -6.5 | 57.7 |
| | 4 | 236 46.6 | -18 8.6 | 253 58.7 | 6.5 | -26 26.0 | -6.6 | 57.7 |
| | 5 | 251 46.5 | -18 8.0 | 268 24.2 | 6.5 | -26 19.4 | -6.8 | 57.7 |
| | 6 | 266 46.3 | -18 7.3 | 282 49.7 | 6.5 | -26 12.6 | -7.0 | 57.7 |
| | 7 | 281 46.2 | -18 6.6 | 297 15.2 | 6.6 | -26 5.6 | -7.1 | 57.8 |
| | 8 | 296 46.1 | -18 6.0 | 311 40.8 | 6.6 | -25 58.5 | -7.3 | 57.8 |
| | 9 | 311 46.0 | -18 5.3 | 326 6.4 | 6.7 | -25 51.2 | -7.5 | 57.8 |
| | 10 | 326 45.9 | -18 4.6 | 340 32.1 | 6.7 | -25 43.7 | -7.6 | 57.9 |
| | 11 | 341 45.8 | -18 4.0 | 354 57.8 | 6.7 | -25 36.1 | -7.8 | 57.9 |
| | 12 | 356 45.6 | -18 3.3 | 9 23.5 | 6.8 | -25 28.3 | -7.9 | 57.9 |
| | 13 | 11 45.5 | -18 2.6 | 23 49.3 | 6.8 | -25 20.4 | -8.1 | 57.9 |
| | 14 | 26 45.4 | -18 2.0 | 38 15.1 | 6.9 | -25 12.3 | -8.3 | 58.0 |
| | 15 | 41 45.3 | -18 1.3 | 52 41.0 | 6.9 | -25 4.0 | -8.4 | 58.0 |
| | 16 | 56 45.2 | -18 0.6 | 67 6.9 | 7.0 | -24 55.6 | -8.6 | 58.0 |
| | 17 | 71 45.1 | -18 0.0 | 81 32.9 | 7.0 | -24 47.0 | -8.7 | 58.1 |
| | 18 | 86 45.0 | -17 59.3 | 95 58.9 | 7.1 | -24 38.3 | -8.9 | 58.1 |
| | 19 | 101 44.9 | -17 58.6 | 110 24.9 | 7.1 | -24 29.4 | -9.0 | 58.1 |
| | 20 | 116 44.7 | -17 58.0 | 124 51.0 | 7.2 | -24 20.3 | -9.2 | 58.1 |
| | 21 | 131 44.6 | -17 57.3 | 139 17.2 | 7.2 | -24 11.1 | -9.4 | 58.2 |
| | 22 | 146 44.5 | -17 56.6 | 153 43.4 | 7.3 | -24 1.8 | -9.5 | 58.2 |
| | 23 | 161 44.4 | -17 55.9 | 168 9.7 | 7.3 | -23 52.3 | -9.7 | 58.2 |
| | | *v* -0.1 | SD 16.2 | *d* -0.7 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **29 Wednesday** | 0 | 176 44.3 | -17 55.3 | 182 36.0 | 7.4 | -23 42.6 | -9.8 | 58.3 |
| | 1 | 191 44.2 | -17 54.6 | 197 2.4 | 7.4 | -23 32.8 | -10.0 | 58.3 |
| | 2 | 206 44.1 | -17 53.9 | 211 28.8 | 7.5 | -23 22.9 | -10.1 | 58.3 |
| | 3 | 221 44.0 | -17 53.2 | 225 55.3 | 7.5 | -23 12.8 | -10.2 | 58.3 |
| | 4 | 236 43.9 | -17 52.6 | 240 21.9 | 7.6 | -23 2.5 | -10.4 | 58.4 |
| | 5 | 251 43.7 | -17 51.9 | 254 48.5 | 7.7 | -22 52.1 | -10.5 | 58.4 |
| | 6 | 266 43.6 | -17 51.2 | 269 15.1 | 7.7 | -22 41.6 | -10.7 | 58.4 |
| | 7 | 281 43.5 | -17 50.5 | 283 41.9 | 7.8 | -22 30.9 | -10.8 | 58.4 |
| | 8 | 296 43.4 | -17 49.9 | 298 8.6 | 7.8 | -22 20.1 | -11.0 | 58.5 |
| | 9 | 311 43.3 | -17 49.2 | 312 35.5 | 7.9 | -22 9.1 | -11.1 | 58.5 |
| | 10 | 326 43.2 | -17 48.5 | 327 2.4 | 8.0 | -21 58.0 | -11.2 | 58.5 |
| | 11 | 341 43.1 | -17 47.8 | 341 29.4 | 8.0 | -21 46.8 | -11.4 | 58.5 |
| | 12 | 356 43.0 | -17 47.1 | 355 56.4 | 8.1 | -21 35.5 | -11.5 | 58.6 |
| | 13 | 11 42.9 | -17 46.5 | 10 23.5 | 8.2 | -21 23.9 | -11.6 | 58.6 |
| | 14 | 26 42.8 | -17 45.8 | 24 50.7 | 8.2 | -21 12.3 | -11.8 | 58.6 |
| | 15 | 41 42.7 | -17 45.1 | 39 17.9 | 8.3 | -21 0.5 | -11.9 | 58.6 |
| | 16 | 56 42.6 | -17 44.4 | 53 45.2 | 8.4 | -20 48.6 | -12.0 | 58.7 |
| | 17 | 71 42.5 | -17 43.7 | 68 12.6 | 8.4 | -20 36.6 | -12.2 | 58.7 |
| | 18 | 86 42.4 | -17 43.1 | 82 40.0 | 8.5 | -20 24.5 | -12.3 | 58.7 |
| | 19 | 101 42.3 | -17 42.4 | 97 7.5 | 8.6 | -20 12.2 | -12.4 | 58.7 |
| | 20 | 116 42.2 | -17 41.7 | 111 35.0 | 8.6 | -19 59.8 | -12.5 | 58.8 |
| | 21 | 131 42.0 | -17 41.0 | 126 2.6 | 8.7 | -19 47.2 | -12.7 | 58.8 |
| | 22 | 146 41.9 | -17 40.3 | 140 30.3 | 8.8 | -19 34.6 | -12.8 | 58.8 |
| | 23 | 161 41.8 | -17 39.6 | 154 58.1 | 8.8 | -19 21.8 | -12.9 | 58.8 |
| | | *v* -0.1 | SD 16.2 | *d* -0.7 | | SD 15.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **30 Thursday** | 0 | 176 41.7 | -17 38.9 | 169 25.9 | 8.9 | -19 8.9 | -13.0 | 58.8 |
| | 1 | 191 41.6 | -17 38.3 | 183 53.8 | 8.9 | -18 55.9 | -13.1 | 58.9 |
| | 2 | 206 41.5 | -17 37.6 | 198 21.7 | 9.0 | -18 42.8 | -13.2 | 58.9 |
| | 3 | 221 41.4 | -17 36.9 | 212 49.7 | 9.1 | -18 29.6 | -13.4 | 58.9 |
| | 4 | 236 41.3 | -17 36.2 | 227 17.8 | 9.1 | -18 16.2 | -13.5 | 58.9 |
| | 5 | 251 41.2 | -17 35.5 | 241 46.0 | 9.2 | -18 2.7 | -13.6 | 59.0 |
| | 6 | 266 41.1 | -17 34.8 | 256 14.2 | 9.3 | -17 49.2 | -13.7 | 59.0 |
| | 7 | 281 41.0 | -17 34.1 | 270 42.4 | 9.3 | -17 35.5 | -13.8 | 59.0 |
| | 8 | 296 40.9 | -17 33.4 | 285 10.8 | 9.4 | -17 21.7 | -13.9 | 59.0 |
| | 9 | 311 40.8 | -17 32.8 | 299 39.2 | 9.5 | -17 7.8 | -14.0 | 59.0 |
| | 10 | 326 40.7 | -17 32.1 | 314 7.6 | 9.5 | -16 53.8 | -14.1 | 59.1 |
| | 11 | 341 40.6 | -17 31.4 | 328 36.2 | 9.6 | -16 39.7 | -14.2 | 59.1 |
| | 12 | 356 40.5 | -17 30.7 | 343 4.8 | 9.7 | -16 25.5 | -14.3 | 59.1 |
| | 13 | 11 40.4 | -17 30.0 | 357 33.4 | 9.7 | -16 11.2 | -14.4 | 59.1 |
| | 14 | 26 40.3 | -17 29.3 | 12 2.1 | 9.8 | -15 56.8 | -14.5 | 59.1 |
| | 15 | 41 40.2 | -17 28.6 | 26 30.9 | 9.8 | -15 42.3 | -14.6 | 59.1 |
| | 16 | 56 40.1 | -17 27.9 | 40 59.8 | 9.9 | -15 27.7 | -14.7 | 59.2 |
| | 17 | 71 40.1 | -17 27.2 | 55 28.7 | 10.0 | -15 13.0 | -14.8 | 59.2 |
| | 18 | 86 40.0 | -17 26.5 | 69 57.6 | 10.0 | -14 58.2 | -14.9 | 59.2 |
| | 19 | 101 39.9 | -17 25.8 | 84 26.6 | 10.1 | -14 43.4 | -15.0 | 59.2 |
| | 20 | 116 39.8 | -17 25.1 | 98 55.7 | 10.1 | -14 28.4 | -15.0 | 59.2 |
| | 21 | 131 39.7 | -17 24.4 | 113 24.9 | 10.2 | -14 13.4 | -15.1 | 59.2 |
| | 22 | 146 39.6 | -17 23.7 | 127 54.1 | 10.3 | -13 58.2 | -15.2 | 59.3 |
| | 23 | 161 39.5 | -17 23.0 | 142 23.3 | 10.3 | -13 43.0 | -15.3 | 59.3 |
| | | *v* -0.1 | SD 16.2 | *d* -0.7 | | SD 16.1 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:22 | 08:55 | 11:04 | 13:24 | 15:32 | 17:05 |
| 70 | 07:13 | 08:34 | 10:07 | 14:20 | 15:53 | 17:14 |
| 68 | 07:05 | 08:17 | 09:33 | 14:54 | 16:10 | 17:22 |
| 66 | 06:58 | 08:03 | 09:09 | 15:17 | 16:23 | 17:29 |
| 64 | 06:52 | 07:52 | 08:51 | 15:36 | 16:35 | 17:34 |
| 62 | 06:47 | 07:42 | 08:35 | 15:51 | 16:44 | 17:40 |
| 60 | 06:43 | 07:34 | 08:22 | 16:04 | 16:53 | 17:44 |
| 58 | 06:38 | 07:27 | 08:11 | 16:15 | 17:00 | 17:48 |
| 56 | 06:34 | 07:20 | 08:02 | 16:25 | 17:07 | 17:52 |
| 54 | 06:31 | 07:14 | 07:53 | 16:33 | 17:13 | 17:56 |
| 52 | 06:27 | 07:08 | 07:46 | 16:41 | 17:18 | 17:59 |
| 50 | 06:24 | 07:03 | 07:39 | 16:48 | 17:23 | 18:02 |
| 45 | 06:17 | 06:52 | 07:24 | 17:02 | 17:34 | 18:09 |
| 40 | 06:10 | 06:43 | 07:12 | 17:14 | 17:43 | 18:16 |
| 35 | 06:04 | 06:35 | 07:02 | 17:25 | 17:52 | 18:22 |
| 30 | 05:58 | 06:27 | 06:52 | 17:34 | 17:59 | 18:28 |
| 20 | 05:47 | 06:13 | 06:37 | 17:50 | 18:13 | 18:39 |
| 10 | 05:35 | 06:01 | 06:23 | 18:03 | 18:25 | 18:51 |
| 0 | 05:22 | 05:48 | 06:09 | 18:16 | 18:38 | 19:04 |
| -10 | 05:08 | 05:34 | 05:56 | 18:30 | 18:52 | 19:18 |
| -20 | 04:50 | 05:18 | 05:42 | 18:44 | 19:07 | 19:35 |
| -30 | 04:28 | 04:59 | 05:25 | 19:00 | 19:26 | 19:57 |
| -35 | 04:14 | 04:48 | 05:16 | 19:10 | 19:38 | 20:11 |
| -40 | 03:57 | 04:34 | 05:04 | 19:21 | 19:51 | 20:28 |
| -45 | 03:35 | 04:17 | 04:51 | 19:34 | 20:08 | 20:50 |
| -50 | 03:05 | 03:56 | 04:35 | 19:50 | 20:28 | 21:19 |
| -52 | 02:50 | 03:46 | 04:27 | 19:57 | 20:39 | 21:34 |
| -54 | 02:31 | 03:34 | 04:19 | 20:06 | 20:50 | 21:52 |
| -56 | 02:07 | 03:21 | 04:09 | 20:15 | 21:03 | 22:15 |
| -58 | 01:34 | 03:05 | 03:59 | 20:26 | 21:19 | 22:47 |
| -60 | //// | 02:45 | 03:46 | 20:38 | 21:38 | 23:56 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **28** | **29** | **30** | **28** | **29** | **30** |
| 72 | ▬ | ▬ | 11:35 | ▬ | ▬ | 15:12 |
| 70 | ▬ | ▬ | 10:51 | ▬ | ▬ | 15:55 |
| 68 | ▬ | 11:42 | 10:20 | ▬ | 13:10 | 16:23 |
| 66 | ▬ | 10:34 | 09:58 | ▬ | 14:17 | 16:44 |
| 64 | 10:47 | 09:58 | 09:40 | 12:06 | 14:52 | 17:01 |
| 62 | 09:41 | 09:31 | 09:25 | 13:11 | 15:17 | 17:15 |
| 60 | 09:06 | 09:11 | 09:12 | 13:45 | 15:37 | 17:26 |
| 58 | 08:40 | 08:54 | 09:01 | 14:10 | 15:53 | 17:36 |
| 56 | 08:20 | 08:39 | 08:51 | 14:30 | 16:07 | 17:45 |
| 54 | 08:03 | 08:27 | 08:43 | 14:47 | 16:19 | 17:52 |
| 52 | 07:49 | 08:16 | 08:35 | 15:01 | 16:29 | 17:59 |
| 50 | 07:36 | 08:06 | 08:28 | 15:13 | 16:38 | 18:05 |
| 45 | 07:09 | 07:45 | 08:13 | 15:39 | 16:58 | 18:18 |
| 40 | 06:49 | 07:28 | 08:01 | 15:59 | 17:13 | 18:29 |
| 35 | 06:31 | 07:14 | 07:50 | 16:16 | 17:27 | 18:38 |
| 30 | 06:16 | 07:01 | 07:41 | 16:30 | 17:38 | 18:46 |
| 20 | 05:50 | 06:40 | 07:25 | 16:54 | 17:57 | 19:00 |
| 10 | 05:28 | 06:21 | 07:11 | 17:15 | 18:14 | 19:11 |
| 0 | 05:07 | 06:04 | 06:58 | 17:34 | 18:30 | 19:22 |
| -10 | 04:46 | 05:46 | 06:44 | 17:54 | 18:45 | 19:33 |
| -20 | 04:24 | 05:27 | 06:30 | 18:14 | 19:02 | 19:45 |
| -30 | 03:58 | 05:05 | 06:14 | 18:38 | 19:20 | 19:58 |
| -35 | 03:43 | 04:52 | 06:04 | 18:52 | 19:31 | 20:05 |
| -40 | 03:25 | 04:38 | 05:53 | 19:08 | 19:44 | 20:14 |
| -45 | 03:03 | 04:20 | 05:40 | 19:26 | 19:58 | 20:24 |
| -50 | 02:36 | 03:58 | 05:24 | 19:50 | 20:16 | 20:35 |
| -52 | 02:22 | 03:47 | 05:16 | 20:01 | 20:24 | 20:41 |
| -54 | 02:06 | 03:35 | 05:08 | 20:14 | 20:33 | 20:47 |
| -56 | 01:48 | 03:21 | 04:59 | 20:28 | 20:43 | 20:53 |
| -58 | 01:26 | 03:05 | 04:48 | 20:45 | 20:55 | 21:01 |
| -60 | 00:56 | 02:45 | 04:35 | 21:05 | 21:08 | 21:09 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **28** | 12:52 | 12:57 | 12:13 | 11:21 | 23:49 | 28 | 3 |
| **29** | 13:03 | 13:08 | 12:13 | 12:17 | –:– | 29 | 0 |
| **30** | 13:13 | 13:18 | 12:13 | 13:10 | 00:44 | 0 | 0 |

## 2025 January 31, February 01, 02 (Fri, Saturday, Sunday)

| d | h | Aries GHA | Venus -4.7 GHA | Venus -4.7 Dec | Mars -1.1 GHA | Mars -1.1 Dec | Jupiter -2.5 GHA | Jupiter -2.5 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 Friday | 0 | 130 28.2 | 134 15.8 | 0 18.7 | 17 17.7 | 26 3.2 | 60 38.0 | 21 38.7 | 141 22.9 | -6 47.1 |
| | 1 | 145 30.6 | 149 16.5 | 0 19.9 | 32 21.0 | 26 3.3 | 75 40.5 | 21 38.7 | 156 25.1 | -6 47.0 |
| | 2 | 160 33.1 | 164 17.3 | 0 21.0 | 47 24.3 | 26 3.4 | 90 43.0 | 21 38.7 | 171 27.3 | -6 46.8 |
| | 3 | 175 35.6 | 179 18.0 | 0 22.1 | 62 27.6 | 26 3.5 | 105 45.5 | 21 38.7 | 186 29.6 | -6 46.7 |
| | 4 | 190 38.0 | 194 18.8 | 0 23.3 | 77 30.9 | 26 3.6 | 120 48.0 | 21 38.7 | 201 31.8 | -6 46.6 |
| | 5 | 205 40.5 | 209 19.6 | 0 24.4 | 92 34.2 | 26 3.7 | 135 50.5 | 21 38.7 | 216 34.0 | -6 46.5 |
| | 6 | 220 42.9 | 224 20.3 | 0 25.5 | 107 37.5 | 26 3.8 | 150 53.0 | 21 38.7 | 231 36.2 | -6 46.4 |
| | 7 | 235 45.4 | 239 21.1 | 0 26.7 | 122 40.8 | 26 3.9 | 165 55.6 | 21 38.7 | 246 38.4 | -6 46.3 |
| | 8 | 250 47.9 | 254 21.9 | 0 27.8 | 137 44.1 | 26 3.9 | 180 58.1 | 21 38.7 | 261 40.6 | -6 46.2 |
| | 9 | 265 50.3 | 269 22.6 | 0 28.9 | 152 47.4 | 26 4.0 | 196 0.6 | 21 38.7 | 276 42.9 | -6 46.1 |
| | 10 | 280 52.8 | 284 23.4 | 0 30.1 | 167 50.7 | 26 4.1 | 211 3.1 | 21 38.7 | 291 45.1 | -6 46.0 |
| | 11 | 295 55.3 | 299 24.2 | 0 31.2 | 182 54.0 | 26 4.2 | 226 5.6 | 21 38.7 | 306 47.3 | -6 45.9 |
| | 12 | 310 57.7 | 314 24.9 | 0 32.3 | 197 57.3 | 26 4.3 | 241 8.1 | 21 38.7 | 321 49.5 | -6 45.8 |
| | 13 | 326 0.2 | 329 25.7 | 0 33.4 | 213 0.6 | 26 4.4 | 256 10.6 | 21 38.7 | 336 51.7 | -6 45.7 |
| | 14 | 341 2.7 | 344 26.5 | 0 34.6 | 228 3.9 | 26 4.4 | 271 13.1 | 21 38.7 | 351 53.9 | -6 45.5 |
| | 15 | 356 5.1 | 359 27.2 | 0 35.7 | 243 7.2 | 26 4.5 | 286 15.6 | 21 38.7 | 6 56.1 | -6 45.4 |
| | 16 | 11 7.6 | 14 28.0 | 0 36.8 | 258 10.5 | 26 4.6 | 301 18.1 | 21 38.7 | 21 58.4 | -6 45.3 |
| | 17 | 26 10.1 | 29 28.8 | 0 38.0 | 273 13.8 | 26 4.7 | 316 20.6 | 21 38.7 | 37 0.6 | -6 45.2 |
| | 18 | 41 12.5 | 44 29.6 | 0 39.1 | 288 17.1 | 26 4.8 | 331 23.1 | 21 38.7 | 52 2.8 | -6 45.1 |
| | 19 | 56 15.0 | 59 30.4 | 0 40.2 | 303 20.4 | 26 4.9 | 346 25.6 | 21 38.7 | 67 5.0 | -6 45.0 |
| | 20 | 71 17.4 | 74 31.1 | 0 41.3 | 318 23.7 | 26 4.9 | 1 28.1 | 21 38.7 | 82 7.2 | -6 44.9 |
| | 21 | 86 19.9 | 89 31.9 | 0 42.5 | 333 27.0 | 26 5.0 | 16 30.6 | 21 38.7 | 97 9.4 | -6 44.8 |
| | 22 | 101 22.4 | 104 32.7 | 0 43.6 | 348 30.2 | 26 5.1 | 31 33.1 | 21 38.7 | 112 11.6 | -6 44.7 |
| | 23 | 116 24.8 | 119 33.5 | 0 44.7 | 3 33.5 | 26 5.2 | 46 35.6 | 21 38.8 | 127 13.9 | -6 44.6 |
| | | MP 15:17 | *v* 0.8 | *d* 1.1 | *v* 3.3 | *d* 0.1 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 Saturday | 0 | 131 27.3 | 134 34.3 | 0 45.8 | 18 36.8 | 26 5.2 | 61 38.0 | 21 38.8 | 142 16.1 | -6 44.5 |
| | 1 | 146 29.8 | 149 35.1 | 0 47.0 | 33 40.1 | 26 5.3 | 76 40.5 | 21 38.8 | 157 18.3 | -6 44.4 |
| | 2 | 161 32.2 | 164 35.9 | 0 48.1 | 48 43.4 | 26 5.4 | 91 43.0 | 21 38.8 | 172 20.5 | -6 44.2 |
| | 3 | 176 34.7 | 179 36.7 | 0 49.2 | 63 46.6 | 26 5.5 | 106 45.5 | 21 38.8 | 187 22.7 | -6 44.1 |
| | 4 | 191 37.2 | 194 37.5 | 0 50.3 | 78 49.9 | 26 5.6 | 121 48.0 | 21 38.8 | 202 24.9 | -6 44.0 |
| | 5 | 206 39.6 | 209 38.3 | 0 51.5 | 93 53.2 | 26 5.6 | 136 50.5 | 21 38.8 | 217 27.1 | -6 43.9 |
| | 6 | 221 42.1 | 224 39.1 | 0 52.6 | 108 56.5 | 26 5.7 | 151 53.0 | 21 38.8 | 232 29.4 | -6 43.8 |
| | 7 | 236 44.5 | 239 39.9 | 0 53.7 | 123 59.7 | 26 5.8 | 166 55.5 | 21 38.8 | 247 31.6 | -6 43.7 |
| | 8 | 251 47.0 | 254 40.7 | 0 54.8 | 139 3.0 | 26 5.9 | 181 58.0 | 21 38.8 | 262 33.8 | -6 43.6 |
| | 9 | 266 49.5 | 269 41.5 | 0 55.9 | 154 6.3 | 26 5.9 | 197 0.5 | 21 38.8 | 277 36.0 | -6 43.5 |
| | 10 | 281 51.9 | 284 42.3 | 0 57.1 | 169 9.6 | 26 6.0 | 212 3.0 | 21 38.8 | 292 38.2 | -6 43.4 |
| | 11 | 296 54.4 | 299 43.1 | 0 58.2 | 184 12.8 | 26 6.1 | 227 5.5 | 21 38.8 | 307 40.4 | -6 43.3 |
| | 12 | 311 56.9 | 314 43.9 | 0 59.3 | 199 16.1 | 26 6.2 | 242 8.0 | 21 38.8 | 322 42.6 | -6 43.2 |
| | 13 | 326 59.3 | 329 44.7 | 1 0.4 | 214 19.4 | 26 6.2 | 257 10.5 | 21 38.8 | 337 44.8 | -6 43.1 |
| | 14 | 342 1.8 | 344 45.5 | 1 1.6 | 229 22.6 | 26 6.3 | 272 13.0 | 21 38.8 | 352 47.1 | -6 42.9 |
| | 15 | 357 4.3 | 359 46.3 | 1 2.7 | 244 25.9 | 26 6.4 | 287 15.5 | 21 38.8 | 7 49.3 | -6 42.8 |
| | 16 | 12 6.7 | 14 47.1 | 1 3.8 | 259 29.1 | 26 6.5 | 302 17.9 | 21 38.8 | 22 51.5 | -6 42.7 |
| | 17 | 27 9.2 | 29 47.9 | 1 4.9 | 274 32.4 | 26 6.5 | 317 20.4 | 21 38.8 | 37 53.7 | -6 42.6 |
| | 18 | 42 11.7 | 44 48.8 | 1 6.0 | 289 35.7 | 26 6.6 | 332 22.9 | 21 38.9 | 52 55.9 | -6 42.5 |
| | 19 | 57 14.1 | 59 49.6 | 1 7.1 | 304 38.9 | 26 6.7 | 347 25.4 | 21 38.9 | 67 58.1 | -6 42.4 |
| | 20 | 72 16.6 | 74 50.4 | 1 8.3 | 319 42.2 | 26 6.7 | 2 27.9 | 21 38.9 | 83 0.3 | -6 42.3 |
| | 21 | 87 19.0 | 89 51.2 | 1 9.4 | 334 45.4 | 26 6.8 | 17 30.4 | 21 38.9 | 98 2.5 | -6 42.2 |
| | 22 | 102 21.5 | 104 52.0 | 1 10.5 | 349 48.7 | 26 6.9 | 32 32.9 | 21 38.9 | 113 4.8 | -6 42.1 |
| | 23 | 117 24.0 | 119 52.9 | 1 11.6 | 4 51.9 | 26 7.0 | 47 35.4 | 21 38.9 | 128 7.0 | -6 42.0 |
| | | MP 15:13 | *v* 0.8 | *d* 1.1 | *v* 3.3 | *d* 0.1 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 Sunday | 0 | 132 26.4 | 134 53.7 | 1 12.7 | 19 55.2 | 26 7.0 | 62 37.9 | 21 38.9 | 143 9.2 | -6 41.9 |
| | 1 | 147 28.9 | 149 54.5 | 1 13.8 | 34 58.4 | 26 7.1 | 77 40.3 | 21 38.9 | 158 11.4 | -6 41.7 |
| | 2 | 162 31.4 | 164 55.4 | 1 15.0 | 50 1.7 | 26 7.2 | 92 42.8 | 21 38.9 | 173 13.6 | -6 41.6 |
| | 3 | 177 33.8 | 179 56.2 | 1 16.1 | 65 4.9 | 26 7.2 | 107 45.3 | 21 38.9 | 188 15.8 | -6 41.5 |
| | 4 | 192 36.3 | 194 57.0 | 1 17.2 | 80 8.2 | 26 7.3 | 122 47.8 | 21 38.9 | 203 18.0 | -6 41.4 |
| | 5 | 207 38.8 | 209 57.9 | 1 18.3 | 95 11.4 | 26 7.4 | 137 50.3 | 21 38.9 | 218 20.2 | -6 41.3 |
| | 6 | 222 41.2 | 224 58.7 | 1 19.4 | 110 14.7 | 26 7.4 | 152 52.8 | 21 38.9 | 233 22.5 | -6 41.2 |
| | 7 | 237 43.7 | 239 59.5 | 1 20.5 | 125 17.9 | 26 7.5 | 167 55.3 | 21 38.9 | 248 24.7 | -6 41.1 |
| | 8 | 252 46.2 | 255 0.4 | 1 21.6 | 140 21.2 | 26 7.6 | 182 57.7 | 21 38.9 | 263 26.9 | -6 41.0 |
| | 9 | 267 48.6 | 270 1.2 | 1 22.8 | 155 24.4 | 26 7.6 | 198 0.2 | 21 38.9 | 278 29.1 | -6 40.9 |
| | 10 | 282 51.1 | 285 2.1 | 1 23.9 | 170 27.6 | 26 7.7 | 213 2.7 | 21 39.0 | 293 31.3 | -6 40.8 |
| | 11 | 297 53.5 | 300 2.9 | 1 25.0 | 185 30.9 | 26 7.8 | 228 5.2 | 21 39.0 | 308 33.5 | -6 40.6 |
| | 12 | 312 56.0 | 315 3.7 | 1 26.1 | 200 34.1 | 26 7.8 | 243 7.7 | 21 39.0 | 323 35.7 | -6 40.5 |
| | 13 | 327 58.5 | 330 4.6 | 1 27.2 | 215 37.3 | 26 7.9 | 258 10.2 | 21 39.0 | 338 37.9 | -6 40.4 |
| | 14 | 343 0.9 | 345 5.4 | 1 28.3 | 230 40.6 | 26 8.0 | 273 12.6 | 21 39.0 | 353 40.1 | -6 40.3 |
| | 15 | 358 3.4 | 0 6.3 | 1 29.4 | 245 43.8 | 26 8.0 | 288 15.1 | 21 39.0 | 8 42.4 | -6 40.2 |
| | 16 | 13 5.9 | 15 7.2 | 1 30.5 | 260 47.0 | 26 8.1 | 303 17.6 | 21 39.0 | 23 44.6 | -6 40.1 |
| | 17 | 28 8.3 | 30 8.0 | 1 31.6 | 275 50.3 | 26 8.2 | 318 20.1 | 21 39.0 | 38 46.8 | -6 40.0 |
| | 18 | 43 10.8 | 45 8.9 | 1 32.7 | 290 53.5 | 26 8.2 | 333 22.6 | 21 39.0 | 53 49.0 | -6 39.9 |
| | 19 | 58 13.3 | 60 9.7 | 1 33.8 | 305 56.7 | 26 8.3 | 348 25.0 | 21 39.0 | 68 51.2 | -6 39.8 |
| | 20 | 73 15.7 | 75 10.6 | 1 35.0 | 321 0.0 | 26 8.3 | 3 27.5 | 21 39.0 | 83 53.4 | -6 39.7 |
| | 21 | 88 18.2 | 90 11.4 | 1 36.1 | 336 3.2 | 26 8.4 | 18 30.0 | 21 39.0 | 98 55.6 | -6 39.6 |
| | 22 | 103 20.6 | 105 12.3 | 1 37.2 | 351 6.4 | 26 8.5 | 33 32.5 | 21 39.0 | 113 57.8 | -6 39.4 |
| | 23 | 118 23.1 | 120 13.2 | 1 38.3 | 6 9.6 | 26 8.5 | 48 35.0 | 21 39.0 | 129 0.0 | -6 39.3 |
| | | MP 15:09 | *v* 0.8 | *d* 1.1 | *v* 3.3 | *d* 0.1 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 12.5 |
| Achernar | 335 20.2 | -57 6.9 |
| Acrux | 172 59.7 | -63 14.1 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.6 | 55 49.1 |
| Alkaid | 152 51.8 | 49 10.9 |
| Alnair | 27 33.2 | -46 50.5 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.1 |
| Alphecca | 126 3.8 | 26 37.5 |
| Alpheratz | 357 34.9 | 29 13.8 |
| Altair | 62 0.2 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.4 |
| Antares | 112 15.9 | -26 29.2 |
| Arcturus | 145 47.8 | 19 2.9 |
| Atria | 107 10.4 | -69 4.1 |
| Avior | 234 14.1 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.9 | -52 42.7 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.8 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.3 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.8 |
| Eltanin | 90 42.6 | 51 28.8 |
| Enif | 33 39.1 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.3 | -57 15.0 |
| Gienah | 175 43.3 | -17 40.9 |
| Hadar | 148 35.9 | -60 29.4 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.8 | -34 22.3 |
| Kochab | 137 19.8 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.2 |
| Menkent | 147 57.5 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.1 |
| Mirfak | 308 28.1 | 49 57.2 |
| Nunki | 75 48.0 | -26 16.0 |
| Peacock | 53 6.2 | -56 39.3 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.4 | 5 9.6 |
| Rasalhague | 95 58.7 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.2 | -60 56.1 |
| Sabik | 102 2.9 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.7 |
| Shaula | 96 10.6 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.1 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.0 |
| Vega | 80 33.5 | 38 48.2 |
| Zuben'ubi | 136 56.0 | -16 8.8 |

| 31 Fri | SHA | MP |
|---|---|---|
| Venus | 3 47.6 | 15:02 |
| Mars | 246 49.5 | 22:46 |
| Jupiter | 290 9.9 | 19:54 |
| Saturn | 10 54.8 | 14:32 |

| 01 Sat | SHA | MP |
|---|---|---|
| Venus | 3 7.0 | 15:01 |
| Mars | 247 9.5 | 22:41 |
| Jupiter | 290 10.7 | 19:50 |
| Saturn | 10 48.8 | 14:29 |

| 02 Sun | SHA | MP |
|---|---|---|
| Venus | 2 27.3 | 15:00 |
| Mars | 247 28.8 | 22:35 |
| Jupiter | 290 11.4 | 19:46 |
| Saturn | 10 42.7 | 14:25 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **31 Friday** | 0 | 176 39.4 | -17 22.3 | 156 52.6 | 10.4 | -13 27.7 | -15.4 | 59.3 |
| | 1 | 191 39.3 | -17 21.6 | 171 22.0 | 10.4 | -13 12.4 | -15.4 | 59.3 |
| | 2 | 206 39.2 | -17 20.9 | 185 51.4 | 10.5 | -12 56.9 | -15.5 | 59.3 |
| | 3 | 221 39.1 | -17 20.2 | 200 20.9 | 10.5 | -12 41.4 | -15.6 | 59.3 |
| | 4 | 236 39.0 | -17 19.5 | 214 50.4 | 10.6 | -12 25.8 | -15.7 | 59.3 |
| | 5 | 251 38.9 | -17 18.8 | 229 20.0 | 10.6 | -12 10.1 | -15.7 | 59.4 |
| | 6 | 266 38.8 | -17 18.1 | 243 49.6 | 10.7 | -11 54.4 | -15.8 | 59.4 |
| | 7 | 281 38.7 | -17 17.4 | 258 19.3 | 10.7 | -11 38.6 | -15.9 | 59.4 |
| | 8 | 296 38.7 | -17 16.7 | 272 49.0 | 10.8 | -11 22.7 | -15.9 | 59.4 |
| | 9 | 311 38.6 | -17 16.0 | 287 18.8 | 10.8 | -11 6.8 | -16.0 | 59.4 |
| | 10 | 326 38.5 | -17 15.3 | 301 48.6 | 10.9 | -10 50.8 | -16.1 | 59.4 |
| | 11 | 341 38.4 | -17 14.6 | 316 18.5 | 10.9 | -10 34.7 | -16.1 | 59.4 |
| | 12 | 356 38.3 | -17 13.9 | 330 48.4 | 11.0 | -10 18.6 | -16.2 | 59.4 |
| | 13 | 11 38.2 | -17 13.2 | 345 18.4 | 11.0 | -10 2.4 | -16.3 | 59.5 |
| | 14 | 26 38.1 | -17 12.5 | 359 48.4 | 11.1 | -9 46.1 | -16.3 | 59.5 |
| | 15 | 41 38.0 | -17 11.8 | 14 18.5 | 11.1 | -9 29.8 | -16.4 | 59.5 |
| | 16 | 56 37.9 | -17 11.1 | 28 48.6 | 11.1 | -9 13.4 | -16.4 | 59.5 |
| | 17 | 71 37.9 | -17 10.4 | 43 18.7 | 11.2 | -8 57.0 | -16.5 | 59.5 |
| | 18 | 86 37.8 | -17 9.6 | 57 48.9 | 11.2 | -8 40.6 | -16.5 | 59.5 |
| | 19 | 101 37.7 | -17 8.9 | 72 19.1 | 11.3 | -8 24.0 | -16.6 | 59.5 |
| | 20 | 116 37.6 | -17 8.2 | 86 49.4 | 11.3 | -8 7.5 | -16.6 | 59.5 |
| | 21 | 131 37.5 | -17 7.5 | 101 19.7 | 11.3 | -7 50.9 | -16.7 | 59.5 |
| | 22 | 146 37.4 | -17 6.8 | 115 50.0 | 11.4 | -7 34.2 | -16.7 | 59.5 |
| | 23 | 161 37.3 | -17 6.1 | 130 20.3 | 11.4 | -7 17.5 | -16.7 | 59.6 |
| | | *v* -0.1 | SD 16.2 | *d* -0.7 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **01 Saturday** | 0 | 176 37.2 | -17 5.4 | 144 50.7 | 11.4 | -7 0.8 | -16.8 | 59.6 |
| | 1 | 191 37.2 | -17 4.7 | 159 21.2 | 11.5 | -6 44.0 | -16.8 | 59.6 |
| | 2 | 206 37.1 | -17 4.0 | 173 51.6 | 11.5 | -6 27.2 | -16.9 | 59.6 |
| | 3 | 221 37.0 | -17 3.2 | 188 22.1 | 11.5 | -6 10.3 | -16.9 | 59.6 |
| | 4 | 236 36.9 | -17 2.5 | 202 52.6 | 11.5 | -5 53.4 | -16.9 | 59.6 |
| | 5 | 251 36.8 | -17 1.8 | 217 23.2 | 11.6 | -5 36.5 | -17.0 | 59.6 |
| | 6 | 266 36.7 | -17 1.1 | 231 53.8 | 11.6 | -5 19.6 | -17.0 | 59.6 |
| | 7 | 281 36.7 | -17 0.4 | 246 24.4 | 11.6 | -5 2.6 | -17.0 | 59.6 |
| | 8 | 296 36.6 | -16 59.7 | 260 55.0 | 11.6 | -4 45.6 | -17.0 | 59.6 |
| | 9 | 311 36.5 | -16 59.0 | 275 25.6 | 11.7 | -4 28.5 | -17.1 | 59.6 |
| | 10 | 326 36.4 | -16 58.2 | 289 56.3 | 11.7 | -4 11.5 | -17.1 | 59.6 |
| | 11 | 341 36.3 | -16 57.5 | 304 27.0 | 11.7 | -3 54.4 | -17.1 | 59.6 |
| | 12 | 356 36.3 | -16 56.8 | 318 57.7 | 11.7 | -3 37.3 | -17.1 | 59.6 |
| | 13 | 11 36.2 | -16 56.1 | 333 28.4 | 11.7 | -3 20.1 | -17.1 | 59.6 |
| | 14 | 26 36.1 | -16 55.4 | 347 59.2 | 11.8 | -3 3.0 | -17.2 | 59.6 |
| | 15 | 41 36.0 | -16 54.6 | 2 29.9 | 11.8 | -2 45.8 | -17.2 | 59.6 |
| | 16 | 56 35.9 | -16 53.9 | 17 0.7 | 11.8 | -2 28.7 | -17.2 | 59.6 |
| | 17 | 71 35.9 | -16 53.2 | 31 31.5 | 11.8 | -2 11.5 | -17.2 | 59.6 |
| | 18 | 86 35.8 | -16 52.5 | 46 2.3 | 11.8 | -1 54.3 | -17.2 | 59.7 |
| | 19 | 101 35.7 | -16 51.8 | 60 33.1 | 11.8 | -1 37.1 | -17.2 | 59.7 |
| | 20 | 116 35.6 | -16 51.0 | 75 3.9 | 11.8 | -1 19.8 | -17.2 | 59.7 |
| | 21 | 131 35.5 | -16 50.3 | 89 34.7 | 11.8 | -1 2.6 | -17.2 | 59.7 |
| | 22 | 146 35.5 | -16 49.6 | 104 5.6 | 11.8 | -0 45.4 | -17.2 | 59.7 |
| | 23 | 161 35.4 | -16 48.9 | 118 36.4 | 11.8 | -0 28.2 | -17.2 | 59.7 |
| | | *v* -0.1 | SD 16.2 | *d* -0.7 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **02 Sunday** | 0 | 176 35.3 | -16 48.2 | 133 7.3 | 11.8 | -0 10.9 | 17.2 | 59.7 |
| | 1 | 191 35.2 | -16 47.4 | 147 38.1 | 11.8 | 0 6.3 | 17.2 | 59.7 |
| | 2 | 206 35.2 | -16 46.7 | 162 8.9 | 11.8 | 0 23.6 | 17.2 | 59.7 |
| | 3 | 221 35.1 | -16 46.0 | 176 39.8 | 11.8 | 0 40.8 | 17.2 | 59.7 |
| | 4 | 236 35.0 | -16 45.2 | 191 10.6 | 11.8 | 0 58.0 | 17.2 | 59.7 |
| | 5 | 251 34.9 | -16 44.5 | 205 41.5 | 11.8 | 1 15.2 | 17.2 | 59.7 |
| | 6 | 266 34.9 | -16 43.8 | 220 12.3 | 11.8 | 1 32.4 | 17.2 | 59.7 |
| | 7 | 281 34.8 | -16 43.1 | 234 43.2 | 11.8 | 1 49.7 | 17.2 | 59.7 |
| | 8 | 296 34.7 | -16 42.3 | 249 14.0 | 11.8 | 2 6.8 | 17.2 | 59.7 |
| | 9 | 311 34.6 | -16 41.6 | 263 44.8 | 11.8 | 2 24.0 | 17.2 | 59.7 |
| | 10 | 326 34.6 | -16 40.9 | 278 15.6 | 11.8 | 2 41.2 | 17.2 | 59.7 |
| | 11 | 341 34.5 | -16 40.2 | 292 46.4 | 11.8 | 2 58.3 | 17.1 | 59.7 |
| | 12 | 356 34.4 | -16 39.4 | 307 17.2 | 11.8 | 3 15.5 | 17.1 | 59.7 |
| | 13 | 11 34.3 | -16 38.7 | 321 48.0 | 11.8 | 3 32.6 | 17.1 | 59.6 |
| | 14 | 26 34.3 | -16 38.0 | 336 18.7 | 11.7 | 3 49.7 | 17.1 | 59.6 |
| | 15 | 41 34.2 | -16 37.2 | 350 49.5 | 11.7 | 4 6.8 | 17.0 | 59.6 |
| | 16 | 56 34.1 | -16 36.5 | 5 20.2 | 11.7 | 4 23.8 | 17.0 | 59.6 |
| | 17 | 71 34.1 | -16 35.8 | 19 50.9 | 11.7 | 4 40.8 | 17.0 | 59.6 |
| | 18 | 86 34.0 | -16 35.0 | 34 21.6 | 11.7 | 4 57.8 | 17.0 | 59.6 |
| | 19 | 101 33.9 | -16 34.3 | 48 52.3 | 11.6 | 5 14.8 | 16.9 | 59.6 |
| | 20 | 116 33.9 | -16 33.6 | 63 22.9 | 11.6 | 5 31.7 | 16.9 | 59.6 |
| | 21 | 131 33.8 | -16 32.8 | 77 53.6 | 11.6 | 5 48.6 | 16.9 | 59.6 |
| | 22 | 146 33.7 | -16 32.1 | 92 24.2 | 11.6 | 6 5.5 | 16.8 | 59.6 |
| | 23 | 161 33.7 | -16 31.4 | 106 54.7 | 11.5 | 6 22.3 | 16.8 | 59.6 |
| | | *v* -0.1 | SD 16.2 | *d* -0.7 | | SD 16.3 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:12 | 08:42 | 10:34 | 13:55 | 15:47 | 17:16 |
| 70 | 07:04 | 08:23 | 09:49 | 14:39 | 16:05 | 17:24 |
| 68 | 06:57 | 08:08 | 09:21 | 15:07 | 16:20 | 17:31 |
| 66 | 06:51 | 07:55 | 08:59 | 15:29 | 16:33 | 17:37 |
| 64 | 06:46 | 07:45 | 08:42 | 15:46 | 16:43 | 17:42 |
| 62 | 06:41 | 07:36 | 08:28 | 16:00 | 16:52 | 17:46 |
| 60 | 06:37 | 07:28 | 08:16 | 16:12 | 17:00 | 17:51 |
| 58 | 06:33 | 07:21 | 08:05 | 16:22 | 17:06 | 17:54 |
| 56 | 06:30 | 07:15 | 07:56 | 16:31 | 17:13 | 17:58 |
| 54 | 06:27 | 07:09 | 07:48 | 16:39 | 17:18 | 18:01 |
| 52 | 06:24 | 07:04 | 07:41 | 16:46 | 17:23 | 18:04 |
| 50 | 06:21 | 07:00 | 07:35 | 16:53 | 17:28 | 18:07 |
| 45 | 06:14 | 06:49 | 07:21 | 17:07 | 17:38 | 18:13 |
| 40 | 06:08 | 06:41 | 07:09 | 17:18 | 17:47 | 18:19 |
| 35 | 06:02 | 06:33 | 06:59 | 17:28 | 17:55 | 18:25 |
| 30 | 05:57 | 06:26 | 06:51 | 17:36 | 18:02 | 18:30 |
| 20 | 05:46 | 06:13 | 06:36 | 17:51 | 18:14 | 18:41 |
| 10 | 05:35 | 06:01 | 06:22 | 18:05 | 18:26 | 18:52 |
| 0 | 05:23 | 05:48 | 06:10 | 18:17 | 18:39 | 19:04 |
| -10 | 05:09 | 05:35 | 05:57 | 18:30 | 18:52 | 19:17 |
| -20 | 04:53 | 05:20 | 05:44 | 18:43 | 19:06 | 19:34 |
| -30 | 04:31 | 05:02 | 05:28 | 18:59 | 19:24 | 19:55 |
| -35 | 04:18 | 04:51 | 05:19 | 19:08 | 19:35 | 20:09 |
| -40 | 04:01 | 04:38 | 05:08 | 19:18 | 19:48 | 20:25 |
| -45 | 03:40 | 04:22 | 04:56 | 19:31 | 20:04 | 20:46 |
| -50 | 03:12 | 04:02 | 04:40 | 19:46 | 20:24 | 21:13 |
| -52 | 02:58 | 03:52 | 04:33 | 19:53 | 20:33 | 21:27 |
| -54 | 02:41 | 03:41 | 04:25 | 20:01 | 20:44 | 21:44 |
| -56 | 02:19 | 03:29 | 04:16 | 20:09 | 20:56 | 22:04 |
| -58 | 01:51 | 03:14 | 04:06 | 20:19 | 21:11 | 22:32 |
| -60 | 01:03 | 02:56 | 03:54 | 20:31 | 21:29 | 23:15 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **31** | **01** | **02** | **31** | **01** | **02** |
| 72 | 10:19 | 09:35 | 08:57 | 18:16 | 20:45 | 23:12 |
| 70 | 10:02 | 09:29 | 09:00 | 18:30 | 20:47 | 23:02 |
| 68 | 09:48 | 09:24 | 09:03 | 18:42 | 20:49 | 22:54 |
| 66 | 09:37 | 09:20 | 09:05 | 18:51 | 20:50 | 22:48 |
| 64 | 09:27 | 09:17 | 09:07 | 18:59 | 20:51 | 22:43 |
| 62 | 09:19 | 09:13 | 09:08 | 19:05 | 20:52 | 22:38 |
| 60 | 09:12 | 09:11 | 09:10 | 19:11 | 20:53 | 22:34 |
| 58 | 09:05 | 09:08 | 09:11 | 19:16 | 20:53 | 22:30 |
| 56 | 09:00 | 09:06 | 09:12 | 19:20 | 20:54 | 22:27 |
| 54 | 08:55 | 09:04 | 09:13 | 19:24 | 20:55 | 22:25 |
| 52 | 08:50 | 09:02 | 09:14 | 19:28 | 20:55 | 22:22 |
| 50 | 08:46 | 09:01 | 09:15 | 19:31 | 20:56 | 22:20 |
| 45 | 08:37 | 08:57 | 09:17 | 19:38 | 20:56 | 22:15 |
| 40 | 08:29 | 08:54 | 09:18 | 19:44 | 20:57 | 22:11 |
| 35 | 08:22 | 08:51 | 09:19 | 19:48 | 20:58 | 22:07 |
| 30 | 08:17 | 08:49 | 09:21 | 19:53 | 20:58 | 22:04 |
| 20 | 08:06 | 08:45 | 09:23 | 20:00 | 20:59 | 21:59 |
| 10 | 07:57 | 08:42 | 09:25 | 20:07 | 21:00 | 21:54 |
| 0 | 07:49 | 08:38 | 09:26 | 20:12 | 21:01 | 21:49 |
| -10 | 07:41 | 08:35 | 09:28 | 20:18 | 21:02 | 21:45 |
| -20 | 07:31 | 08:31 | 09:30 | 20:25 | 21:03 | 21:40 |
| -30 | 07:21 | 08:27 | 09:33 | 20:32 | 21:03 | 21:35 |
| -35 | 07:15 | 08:25 | 09:34 | 20:36 | 21:04 | 21:32 |
| -40 | 07:08 | 08:22 | 09:36 | 20:40 | 21:04 | 21:29 |
| -45 | 07:00 | 08:19 | 09:37 | 20:45 | 21:05 | 21:25 |
| -50 | 06:50 | 08:15 | 09:40 | 20:51 | 21:06 | 21:20 |
| -52 | 06:46 | 08:14 | 09:41 | 20:54 | 21:06 | 21:18 |
| -54 | 06:41 | 08:12 | 09:42 | 20:57 | 21:06 | 21:15 |
| -56 | 06:35 | 08:10 | 09:43 | 21:01 | 21:07 | 21:13 |
| -58 | 06:29 | 08:07 | 09:44 | 21:04 | 21:07 | 21:10 |
| -60 | 06:22 | 08:05 | 09:46 | 21:09 | 21:08 | 21:07 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **31** | 13:22 | 13:27 | 12:13 | 14:01 | 01:36 | 1 | 3 |
| **01** | 13:31 | 13:35 | 12:14 | 14:50 | 02:25 | 2 | 8 |
| **02** | 13:39 | 13:42 | 12:14 | 15:38 | 03:14 | 3 | 15 |

## 2025 February 03, 04, 05 (Mon, Tue, Wed)

| | | Aries | Venus -4.8 | | Mars -1.0 | | Jupiter -2.5 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| **03 Monday** | 0 | 133 25.6 | 135 14.0 | 1 39.4 | 21 12.8 | 26 8.6 | 63 37.4 | 21 39.1 | 144 2.3 | -6 39.2 |
| | 1 | 148 28.0 | 150 14.9 | 1 40.5 | 36 16.1 | 26 8.7 | 78 39.9 | 21 39.1 | 159 4.5 | -6 39.1 |
| | 2 | 163 30.5 | 165 15.8 | 1 41.6 | 51 19.3 | 26 8.7 | 93 42.4 | 21 39.1 | 174 6.7 | -6 39.0 |
| | 3 | 178 33.0 | 180 16.6 | 1 42.7 | 66 22.5 | 26 8.8 | 108 44.9 | 21 39.1 | 189 8.9 | -6 38.9 |
| | 4 | 193 35.4 | 195 17.5 | 1 43.8 | 81 25.7 | 26 8.8 | 123 47.4 | 21 39.1 | 204 11.1 | -6 38.8 |
| | 5 | 208 37.9 | 210 18.4 | 1 44.9 | 96 28.9 | 26 8.9 | 138 49.8 | 21 39.1 | 219 13.3 | -6 38.7 |
| | 6 | 223 40.4 | 225 19.3 | 1 46.0 | 111 32.1 | 26 9.0 | 153 52.3 | 21 39.1 | 234 15.5 | -6 38.6 |
| | 7 | 238 42.8 | 240 20.2 | 1 47.1 | 126 35.3 | 26 9.0 | 168 54.8 | 21 39.1 | 249 17.7 | -6 38.5 |
| | 8 | 253 45.3 | 255 21.0 | 1 48.2 | 141 38.6 | 26 9.1 | 183 57.3 | 21 39.1 | 264 19.9 | -6 38.3 |
| | 9 | 268 47.8 | 270 21.9 | 1 49.3 | 156 41.8 | 26 9.1 | 198 59.7 | 21 39.1 | 279 22.1 | -6 38.2 |
| | 10 | 283 50.2 | 285 22.8 | 1 50.4 | 171 45.0 | 26 9.2 | 214 2.2 | 21 39.1 | 294 24.4 | -6 38.1 |
| | 11 | 298 52.7 | 300 23.7 | 1 51.5 | 186 48.2 | 26 9.2 | 229 4.7 | 21 39.1 | 309 26.6 | -6 38.0 |
| | 12 | 313 55.1 | 315 24.6 | 1 52.6 | 201 51.4 | 26 9.3 | 244 7.2 | 21 39.1 | 324 28.8 | -6 37.9 |
| | 13 | 328 57.6 | 330 25.5 | 1 53.7 | 216 54.6 | 26 9.4 | 259 9.6 | 21 39.1 | 339 31.0 | -6 37.8 |
| | 14 | 344 0.1 | 345 26.3 | 1 54.8 | 231 57.8 | 26 9.4 | 274 12.1 | 21 39.2 | 354 33.2 | -6 37.7 |
| | 15 | 359 2.5 | 0 27.2 | 1 55.9 | 247 1.0 | 26 9.5 | 289 14.6 | 21 39.2 | 9 35.4 | -6 37.6 |
| | 16 | 14 5.0 | 15 28.1 | 1 57.0 | 262 4.2 | 26 9.5 | 304 17.0 | 21 39.2 | 24 37.6 | -6 37.5 |
| | 17 | 29 7.5 | 30 29.0 | 1 58.1 | 277 7.4 | 26 9.6 | 319 19.5 | 21 39.2 | 39 39.8 | -6 37.4 |
| | 18 | 44 9.9 | 45 29.9 | 1 59.2 | 292 10.6 | 26 9.6 | 334 22.0 | 21 39.2 | 54 42.0 | -6 37.2 |
| | 19 | 59 12.4 | 60 30.8 | 2 0.3 | 307 13.8 | 26 9.7 | 349 24.5 | 21 39.2 | 69 44.2 | -6 37.1 |
| | 20 | 74 14.9 | 75 31.7 | 2 1.4 | 322 17.0 | 26 9.7 | 4 26.9 | 21 39.2 | 84 46.4 | -6 37.0 |
| | 21 | 89 17.3 | 90 32.6 | 2 2.5 | 337 20.2 | 26 9.8 | 19 29.4 | 21 39.2 | 99 48.7 | -6 36.9 |
| | 22 | 104 19.8 | 105 33.5 | 2 3.6 | 352 23.3 | 26 9.8 | 34 31.9 | 21 39.2 | 114 50.9 | -6 36.8 |
| | 23 | 119 22.2 | 120 34.4 | 2 4.7 | 7 26.5 | 26 9.9 | 49 34.3 | 21 39.2 | 129 53.1 | -6 36.7 |
| | | MP 15:05 | *v* 0.9 | *d* 1.1 | *v* 3.2 | *d* 0.1 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **04 Tuesday** | 0 | 134 24.7 | 135 35.3 | 2 5.8 | 22 29.7 | 26 9.9 | 64 36.8 | 21 39.2 | 144 55.3 | -6 36.6 |
| | 1 | 149 27.2 | 150 36.3 | 2 6.9 | 37 32.9 | 26 10.0 | 79 39.3 | 21 39.2 | 159 57.5 | -6 36.5 |
| | 2 | 164 29.6 | 165 37.2 | 2 8.0 | 52 36.1 | 26 10.1 | 94 41.7 | 21 39.3 | 174 59.7 | -6 36.4 |
| | 3 | 179 32.1 | 180 38.1 | 2 9.1 | 67 39.3 | 26 10.1 | 109 44.2 | 21 39.3 | 190 1.9 | -6 36.2 |
| | 4 | 194 34.6 | 195 39.0 | 2 10.1 | 82 42.5 | 26 10.2 | 124 46.7 | 21 39.3 | 205 4.1 | -6 36.1 |
| | 5 | 209 37.0 | 210 39.9 | 2 11.2 | 97 45.6 | 26 10.2 | 139 49.2 | 21 39.3 | 220 6.3 | -6 36.0 |
| | 6 | 224 39.5 | 225 40.8 | 2 12.3 | 112 48.8 | 26 10.3 | 154 51.6 | 21 39.3 | 235 8.5 | -6 35.9 |
| | 7 | 239 42.0 | 240 41.7 | 2 13.4 | 127 52.0 | 26 10.3 | 169 54.1 | 21 39.3 | 250 10.7 | -6 35.8 |
| | 8 | 254 44.4 | 255 42.7 | 2 14.5 | 142 55.2 | 26 10.4 | 184 56.6 | 21 39.3 | 265 13.0 | -6 35.7 |
| | 9 | 269 46.9 | 270 43.6 | 2 15.6 | 157 58.3 | 26 10.4 | 199 59.0 | 21 39.3 | 280 15.2 | -6 35.6 |
| | 10 | 284 49.4 | 285 44.5 | 2 16.7 | 173 1.5 | 26 10.4 | 215 1.5 | 21 39.3 | 295 17.4 | -6 35.5 |
| | 11 | 299 51.8 | 300 45.4 | 2 17.8 | 188 4.7 | 26 10.5 | 230 3.9 | 21 39.3 | 310 19.6 | -6 35.4 |
| | 12 | 314 54.3 | 315 46.4 | 2 18.9 | 203 7.9 | 26 10.5 | 245 6.4 | 21 39.3 | 325 21.8 | -6 35.3 |
| | 13 | 329 56.7 | 330 47.3 | 2 20.0 | 218 11.0 | 26 10.6 | 260 8.9 | 21 39.3 | 340 24.0 | -6 35.1 |
| | 14 | 344 59.2 | 345 48.2 | 2 21.0 | 233 14.2 | 26 10.6 | 275 11.3 | 21 39.4 | 355 26.2 | -6 35.0 |
| | 15 | 0 1.7 | 0 49.2 | 2 22.1 | 248 17.4 | 26 10.7 | 290 13.8 | 21 39.4 | 10 28.4 | -6 34.9 |
| | 16 | 15 4.1 | 15 50.1 | 2 23.2 | 263 20.5 | 26 10.7 | 305 16.3 | 21 39.4 | 25 30.6 | -6 34.8 |
| | 17 | 30 6.6 | 30 51.0 | 2 24.3 | 278 23.7 | 26 10.8 | 320 18.7 | 21 39.4 | 40 32.8 | -6 34.7 |
| | 18 | 45 9.1 | 45 52.0 | 2 25.4 | 293 26.9 | 26 10.8 | 335 21.2 | 21 39.4 | 55 35.0 | -6 34.6 |
| | 19 | 60 11.5 | 60 52.9 | 2 26.5 | 308 30.0 | 26 10.9 | 350 23.7 | 21 39.4 | 70 37.2 | -6 34.5 |
| | 20 | 75 14.0 | 75 53.9 | 2 27.6 | 323 33.2 | 26 10.9 | 5 26.1 | 21 39.4 | 85 39.4 | -6 34.4 |
| | 21 | 90 16.5 | 90 54.8 | 2 28.6 | 338 36.3 | 26 11.0 | 20 28.6 | 21 39.4 | 100 41.7 | -6 34.3 |
| | 22 | 105 18.9 | 105 55.8 | 2 29.7 | 353 39.5 | 26 11.0 | 35 31.0 | 21 39.4 | 115 43.9 | -6 34.1 |
| | 23 | 120 21.4 | 120 56.7 | 2 30.8 | 8 42.7 | 26 11.0 | 50 33.5 | 21 39.4 | 130 46.1 | -6 34.0 |
| | | MP 15:01 | *v* 0.9 | *d* 1.1 | *v* 3.2 | *d* 0.1 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **05 Wednesday** | 0 | 135 23.9 | 135 57.7 | 2 31.9 | 23 45.8 | 26 11.1 | 65 36.0 | 21 39.5 | 145 48.3 | -6 33.9 |
| | 1 | 150 26.3 | 150 58.6 | 2 33.0 | 38 49.0 | 26 11.1 | 80 38.4 | 21 39.5 | 160 50.5 | -6 33.8 |
| | 2 | 165 28.8 | 165 59.6 | 2 34.0 | 53 52.1 | 26 11.2 | 95 40.9 | 21 39.5 | 175 52.7 | -6 33.7 |
| | 3 | 180 31.2 | 181 0.5 | 2 35.1 | 68 55.3 | 26 11.2 | 110 43.3 | 21 39.5 | 190 54.9 | -6 33.6 |
| | 4 | 195 33.7 | 196 1.5 | 2 36.2 | 83 58.4 | 26 11.3 | 125 45.8 | 21 39.5 | 205 57.1 | -6 33.5 |
| | 5 | 210 36.2 | 211 2.4 | 2 37.3 | 99 1.6 | 26 11.3 | 140 48.3 | 21 39.5 | 220 59.3 | -6 33.4 |
| | 6 | 225 38.6 | 226 3.4 | 2 38.4 | 114 4.7 | 26 11.3 | 155 50.7 | 21 39.5 | 236 1.5 | -6 33.3 |
| | 7 | 240 41.1 | 241 4.4 | 2 39.4 | 129 7.9 | 26 11.4 | 170 53.2 | 21 39.5 | 251 3.7 | -6 33.1 |
| | 8 | 255 43.6 | 256 5.3 | 2 40.5 | 144 11.0 | 26 11.4 | 185 55.6 | 21 39.5 | 266 5.9 | -6 33.0 |
| | 9 | 270 46.0 | 271 6.3 | 2 41.6 | 159 14.1 | 26 11.5 | 200 58.1 | 21 39.5 | 281 8.1 | -6 32.9 |
| | 10 | 285 48.5 | 286 7.3 | 2 42.7 | 174 17.3 | 26 11.5 | 216 0.5 | 21 39.5 | 296 10.3 | -6 32.8 |
| | 11 | 300 51.0 | 301 8.2 | 2 43.8 | 189 20.4 | 26 11.6 | 231 3.0 | 21 39.6 | 311 12.6 | -6 32.7 |
| | 12 | 315 53.4 | 316 9.2 | 2 44.8 | 204 23.6 | 26 11.6 | 246 5.5 | 21 39.6 | 326 14.8 | -6 32.6 |
| | 13 | 330 55.9 | 331 10.2 | 2 45.9 | 219 26.7 | 26 11.6 | 261 7.9 | 21 39.6 | 341 17.0 | -6 32.5 |
| | 14 | 345 58.4 | 346 11.1 | 2 47.0 | 234 29.8 | 26 11.7 | 276 10.4 | 21 39.6 | 356 19.2 | -6 32.4 |
| | 15 | 1 0.8 | 1 12.1 | 2 48.1 | 249 33.0 | 26 11.7 | 291 12.8 | 21 39.6 | 11 21.4 | -6 32.3 |
| | 16 | 16 3.3 | 16 13.1 | 2 49.1 | 264 36.1 | 26 11.7 | 306 15.3 | 21 39.6 | 26 23.6 | -6 32.1 |
| | 17 | 31 5.7 | 31 14.1 | 2 50.2 | 279 39.2 | 26 11.8 | 321 17.7 | 21 39.6 | 41 25.8 | -6 32.0 |
| | 18 | 46 8.2 | 46 15.1 | 2 51.3 | 294 42.3 | 26 11.8 | 336 20.2 | 21 39.6 | 56 28.0 | -6 31.9 |
| | 19 | 61 10.7 | 61 16.1 | 2 52.3 | 309 45.5 | 26 11.9 | 351 22.6 | 21 39.6 | 71 30.2 | -6 31.8 |
| | 20 | 76 13.1 | 76 17.0 | 2 53.4 | 324 48.6 | 26 11.9 | 6 25.1 | 21 39.7 | 86 32.4 | -6 31.7 |
| | 21 | 91 15.6 | 91 18.0 | 2 54.5 | 339 51.7 | 26 11.9 | 21 27.5 | 21 39.7 | 101 34.6 | -6 31.6 |
| | 22 | 106 18.1 | 106 19.0 | 2 55.6 | 354 54.8 | 26 12.0 | 36 30.0 | 21 39.7 | 116 36.8 | -6 31.5 |
| | 23 | 121 20.5 | 121 20.0 | 2 56.6 | 9 58.0 | 26 12.0 | 51 32.4 | 21 39.7 | 131 39.0 | -6 31.4 |
| | | MP 14:57 | *v* 1.0 | *d* 1.1 | *v* 3.2 | *d* 0.0 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 12.5 |
| Achernar | 335 20.3 | -57 6.8 |
| Acrux | 172 59.7 | -63 14.1 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.6 | 55 49.1 |
| Alkaid | 152 51.8 | 49 10.9 |
| Alnair | 27 33.3 | -46 50.5 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.1 |
| Alphecca | 126 3.8 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.8 |
| Altair | 62 0.2 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.4 |
| Antares | 112 15.9 | -26 29.2 |
| Arcturus | 145 47.8 | 19 2.9 |
| Atria | 107 10.4 | -69 4.1 |
| Avior | 234 14.1 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.9 | -52 42.7 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.3 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.8 |
| Eltanin | 90 42.5 | 51 28.8 |
| Enif | 33 39.1 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.3 | -57 15.1 |
| Gienah | 175 43.3 | -17 40.9 |
| Hadar | 148 35.8 | -60 29.4 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.7 | -34 22.3 |
| Kochab | 137 19.8 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.2 |
| Menkent | 147 57.5 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.1 |
| Mirfak | 308 28.1 | 49 57.2 |
| Nunki | 75 48.0 | -26 16.0 |
| Peacock | 53 6.2 | -56 39.3 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.4 | 5 9.6 |
| Rasalhague | 95 58.7 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.4 |
| Rigil Kent. | 139 40.2 | -60 56.1 |
| Sabik | 102 2.9 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.7 |
| Shaula | 96 10.6 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.1 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.0 |
| Vega | 80 33.5 | 38 48.2 |
| Zuben'ubi | 136 56.0 | -16 8.8 |

| **03 Mon** | SHA | MP |
|---|---|---|
| Venus | 1 48.5 | 14:58 |
| Mars | 247 47.3 | 22:30 |
| Jupiter | 290 11.9 | 19:42 |
| Saturn | 10 36.7 | 14:22 |

| **04 Tue** | SHA | MP |
|---|---|---|
| Venus | 1 10.6 | 14:57 |
| Mars | 248 5.0 | 22:25 |
| Jupiter | 290 12.1 | 19:38 |
| Saturn | 10 30.6 | 14:18 |

| **05 Wed** | SHA | MP |
|---|---|---|
| Venus | 0 33.8 | 14:55 |
| Mars | 248 22.0 | 22:20 |
| Jupiter | 290 12.1 | 19:34 |
| Saturn | 10 24.4 | 14:15 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **03 Monday** | 0 | 176 33.6 | -16 30.6 | 121 25.3 | 11.5 | 6 39.1 | 16.8 | 59.6 |
| | 1 | 191 33.5 | -16 29.9 | 135 55.8 | 11.5 | 6 55.9 | 16.7 | 59.6 |
| | 2 | 206 33.4 | -16 29.1 | 150 26.3 | 11.5 | 7 12.6 | 16.7 | 59.6 |
| | 3 | 221 33.4 | -16 28.4 | 164 56.7 | 11.4 | 7 29.3 | 16.6 | 59.6 |
| | 4 | 236 33.3 | -16 27.7 | 179 27.2 | 11.4 | 7 45.9 | 16.6 | 59.6 |
| | 5 | 251 33.3 | -16 26.9 | 193 57.6 | 11.4 | 8 2.5 | 16.5 | 59.6 |
| | 6 | 266 33.2 | -16 26.2 | 208 27.9 | 11.3 | 8 19.1 | 16.5 | 59.6 |
| | 7 | 281 33.1 | -16 25.5 | 222 58.2 | 11.3 | 8 35.6 | 16.5 | 59.6 |
| | 8 | 296 33.1 | -16 24.7 | 237 28.5 | 11.2 | 8 52.0 | 16.4 | 59.6 |
| | 9 | 311 33.0 | -16 24.0 | 251 58.8 | 11.2 | 9 8.4 | 16.3 | 59.5 |
| | 10 | 326 32.9 | -16 23.2 | 266 29.0 | 11.2 | 9 24.8 | 16.3 | 59.5 |
| | 11 | 341 32.9 | -16 22.5 | 280 59.1 | 11.1 | 9 41.1 | 16.2 | 59.5 |
| | 12 | 356 32.8 | -16 21.7 | 295 29.3 | 11.1 | 9 57.3 | 16.2 | 59.5 |
| | 13 | 11 32.7 | -16 21.0 | 309 59.3 | 11.0 | 10 13.5 | 16.1 | 59.5 |
| | 14 | 26 32.7 | -16 20.3 | 324 29.4 | 11.0 | 10 29.6 | 16.1 | 59.5 |
| | 15 | 41 32.6 | -16 19.5 | 338 59.4 | 10.9 | 10 45.7 | 16.0 | 59.5 |
| | 16 | 56 32.5 | -16 18.8 | 353 29.3 | 10.9 | 11 1.7 | 15.9 | 59.5 |
| | 17 | 71 32.5 | -16 18.0 | 7 59.2 | 10.8 | 11 17.6 | 15.9 | 59.5 |
| | 18 | 86 32.4 | -16 17.3 | 22 29.1 | 10.8 | 11 33.5 | 15.8 | 59.5 |
| | 19 | 101 32.4 | -16 16.5 | 36 58.8 | 10.7 | 11 49.3 | 15.7 | 59.5 |
| | 20 | 116 32.3 | -16 15.8 | 51 28.6 | 10.7 | 12 5.1 | 15.7 | 59.5 |
| | 21 | 131 32.2 | -16 15.0 | 65 58.3 | 10.6 | 12 20.7 | 15.6 | 59.4 |
| | 22 | 146 32.2 | -16 14.3 | 80 27.9 | 10.6 | 12 36.3 | 15.5 | 59.4 |
| | 23 | 161 32.1 | -16 13.6 | 94 57.5 | 10.5 | 12 51.9 | 15.5 | 59.4 |
| | | *v* -0.1 | SD 16.2 | *d* -0.7 | | SD 16.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **04 Tuesday** | 0 | 176 32.1 | -16 12.8 | 109 27.0 | 10.5 | 13 7.3 | 15.4 | 59.4 |
| | 1 | 191 32.0 | -16 12.1 | 123 56.5 | 10.4 | 13 22.7 | 15.3 | 59.4 |
| | 2 | 206 31.9 | -16 11.3 | 138 25.9 | 10.4 | 13 38.0 | 15.2 | 59.4 |
| | 3 | 221 31.9 | -16 10.6 | 152 55.3 | 10.3 | 13 53.2 | 15.1 | 59.4 |
| | 4 | 236 31.8 | -16 9.8 | 167 24.6 | 10.2 | 14 8.4 | 15.1 | 59.4 |
| | 5 | 251 31.8 | -16 9.1 | 181 53.8 | 10.2 | 14 23.4 | 15.0 | 59.4 |
| | 6 | 266 31.7 | -16 8.3 | 196 23.0 | 10.1 | 14 38.4 | 14.9 | 59.4 |
| | 7 | 281 31.7 | -16 7.6 | 210 52.1 | 10.0 | 14 53.3 | 14.8 | 59.3 |
| | 8 | 296 31.6 | -16 6.8 | 225 21.1 | 10.0 | 15 8.1 | 14.7 | 59.3 |
| | 9 | 311 31.5 | -16 6.1 | 239 50.1 | 9.9 | 15 22.8 | 14.6 | 59.3 |
| | 10 | 326 31.5 | -16 5.3 | 254 19.1 | 9.9 | 15 37.4 | 14.5 | 59.3 |
| | 11 | 341 31.4 | -16 4.5 | 268 47.9 | 9.8 | 15 52.0 | 14.4 | 59.3 |
| | 12 | 356 31.4 | -16 3.8 | 283 16.7 | 9.7 | 16 6.4 | 14.4 | 59.3 |
| | 13 | 11 31.3 | -16 3.0 | 297 45.4 | 9.7 | 16 20.8 | 14.3 | 59.3 |
| | 14 | 26 31.3 | -16 2.3 | 312 14.1 | 9.6 | 16 35.0 | 14.2 | 59.3 |
| | 15 | 41 31.2 | -16 1.5 | 326 42.7 | 9.5 | 16 49.2 | 14.1 | 59.3 |
| | 16 | 56 31.2 | -16 0.8 | 341 11.2 | 9.4 | 17 3.3 | 14.0 | 59.2 |
| | 17 | 71 31.1 | -16 0.0 | 355 39.6 | 9.4 | 17 17.2 | 13.9 | 59.2 |
| | 18 | 86 31.1 | -15 59.3 | 10 8.0 | 9.3 | 17 31.1 | 13.8 | 59.2 |
| | 19 | 101 31.0 | -15 58.5 | 24 36.3 | 9.2 | 17 44.8 | 13.6 | 59.2 |
| | 20 | 116 31.0 | -15 57.7 | 39 4.5 | 9.2 | 17 58.5 | 13.5 | 59.2 |
| | 21 | 131 30.9 | -15 57.0 | 53 32.7 | 9.1 | 18 12.0 | 13.4 | 59.2 |
| | 22 | 146 30.9 | -15 56.2 | 68 0.8 | 9.0 | 18 25.5 | 13.3 | 59.2 |
| | 23 | 161 30.8 | -15 55.5 | 82 28.8 | 8.9 | 18 38.8 | 13.2 | 59.2 |
| | | *v* -0.1 | SD 16.2 | *d* -0.7 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **05 Wednesday** | 0 | 176 30.8 | -15 54.7 | 96 56.7 | 8.9 | 18 52.0 | 13.1 | 59.1 |
| | 1 | 191 30.7 | -15 54.0 | 111 24.6 | 8.8 | 19 5.1 | 13.0 | 59.1 |
| | 2 | 206 30.7 | -15 53.2 | 125 52.3 | 8.7 | 19 18.1 | 12.9 | 59.1 |
| | 3 | 221 30.6 | -15 52.4 | 140 20.1 | 8.6 | 19 31.0 | 12.8 | 59.1 |
| | 4 | 236 30.6 | -15 51.7 | 154 47.7 | 8.6 | 19 43.7 | 12.6 | 59.1 |
| | 5 | 251 30.5 | -15 50.9 | 169 15.2 | 8.5 | 19 56.4 | 12.5 | 59.1 |
| | 6 | 266 30.5 | -15 50.1 | 183 42.7 | 8.4 | 20 8.9 | 12.4 | 59.1 |
| | 7 | 281 30.4 | -15 49.4 | 198 10.1 | 8.3 | 20 21.3 | 12.3 | 59.0 |
| | 8 | 296 30.4 | -15 48.6 | 212 37.5 | 8.3 | 20 33.6 | 12.2 | 59.0 |
| | 9 | 311 30.3 | -15 47.9 | 227 4.7 | 8.2 | 20 45.7 | 12.0 | 59.0 |
| | 10 | 326 30.3 | -15 47.1 | 241 31.9 | 8.1 | 20 57.7 | 11.9 | 59.0 |
| | 11 | 341 30.2 | -15 46.3 | 255 59.0 | 8.0 | 21 9.6 | 11.8 | 59.0 |
| | 12 | 356 30.2 | -15 45.6 | 270 26.0 | 7.9 | 21 21.4 | 11.6 | 59.0 |
| | 13 | 11 30.1 | -15 44.8 | 284 52.9 | 7.9 | 21 33.0 | 11.5 | 59.0 |
| | 14 | 26 30.1 | -15 44.0 | 299 19.8 | 7.8 | 21 44.5 | 11.4 | 58.9 |
| | 15 | 41 30.0 | -15 43.3 | 313 46.6 | 7.7 | 21 55.9 | 11.2 | 58.9 |
| | 16 | 56 30.0 | -15 42.5 | 328 13.3 | 7.6 | 22 7.2 | 11.1 | 58.9 |
| | 17 | 71 29.9 | -15 41.7 | 342 39.9 | 7.6 | 22 18.3 | 11.0 | 58.9 |
| | 18 | 86 29.9 | -15 41.0 | 357 6.5 | 7.5 | 22 29.2 | 10.8 | 58.9 |
| | 19 | 101 29.9 | -15 40.2 | 11 33.0 | 7.4 | 22 40.1 | 10.7 | 58.9 |
| | 20 | 116 29.8 | -15 39.4 | 25 59.4 | 7.3 | 22 50.8 | 10.6 | 58.9 |
| | 21 | 131 29.8 | -15 38.7 | 40 25.7 | 7.2 | 23 1.3 | 10.4 | 58.8 |
| | 22 | 146 29.7 | -15 37.9 | 54 51.9 | 7.2 | 23 11.7 | 10.3 | 58.8 |
| | 23 | 161 29.7 | -15 37.1 | 69 18.1 | 7.1 | 23 22.0 | 10.1 | 58.8 |
| | | *v* -0.1 | SD 16.2 | *d* -0.8 | | SD 16.1 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:01 | 08:28 | 10:09 | 14:20 | 16:01 | 17:28 |
| 70 | 06:54 | 08:11 | 09:33 | 14:56 | 16:18 | 17:35 |
| 68 | 06:49 | 07:58 | 09:08 | 15:21 | 16:31 | 17:40 |
| 66 | 06:44 | 07:47 | 08:48 | 15:40 | 16:42 | 17:45 |
| 64 | 06:39 | 07:37 | 08:33 | 15:56 | 16:52 | 17:50 |
| 62 | 06:35 | 07:29 | 08:20 | 16:09 | 17:00 | 17:54 |
| 60 | 06:32 | 07:22 | 08:09 | 16:20 | 17:07 | 17:57 |
| 58 | 06:28 | 07:16 | 07:59 | 16:30 | 17:13 | 18:00 |
| 56 | 06:25 | 07:10 | 07:51 | 16:38 | 17:19 | 18:03 |
| 54 | 06:22 | 07:05 | 07:43 | 16:45 | 17:24 | 18:06 |
| 52 | 06:20 | 07:00 | 07:36 | 16:52 | 17:28 | 18:09 |
| 50 | 06:17 | 06:56 | 07:30 | 16:58 | 17:33 | 18:11 |
| 45 | 06:11 | 06:46 | 07:17 | 17:11 | 17:42 | 18:17 |
| 40 | 06:06 | 06:38 | 07:06 | 17:22 | 17:50 | 18:22 |
| 35 | 06:00 | 06:31 | 06:57 | 17:31 | 17:57 | 18:28 |
| 30 | 05:55 | 06:24 | 06:49 | 17:39 | 18:04 | 18:33 |
| 20 | 05:45 | 06:12 | 06:35 | 17:53 | 18:16 | 18:42 |
| 10 | 05:35 | 06:00 | 06:22 | 18:06 | 18:27 | 18:53 |
| 0 | 05:24 | 05:49 | 06:10 | 18:17 | 18:39 | 19:04 |
| -10 | 05:11 | 05:36 | 05:58 | 18:29 | 18:51 | 19:17 |
| -20 | 04:55 | 05:22 | 05:45 | 18:42 | 19:05 | 19:33 |
| -30 | 04:34 | 05:05 | 05:30 | 18:57 | 19:22 | 19:53 |
| -35 | 04:21 | 04:54 | 05:22 | 19:05 | 19:33 | 20:06 |
| -40 | 04:06 | 04:42 | 05:12 | 19:15 | 19:45 | 20:21 |
| -45 | 03:46 | 04:27 | 05:00 | 19:27 | 20:00 | 20:41 |
| -50 | 03:19 | 04:08 | 04:46 | 19:41 | 20:18 | 21:07 |
| -52 | 03:06 | 03:59 | 04:39 | 19:48 | 20:27 | 21:20 |
| -54 | 02:50 | 03:49 | 04:31 | 19:55 | 20:37 | 21:35 |
| -56 | 02:31 | 03:37 | 04:23 | 20:03 | 20:49 | 21:54 |
| -58 | 02:06 | 03:23 | 04:13 | 20:13 | 21:03 | 22:18 |
| -60 | 01:29 | 03:06 | 04:03 | 20:23 | 21:19 | 22:52 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **03** | **04** | **05** | **03** | **04** | **05** |
| 72 | 08:17 | 07:19 | | –:– | 01:56 | |
| 70 | 08:30 | 07:50 | 05:55 | –:– | 01:28 | 05:13 |
| 68 | 08:40 | 08:12 | 07:23 | –:– | 01:07 | 03:46 |
| 66 | 08:49 | 08:30 | 08:03 | –:– | 00:51 | 03:08 |
| 64 | 08:57 | 08:45 | 08:30 | –:– | 00:38 | 02:41 |
| 62 | 09:03 | 08:58 | 08:52 | –:– | 00:27 | 02:21 |
| 60 | 09:09 | 09:08 | 09:09 | –:– | 00:17 | 02:05 |
| 58 | 09:14 | 09:18 | 09:24 | –:– | 00:09 | 01:51 |
| 56 | 09:18 | 09:26 | 09:37 | –:– | 00:02 | 01:39 |
| 54 | 09:22 | 09:33 | 09:48 | 23:56 | –:– | 01:29 |
| 52 | 09:26 | 09:40 | 09:58 | 23:50 | –:– | 01:20 |
| 50 | 09:29 | 09:46 | 10:06 | 23:45 | –:– | 01:11 |
| 45 | 09:36 | 09:59 | 10:25 | 23:34 | –:– | 00:54 |
| 40 | 09:43 | 10:09 | 10:41 | 23:25 | –:– | 00:40 |
| 35 | 09:48 | 10:19 | 10:54 | 23:17 | –:– | 00:28 |
| 30 | 09:53 | 10:27 | 11:05 | 23:10 | –:– | 00:18 |
| 20 | 10:01 | 10:41 | 11:25 | 22:59 | –:– | 00:00 |
| 10 | 10:08 | 10:54 | 11:43 | 22:48 | 23:45 | –:– |
| 0 | 10:15 | 11:06 | 11:59 | 22:39 | 23:31 | –:– |
| -10 | 10:22 | 11:18 | 12:15 | 22:29 | 23:16 | –:– |
| -20 | 10:30 | 11:30 | 12:33 | 22:19 | 23:01 | 23:47 |
| -30 | 10:38 | 11:45 | 12:54 | 22:08 | 22:44 | 23:25 |
| -35 | 10:44 | 11:54 | 13:06 | 22:01 | 22:34 | 23:12 |
| -40 | 10:49 | 12:04 | 13:20 | 21:54 | 22:23 | 22:57 |
| -45 | 10:56 | 12:16 | 13:36 | 21:45 | 22:09 | 22:39 |
| -50 | 11:04 | 12:30 | 13:57 | 21:35 | 21:53 | 22:17 |
| -52 | 11:08 | 12:37 | 14:07 | 21:30 | 21:46 | 22:06 |
| -54 | 11:12 | 12:44 | 14:18 | 21:25 | 21:37 | 21:55 |
| -56 | 11:17 | 12:53 | 14:31 | 21:19 | 21:28 | 21:41 |
| -58 | 11:22 | 13:02 | 14:46 | 21:13 | 21:18 | 21:25 |
| -60 | 11:28 | 13:13 | 15:04 | 21:06 | 21:05 | 21:07 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **03** | 13:46 | 13:49 | 12:14 | 16:27 | 04:02 | 4 | 24 |
| **04** | 13:52 | 13:54 | 12:14 | 17:18 | 04:52 | 5 | 35 |
| **05** | 13:57 | 13:59 | 12:14 | 18:12 | 05:45 | 6 | 46 |

## 2025 February 06, 07, 08 (Thu, Fri, Sat)

| | | Aries | Venus -4.8 | | Mars -0.9 | | Jupiter -2.5 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 06 Thursday | 0 | 136 23.0 | 136 21.0 | 2 57.7 | 25 1.1 | 26 12.0 | 66 34.9 | 21 39.7 | 146 41.2 | -6 31.2 |
| | 1 | 151 25.5 | 151 22.0 | 2 58.8 | 40 4.2 | 26 12.1 | 81 37.3 | 21 39.7 | 161 43.4 | -6 31.1 |
| | 2 | 166 27.9 | 166 23.0 | 2 59.8 | 55 7.3 | 26 12.1 | 96 39.8 | 21 39.7 | 176 45.6 | -6 31.0 |
| | 3 | 181 30.4 | 181 24.0 | 3 0.9 | 70 10.4 | 26 12.1 | 111 42.2 | 21 39.7 | 191 47.8 | -6 30.9 |
| | 4 | 196 32.8 | 196 25.0 | 3 2.0 | 85 13.6 | 26 12.2 | 126 44.7 | 21 39.7 | 206 50.1 | -6 30.8 |
| | 5 | 211 35.3 | 211 26.0 | 3 3.0 | 100 16.7 | 26 12.2 | 141 47.1 | 21 39.7 | 221 52.3 | -6 30.7 |
| | 6 | 226 37.8 | 226 27.0 | 3 4.1 | 115 19.8 | 26 12.2 | 156 49.6 | 21 39.8 | 236 54.5 | -6 30.6 |
| | 7 | 241 40.2 | 241 28.0 | 3 5.2 | 130 22.9 | 26 12.3 | 171 52.0 | 21 39.8 | 251 56.7 | -6 30.5 |
| | 8 | 256 42.7 | 256 29.0 | 3 6.2 | 145 26.0 | 26 12.3 | 186 54.5 | 21 39.8 | 266 58.9 | -6 30.4 |
| | 9 | 271 45.2 | 271 30.0 | 3 7.3 | 160 29.1 | 26 12.3 | 201 56.9 | 21 39.8 | 282 1.1 | -6 30.2 |
| | 10 | 286 47.6 | 286 31.0 | 3 8.4 | 175 32.2 | 26 12.4 | 216 59.4 | 21 39.8 | 297 3.3 | -6 30.1 |
| | 11 | 301 50.1 | 301 32.1 | 3 9.4 | 190 35.3 | 26 12.4 | 232 1.8 | 21 39.8 | 312 5.5 | -6 30.0 |
| | 12 | 316 52.6 | 316 33.1 | 3 10.5 | 205 38.4 | 26 12.4 | 247 4.3 | 21 39.8 | 327 7.7 | -6 29.9 |
| | 13 | 331 55.0 | 331 34.1 | 3 11.5 | 220 41.5 | 26 12.5 | 262 6.7 | 21 39.8 | 342 9.9 | -6 29.8 |
| | 14 | 346 57.5 | 346 35.1 | 3 12.6 | 235 44.6 | 26 12.5 | 277 9.2 | 21 39.8 | 357 12.1 | -6 29.7 |
| | 15 | 2 0.0 | 1 36.1 | 3 13.7 | 250 47.7 | 26 12.5 | 292 11.6 | 21 39.9 | 12 14.3 | -6 29.6 |
| | 16 | 17 2.4 | 16 37.2 | 3 14.7 | 265 50.8 | 26 12.6 | 307 14.1 | 21 39.9 | 27 16.5 | -6 29.5 |
| | 17 | 32 4.9 | 31 38.2 | 3 15.8 | 280 53.9 | 26 12.6 | 322 16.5 | 21 39.9 | 42 18.7 | -6 29.3 |
| | 18 | 47 7.3 | 46 39.2 | 3 16.8 | 295 57.0 | 26 12.6 | 337 18.9 | 21 39.9 | 57 20.9 | -6 29.2 |
| | 19 | 62 9.8 | 61 40.2 | 3 17.9 | 311 0.1 | 26 12.6 | 352 21.4 | 21 39.9 | 72 23.1 | -6 29.1 |
| | 20 | 77 12.3 | 76 41.3 | 3 19.0 | 326 3.2 | 26 12.7 | 7 23.8 | 21 39.9 | 87 25.3 | -6 29.0 |
| | 21 | 92 14.7 | 91 42.3 | 3 20.0 | 341 6.3 | 26 12.7 | 22 26.3 | 21 39.9 | 102 27.5 | -6 28.9 |
| | 22 | 107 17.2 | 106 43.3 | 3 21.1 | 356 9.4 | 26 12.7 | 37 28.7 | 21 39.9 | 117 29.7 | -6 28.8 |
| | 23 | 122 19.7 | 121 44.4 | 3 22.1 | 11 12.5 | 26 12.8 | 52 31.2 | 21 40.0 | 132 31.9 | -6 28.7 |
| | | MP 14:53 | *v* 1.0 | *d* 1.1 | *v* 3.1 | *d* 0.0 | *v* 2.5 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 07 Friday | 0 | 137 22.1 | 136 45.4 | 3 23.2 | 26 15.5 | 26 12.8 | 67 33.6 | 21 40.0 | 147 34.2 | -6 28.6 |
| | 1 | 152 24.6 | 151 46.5 | 3 24.2 | 41 18.6 | 26 12.8 | 82 36.0 | 21 40.0 | 162 36.4 | -6 28.4 |
| | 2 | 167 27.1 | 166 47.5 | 3 25.3 | 56 21.7 | 26 12.8 | 97 38.5 | 21 40.0 | 177 38.6 | -6 28.3 |
| | 3 | 182 29.5 | 181 48.6 | 3 26.3 | 71 24.8 | 26 12.9 | 112 40.9 | 21 40.0 | 192 40.8 | -6 28.2 |
| | 4 | 197 32.0 | 196 49.6 | 3 27.4 | 86 27.9 | 26 12.9 | 127 43.4 | 21 40.0 | 207 43.0 | -6 28.1 |
| | 5 | 212 34.5 | 211 50.7 | 3 28.5 | 101 31.0 | 26 12.9 | 142 45.8 | 21 40.0 | 222 45.2 | -6 28.0 |
| | 6 | 227 36.9 | 226 51.7 | 3 29.5 | 116 34.0 | 26 12.9 | 157 48.2 | 21 40.0 | 237 47.4 | -6 27.9 |
| | 7 | 242 39.4 | 241 52.8 | 3 30.6 | 131 37.1 | 26 13.0 | 172 50.7 | 21 40.0 | 252 49.6 | -6 27.8 |
| | 8 | 257 41.8 | 256 53.8 | 3 31.6 | 146 40.2 | 26 13.0 | 187 53.1 | 21 40.1 | 267 51.8 | -6 27.7 |
| | 9 | 272 44.3 | 271 54.9 | 3 32.7 | 161 43.3 | 26 13.0 | 202 55.6 | 21 40.1 | 282 54.0 | -6 27.5 |
| | 10 | 287 46.8 | 286 55.9 | 3 33.7 | 176 46.3 | 26 13.0 | 217 58.0 | 21 40.1 | 297 56.2 | -6 27.4 |
| | 11 | 302 49.2 | 301 57.0 | 3 34.8 | 191 49.4 | 26 13.1 | 233 0.4 | 21 40.1 | 312 58.4 | -6 27.3 |
| | 12 | 317 51.7 | 316 58.1 | 3 35.8 | 206 52.5 | 26 13.1 | 248 2.9 | 21 40.1 | 328 0.6 | -6 27.2 |
| | 13 | 332 54.2 | 331 59.1 | 3 36.8 | 221 55.5 | 26 13.1 | 263 5.3 | 21 40.1 | 343 2.8 | -6 27.1 |
| | 14 | 347 56.6 | 347 0.2 | 3 37.9 | 236 58.6 | 26 13.1 | 278 7.8 | 21 40.1 | 358 5.0 | -6 27.0 |
| | 15 | 2 59.1 | 2 1.3 | 3 38.9 | 252 1.7 | 26 13.2 | 293 10.2 | 21 40.1 | 13 7.2 | -6 26.9 |
| | 16 | 18 1.6 | 17 2.3 | 3 40.0 | 267 4.7 | 26 13.2 | 308 12.6 | 21 40.2 | 28 9.4 | -6 26.8 |
| | 17 | 33 4.0 | 32 3.4 | 3 41.0 | 282 7.8 | 26 13.2 | 323 15.1 | 21 40.2 | 43 11.6 | -6 26.6 |
| | 18 | 48 6.5 | 47 4.5 | 3 42.1 | 297 10.8 | 26 13.2 | 338 17.5 | 21 40.2 | 58 13.8 | -6 26.5 |
| | 19 | 63 9.0 | 62 5.5 | 3 43.1 | 312 13.9 | 26 13.2 | 353 19.9 | 21 40.2 | 73 16.0 | -6 26.4 |
| | 20 | 78 11.4 | 77 6.6 | 3 44.2 | 327 17.0 | 26 13.3 | 8 22.4 | 21 40.2 | 88 18.2 | -6 26.3 |
| | 21 | 93 13.9 | 92 7.7 | 3 45.2 | 342 20.0 | 26 13.3 | 23 24.8 | 21 40.2 | 103 20.4 | -6 26.2 |
| | 22 | 108 16.3 | 107 8.8 | 3 46.2 | 357 23.1 | 26 13.3 | 38 27.2 | 21 40.2 | 118 22.6 | -6 26.1 |
| | 23 | 123 18.8 | 122 9.9 | 3 47.3 | 12 26.1 | 26 13.3 | 53 29.7 | 21 40.2 | 133 24.8 | -6 26.0 |
| | | MP 14:49 | *v* 1.0 | *d* 1.1 | *v* 3.1 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Saturday | 0 | 138 21.3 | 137 11.0 | 3 48.3 | 27 29.2 | 26 13.3 | 68 32.1 | 21 40.3 | 148 27.0 | -6 25.9 |
| | 1 | 153 23.7 | 152 12.1 | 3 49.4 | 42 32.2 | 26 13.4 | 83 34.5 | 21 40.3 | 163 29.2 | -6 25.7 |
| | 2 | 168 26.2 | 167 13.1 | 3 50.4 | 57 35.3 | 26 13.4 | 98 37.0 | 21 40.3 | 178 31.4 | -6 25.6 |
| | 3 | 183 28.7 | 182 14.2 | 3 51.4 | 72 38.3 | 26 13.4 | 113 39.4 | 21 40.3 | 193 33.6 | -6 25.5 |
| | 4 | 198 31.1 | 197 15.3 | 3 52.5 | 87 41.3 | 26 13.4 | 128 41.8 | 21 40.3 | 208 35.8 | -6 25.4 |
| | 5 | 213 33.6 | 212 16.4 | 3 53.5 | 102 44.4 | 26 13.4 | 143 44.3 | 21 40.3 | 223 38.0 | -6 25.3 |
| | 6 | 228 36.1 | 227 17.5 | 3 54.6 | 117 47.4 | 26 13.5 | 158 46.7 | 21 40.3 | 238 40.2 | -6 25.2 |
| | 7 | 243 38.5 | 242 18.6 | 3 55.6 | 132 50.5 | 26 13.5 | 173 49.1 | 21 40.4 | 253 42.5 | -6 25.1 |
| | 8 | 258 41.0 | 257 19.7 | 3 56.6 | 147 53.5 | 26 13.5 | 188 51.5 | 21 40.4 | 268 44.7 | -6 25.0 |
| | 9 | 273 43.5 | 272 20.8 | 3 57.7 | 162 56.6 | 26 13.5 | 203 54.0 | 21 40.4 | 283 46.9 | -6 24.8 |
| | 10 | 288 45.9 | 287 21.9 | 3 58.7 | 177 59.6 | 26 13.5 | 218 56.4 | 21 40.4 | 298 49.1 | -6 24.7 |
| | 11 | 303 48.4 | 302 23.1 | 3 59.7 | 193 2.6 | 26 13.5 | 233 58.8 | 21 40.4 | 313 51.3 | -6 24.6 |
| | 12 | 318 50.8 | 317 24.2 | 4 0.8 | 208 5.7 | 26 13.6 | 249 1.3 | 21 40.4 | 328 53.5 | -6 24.5 |
| | 13 | 333 53.3 | 332 25.3 | 4 1.8 | 223 8.7 | 26 13.6 | 264 3.7 | 21 40.4 | 343 55.7 | -6 24.4 |
| | 14 | 348 55.8 | 347 26.4 | 4 2.8 | 238 11.7 | 26 13.6 | 279 6.1 | 21 40.4 | 358 57.9 | -6 24.3 |
| | 15 | 3 58.2 | 2 27.5 | 4 3.9 | 253 14.7 | 26 13.6 | 294 8.5 | 21 40.5 | 14 0.1 | -6 24.2 |
| | 16 | 19 0.7 | 17 28.6 | 4 4.9 | 268 17.8 | 26 13.6 | 309 11.0 | 21 40.5 | 29 2.3 | -6 24.0 |
| | 17 | 34 3.2 | 32 29.7 | 4 5.9 | 283 20.8 | 26 13.6 | 324 13.4 | 21 40.5 | 44 4.5 | -6 23.9 |
| | 18 | 49 5.6 | 47 30.9 | 4 6.9 | 298 23.8 | 26 13.6 | 339 15.8 | 21 40.5 | 59 6.7 | -6 23.8 |
| | 19 | 64 8.1 | 62 32.0 | 4 8.0 | 313 26.8 | 26 13.7 | 354 18.3 | 21 40.5 | 74 8.9 | -6 23.7 |
| | 20 | 79 10.6 | 77 33.1 | 4 9.0 | 328 29.9 | 26 13.7 | 9 20.7 | 21 40.5 | 89 11.1 | -6 23.6 |
| | 21 | 94 13.0 | 92 34.3 | 4 10.0 | 343 32.9 | 26 13.7 | 24 23.1 | 21 40.5 | 104 13.3 | -6 23.5 |
| | 22 | 109 15.5 | 107 35.4 | 4 11.0 | 358 35.9 | 26 13.7 | 39 25.5 | 21 40.6 | 119 15.5 | -6 23.4 |
| | 23 | 124 17.9 | 122 36.5 | 4 12.1 | 13 38.9 | 26 13.7 | 54 28.0 | 21 40.6 | 134 17.7 | -6 23.3 |
| | | MP 14:45 | *v* 1.1 | *d* 1.0 | *v* 3.0 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 12.5 |
| Achernar | 335 20.3 | -57 6.8 |
| Acrux | 172 59.6 | -63 14.1 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.6 | 55 49.1 |
| Alkaid | 152 51.8 | 49 10.9 |
| Alnair | 27 33.3 | -46 50.5 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.1 |
| Alphecca | 126 3.7 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.8 |
| Altair | 62 0.2 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.4 |
| Antares | 112 15.9 | -26 29.2 |
| Arcturus | 145 47.8 | 19 2.9 |
| Atria | 107 10.3 | -69 4.1 |
| Avior | 234 14.1 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 51.9 | -52 42.7 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.3 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.8 |
| Eltanin | 90 42.5 | 51 28.8 |
| Enif | 33 39.1 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.2 | -57 15.1 |
| Gienah | 175 43.3 | -17 40.9 |
| Hadar | 148 35.8 | -60 29.4 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.7 | -34 22.3 |
| Kochab | 137 19.7 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.2 |
| Menkent | 147 57.5 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.2 |
| Mirfak | 308 28.1 | 49 57.2 |
| Nunki | 75 48.0 | -26 16.0 |
| Peacock | 53 6.2 | -56 39.3 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.4 | 5 9.6 |
| Rasalhague | 95 58.7 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.5 |
| Rigil Kent. | 139 40.1 | -60 56.1 |
| Sabik | 102 2.9 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.7 |
| Shaula | 96 10.5 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.1 |
| Spica | 158 22.1 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.1 |
| Vega | 80 33.5 | 38 48.2 |
| Zuben'ubi | 136 55.9 | -16 8.8 |

| 06 Thu | SHA | MP |
|---|---|---|
| Venus | 359 58.0 | 14:54 |
| Mars | 248 38.1 | 22:15 |
| Jupiter | 290 11.9 | 19:30 |
| Saturn | 10 18.2 | 14:11 |

| 07 Fri | SHA | MP |
|---|---|---|
| Venus | 359 23.3 | 14:52 |
| Mars | 248 53.4 | 22:10 |
| Jupiter | 290 11.5 | 19:27 |
| Saturn | 10 12.0 | 14:08 |

| 08 Sat | SHA | MP |
|---|---|---|
| Venus | 358 49.7 | 14:50 |
| Mars | 249 7.9 | 22:06 |
| Jupiter | 290 10.8 | 19:23 |
| Saturn | 10 5.8 | 14:04 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **06 Thursday** | 0 | 176 29.6 | -15 36.3 | 83 44.2 | 7.0 | 23 32.1 | 10.0 | 58.8 |
| | 1 | 191 29.6 | -15 35.6 | 98 10.2 | 6.9 | 23 42.1 | 9.8 | 58.8 |
| | 2 | 206 29.6 | -15 34.8 | 112 36.2 | 6.9 | 23 51.9 | 9.7 | 58.8 |
| | 3 | 221 29.5 | -15 34.0 | 127 2.1 | 6.8 | 24 1.6 | 9.5 | 58.8 |
| | 4 | 236 29.5 | -15 33.3 | 141 27.9 | 6.7 | 24 11.1 | 9.4 | 58.7 |
| | 5 | 251 29.4 | -15 32.5 | 155 53.6 | 6.7 | 24 20.5 | 9.2 | 58.7 |
| | 6 | 266 29.4 | -15 31.7 | 170 19.2 | 6.6 | 24 29.7 | 9.1 | 58.7 |
| | 7 | 281 29.4 | -15 30.9 | 184 44.8 | 6.5 | 24 38.8 | 8.9 | 58.7 |
| | 8 | 296 29.3 | -15 30.2 | 199 10.4 | 6.4 | 24 47.7 | 8.8 | 58.7 |
| | 9 | 311 29.3 | -15 29.4 | 213 35.8 | 6.4 | 24 56.5 | 8.6 | 58.7 |
| | 10 | 326 29.2 | -15 28.6 | 228 1.2 | 6.3 | 25 5.1 | 8.4 | 58.6 |
| | 11 | 341 29.2 | -15 27.8 | 242 26.5 | 6.2 | 25 13.5 | 8.3 | 58.6 |
| | 12 | 356 29.2 | -15 27.1 | 256 51.7 | 6.2 | 25 21.8 | 8.1 | 58.6 |
| | 13 | 11 29.1 | -15 26.3 | 271 16.9 | 6.1 | 25 29.9 | 8.0 | 58.6 |
| | 14 | 26 29.1 | -15 25.5 | 285 42.0 | 6.1 | 25 37.9 | 7.8 | 58.6 |
| | 15 | 41 29.1 | -15 24.7 | 300 7.1 | 6.0 | 25 45.7 | 7.6 | 58.6 |
| | 16 | 56 29.0 | -15 24.0 | 314 32.1 | 5.9 | 25 53.3 | 7.5 | 58.5 |
| | 17 | 71 29.0 | -15 23.2 | 328 57.0 | 5.9 | 26 0.8 | 7.3 | 58.5 |
| | 18 | 86 29.0 | -15 22.4 | 343 21.9 | 5.8 | 26 8.1 | 7.1 | 58.5 |
| | 19 | 101 28.9 | -15 21.6 | 357 46.7 | 5.8 | 26 15.3 | 7.0 | 58.5 |
| | 20 | 116 28.9 | -15 20.8 | 12 11.5 | 5.7 | 26 22.2 | 6.8 | 58.5 |
| | 21 | 131 28.9 | -15 20.1 | 26 36.2 | 5.6 | 26 29.0 | 6.6 | 58.5 |
| | 22 | 146 28.8 | -15 19.3 | 41 0.8 | 5.6 | 26 35.7 | 6.5 | 58.4 |
| | 23 | 161 28.8 | -15 18.5 | 55 25.4 | 5.5 | 26 42.1 | 6.3 | 58.4 |
| | *v* | 0.0 | SD 16.2 | *d* -0.8 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **07 Friday** | 0 | 176 28.7 | -15 17.7 | 69 49.9 | 5.5 | 26 48.4 | 6.1 | 58.4 |
| | 1 | 191 28.7 | -15 16.9 | 84 14.4 | 5.4 | 26 54.6 | 5.9 | 58.4 |
| | 2 | 206 28.7 | -15 16.2 | 98 38.9 | 5.4 | 27 0.5 | 5.8 | 58.4 |
| | 3 | 221 28.7 | -15 15.4 | 113 3.3 | 5.4 | 27 6.3 | 5.6 | 58.4 |
| | 4 | 236 28.6 | -15 14.6 | 127 27.6 | 5.3 | 27 11.9 | 5.4 | 58.3 |
| | 5 | 251 28.6 | -15 13.8 | 141 52.0 | 5.3 | 27 17.3 | 5.3 | 58.3 |
| | 6 | 266 28.6 | -15 13.0 | 156 16.2 | 5.2 | 27 22.6 | 5.1 | 58.3 |
| | 7 | 281 28.5 | -15 12.2 | 170 40.5 | 5.2 | 27 27.6 | 4.9 | 58.3 |
| | 8 | 296 28.5 | -15 11.4 | 185 4.6 | 5.2 | 27 32.5 | 4.7 | 58.3 |
| | 9 | 311 28.5 | -15 10.7 | 199 28.8 | 5.1 | 27 37.3 | 4.5 | 58.3 |
| | 10 | 326 28.4 | -15 9.9 | 213 52.9 | 5.1 | 27 41.8 | 4.4 | 58.2 |
| | 11 | 341 28.4 | -15 9.1 | 228 17.0 | 5.1 | 27 46.2 | 4.2 | 58.2 |
| | 12 | 356 28.4 | -15 8.3 | 242 41.1 | 5.0 | 27 50.3 | 4.0 | 58.2 |
| | 13 | 11 28.3 | -15 7.5 | 257 5.1 | 5.0 | 27 54.3 | 3.8 | 58.2 |
| | 14 | 26 28.3 | -15 6.7 | 271 29.1 | 5.0 | 27 58.2 | 3.6 | 58.2 |
| | 15 | 41 28.3 | -15 5.9 | 285 53.1 | 5.0 | 28 1.8 | 3.5 | 58.2 |
| | 16 | 56 28.3 | -15 5.2 | 300 17.1 | 4.9 | 28 5.3 | 3.3 | 58.1 |
| | 17 | 71 28.2 | -15 4.4 | 314 41.0 | 4.9 | 28 8.6 | 3.1 | 58.1 |
| | 18 | 86 28.2 | -15 3.6 | 329 4.9 | 4.9 | 28 11.7 | 2.9 | 58.1 |
| | 19 | 101 28.2 | -15 2.8 | 343 28.9 | 4.9 | 28 14.6 | 2.7 | 58.1 |
| | 20 | 116 28.2 | -15 2.0 | 357 52.7 | 4.9 | 28 17.3 | 2.6 | 58.1 |
| | 21 | 131 28.1 | -15 1.2 | 12 16.6 | 4.9 | 28 19.9 | 2.4 | 58.1 |
| | 22 | 146 28.1 | -15 0.4 | 26 40.5 | 4.9 | 28 22.2 | 2.2 | 58.0 |
| | 23 | 161 28.1 | -14 59.6 | 41 4.4 | 4.9 | 28 24.4 | 2.0 | 58.0 |
| | *v* | 0.0 | SD 16.2 | *d* -0.8 | | SD 15.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **08 Saturday** | 0 | 176 28.1 | -14 58.8 | 55 28.2 | 4.9 | 28 26.4 | 1.8 | 58.0 |
| | 1 | 191 28.0 | -14 58.0 | 69 52.1 | 4.9 | 28 28.3 | 1.6 | 58.0 |
| | 2 | 206 28.0 | -14 57.2 | 84 16.0 | 4.9 | 28 29.9 | 1.5 | 58.0 |
| | 3 | 221 28.0 | -14 56.4 | 98 39.8 | 4.9 | 28 31.4 | 1.3 | 57.9 |
| | 4 | 236 28.0 | -14 55.7 | 113 3.7 | 4.9 | 28 32.6 | 1.1 | 57.9 |
| | 5 | 251 27.9 | -14 54.9 | 127 27.6 | 4.9 | 28 33.7 | 0.9 | 57.9 |
| | 6 | 266 27.9 | -14 54.1 | 141 51.5 | 4.9 | 28 34.7 | 0.7 | 57.9 |
| | 7 | 281 27.9 | -14 53.3 | 156 15.4 | 4.9 | 28 35.4 | 0.5 | 57.9 |
| | 8 | 296 27.9 | -14 52.5 | 170 39.3 | 4.9 | 28 35.9 | 0.4 | 57.9 |
| | 9 | 311 27.8 | -14 51.7 | 185 3.2 | 4.9 | 28 36.3 | 0.2 | 57.8 |
| | 10 | 326 27.8 | -14 50.9 | 199 27.1 | 5.0 | 28 36.5 | 0.0 | 57.8 |
| | 11 | 341 27.8 | -14 50.1 | 213 51.1 | 5.0 | 28 36.5 | -0.2 | 57.8 |
| | 12 | 356 27.8 | -14 49.3 | 228 15.1 | 5.0 | 28 36.3 | -0.4 | 57.8 |
| | 13 | 11 27.8 | -14 48.5 | 242 39.1 | 5.0 | 28 35.9 | -0.5 | 57.8 |
| | 14 | 26 27.7 | -14 47.7 | 257 3.1 | 5.1 | 28 35.4 | -0.7 | 57.7 |
| | 15 | 41 27.7 | -14 46.9 | 271 27.2 | 5.1 | 28 34.7 | -0.9 | 57.7 |
| | 16 | 56 27.7 | -14 46.1 | 285 51.3 | 5.1 | 28 33.8 | -1.1 | 57.7 |
| | 17 | 71 27.7 | -14 45.3 | 300 15.4 | 5.2 | 28 32.7 | -1.3 | 57.7 |
| | 18 | 86 27.7 | -14 44.5 | 314 39.6 | 5.2 | 28 31.4 | -1.4 | 57.7 |
| | 19 | 101 27.6 | -14 43.7 | 329 3.8 | 5.2 | 28 30.0 | -1.6 | 57.7 |
| | 20 | 116 27.6 | -14 42.9 | 343 28.0 | 5.3 | 28 28.4 | -1.8 | 57.6 |
| | 21 | 131 27.6 | -14 42.1 | 357 52.3 | 5.3 | 28 26.6 | -2.0 | 57.6 |
| | 22 | 146 27.6 | -14 41.3 | 12 16.7 | 5.4 | 28 24.6 | -2.1 | 57.6 |
| | 23 | 161 27.6 | -14 40.5 | 26 41.0 | 5.4 | 28 22.5 | -2.3 | 57.6 |
| | *v* | 0.0 | SD 16.2 | *d* -0.8 | | SD 15.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:50 | 08:15 | 09:48 | 14:42 | 16:15 | 17:40 |
| 70 | 06:44 | 08:00 | 09:17 | 15:12 | 16:30 | 17:45 |
| 68 | 06:40 | 07:48 | 08:55 | 15:34 | 16:42 | 17:50 |
| 66 | 06:35 | 07:38 | 08:37 | 15:52 | 16:52 | 17:54 |
| 64 | 06:32 | 07:29 | 08:23 | 16:06 | 17:00 | 17:58 |
| 62 | 06:28 | 07:22 | 08:11 | 16:18 | 17:07 | 18:01 |
| 60 | 06:25 | 07:15 | 08:01 | 16:28 | 17:14 | 18:04 |
| 58 | 06:23 | 07:09 | 07:52 | 16:37 | 17:20 | 18:06 |
| 56 | 06:20 | 07:04 | 07:44 | 16:44 | 17:25 | 18:09 |
| 54 | 06:18 | 07:00 | 07:38 | 16:51 | 17:29 | 18:11 |
| 52 | 06:15 | 06:55 | 07:31 | 16:58 | 17:34 | 18:14 |
| 50 | 06:13 | 06:51 | 07:26 | 17:03 | 17:37 | 18:16 |
| 45 | 06:08 | 06:43 | 07:13 | 17:15 | 17:46 | 18:21 |
| 40 | 06:03 | 06:35 | 07:03 | 17:25 | 17:54 | 18:26 |
| 35 | 05:58 | 06:28 | 06:55 | 17:34 | 18:00 | 18:30 |
| 30 | 05:54 | 06:22 | 06:47 | 17:42 | 18:06 | 18:35 |
| 20 | 05:45 | 06:11 | 06:34 | 17:55 | 18:18 | 18:44 |
| 10 | 05:35 | 06:00 | 06:22 | 18:06 | 18:28 | 18:53 |
| 0 | 05:24 | 05:49 | 06:11 | 18:18 | 18:39 | 19:04 |
| -10 | 05:12 | 05:37 | 05:59 | 18:29 | 18:51 | 19:16 |
| -20 | 04:57 | 05:24 | 05:47 | 18:41 | 19:04 | 19:31 |
| -30 | 04:37 | 05:08 | 05:33 | 18:55 | 19:20 | 19:50 |
| -35 | 04:25 | 04:58 | 05:25 | 19:03 | 19:30 | 20:02 |
| -40 | 04:10 | 04:46 | 05:15 | 19:12 | 19:41 | 20:17 |
| -45 | 03:51 | 04:32 | 05:04 | 19:23 | 19:55 | 20:36 |
| -50 | 03:27 | 04:14 | 04:51 | 19:36 | 20:13 | 21:00 |
| -52 | 03:14 | 04:05 | 04:45 | 19:42 | 20:21 | 21:12 |
| -54 | 02:59 | 03:56 | 04:38 | 19:49 | 20:31 | 21:26 |
| -56 | 02:42 | 03:45 | 04:30 | 19:57 | 20:42 | 21:43 |
| -58 | 02:20 | 03:32 | 04:21 | 20:06 | 20:54 | 22:05 |
| -60 | 01:49 | 03:17 | 04:11 | 20:15 | 21:09 | 22:34 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **06** | **07** | **08** | **06** | **07** | **08** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | 08:02 | | | 05:05 | | |
| 62 | 08:44 | 08:30 | | 04:24 | 06:41 | |
| 60 | 09:13 | 09:25 | 10:02 | 03:56 | 05:46 | 07:15 |
| 58 | 09:35 | 09:58 | 10:43 | 03:35 | 05:14 | 06:34 |
| 56 | 09:54 | 10:22 | 11:11 | 03:17 | 04:50 | 06:06 |
| 54 | 10:09 | 10:42 | 11:33 | 03:02 | 04:30 | 05:45 |
| 52 | 10:22 | 10:59 | 11:51 | 02:49 | 04:14 | 05:27 |
| 50 | 10:34 | 11:13 | 12:06 | 02:38 | 04:00 | 05:11 |
| 45 | 10:59 | 11:42 | 12:37 | 02:14 | 03:31 | 04:40 |
| 40 | 11:19 | 12:05 | 13:01 | 01:56 | 03:09 | 04:16 |
| 35 | 11:35 | 12:24 | 13:21 | 01:40 | 02:51 | 03:56 |
| 30 | 11:49 | 12:40 | 13:38 | 01:27 | 02:35 | 03:39 |
| 20 | 12:14 | 13:08 | 14:07 | 01:04 | 02:08 | 03:11 |
| 10 | 12:35 | 13:32 | 14:32 | 00:44 | 01:45 | 02:46 |
| 0 | 12:55 | 13:54 | 14:55 | 00:25 | 01:23 | 02:23 |
| -10 | 13:15 | 14:17 | 15:18 | 00:07 | 01:02 | 02:00 |
| -20 | 13:37 | 14:41 | 15:42 | –:– | 00:39 | 01:36 |
| -30 | 14:02 | 15:09 | 16:11 | –:– | 00:12 | 01:07 |
| -35 | 14:17 | 15:26 | 16:28 | 23:57 | –:– | 00:50 |
| -40 | 14:35 | 15:46 | 16:48 | 23:39 | –:– | 00:30 |
| -45 | 14:56 | 16:09 | 17:12 | 23:17 | –:– | 00:06 |
| -50 | 15:22 | 16:40 | 17:43 | 22:49 | 23:35 | –:– |
| -52 | 15:35 | 16:55 | 17:59 | 22:36 | 23:20 | –:– |
| -54 | 15:50 | 17:13 | 18:17 | 22:21 | 23:02 | –:– |
| -56 | 16:08 | 17:35 | 18:39 | 22:03 | 22:40 | 23:41 |
| -58 | 16:30 | 18:02 | 19:08 | 21:41 | 22:12 | 23:12 |
| -60 | 16:57 | 18:42 | 19:49 | 21:13 | 21:32 | 22:31 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **06** | 14:01 | 14:03 | 12:14 | 19:09 | 06:40 | 7 | 58 |
| **07** | 14:05 | 14:06 | 12:14 | 20:09 | 07:39 | 8 | 68 |
| **08** | 14:08 | 14:09 | 12:14 | 21:09 | 08:39 | 9 | 78 |

## 2025 February 09, 10, 11 (Sun, Mon, Tue)

| | | Aries | Venus -4.8 | | Mars -0.8 | | Jupiter -2.5 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 09 Sunday | 0 | 139 20.4 | 137 37.7 | 4 13.1 | 28 41.9 | 26 13.7 | 69 30.4 | 21 40.6 | 149 19.9 | -6 23.1 |
| | 1 | 154 22.9 | 152 38.8 | 4 14.1 | 43 44.9 | 26 13.7 | 84 32.8 | 21 40.6 | 164 22.1 | -6 23.0 |
| | 2 | 169 25.3 | 167 39.9 | 4 15.1 | 58 48.0 | 26 13.7 | 99 35.2 | 21 40.6 | 179 24.3 | -6 22.9 |
| | 3 | 184 27.8 | 182 41.1 | 4 16.2 | 73 51.0 | 26 13.8 | 114 37.6 | 21 40.6 | 194 26.5 | -6 22.8 |
| | 4 | 199 30.3 | 197 42.2 | 4 17.2 | 88 54.0 | 26 13.8 | 129 40.1 | 21 40.6 | 209 28.7 | -6 22.7 |
| | 5 | 214 32.7 | 212 43.4 | 4 18.2 | 103 57.0 | 26 13.8 | 144 42.5 | 21 40.7 | 224 30.9 | -6 22.6 |
| | 6 | 229 35.2 | 227 44.5 | 4 19.2 | 119 0.0 | 26 13.8 | 159 44.9 | 21 40.7 | 239 33.1 | -6 22.5 |
| | 7 | 244 37.7 | 242 45.7 | 4 20.3 | 134 3.0 | 26 13.8 | 174 47.3 | 21 40.7 | 254 35.3 | -6 22.3 |
| | 8 | 259 40.1 | 257 46.8 | 4 21.3 | 149 6.0 | 26 13.8 | 189 49.8 | 21 40.7 | 269 37.5 | -6 22.2 |
| | 9 | 274 42.6 | 272 48.0 | 4 22.3 | 164 9.0 | 26 13.8 | 204 52.2 | 21 40.7 | 284 39.7 | -6 22.1 |
| | 10 | 289 45.1 | 287 49.1 | 4 23.3 | 179 12.0 | 26 13.8 | 219 54.6 | 21 40.7 | 299 41.9 | -6 22.0 |
| | 11 | 304 47.5 | 302 50.3 | 4 24.3 | 194 15.0 | 26 13.8 | 234 57.0 | 21 40.7 | 314 44.1 | -6 21.9 |
| | 12 | 319 50.0 | 317 51.4 | 4 25.3 | 209 18.0 | 26 13.8 | 249 59.4 | 21 40.8 | 329 46.3 | -6 21.8 |
| | 13 | 334 52.4 | 332 52.6 | 4 26.4 | 224 21.0 | 26 13.9 | 265 1.9 | 21 40.8 | 344 48.5 | -6 21.7 |
| | 14 | 349 54.9 | 347 53.8 | 4 27.4 | 239 24.0 | 26 13.9 | 280 4.3 | 21 40.8 | 359 50.7 | -6 21.6 |
| | 15 | 4 57.4 | 2 54.9 | 4 28.4 | 254 27.0 | 26 13.9 | 295 6.7 | 21 40.8 | 14 52.9 | -6 21.4 |
| | 16 | 19 59.8 | 17 56.1 | 4 29.4 | 269 30.0 | 26 13.9 | 310 9.1 | 21 40.8 | 29 55.1 | -6 21.3 |
| | 17 | 35 2.3 | 32 57.3 | 4 30.4 | 284 33.0 | 26 13.9 | 325 11.5 | 21 40.8 | 44 57.3 | -6 21.2 |
| | 18 | 50 4.8 | 47 58.5 | 4 31.4 | 299 35.9 | 26 13.9 | 340 13.9 | 21 40.8 | 59 59.5 | -6 21.1 |
| | 19 | 65 7.2 | 62 59.6 | 4 32.4 | 314 38.9 | 26 13.9 | 355 16.4 | 21 40.9 | 75 1.7 | -6 21.0 |
| | 20 | 80 9.7 | 78 0.8 | 4 33.4 | 329 41.9 | 26 13.9 | 10 18.8 | 21 40.9 | 90 3.9 | -6 20.9 |
| | 21 | 95 12.2 | 93 2.0 | 4 34.5 | 344 44.9 | 26 13.9 | 25 21.2 | 21 40.9 | 105 6.1 | -6 20.8 |
| | 22 | 110 14.6 | 108 3.2 | 4 35.5 | 359 47.9 | 26 13.9 | 40 23.6 | 21 40.9 | 120 8.3 | -6 20.6 |
| | 23 | 125 17.1 | 123 4.4 | 4 36.5 | 14 50.9 | 26 13.9 | 55 26.0 | 21 40.9 | 135 10.5 | -6 20.5 |
| | | MP 14:41 | *v* 1.1 | *d* 1.0 | *v* 3.0 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 Monday | 0 | 140 19.6 | 138 5.5 | 4 37.5 | 29 53.8 | 26 13.9 | 70 28.4 | 21 40.9 | 150 12.7 | -6 20.4 |
| | 1 | 155 22.0 | 153 6.7 | 4 38.5 | 44 56.8 | 26 13.9 | 85 30.9 | 21 40.9 | 165 14.9 | -6 20.3 |
| | 2 | 170 24.5 | 168 7.9 | 4 39.5 | 59 59.8 | 26 13.9 | 100 33.3 | 21 41.0 | 180 17.1 | -6 20.2 |
| | 3 | 185 26.9 | 183 9.1 | 4 40.5 | 75 2.8 | 26 13.9 | 115 35.7 | 21 41.0 | 195 19.3 | -6 20.1 |
| | 4 | 200 29.4 | 198 10.3 | 4 41.5 | 90 5.7 | 26 13.9 | 130 38.1 | 21 41.0 | 210 21.5 | -6 20.0 |
| | 5 | 215 31.9 | 213 11.5 | 4 42.5 | 105 8.7 | 26 13.9 | 145 40.5 | 21 41.0 | 225 23.7 | -6 19.8 |
| | 6 | 230 34.3 | 228 12.7 | 4 43.5 | 120 11.7 | 26 13.9 | 160 42.9 | 21 41.0 | 240 25.9 | -6 19.7 |
| | 7 | 245 36.8 | 243 13.9 | 4 44.5 | 135 14.7 | 26 14.0 | 175 45.3 | 21 41.0 | 255 28.1 | -6 19.6 |
| | 8 | 260 39.3 | 258 15.1 | 4 45.5 | 150 17.6 | 26 14.0 | 190 47.8 | 21 41.1 | 270 30.3 | -6 19.5 |
| | 9 | 275 41.7 | 273 16.3 | 4 46.5 | 165 20.6 | 26 14.0 | 205 50.2 | 21 41.1 | 285 32.5 | -6 19.4 |
| | 10 | 290 44.2 | 288 17.5 | 4 47.5 | 180 23.6 | 26 14.0 | 220 52.6 | 21 41.1 | 300 34.7 | -6 19.3 |
| | 11 | 305 46.7 | 303 18.7 | 4 48.5 | 195 26.5 | 26 14.0 | 235 55.0 | 21 41.1 | 315 36.9 | -6 19.2 |
| | 12 | 320 49.1 | 318 19.9 | 4 49.5 | 210 29.5 | 26 14.0 | 250 57.4 | 21 41.1 | 330 39.1 | -6 19.0 |
| | 13 | 335 51.6 | 333 21.2 | 4 50.5 | 225 32.4 | 26 14.0 | 265 59.8 | 21 41.1 | 345 41.3 | -6 18.9 |
| | 14 | 350 54.1 | 348 22.4 | 4 51.5 | 240 35.4 | 26 14.0 | 281 2.2 | 21 41.2 | 0 43.5 | -6 18.8 |
| | 15 | 5 56.5 | 3 23.6 | 4 52.5 | 255 38.3 | 26 14.0 | 296 4.6 | 21 41.2 | 15 45.7 | -6 18.7 |
| | 16 | 20 59.0 | 18 24.8 | 4 53.5 | 270 41.3 | 26 14.0 | 311 7.0 | 21 41.2 | 30 47.9 | -6 18.6 |
| | 17 | 36 1.4 | 33 26.0 | 4 54.5 | 285 44.3 | 26 14.0 | 326 9.4 | 21 41.2 | 45 50.1 | -6 18.5 |
| | 18 | 51 3.9 | 48 27.3 | 4 55.5 | 300 47.2 | 26 14.0 | 341 11.9 | 21 41.2 | 60 52.3 | -6 18.4 |
| | 19 | 66 6.4 | 63 28.5 | 4 56.5 | 315 50.2 | 26 14.0 | 356 14.3 | 21 41.2 | 75 54.5 | -6 18.2 |
| | 20 | 81 8.8 | 78 29.7 | 4 57.5 | 330 53.1 | 26 14.0 | 11 16.7 | 21 41.2 | 90 56.7 | -6 18.1 |
| | 21 | 96 11.3 | 93 31.0 | 4 58.5 | 345 56.1 | 26 14.0 | 26 19.1 | 21 41.3 | 105 58.9 | -6 18.0 |
| | 22 | 111 13.8 | 108 32.2 | 4 59.5 | 0 59.0 | 26 14.0 | 41 21.5 | 21 41.3 | 121 1.1 | -6 17.9 |
| | 23 | 126 16.2 | 123 33.4 | 5 0.4 | 16 1.9 | 26 14.0 | 56 23.9 | 21 41.3 | 136 3.3 | -6 17.8 |
| | | MP 14:38 | *v* 1.2 | *d* 1.0 | *v* 3.0 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 Tuesday | 0 | 141 18.7 | 138 34.7 | 5 1.4 | 31 4.9 | 26 14.0 | 71 26.3 | 21 41.3 | 151 5.5 | -6 17.7 |
| | 1 | 156 21.2 | 153 35.9 | 5 2.4 | 46 7.8 | 26 14.0 | 86 28.7 | 21 41.3 | 166 7.7 | -6 17.6 |
| | 2 | 171 23.6 | 168 37.2 | 5 3.4 | 61 10.8 | 26 14.0 | 101 31.1 | 21 41.3 | 181 9.9 | -6 17.4 |
| | 3 | 186 26.1 | 183 38.4 | 5 4.4 | 76 13.7 | 26 13.9 | 116 33.5 | 21 41.4 | 196 12.1 | -6 17.3 |
| | 4 | 201 28.6 | 198 39.7 | 5 5.4 | 91 16.6 | 26 13.9 | 131 35.9 | 21 41.4 | 211 14.3 | -6 17.2 |
| | 5 | 216 31.0 | 213 40.9 | 5 6.4 | 106 19.6 | 26 13.9 | 146 38.3 | 21 41.4 | 226 16.5 | -6 17.1 |
| | 6 | 231 33.5 | 228 42.2 | 5 7.4 | 121 22.5 | 26 13.9 | 161 40.7 | 21 41.4 | 241 18.7 | -6 17.0 |
| | 7 | 246 35.9 | 243 43.4 | 5 8.3 | 136 25.5 | 26 13.9 | 176 43.1 | 21 41.4 | 256 20.9 | -6 16.9 |
| | 8 | 261 38.4 | 258 44.7 | 5 9.3 | 151 28.4 | 26 13.9 | 191 45.5 | 21 41.4 | 271 23.1 | -6 16.8 |
| | 9 | 276 40.9 | 273 45.9 | 5 10.3 | 166 31.3 | 26 13.9 | 206 47.9 | 21 41.5 | 286 25.3 | -6 16.6 |
| | 10 | 291 43.3 | 288 47.2 | 5 11.3 | 181 34.2 | 26 13.9 | 221 50.3 | 21 41.5 | 301 27.5 | -6 16.5 |
| | 11 | 306 45.8 | 303 48.4 | 5 12.3 | 196 37.2 | 26 13.9 | 236 52.7 | 21 41.5 | 316 29.7 | -6 16.4 |
| | 12 | 321 48.3 | 318 49.7 | 5 13.3 | 211 40.1 | 26 13.9 | 251 55.1 | 21 41.5 | 331 31.9 | -6 16.3 |
| | 13 | 336 50.7 | 333 51.0 | 5 14.2 | 226 43.0 | 26 13.9 | 266 57.5 | 21 41.5 | 346 34.1 | -6 16.2 |
| | 14 | 351 53.2 | 348 52.3 | 5 15.2 | 241 45.9 | 26 13.9 | 281 59.9 | 21 41.5 | 1 36.3 | -6 16.1 |
| | 15 | 6 55.7 | 3 53.5 | 5 16.2 | 256 48.9 | 26 13.9 | 297 2.3 | 21 41.6 | 16 38.5 | -6 16.0 |
| | 16 | 21 58.1 | 18 54.8 | 5 17.2 | 271 51.8 | 26 13.9 | 312 4.7 | 21 41.6 | 31 40.6 | -6 15.8 |
| | 17 | 37 0.6 | 33 56.1 | 5 18.1 | 286 54.7 | 26 13.9 | 327 7.1 | 21 41.6 | 46 42.8 | -6 15.7 |
| | 18 | 52 3.0 | 48 57.4 | 5 19.1 | 301 57.6 | 26 13.9 | 342 9.5 | 21 41.6 | 61 45.0 | -6 15.6 |
| | 19 | 67 5.5 | 63 58.6 | 5 20.1 | 317 0.5 | 26 13.9 | 357 11.9 | 21 41.6 | 76 47.2 | -6 15.5 |
| | 20 | 82 8.0 | 78 59.9 | 5 21.1 | 332 3.4 | 26 13.9 | 12 14.3 | 21 41.6 | 91 49.4 | -6 15.4 |
| | 21 | 97 10.4 | 94 1.2 | 5 22.0 | 347 6.3 | 26 13.8 | 27 16.7 | 21 41.7 | 106 51.6 | -6 15.3 |
| | 22 | 112 12.9 | 109 2.5 | 5 23.0 | 2 9.3 | 26 13.8 | 42 19.1 | 21 41.7 | 121 53.8 | -6 15.2 |
| | 23 | 127 15.4 | 124 3.8 | 5 24.0 | 17 12.2 | 26 13.8 | 57 21.5 | 21 41.7 | 136 56.0 | -6 15.0 |
| | | MP 14:34 | *v* 1.2 | *d* 1.0 | *v* 2.9 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 12.5 |
| Achernar | 335 20.3 | -57 6.8 |
| Acrux | 172 59.6 | -63 14.1 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.5 | 55 49.1 |
| Alkaid | 152 51.7 | 49 10.9 |
| Alnair | 27 33.2 | -46 50.5 |
| Alnilam | 275 37.4 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.1 |
| Alphecca | 126 3.7 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.8 |
| Altair | 62 0.2 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.4 |
| Antares | 112 15.9 | -26 29.2 |
| Arcturus | 145 47.7 | 19 2.9 |
| Atria | 107 10.3 | -69 4.1 |
| Avior | 234 14.1 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 52.0 | -52 42.7 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.3 | 61 36.7 |
| Elnath | 278 1.5 | 28 37.8 |
| Eltanin | 90 42.5 | 51 28.8 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.2 | -57 15.1 |
| Gienah | 175 43.3 | -17 40.9 |
| Hadar | 148 35.7 | -60 29.4 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.7 | -34 22.3 |
| Kochab | 137 19.6 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.2 |
| Menkent | 147 57.4 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.2 |
| Mirfak | 308 28.1 | 49 57.2 |
| Nunki | 75 48.0 | -26 16.0 |
| Peacock | 53 6.2 | -56 39.3 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.4 | 5 9.6 |
| Rasalhague | 95 58.7 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.5 |
| Rigil Kent. | 139 40.1 | -60 56.1 |
| Sabik | 102 2.9 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.7 |
| Shaula | 96 10.5 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.2 |
| Spica | 158 22.1 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.1 |
| Vega | 80 33.5 | 38 48.1 |
| Zuben'ubi | 136 55.9 | -16 8.8 |

| 09 Sun | SHA | MP |
|---|---|---|
| Venus | 358 17.2 | 14:48 |
| Mars | 249 21.5 | 22:01 |
| Jupiter | 290 10.0 | 19:19 |
| Saturn | 9 59.5 | 14:01 |

| 10 Mon | SHA | MP |
|---|---|---|
| Venus | 357 46.0 | 14:46 |
| Mars | 249 34.3 | 21:56 |
| Jupiter | 290 8.9 | 19:15 |
| Saturn | 9 53.1 | 13:57 |

| 11 Tue | SHA | MP |
|---|---|---|
| Venus | 357 16.0 | 14:44 |
| Mars | 249 46.2 | 21:51 |
| Jupiter | 290 7.6 | 19:11 |
| Saturn | 9 46.8 | 13:54 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **09 Sunday** | 0 | 176 27.6 | -14 39.7 | 41 5.5 | 5.5 | 28 20.1 | -2.5 | 57.6 |
| | 1 | 191 27.5 | -14 38.9 | 55 29.9 | 5.5 | 28 17.6 | -2.7 | 57.5 |
| | 2 | 206 27.5 | -14 38.1 | 69 54.5 | 5.6 | 28 15.0 | -2.8 | 57.5 |
| | 3 | 221 27.5 | -14 37.3 | 84 19.0 | 5.6 | 28 12.1 | -3.0 | 57.5 |
| | 4 | 236 27.5 | -14 36.5 | 98 43.7 | 5.7 | 28 9.1 | -3.2 | 57.5 |
| | 5 | 251 27.5 | -14 35.7 | 113 8.4 | 5.8 | 28 5.9 | -3.4 | 57.5 |
| | 6 | 266 27.5 | -14 34.9 | 127 33.1 | 5.8 | 28 2.6 | -3.5 | 57.4 |
| | 7 | 281 27.5 | -14 34.1 | 141 58.0 | 5.9 | 27 59.1 | -3.7 | 57.4 |
| | 8 | 296 27.4 | -14 33.3 | 156 22.9 | 6.0 | 27 55.4 | -3.9 | 57.4 |
| | 9 | 311 27.4 | -14 32.4 | 170 47.8 | 6.0 | 27 51.5 | -4.0 | 57.4 |
| | 10 | 326 27.4 | -14 31.6 | 185 12.8 | 6.1 | 27 47.5 | -4.2 | 57.4 |
| | 11 | 341 27.4 | -14 30.8 | 199 37.9 | 6.2 | 27 43.3 | -4.4 | 57.3 |
| | 12 | 356 27.4 | -14 30.0 | 214 3.1 | 6.2 | 27 38.9 | -4.5 | 57.3 |
| | 13 | 11 27.4 | -14 29.2 | 228 28.3 | 6.3 | 27 34.4 | -4.7 | 57.3 |
| | 14 | 26 27.4 | -14 28.4 | 242 53.6 | 6.4 | 27 29.7 | -4.8 | 57.3 |
| | 15 | 41 27.4 | -14 27.6 | 257 19.0 | 6.5 | 27 24.9 | -5.0 | 57.3 |
| | 16 | 56 27.3 | -14 26.8 | 271 44.5 | 6.5 | 27 19.9 | -5.2 | 57.3 |
| | 17 | 71 27.3 | -14 26.0 | 286 10.0 | 6.6 | 27 14.7 | -5.3 | 57.2 |
| | 18 | 86 27.3 | -14 25.2 | 300 35.6 | 6.7 | 27 9.4 | -5.5 | 57.2 |
| | 19 | 101 27.3 | -14 24.4 | 315 1.3 | 6.8 | 27 3.9 | -5.6 | 57.2 |
| | 20 | 116 27.3 | -14 23.6 | 329 27.1 | 6.9 | 26 58.2 | -5.8 | 57.2 |
| | 21 | 131 27.3 | -14 22.7 | 343 53.0 | 7.0 | 26 52.5 | -5.9 | 57.2 |
| | 22 | 146 27.3 | -14 21.9 | 358 18.9 | 7.0 | 26 46.5 | -6.1 | 57.1 |
| | 23 | 161 27.3 | -14 21.1 | 12 45.0 | 7.1 | 26 40.4 | -6.2 | 57.1 |
| | *v* | 0.0 | SD 16.2 | *d* -0.8 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **10 Monday** | 0 | 176 27.3 | -14 20.3 | 27 11.1 | 7.2 | 26 34.2 | -6.4 | 57.1 |
| | 1 | 191 27.3 | -14 19.5 | 41 37.3 | 7.3 | 26 27.8 | -6.5 | 57.1 |
| | 2 | 206 27.2 | -14 18.7 | 56 3.6 | 7.4 | 26 21.2 | -6.7 | 57.1 |
| | 3 | 221 27.2 | -14 17.9 | 70 30.0 | 7.5 | 26 14.5 | -6.8 | 57.0 |
| | 4 | 236 27.2 | -14 17.1 | 84 56.5 | 7.6 | 26 7.7 | -7.0 | 57.0 |
| | 5 | 251 27.2 | -14 16.2 | 99 23.1 | 7.7 | 26 0.7 | -7.1 | 57.0 |
| | 6 | 266 27.2 | -14 15.4 | 113 49.8 | 7.8 | 25 53.6 | -7.3 | 57.0 |
| | 7 | 281 27.2 | -14 14.6 | 128 16.5 | 7.9 | 25 46.3 | -7.4 | 57.0 |
| | 8 | 296 27.2 | -14 13.8 | 142 43.4 | 8.0 | 25 38.9 | -7.5 | 56.9 |
| | 9 | 311 27.2 | -14 13.0 | 157 10.4 | 8.1 | 25 31.4 | -7.7 | 56.9 |
| | 10 | 326 27.2 | -14 12.2 | 171 37.5 | 8.2 | 25 23.7 | -7.8 | 56.9 |
| | 11 | 341 27.2 | -14 11.3 | 186 4.6 | 8.3 | 25 15.9 | -8.0 | 56.9 |
| | 12 | 356 27.2 | -14 10.5 | 200 31.9 | 8.4 | 25 7.9 | -8.1 | 56.9 |
| | 13 | 11 27.2 | -14 9.7 | 214 59.2 | 8.5 | 24 59.8 | -8.2 | 56.8 |
| | 14 | 26 27.2 | -14 8.9 | 229 26.7 | 8.6 | 24 51.6 | -8.4 | 56.8 |
| | 15 | 41 27.2 | -14 8.1 | 243 54.3 | 8.7 | 24 43.2 | -8.5 | 56.8 |
| | 16 | 56 27.2 | -14 7.3 | 258 21.9 | 8.8 | 24 34.8 | -8.6 | 56.8 |
| | 17 | 71 27.2 | -14 6.4 | 272 49.7 | 8.9 | 24 26.2 | -8.7 | 56.8 |
| | 18 | 86 27.2 | -14 5.6 | 287 17.6 | 9.0 | 24 17.4 | -8.9 | 56.7 |
| | 19 | 101 27.2 | -14 4.8 | 301 45.5 | 9.1 | 24 8.6 | -9.0 | 56.7 |
| | 20 | 116 27.2 | -14 4.0 | 316 13.6 | 9.2 | 23 59.6 | -9.1 | 56.7 |
| | 21 | 131 27.2 | -14 3.1 | 330 41.8 | 9.3 | 23 50.5 | -9.2 | 56.7 |
| | 22 | 146 27.2 | -14 2.3 | 345 10.1 | 9.4 | 23 41.3 | -9.3 | 56.7 |
| | 23 | 161 27.2 | -14 1.5 | 359 38.5 | 9.5 | 23 31.9 | -9.5 | 56.6 |
| | *v* | 0.0 | SD 16.2 | *d* -0.8 | | SD 15.6 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **11 Tuesday** | 0 | 176 27.2 | -14 0.7 | 14 6.9 | 9.6 | 23 22.5 | -9.6 | 56.6 |
| | 1 | 191 27.2 | -13 59.9 | 28 35.5 | 9.7 | 23 12.9 | -9.7 | 56.6 |
| | 2 | 206 27.2 | -13 59.0 | 43 4.2 | 9.8 | 23 3.2 | -9.8 | 56.6 |
| | 3 | 221 27.2 | -13 58.2 | 57 33.0 | 9.9 | 22 53.4 | -9.9 | 56.6 |
| | 4 | 236 27.2 | -13 57.4 | 72 1.9 | 10.0 | 22 43.5 | -10.0 | 56.5 |
| | 5 | 251 27.2 | -13 56.6 | 86 31.0 | 10.1 | 22 33.5 | -10.1 | 56.5 |
| | 6 | 266 27.2 | -13 55.7 | 101 0.1 | 10.2 | 22 23.3 | -10.2 | 56.5 |
| | 7 | 281 27.2 | -13 54.9 | 115 29.3 | 10.3 | 22 13.1 | -10.3 | 56.5 |
| | 8 | 296 27.2 | -13 54.1 | 129 58.6 | 10.4 | 22 2.7 | -10.4 | 56.5 |
| | 9 | 311 27.2 | -13 53.3 | 144 28.0 | 10.5 | 21 52.3 | -10.6 | 56.4 |
| | 10 | 326 27.2 | -13 52.4 | 158 57.6 | 10.6 | 21 41.7 | -10.7 | 56.4 |
| | 11 | 341 27.2 | -13 51.6 | 173 27.2 | 10.7 | 21 31.1 | -10.8 | 56.4 |
| | 12 | 356 27.2 | -13 50.8 | 187 56.9 | 10.8 | 21 20.3 | -10.8 | 56.4 |
| | 13 | 11 27.2 | -13 50.0 | 202 26.8 | 10.9 | 21 9.5 | -10.9 | 56.3 |
| | 14 | 26 27.2 | -13 49.1 | 216 56.7 | 11.0 | 20 58.5 | -11.0 | 56.3 |
| | 15 | 41 27.2 | -13 48.3 | 231 26.7 | 11.1 | 20 47.5 | -11.1 | 56.3 |
| | 16 | 56 27.2 | -13 47.5 | 245 56.9 | 11.2 | 20 36.4 | -11.2 | 56.3 |
| | 17 | 71 27.2 | -13 46.6 | 260 27.1 | 11.3 | 20 25.1 | -11.3 | 56.3 |
| | 18 | 86 27.2 | -13 45.8 | 274 57.5 | 11.4 | 20 13.8 | -11.4 | 56.2 |
| | 19 | 101 27.2 | -13 45.0 | 289 27.9 | 11.5 | 20 2.4 | -11.5 | 56.2 |
| | 20 | 116 27.2 | -13 44.2 | 303 58.5 | 11.6 | 19 50.9 | -11.6 | 56.2 |
| | 21 | 131 27.2 | -13 43.3 | 318 29.1 | 11.7 | 19 39.3 | -11.7 | 56.2 |
| | 22 | 146 27.2 | -13 42.5 | 332 59.9 | 11.8 | 19 27.7 | -11.8 | 56.2 |
| | 23 | 161 27.2 | -13 41.7 | 347 30.7 | 11.9 | 19 15.9 | -11.8 | 56.1 |
| | *v* | 0.0 | SD 16.2 | *d* -0.8 | | SD 15.4 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:38 | 08:01 | 09:28 | 15:01 | 16:29 | 17:52 |
| 70 | 06:34 | 07:48 | 09:02 | 15:28 | 16:42 | 17:56 |
| 68 | 06:30 | 07:37 | 08:42 | 15:47 | 16:52 | 18:00 |
| 66 | 06:27 | 07:28 | 08:27 | 16:03 | 17:01 | 18:03 |
| 64 | 06:24 | 07:21 | 08:14 | 16:16 | 17:09 | 18:06 |
| 62 | 06:21 | 07:14 | 08:03 | 16:27 | 17:15 | 18:08 |
| 60 | 06:19 | 07:08 | 07:53 | 16:36 | 17:21 | 18:11 |
| 58 | 06:17 | 07:03 | 07:45 | 16:44 | 17:26 | 18:13 |
| 56 | 06:14 | 06:58 | 07:38 | 16:51 | 17:31 | 18:15 |
| 54 | 06:12 | 06:54 | 07:32 | 16:57 | 17:35 | 18:17 |
| 52 | 06:10 | 06:50 | 07:26 | 17:03 | 17:39 | 18:19 |
| 50 | 06:09 | 06:47 | 07:21 | 17:08 | 17:42 | 18:20 |
| 45 | 06:04 | 06:39 | 07:09 | 17:20 | 17:50 | 18:25 |
| 40 | 06:00 | 06:32 | 07:00 | 17:29 | 17:57 | 18:29 |
| 35 | 05:56 | 06:26 | 06:52 | 17:37 | 18:03 | 18:33 |
| 30 | 05:52 | 06:20 | 06:45 | 17:44 | 18:09 | 18:37 |
| 20 | 05:43 | 06:10 | 06:32 | 17:56 | 18:19 | 18:45 |
| 10 | 05:35 | 06:00 | 06:21 | 18:07 | 18:29 | 18:54 |
| 0 | 05:25 | 05:49 | 06:11 | 18:18 | 18:39 | 19:04 |
| -10 | 05:13 | 05:38 | 06:00 | 18:28 | 18:50 | 19:15 |
| -20 | 04:59 | 05:26 | 05:49 | 18:39 | 19:02 | 19:29 |
| -30 | 04:40 | 05:10 | 05:36 | 18:52 | 19:18 | 19:48 |
| -35 | 04:29 | 05:01 | 05:28 | 19:00 | 19:27 | 19:59 |
| -40 | 04:14 | 04:50 | 05:19 | 19:09 | 19:38 | 20:13 |
| -45 | 03:57 | 04:37 | 05:09 | 19:19 | 19:51 | 20:30 |
| -50 | 03:34 | 04:20 | 04:56 | 19:31 | 20:07 | 20:53 |
| -52 | 03:22 | 04:12 | 04:50 | 19:37 | 20:15 | 21:05 |
| -54 | 03:08 | 04:03 | 04:44 | 19:43 | 20:24 | 21:18 |
| -56 | 02:52 | 03:53 | 04:37 | 19:50 | 20:34 | 21:33 |
| -58 | 02:33 | 03:41 | 04:28 | 19:58 | 20:46 | 21:52 |
| -60 | 02:07 | 03:27 | 04:19 | 20:07 | 20:59 | 22:17 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **09** | **10** | **11** | **09** | **10** | **11** |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | 12:38 | ▭ | ▭ | 10:33 |
| 66 | ▭ | ▭ | 13:34 | ▭ | ▭ | 09:36 |
| 64 | ▭ | 11:44 | 14:07 | ▭ | 09:37 | 09:02 |
| 62 | 10:20 | 12:35 | 14:31 | 09:02 | 08:44 | 08:37 |
| 60 | 11:24 | 13:07 | 14:50 | 07:58 | 08:12 | 08:17 |
| 58 | 11:58 | 13:30 | 15:06 | 07:24 | 07:48 | 08:00 |
| 56 | 12:23 | 13:49 | 15:19 | 06:58 | 07:29 | 07:46 |
| 54 | 12:43 | 14:05 | 15:31 | 06:38 | 07:12 | 07:34 |
| 52 | 13:00 | 14:19 | 15:41 | 06:21 | 06:58 | 07:24 |
| 50 | 13:14 | 14:31 | 15:50 | 06:06 | 06:46 | 07:14 |
| 45 | 13:43 | 14:55 | 16:09 | 05:37 | 06:21 | 06:54 |
| 40 | 14:06 | 15:15 | 16:24 | 05:14 | 06:00 | 06:37 |
| 35 | 14:25 | 15:31 | 16:37 | 04:54 | 05:43 | 06:23 |
| 30 | 14:41 | 15:45 | 16:49 | 04:38 | 05:28 | 06:11 |
| 20 | 15:08 | 16:09 | 17:08 | 04:10 | 05:03 | 05:50 |
| 10 | 15:32 | 16:30 | 17:25 | 03:46 | 04:41 | 05:31 |
| 0 | 15:53 | 16:49 | 17:40 | 03:23 | 04:20 | 05:14 |
| -10 | 16:15 | 17:08 | 17:55 | 03:00 | 04:00 | 04:56 |
| -20 | 16:38 | 17:28 | 18:12 | 02:36 | 03:38 | 04:38 |
| -30 | 17:05 | 17:52 | 18:31 | 02:08 | 03:12 | 04:16 |
| -35 | 17:21 | 18:05 | 18:42 | 01:51 | 02:56 | 04:03 |
| -40 | 17:40 | 18:21 | 18:54 | 01:31 | 02:38 | 03:48 |
| -45 | 18:02 | 18:40 | 19:09 | 01:07 | 02:17 | 03:31 |
| -50 | 18:30 | 19:03 | 19:26 | 00:36 | 01:49 | 03:08 |
| -52 | 18:44 | 19:14 | 19:35 | 00:21 | 01:36 | 02:58 |
| -54 | 19:00 | 19:27 | 19:44 | 00:03 | 01:20 | 02:46 |
| -56 | 19:19 | 19:41 | 19:54 | –:– | 01:02 | 02:32 |
| -58 | 19:42 | 19:58 | 20:06 | –:– | 00:39 | 02:16 |
| -60 | 20:12 | 20:18 | 20:20 | –:– | 00:10 | 01:56 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **09** | 14:10 | 14:10 | 12:14 | 22:07 | 09:38 | 10 | 86 |
| **10** | 14:11 | 14:11 | 12:14 | 23:01 | 10:35 | 11 | 93 |
| **11** | 14:11 | 14:11 | 12:14 | 23:52 | 11:27 | 12 | 97 |

## 2025 February 12, 13, 14 (Wed, Thu, Fri)

| | | Aries | Venus -4.8 | | Mars -0.8 | | Jupiter -2.4 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 12 Wednesday | 0 | 142 17.8 | 139 5.1 | 5 25.0 | 32 15.1 | 26 13.8 | 72 23.9 | 21 41.7 | 151 58.2 | -6 14.9 |
| | 1 | 157 20.3 | 154 6.4 | 5 25.9 | 47 18.0 | 26 13.8 | 87 26.3 | 21 41.7 | 167 0.4 | -6 14.8 |
| | 2 | 172 22.8 | 169 7.7 | 5 26.9 | 62 20.9 | 26 13.8 | 102 28.7 | 21 41.8 | 182 2.6 | -6 14.7 |
| | 3 | 187 25.2 | 184 9.0 | 5 27.9 | 77 23.8 | 26 13.8 | 117 31.1 | 21 41.8 | 197 4.8 | -6 14.6 |
| | 4 | 202 27.7 | 199 10.3 | 5 28.8 | 92 26.7 | 26 13.8 | 132 33.5 | 21 41.8 | 212 7.0 | -6 14.5 |
| | 5 | 217 30.2 | 214 11.6 | 5 29.8 | 107 29.6 | 26 13.8 | 147 35.9 | 21 41.8 | 227 9.2 | -6 14.3 |
| | 6 | 232 32.6 | 229 12.9 | 5 30.8 | 122 32.5 | 26 13.8 | 162 38.3 | 21 41.8 | 242 11.4 | -6 14.2 |
| | 7 | 247 35.1 | 244 14.2 | 5 31.7 | 137 35.4 | 26 13.8 | 177 40.7 | 21 41.8 | 257 13.6 | -6 14.1 |
| | 8 | 262 37.5 | 259 15.5 | 5 32.7 | 152 38.3 | 26 13.7 | 192 43.1 | 21 41.9 | 272 15.8 | -6 14.0 |
| | 9 | 277 40.0 | 274 16.8 | 5 33.7 | 167 41.2 | 26 13.7 | 207 45.5 | 21 41.9 | 287 18.0 | -6 13.9 |
| | 10 | 292 42.5 | 289 18.1 | 5 34.6 | 182 44.1 | 26 13.7 | 222 47.9 | 21 41.9 | 302 20.2 | -6 13.8 |
| | 11 | 307 44.9 | 304 19.5 | 5 35.6 | 197 46.9 | 26 13.7 | 237 50.3 | 21 41.9 | 317 22.4 | -6 13.7 |
| | 12 | 322 47.4 | 319 20.8 | 5 36.5 | 212 49.8 | 26 13.7 | 252 52.7 | 21 41.9 | 332 24.6 | -6 13.5 |
| | 13 | 337 49.9 | 334 22.1 | 5 37.5 | 227 52.7 | 26 13.7 | 267 55.1 | 21 41.9 | 347 26.8 | -6 13.4 |
| | 14 | 352 52.3 | 349 23.4 | 5 38.5 | 242 55.6 | 26 13.7 | 282 57.5 | 21 42.0 | 2 29.0 | -6 13.3 |
| | 15 | 7 54.8 | 4 24.8 | 5 39.4 | 257 58.5 | 26 13.7 | 297 59.9 | 21 42.0 | 17 31.2 | -6 13.2 |
| | 16 | 22 57.3 | 19 26.1 | 5 40.4 | 273 1.4 | 26 13.6 | 313 2.2 | 21 42.0 | 32 33.4 | -6 13.1 |
| | 17 | 37 59.7 | 34 27.4 | 5 41.3 | 288 4.3 | 26 13.6 | 328 4.6 | 21 42.0 | 47 35.6 | -6 13.0 |
| | 18 | 53 2.2 | 49 28.8 | 5 42.3 | 303 7.1 | 26 13.6 | 343 7.0 | 21 42.0 | 62 37.8 | -6 12.9 |
| | 19 | 68 4.7 | 64 30.1 | 5 43.2 | 318 10.0 | 26 13.6 | 358 9.4 | 21 42.1 | 77 40.0 | -6 12.7 |
| | 20 | 83 7.1 | 79 31.4 | 5 44.2 | 333 12.9 | 26 13.6 | 13 11.8 | 21 42.1 | 92 42.2 | -6 12.6 |
| | 21 | 98 9.6 | 94 32.8 | 5 45.1 | 348 15.8 | 26 13.6 | 28 14.2 | 21 42.1 | 107 44.4 | -6 12.5 |
| | 22 | 113 12.0 | 109 34.1 | 5 46.1 | 3 18.6 | 26 13.6 | 43 16.6 | 21 42.1 | 122 46.6 | -6 12.4 |
| | 23 | 128 14.5 | 124 35.5 | 5 47.0 | 18 21.5 | 26 13.5 | 58 19.0 | 21 42.1 | 137 48.8 | -6 12.3 |
| | | MP 14:30 | *v* 1.3 | *d* 1.0 | *v* 2.9 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 Thursday | 0 | 143 17.0 | 139 36.8 | 5 48.0 | 33 24.4 | 26 13.5 | 73 21.4 | 21 42.1 | 152 50.9 | -6 12.2 |
| | 1 | 158 19.4 | 154 38.2 | 5 48.9 | 48 27.3 | 26 13.5 | 88 23.7 | 21 42.2 | 167 53.1 | -6 12.0 |
| | 2 | 173 21.9 | 169 39.5 | 5 49.9 | 63 30.1 | 26 13.5 | 103 26.1 | 21 42.2 | 182 55.3 | -6 11.9 |
| | 3 | 188 24.4 | 184 40.9 | 5 50.8 | 78 33.0 | 26 13.5 | 118 28.5 | 21 42.2 | 197 57.5 | -6 11.8 |
| | 4 | 203 26.8 | 199 42.3 | 5 51.8 | 93 35.8 | 26 13.5 | 133 30.9 | 21 42.2 | 212 59.7 | -6 11.7 |
| | 5 | 218 29.3 | 214 43.6 | 5 52.7 | 108 38.7 | 26 13.4 | 148 33.3 | 21 42.2 | 228 1.9 | -6 11.6 |
| | 6 | 233 31.8 | 229 45.0 | 5 53.7 | 123 41.6 | 26 13.4 | 163 35.7 | 21 42.3 | 243 4.1 | -6 11.5 |
| | 7 | 248 34.2 | 244 46.3 | 5 54.6 | 138 44.4 | 26 13.4 | 178 38.1 | 21 42.3 | 258 6.3 | -6 11.4 |
| | 8 | 263 36.7 | 259 47.7 | 5 55.6 | 153 47.3 | 26 13.4 | 193 40.5 | 21 42.3 | 273 8.5 | -6 11.2 |
| | 9 | 278 39.1 | 274 49.1 | 5 56.5 | 168 50.1 | 26 13.4 | 208 42.8 | 21 42.3 | 288 10.7 | -6 11.1 |
| | 10 | 293 41.6 | 289 50.5 | 5 57.5 | 183 53.0 | 26 13.4 | 223 45.2 | 21 42.3 | 303 12.9 | -6 11.0 |
| | 11 | 308 44.1 | 304 51.8 | 5 58.4 | 198 55.9 | 26 13.3 | 238 47.6 | 21 42.4 | 318 15.1 | -6 10.9 |
| | 12 | 323 46.5 | 319 53.2 | 5 59.3 | 213 58.7 | 26 13.3 | 253 50.0 | 21 42.4 | 333 17.3 | -6 10.8 |
| | 13 | 338 49.0 | 334 54.6 | 6 0.3 | 229 1.6 | 26 13.3 | 268 52.4 | 21 42.4 | 348 19.5 | -6 10.7 |
| | 14 | 353 51.5 | 349 56.0 | 6 1.2 | 244 4.4 | 26 13.3 | 283 54.8 | 21 42.4 | 3 21.7 | -6 10.5 |
| | 15 | 8 53.9 | 4 57.4 | 6 2.2 | 259 7.3 | 26 13.3 | 298 57.1 | 21 42.4 | 18 23.9 | -6 10.4 |
| | 16 | 23 56.4 | 19 58.8 | 6 3.1 | 274 10.1 | 26 13.2 | 313 59.5 | 21 42.4 | 33 26.1 | -6 10.3 |
| | 17 | 38 58.9 | 35 0.1 | 6 4.0 | 289 12.9 | 26 13.2 | 329 1.9 | 21 42.5 | 48 28.3 | -6 10.2 |
| | 18 | 54 1.3 | 50 1.5 | 6 5.0 | 304 15.8 | 26 13.2 | 344 4.3 | 21 42.5 | 63 30.5 | -6 10.1 |
| | 19 | 69 3.8 | 65 2.9 | 6 5.9 | 319 18.6 | 26 13.2 | 359 6.7 | 21 42.5 | 78 32.7 | -6 10.0 |
| | 20 | 84 6.3 | 80 4.3 | 6 6.8 | 334 21.5 | 26 13.2 | 14 9.1 | 21 42.5 | 93 34.9 | -6 9.9 |
| | 21 | 99 8.7 | 95 5.7 | 6 7.8 | 349 24.3 | 26 13.1 | 29 11.4 | 21 42.5 | 108 37.1 | -6 9.7 |
| | 22 | 114 11.2 | 110 7.1 | 6 8.7 | 4 27.1 | 26 13.1 | 44 13.8 | 21 42.6 | 123 39.2 | -6 9.6 |
| | 23 | 129 13.6 | 125 8.5 | 6 9.6 | 19 30.0 | 26 13.1 | 59 16.2 | 21 42.6 | 138 41.4 | -6 9.5 |
| | | MP 14:26 | *v* 1.4 | *d* 0.9 | *v* 2.9 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 Friday | 0 | 144 16.1 | 140 9.9 | 6 10.5 | 34 32.8 | 26 13.1 | 74 18.6 | 21 42.6 | 153 43.6 | -6 9.4 |
| | 1 | 159 18.6 | 155 11.4 | 6 11.5 | 49 35.7 | 26 13.1 | 89 21.0 | 21 42.6 | 168 45.8 | -6 9.3 |
| | 2 | 174 21.0 | 170 12.8 | 6 12.4 | 64 38.5 | 26 13.0 | 104 23.3 | 21 42.6 | 183 48.0 | -6 9.2 |
| | 3 | 189 23.5 | 185 14.2 | 6 13.3 | 79 41.3 | 26 13.0 | 119 25.7 | 21 42.7 | 198 50.2 | -6 9.0 |
| | 4 | 204 26.0 | 200 15.6 | 6 14.3 | 94 44.1 | 26 13.0 | 134 28.1 | 21 42.7 | 213 52.4 | -6 8.9 |
| | 5 | 219 28.4 | 215 17.0 | 6 15.2 | 109 47.0 | 26 13.0 | 149 30.5 | 21 42.7 | 228 54.6 | -6 8.8 |
| | 6 | 234 30.9 | 230 18.4 | 6 16.1 | 124 49.8 | 26 12.9 | 164 32.8 | 21 42.7 | 243 56.8 | -6 8.7 |
| | 7 | 249 33.4 | 245 19.9 | 6 17.0 | 139 52.6 | 26 12.9 | 179 35.2 | 21 42.7 | 258 59.0 | -6 8.6 |
| | 8 | 264 35.8 | 260 21.3 | 6 17.9 | 154 55.4 | 26 12.9 | 194 37.6 | 21 42.8 | 274 1.2 | -6 8.5 |
| | 9 | 279 38.3 | 275 22.7 | 6 18.9 | 169 58.3 | 26 12.9 | 209 40.0 | 21 42.8 | 289 3.4 | -6 8.3 |
| | 10 | 294 40.8 | 290 24.2 | 6 19.8 | 185 1.1 | 26 12.8 | 224 42.4 | 21 42.8 | 304 5.6 | -6 8.2 |
| | 11 | 309 43.2 | 305 25.6 | 6 20.7 | 200 3.9 | 26 12.8 | 239 44.7 | 21 42.8 | 319 7.8 | -6 8.1 |
| | 12 | 324 45.7 | 320 27.0 | 6 21.6 | 215 6.7 | 26 12.8 | 254 47.1 | 21 42.8 | 334 10.0 | -6 8.0 |
| | 13 | 339 48.1 | 335 28.5 | 6 22.5 | 230 9.5 | 26 12.8 | 269 49.5 | 21 42.9 | 349 12.2 | -6 7.9 |
| | 14 | 354 50.6 | 350 29.9 | 6 23.5 | 245 12.3 | 26 12.7 | 284 51.9 | 21 42.9 | 4 14.4 | -6 7.8 |
| | 15 | 9 53.1 | 5 31.4 | 6 24.4 | 260 15.2 | 26 12.7 | 299 54.2 | 21 42.9 | 19 16.6 | -6 7.7 |
| | 16 | 24 55.5 | 20 32.8 | 6 25.3 | 275 18.0 | 26 12.7 | 314 56.6 | 21 42.9 | 34 18.8 | -6 7.5 |
| | 17 | 39 58.0 | 35 34.3 | 6 26.2 | 290 20.8 | 26 12.7 | 329 59.0 | 21 42.9 | 49 20.9 | -6 7.4 |
| | 18 | 55 0.5 | 50 35.7 | 6 27.1 | 305 23.6 | 26 12.6 | 345 1.4 | 21 43.0 | 64 23.1 | -6 7.3 |
| | 19 | 70 2.9 | 65 37.2 | 6 28.0 | 320 26.4 | 26 12.6 | 0 3.7 | 21 43.0 | 79 25.3 | -6 7.2 |
| | 20 | 85 5.4 | 80 38.6 | 6 28.9 | 335 29.2 | 26 12.6 | 15 6.1 | 21 43.0 | 94 27.5 | -6 7.1 |
| | 21 | 100 7.9 | 95 40.1 | 6 29.8 | 350 32.0 | 26 12.6 | 30 8.5 | 21 43.0 | 109 29.7 | -6 7.0 |
| | 22 | 115 10.3 | 110 41.6 | 6 30.8 | 5 34.8 | 26 12.5 | 45 10.8 | 21 43.0 | 124 31.9 | -6 6.8 |
| | 23 | 130 12.8 | 125 43.0 | 6 31.7 | 20 37.6 | 26 12.5 | 60 13.2 | 21 43.1 | 139 34.1 | -6 6.7 |
| | | MP 14:22 | *v* 1.4 | *d* 0.9 | *v* 2.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 12.5 |
| Achernar | 335 20.3 | -57 6.8 |
| Acrux | 172 59.6 | -63 14.1 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.5 | 55 49.1 |
| Alkaid | 152 51.7 | 49 10.9 |
| Alnair | 27 33.2 | -46 50.5 |
| Alnilam | 275 37.5 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.1 |
| Alphecca | 126 3.7 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.8 |
| Altair | 62 0.2 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.4 |
| Antares | 112 15.8 | -26 29.2 |
| Arcturus | 145 47.7 | 19 2.9 |
| Atria | 107 10.2 | -69 4.1 |
| Avior | 234 14.1 | -59 35.5 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 52.0 | -52 42.7 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.0 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.2 | 61 36.8 |
| Elnath | 278 1.6 | 28 37.8 |
| Eltanin | 90 42.5 | 51 28.8 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.2 | -57 15.1 |
| Gienah | 175 43.2 | -17 40.9 |
| Hadar | 148 35.7 | -60 29.4 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.7 | -34 22.3 |
| Kochab | 137 19.6 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.2 |
| Menkent | 147 57.4 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.2 |
| Mirfak | 308 28.1 | 49 57.2 |
| Nunki | 75 47.9 | -26 16.0 |
| Peacock | 53 6.1 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.4 | 5 9.6 |
| Rasalhague | 95 58.6 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.6 | -8 10.5 |
| Rigil Kent. | 139 40.1 | -60 56.1 |
| Sabik | 102 2.8 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.7 |
| Shaula | 96 10.5 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.2 |
| Spica | 158 22.0 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.1 |
| Vega | 80 33.5 | 38 48.1 |
| Zuben'ubi | 136 55.9 | -16 8.8 |

| 12 Wed | SHA | MP |
|---|---|---|
| Venus | 356 47.3 | 14:42 |
| Mars | 249 57.2 | 21:47 |
| Jupiter | 290 6.1 | 19:07 |
| Saturn | 9 40.4 | 13:50 |

| 13 Thu | SHA | MP |
|---|---|---|
| Venus | 356 19.9 | 14:40 |
| Mars | 250 7.4 | 21:42 |
| Jupiter | 290 4.4 | 19:04 |
| Saturn | 9 34.0 | 13:47 |

| 14 Fri | SHA | MP |
|---|---|---|
| Venus | 355 53.8 | 14:38 |
| Mars | 250 16.7 | 21:38 |
| Jupiter | 290 2.5 | 19:00 |
| Saturn | 9 27.5 | 13:43 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **12 Wednesday** | 0 | 176 27.3 | -13 40.8 | 2 1.7 | 12.0 | 19 4.1 | -11.9 | 56.1 |
| | 1 | 191 27.3 | -13 40.0 | 16 32.7 | 12.1 | 18 52.2 | -12.0 | 56.1 |
| | 2 | 206 27.3 | -13 39.2 | 31 3.8 | 12.2 | 18 40.2 | -12.1 | 56.1 |
| | 3 | 221 27.3 | -13 38.3 | 45 35.1 | 12.3 | 18 28.1 | -12.1 | 56.1 |
| | 4 | 236 27.3 | -13 37.5 | 60 6.4 | 12.4 | 18 16.0 | -12.2 | 56.0 |
| | 5 | 251 27.3 | -13 36.7 | 74 37.8 | 12.5 | 18 3.7 | -12.3 | 56.0 |
| | 6 | 266 27.3 | -13 35.8 | 89 9.3 | 12.6 | 17 51.4 | -12.4 | 56.0 |
| | 7 | 281 27.3 | -13 35.0 | 103 41.0 | 12.7 | 17 39.1 | -12.4 | 56.0 |
| | 8 | 296 27.3 | -13 34.2 | 118 12.7 | 12.8 | 17 26.6 | -12.5 | 56.0 |
| | 9 | 311 27.3 | -13 33.3 | 132 44.5 | 12.9 | 17 14.1 | -12.6 | 55.9 |
| | 10 | 326 27.3 | -13 32.5 | 147 16.3 | 13.0 | 17 1.5 | -12.6 | 55.9 |
| | 11 | 341 27.4 | -13 31.7 | 161 48.3 | 13.1 | 16 48.9 | -12.7 | 55.9 |
| | 12 | 356 27.4 | -13 30.8 | 176 20.4 | 13.2 | 16 36.2 | -12.8 | 55.9 |
| | 13 | 11 27.4 | -13 30.0 | 190 52.6 | 13.2 | 16 23.4 | -12.8 | 55.9 |
| | 14 | 26 27.4 | -13 29.2 | 205 24.8 | 13.3 | 16 10.6 | -12.9 | 55.8 |
| | 15 | 41 27.4 | -13 28.3 | 219 57.1 | 13.4 | 15 57.7 | -13.0 | 55.8 |
| | 16 | 56 27.4 | -13 27.5 | 234 29.6 | 13.5 | 15 44.7 | -13.0 | 55.8 |
| | 17 | 71 27.4 | -13 26.6 | 249 2.1 | 13.6 | 15 31.7 | -13.1 | 55.8 |
| | 18 | 86 27.4 | -13 25.8 | 263 34.7 | 13.7 | 15 18.6 | -13.1 | 55.8 |
| | 19 | 101 27.5 | -13 25.0 | 278 7.3 | 13.8 | 15 5.5 | -13.2 | 55.7 |
| | 20 | 116 27.5 | -13 24.1 | 292 40.1 | 13.8 | 14 52.3 | -13.2 | 55.7 |
| | 21 | 131 27.5 | -13 23.3 | 307 12.9 | 13.9 | 14 39.0 | -13.3 | 55.7 |
| | 22 | 146 27.5 | -13 22.4 | 321 45.9 | 14.0 | 14 25.8 | -13.3 | 55.7 |
| | 23 | 161 27.5 | -13 21.6 | 336 18.9 | 14.1 | 14 12.4 | -13.4 | 55.7 |
| | *v* | 0.0 | SD 16.2 | *d* -0.8 | | SD 15.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **13 Thursday** | 0 | 176 27.5 | -13 20.8 | 350 52.0 | 14.2 | 13 59.0 | -13.4 | 55.6 |
| | 1 | 191 27.6 | -13 19.9 | 5 25.1 | 14.2 | 13 45.6 | -13.5 | 55.6 |
| | 2 | 206 27.6 | -13 19.1 | 19 58.4 | 14.3 | 13 32.1 | -13.5 | 55.6 |
| | 3 | 221 27.6 | -13 18.2 | 34 31.7 | 14.4 | 13 18.5 | -13.6 | 55.6 |
| | 4 | 236 27.6 | -13 17.4 | 49 5.1 | 14.5 | 13 4.9 | -13.6 | 55.6 |
| | 5 | 251 27.6 | -13 16.6 | 63 38.5 | 14.5 | 12 51.3 | -13.7 | 55.5 |
| | 6 | 266 27.6 | -13 15.7 | 78 12.1 | 14.6 | 12 37.6 | -13.7 | 55.5 |
| | 7 | 281 27.7 | -13 14.9 | 92 45.7 | 14.7 | 12 23.9 | -13.8 | 55.5 |
| | 8 | 296 27.7 | -13 14.0 | 107 19.4 | 14.8 | 12 10.1 | -13.8 | 55.5 |
| | 9 | 311 27.7 | -13 13.2 | 121 53.1 | 14.8 | 11 56.3 | -13.8 | 55.5 |
| | 10 | 326 27.7 | -13 12.3 | 136 26.9 | 14.9 | 11 42.5 | -13.9 | 55.4 |
| | 11 | 341 27.7 | -13 11.5 | 151 0.8 | 15.0 | 11 28.6 | -13.9 | 55.4 |
| | 12 | 356 27.7 | -13 10.6 | 165 34.8 | 15.0 | 11 14.7 | -13.9 | 55.4 |
| | 13 | 11 27.8 | -13 9.8 | 180 8.8 | 15.1 | 11 0.8 | -14.0 | 55.4 |
| | 14 | 26 27.8 | -13 8.9 | 194 42.9 | 15.2 | 10 46.8 | -14.0 | 55.4 |
| | 15 | 41 27.8 | -13 8.1 | 209 17.1 | 15.2 | 10 32.8 | -14.0 | 55.3 |
| | 16 | 56 27.8 | -13 7.3 | 223 51.3 | 15.3 | 10 18.7 | -14.1 | 55.3 |
| | 17 | 71 27.8 | -13 6.4 | 238 25.6 | 15.3 | 10 4.7 | -14.1 | 55.3 |
| | 18 | 86 27.9 | -13 5.6 | 252 59.9 | 15.4 | 9 50.6 | -14.1 | 55.3 |
| | 19 | 101 27.9 | -13 4.7 | 267 34.3 | 15.5 | 9 36.4 | -14.2 | 55.3 |
| | 20 | 116 27.9 | -13 3.9 | 282 8.8 | 15.5 | 9 22.3 | -14.2 | 55.3 |
| | 21 | 131 27.9 | -13 3.0 | 296 43.3 | 15.6 | 9 8.1 | -14.2 | 55.2 |
| | 22 | 146 28.0 | -13 2.2 | 311 17.9 | 15.6 | 8 53.8 | -14.2 | 55.2 |
| | 23 | 161 28.0 | -13 1.3 | 325 52.5 | 15.7 | 8 39.6 | -14.3 | 55.2 |
| | *v* | 0.0 | SD 16.2 | *d* -0.8 | | SD 15.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **14 Friday** | 0 | 176 28.0 | -13 0.5 | 340 27.2 | 15.7 | 8 25.3 | -14.3 | 55.2 |
| | 1 | 191 28.0 | -12 59.6 | 355 2.0 | 15.8 | 8 11.1 | -14.3 | 55.2 |
| | 2 | 206 28.1 | -12 58.8 | 9 36.8 | 15.8 | 7 56.8 | -14.3 | 55.1 |
| | 3 | 221 28.1 | -12 57.9 | 24 11.6 | 15.9 | 7 42.4 | -14.3 | 55.1 |
| | 4 | 236 28.1 | -12 57.1 | 38 46.5 | 15.9 | 7 28.1 | -14.4 | 55.1 |
| | 5 | 251 28.1 | -12 56.2 | 53 21.5 | 16.0 | 7 13.7 | -14.4 | 55.1 |
| | 6 | 266 28.1 | -12 55.4 | 67 56.5 | 16.0 | 6 59.3 | -14.4 | 55.1 |
| | 7 | 281 28.2 | -12 54.5 | 82 31.5 | 16.1 | 6 44.9 | -14.4 | 55.1 |
| | 8 | 296 28.2 | -12 53.7 | 97 6.6 | 16.1 | 6 30.5 | -14.4 | 55.0 |
| | 9 | 311 28.2 | -12 52.8 | 111 41.7 | 16.2 | 6 16.1 | -14.4 | 55.0 |
| | 10 | 326 28.3 | -12 51.9 | 126 16.9 | 16.2 | 6 1.6 | -14.5 | 55.0 |
| | 11 | 341 28.3 | -12 51.1 | 140 52.1 | 16.3 | 5 47.2 | -14.5 | 55.0 |
| | 12 | 356 28.3 | -12 50.2 | 155 27.4 | 16.3 | 5 32.7 | -14.5 | 55.0 |
| | 13 | 11 28.3 | -12 49.4 | 170 2.7 | 16.3 | 5 18.2 | -14.5 | 55.0 |
| | 14 | 26 28.4 | -12 48.5 | 184 38.1 | 16.4 | 5 3.7 | -14.5 | 54.9 |
| | 15 | 41 28.4 | -12 47.7 | 199 13.4 | 16.4 | 4 49.2 | -14.5 | 54.9 |
| | 16 | 56 28.4 | -12 46.8 | 213 48.9 | 16.5 | 4 34.7 | -14.5 | 54.9 |
| | 17 | 71 28.4 | -12 46.0 | 228 24.3 | 16.5 | 4 20.2 | -14.5 | 54.9 |
| | 18 | 86 28.5 | -12 45.1 | 242 59.8 | 16.5 | 4 5.7 | -14.5 | 54.9 |
| | 19 | 101 28.5 | -12 44.3 | 257 35.3 | 16.6 | 3 51.2 | -14.5 | 54.9 |
| | 20 | 116 28.5 | -12 43.4 | 272 10.9 | 16.6 | 3 36.6 | -14.5 | 54.8 |
| | 21 | 131 28.6 | -12 42.5 | 286 46.5 | 16.6 | 3 22.1 | -14.5 | 54.8 |
| | 22 | 146 28.6 | -12 41.7 | 301 22.1 | 16.7 | 3 7.5 | -14.5 | 54.8 |
| | 23 | 161 28.6 | -12 40.8 | 315 57.8 | 16.7 | 2 53.0 | -14.5 | 54.8 |
| | *v* | 0.0 | SD 16.2 | *d* -0.9 | | SD 15.1 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:26 | 07:47 | 09:10 | 15:20 | 16:43 | 18:04 |
| 70 | 06:23 | 07:36 | 08:47 | 15:43 | 16:54 | 18:07 |
| 68 | 06:21 | 07:27 | 08:30 | 16:00 | 17:03 | 18:09 |
| 66 | 06:18 | 07:19 | 08:16 | 16:14 | 17:11 | 18:12 |
| 64 | 06:16 | 07:12 | 08:04 | 16:26 | 17:17 | 18:14 |
| 62 | 06:14 | 07:06 | 07:54 | 16:35 | 17:23 | 18:16 |
| 60 | 06:12 | 07:01 | 07:46 | 16:44 | 17:28 | 18:17 |
| 58 | 06:10 | 06:57 | 07:38 | 16:51 | 17:33 | 18:19 |
| 56 | 06:09 | 06:52 | 07:32 | 16:58 | 17:37 | 18:21 |
| 54 | 06:07 | 06:49 | 07:26 | 17:03 | 17:41 | 18:22 |
| 52 | 06:06 | 06:45 | 07:20 | 17:09 | 17:44 | 18:24 |
| 50 | 06:04 | 06:42 | 07:16 | 17:14 | 17:47 | 18:25 |
| 45 | 06:00 | 06:35 | 07:05 | 17:24 | 17:54 | 18:29 |
| 40 | 05:57 | 06:29 | 06:56 | 17:32 | 18:00 | 18:32 |
| 35 | 05:53 | 06:23 | 06:49 | 17:40 | 18:06 | 18:36 |
| 30 | 05:50 | 06:18 | 06:42 | 17:46 | 18:11 | 18:39 |
| 20 | 05:42 | 06:08 | 06:31 | 17:58 | 18:20 | 18:46 |
| 10 | 05:34 | 05:59 | 06:20 | 18:08 | 18:30 | 18:54 |
| 0 | 05:25 | 05:50 | 06:11 | 18:18 | 18:39 | 19:04 |
| -10 | 05:14 | 05:39 | 06:01 | 18:27 | 18:49 | 19:14 |
| -20 | 05:01 | 05:27 | 05:50 | 18:38 | 19:01 | 19:27 |
| -30 | 04:43 | 05:13 | 05:38 | 18:50 | 19:15 | 19:45 |
| -35 | 04:32 | 05:04 | 05:31 | 18:57 | 19:24 | 19:55 |
| -40 | 04:19 | 04:54 | 05:23 | 19:05 | 19:34 | 20:09 |
| -45 | 04:02 | 04:41 | 05:13 | 19:14 | 19:46 | 20:25 |
| -50 | 03:40 | 04:26 | 05:02 | 19:26 | 20:01 | 20:46 |
| -52 | 03:30 | 04:18 | 04:56 | 19:31 | 20:09 | 20:57 |
| -54 | 03:17 | 04:10 | 04:50 | 19:37 | 20:17 | 21:09 |
| -56 | 03:02 | 04:00 | 04:43 | 19:44 | 20:26 | 21:23 |
| -58 | 02:45 | 03:49 | 04:36 | 19:51 | 20:37 | 21:41 |
| -60 | 02:22 | 03:37 | 04:27 | 19:59 | 20:50 | 22:02 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **12** | **13** | **14** | **12** | **13** | **14** |
| 72 | 14:10 | 16:55 | 19:03 | 10:44 | 09:32 | 08:51 |
| 70 | 14:55 | 17:12 | 19:09 | 09:58 | 09:13 | 08:43 |
| 68 | 15:24 | 17:25 | 19:13 | 09:27 | 08:57 | 08:36 |
| 66 | 15:45 | 17:36 | 19:17 | 09:04 | 08:45 | 08:30 |
| 64 | 16:02 | 17:45 | 19:20 | 08:46 | 08:34 | 08:25 |
| 62 | 16:16 | 17:52 | 19:23 | 08:31 | 08:25 | 08:20 |
| 60 | 16:28 | 17:59 | 19:25 | 08:18 | 08:18 | 08:16 |
| 58 | 16:38 | 18:05 | 19:27 | 08:07 | 08:11 | 08:13 |
| 56 | 16:47 | 18:10 | 19:29 | 07:57 | 08:05 | 08:10 |
| 54 | 16:54 | 18:14 | 19:31 | 07:49 | 07:59 | 08:07 |
| 52 | 17:01 | 18:18 | 19:32 | 07:41 | 07:54 | 08:05 |
| 50 | 17:08 | 18:22 | 19:33 | 07:34 | 07:50 | 08:02 |
| 45 | 17:21 | 18:30 | 19:36 | 07:19 | 07:40 | 07:57 |
| 40 | 17:32 | 18:37 | 19:39 | 07:07 | 07:31 | 07:53 |
| 35 | 17:41 | 18:42 | 19:41 | 06:56 | 07:24 | 07:49 |
| 30 | 17:49 | 18:47 | 19:43 | 06:47 | 07:18 | 07:46 |
| 20 | 18:03 | 18:56 | 19:46 | 06:31 | 07:07 | 07:40 |
| 10 | 18:16 | 19:03 | 19:49 | 06:16 | 06:57 | 07:35 |
| 0 | 18:27 | 19:10 | 19:51 | 06:03 | 06:48 | 07:30 |
| -10 | 18:38 | 19:17 | 19:54 | 05:50 | 06:39 | 07:25 |
| -20 | 18:50 | 19:25 | 19:57 | 05:35 | 06:29 | 07:20 |
| -30 | 19:04 | 19:33 | 20:00 | 05:18 | 06:18 | 07:14 |
| -35 | 19:12 | 19:38 | 20:02 | 05:08 | 06:11 | 07:11 |
| -40 | 19:21 | 19:44 | 20:04 | 04:57 | 06:03 | 07:07 |
| -45 | 19:31 | 19:50 | 20:06 | 04:44 | 05:55 | 07:02 |
| -50 | 19:44 | 19:57 | 20:09 | 04:28 | 05:44 | 06:57 |
| -52 | 19:49 | 20:01 | 20:10 | 04:20 | 05:39 | 06:54 |
| -54 | 19:56 | 20:05 | 20:12 | 04:11 | 05:33 | 06:51 |
| -56 | 20:03 | 20:09 | 20:13 | 04:02 | 05:27 | 06:48 |
| -58 | 20:11 | 20:13 | 20:15 | 03:50 | 05:20 | 06:45 |
| -60 | 20:20 | 20:19 | 20:17 | 03:38 | 05:12 | 06:41 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **12** | 14:11 | 14:11 | 12:14 | –:– | 12:15 | 13 | 100 |
| **13** | 14:10 | 14:09 | 12:14 | 00:38 | 12:59 | 14 | 100 |
| **14** | 14:08 | 14:07 | 12:14 | 01:20 | 13:41 | 15 | 98 |

## 2025 February 15, 16, 17 (Sat, Sun, Mon)

| d | h | Aries GHA | Venus -4.9 GHA | Dec | Mars -0.7 GHA | Dec | Jupiter -2.4 GHA | Dec | Saturn 1.1 GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 Saturday | 0 | 145 15.2 | 140 44.5 | 6 32.6 | 35 40.4 | 26 12.5 | 75 15.6 | 21 43.1 | 154 36.3 | -6 6.6 |
| | 1 | 160 17.7 | 155 46.0 | 6 33.5 | 50 43.2 | 26 12.5 | 90 18.0 | 21 43.1 | 169 38.5 | -6 6.5 |
| | 2 | 175 20.2 | 170 47.4 | 6 34.4 | 65 46.0 | 26 12.4 | 105 20.3 | 21 43.1 | 184 40.7 | -6 6.4 |
| | 3 | 190 22.6 | 185 48.9 | 6 35.3 | 80 48.8 | 26 12.4 | 120 22.7 | 21 43.1 | 199 42.9 | -6 6.3 |
| | 4 | 205 25.1 | 200 50.4 | 6 36.2 | 95 51.6 | 26 12.4 | 135 25.1 | 21 43.2 | 214 45.1 | -6 6.1 |
| | 5 | 220 27.6 | 215 51.9 | 6 37.1 | 110 54.4 | 26 12.3 | 150 27.4 | 21 43.2 | 229 47.3 | -6 6.0 |
| | 6 | 235 30.0 | 230 53.4 | 6 38.0 | 125 57.1 | 26 12.3 | 165 29.8 | 21 43.2 | 244 49.5 | -6 5.9 |
| | 7 | 250 32.5 | 245 54.8 | 6 38.9 | 140 59.9 | 26 12.3 | 180 32.2 | 21 43.2 | 259 51.7 | -6 5.8 |
| | 8 | 265 35.0 | 260 56.3 | 6 39.8 | 156 2.7 | 26 12.2 | 195 34.5 | 21 43.2 | 274 53.9 | -6 5.7 |
| | 9 | 280 37.4 | 275 57.8 | 6 40.7 | 171 5.5 | 26 12.2 | 210 36.9 | 21 43.3 | 289 56.0 | -6 5.6 |
| | 10 | 295 39.9 | 290 59.3 | 6 41.6 | 186 8.3 | 26 12.2 | 225 39.3 | 21 43.3 | 304 58.2 | -6 5.4 |
| | 11 | 310 42.4 | 306 0.8 | 6 42.5 | 201 11.1 | 26 12.2 | 240 41.6 | 21 43.3 | 320 0.4 | -6 5.3 |
| | 12 | 325 44.8 | 321 2.3 | 6 43.4 | 216 13.8 | 26 12.1 | 255 44.0 | 21 43.3 | 335 2.6 | -6 5.2 |
| | 13 | 340 47.3 | 336 3.8 | 6 44.3 | 231 16.6 | 26 12.1 | 270 46.4 | 21 43.4 | 350 4.8 | -6 5.1 |
| | 14 | 355 49.7 | 351 5.3 | 6 45.2 | 246 19.4 | 26 12.1 | 285 48.7 | 21 43.4 | 5 7.0 | -6 5.0 |
| | 15 | 10 52.2 | 6 6.8 | 6 46.1 | 261 22.2 | 26 12.0 | 300 51.1 | 21 43.4 | 20 9.2 | -6 4.9 |
| | 16 | 25 54.7 | 21 8.3 | 6 46.9 | 276 24.9 | 26 12.0 | 315 53.5 | 21 43.4 | 35 11.4 | -6 4.7 |
| | 17 | 40 57.1 | 36 9.9 | 6 47.8 | 291 27.7 | 26 12.0 | 330 55.8 | 21 43.4 | 50 13.6 | -6 4.6 |
| | 18 | 55 59.6 | 51 11.4 | 6 48.7 | 306 30.5 | 26 11.9 | 345 58.2 | 21 43.5 | 65 15.8 | -6 4.5 |
| | 19 | 71 2.1 | 66 12.9 | 6 49.6 | 321 33.3 | 26 11.9 | 1 0.6 | 21 43.5 | 80 18.0 | -6 4.4 |
| | 20 | 86 4.5 | 81 14.4 | 6 50.5 | 336 36.0 | 26 11.9 | 16 2.9 | 21 43.5 | 95 20.2 | -6 4.3 |
| | 21 | 101 7.0 | 96 15.9 | 6 51.4 | 351 38.8 | 26 11.8 | 31 5.3 | 21 43.5 | 110 22.4 | -6 4.2 |
| | 22 | 116 9.5 | 111 17.5 | 6 52.3 | 6 41.6 | 26 11.8 | 46 7.7 | 21 43.5 | 125 24.6 | -6 4.0 |
| | 23 | 131 11.9 | 126 19.0 | 6 53.2 | 21 44.3 | 26 11.8 | 61 10.0 | 21 43.6 | 140 26.7 | -6 3.9 |
| | | MP 14:18 | *v* 1.5 | *d* 0.9 | *v* 2.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 Sunday | 0 | 146 14.4 | 141 20.5 | 6 54.0 | 36 47.1 | 26 11.7 | 76 12.4 | 21 43.6 | 155 28.9 | -6 3.8 |
| | 1 | 161 16.8 | 156 22.1 | 6 54.9 | 51 49.8 | 26 11.7 | 91 14.7 | 21 43.6 | 170 31.1 | -6 3.7 |
| | 2 | 176 19.3 | 171 23.6 | 6 55.8 | 66 52.6 | 26 11.7 | 106 17.1 | 21 43.6 | 185 33.3 | -6 3.6 |
| | 3 | 191 21.8 | 186 25.1 | 6 56.7 | 81 55.4 | 26 11.6 | 121 19.5 | 21 43.7 | 200 35.5 | -6 3.5 |
| | 4 | 206 24.2 | 201 26.7 | 6 57.6 | 96 58.1 | 26 11.6 | 136 21.8 | 21 43.7 | 215 37.7 | -6 3.3 |
| | 5 | 221 26.7 | 216 28.2 | 6 58.4 | 112 0.9 | 26 11.6 | 151 24.2 | 21 43.7 | 230 39.9 | -6 3.2 |
| | 6 | 236 29.2 | 231 29.8 | 6 59.3 | 127 3.6 | 26 11.5 | 166 26.5 | 21 43.7 | 245 42.1 | -6 3.1 |
| | 7 | 251 31.6 | 246 31.3 | 7 0.2 | 142 6.4 | 26 11.5 | 181 28.9 | 21 43.7 | 260 44.3 | -6 3.0 |
| | 8 | 266 34.1 | 261 32.9 | 7 1.1 | 157 9.1 | 26 11.5 | 196 31.3 | 21 43.8 | 275 46.5 | -6 2.9 |
| | 9 | 281 36.6 | 276 34.4 | 7 1.9 | 172 11.9 | 26 11.4 | 211 33.6 | 21 43.8 | 290 48.7 | -6 2.8 |
| | 10 | 296 39.0 | 291 36.0 | 7 2.8 | 187 14.6 | 26 11.4 | 226 36.0 | 21 43.8 | 305 50.9 | -6 2.6 |
| | 11 | 311 41.5 | 306 37.5 | 7 3.7 | 202 17.4 | 26 11.4 | 241 38.3 | 21 43.8 | 320 53.1 | -6 2.5 |
| | 12 | 326 44.0 | 321 39.1 | 7 4.6 | 217 20.1 | 26 11.3 | 256 40.7 | 21 43.8 | 335 55.2 | -6 2.4 |
| | 13 | 341 46.4 | 336 40.7 | 7 5.4 | 232 22.8 | 26 11.3 | 271 43.1 | 21 43.9 | 350 57.4 | -6 2.3 |
| | 14 | 356 48.9 | 351 42.2 | 7 6.3 | 247 25.6 | 26 11.2 | 286 45.4 | 21 43.9 | 5 59.6 | -6 2.2 |
| | 15 | 11 51.3 | 6 43.8 | 7 7.2 | 262 28.3 | 26 11.2 | 301 47.8 | 21 43.9 | 21 1.8 | -6 2.1 |
| | 16 | 26 53.8 | 21 45.4 | 7 8.0 | 277 31.1 | 26 11.2 | 316 50.1 | 21 43.9 | 36 4.0 | -6 1.9 |
| | 17 | 41 56.3 | 36 47.0 | 7 8.9 | 292 33.8 | 26 11.1 | 331 52.5 | 21 44.0 | 51 6.2 | -6 1.8 |
| | 18 | 56 58.7 | 51 48.5 | 7 9.8 | 307 36.5 | 26 11.1 | 346 54.8 | 21 44.0 | 66 8.4 | -6 1.7 |
| | 19 | 72 1.2 | 66 50.1 | 7 10.6 | 322 39.3 | 26 11.1 | 1 57.2 | 21 44.0 | 81 10.6 | -6 1.6 |
| | 20 | 87 3.7 | 81 51.7 | 7 11.5 | 337 42.0 | 26 11.0 | 16 59.6 | 21 44.0 | 96 12.8 | -6 1.5 |
| | 21 | 102 6.1 | 96 53.3 | 7 12.3 | 352 44.7 | 26 11.0 | 32 1.9 | 21 44.0 | 111 15.0 | -6 1.4 |
| | 22 | 117 8.6 | 111 54.9 | 7 13.2 | 7 47.5 | 26 10.9 | 47 4.3 | 21 44.1 | 126 17.2 | -6 1.2 |
| | 23 | 132 11.1 | 126 56.5 | 7 14.1 | 22 50.2 | 26 10.9 | 62 6.6 | 21 44.1 | 141 19.4 | -6 1.1 |
| | | MP 14:14 | *v* 1.5 | *d* 0.9 | *v* 2.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 Monday | 0 | 147 13.5 | 141 58.1 | 7 14.9 | 37 52.9 | 26 10.9 | 77 9.0 | 21 44.1 | 156 21.5 | -6 1.0 |
| | 1 | 162 16.0 | 156 59.7 | 7 15.8 | 52 55.6 | 26 10.8 | 92 11.3 | 21 44.1 | 171 23.7 | -6 0.9 |
| | 2 | 177 18.4 | 172 1.3 | 7 16.6 | 67 58.4 | 26 10.8 | 107 13.7 | 21 44.2 | 186 25.9 | -6 0.8 |
| | 3 | 192 20.9 | 187 2.9 | 7 17.5 | 83 1.1 | 26 10.7 | 122 16.0 | 21 44.2 | 201 28.1 | -6 0.7 |
| | 4 | 207 23.4 | 202 4.5 | 7 18.3 | 98 3.8 | 26 10.7 | 137 18.4 | 21 44.2 | 216 30.3 | -6 0.5 |
| | 5 | 222 25.8 | 217 6.1 | 7 19.2 | 113 6.5 | 26 10.7 | 152 20.7 | 21 44.2 | 231 32.5 | -6 0.4 |
| | 6 | 237 28.3 | 232 7.7 | 7 20.0 | 128 9.2 | 26 10.6 | 167 23.1 | 21 44.3 | 246 34.7 | -6 0.3 |
| | 7 | 252 30.8 | 247 9.3 | 7 20.9 | 143 11.9 | 26 10.6 | 182 25.4 | 21 44.3 | 261 36.9 | -6 0.2 |
| | 8 | 267 33.2 | 262 10.9 | 7 21.7 | 158 14.7 | 26 10.5 | 197 27.8 | 21 44.3 | 276 39.1 | -6 0.1 |
| | 9 | 282 35.7 | 277 12.6 | 7 22.6 | 173 17.4 | 26 10.5 | 212 30.1 | 21 44.3 | 291 41.3 | -6 0.0 |
| | 10 | 297 38.2 | 292 14.2 | 7 23.4 | 188 20.1 | 26 10.5 | 227 32.5 | 21 44.3 | 306 43.5 | -5 59.8 |
| | 11 | 312 40.6 | 307 15.8 | 7 24.3 | 203 22.8 | 26 10.4 | 242 34.8 | 21 44.4 | 321 45.7 | -5 59.7 |
| | 12 | 327 43.1 | 322 17.4 | 7 25.1 | 218 25.5 | 26 10.4 | 257 37.2 | 21 44.4 | 336 47.8 | -5 59.6 |
| | 13 | 342 45.6 | 337 19.1 | 7 26.0 | 233 28.2 | 26 10.3 | 272 39.5 | 21 44.4 | 351 50.0 | -5 59.5 |
| | 14 | 357 48.0 | 352 20.7 | 7 26.8 | 248 30.9 | 26 10.3 | 287 41.9 | 21 44.4 | 6 52.2 | -5 59.4 |
| | 15 | 12 50.5 | 7 22.3 | 7 27.7 | 263 33.6 | 26 10.2 | 302 44.2 | 21 44.5 | 21 54.4 | -5 59.3 |
| | 16 | 27 52.9 | 22 24.0 | 7 28.5 | 278 36.3 | 26 10.2 | 317 46.6 | 21 44.5 | 36 56.6 | -5 59.1 |
| | 17 | 42 55.4 | 37 25.6 | 7 29.3 | 293 39.0 | 26 10.2 | 332 48.9 | 21 44.5 | 51 58.8 | -5 59.0 |
| | 18 | 57 57.9 | 52 27.3 | 7 30.2 | 308 41.7 | 26 10.1 | 347 51.3 | 21 44.5 | 67 1.0 | -5 58.9 |
| | 19 | 73 0.3 | 67 28.9 | 7 31.0 | 323 44.4 | 26 10.1 | 2 53.6 | 21 44.6 | 82 3.2 | -5 58.8 |
| | 20 | 88 2.8 | 82 30.6 | 7 31.8 | 338 47.1 | 26 10.0 | 17 56.0 | 21 44.6 | 97 5.4 | -5 58.7 |
| | 21 | 103 5.3 | 97 32.2 | 7 32.7 | 353 49.8 | 26 10.0 | 32 58.3 | 21 44.6 | 112 7.6 | -5 58.6 |
| | 22 | 118 7.7 | 112 33.9 | 7 33.5 | 8 52.5 | 26 9.9 | 48 0.7 | 21 44.6 | 127 9.7 | -5 58.4 |
| | 23 | 133 10.2 | 127 35.5 | 7 34.3 | 23 55.2 | 26 9.9 | 63 3.0 | 21 44.6 | 142 11.9 | -5 58.3 |
| | | MP 14:10 | *v* 1.6 | *d* 0.9 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 12.5 |
| Achernar | 335 20.4 | -57 6.8 |
| Acrux | 172 59.5 | -63 14.2 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.5 | 55 49.1 |
| Alkaid | 152 51.7 | 49 10.9 |
| Alnair | 27 33.2 | -46 50.5 |
| Alnilam | 275 37.5 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.1 |
| Alphecca | 126 3.6 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.8 |
| Altair | 62 0.2 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.4 |
| Antares | 112 15.8 | -26 29.2 |
| Arcturus | 145 47.7 | 19 2.8 |
| Atria | 107 10.2 | -69 4.1 |
| Avior | 234 14.1 | -59 35.5 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 52.0 | -52 42.7 |
| Capella | 280 21.5 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.0 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.2 | 61 36.8 |
| Elnath | 278 1.6 | 28 37.8 |
| Eltanin | 90 42.4 | 51 28.8 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.2 | -57 15.1 |
| Gienah | 175 43.2 | -17 40.9 |
| Hadar | 148 35.7 | -60 29.5 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.6 | -34 22.3 |
| Kochab | 137 19.5 | 74 2.7 |
| Markab | 13 30.1 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.2 |
| Menkent | 147 57.4 | -36 29.5 |
| Miaplacidus | 221 37.4 | -69 49.2 |
| Mirfak | 308 28.1 | 49 57.2 |
| Nunki | 75 47.9 | -26 16.0 |
| Peacock | 53 6.1 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.4 | 5 9.6 |
| Rasalhague | 95 58.6 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.6 | -8 10.5 |
| Rigil Kent. | 139 40.0 | -60 56.1 |
| Sabik | 102 2.8 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.7 |
| Shaula | 96 10.4 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.2 |
| Spica | 158 22.0 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.1 |
| Vega | 80 33.5 | 38 48.1 |
| Zuben'ubi | 136 55.8 | -16 8.8 |

| 15 Sat | SHA | MP |
|---|---|---|
| Venus | 355 29.2 | 14:36 |
| Mars | 250 25.1 | 21:33 |
| Jupiter | 290 0.3 | 18:56 |
| Saturn | 9 21.1 | 13:40 |

| 16 Sun | SHA | MP |
|---|---|---|
| Venus | 355 6.1 | 14:33 |
| Mars | 250 32.7 | 21:29 |
| Jupiter | 289 58.0 | 18:52 |
| Saturn | 9 14.6 | 13:36 |

| 17 Mon | SHA | MP |
|---|---|---|
| Venus | 354 44.5 | 14:31 |
| Mars | 250 39.4 | 21:25 |
| Jupiter | 289 55.5 | 18:48 |
| Saturn | 9 8.0 | 13:33 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | v | Dec | d | HP |
| **15 Saturday** | 0 | 176 28.7 | -12 40.0 | 330 33.5 | 16.7 | 2 38.5 | -14.5 | 54.8 |
| | 1 | 191 28.7 | -12 39.1 | 345 9.2 | 16.7 | 2 23.9 | -14.5 | 54.8 |
| | 2 | 206 28.7 | -12 38.2 | 359 44.9 | 16.8 | 2 9.4 | -14.5 | 54.7 |
| | 3 | 221 28.7 | -12 37.4 | 14 20.7 | 16.8 | 1 54.8 | -14.5 | 54.7 |
| | 4 | 236 28.8 | -12 36.5 | 28 56.4 | 16.8 | 1 40.3 | -14.5 | 54.7 |
| | 5 | 251 28.8 | -12 35.7 | 43 32.3 | 16.8 | 1 25.7 | -14.5 | 54.7 |
| | 6 | 266 28.8 | -12 34.8 | 58 8.1 | 16.9 | 1 11.2 | -14.5 | 54.7 |
| | 7 | 281 28.9 | -12 33.9 | 72 43.9 | 16.9 | 0 56.7 | -14.5 | 54.7 |
| | 8 | 296 28.9 | -12 33.1 | 87 19.8 | 16.9 | 0 42.2 | -14.5 | 54.7 |
| | 9 | 311 28.9 | -12 32.2 | 101 55.7 | 16.9 | 0 27.6 | -14.5 | 54.6 |
| | 10 | 326 29.0 | -12 31.4 | 116 31.6 | 16.9 | 0 13.1 | -14.5 | 54.6 |
| | 11 | 341 29.0 | -12 30.5 | 131 7.5 | 16.9 | -0 1.4 | 14.5 | 54.6 |
| | 12 | 356 29.0 | -12 29.6 | 145 43.5 | 17.0 | -0 15.9 | 14.5 | 54.6 |
| | 13 | 11 29.1 | -12 28.8 | 160 19.4 | 17.0 | -0 30.4 | 14.5 | 54.6 |
| | 14 | 26 29.1 | -12 27.9 | 174 55.4 | 17.0 | -0 44.8 | 14.5 | 54.6 |
| | 15 | 41 29.2 | -12 27.0 | 189 31.4 | 17.0 | -0 59.3 | 14.5 | 54.6 |
| | 16 | 56 29.2 | -12 26.2 | 204 7.4 | 17.0 | -1 13.8 | 14.4 | 54.6 |
| | 17 | 71 29.2 | -12 25.3 | 218 43.4 | 17.0 | -1 28.2 | 14.4 | 54.5 |
| | 18 | 86 29.3 | -12 24.5 | 233 19.4 | 17.0 | -1 42.6 | 14.4 | 54.5 |
| | 19 | 101 29.3 | -12 23.6 | 247 55.4 | 17.0 | -1 57.0 | 14.4 | 54.5 |
| | 20 | 116 29.3 | -12 22.7 | 262 31.4 | 17.0 | -2 11.4 | 14.4 | 54.5 |
| | 21 | 131 29.4 | -12 21.9 | 277 7.5 | 17.0 | -2 25.8 | 14.4 | 54.5 |
| | 22 | 146 29.4 | -12 21.0 | 291 43.5 | 17.0 | -2 40.2 | 14.4 | 54.5 |
| | 23 | 161 29.4 | -12 20.1 | 306 19.5 | 17.0 | -2 54.6 | 14.3 | 54.5 |
| | v | 0.0 | SD 16.2 | d -0.9 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **16 Sunday** | 0 | 176 29.5 | -12 19.3 | 320 55.6 | 17.0 | -3 8.9 | 14.3 | 54.5 |
| | 1 | 191 29.5 | -12 18.4 | 335 31.6 | 17.0 | -3 23.2 | 14.3 | 54.4 |
| | 2 | 206 29.6 | -12 17.5 | 350 7.7 | 17.0 | -3 37.5 | 14.3 | 54.4 |
| | 3 | 221 29.6 | -12 16.7 | 4 43.7 | 17.0 | -3 51.8 | 14.3 | 54.4 |
| | 4 | 236 29.6 | -12 15.8 | 19 19.8 | 17.0 | -4 6.0 | 14.2 | 54.4 |
| | 5 | 251 29.7 | -12 14.9 | 33 55.8 | 17.0 | -4 20.3 | 14.2 | 54.4 |
| | 6 | 266 29.7 | -12 14.0 | 48 31.8 | 17.0 | -4 34.5 | 14.2 | 54.4 |
| | 7 | 281 29.8 | -12 13.2 | 63 7.9 | 17.0 | -4 48.7 | 14.2 | 54.4 |
| | 8 | 296 29.8 | -12 12.3 | 77 43.9 | 17.0 | -5 2.9 | 14.1 | 54.4 |
| | 9 | 311 29.8 | -12 11.4 | 92 19.9 | 17.0 | -5 17.0 | 14.1 | 54.4 |
| | 10 | 326 29.9 | -12 10.6 | 106 55.9 | 17.0 | -5 31.1 | 14.1 | 54.3 |
| | 11 | 341 29.9 | -12 9.7 | 121 31.9 | 17.0 | -5 45.2 | 14.1 | 54.3 |
| | 12 | 356 30.0 | -12 8.8 | 136 7.9 | 17.0 | -5 59.3 | 14.0 | 54.3 |
| | 13 | 11 30.0 | -12 8.0 | 150 43.9 | 17.0 | -6 13.3 | 14.0 | 54.3 |
| | 14 | 26 30.0 | -12 7.1 | 165 19.8 | 17.0 | -6 27.3 | 14.0 | 54.3 |
| | 15 | 41 30.1 | -12 6.2 | 179 55.8 | 16.9 | -6 41.3 | 14.0 | 54.3 |
| | 16 | 56 30.1 | -12 5.3 | 194 31.7 | 16.9 | -6 55.3 | 13.9 | 54.3 |
| | 17 | 71 30.2 | -12 4.5 | 209 7.6 | 16.9 | -7 9.2 | 13.9 | 54.3 |
| | 18 | 86 30.2 | -12 3.6 | 223 43.6 | 16.9 | -7 23.1 | 13.9 | 54.3 |
| | 19 | 101 30.3 | -12 2.7 | 238 19.4 | 16.9 | -7 37.0 | 13.8 | 54.3 |
| | 20 | 116 30.3 | -12 1.8 | 252 55.3 | 16.8 | -7 50.8 | 13.8 | 54.3 |
| | 21 | 131 30.4 | -12 1.0 | 267 31.2 | 16.8 | -8 4.6 | 13.8 | 54.3 |
| | 22 | 146 30.4 | -12 0.1 | 282 7.0 | 16.8 | -8 18.4 | 13.7 | 54.3 |
| | 23 | 161 30.4 | -11 59.2 | 296 42.8 | 16.8 | -8 32.1 | 13.7 | 54.2 |
| | v | 0.0 | SD 16.2 | d -0.9 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **17 Monday** | 0 | 176 30.5 | -11 58.3 | 311 18.6 | 16.8 | -8 45.8 | 13.7 | 54.2 |
| | 1 | 191 30.5 | -11 57.5 | 325 54.3 | 16.7 | -8 59.5 | 13.6 | 54.2 |
| | 2 | 206 30.6 | -11 56.6 | 340 30.1 | 16.7 | -9 13.1 | 13.6 | 54.2 |
| | 3 | 221 30.6 | -11 55.7 | 355 5.8 | 16.7 | -9 26.7 | 13.6 | 54.2 |
| | 4 | 236 30.7 | -11 54.8 | 9 41.4 | 16.7 | -9 40.2 | 13.5 | 54.2 |
| | 5 | 251 30.7 | -11 54.0 | 24 17.1 | 16.6 | -9 53.7 | 13.5 | 54.2 |
| | 6 | 266 30.8 | -11 53.1 | 38 52.7 | 16.6 | -10 7.2 | 13.4 | 54.2 |
| | 7 | 281 30.8 | -11 52.2 | 53 28.3 | 16.6 | -10 20.6 | 13.4 | 54.2 |
| | 8 | 296 30.9 | -11 51.3 | 68 3.9 | 16.5 | -10 34.0 | 13.4 | 54.2 |
| | 9 | 311 30.9 | -11 50.5 | 82 39.4 | 16.5 | -10 47.4 | 13.3 | 54.2 |
| | 10 | 326 31.0 | -11 49.6 | 97 14.9 | 16.5 | -11 0.7 | 13.3 | 54.2 |
| | 11 | 341 31.0 | -11 48.7 | 111 50.4 | 16.4 | -11 14.0 | 13.2 | 54.2 |
| | 12 | 356 31.1 | -11 47.8 | 126 25.8 | 16.4 | -11 27.2 | 13.2 | 54.2 |
| | 13 | 11 31.1 | -11 46.9 | 141 1.2 | 16.4 | -11 40.4 | 13.1 | 54.2 |
| | 14 | 26 31.2 | -11 46.1 | 155 36.5 | 16.3 | -11 53.5 | 13.1 | 54.2 |
| | 15 | 41 31.2 | -11 45.2 | 170 11.9 | 16.3 | -12 6.6 | 13.0 | 54.2 |
| | 16 | 56 31.3 | -11 44.3 | 184 47.1 | 16.2 | -12 19.6 | 13.0 | 54.2 |
| | 17 | 71 31.3 | -11 43.4 | 199 22.4 | 16.2 | -12 32.6 | 12.9 | 54.2 |
| | 18 | 86 31.4 | -11 42.5 | 213 57.6 | 16.2 | -12 45.6 | 12.9 | 54.2 |
| | 19 | 101 31.4 | -11 41.7 | 228 32.7 | 16.1 | -12 58.5 | 12.9 | 54.2 |
| | 20 | 116 31.5 | -11 40.8 | 243 7.8 | 16.1 | -13 11.3 | 12.8 | 54.2 |
| | 21 | 131 31.5 | -11 39.9 | 257 42.9 | 16.0 | -13 24.1 | 12.7 | 54.2 |
| | 22 | 146 31.6 | -11 39.0 | 272 17.9 | 16.0 | -13 36.9 | 12.7 | 54.2 |
| | 23 | 161 31.6 | -11 38.1 | 286 52.9 | 15.9 | -13 49.6 | 12.6 | 54.2 |
| | v | 0.0 | SD 16.2 | d -0.9 | | SD 14.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:13 | 07:33 | 08:52 | 15:38 | 16:57 | 18:17 |
| 70 | 06:12 | 07:24 | 08:32 | 15:57 | 17:06 | 18:18 |
| 68 | 06:10 | 07:16 | 08:17 | 16:12 | 17:14 | 18:20 |
| 66 | 06:09 | 07:09 | 08:05 | 16:25 | 17:21 | 18:21 |
| 64 | 06:08 | 07:03 | 07:54 | 16:35 | 17:26 | 18:22 |
| 62 | 06:06 | 06:58 | 07:45 | 16:44 | 17:31 | 18:23 |
| 60 | 06:05 | 06:54 | 07:38 | 16:52 | 17:36 | 18:24 |
| 58 | 06:04 | 06:50 | 07:31 | 16:58 | 17:39 | 18:25 |
| 56 | 06:03 | 06:46 | 07:25 | 17:04 | 17:43 | 18:27 |
| 54 | 06:01 | 06:43 | 07:19 | 17:10 | 17:46 | 18:28 |
| 52 | 06:00 | 06:40 | 07:15 | 17:14 | 17:49 | 18:29 |
| 50 | 05:59 | 06:37 | 07:10 | 17:19 | 17:52 | 18:30 |
| 45 | 05:56 | 06:30 | 07:01 | 17:28 | 17:58 | 18:33 |
| 40 | 05:53 | 06:25 | 06:53 | 17:36 | 18:04 | 18:35 |
| 35 | 05:50 | 06:20 | 06:46 | 17:43 | 18:09 | 18:38 |
| 30 | 05:47 | 06:15 | 06:40 | 17:49 | 18:13 | 18:41 |
| 20 | 05:41 | 06:07 | 06:29 | 17:59 | 18:22 | 18:48 |
| 10 | 05:33 | 05:58 | 06:20 | 18:09 | 18:30 | 18:55 |
| 0 | 05:25 | 05:50 | 06:11 | 18:17 | 18:39 | 19:03 |
| -10 | 05:15 | 05:40 | 06:02 | 18:26 | 18:48 | 19:13 |
| -20 | 05:02 | 05:29 | 05:52 | 18:36 | 18:59 | 19:25 |
| -30 | 04:46 | 05:16 | 05:40 | 18:47 | 19:12 | 19:42 |
| -35 | 04:36 | 05:07 | 05:34 | 18:54 | 19:20 | 19:52 |
| -40 | 04:23 | 04:58 | 05:26 | 19:01 | 19:30 | 20:04 |
| -45 | 04:07 | 04:46 | 05:18 | 19:10 | 19:41 | 20:19 |
| -50 | 03:47 | 04:31 | 05:07 | 19:20 | 19:55 | 20:39 |
| -52 | 03:37 | 04:25 | 05:02 | 19:25 | 20:02 | 20:49 |
| -54 | 03:26 | 04:17 | 04:56 | 19:31 | 20:10 | 21:00 |
| -56 | 03:12 | 04:08 | 04:50 | 19:37 | 20:18 | 21:14 |
| -58 | 02:56 | 03:58 | 04:43 | 19:43 | 20:28 | 21:29 |
| -60 | 02:36 | 03:46 | 04:36 | 19:51 | 20:40 | 21:48 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **15** | **16** | **17** | **15** | **16** | **17** |
| 72 | 21:03 | 23:05 | –:– | 08:18 | 07:45 | 07:08 |
| 70 | 20:59 | 22:51 | –:– | 08:17 | 07:52 | 07:24 |
| 68 | 20:56 | 22:40 | –:– | 08:16 | 07:58 | 07:37 |
| 66 | 20:54 | 22:31 | –:– | 08:16 | 08:02 | 07:48 |
| 64 | 20:52 | 22:23 | 23:58 | 08:15 | 08:06 | 07:57 |
| 62 | 20:50 | 22:17 | 23:46 | 08:15 | 08:10 | 08:05 |
| 60 | 20:48 | 22:11 | 23:36 | 08:15 | 08:13 | 08:12 |
| 58 | 20:47 | 22:07 | 23:27 | 08:14 | 08:16 | 08:18 |
| 56 | 20:46 | 22:02 | 23:20 | 08:14 | 08:18 | 08:23 |
| 54 | 20:45 | 21:58 | 23:13 | 08:14 | 08:21 | 08:28 |
| 52 | 20:44 | 21:55 | 23:07 | 08:14 | 08:23 | 08:32 |
| 50 | 20:43 | 21:52 | 23:01 | 08:14 | 08:25 | 08:36 |
| 45 | 20:41 | 21:45 | 22:50 | 08:13 | 08:29 | 08:45 |
| 40 | 20:39 | 21:39 | 22:40 | 08:13 | 08:32 | 08:52 |
| 35 | 20:38 | 21:34 | 22:32 | 08:12 | 08:35 | 08:58 |
| 30 | 20:37 | 21:30 | 22:24 | 08:12 | 08:38 | 09:04 |
| 20 | 20:35 | 21:23 | 22:12 | 08:12 | 08:42 | 09:13 |
| 10 | 20:33 | 21:17 | 22:01 | 08:11 | 08:46 | 09:22 |
| 0 | 20:31 | 21:11 | 21:51 | 08:11 | 08:50 | 09:30 |
| -10 | 20:29 | 21:05 | 21:41 | 08:10 | 08:54 | 09:38 |
| -20 | 20:28 | 20:58 | 21:30 | 08:10 | 08:58 | 09:46 |
| -30 | 20:26 | 20:51 | 21:18 | 08:09 | 09:03 | 09:56 |
| -35 | 20:25 | 20:47 | 21:11 | 08:09 | 09:05 | 10:02 |
| -40 | 20:23 | 20:43 | 21:04 | 08:08 | 09:08 | 10:08 |
| -45 | 20:22 | 20:38 | 20:54 | 08:08 | 09:12 | 10:16 |
| -50 | 20:20 | 20:31 | 20:44 | 08:07 | 09:16 | 10:25 |
| -52 | 20:19 | 20:28 | 20:39 | 08:07 | 09:18 | 10:30 |
| -54 | 20:19 | 20:25 | 20:33 | 08:06 | 09:20 | 10:34 |
| -56 | 20:18 | 20:22 | 20:27 | 08:06 | 09:23 | 10:39 |
| -58 | 20:17 | 20:18 | 20:20 | 08:06 | 09:25 | 10:45 |
| -60 | 20:15 | 20:14 | 20:12 | 08:05 | 09:28 | 10:52 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **15** | 14:05 | 14:04 | 12:14 | 02:01 | 14:21 | 16 | 94 |
| **16** | 14:02 | 14:00 | 12:14 | 02:41 | 15:00 | 17 | 89 |
| **17** | 13:58 | 13:56 | 12:14 | 03:20 | 15:40 | 18 | 83 |

## 2025 February 18, 19, 20 (Tue, Wed, Thu)

| | | Aries | Venus -4.9 | | Mars -0.6 | | Jupiter -2.4 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 18 Tuesday | 0 | 148 12.7 | 142 37.2 | 7 35.2 | 38 57.9 | 26 9.9 | 78 5.4 | 21 44.7 | 157 14.1 | -5 58.2 |
| | 1 | 163 15.1 | 157 38.9 | 7 36.0 | 54 0.6 | 26 9.8 | 93 7.7 | 21 44.7 | 172 16.3 | -5 58.1 |
| | 2 | 178 17.6 | 172 40.5 | 7 36.8 | 69 3.2 | 26 9.8 | 108 10.0 | 21 44.7 | 187 18.5 | -5 58.0 |
| | 3 | 193 20.1 | 187 42.2 | 7 37.7 | 84 5.9 | 26 9.7 | 123 12.4 | 21 44.7 | 202 20.7 | -5 57.8 |
| | 4 | 208 22.5 | 202 43.9 | 7 38.5 | 99 8.6 | 26 9.7 | 138 14.7 | 21 44.8 | 217 22.9 | -5 57.7 |
| | 5 | 223 25.0 | 217 45.6 | 7 39.3 | 114 11.3 | 26 9.6 | 153 17.1 | 21 44.8 | 232 25.1 | -5 57.6 |
| | 6 | 238 27.4 | 232 47.2 | 7 40.1 | 129 14.0 | 26 9.6 | 168 19.4 | 21 44.8 | 247 27.3 | -5 57.5 |
| | 7 | 253 29.9 | 247 48.9 | 7 41.0 | 144 16.6 | 26 9.5 | 183 21.8 | 21 44.8 | 262 29.5 | -5 57.4 |
| | 8 | 268 32.4 | 262 50.6 | 7 41.8 | 159 19.3 | 26 9.5 | 198 24.1 | 21 44.9 | 277 31.7 | -5 57.3 |
| | 9 | 283 34.8 | 277 52.3 | 7 42.6 | 174 22.0 | 26 9.4 | 213 26.4 | 21 44.9 | 292 33.8 | -5 57.1 |
| | 10 | 298 37.3 | 292 54.0 | 7 43.4 | 189 24.7 | 26 9.4 | 228 28.8 | 21 44.9 | 307 36.0 | -5 57.0 |
| | 11 | 313 39.8 | 307 55.7 | 7 44.3 | 204 27.3 | 26 9.3 | 243 31.1 | 21 44.9 | 322 38.2 | -5 56.9 |
| | 12 | 328 42.2 | 322 57.4 | 7 45.1 | 219 30.0 | 26 9.3 | 258 33.5 | 21 45.0 | 337 40.4 | -5 56.8 |
| | 13 | 343 44.7 | 337 59.1 | 7 45.9 | 234 32.7 | 26 9.2 | 273 35.8 | 21 45.0 | 352 42.6 | -5 56.7 |
| | 14 | 358 47.2 | 353 0.8 | 7 46.7 | 249 35.4 | 26 9.2 | 288 38.2 | 21 45.0 | 7 44.8 | -5 56.6 |
| | 15 | 13 49.6 | 8 2.5 | 7 47.5 | 264 38.0 | 26 9.2 | 303 40.5 | 21 45.0 | 22 47.0 | -5 56.4 |
| | 16 | 28 52.1 | 23 4.2 | 7 48.3 | 279 40.7 | 26 9.1 | 318 42.8 | 21 45.1 | 37 49.2 | -5 56.3 |
| | 17 | 43 54.5 | 38 5.9 | 7 49.1 | 294 43.4 | 26 9.1 | 333 45.2 | 21 45.1 | 52 51.4 | -5 56.2 |
| | 18 | 58 57.0 | 53 7.6 | 7 50.0 | 309 46.0 | 26 9.0 | 348 47.5 | 21 45.1 | 67 53.6 | -5 56.1 |
| | 19 | 73 59.5 | 68 9.3 | 7 50.8 | 324 48.7 | 26 9.0 | 3 49.8 | 21 45.1 | 82 55.7 | -5 56.0 |
| | 20 | 89 1.9 | 83 11.0 | 7 51.6 | 339 51.3 | 26 8.9 | 18 52.2 | 21 45.2 | 97 57.9 | -5 55.9 |
| | 21 | 104 4.4 | 98 12.8 | 7 52.4 | 354 54.0 | 26 8.9 | 33 54.5 | 21 45.2 | 113 0.1 | -5 55.7 |
| | 22 | 119 6.9 | 113 14.5 | 7 53.2 | 9 56.7 | 26 8.8 | 48 56.9 | 21 45.2 | 128 2.3 | -5 55.6 |
| | 23 | 134 9.3 | 128 16.2 | 7 54.0 | 24 59.3 | 26 8.8 | 63 59.2 | 21 45.2 | 143 4.5 | -5 55.5 |
| | | MP 14:06 | *v* 1.7 | *d* 0.8 | *v* 2.7 | *d* 0.0 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 Wednesday | 0 | 149 11.8 | 143 18.0 | 7 54.8 | 40 2.0 | 26 8.7 | 79 1.5 | 21 45.2 | 158 6.7 | -5 55.4 |
| | 1 | 164 14.3 | 158 19.7 | 7 55.6 | 55 4.6 | 26 8.7 | 94 3.9 | 21 45.3 | 173 8.9 | -5 55.3 |
| | 2 | 179 16.7 | 173 21.4 | 7 56.4 | 70 7.3 | 26 8.6 | 109 6.2 | 21 45.3 | 188 11.1 | -5 55.1 |
| | 3 | 194 19.2 | 188 23.2 | 7 57.2 | 85 9.9 | 26 8.6 | 124 8.5 | 21 45.3 | 203 13.3 | -5 55.0 |
| | 4 | 209 21.7 | 203 24.9 | 7 58.0 | 100 12.6 | 26 8.5 | 139 10.9 | 21 45.3 | 218 15.4 | -5 54.9 |
| | 5 | 224 24.1 | 218 26.7 | 7 58.8 | 115 15.2 | 26 8.5 | 154 13.2 | 21 45.4 | 233 17.6 | -5 54.8 |
| | 6 | 239 26.6 | 233 28.4 | 7 59.6 | 130 17.8 | 26 8.4 | 169 15.5 | 21 45.4 | 248 19.8 | -5 54.7 |
| | 7 | 254 29.0 | 248 30.2 | 8 0.4 | 145 20.5 | 26 8.4 | 184 17.9 | 21 45.4 | 263 22.0 | -5 54.6 |
| | 8 | 269 31.5 | 263 31.9 | 8 1.2 | 160 23.1 | 26 8.3 | 199 20.2 | 21 45.4 | 278 24.2 | -5 54.4 |
| | 9 | 284 34.0 | 278 33.7 | 8 2.0 | 175 25.8 | 26 8.3 | 214 22.5 | 21 45.5 | 293 26.4 | -5 54.3 |
| | 10 | 299 36.4 | 293 35.4 | 8 2.8 | 190 28.4 | 26 8.2 | 229 24.9 | 21 45.5 | 308 28.6 | -5 54.2 |
| | 11 | 314 38.9 | 308 37.2 | 8 3.6 | 205 31.0 | 26 8.1 | 244 27.2 | 21 45.5 | 323 30.8 | -5 54.1 |
| | 12 | 329 41.4 | 323 39.0 | 8 4.3 | 220 33.7 | 26 8.1 | 259 29.5 | 21 45.5 | 338 33.0 | -5 54.0 |
| | 13 | 344 43.8 | 338 40.7 | 8 5.1 | 235 36.3 | 26 8.0 | 274 31.9 | 21 45.6 | 353 35.1 | -5 53.8 |
| | 14 | 359 46.3 | 353 42.5 | 8 5.9 | 250 39.0 | 26 8.0 | 289 34.2 | 21 45.6 | 8 37.3 | -5 53.7 |
| | 15 | 14 48.8 | 8 44.3 | 8 6.7 | 265 41.6 | 26 7.9 | 304 36.5 | 21 45.6 | 23 39.5 | -5 53.6 |
| | 16 | 29 51.2 | 23 46.1 | 8 7.5 | 280 44.2 | 26 7.9 | 319 38.9 | 21 45.6 | 38 41.7 | -5 53.5 |
| | 17 | 44 53.7 | 38 47.8 | 8 8.3 | 295 46.8 | 26 7.8 | 334 41.2 | 21 45.7 | 53 43.9 | -5 53.4 |
| | 18 | 59 56.2 | 53 49.6 | 8 9.1 | 310 49.5 | 26 7.8 | 349 43.5 | 21 45.7 | 68 46.1 | -5 53.3 |
| | 19 | 74 58.6 | 68 51.4 | 8 9.8 | 325 52.1 | 26 7.7 | 4 45.9 | 21 45.7 | 83 48.3 | -5 53.1 |
| | 20 | 90 1.1 | 83 53.2 | 8 10.6 | 340 54.7 | 26 7.7 | 19 48.2 | 21 45.7 | 98 50.5 | -5 53.0 |
| | 21 | 105 3.5 | 98 55.0 | 8 11.4 | 355 57.3 | 26 7.6 | 34 50.5 | 21 45.8 | 113 52.7 | -5 52.9 |
| | 22 | 120 6.0 | 113 56.8 | 8 12.2 | 11 0.0 | 26 7.6 | 49 52.9 | 21 45.8 | 128 54.8 | -5 52.8 |
| | 23 | 135 8.5 | 128 58.6 | 8 12.9 | 26 2.6 | 26 7.5 | 64 55.2 | 21 45.8 | 143 57.0 | -5 52.7 |
| | | MP 14:02 | *v* 1.7 | *d* 0.8 | *v* 2.7 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Thursday | 0 | 150 10.9 | 144 0.4 | 8 13.7 | 41 5.2 | 26 7.4 | 79 57.5 | 21 45.9 | 158 59.2 | -5 52.6 |
| | 1 | 165 13.4 | 159 2.2 | 8 14.5 | 56 7.8 | 26 7.4 | 94 59.8 | 21 45.9 | 174 1.4 | -5 52.4 |
| | 2 | 180 15.9 | 174 4.0 | 8 15.3 | 71 10.4 | 26 7.3 | 110 2.2 | 21 45.9 | 189 3.6 | -5 52.3 |
| | 3 | 195 18.3 | 189 5.8 | 8 16.0 | 86 13.0 | 26 7.3 | 125 4.5 | 21 45.9 | 204 5.8 | -5 52.2 |
| | 4 | 210 20.8 | 204 7.6 | 8 16.8 | 101 15.7 | 26 7.2 | 140 6.8 | 21 46.0 | 219 8.0 | -5 52.1 |
| | 5 | 225 23.3 | 219 9.5 | 8 17.6 | 116 18.3 | 26 7.2 | 155 9.1 | 21 46.0 | 234 10.2 | -5 52.0 |
| | 6 | 240 25.7 | 234 11.3 | 8 18.3 | 131 20.9 | 26 7.1 | 170 11.5 | 21 46.0 | 249 12.4 | -5 51.8 |
| | 7 | 255 28.2 | 249 13.1 | 8 19.1 | 146 23.5 | 26 7.1 | 185 13.8 | 21 46.0 | 264 14.5 | -5 51.7 |
| | 8 | 270 30.6 | 264 14.9 | 8 19.9 | 161 26.1 | 26 7.0 | 200 16.1 | 21 46.1 | 279 16.7 | -5 51.6 |
| | 9 | 285 33.1 | 279 16.8 | 8 20.6 | 176 28.7 | 26 6.9 | 215 18.4 | 21 46.1 | 294 18.9 | -5 51.5 |
| | 10 | 300 35.6 | 294 18.6 | 8 21.4 | 191 31.3 | 26 6.9 | 230 20.8 | 21 46.1 | 309 21.1 | -5 51.4 |
| | 11 | 315 38.0 | 309 20.4 | 8 22.2 | 206 33.9 | 26 6.8 | 245 23.1 | 21 46.1 | 324 23.3 | -5 51.3 |
| | 12 | 330 40.5 | 324 22.3 | 8 22.9 | 221 36.5 | 26 6.8 | 260 25.4 | 21 46.2 | 339 25.5 | -5 51.1 |
| | 13 | 345 43.0 | 339 24.1 | 8 23.7 | 236 39.1 | 26 6.7 | 275 27.7 | 21 46.2 | 354 27.7 | -5 51.0 |
| | 14 | 0 45.4 | 354 26.0 | 8 24.4 | 251 41.7 | 26 6.7 | 290 30.1 | 21 46.2 | 9 29.9 | -5 50.9 |
| | 15 | 15 47.9 | 9 27.8 | 8 25.2 | 266 44.3 | 26 6.6 | 305 32.4 | 21 46.2 | 24 32.0 | -5 50.8 |
| | 16 | 30 50.4 | 24 29.7 | 8 25.9 | 281 46.9 | 26 6.5 | 320 34.7 | 21 46.3 | 39 34.2 | -5 50.7 |
| | 17 | 45 52.8 | 39 31.5 | 8 26.7 | 296 49.5 | 26 6.5 | 335 37.0 | 21 46.3 | 54 36.4 | -5 50.5 |
| | 18 | 60 55.3 | 54 33.4 | 8 27.4 | 311 52.1 | 26 6.4 | 350 39.4 | 21 46.3 | 69 38.6 | -5 50.4 |
| | 19 | 75 57.8 | 69 35.2 | 8 28.2 | 326 54.7 | 26 6.4 | 5 41.7 | 21 46.3 | 84 40.8 | -5 50.3 |
| | 20 | 91 0.2 | 84 37.1 | 8 28.9 | 341 57.2 | 26 6.3 | 20 44.0 | 21 46.4 | 99 43.0 | -5 50.2 |
| | 21 | 106 2.7 | 99 39.0 | 8 29.7 | 356 59.8 | 26 6.2 | 35 46.3 | 21 46.4 | 114 45.2 | -5 50.1 |
| | 22 | 121 5.1 | 114 40.8 | 8 30.4 | 12 2.4 | 26 6.2 | 50 48.6 | 21 46.4 | 129 47.4 | -5 50.0 |
| | 23 | 136 7.6 | 129 42.7 | 8 31.2 | 27 5.0 | 26 6.1 | 65 51.0 | 21 46.5 | 144 49.6 | -5 49.8 |
| | | MP 13:58 | *v* 1.8 | *d* 0.8 | *v* 2.6 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 12.5 |
| Achernar | 335 20.4 | -57 6.8 |
| Acrux | 172 59.5 | -63 14.2 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.1 |
| Alkaid | 152 51.6 | 49 10.9 |
| Alnair | 27 33.2 | -46 50.5 |
| Alnilam | 275 37.5 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.2 |
| Alphecca | 126 3.6 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.8 |
| Altair | 62 0.1 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.4 |
| Antares | 112 15.8 | -26 29.2 |
| Arcturus | 145 47.7 | 19 2.8 |
| Atria | 107 10.1 | -69 4.1 |
| Avior | 234 14.1 | -59 35.5 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 52.0 | -52 42.7 |
| Capella | 280 21.6 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.0 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.2 | 61 36.8 |
| Elnath | 278 1.6 | 28 37.8 |
| Eltanin | 90 42.4 | 51 28.8 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.1 | -57 15.1 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.6 | -60 29.5 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.6 | -34 22.3 |
| Kochab | 137 19.4 | 74 2.7 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.1 | 4 11.2 |
| Menkent | 147 57.3 | -36 29.6 |
| Miaplacidus | 221 37.4 | -69 49.2 |
| Mirfak | 308 28.2 | 49 57.2 |
| Nunki | 75 47.9 | -26 16.0 |
| Peacock | 53 6.1 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.6 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.6 | -8 10.5 |
| Rigil Kent. | 139 40.0 | -60 56.2 |
| Sabik | 102 2.8 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.6 |
| Shaula | 96 10.4 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.2 |
| Spica | 158 22.0 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.1 |
| Vega | 80 33.4 | 38 48.1 |
| Zuben'ubi | 136 55.8 | -16 8.8 |

| 18 Tue | SHA | MP |
|---|---|---|
| Venus | 354 24.5 | 14:28 |
| Mars | 250 45.2 | 21:20 |
| Jupiter | 289 52.7 | 18:45 |
| Saturn | 9 1.5 | 13:29 |

| 19 Wed | SHA | MP |
|---|---|---|
| Venus | 354 6.2 | 14:25 |
| Mars | 250 50.2 | 21:16 |
| Jupiter | 289 49.7 | 18:41 |
| Saturn | 8 54.9 | 13:26 |

| 20 Thu | SHA | MP |
|---|---|---|
| Venus | 353 49.5 | 14:22 |
| Mars | 250 54.3 | 21:12 |
| Jupiter | 289 46.6 | 18:37 |
| Saturn | 8 48.3 | 13:22 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **18 Tuesday** | 0 | 176 31.7 | -11 37.3 | 301 27.8 | 15.9 | -14 2.2 | 12.6 | 54.2 |
| | 1 | 191 31.7 | -11 36.4 | 316 2.7 | 15.8 | -14 14.8 | 12.5 | 54.2 |
| | 2 | 206 31.8 | -11 35.5 | 330 37.5 | 15.8 | -14 27.4 | 12.5 | 54.2 |
| | 3 | 221 31.8 | -11 34.6 | 345 12.3 | 15.7 | -14 39.9 | 12.4 | 54.2 |
| | 4 | 236 31.9 | -11 33.7 | 359 47.0 | 15.7 | -14 52.3 | 12.4 | 54.2 |
| | 5 | 251 31.9 | -11 32.8 | 14 21.7 | 15.6 | -15 4.7 | 12.3 | 54.2 |
| | 6 | 266 32.0 | -11 31.9 | 28 56.3 | 15.6 | -15 17.0 | 12.3 | 54.2 |
| | 7 | 281 32.0 | -11 31.1 | 43 30.9 | 15.5 | -15 29.2 | 12.2 | 54.2 |
| | 8 | 296 32.1 | -11 30.2 | 58 5.4 | 15.5 | -15 41.4 | 12.1 | 54.2 |
| | 9 | 311 32.1 | -11 29.3 | 72 39.9 | 15.4 | -15 53.6 | 12.1 | 54.2 |
| | 10 | 326 32.2 | -11 28.4 | 87 14.3 | 15.3 | -16 5.7 | 12.0 | 54.2 |
| | 11 | 341 32.3 | -11 27.5 | 101 48.6 | 15.3 | -16 17.7 | 12.0 | 54.2 |
| | 12 | 356 32.3 | -11 26.6 | 116 22.9 | 15.2 | -16 29.6 | 11.9 | 54.2 |
| | 13 | 11 32.4 | -11 25.7 | 130 57.1 | 15.2 | -16 41.5 | 11.8 | 54.2 |
| | 14 | 26 32.4 | -11 24.9 | 145 31.3 | 15.1 | -16 53.4 | 11.8 | 54.2 |
| | 15 | 41 32.5 | -11 24.0 | 160 5.4 | 15.0 | -17 5.1 | 11.7 | 54.2 |
| | 16 | 56 32.5 | -11 23.1 | 174 39.5 | 15.0 | -17 16.8 | 11.6 | 54.2 |
| | 17 | 71 32.6 | -11 22.2 | 189 13.5 | 14.9 | -17 28.5 | 11.6 | 54.2 |
| | 18 | 86 32.7 | -11 21.3 | 203 47.4 | 14.9 | -17 40.0 | 11.5 | 54.2 |
| | 19 | 101 32.7 | -11 20.4 | 218 21.2 | 14.8 | -17 51.5 | 11.4 | 54.2 |
| | 20 | 116 32.8 | -11 19.5 | 232 55.0 | 14.7 | -18 3.0 | 11.4 | 54.2 |
| | 21 | 131 32.8 | -11 18.6 | 247 28.7 | 14.7 | -18 14.3 | 11.3 | 54.2 |
| | 22 | 146 32.9 | -11 17.7 | 262 2.4 | 14.6 | -18 25.6 | 11.2 | 54.2 |
| | 23 | 161 32.9 | -11 16.9 | 276 36.0 | 14.5 | -18 36.9 | 11.2 | 54.2 |
| | | *v* 0.1 | SD 16.2 | *d* -0.9 | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **19 Wednesday** | 0 | 176 33.0 | -11 16.0 | 291 9.5 | 14.5 | -18 48.0 | 11.1 | 54.2 |
| | 1 | 191 33.1 | -11 15.1 | 305 43.0 | 14.4 | -18 59.1 | 11.0 | 54.2 |
| | 2 | 206 33.1 | -11 14.2 | 320 16.4 | 14.3 | -19 10.1 | 10.9 | 54.2 |
| | 3 | 221 33.2 | -11 13.3 | 334 49.7 | 14.2 | -19 21.1 | 10.9 | 54.3 |
| | 4 | 236 33.2 | -11 12.4 | 349 22.9 | 14.2 | -19 31.9 | 10.8 | 54.3 |
| | 5 | 251 33.3 | -11 11.5 | 3 56.1 | 14.1 | -19 42.7 | 10.7 | 54.3 |
| | 6 | 266 33.4 | -11 10.6 | 18 29.2 | 14.0 | -19 53.4 | 10.6 | 54.3 |
| | 7 | 281 33.4 | -11 9.7 | 33 2.2 | 14.0 | -20 4.0 | 10.6 | 54.3 |
| | 8 | 296 33.5 | -11 8.8 | 47 35.2 | 13.9 | -20 14.6 | 10.5 | 54.3 |
| | 9 | 311 33.5 | -11 7.9 | 62 8.0 | 13.8 | -20 25.1 | 10.4 | 54.3 |
| | 10 | 326 33.6 | -11 7.0 | 76 40.8 | 13.7 | -20 35.4 | 10.3 | 54.3 |
| | 11 | 341 33.7 | -11 6.2 | 91 13.6 | 13.6 | -20 45.8 | 10.2 | 54.3 |
| | 12 | 356 33.7 | -11 5.3 | 105 46.2 | 13.6 | -20 56.0 | 10.1 | 54.3 |
| | 13 | 11 33.8 | -11 4.4 | 120 18.8 | 13.5 | -21 6.1 | 10.1 | 54.3 |
| | 14 | 26 33.9 | -11 3.5 | 134 51.3 | 13.4 | -21 16.2 | 10.0 | 54.3 |
| | 15 | 41 33.9 | -11 2.6 | 149 23.7 | 13.3 | -21 26.2 | 9.9 | 54.4 |
| | 16 | 56 34.0 | -11 1.7 | 163 56.0 | 13.3 | -21 36.1 | 9.8 | 54.4 |
| | 17 | 71 34.1 | -11 0.8 | 178 28.3 | 13.2 | -21 45.9 | 9.7 | 54.4 |
| | 18 | 86 34.1 | -10 59.9 | 193 0.5 | 13.1 | -21 55.6 | 9.6 | 54.4 |
| | 19 | 101 34.2 | -10 59.0 | 207 32.6 | 13.0 | -22 5.2 | 9.5 | 54.4 |
| | 20 | 116 34.2 | -10 58.1 | 222 4.6 | 12.9 | -22 14.7 | 9.4 | 54.4 |
| | 21 | 131 34.3 | -10 57.2 | 236 36.5 | 12.8 | -22 24.2 | 9.4 | 54.4 |
| | 22 | 146 34.4 | -10 56.3 | 251 8.4 | 12.8 | -22 33.5 | 9.3 | 54.4 |
| | 23 | 161 34.4 | -10 55.4 | 265 40.1 | 12.7 | -22 42.8 | 9.2 | 54.5 |
| | | *v* 0.1 | SD 16.2 | *d* -0.9 | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Thursday** | 0 | 176 34.5 | -10 54.5 | 280 11.8 | 12.6 | -22 52.0 | 9.1 | 54.5 |
| | 1 | 191 34.6 | -10 53.6 | 294 43.4 | 12.5 | -23 1.0 | 9.0 | 54.5 |
| | 2 | 206 34.6 | -10 52.7 | 309 14.9 | 12.4 | -23 10.0 | 8.9 | 54.5 |
| | 3 | 221 34.7 | -10 51.8 | 323 46.4 | 12.3 | -23 18.9 | 8.8 | 54.5 |
| | 4 | 236 34.8 | -10 50.9 | 338 17.7 | 12.3 | -23 27.7 | 8.7 | 54.5 |
| | 5 | 251 34.8 | -10 50.0 | 352 49.0 | 12.2 | -23 36.4 | 8.6 | 54.5 |
| | 6 | 266 34.9 | -10 49.1 | 7 20.1 | 12.1 | -23 44.9 | 8.5 | 54.6 |
| | 7 | 281 35.0 | -10 48.2 | 21 51.2 | 12.0 | -23 53.4 | 8.4 | 54.6 |
| | 8 | 296 35.0 | -10 47.3 | 36 22.2 | 11.9 | -24 1.8 | 8.3 | 54.6 |
| | 9 | 311 35.1 | -10 46.4 | 50 53.2 | 11.8 | -24 10.1 | 8.2 | 54.6 |
| | 10 | 326 35.2 | -10 45.5 | 65 24.0 | 11.7 | -24 18.3 | 8.1 | 54.6 |
| | 11 | 341 35.3 | -10 44.6 | 79 54.7 | 11.7 | -24 26.3 | 8.0 | 54.6 |
| | 12 | 356 35.3 | -10 43.7 | 94 25.4 | 11.6 | -24 34.3 | 7.9 | 54.7 |
| | 13 | 11 35.4 | -10 42.8 | 108 56.0 | 11.5 | -24 42.2 | 7.8 | 54.7 |
| | 14 | 26 35.5 | -10 41.9 | 123 26.5 | 11.4 | -24 49.9 | 7.6 | 54.7 |
| | 15 | 41 35.5 | -10 41.0 | 137 56.9 | 11.3 | -24 57.6 | 7.5 | 54.7 |
| | 16 | 56 35.6 | -10 40.1 | 152 27.2 | 11.2 | -25 5.1 | 7.4 | 54.7 |
| | 17 | 71 35.7 | -10 39.2 | 166 57.4 | 11.1 | -25 12.5 | 7.3 | 54.7 |
| | 18 | 86 35.7 | -10 38.3 | 181 27.5 | 11.1 | -25 19.8 | 7.2 | 54.8 |
| | 19 | 101 35.8 | -10 37.4 | 195 57.6 | 11.0 | -25 27.0 | 7.1 | 54.8 |
| | 20 | 116 35.9 | -10 36.5 | 210 27.5 | 10.9 | -25 34.1 | 7.0 | 54.8 |
| | 21 | 131 36.0 | -10 35.6 | 224 57.4 | 10.8 | -25 41.1 | 6.9 | 54.8 |
| | 22 | 146 36.0 | -10 34.7 | 239 27.2 | 10.7 | -25 47.9 | 6.7 | 54.8 |
| | 23 | 161 36.1 | -10 33.8 | 253 56.9 | 10.6 | -25 54.7 | 6.6 | 54.9 |
| | | *v* 0.1 | SD 16.2 | *d* -0.9 | | SD 14.9 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:00 | 07:19 | 08:35 | 15:54 | 17:10 | 18:30 |
| 70 | 06:00 | 07:11 | 08:18 | 16:11 | 17:18 | 18:30 |
| 68 | 06:00 | 07:05 | 08:04 | 16:25 | 17:25 | 18:30 |
| 66 | 05:59 | 06:59 | 07:53 | 16:36 | 17:30 | 18:30 |
| 64 | 05:59 | 06:54 | 07:44 | 16:45 | 17:35 | 18:30 |
| 62 | 05:58 | 06:50 | 07:36 | 16:53 | 17:39 | 18:31 |
| 60 | 05:58 | 06:46 | 07:29 | 16:59 | 17:43 | 18:31 |
| 58 | 05:57 | 06:43 | 07:23 | 17:05 | 17:46 | 18:32 |
| 56 | 05:56 | 06:39 | 07:18 | 17:11 | 17:49 | 18:33 |
| 54 | 05:55 | 06:37 | 07:13 | 17:16 | 17:52 | 18:33 |
| 52 | 05:55 | 06:34 | 07:09 | 17:20 | 17:55 | 18:34 |
| 50 | 05:54 | 06:32 | 07:05 | 17:24 | 17:57 | 18:35 |
| 45 | 05:52 | 06:26 | 06:56 | 17:32 | 18:02 | 18:37 |
| 40 | 05:50 | 06:21 | 06:49 | 17:39 | 18:07 | 18:39 |
| 35 | 05:47 | 06:17 | 06:43 | 17:46 | 18:11 | 18:41 |
| 30 | 05:45 | 06:13 | 06:37 | 17:51 | 18:15 | 18:43 |
| 20 | 05:39 | 06:05 | 06:27 | 18:01 | 18:23 | 18:49 |
| 10 | 05:33 | 05:57 | 06:19 | 18:09 | 18:31 | 18:55 |
| 0 | 05:25 | 05:49 | 06:10 | 18:17 | 18:38 | 19:03 |
| -10 | 05:16 | 05:41 | 06:02 | 18:25 | 18:47 | 19:12 |
| -20 | 05:04 | 05:31 | 05:53 | 18:34 | 18:57 | 19:23 |
| -30 | 04:49 | 05:18 | 05:43 | 18:44 | 19:09 | 19:38 |
| -35 | 04:39 | 05:10 | 05:37 | 18:50 | 19:17 | 19:48 |
| -40 | 04:27 | 05:01 | 05:30 | 18:57 | 19:25 | 19:59 |
| -45 | 04:13 | 04:51 | 05:22 | 19:05 | 19:36 | 20:14 |
| -50 | 03:54 | 04:37 | 05:12 | 19:15 | 19:49 | 20:32 |
| -52 | 03:45 | 04:31 | 05:08 | 19:19 | 19:56 | 20:41 |
| -54 | 03:34 | 04:24 | 05:03 | 19:24 | 20:03 | 20:52 |
| -56 | 03:22 | 04:15 | 04:57 | 19:29 | 20:11 | 21:04 |
| -58 | 03:07 | 04:06 | 04:51 | 19:35 | 20:20 | 21:18 |
| -60 | 02:49 | 03:56 | 04:44 | 19:42 | 20:30 | 21:35 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **18** | **19** | **20** | **18** | **19** | **20** |
| 72 | 01:26 | ▬ | ▬ | 06:12 | ▬ | ▬ |
| 70 | 00:54 | 03:55 | ▬ | 06:46 | 05:15 | ▬ |
| 68 | 00:31 | 02:42 | ▬ | 07:11 | 06:28 | ▬ |
| 66 | 00:13 | 02:06 | 04:48 | 07:30 | 07:06 | 05:59 |
| 64 | –:– | 01:41 | 03:38 | 07:46 | 07:32 | 07:09 |
| 62 | –:– | 01:21 | 03:03 | 07:59 | 07:53 | 07:45 |
| 60 | –:– | 01:05 | 02:38 | 08:10 | 08:10 | 08:11 |
| 58 | –:– | 00:51 | 02:18 | 08:20 | 08:24 | 08:32 |
| 56 | –:– | 00:40 | 02:02 | 08:29 | 08:36 | 08:49 |
| 54 | –:– | 00:29 | 01:48 | 08:36 | 08:47 | 09:03 |
| 52 | –:– | 00:20 | 01:35 | 08:43 | 08:57 | 09:16 |
| 50 | –:– | 00:12 | 01:25 | 08:49 | 09:06 | 09:27 |
| 45 | 23:55 | –:– | 01:02 | 09:03 | 09:24 | 09:50 |
| 40 | 23:41 | –:– | 00:45 | 09:14 | 09:39 | 10:09 |
| 35 | 23:30 | –:– | 00:30 | 09:23 | 09:52 | 10:25 |
| 30 | 23:20 | –:– | 00:17 | 09:32 | 10:03 | 10:38 |
| 20 | 23:02 | 23:55 | –:– | 09:46 | 10:22 | 11:02 |
| 10 | 22:47 | 23:36 | –:– | 09:59 | 10:39 | 11:22 |
| 0 | 22:33 | 23:18 | –:– | 10:11 | 10:55 | 11:41 |
| -10 | 22:19 | 23:01 | 23:46 | 10:23 | 11:10 | 12:00 |
| -20 | 22:04 | 22:42 | 23:25 | 10:36 | 11:27 | 12:21 |
| -30 | 21:48 | 22:21 | 23:00 | 10:51 | 11:47 | 12:45 |
| -35 | 21:38 | 22:08 | 22:45 | 11:00 | 11:59 | 12:59 |
| -40 | 21:27 | 21:54 | 22:28 | 11:09 | 12:12 | 13:15 |
| -45 | 21:14 | 21:37 | 22:07 | 11:21 | 12:28 | 13:35 |
| -50 | 20:58 | 21:17 | 21:42 | 11:35 | 12:47 | 13:59 |
| -52 | 20:51 | 21:07 | 21:30 | 11:42 | 12:56 | 14:11 |
| -54 | 20:43 | 20:56 | 21:16 | 11:49 | 13:07 | 14:25 |
| -56 | 20:34 | 20:44 | 20:59 | 11:58 | 13:19 | 14:41 |
| -58 | 20:23 | 20:29 | 20:40 | 12:07 | 13:32 | 15:00 |
| -60 | 20:12 | 20:12 | 20:16 | 12:18 | 13:48 | 15:23 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **18** | 13:53 | 13:51 | 12:14 | 04:01 | 16:22 | 19 | 75 |
| **19** | 13:48 | 13:45 | 12:14 | 04:44 | 17:06 | 20 | 66 |
| **20** | 13:42 | 13:39 | 12:14 | 05:30 | 17:54 | 21 | 57 |

## 2025 February 21, 22, 23 (Fri, Sat, Sun)

| | | Aries | Venus -4.9 | | Mars -0.5 | | Jupiter -2.4 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 21 Friday | 0 | 151 10.1 | 144 44.6 | 8 31.9 | 42 7.6 | 26 6.1 | 80 53.3 | 21 46.5 | 159 51.7 | -5 49.7 |
| | 1 | 166 12.5 | 159 46.5 | 8 32.7 | 57 10.2 | 26 6.0 | 95 55.6 | 21 46.5 | 174 53.9 | -5 49.6 |
| | 2 | 181 15.0 | 174 48.3 | 8 33.4 | 72 12.7 | 26 5.9 | 110 57.9 | 21 46.5 | 189 56.1 | -5 49.5 |
| | 3 | 196 17.5 | 189 50.2 | 8 34.2 | 87 15.3 | 26 5.9 | 126 0.2 | 21 46.6 | 204 58.3 | -5 49.4 |
| | 4 | 211 19.9 | 204 52.1 | 8 34.9 | 102 17.9 | 26 5.8 | 141 2.6 | 21 46.6 | 220 0.5 | -5 49.2 |
| | 5 | 226 22.4 | 219 54.0 | 8 35.6 | 117 20.5 | 26 5.8 | 156 4.9 | 21 46.6 | 235 2.7 | -5 49.1 |
| | 6 | 241 24.9 | 234 55.9 | 8 36.4 | 132 23.1 | 26 5.7 | 171 7.2 | 21 46.6 | 250 4.9 | -5 49.0 |
| | 7 | 256 27.3 | 249 57.8 | 8 37.1 | 147 25.6 | 26 5.6 | 186 9.5 | 21 46.7 | 265 7.1 | -5 48.9 |
| | 8 | 271 29.8 | 264 59.7 | 8 37.8 | 162 28.2 | 26 5.6 | 201 11.8 | 21 46.7 | 280 9.2 | -5 48.8 |
| | 9 | 286 32.3 | 280 1.6 | 8 38.6 | 177 30.8 | 26 5.5 | 216 14.1 | 21 46.7 | 295 11.4 | -5 48.6 |
| | 10 | 301 34.7 | 295 3.5 | 8 39.3 | 192 33.3 | 26 5.5 | 231 16.5 | 21 46.7 | 310 13.6 | -5 48.5 |
| | 11 | 316 37.2 | 310 5.4 | 8 40.0 | 207 35.9 | 26 5.4 | 246 18.8 | 21 46.8 | 325 15.8 | -5 48.4 |
| | 12 | 331 39.6 | 325 7.3 | 8 40.8 | 222 38.5 | 26 5.3 | 261 21.1 | 21 46.8 | 340 18.0 | -5 48.3 |
| | 13 | 346 42.1 | 340 9.3 | 8 41.5 | 237 41.0 | 26 5.3 | 276 23.4 | 21 46.8 | 355 20.2 | -5 48.2 |
| | 14 | 1 44.6 | 355 11.2 | 8 42.2 | 252 43.6 | 26 5.2 | 291 25.7 | 21 46.9 | 10 22.4 | -5 48.1 |
| | 15 | 16 47.0 | 10 13.1 | 8 42.9 | 267 46.2 | 26 5.1 | 306 28.0 | 21 46.9 | 25 24.5 | -5 47.9 |
| | 16 | 31 49.5 | 25 15.0 | 8 43.6 | 282 48.7 | 26 5.1 | 321 30.3 | 21 46.9 | 40 26.7 | -5 47.8 |
| | 17 | 46 52.0 | 40 17.0 | 8 44.4 | 297 51.3 | 26 5.0 | 336 32.7 | 21 46.9 | 55 28.9 | -5 47.7 |
| | 18 | 61 54.4 | 55 18.9 | 8 45.1 | 312 53.8 | 26 5.0 | 351 35.0 | 21 47.0 | 70 31.1 | -5 47.6 |
| | 19 | 76 56.9 | 70 20.8 | 8 45.8 | 327 56.4 | 26 4.9 | 6 37.3 | 21 47.0 | 85 33.3 | -5 47.5 |
| | 20 | 91 59.4 | 85 22.8 | 8 46.5 | 342 58.9 | 26 4.8 | 21 39.6 | 21 47.0 | 100 35.5 | -5 47.3 |
| | 21 | 107 1.8 | 100 24.7 | 8 47.2 | 358 1.5 | 26 4.8 | 36 41.9 | 21 47.0 | 115 37.7 | -5 47.2 |
| | 22 | 122 4.3 | 115 26.7 | 8 48.0 | 13 4.0 | 26 4.7 | 51 44.2 | 21 47.1 | 130 39.9 | -5 47.1 |
| | 23 | 137 6.7 | 130 28.6 | 8 48.7 | 28 6.6 | 26 4.6 | 66 46.5 | 21 47.1 | 145 42.0 | -5 47.0 |
| | | MP 13:54 | *v* 1.9 | *d* 0.7 | *v* 2.6 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 Saturday | 0 | 152 9.2 | 145 30.6 | 8 49.4 | 43 9.1 | 26 4.6 | 81 48.8 | 21 47.1 | 160 44.2 | -5 46.9 |
| | 1 | 167 11.7 | 160 32.5 | 8 50.1 | 58 11.7 | 26 4.5 | 96 51.2 | 21 47.2 | 175 46.4 | -5 46.7 |
| | 2 | 182 14.1 | 175 34.5 | 8 50.8 | 73 14.2 | 26 4.4 | 111 53.5 | 21 47.2 | 190 48.6 | -5 46.6 |
| | 3 | 197 16.6 | 190 36.4 | 8 51.5 | 88 16.8 | 26 4.4 | 126 55.8 | 21 47.2 | 205 50.8 | -5 46.5 |
| | 4 | 212 19.1 | 205 38.4 | 8 52.2 | 103 19.3 | 26 4.3 | 141 58.1 | 21 47.2 | 220 53.0 | -5 46.4 |
| | 5 | 227 21.5 | 220 40.4 | 8 52.9 | 118 21.8 | 26 4.2 | 157 0.4 | 21 47.3 | 235 55.2 | -5 46.3 |
| | 6 | 242 24.0 | 235 42.3 | 8 53.6 | 133 24.4 | 26 4.2 | 172 2.7 | 21 47.3 | 250 57.4 | -5 46.2 |
| | 7 | 257 26.5 | 250 44.3 | 8 54.3 | 148 26.9 | 26 4.1 | 187 5.0 | 21 47.3 | 265 59.5 | -5 46.0 |
| | 8 | 272 28.9 | 265 46.3 | 8 55.0 | 163 29.5 | 26 4.0 | 202 7.3 | 21 47.3 | 281 1.7 | -5 45.9 |
| | 9 | 287 31.4 | 280 48.3 | 8 55.7 | 178 32.0 | 26 4.0 | 217 9.6 | 21 47.4 | 296 3.9 | -5 45.8 |
| | 10 | 302 33.9 | 295 50.3 | 8 56.4 | 193 34.5 | 26 3.9 | 232 11.9 | 21 47.4 | 311 6.1 | -5 45.7 |
| | 11 | 317 36.3 | 310 52.2 | 8 57.1 | 208 37.1 | 26 3.8 | 247 14.3 | 21 47.4 | 326 8.3 | -5 45.6 |
| | 12 | 332 38.8 | 325 54.2 | 8 57.8 | 223 39.6 | 26 3.8 | 262 16.6 | 21 47.5 | 341 10.5 | -5 45.4 |
| | 13 | 347 41.2 | 340 56.2 | 8 58.5 | 238 42.1 | 26 3.7 | 277 18.9 | 21 47.5 | 356 12.7 | -5 45.3 |
| | 14 | 2 43.7 | 355 58.2 | 8 59.2 | 253 44.6 | 26 3.6 | 292 21.2 | 21 47.5 | 11 14.8 | -5 45.2 |
| | 15 | 17 46.2 | 11 0.2 | 8 59.9 | 268 47.2 | 26 3.6 | 307 23.5 | 21 47.5 | 26 17.0 | -5 45.1 |
| | 16 | 32 48.6 | 26 2.2 | 9 0.6 | 283 49.7 | 26 3.5 | 322 25.8 | 21 47.6 | 41 19.2 | -5 45.0 |
| | 17 | 47 51.1 | 41 4.2 | 9 1.3 | 298 52.2 | 26 3.4 | 337 28.1 | 21 47.6 | 56 21.4 | -5 44.8 |
| | 18 | 62 53.6 | 56 6.2 | 9 1.9 | 313 54.7 | 26 3.4 | 352 30.4 | 21 47.6 | 71 23.6 | -5 44.7 |
| | 19 | 77 56.0 | 71 8.3 | 9 2.6 | 328 57.3 | 26 3.3 | 7 32.7 | 21 47.7 | 86 25.8 | -5 44.6 |
| | 20 | 92 58.5 | 86 10.3 | 9 3.3 | 343 59.8 | 26 3.2 | 22 35.0 | 21 47.7 | 101 28.0 | -5 44.5 |
| | 21 | 108 1.0 | 101 12.3 | 9 4.0 | 359 2.3 | 26 3.2 | 37 37.3 | 21 47.7 | 116 30.1 | -5 44.4 |
| | 22 | 123 3.4 | 116 14.3 | 9 4.7 | 14 4.8 | 26 3.1 | 52 39.6 | 21 47.7 | 131 32.3 | -5 44.3 |
| | 23 | 138 5.9 | 131 16.3 | 9 5.3 | 29 7.3 | 26 3.0 | 67 41.9 | 21 47.8 | 146 34.5 | -5 44.1 |
| | | MP 13:50 | *v* 2.0 | *d* 0.7 | *v* 2.5 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Sunday | 0 | 153 8.4 | 146 18.4 | 9 6.0 | 44 9.8 | 26 3.0 | 82 44.2 | 21 47.8 | 161 36.7 | -5 44.0 |
| | 1 | 168 10.8 | 161 20.4 | 9 6.7 | 59 12.3 | 26 2.9 | 97 46.5 | 21 47.8 | 176 38.9 | -5 43.9 |
| | 2 | 183 13.3 | 176 22.4 | 9 7.4 | 74 14.9 | 26 2.8 | 112 48.8 | 21 47.9 | 191 41.1 | -5 43.8 |
| | 3 | 198 15.7 | 191 24.5 | 9 8.0 | 89 17.4 | 26 2.8 | 127 51.1 | 21 47.9 | 206 43.3 | -5 43.7 |
| | 4 | 213 18.2 | 206 26.5 | 9 8.7 | 104 19.9 | 26 2.7 | 142 53.4 | 21 47.9 | 221 45.4 | -5 43.5 |
| | 5 | 228 20.7 | 221 28.6 | 9 9.4 | 119 22.4 | 26 2.6 | 157 55.7 | 21 47.9 | 236 47.6 | -5 43.4 |
| | 6 | 243 23.1 | 236 30.6 | 9 10.1 | 134 24.9 | 26 2.5 | 172 58.0 | 21 48.0 | 251 49.8 | -5 43.3 |
| | 7 | 258 25.6 | 251 32.7 | 9 10.7 | 149 27.4 | 26 2.5 | 188 0.3 | 21 48.0 | 266 52.0 | -5 43.2 |
| | 8 | 273 28.1 | 266 34.7 | 9 11.4 | 164 29.9 | 26 2.4 | 203 2.6 | 21 48.0 | 281 54.2 | -5 43.1 |
| | 9 | 288 30.5 | 281 36.8 | 9 12.1 | 179 32.4 | 26 2.3 | 218 4.9 | 21 48.1 | 296 56.4 | -5 42.9 |
| | 10 | 303 33.0 | 296 38.9 | 9 12.7 | 194 34.9 | 26 2.3 | 233 7.2 | 21 48.1 | 311 58.6 | -5 42.8 |
| | 11 | 318 35.5 | 311 40.9 | 9 13.4 | 209 37.4 | 26 2.2 | 248 9.5 | 21 48.1 | 327 0.7 | -5 42.7 |
| | 12 | 333 37.9 | 326 43.0 | 9 14.0 | 224 39.9 | 26 2.1 | 263 11.8 | 21 48.1 | 342 2.9 | -5 42.6 |
| | 13 | 348 40.4 | 341 45.1 | 9 14.7 | 239 42.4 | 26 2.0 | 278 14.1 | 21 48.2 | 357 5.1 | -5 42.5 |
| | 14 | 3 42.9 | 356 47.1 | 9 15.3 | 254 44.9 | 26 2.0 | 293 16.4 | 21 48.2 | 12 7.3 | -5 42.3 |
| | 15 | 18 45.3 | 11 49.2 | 9 16.0 | 269 47.4 | 26 1.9 | 308 18.7 | 21 48.2 | 27 9.5 | -5 42.2 |
| | 16 | 33 47.8 | 26 51.3 | 9 16.7 | 284 49.8 | 26 1.8 | 323 21.0 | 21 48.3 | 42 11.7 | -5 42.1 |
| | 17 | 48 50.2 | 41 53.4 | 9 17.3 | 299 52.3 | 26 1.8 | 338 23.3 | 21 48.3 | 57 13.9 | -5 42.0 |
| | 18 | 63 52.7 | 56 55.5 | 9 18.0 | 314 54.8 | 26 1.7 | 353 25.6 | 21 48.3 | 72 16.0 | -5 41.9 |
| | 19 | 78 55.2 | 71 57.6 | 9 18.6 | 329 57.3 | 26 1.6 | 8 27.9 | 21 48.3 | 87 18.2 | -5 41.8 |
| | 20 | 93 57.6 | 86 59.7 | 9 19.3 | 344 59.8 | 26 1.5 | 23 30.2 | 21 48.4 | 102 20.4 | -5 41.6 |
| | 21 | 109 0.1 | 102 1.8 | 9 19.9 | 0 2.3 | 26 1.5 | 38 32.5 | 21 48.4 | 117 22.6 | -5 41.5 |
| | 22 | 124 2.6 | 117 3.9 | 9 20.5 | 15 4.8 | 26 1.4 | 53 34.8 | 21 48.4 | 132 24.8 | -5 41.4 |
| | 23 | 139 5.0 | 132 6.0 | 9 21.2 | 30 7.2 | 26 1.3 | 68 37.1 | 21 48.5 | 147 27.0 | -5 41.3 |
| | | MP 13:46 | *v* 2.0 | *d* 0.7 | *v* 2.5 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 12.5 |
| Achernar | 335 20.4 | -57 6.8 |
| Acrux | 172 59.5 | -63 14.2 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.1 |
| Alkaid | 152 51.6 | 49 10.9 |
| Alnair | 27 33.2 | -46 50.4 |
| Alnilam | 275 37.5 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.2 |
| Alphecca | 126 3.6 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.1 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.4 |
| Antares | 112 15.8 | -26 29.3 |
| Arcturus | 145 47.7 | 19 2.8 |
| Atria | 107 10.0 | -69 4.1 |
| Avior | 234 14.1 | -59 35.5 |
| Bellatrix | 278 22.6 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 52.0 | -52 42.7 |
| Capella | 280 21.6 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.0 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.2 | 61 36.8 |
| Elnath | 278 1.6 | 28 37.8 |
| Eltanin | 90 42.4 | 51 28.8 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.1 | -57 15.1 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.6 | -60 29.5 |
| Hamal | 327 51.2 | 23 34.9 |
| Kaus Aust. | 83 32.6 | -34 22.3 |
| Kochab | 137 19.4 | 74 2.7 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.1 | 4 11.2 |
| Menkent | 147 57.3 | -36 29.6 |
| Miaplacidus | 221 37.4 | -69 49.3 |
| Mirfak | 308 28.2 | 49 57.2 |
| Nunki | 75 47.9 | -26 15.9 |
| Peacock | 53 6.1 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.6 |
| Rasalhague | 95 58.6 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.7 | -8 10.5 |
| Rigil Kent. | 139 39.9 | -60 56.2 |
| Sabik | 102 2.8 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.6 |
| Shaula | 96 10.4 | -37 7.2 |
| Sirius | 258 25.9 | -16 45.2 |
| Spica | 158 22.0 | -11 17.6 |
| Suhail | 222 45.8 | -43 32.1 |
| Vega | 80 33.4 | 38 48.1 |
| Zuben'ubi | 136 55.8 | -16 8.8 |

| 21 Fri | SHA | MP |
|---|---|---|
| Venus | 353 34.5 | 14:19 |
| Mars | 250 57.5 | 21:08 |
| Jupiter | 289 43.2 | 18:34 |
| Saturn | 8 41.7 | 13:19 |

| 22 Sat | SHA | MP |
|---|---|---|
| Venus | 353 21.3 | 14:16 |
| Mars | 250 59.9 | 21:04 |
| Jupiter | 289 39.6 | 18:30 |
| Saturn | 8 35.0 | 13:15 |

| 23 Sun | SHA | MP |
|---|---|---|
| Venus | 353 10.0 | 14:13 |
| Mars | 251 1.5 | 21:00 |
| Jupiter | 289 35.9 | 18:26 |
| Saturn | 8 28.3 | 13:12 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **21 Friday** | 0 | 176 36.2 | -10 32.9 | 268 26.5 | 10.5 | -26 1.3 | 6.5 | 54.9 |
| | 1 | 191 36.2 | -10 32.0 | 282 56.1 | 10.4 | -26 7.8 | 6.4 | 54.9 |
| | 2 | 206 36.3 | -10 31.1 | 297 25.5 | 10.4 | -26 14.2 | 6.3 | 54.9 |
| | 3 | 221 36.4 | -10 30.2 | 311 54.9 | 10.3 | -26 20.4 | 6.1 | 54.9 |
| | 4 | 236 36.5 | -10 29.2 | 326 24.1 | 10.2 | -26 26.6 | 6.0 | 55.0 |
| | 5 | 251 36.5 | -10 28.3 | 340 53.3 | 10.1 | -26 32.6 | 5.9 | 55.0 |
| | 6 | 266 36.6 | -10 27.4 | 355 22.4 | 10.0 | -26 38.5 | 5.8 | 55.0 |
| | 7 | 281 36.7 | -10 26.5 | 9 51.5 | 9.9 | -26 44.2 | 5.6 | 55.0 |
| | 8 | 296 36.8 | -10 25.6 | 24 20.4 | 9.9 | -26 49.9 | 5.5 | 55.1 |
| | 9 | 311 36.8 | -10 24.7 | 38 49.2 | 9.8 | -26 55.4 | 5.4 | 55.1 |
| | 10 | 326 36.9 | -10 23.8 | 53 18.0 | 9.7 | -27 0.8 | 5.3 | 55.1 |
| | 11 | 341 37.0 | -10 22.9 | 67 46.7 | 9.6 | -27 6.0 | 5.1 | 55.1 |
| | 12 | 356 37.1 | -10 22.0 | 82 15.3 | 9.5 | -27 11.1 | 5.0 | 55.1 |
| | 13 | 11 37.1 | -10 21.1 | 96 43.8 | 9.4 | -27 16.1 | 4.9 | 55.2 |
| | 14 | 26 37.2 | -10 20.2 | 111 12.3 | 9.4 | -27 21.0 | 4.7 | 55.2 |
| | 15 | 41 37.3 | -10 19.3 | 125 40.6 | 9.3 | -27 25.7 | 4.6 | 55.2 |
| | 16 | 56 37.4 | -10 18.4 | 140 8.9 | 9.2 | -27 30.3 | 4.5 | 55.2 |
| | 17 | 71 37.4 | -10 17.4 | 154 37.1 | 9.1 | -27 34.7 | 4.3 | 55.3 |
| | 18 | 86 37.5 | -10 16.5 | 169 5.2 | 9.0 | -27 39.1 | 4.2 | 55.3 |
| | 19 | 101 37.6 | -10 15.6 | 183 33.3 | 9.0 | -27 43.2 | 4.0 | 55.3 |
| | 20 | 116 37.7 | -10 14.7 | 198 1.2 | 8.9 | -27 47.3 | 3.9 | 55.3 |
| | 21 | 131 37.8 | -10 13.8 | 212 29.1 | 8.8 | -27 51.2 | 3.8 | 55.4 |
| | 22 | 146 37.8 | -10 12.9 | 226 57.0 | 8.7 | -27 55.0 | 3.6 | 55.4 |
| | 23 | 161 37.9 | -10 12.0 | 241 24.7 | 8.7 | -27 58.6 | 3.5 | 55.4 |
| | | *v* 0.1 | SD 16.2 | *d* -0.9 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **22 Saturday** | 0 | 176 38.0 | -10 11.1 | 255 52.4 | 8.6 | -28 2.1 | 3.3 | 55.5 |
| | 1 | 191 38.1 | -10 10.2 | 270 20.0 | 8.5 | -28 5.4 | 3.2 | 55.5 |
| | 2 | 206 38.2 | -10 9.2 | 284 47.5 | 8.5 | -28 8.6 | 3.0 | 55.5 |
| | 3 | 221 38.2 | -10 8.3 | 299 14.9 | 8.4 | -28 11.6 | 2.9 | 55.5 |
| | 4 | 236 38.3 | -10 7.4 | 313 42.3 | 8.3 | -28 14.5 | 2.8 | 55.6 |
| | 5 | 251 38.4 | -10 6.5 | 328 9.7 | 8.3 | -28 17.3 | 2.6 | 55.6 |
| | 6 | 266 38.5 | -10 5.6 | 342 36.9 | 8.2 | -28 19.9 | 2.5 | 55.6 |
| | 7 | 281 38.6 | -10 4.7 | 357 4.1 | 8.1 | -28 22.4 | 2.3 | 55.7 |
| | 8 | 296 38.6 | -10 3.8 | 11 31.2 | 8.1 | -28 24.7 | 2.2 | 55.7 |
| | 9 | 311 38.7 | -10 2.9 | 25 58.3 | 8.0 | -28 26.8 | 2.0 | 55.7 |
| | 10 | 326 38.8 | -10 1.9 | 40 25.3 | 7.9 | -28 28.8 | 1.9 | 55.7 |
| | 11 | 341 38.9 | -10 1.0 | 54 52.2 | 7.9 | -28 30.7 | 1.7 | 55.8 |
| | 12 | 356 39.0 | -10 0.1 | 69 19.1 | 7.8 | -28 32.4 | 1.6 | 55.8 |
| | 13 | 11 39.0 | -9 59.2 | 83 45.9 | 7.8 | -28 34.0 | 1.4 | 55.8 |
| | 14 | 26 39.1 | -9 58.3 | 98 12.6 | 7.7 | -28 35.4 | 1.2 | 55.9 |
| | 15 | 41 39.2 | -9 57.4 | 112 39.3 | 7.6 | -28 36.6 | 1.1 | 55.9 |
| | 16 | 56 39.3 | -9 56.5 | 127 6.0 | 7.6 | -28 37.7 | 0.9 | 55.9 |
| | 17 | 71 39.4 | -9 55.5 | 141 32.6 | 7.5 | -28 38.6 | 0.8 | 56.0 |
| | 18 | 86 39.5 | -9 54.6 | 155 59.1 | 7.5 | -28 39.4 | 0.6 | 56.0 |
| | 19 | 101 39.5 | -9 53.7 | 170 25.6 | 7.4 | -28 40.0 | 0.5 | 56.0 |
| | 20 | 116 39.6 | -9 52.8 | 184 52.0 | 7.4 | -28 40.5 | 0.3 | 56.0 |
| | 21 | 131 39.7 | -9 51.9 | 199 18.4 | 7.3 | -28 40.8 | 0.1 | 56.1 |
| | 22 | 146 39.8 | -9 51.0 | 213 44.8 | 7.3 | -28 40.9 | 0.0 | 56.1 |
| | 23 | 161 39.9 | -9 50.0 | 228 11.1 | 7.3 | -28 40.9 | -0.2 | 56.1 |
| | | *v* 0.1 | SD 16.2 | *d* -0.9 | | SD 15.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Sunday** | 0 | 176 40.0 | -9 49.1 | 242 37.3 | 7.2 | -28 40.7 | -0.3 | 56.2 |
| | 1 | 191 40.1 | -9 48.2 | 257 3.6 | 7.2 | -28 40.4 | -0.5 | 56.2 |
| | 2 | 206 40.1 | -9 47.3 | 271 29.7 | 7.1 | -28 39.9 | -0.7 | 56.2 |
| | 3 | 221 40.2 | -9 46.4 | 285 55.9 | 7.1 | -28 39.2 | -0.8 | 56.3 |
| | 4 | 236 40.3 | -9 45.4 | 300 22.0 | 7.1 | -28 38.4 | -1.0 | 56.3 |
| | 5 | 251 40.4 | -9 44.5 | 314 48.0 | 7.0 | -28 37.4 | -1.2 | 56.3 |
| | 6 | 266 40.5 | -9 43.6 | 329 14.1 | 7.0 | -28 36.3 | -1.3 | 56.4 |
| | 7 | 281 40.6 | -9 42.7 | 343 40.1 | 7.0 | -28 35.0 | -1.5 | 56.4 |
| | 8 | 296 40.7 | -9 41.8 | 358 6.1 | 6.9 | -28 33.5 | -1.6 | 56.4 |
| | 9 | 311 40.7 | -9 40.8 | 12 32.0 | 6.9 | -28 31.8 | -1.8 | 56.5 |
| | 10 | 326 40.8 | -9 39.9 | 26 57.9 | 6.9 | -28 30.0 | -2.0 | 56.5 |
| | 11 | 341 40.9 | -9 39.0 | 41 23.8 | 6.9 | -28 28.1 | -2.1 | 56.5 |
| | 12 | 356 41.0 | -9 38.1 | 55 49.7 | 6.8 | -28 25.9 | -2.3 | 56.6 |
| | 13 | 11 41.1 | -9 37.2 | 70 15.5 | 6.8 | -28 23.6 | -2.5 | 56.6 |
| | 14 | 26 41.2 | -9 36.2 | 84 41.4 | 6.8 | -28 21.1 | -2.6 | 56.6 |
| | 15 | 41 41.3 | -9 35.3 | 99 7.2 | 6.8 | -28 18.5 | -2.8 | 56.7 |
| | 16 | 56 41.4 | -9 34.4 | 113 33.0 | 6.8 | -28 15.7 | -3.0 | 56.7 |
| | 17 | 71 41.5 | -9 33.5 | 127 58.7 | 6.8 | -28 12.7 | -3.1 | 56.8 |
| | 18 | 86 41.5 | -9 32.5 | 142 24.5 | 6.8 | -28 9.6 | -3.3 | 56.8 |
| | 19 | 101 41.6 | -9 31.6 | 156 50.2 | 6.7 | -28 6.3 | -3.5 | 56.8 |
| | 20 | 116 41.7 | -9 30.7 | 171 16.0 | 6.7 | -28 2.8 | -3.6 | 56.9 |
| | 21 | 131 41.8 | -9 29.8 | 185 41.7 | 6.7 | -27 59.1 | -3.8 | 56.9 |
| | 22 | 146 41.9 | -9 28.9 | 200 7.5 | 6.7 | -27 55.3 | -4.0 | 56.9 |
| | 23 | 161 42.0 | -9 27.9 | 214 33.2 | 6.7 | -27 51.3 | -4.1 | 57.0 |
| | | *v* 0.1 | SD 16.2 | *d* -0.9 | | SD 15.3 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 05:47 | 07:05 | 08:18 | 16:10 | 17:24 | 18:43 |
| 70 | 05:48 | 06:59 | 08:04 | 16:25 | 17:30 | 18:41 |
| 68 | 05:49 | 06:53 | 07:52 | 16:37 | 17:35 | 18:40 |
| 66 | 05:49 | 06:49 | 07:42 | 16:46 | 17:40 | 18:39 |
| 64 | 05:50 | 06:45 | 07:34 | 16:54 | 17:44 | 18:39 |
| 62 | 05:50 | 06:41 | 07:27 | 17:01 | 17:47 | 18:39 |
| 60 | 05:50 | 06:38 | 07:21 | 17:07 | 17:50 | 18:38 |
| 58 | 05:50 | 06:35 | 07:16 | 17:13 | 17:53 | 18:38 |
| 56 | 05:50 | 06:33 | 07:11 | 17:17 | 17:55 | 18:39 |
| 54 | 05:49 | 06:30 | 07:06 | 17:22 | 17:58 | 18:39 |
| 52 | 05:49 | 06:28 | 07:03 | 17:25 | 18:00 | 18:39 |
| 50 | 05:49 | 06:26 | 06:59 | 17:29 | 18:02 | 18:39 |
| 45 | 05:47 | 06:21 | 06:51 | 17:37 | 18:06 | 18:41 |
| 40 | 05:46 | 06:17 | 06:45 | 17:43 | 18:10 | 18:42 |
| 35 | 05:44 | 06:13 | 06:39 | 17:48 | 18:14 | 18:44 |
| 30 | 05:42 | 06:10 | 06:34 | 17:53 | 18:18 | 18:46 |
| 20 | 05:37 | 06:03 | 06:25 | 18:02 | 18:24 | 18:50 |
| 10 | 05:32 | 05:56 | 06:18 | 18:10 | 18:31 | 18:56 |
| 0 | 05:25 | 05:49 | 06:10 | 18:17 | 18:38 | 19:02 |
| -10 | 05:16 | 05:41 | 06:03 | 18:24 | 18:46 | 19:11 |
| -20 | 05:06 | 05:32 | 05:55 | 18:32 | 18:55 | 19:21 |
| -30 | 04:51 | 05:21 | 05:45 | 18:41 | 19:06 | 19:35 |
| -35 | 04:42 | 05:13 | 05:40 | 18:47 | 19:13 | 19:44 |
| -40 | 04:31 | 05:05 | 05:33 | 18:53 | 19:21 | 19:55 |
| -45 | 04:18 | 04:55 | 05:26 | 19:00 | 19:31 | 20:08 |
| -50 | 04:00 | 04:43 | 05:17 | 19:09 | 19:43 | 20:25 |
| -52 | 03:52 | 04:37 | 05:13 | 19:13 | 19:49 | 20:34 |
| -54 | 03:42 | 04:30 | 05:09 | 19:17 | 19:55 | 20:43 |
| -56 | 03:31 | 04:23 | 05:04 | 19:22 | 20:02 | 20:54 |
| -58 | 03:17 | 04:14 | 04:58 | 19:27 | 20:11 | 21:07 |
| -60 | 03:01 | 04:05 | 04:52 | 19:34 | 20:20 | 21:23 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **21** | **22** | **23** | **21** | **22** | **23** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | | | | |
| 62 | 04:59 | | | 07:32 | | |
| 60 | 04:15 | 05:48 | 06:51 | 08:16 | 08:34 | 09:27 |
| 58 | 03:46 | 05:07 | 06:08 | 08:46 | 09:14 | 10:09 |
| 56 | 03:24 | 04:40 | 05:40 | 09:08 | 09:42 | 10:38 |
| 54 | 03:05 | 04:18 | 05:18 | 09:27 | 10:04 | 11:00 |
| 52 | 02:50 | 04:00 | 04:59 | 09:43 | 10:22 | 11:18 |
| 50 | 02:37 | 03:45 | 04:44 | 09:56 | 10:37 | 11:34 |
| 45 | 02:10 | 03:14 | 04:12 | 10:24 | 11:08 | 12:05 |
| 40 | 01:48 | 02:50 | 03:48 | 10:46 | 11:32 | 12:29 |
| 35 | 01:30 | 02:31 | 03:28 | 11:04 | 11:52 | 12:49 |
| 30 | 01:15 | 02:14 | 03:11 | 11:20 | 12:09 | 13:06 |
| 20 | 00:49 | 01:46 | 02:42 | 11:47 | 12:38 | 13:34 |
| 10 | 00:27 | 01:22 | 02:17 | 12:10 | 13:02 | 13:59 |
| 0 | 00:07 | 00:59 | 01:54 | 12:32 | 13:25 | 14:21 |
| -10 | –:– | 00:37 | 01:31 | 12:53 | 13:48 | 14:44 |
| -20 | –:– | 00:13 | 01:07 | 13:16 | 14:13 | 15:08 |
| -30 | 23:45 | –:– | 00:38 | 13:43 | 14:41 | 15:37 |
| -35 | 23:29 | –:– | 00:21 | 13:59 | 14:58 | 15:53 |
| -40 | 23:09 | –:– | 00:01 | 14:18 | 15:18 | 16:13 |
| -45 | 22:46 | 23:37 | –:– | 14:41 | 15:42 | 16:36 |
| -50 | 22:17 | 23:06 | –:– | 15:10 | 16:13 | 17:06 |
| -52 | 22:03 | 22:50 | 23:55 | 15:24 | 16:29 | 17:21 |
| -54 | 21:46 | 22:32 | 23:38 | 15:40 | 16:47 | 17:38 |
| -56 | 21:26 | 22:10 | 23:18 | 16:00 | 17:09 | 17:59 |
| -58 | 21:01 | 21:42 | 22:52 | 16:25 | 17:37 | 18:25 |
| -60 | 20:27 | 21:01 | 22:17 | 16:58 | 18:18 | 19:00 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **21** | 13:35 | 13:32 | 12:14 | 06:19 | 18:45 | 22 | 47 |
| **22** | 13:28 | 13:24 | 12:13 | 07:12 | 19:40 | 23 | 38 |
| **23** | 13:20 | 13:16 | 12:13 | 08:08 | 20:36 | 24 | 28 |

## 2025 February 24, 25, 26 (Mon, Tue, Wed)

| | | Aries | Venus -4.8 | | Mars -0.4 | | Jupiter -2.3 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| **24 Monday** | 0 | 154 7.5 | 147 8.1 | 9 21.8 | 45 9.7 | 26 1.2 | 83 39.4 | 21 48.5 | 162 29.2 | -5 41.2 |
| | 1 | 169 10.0 | 162 10.2 | 9 22.5 | 60 12.2 | 26 1.2 | 98 41.7 | 21 48.5 | 177 31.3 | -5 41.0 |
| | 2 | 184 12.4 | 177 12.3 | 9 23.1 | 75 14.7 | 26 1.1 | 113 44.0 | 21 48.6 | 192 33.5 | -5 40.9 |
| | 3 | 199 14.9 | 192 14.4 | 9 23.7 | 90 17.1 | 26 1.0 | 128 46.3 | 21 48.6 | 207 35.7 | -5 40.8 |
| | 4 | 214 17.4 | 207 16.6 | 9 24.4 | 105 19.6 | 26 0.9 | 143 48.6 | 21 48.6 | 222 37.9 | -5 40.7 |
| | 5 | 229 19.8 | 222 18.7 | 9 25.0 | 120 22.1 | 26 0.9 | 158 50.9 | 21 48.6 | 237 40.1 | -5 40.6 |
| | 6 | 244 22.3 | 237 20.8 | 9 25.6 | 135 24.6 | 26 0.8 | 173 53.1 | 21 48.7 | 252 42.3 | -5 40.4 |
| | 7 | 259 24.7 | 252 23.0 | 9 26.3 | 150 27.0 | 26 0.7 | 188 55.4 | 21 48.7 | 267 44.5 | -5 40.3 |
| | 8 | 274 27.2 | 267 25.1 | 9 26.9 | 165 29.5 | 26 0.6 | 203 57.7 | 21 48.7 | 282 46.6 | -5 40.2 |
| | 9 | 289 29.7 | 282 27.2 | 9 27.5 | 180 32.0 | 26 0.6 | 219 0.0 | 21 48.8 | 297 48.8 | -5 40.1 |
| | 10 | 304 32.1 | 297 29.4 | 9 28.2 | 195 34.4 | 26 0.5 | 234 2.3 | 21 48.8 | 312 51.0 | -5 40.0 |
| | 11 | 319 34.6 | 312 31.5 | 9 28.8 | 210 36.9 | 26 0.4 | 249 4.6 | 21 48.8 | 327 53.2 | -5 39.8 |
| | 12 | 334 37.1 | 327 33.7 | 9 29.4 | 225 39.3 | 26 0.3 | 264 6.9 | 21 48.9 | 342 55.4 | -5 39.7 |
| | 13 | 349 39.5 | 342 35.8 | 9 30.0 | 240 41.8 | 26 0.3 | 279 9.2 | 21 48.9 | 357 57.6 | -5 39.6 |
| | 14 | 4 42.0 | 357 38.0 | 9 30.6 | 255 44.3 | 26 0.2 | 294 11.5 | 21 48.9 | 12 59.7 | -5 39.5 |
| | 15 | 19 44.5 | 12 40.1 | 9 31.3 | 270 46.7 | 26 0.1 | 309 13.8 | 21 48.9 | 28 1.9 | -5 39.4 |
| | 16 | 34 46.9 | 27 42.3 | 9 31.9 | 285 49.2 | 26 0.0 | 324 16.1 | 21 49.0 | 43 4.1 | -5 39.2 |
| | 17 | 49 49.4 | 42 44.5 | 9 32.5 | 300 51.6 | 26 0.0 | 339 18.3 | 21 49.0 | 58 6.3 | -5 39.1 |
| | 18 | 64 51.8 | 57 46.7 | 9 33.1 | 315 54.1 | 25 59.9 | 354 20.6 | 21 49.0 | 73 8.5 | -5 39.0 |
| | 19 | 79 54.3 | 72 48.8 | 9 33.7 | 330 56.5 | 25 59.8 | 9 22.9 | 21 49.1 | 88 10.7 | -5 38.9 |
| | 20 | 94 56.8 | 87 51.0 | 9 34.3 | 345 59.0 | 25 59.7 | 24 25.2 | 21 49.1 | 103 12.9 | -5 38.8 |
| | 21 | 109 59.2 | 102 53.2 | 9 34.9 | 1 1.4 | 25 59.7 | 39 27.5 | 21 49.1 | 118 15.0 | -5 38.7 |
| | 22 | 125 1.7 | 117 55.4 | 9 35.5 | 16 3.9 | 25 59.6 | 54 29.8 | 21 49.2 | 133 17.2 | -5 38.5 |
| | 23 | 140 4.2 | 132 57.6 | 9 36.1 | 31 6.3 | 25 59.5 | 69 32.1 | 21 49.2 | 148 19.4 | -5 38.4 |
| | | MP 13:43 | *v* 2.1 | *d* 0.6 | *v* 2.5 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **25 Tuesday** | 0 | 155 6.6 | 147 59.8 | 9 36.8 | 46 8.8 | 25 59.4 | 84 34.4 | 21 49.2 | 163 21.6 | -5 38.3 |
| | 1 | 170 9.1 | 163 1.9 | 9 37.4 | 61 11.2 | 25 59.3 | 99 36.6 | 21 49.2 | 178 23.8 | -5 38.2 |
| | 2 | 185 11.6 | 178 4.1 | 9 38.0 | 76 13.7 | 25 59.3 | 114 38.9 | 21 49.3 | 193 26.0 | -5 38.1 |
| | 3 | 200 14.0 | 193 6.3 | 9 38.6 | 91 16.1 | 25 59.2 | 129 41.2 | 21 49.3 | 208 28.1 | -5 37.9 |
| | 4 | 215 16.5 | 208 8.6 | 9 39.1 | 106 18.5 | 25 59.1 | 144 43.5 | 21 49.3 | 223 30.3 | -5 37.8 |
| | 5 | 230 19.0 | 223 10.8 | 9 39.7 | 121 21.0 | 25 59.0 | 159 45.8 | 21 49.4 | 238 32.5 | -5 37.7 |
| | 6 | 245 21.4 | 238 13.0 | 9 40.3 | 136 23.4 | 25 58.9 | 174 48.1 | 21 49.4 | 253 34.7 | -5 37.6 |
| | 7 | 260 23.9 | 253 15.2 | 9 40.9 | 151 25.8 | 25 58.9 | 189 50.4 | 21 49.4 | 268 36.9 | -5 37.5 |
| | 8 | 275 26.3 | 268 17.4 | 9 41.5 | 166 28.3 | 25 58.8 | 204 52.6 | 21 49.5 | 283 39.1 | -5 37.3 |
| | 9 | 290 28.8 | 283 19.6 | 9 42.1 | 181 30.7 | 25 58.7 | 219 54.9 | 21 49.5 | 298 41.2 | -5 37.2 |
| | 10 | 305 31.3 | 298 21.9 | 9 42.7 | 196 33.1 | 25 58.6 | 234 57.2 | 21 49.5 | 313 43.4 | -5 37.1 |
| | 11 | 320 33.7 | 313 24.1 | 9 43.3 | 211 35.6 | 25 58.6 | 249 59.5 | 21 49.5 | 328 45.6 | -5 37.0 |
| | 12 | 335 36.2 | 328 26.3 | 9 43.9 | 226 38.0 | 25 58.5 | 265 1.8 | 21 49.6 | 343 47.8 | -5 36.9 |
| | 13 | 350 38.7 | 343 28.6 | 9 44.4 | 241 40.4 | 25 58.4 | 280 4.1 | 21 49.6 | 358 50.0 | -5 36.7 |
| | 14 | 5 41.1 | 358 30.8 | 9 45.0 | 256 42.9 | 25 58.3 | 295 6.3 | 21 49.6 | 13 52.2 | -5 36.6 |
| | 15 | 20 43.6 | 13 33.0 | 9 45.6 | 271 45.3 | 25 58.2 | 310 8.6 | 21 49.7 | 28 54.4 | -5 36.5 |
| | 16 | 35 46.1 | 28 35.3 | 9 46.2 | 286 47.7 | 25 58.1 | 325 10.9 | 21 49.7 | 43 56.5 | -5 36.4 |
| | 17 | 50 48.5 | 43 37.5 | 9 46.8 | 301 50.1 | 25 58.1 | 340 13.2 | 21 49.7 | 58 58.7 | -5 36.3 |
| | 18 | 65 51.0 | 58 39.8 | 9 47.3 | 316 52.5 | 25 58.0 | 355 15.5 | 21 49.8 | 74 0.9 | -5 36.1 |
| | 19 | 80 53.5 | 73 42.1 | 9 47.9 | 331 55.0 | 25 57.9 | 10 17.7 | 21 49.8 | 89 3.1 | -5 36.0 |
| | 20 | 95 55.9 | 88 44.3 | 9 48.5 | 346 57.4 | 25 57.8 | 25 20.0 | 21 49.8 | 104 5.3 | -5 35.9 |
| | 21 | 110 58.4 | 103 46.6 | 9 49.0 | 1 59.8 | 25 57.7 | 40 22.3 | 21 49.9 | 119 7.5 | -5 35.8 |
| | 22 | 126 0.8 | 118 48.9 | 9 49.6 | 17 2.2 | 25 57.7 | 55 24.6 | 21 49.9 | 134 9.6 | -5 35.7 |
| | 23 | 141 3.3 | 133 51.1 | 9 50.2 | 32 4.6 | 25 57.6 | 70 26.9 | 21 49.9 | 149 11.8 | -5 35.5 |
| | | MP 13:39 | *v* 2.2 | *d* 0.6 | *v* 2.4 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **26 Wednesday** | 0 | 156 5.8 | 148 53.4 | 9 50.7 | 47 7.0 | 25 57.5 | 85 29.1 | 21 50.0 | 164 14.0 | -5 35.4 |
| | 1 | 171 8.2 | 163 55.7 | 9 51.3 | 62 9.4 | 25 57.4 | 100 31.4 | 21 50.0 | 179 16.2 | -5 35.3 |
| | 2 | 186 10.7 | 178 58.0 | 9 51.9 | 77 11.8 | 25 57.3 | 115 33.7 | 21 50.0 | 194 18.4 | -5 35.2 |
| | 3 | 201 13.2 | 194 0.3 | 9 52.4 | 92 14.2 | 25 57.2 | 130 36.0 | 21 50.0 | 209 20.6 | -5 35.1 |
| | 4 | 216 15.6 | 209 2.5 | 9 53.0 | 107 16.7 | 25 57.2 | 145 38.2 | 21 50.1 | 224 22.7 | -5 34.9 |
| | 5 | 231 18.1 | 224 4.8 | 9 53.5 | 122 19.1 | 25 57.1 | 160 40.5 | 21 50.1 | 239 24.9 | -5 34.8 |
| | 6 | 246 20.6 | 239 7.1 | 9 54.1 | 137 21.5 | 25 57.0 | 175 42.8 | 21 50.1 | 254 27.1 | -5 34.7 |
| | 7 | 261 23.0 | 254 9.4 | 9 54.6 | 152 23.9 | 25 56.9 | 190 45.1 | 21 50.2 | 269 29.3 | -5 34.6 |
| | 8 | 276 25.5 | 269 11.7 | 9 55.2 | 167 26.3 | 25 56.8 | 205 47.3 | 21 50.2 | 284 31.5 | -5 34.5 |
| | 9 | 291 28.0 | 284 14.1 | 9 55.7 | 182 28.7 | 25 56.7 | 220 49.6 | 21 50.2 | 299 33.7 | -5 34.3 |
| | 10 | 306 30.4 | 299 16.4 | 9 56.3 | 197 31.1 | 25 56.7 | 235 51.9 | 21 50.3 | 314 35.8 | -5 34.2 |
| | 11 | 321 32.9 | 314 18.7 | 9 56.8 | 212 33.5 | 25 56.6 | 250 54.2 | 21 50.3 | 329 38.0 | -5 34.1 |
| | 12 | 336 35.3 | 329 21.0 | 9 57.4 | 227 35.8 | 25 56.5 | 265 56.4 | 21 50.3 | 344 40.2 | -5 34.0 |
| | 13 | 351 37.8 | 344 23.3 | 9 57.9 | 242 38.2 | 25 56.4 | 280 58.7 | 21 50.4 | 359 42.4 | -5 33.9 |
| | 14 | 6 40.3 | 359 25.6 | 9 58.5 | 257 40.6 | 25 56.3 | 296 1.0 | 21 50.4 | 14 44.6 | -5 33.7 |
| | 15 | 21 42.7 | 14 28.0 | 9 59.0 | 272 43.0 | 25 56.2 | 311 3.3 | 21 50.4 | 29 46.8 | -5 33.6 |
| | 16 | 36 45.2 | 29 30.3 | 9 59.5 | 287 45.4 | 25 56.2 | 326 5.5 | 21 50.5 | 44 48.9 | -5 33.5 |
| | 17 | 51 47.7 | 44 32.6 | 10 0.1 | 302 47.8 | 25 56.1 | 341 7.8 | 21 50.5 | 59 51.1 | -5 33.4 |
| | 18 | 66 50.1 | 59 35.0 | 10 0.6 | 317 50.2 | 25 56.0 | 356 10.1 | 21 50.5 | 74 53.3 | -5 33.3 |
| | 19 | 81 52.6 | 74 37.3 | 10 1.1 | 332 52.6 | 25 55.9 | 11 12.4 | 21 50.6 | 89 55.5 | -5 33.1 |
| | 20 | 96 55.1 | 89 39.7 | 10 1.7 | 347 55.0 | 25 55.8 | 26 14.6 | 21 50.6 | 104 57.7 | -5 33.0 |
| | 21 | 111 57.5 | 104 42.0 | 10 2.2 | 2 57.3 | 25 55.7 | 41 16.9 | 21 50.6 | 119 59.9 | -5 32.9 |
| | 22 | 127 0.0 | 119 44.4 | 10 2.7 | 17 59.7 | 25 55.6 | 56 19.2 | 21 50.6 | 135 2.0 | -5 32.8 |
| | 23 | 142 2.4 | 134 46.7 | 10 3.2 | 33 2.1 | 25 55.6 | 71 21.4 | 21 50.7 | 150 4.2 | -5 32.7 |
| | | MP 13:35 | *v* 2.3 | *d* 0.6 | *v* 2.4 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 12.5 |
| Achernar | 335 20.4 | -57 6.8 |
| Acrux | 172 59.4 | -63 14.2 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.1 |
| Alkaid | 152 51.6 | 49 10.9 |
| Alnair | 27 33.2 | -46 50.4 |
| Alnilam | 275 37.5 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.2 |
| Alphecca | 126 3.6 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.1 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.3 |
| Antares | 112 15.7 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.8 |
| Atria | 107 10.0 | -69 4.1 |
| Avior | 234 14.2 | -59 35.5 |
| Bellatrix | 278 22.7 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 52.1 | -52 42.8 |
| Capella | 280 21.6 | 46 1.5 |
| Deneb | 49 26.2 | 45 22.0 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.2 | 61 36.8 |
| Elnath | 278 1.6 | 28 37.8 |
| Eltanin | 90 42.4 | 51 28.8 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.1 | -57 15.2 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.5 | -60 29.5 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.6 | -34 22.3 |
| Kochab | 137 19.3 | 74 2.7 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.1 | 4 11.2 |
| Menkent | 147 57.3 | -36 29.6 |
| Miaplacidus | 221 37.4 | -69 49.3 |
| Mirfak | 308 28.2 | 49 57.2 |
| Nunki | 75 47.8 | -26 15.9 |
| Peacock | 53 6.0 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.6 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.7 | -8 10.5 |
| Rigil Kent. | 139 39.9 | -60 56.2 |
| Sabik | 102 2.7 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.6 |
| Shaula | 96 10.4 | -37 7.2 |
| Sirius | 258 25.9 | -16 45.2 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 45.8 | -43 32.2 |
| Vega | 80 33.4 | 38 48.1 |
| Zuben'ubi | 136 55.8 | -16 8.8 |

| **24 Mon** | SHA | MP |
|---|---|---|
| Venus | 353 0.6 | 14:09 |
| Mars | 251 2.2 | 20:56 |
| Jupiter | 289 31.9 | 18:23 |
| Saturn | 8 21.7 | 13:08 |

| **25 Tue** | SHA | MP |
|---|---|---|
| Venus | 352 53.1 | 14:06 |
| Mars | 251 2.1 | 20:52 |
| Jupiter | 289 27.7 | 18:19 |
| Saturn | 8 15.0 | 13:05 |

| **26 Wed** | SHA | MP |
|---|---|---|
| Venus | 352 47.6 | 14:02 |
| Mars | 251 1.2 | 20:48 |
| Jupiter | 289 23.4 | 18:15 |
| Saturn | 8 8.2 | 13:01 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **24 Monday** | 0 | 176 42.1 | -9 27.0 | 228 58.9 | 6.7 | -27 47.2 | -4.3 | 57.0 |
| | 1 | 191 42.2 | -9 26.1 | 243 24.6 | 6.7 | -27 42.9 | -4.5 | 57.0 |
| | 2 | 206 42.3 | -9 25.2 | 257 50.3 | 6.7 | -27 38.4 | -4.7 | 57.1 |
| | 3 | 221 42.4 | -9 24.2 | 272 16.0 | 6.7 | -27 33.7 | -4.8 | 57.1 |
| | 4 | 236 42.5 | -9 23.3 | 286 41.8 | 6.7 | -27 28.9 | -5.0 | 57.1 |
| | 5 | 251 42.6 | -9 22.4 | 301 7.5 | 6.7 | -27 23.9 | -5.2 | 57.2 |
| | 6 | 266 42.6 | -9 21.5 | 315 33.2 | 6.7 | -27 18.8 | -5.3 | 57.2 |
| | 7 | 281 42.7 | -9 20.5 | 329 59.0 | 6.8 | -27 13.5 | -5.5 | 57.3 |
| | 8 | 296 42.8 | -9 19.6 | 344 24.7 | 6.8 | -27 8.0 | -5.7 | 57.3 |
| | 9 | 311 42.9 | -9 18.7 | 358 50.5 | 6.8 | -27 2.3 | -5.8 | 57.3 |
| | 10 | 326 43.0 | -9 17.8 | 13 16.2 | 6.8 | -26 56.5 | -6.0 | 57.4 |
| | 11 | 341 43.1 | -9 16.8 | 27 42.0 | 6.8 | -26 50.5 | -6.2 | 57.4 |
| | 12 | 356 43.2 | -9 15.9 | 42 7.8 | 6.8 | -26 44.3 | -6.3 | 57.4 |
| | 13 | 11 43.3 | -9 15.0 | 56 33.7 | 6.8 | -26 38.0 | -6.5 | 57.5 |
| | 14 | 26 43.4 | -9 14.0 | 70 59.5 | 6.9 | -26 31.5 | -6.6 | 57.5 |
| | 15 | 41 43.5 | -9 13.1 | 85 25.4 | 6.9 | -26 24.9 | -6.8 | 57.5 |
| | 16 | 56 43.6 | -9 12.2 | 99 51.2 | 6.9 | -26 18.1 | -7.0 | 57.6 |
| | 17 | 71 43.7 | -9 11.3 | 114 17.1 | 6.9 | -26 11.1 | -7.1 | 57.6 |
| | 18 | 86 43.8 | -9 10.3 | 128 43.1 | 7.0 | -26 4.0 | -7.3 | 57.7 |
| | 19 | 101 43.9 | -9 9.4 | 143 9.0 | 7.0 | -25 56.7 | -7.5 | 57.7 |
| | 20 | 116 44.0 | -9 8.5 | 157 35.0 | 7.0 | -25 49.2 | -7.6 | 57.7 |
| | 21 | 131 44.1 | -9 7.5 | 172 1.0 | 7.0 | -25 41.6 | -7.8 | 57.8 |
| | 22 | 146 44.2 | -9 6.6 | 186 27.0 | 7.1 | -25 33.8 | -8.0 | 57.8 |
| | 23 | 161 44.3 | -9 5.7 | 200 53.1 | 7.1 | -25 25.8 | -8.1 | 57.8 |
| | | *v* 0.1 | SD 16.2 | *d* -0.9 | | SD 15.6 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **25 Tuesday** | 0 | 176 44.4 | -9 4.8 | 215 19.2 | 7.1 | -25 17.7 | -8.3 | 57.9 |
| | 1 | 191 44.5 | -9 3.8 | 229 45.3 | 7.2 | -25 9.4 | -8.4 | 57.9 |
| | 2 | 206 44.6 | -9 2.9 | 244 11.5 | 7.2 | -25 1.0 | -8.6 | 58.0 |
| | 3 | 221 44.7 | -9 2.0 | 258 37.7 | 7.2 | -24 52.4 | -8.7 | 58.0 |
| | 4 | 236 44.8 | -9 1.0 | 273 3.9 | 7.3 | -24 43.7 | -8.9 | 58.0 |
| | 5 | 251 44.9 | -9 0.1 | 287 30.2 | 7.3 | -24 34.8 | -9.1 | 58.1 |
| | 6 | 266 45.0 | -8 59.2 | 301 56.5 | 7.3 | -24 25.7 | -9.2 | 58.1 |
| | 7 | 281 45.0 | -8 58.2 | 316 22.9 | 7.4 | -24 16.5 | -9.4 | 58.1 |
| | 8 | 296 45.1 | -8 57.3 | 330 49.3 | 7.4 | -24 7.1 | -9.5 | 58.2 |
| | 9 | 311 45.2 | -8 56.4 | 345 15.7 | 7.5 | -23 57.6 | -9.7 | 58.2 |
| | 10 | 326 45.3 | -8 55.4 | 359 42.2 | 7.5 | -23 47.9 | -9.8 | 58.2 |
| | 11 | 341 45.4 | -8 54.5 | 14 8.7 | 7.6 | -23 38.1 | -10.0 | 58.3 |
| | 12 | 356 45.5 | -8 53.6 | 28 35.2 | 7.6 | -23 28.1 | -10.1 | 58.3 |
| | 13 | 11 45.6 | -8 52.6 | 43 1.8 | 7.6 | -23 18.0 | -10.3 | 58.4 |
| | 14 | 26 45.7 | -8 51.7 | 57 28.5 | 7.7 | -23 7.7 | -10.4 | 58.4 |
| | 15 | 41 45.9 | -8 50.8 | 71 55.2 | 7.7 | -22 57.3 | -10.6 | 58.4 |
| | 16 | 56 46.0 | -8 49.8 | 86 21.9 | 7.8 | -22 46.7 | -10.7 | 58.5 |
| | 17 | 71 46.1 | -8 48.9 | 100 48.7 | 7.8 | -22 36.0 | -10.9 | 58.5 |
| | 18 | 86 46.2 | -8 48.0 | 115 15.5 | 7.9 | -22 25.1 | -11.0 | 58.5 |
| | 19 | 101 46.3 | -8 47.0 | 129 42.4 | 7.9 | -22 14.1 | -11.2 | 58.6 |
| | 20 | 116 46.4 | -8 46.1 | 144 9.3 | 8.0 | -22 2.9 | -11.3 | 58.6 |
| | 21 | 131 46.5 | -8 45.2 | 158 36.3 | 8.0 | -21 51.6 | -11.4 | 58.6 |
| | 22 | 146 46.6 | -8 44.2 | 173 3.3 | 8.1 | -21 40.2 | -11.6 | 58.7 |
| | 23 | 161 46.7 | -8 43.3 | 187 30.4 | 8.1 | -21 28.6 | -11.7 | 58.7 |
| | | *v* 0.1 | SD 16.2 | *d* -0.9 | | SD 15.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **26 Wednesday** | 0 | 176 46.8 | -8 42.4 | 201 57.6 | 8.2 | -21 16.9 | -11.9 | 58.7 |
| | 1 | 191 46.9 | -8 41.4 | 216 24.7 | 8.2 | -21 5.1 | -12.0 | 58.8 |
| | 2 | 206 47.0 | -8 40.5 | 230 52.0 | 8.3 | -20 53.1 | -12.1 | 58.8 |
| | 3 | 221 47.1 | -8 39.6 | 245 19.2 | 8.3 | -20 40.9 | -12.3 | 58.8 |
| | 4 | 236 47.2 | -8 38.6 | 259 46.6 | 8.4 | -20 28.7 | -12.4 | 58.9 |
| | 5 | 251 47.3 | -8 37.7 | 274 14.0 | 8.4 | -20 16.3 | -12.5 | 58.9 |
| | 6 | 266 47.4 | -8 36.7 | 288 41.4 | 8.5 | -20 3.8 | -12.7 | 58.9 |
| | 7 | 281 47.5 | -8 35.8 | 303 8.9 | 8.5 | -19 51.1 | -12.8 | 59.0 |
| | 8 | 296 47.6 | -8 34.9 | 317 36.4 | 8.6 | -19 38.3 | -12.9 | 59.0 |
| | 9 | 311 47.7 | -8 33.9 | 332 4.0 | 8.6 | -19 25.4 | -13.0 | 59.0 |
| | 10 | 326 47.8 | -8 33.0 | 346 31.6 | 8.7 | -19 12.4 | -13.2 | 59.1 |
| | 11 | 341 47.9 | -8 32.1 | 0 59.3 | 8.7 | -18 59.2 | -13.3 | 59.1 |
| | 12 | 356 48.0 | -8 31.1 | 15 27.1 | 8.8 | -18 46.0 | -13.4 | 59.1 |
| | 13 | 11 48.1 | -8 30.2 | 29 54.9 | 8.9 | -18 32.6 | -13.5 | 59.2 |
| | 14 | 26 48.2 | -8 29.2 | 44 22.7 | 8.9 | -18 19.0 | -13.6 | 59.2 |
| | 15 | 41 48.3 | -8 28.3 | 58 50.6 | 9.0 | -18 5.4 | -13.8 | 59.2 |
| | 16 | 56 48.5 | -8 27.4 | 73 18.6 | 9.0 | -17 51.6 | -13.9 | 59.3 |
| | 17 | 71 48.6 | -8 26.4 | 87 46.6 | 9.1 | -17 37.8 | -14.0 | 59.3 |
| | 18 | 86 48.7 | -8 25.5 | 102 14.7 | 9.1 | -17 23.8 | -14.1 | 59.3 |
| | 19 | 101 48.8 | -8 24.5 | 116 42.8 | 9.2 | -17 9.7 | -14.2 | 59.4 |
| | 20 | 116 48.9 | -8 23.6 | 131 10.9 | 9.2 | -16 55.4 | -14.3 | 59.4 |
| | 21 | 131 49.0 | -8 22.7 | 145 39.1 | 9.3 | -16 41.1 | -14.4 | 59.4 |
| | 22 | 146 49.1 | -8 21.7 | 160 7.4 | 9.3 | -16 26.7 | -14.5 | 59.5 |
| | 23 | 161 49.2 | -8 20.8 | 174 35.7 | 9.4 | -16 12.1 | -14.6 | 59.5 |
| | | *v* 0.1 | SD 16.2 | *d* -0.9 | | SD 16.0 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 05:33 | 06:51 | 08:02 | 16:26 | 17:37 | 18:56 |
| 70 | 05:36 | 06:46 | 07:50 | 16:38 | 17:42 | 18:53 |
| 68 | 05:38 | 06:42 | 07:39 | 16:48 | 17:46 | 18:51 |
| 66 | 05:39 | 06:38 | 07:31 | 16:57 | 17:50 | 18:49 |
| 64 | 05:40 | 06:35 | 07:24 | 17:04 | 17:53 | 18:48 |
| 62 | 05:41 | 06:32 | 07:18 | 17:10 | 17:55 | 18:46 |
| 60 | 05:42 | 06:30 | 07:12 | 17:15 | 17:57 | 18:46 |
| 58 | 05:42 | 06:28 | 07:08 | 17:20 | 18:00 | 18:45 |
| 56 | 05:43 | 06:26 | 07:03 | 17:24 | 18:02 | 18:45 |
| 54 | 05:43 | 06:24 | 07:00 | 17:28 | 18:03 | 18:44 |
| 52 | 05:43 | 06:22 | 06:56 | 17:31 | 18:05 | 18:44 |
| 50 | 05:43 | 06:20 | 06:53 | 17:34 | 18:07 | 18:44 |
| 45 | 05:43 | 06:17 | 06:46 | 17:41 | 18:10 | 18:44 |
| 40 | 05:42 | 06:13 | 06:40 | 17:46 | 18:14 | 18:45 |
| 35 | 05:41 | 06:10 | 06:36 | 17:51 | 18:17 | 18:46 |
| 30 | 05:39 | 06:07 | 06:31 | 17:56 | 18:20 | 18:48 |
| 20 | 05:35 | 06:01 | 06:23 | 18:03 | 18:25 | 18:51 |
| 10 | 05:31 | 05:55 | 06:16 | 18:10 | 18:31 | 18:56 |
| 0 | 05:25 | 05:49 | 06:10 | 18:16 | 18:37 | 19:02 |
| -10 | 05:17 | 05:42 | 06:03 | 18:23 | 18:44 | 19:09 |
| -20 | 05:07 | 05:33 | 05:56 | 18:30 | 18:53 | 19:19 |
| -30 | 04:54 | 05:23 | 05:47 | 18:38 | 19:03 | 19:32 |
| -35 | 04:46 | 05:16 | 05:42 | 18:43 | 19:09 | 19:40 |
| -40 | 04:35 | 05:09 | 05:37 | 18:49 | 19:17 | 19:50 |
| -45 | 04:23 | 05:00 | 05:30 | 18:55 | 19:25 | 20:02 |
| -50 | 04:07 | 04:48 | 05:22 | 19:03 | 19:37 | 20:18 |
| -52 | 03:59 | 04:43 | 05:19 | 19:06 | 19:42 | 20:26 |
| -54 | 03:50 | 04:37 | 05:15 | 19:10 | 19:48 | 20:35 |
| -56 | 03:39 | 04:30 | 05:10 | 19:15 | 19:54 | 20:45 |
| -58 | 03:27 | 04:23 | 05:05 | 19:19 | 20:02 | 20:57 |
| -60 | 03:13 | 04:14 | 05:00 | 19:25 | 20:11 | 21:11 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **24** | **25** | **26** | **24** | **25** | **26** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | 09:54 | ▬ | ▬ | 12:20 |
| 68 | ▬ | ▬ | 08:58 | ▬ | ▬ | 13:14 |
| 66 | ▬ | 09:48 | 08:25 | ▬ | 10:29 | 13:47 |
| 64 | ▬ | 08:26 | 08:00 | ▬ | 11:50 | 14:10 |
| 62 | 08:05 | 07:49 | 07:40 | 10:12 | 12:27 | 14:29 |
| 60 | 07:15 | 07:22 | 07:24 | 11:02 | 12:53 | 14:44 |
| 58 | 06:43 | 07:01 | 07:10 | 11:33 | 13:13 | 14:57 |
| 56 | 06:20 | 06:44 | 06:58 | 11:56 | 13:30 | 15:08 |
| 54 | 06:00 | 06:29 | 06:48 | 12:15 | 13:44 | 15:18 |
| 52 | 05:44 | 06:16 | 06:38 | 12:31 | 13:56 | 15:26 |
| 50 | 05:30 | 06:05 | 06:30 | 12:45 | 14:07 | 15:34 |
| 45 | 05:01 | 05:41 | 06:12 | 13:13 | 14:30 | 15:50 |
| 40 | 04:39 | 05:22 | 05:57 | 13:35 | 14:48 | 16:03 |
| 35 | 04:20 | 05:06 | 05:45 | 13:53 | 15:03 | 16:14 |
| 30 | 04:04 | 04:52 | 05:34 | 14:09 | 15:16 | 16:24 |
| 20 | 03:37 | 04:28 | 05:15 | 14:35 | 15:38 | 16:41 |
| 10 | 03:13 | 04:07 | 04:59 | 14:58 | 15:57 | 16:55 |
| 0 | 02:51 | 03:48 | 04:43 | 15:18 | 16:14 | 17:09 |
| -10 | 02:29 | 03:28 | 04:27 | 15:39 | 16:32 | 17:22 |
| -20 | 02:06 | 03:08 | 04:11 | 16:01 | 16:51 | 17:36 |
| -30 | 01:38 | 02:43 | 03:51 | 16:27 | 17:12 | 17:52 |
| -35 | 01:22 | 02:29 | 03:40 | 16:42 | 17:24 | 18:01 |
| -40 | 01:03 | 02:12 | 03:27 | 16:59 | 17:39 | 18:11 |
| -45 | 00:40 | 01:53 | 03:12 | 17:20 | 17:55 | 18:24 |
| -50 | 00:10 | 01:27 | 02:52 | 17:46 | 18:16 | 18:38 |
| -52 | –:– | 01:15 | 02:43 | 17:59 | 18:26 | 18:45 |
| -54 | –:– | 01:01 | 02:33 | 18:13 | 18:37 | 18:52 |
| -56 | –:– | 00:45 | 02:21 | 18:30 | 18:49 | 19:01 |
| -58 | –:– | 00:26 | 02:08 | 18:50 | 19:03 | 19:10 |
| -60 | –:– | 00:01 | 01:52 | 19:15 | 19:20 | 19:21 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **24** | 13:12 | 13:07 | 12:13 | 09:05 | 21:33 | 25 | 19 |
| **25** | 13:03 | 12:58 | 12:13 | 10:01 | 22:29 | 26 | 12 |
| **26** | 12:53 | 12:48 | 12:13 | 10:56 | 23:22 | 27 | 5 |

## 2025 February 27, 28, March 01 (Thu, Fri, Saturn)

| | | Aries | Venus -4.8 | | Mars -0.3 | | Jupiter -2.3 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 27 Thursday | 0 | 157 4.9 | 149 49.1 | 10 3.8 | 48 4.5 | 25 55.5 | 86 23.7 | 21 50.7 | 165 6.4 | -5 32.5 |
| | 1 | 172 7.4 | 164 51.5 | 10 4.3 | 63 6.8 | 25 55.4 | 101 26.0 | 21 50.7 | 180 8.6 | -5 32.4 |
| | 2 | 187 9.8 | 179 53.8 | 10 4.8 | 78 9.2 | 25 55.3 | 116 28.3 | 21 50.8 | 195 10.8 | -5 32.3 |
| | 3 | 202 12.3 | 194 56.2 | 10 5.3 | 93 11.6 | 25 55.2 | 131 30.5 | 21 50.8 | 210 13.0 | -5 32.2 |
| | 4 | 217 14.8 | 209 58.6 | 10 5.8 | 108 14.0 | 25 55.1 | 146 32.8 | 21 50.8 | 225 15.1 | -5 32.1 |
| | 5 | 232 17.2 | 225 1.0 | 10 6.3 | 123 16.3 | 25 55.0 | 161 35.1 | 21 50.9 | 240 17.3 | -5 31.9 |
| | 6 | 247 19.7 | 240 3.3 | 10 6.9 | 138 18.7 | 25 55.0 | 176 37.3 | 21 50.9 | 255 19.5 | -5 31.8 |
| | 7 | 262 22.2 | 255 5.7 | 10 7.4 | 153 21.1 | 25 54.9 | 191 39.6 | 21 50.9 | 270 21.7 | -5 31.7 |
| | 8 | 277 24.6 | 270 8.1 | 10 7.9 | 168 23.4 | 25 54.8 | 206 41.9 | 21 51.0 | 285 23.9 | -5 31.6 |
| | 9 | 292 27.1 | 285 10.5 | 10 8.4 | 183 25.8 | 25 54.7 | 221 44.1 | 21 51.0 | 300 26.1 | -5 31.5 |
| | 10 | 307 29.6 | 300 12.9 | 10 8.9 | 198 28.2 | 25 54.6 | 236 46.4 | 21 51.0 | 315 28.2 | -5 31.3 |
| | 11 | 322 32.0 | 315 15.3 | 10 9.4 | 213 30.5 | 25 54.5 | 251 48.7 | 21 51.1 | 330 30.4 | -5 31.2 |
| | 12 | 337 34.5 | 330 17.7 | 10 9.9 | 228 32.9 | 25 54.4 | 266 50.9 | 21 51.1 | 345 32.6 | -5 31.1 |
| | 13 | 352 36.9 | 345 20.1 | 10 10.4 | 243 35.3 | 25 54.3 | 281 53.2 | 21 51.1 | 0 34.8 | -5 31.0 |
| | 14 | 7 39.4 | 0 22.6 | 10 10.9 | 258 37.6 | 25 54.2 | 296 55.5 | 21 51.2 | 15 37.0 | -5 30.9 |
| | 15 | 22 41.9 | 15 25.0 | 10 11.4 | 273 40.0 | 25 54.2 | 311 57.7 | 21 51.2 | 30 39.2 | -5 30.7 |
| | 16 | 37 44.3 | 30 27.4 | 10 11.9 | 288 42.3 | 25 54.1 | 327 0.0 | 21 51.2 | 45 41.3 | -5 30.6 |
| | 17 | 52 46.8 | 45 29.8 | 10 12.4 | 303 44.7 | 25 54.0 | 342 2.3 | 21 51.3 | 60 43.5 | -5 30.5 |
| | 18 | 67 49.3 | 60 32.2 | 10 12.9 | 318 47.0 | 25 53.9 | 357 4.5 | 21 51.3 | 75 45.7 | -5 30.4 |
| | 19 | 82 51.7 | 75 34.7 | 10 13.3 | 333 49.4 | 25 53.8 | 12 6.8 | 21 51.3 | 90 47.9 | -5 30.3 |
| | 20 | 97 54.2 | 90 37.1 | 10 13.8 | 348 51.7 | 25 53.7 | 27 9.0 | 21 51.4 | 105 50.1 | -5 30.1 |
| | 21 | 112 56.7 | 105 39.5 | 10 14.3 | 3 54.1 | 25 53.6 | 42 11.3 | 21 51.4 | 120 52.2 | -5 30.0 |
| | 22 | 127 59.1 | 120 42.0 | 10 14.8 | 18 56.4 | 25 53.5 | 57 13.6 | 21 51.4 | 135 54.4 | -5 29.9 |
| | 23 | 143 1.6 | 135 44.4 | 10 15.3 | 33 58.8 | 25 53.4 | 72 15.8 | 21 51.5 | 150 56.6 | -5 29.8 |
| | | MP 13:31 | *v* 2.4 | *d* 0.5 | *v* 2.4 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 28 Friday | 0 | 158 4.1 | 150 46.9 | 10 15.8 | 49 1.1 | 25 53.3 | 87 18.1 | 21 51.5 | 165 58.8 | -5 29.7 |
| | 1 | 173 6.5 | 165 49.3 | 10 16.2 | 64 3.5 | 25 53.3 | 102 20.4 | 21 51.5 | 181 1.0 | -5 29.5 |
| | 2 | 188 9.0 | 180 51.8 | 10 16.7 | 79 5.8 | 25 53.2 | 117 22.6 | 21 51.6 | 196 3.2 | -5 29.4 |
| | 3 | 203 11.4 | 195 54.3 | 10 17.2 | 94 8.2 | 25 53.1 | 132 24.9 | 21 51.6 | 211 5.3 | -5 29.3 |
| | 4 | 218 13.9 | 210 56.7 | 10 17.7 | 109 10.5 | 25 53.0 | 147 27.1 | 21 51.6 | 226 7.5 | -5 29.2 |
| | 5 | 233 16.4 | 225 59.2 | 10 18.1 | 124 12.8 | 25 52.9 | 162 29.4 | 21 51.7 | 241 9.7 | -5 29.1 |
| | 6 | 248 18.8 | 241 1.7 | 10 18.6 | 139 15.2 | 25 52.8 | 177 31.7 | 21 51.7 | 256 11.9 | -5 28.9 |
| | 7 | 263 21.3 | 256 4.1 | 10 19.1 | 154 17.5 | 25 52.7 | 192 33.9 | 21 51.7 | 271 14.1 | -5 28.8 |
| | 8 | 278 23.8 | 271 6.6 | 10 19.5 | 169 19.8 | 25 52.6 | 207 36.2 | 21 51.8 | 286 16.3 | -5 28.7 |
| | 9 | 293 26.2 | 286 9.1 | 10 20.0 | 184 22.2 | 25 52.5 | 222 38.4 | 21 51.8 | 301 18.4 | -5 28.6 |
| | 10 | 308 28.7 | 301 11.6 | 10 20.4 | 199 24.5 | 25 52.4 | 237 40.7 | 21 51.8 | 316 20.6 | -5 28.5 |
| | 11 | 323 31.2 | 316 14.1 | 10 20.9 | 214 26.8 | 25 52.3 | 252 43.0 | 21 51.9 | 331 22.8 | -5 28.3 |
| | 12 | 338 33.6 | 331 16.6 | 10 21.4 | 229 29.2 | 25 52.3 | 267 45.2 | 21 51.9 | 346 25.0 | -5 28.2 |
| | 13 | 353 36.1 | 346 19.1 | 10 21.8 | 244 31.5 | 25 52.2 | 282 47.5 | 21 51.9 | 1 27.2 | -5 28.1 |
| | 14 | 8 38.5 | 1 21.6 | 10 22.3 | 259 33.8 | 25 52.1 | 297 49.7 | 21 52.0 | 16 29.3 | -5 28.0 |
| | 15 | 23 41.0 | 16 24.1 | 10 22.7 | 274 36.1 | 25 52.0 | 312 52.0 | 21 52.0 | 31 31.5 | -5 27.9 |
| | 16 | 38 43.5 | 31 26.6 | 10 23.2 | 289 38.5 | 25 51.9 | 327 54.2 | 21 52.0 | 46 33.7 | -5 27.7 |
| | 17 | 53 45.9 | 46 29.1 | 10 23.6 | 304 40.8 | 25 51.8 | 342 56.5 | 21 52.1 | 61 35.9 | -5 27.6 |
| | 18 | 68 48.4 | 61 31.6 | 10 24.1 | 319 43.1 | 25 51.7 | 357 58.8 | 21 52.1 | 76 38.1 | -5 27.5 |
| | 19 | 83 50.9 | 76 34.1 | 10 24.5 | 334 45.4 | 25 51.6 | 13 1.0 | 21 52.1 | 91 40.3 | -5 27.4 |
| | 20 | 98 53.3 | 91 36.6 | 10 24.9 | 349 47.7 | 25 51.5 | 28 3.3 | 21 52.2 | 106 42.4 | -5 27.3 |
| | 21 | 113 55.8 | 106 39.2 | 10 25.4 | 4 50.1 | 25 51.4 | 43 5.5 | 21 52.2 | 121 44.6 | -5 27.1 |
| | 22 | 128 58.3 | 121 41.7 | 10 25.8 | 19 52.4 | 25 51.3 | 58 7.8 | 21 52.2 | 136 46.8 | -5 27.0 |
| | 23 | 144 0.7 | 136 44.2 | 10 26.3 | 34 54.7 | 25 51.2 | 73 10.0 | 21 52.3 | 151 49.0 | -5 26.9 |
| | | MP 13:27 | *v* 2.5 | *d* 0.5 | *v* 2.3 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 Saturday | 0 | 159 3.2 | 151 46.8 | 10 26.7 | 49 57.0 | 25 51.1 | 88 12.3 | 21 52.3 | 166 51.2 | -5 26.8 |
| | 1 | 174 5.7 | 166 49.3 | 10 27.1 | 64 59.3 | 25 51.0 | 103 14.5 | 21 52.3 | 181 53.4 | -5 26.7 |
| | 2 | 189 8.1 | 181 51.9 | 10 27.5 | 80 1.6 | 25 50.9 | 118 16.8 | 21 52.4 | 196 55.5 | -5 26.5 |
| | 3 | 204 10.6 | 196 54.4 | 10 28.0 | 95 3.9 | 25 50.8 | 133 19.1 | 21 52.4 | 211 57.7 | -5 26.4 |
| | 4 | 219 13.0 | 211 57.0 | 10 28.4 | 110 6.2 | 25 50.8 | 148 21.3 | 21 52.4 | 226 59.9 | -5 26.3 |
| | 5 | 234 15.5 | 226 59.5 | 10 28.8 | 125 8.5 | 25 50.7 | 163 23.6 | 21 52.5 | 242 2.1 | -5 26.2 |
| | 6 | 249 18.0 | 242 2.1 | 10 29.2 | 140 10.9 | 25 50.6 | 178 25.8 | 21 52.5 | 257 4.3 | -5 26.1 |
| | 7 | 264 20.4 | 257 4.7 | 10 29.7 | 155 13.2 | 25 50.5 | 193 28.1 | 21 52.5 | 272 6.4 | -5 25.9 |
| | 8 | 279 22.9 | 272 7.2 | 10 30.1 | 170 15.5 | 25 50.4 | 208 30.3 | 21 52.6 | 287 8.6 | -5 25.8 |
| | 9 | 294 25.4 | 287 9.8 | 10 30.5 | 185 17.8 | 25 50.3 | 223 32.6 | 21 52.6 | 302 10.8 | -5 25.7 |
| | 10 | 309 27.8 | 302 12.4 | 10 30.9 | 200 20.1 | 25 50.2 | 238 34.8 | 21 52.6 | 317 13.0 | -5 25.6 |
| | 11 | 324 30.3 | 317 14.9 | 10 31.3 | 215 22.4 | 25 50.1 | 253 37.1 | 21 52.7 | 332 15.2 | -5 25.5 |
| | 12 | 339 32.8 | 332 17.5 | 10 31.7 | 230 24.7 | 25 50.0 | 268 39.3 | 21 52.7 | 347 17.4 | -5 25.3 |
| | 13 | 354 35.2 | 347 20.1 | 10 32.1 | 245 26.9 | 25 49.9 | 283 41.6 | 21 52.7 | 2 19.5 | -5 25.2 |
| | 14 | 9 37.7 | 2 22.7 | 10 32.5 | 260 29.2 | 25 49.8 | 298 43.8 | 21 52.8 | 17 21.7 | -5 25.1 |
| | 15 | 24 40.1 | 17 25.3 | 10 32.9 | 275 31.5 | 25 49.7 | 313 46.1 | 21 52.8 | 32 23.9 | -5 25.0 |
| | 16 | 39 42.6 | 32 27.9 | 10 33.3 | 290 33.8 | 25 49.6 | 328 48.3 | 21 52.8 | 47 26.1 | -5 24.9 |
| | 17 | 54 45.1 | 47 30.5 | 10 33.7 | 305 36.1 | 25 49.5 | 343 50.6 | 21 52.9 | 62 28.3 | -5 24.7 |
| | 18 | 69 47.5 | 62 33.1 | 10 34.1 | 320 38.4 | 25 49.4 | 358 52.8 | 21 52.9 | 77 30.4 | -5 24.6 |
| | 19 | 84 50.0 | 77 35.7 | 10 34.5 | 335 40.7 | 25 49.3 | 13 55.1 | 21 52.9 | 92 32.6 | -5 24.5 |
| | 20 | 99 52.5 | 92 38.3 | 10 34.9 | 350 43.0 | 25 49.2 | 28 57.3 | 21 53.0 | 107 34.8 | -5 24.4 |
| | 21 | 114 54.9 | 107 41.0 | 10 35.3 | 5 45.3 | 25 49.1 | 43 59.6 | 21 53.0 | 122 37.0 | -5 24.3 |
| | 22 | 129 57.4 | 122 43.6 | 10 35.7 | 20 47.5 | 25 49.0 | 59 1.8 | 21 53.0 | 137 39.2 | -5 24.1 |
| | 23 | 144 59.9 | 137 46.2 | 10 36.1 | 35 49.8 | 25 48.9 | 74 4.1 | 21 53.1 | 152 41.4 | -5 24.0 |
| | | MP 13:23 | *v* 2.5 | *d* 0.4 | *v* 2.3 | *d* -0.1 | *v* 2.3 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 12.5 |
| Achernar | 335 20.4 | -57 6.8 |
| Acrux | 172 59.4 | -63 14.2 |
| Adhara | 255 5.5 | -29 0.5 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.1 |
| Alkaid | 152 51.6 | 49 10.9 |
| Alnair | 27 33.2 | -46 50.4 |
| Alnilam | 275 37.5 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.1 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.3 |
| Antares | 112 15.7 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.8 |
| Atria | 107 9.9 | -69 4.1 |
| Avior | 234 14.2 | -59 35.5 |
| Bellatrix | 278 22.7 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 52.1 | -52 42.8 |
| Capella | 280 21.6 | 46 1.5 |
| Deneb | 49 26.1 | 45 22.0 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.1 | 61 36.8 |
| Elnath | 278 1.6 | 28 37.8 |
| Eltanin | 90 42.3 | 51 28.7 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.1 | -57 15.2 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.5 | -60 29.5 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.5 | -34 22.3 |
| Kochab | 137 19.3 | 74 2.7 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.1 | 4 11.2 |
| Menkent | 147 57.3 | -36 29.6 |
| Miaplacidus | 221 37.4 | -69 49.3 |
| Mirfak | 308 28.2 | 49 57.2 |
| Nunki | 75 47.8 | -26 15.9 |
| Peacock | 53 6.0 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.5 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.7 | -8 10.5 |
| Rigil Kent. | 139 39.9 | -60 56.2 |
| Sabik | 102 2.7 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.6 |
| Shaula | 96 10.3 | -37 7.3 |
| Sirius | 258 25.9 | -16 45.2 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.8 | -43 32.2 |
| Vega | 80 33.4 | 38 48.1 |
| Zuben'ubi | 136 55.8 | -16 8.8 |

| 27 Thu | SHA | MP |
|---|---|---|
| Venus | 352 44.2 | 13:58 |
| Mars | 250 59.6 | 20:44 |
| Jupiter | 289 18.8 | 18:12 |
| Saturn | 8 1.5 | 12:58 |

| 28 Fri | SHA | MP |
|---|---|---|
| Venus | 352 42.8 | 13:55 |
| Mars | 250 57.1 | 20:41 |
| Jupiter | 289 14.0 | 18:08 |
| Saturn | 7 54.7 | 12:54 |

| 01 Sat | SHA | MP |
|---|---|---|
| Venus | 352 43.6 | 13:51 |
| Mars | 250 53.8 | 20:37 |
| Jupiter | 289 9.1 | 18:04 |
| Saturn | 7 48.0 | 12:51 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | v | Dec | d | HP |
| **27 Thursday** | 0 | 176 49.3 | -8 19.8 | 189 4.1 | 9.4 | -15 57.5 | -14.8 | 59.5 |
| | 1 | 191 49.4 | -8 18.9 | 203 32.5 | 9.5 | -15 42.7 | -14.9 | 59.5 |
| | 2 | 206 49.5 | -8 18.0 | 218 0.9 | 9.5 | -15 27.9 | -15.0 | 59.6 |
| | 3 | 221 49.6 | -8 17.0 | 232 29.4 | 9.6 | -15 12.9 | -15.1 | 59.6 |
| | 4 | 236 49.8 | -8 16.1 | 246 58.0 | 9.6 | -14 57.9 | -15.2 | 59.6 |
| | 5 | 251 49.9 | -8 15.1 | 261 26.6 | 9.6 | -14 42.7 | -15.3 | 59.7 |
| | 6 | 266 50.0 | -8 14.2 | 275 55.2 | 9.7 | -14 27.5 | -15.3 | 59.7 |
| | 7 | 281 50.1 | -8 13.3 | 290 23.9 | 9.7 | -14 12.1 | -15.4 | 59.7 |
| | 8 | 296 50.2 | -8 12.3 | 304 52.7 | 9.8 | -13 56.7 | -15.5 | 59.7 |
| | 9 | 311 50.3 | -8 11.4 | 319 21.5 | 9.8 | -13 41.1 | -15.6 | 59.8 |
| | 10 | 326 50.4 | -8 10.4 | 333 50.3 | 9.9 | -13 25.5 | -15.7 | 59.8 |
| | 11 | 341 50.5 | -8 9.5 | 348 19.2 | 9.9 | -13 9.8 | -15.8 | 59.8 |
| | 12 | 356 50.6 | -8 8.5 | 2 48.1 | 10.0 | -12 54.0 | -15.9 | 59.8 |
| | 13 | 11 50.8 | -8 7.6 | 17 17.0 | 10.0 | -12 38.1 | -16.0 | 59.9 |
| | 14 | 26 50.9 | -8 6.7 | 31 46.0 | 10.0 | -12 22.2 | -16.0 | 59.9 |
| | 15 | 41 51.0 | -8 5.7 | 46 15.1 | 10.1 | -12 6.1 | -16.1 | 59.9 |
| | 16 | 56 51.1 | -8 4.8 | 60 44.1 | 10.1 | -11 50.0 | -16.2 | 59.9 |
| | 17 | 71 51.2 | -8 3.8 | 75 13.3 | 10.2 | -11 33.8 | -16.3 | 60.0 |
| | 18 | 86 51.3 | -8 2.9 | 89 42.4 | 10.2 | -11 17.5 | -16.4 | 60.0 |
| | 19 | 101 51.4 | -8 1.9 | 104 11.6 | 10.2 | -11 1.2 | -16.4 | 60.0 |
| | 20 | 116 51.5 | -8 1.0 | 118 40.8 | 10.3 | -10 44.7 | -16.5 | 60.0 |
| | 21 | 131 51.7 | -8 0.0 | 133 10.1 | 10.3 | -10 28.2 | -16.6 | 60.0 |
| | 22 | 146 51.8 | -7 59.1 | 147 39.4 | 10.3 | -10 11.7 | -16.6 | 60.1 |
| | 23 | 161 51.9 | -7 58.1 | 162 8.8 | 10.4 | -9 55.0 | -16.7 | 60.1 |
| | | v 0.1 | SD 16.1 | d -0.9 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **28 Friday** | 0 | 176 52.0 | -7 57.2 | 176 38.1 | 10.4 | -9 38.3 | -16.8 | 60.1 |
| | 1 | 191 52.1 | -7 56.3 | 191 7.5 | 10.4 | -9 21.6 | -16.8 | 60.1 |
| | 2 | 206 52.2 | -7 55.3 | 205 37.0 | 10.5 | -9 4.8 | -16.9 | 60.1 |
| | 3 | 221 52.3 | -7 54.4 | 220 6.4 | 10.5 | -8 47.9 | -16.9 | 60.2 |
| | 4 | 236 52.5 | -7 53.4 | 234 35.9 | 10.5 | -8 30.9 | -17.0 | 60.2 |
| | 5 | 251 52.6 | -7 52.5 | 249 5.4 | 10.5 | -8 13.9 | -17.1 | 60.2 |
| | 6 | 266 52.7 | -7 51.5 | 263 35.0 | 10.6 | -7 56.9 | -17.1 | 60.2 |
| | 7 | 281 52.8 | -7 50.6 | 278 4.6 | 10.6 | -7 39.8 | -17.2 | 60.2 |
| | 8 | 296 52.9 | -7 49.6 | 292 34.2 | 10.6 | -7 22.6 | -17.2 | 60.3 |
| | 9 | 311 53.0 | -7 48.7 | 307 3.8 | 10.6 | -7 5.4 | -17.3 | 60.3 |
| | 10 | 326 53.2 | -7 47.7 | 321 33.4 | 10.7 | -6 48.1 | -17.3 | 60.3 |
| | 11 | 341 53.3 | -7 46.8 | 336 3.1 | 10.7 | -6 30.8 | -17.3 | 60.3 |
| | 12 | 356 53.4 | -7 45.8 | 350 32.8 | 10.7 | -6 13.5 | -17.4 | 60.3 |
| | 13 | 11 53.5 | -7 44.9 | 5 2.5 | 10.7 | -5 56.1 | -17.4 | 60.3 |
| | 14 | 26 53.6 | -7 43.9 | 19 32.2 | 10.7 | -5 38.6 | -17.5 | 60.3 |
| | 15 | 41 53.7 | -7 43.0 | 34 2.0 | 10.8 | -5 21.2 | -17.5 | 60.4 |
| | 16 | 56 53.9 | -7 42.0 | 48 31.8 | 10.8 | -5 3.7 | -17.5 | 60.4 |
| | 17 | 71 54.0 | -7 41.1 | 63 1.5 | 10.8 | -4 46.1 | -17.6 | 60.4 |
| | 18 | 86 54.1 | -7 40.1 | 77 31.3 | 10.8 | -4 28.6 | -17.6 | 60.4 |
| | 19 | 101 54.2 | -7 39.2 | 92 1.2 | 10.8 | -4 10.9 | -17.6 | 60.4 |
| | 20 | 116 54.3 | -7 38.2 | 106 31.0 | 10.8 | -3 53.3 | -17.7 | 60.4 |
| | 21 | 131 54.5 | -7 37.3 | 121 0.8 | 10.8 | -3 35.6 | -17.7 | 60.4 |
| | 22 | 146 54.6 | -7 36.3 | 135 30.7 | 10.9 | -3 18.0 | -17.7 | 60.4 |
| | 23 | 161 54.7 | -7 35.4 | 150 0.5 | 10.9 | -3 0.2 | -17.7 | 60.5 |
| | | v 0.1 | SD 16.1 | d -0.9 | | SD 16.4 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **01 Saturday** | 0 | 176 54.8 | -7 34.4 | 164 30.4 | 10.9 | -2 42.5 | -17.8 | 60.5 |
| | 1 | 191 54.9 | -7 33.5 | 179 0.2 | 10.9 | -2 24.8 | -17.8 | 60.5 |
| | 2 | 206 55.1 | -7 32.5 | 193 30.1 | 10.9 | -2 7.0 | -17.8 | 60.5 |
| | 3 | 221 55.2 | -7 31.6 | 208 0.0 | 10.9 | -1 49.2 | -17.8 | 60.5 |
| | 4 | 236 55.3 | -7 30.6 | 222 29.9 | 10.9 | -1 31.4 | -17.8 | 60.5 |
| | 5 | 251 55.4 | -7 29.7 | 236 59.8 | 10.9 | -1 13.6 | -17.8 | 60.5 |
| | 6 | 266 55.5 | -7 28.7 | 251 29.6 | 10.9 | -0 55.8 | -17.8 | 60.5 |
| | 7 | 281 55.7 | -7 27.8 | 265 59.5 | 10.9 | -0 37.9 | -17.8 | 60.5 |
| | 8 | 296 55.8 | -7 26.8 | 280 29.4 | 10.9 | -0 20.1 | -17.8 | 60.5 |
| | 9 | 311 55.9 | -7 25.9 | 294 59.3 | 10.9 | -0 2.2 | 17.8 | 60.5 |
| | 10 | 326 56.0 | -7 24.9 | 309 29.1 | 10.9 | 0 15.6 | 17.8 | 60.5 |
| | 11 | 341 56.1 | -7 24.0 | 323 59.0 | 10.9 | 0 33.5 | 17.8 | 60.5 |
| | 12 | 356 56.3 | -7 23.0 | 338 28.9 | 10.9 | 0 51.3 | 17.8 | 60.6 |
| | 13 | 11 56.4 | -7 22.1 | 352 58.7 | 10.8 | 1 9.1 | 17.8 | 60.6 |
| | 14 | 26 56.5 | -7 21.1 | 7 28.6 | 10.8 | 1 27.0 | 17.8 | 60.6 |
| | 15 | 41 56.6 | -7 20.2 | 21 58.4 | 10.8 | 1 44.8 | 17.8 | 60.6 |
| | 16 | 56 56.8 | -7 19.2 | 36 28.2 | 10.8 | 2 2.6 | 17.8 | 60.6 |
| | 17 | 71 56.9 | -7 18.3 | 50 58.0 | 10.8 | 2 20.5 | 17.8 | 60.6 |
| | 18 | 86 57.0 | -7 17.3 | 65 27.8 | 10.8 | 2 38.3 | 17.8 | 60.6 |
| | 19 | 101 57.1 | -7 16.3 | 79 57.6 | 10.8 | 2 56.0 | 17.8 | 60.6 |
| | 20 | 116 57.3 | -7 15.4 | 94 27.3 | 10.7 | 3 13.8 | 17.8 | 60.6 |
| | 21 | 131 57.4 | -7 14.4 | 108 57.1 | 10.7 | 3 31.6 | 17.7 | 60.6 |
| | 22 | 146 57.5 | -7 13.5 | 123 26.8 | 10.7 | 3 49.3 | 17.7 | 60.6 |
| | 23 | 161 57.6 | -7 12.5 | 137 56.5 | 10.7 | 4 7.0 | 17.7 | 60.6 |
| | | v 0.1 | SD 16.1 | d -1.0 | | SD 16.5 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 05:19 | 06:36 | 07:46 | 16:41 | 17:51 | 19:09 |
| 70 | 05:23 | 06:33 | 07:36 | 16:51 | 17:54 | 19:05 |
| 68 | 05:26 | 06:30 | 07:27 | 17:00 | 17:57 | 19:01 |
| 66 | 05:29 | 06:28 | 07:20 | 17:07 | 17:59 | 18:59 |
| 64 | 05:31 | 06:25 | 07:14 | 17:13 | 18:01 | 18:56 |
| 62 | 05:32 | 06:23 | 07:08 | 17:18 | 18:03 | 18:54 |
| 60 | 05:34 | 06:22 | 07:04 | 17:23 | 18:05 | 18:53 |
| 58 | 05:35 | 06:20 | 07:00 | 17:27 | 18:06 | 18:52 |
| 56 | 05:36 | 06:19 | 06:56 | 17:30 | 18:08 | 18:51 |
| 54 | 05:36 | 06:17 | 06:53 | 17:33 | 18:09 | 18:50 |
| 52 | 05:37 | 06:16 | 06:50 | 17:36 | 18:10 | 18:49 |
| 50 | 05:37 | 06:15 | 06:47 | 17:39 | 18:12 | 18:49 |
| 45 | 05:38 | 06:12 | 06:41 | 17:45 | 18:14 | 18:48 |
| 40 | 05:38 | 06:09 | 06:36 | 17:50 | 18:17 | 18:48 |
| 35 | 05:37 | 06:06 | 06:32 | 17:54 | 18:19 | 18:49 |
| 30 | 05:36 | 06:04 | 06:28 | 17:58 | 18:22 | 18:50 |
| 20 | 05:33 | 05:59 | 06:21 | 18:04 | 18:27 | 18:52 |
| 10 | 05:29 | 05:54 | 06:15 | 18:10 | 18:31 | 18:56 |
| 0 | 05:24 | 05:48 | 06:09 | 18:16 | 18:37 | 19:01 |
| -10 | 05:17 | 05:42 | 06:03 | 18:22 | 18:43 | 19:08 |
| -20 | 05:09 | 05:35 | 05:57 | 18:28 | 18:50 | 19:16 |
| -30 | 04:56 | 05:25 | 05:50 | 18:35 | 19:00 | 19:28 |
| -35 | 04:49 | 05:19 | 05:45 | 18:39 | 19:05 | 19:36 |
| -40 | 04:39 | 05:13 | 05:40 | 18:44 | 19:12 | 19:45 |
| -45 | 04:28 | 05:04 | 05:35 | 18:50 | 19:20 | 19:56 |
| -50 | 04:13 | 04:54 | 05:28 | 18:57 | 19:30 | 20:11 |
| -52 | 04:05 | 04:49 | 05:24 | 19:00 | 19:35 | 20:18 |
| -54 | 03:57 | 04:43 | 05:21 | 19:03 | 19:40 | 20:26 |
| -56 | 03:48 | 04:37 | 05:17 | 19:07 | 19:46 | 20:35 |
| -58 | 03:37 | 04:30 | 05:12 | 19:11 | 19:53 | 20:46 |
| -60 | 03:24 | 04:22 | 05:08 | 19:16 | 20:01 | 20:59 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **27** | **28** | **01** | **27** | **28** | **01** |
| 72 | 09:00 | 08:06 | 07:25 | 15:08 | 17:51 | 20:22 |
| 70 | 08:34 | 07:55 | 07:24 | 15:31 | 17:58 | 20:17 |
| 68 | 08:14 | 07:47 | 07:24 | 15:49 | 18:04 | 20:14 |
| 66 | 07:58 | 07:39 | 07:23 | 16:03 | 18:08 | 20:10 |
| 64 | 07:45 | 07:33 | 07:23 | 16:15 | 18:12 | 20:08 |
| 62 | 07:34 | 07:28 | 07:22 | 16:25 | 18:16 | 20:06 |
| 60 | 07:24 | 07:23 | 07:22 | 16:33 | 18:19 | 20:04 |
| 58 | 07:15 | 07:19 | 07:21 | 16:40 | 18:21 | 20:02 |
| 56 | 07:08 | 07:15 | 07:21 | 16:46 | 18:24 | 20:00 |
| 54 | 07:01 | 07:12 | 07:21 | 16:52 | 18:26 | 19:59 |
| 52 | 06:55 | 07:09 | 07:21 | 16:57 | 18:27 | 19:58 |
| 50 | 06:50 | 07:06 | 07:20 | 17:02 | 18:29 | 19:56 |
| 45 | 06:38 | 07:00 | 07:20 | 17:12 | 18:33 | 19:54 |
| 40 | 06:28 | 06:54 | 07:19 | 17:20 | 18:36 | 19:52 |
| 35 | 06:19 | 06:50 | 07:19 | 17:27 | 18:38 | 19:50 |
| 30 | 06:12 | 06:46 | 07:19 | 17:33 | 18:41 | 19:48 |
| 20 | 05:58 | 06:39 | 07:18 | 17:43 | 18:44 | 19:46 |
| 10 | 05:47 | 06:33 | 07:18 | 17:52 | 18:48 | 19:43 |
| 0 | 05:36 | 06:27 | 07:17 | 18:01 | 18:51 | 19:41 |
| -10 | 05:25 | 06:22 | 07:17 | 18:09 | 18:54 | 19:39 |
| -20 | 05:14 | 06:15 | 07:17 | 18:18 | 18:57 | 19:36 |
| -30 | 05:00 | 06:08 | 07:16 | 18:28 | 19:01 | 19:33 |
| -35 | 04:52 | 06:04 | 07:16 | 18:33 | 19:03 | 19:32 |
| -40 | 04:43 | 06:00 | 07:16 | 18:40 | 19:05 | 19:30 |
| -45 | 04:33 | 05:54 | 07:15 | 18:47 | 19:08 | 19:28 |
| -50 | 04:20 | 05:48 | 07:15 | 18:56 | 19:11 | 19:25 |
| -52 | 04:14 | 05:45 | 07:15 | 19:00 | 19:12 | 19:24 |
| -54 | 04:07 | 05:41 | 07:15 | 19:04 | 19:14 | 19:23 |
| -56 | 04:00 | 05:38 | 07:14 | 19:09 | 19:16 | 19:22 |
| -58 | 03:52 | 05:34 | 07:14 | 19:15 | 19:18 | 19:20 |
| -60 | 03:42 | 05:29 | 07:14 | 19:21 | 19:20 | 19:18 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **27** | 12:43 | 12:37 | 12:13 | 11:48 | –:– | 28 | 1 |
| **28** | 12:32 | 12:26 | 12:12 | 12:39 | 00:14 | 29 | 0 |
| **01** | 12:21 | 12:15 | 12:12 | 13:29 | 01:04 | 1 | 1 |

## 2025 March 02, 03, 04 (Sun, Mon, Tue)

| | | Aries | Venus -4.8 | | Mars -0.3 | | Jupiter -2.3 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 02 Sunday | 0 | 160 2.3 | 152 48.8 | 10 36.5 | 50 52.1 | 25 48.8 | 89 6.3 | 21 53.1 | 167 43.5 | -5 23.9 |
| | 1 | 175 4.8 | 167 51.5 | 10 36.9 | 65 54.4 | 25 48.7 | 104 8.5 | 21 53.1 | 182 45.7 | -5 23.8 |
| | 2 | 190 7.3 | 182 54.1 | 10 37.3 | 80 56.7 | 25 48.6 | 119 10.8 | 21 53.2 | 197 47.9 | -5 23.7 |
| | 3 | 205 9.7 | 197 56.7 | 10 37.6 | 95 58.9 | 25 48.5 | 134 13.0 | 21 53.2 | 212 50.1 | -5 23.5 |
| | 4 | 220 12.2 | 212 59.4 | 10 38.0 | 111 1.2 | 25 48.4 | 149 15.3 | 21 53.2 | 227 52.3 | -5 23.4 |
| | 5 | 235 14.6 | 228 2.0 | 10 38.4 | 126 3.5 | 25 48.3 | 164 17.5 | 21 53.3 | 242 54.4 | -5 23.3 |
| | 6 | 250 17.1 | 243 4.7 | 10 38.8 | 141 5.8 | 25 48.2 | 179 19.8 | 21 53.3 | 257 56.6 | -5 23.2 |
| | 7 | 265 19.6 | 258 7.3 | 10 39.1 | 156 8.0 | 25 48.1 | 194 22.0 | 21 53.4 | 272 58.8 | -5 23.1 |
| | 8 | 280 22.0 | 273 10.0 | 10 39.5 | 171 10.3 | 25 48.0 | 209 24.3 | 21 53.4 | 288 1.0 | -5 22.9 |
| | 9 | 295 24.5 | 288 12.7 | 10 39.9 | 186 12.6 | 25 47.9 | 224 26.5 | 21 53.4 | 303 3.2 | -5 22.8 |
| | 10 | 310 27.0 | 303 15.3 | 10 40.2 | 201 14.9 | 25 47.8 | 239 28.7 | 21 53.5 | 318 5.3 | -5 22.7 |
| | 11 | 325 29.4 | 318 18.0 | 10 40.6 | 216 17.1 | 25 47.7 | 254 31.0 | 21 53.5 | 333 7.5 | -5 22.6 |
| | 12 | 340 31.9 | 333 20.7 | 10 41.0 | 231 19.4 | 25 47.6 | 269 33.2 | 21 53.5 | 348 9.7 | -5 22.5 |
| | 13 | 355 34.4 | 348 23.3 | 10 41.3 | 246 21.6 | 25 47.5 | 284 35.5 | 21 53.6 | 3 11.9 | -5 22.3 |
| | 14 | 10 36.8 | 3 26.0 | 10 41.7 | 261 23.9 | 25 47.4 | 299 37.7 | 21 53.6 | 18 14.1 | -5 22.2 |
| | 15 | 25 39.3 | 18 28.7 | 10 42.0 | 276 26.2 | 25 47.3 | 314 40.0 | 21 53.6 | 33 16.3 | -5 22.1 |
| | 16 | 40 41.7 | 33 31.4 | 10 42.4 | 291 28.4 | 25 47.2 | 329 42.2 | 21 53.7 | 48 18.4 | -5 22.0 |
| | 17 | 55 44.2 | 48 34.1 | 10 42.7 | 306 30.7 | 25 47.1 | 344 44.4 | 21 53.7 | 63 20.6 | -5 21.9 |
| | 18 | 70 46.7 | 63 36.8 | 10 43.1 | 321 32.9 | 25 47.0 | 359 46.7 | 21 53.7 | 78 22.8 | -5 21.7 |
| | 19 | 85 49.1 | 78 39.5 | 10 43.4 | 336 35.2 | 25 46.9 | 14 48.9 | 21 53.8 | 93 25.0 | -5 21.6 |
| | 20 | 100 51.6 | 93 42.2 | 10 43.8 | 351 37.5 | 25 46.8 | 29 51.2 | 21 53.8 | 108 27.2 | -5 21.5 |
| | 21 | 115 54.1 | 108 44.9 | 10 44.1 | 6 39.7 | 25 46.7 | 44 53.4 | 21 53.8 | 123 29.3 | -5 21.4 |
| | 22 | 130 56.5 | 123 47.6 | 10 44.5 | 21 42.0 | 25 46.6 | 59 55.6 | 21 53.9 | 138 31.5 | -5 21.3 |
| | 23 | 145 59.0 | 138 50.3 | 10 44.8 | 36 44.2 | 25 46.5 | 74 57.9 | 21 53.9 | 153 33.7 | -5 21.1 |
| | | MP 13:19 | *v* 2.6 | *d* 0.4 | *v* 2.3 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 03 Monday | 0 | 161 1.5 | 153 53.1 | 10 45.1 | 51 46.5 | 25 46.4 | 90 0.1 | 21 53.9 | 168 35.9 | -5 21.0 |
| | 1 | 176 3.9 | 168 55.8 | 10 45.5 | 66 48.7 | 25 46.3 | 105 2.4 | 21 54.0 | 183 38.1 | -5 20.9 |
| | 2 | 191 6.4 | 183 58.5 | 10 45.8 | 81 51.0 | 25 46.2 | 120 4.6 | 21 54.0 | 198 40.2 | -5 20.8 |
| | 3 | 206 8.9 | 199 1.2 | 10 46.1 | 96 53.2 | 25 46.1 | 135 6.8 | 21 54.1 | 213 42.4 | -5 20.6 |
| | 4 | 221 11.3 | 214 4.0 | 10 46.4 | 111 55.5 | 25 46.0 | 150 9.1 | 21 54.1 | 228 44.6 | -5 20.5 |
| | 5 | 236 13.8 | 229 6.7 | 10 46.8 | 126 57.7 | 25 45.9 | 165 11.3 | 21 54.1 | 243 46.8 | -5 20.4 |
| | 6 | 251 16.2 | 244 9.5 | 10 47.1 | 141 59.9 | 25 45.8 | 180 13.5 | 21 54.2 | 258 49.0 | -5 20.3 |
| | 7 | 266 18.7 | 259 12.2 | 10 47.4 | 157 2.2 | 25 45.7 | 195 15.8 | 21 54.2 | 273 51.1 | -5 20.2 |
| | 8 | 281 21.2 | 274 15.0 | 10 47.7 | 172 4.4 | 25 45.6 | 210 18.0 | 21 54.2 | 288 53.3 | -5 20.0 |
| | 9 | 296 23.6 | 289 17.7 | 10 48.1 | 187 6.7 | 25 45.5 | 225 20.2 | 21 54.3 | 303 55.5 | -5 19.9 |
| | 10 | 311 26.1 | 304 20.5 | 10 48.4 | 202 8.9 | 25 45.4 | 240 22.5 | 21 54.3 | 318 57.7 | -5 19.8 |
| | 11 | 326 28.6 | 319 23.2 | 10 48.7 | 217 11.1 | 25 45.3 | 255 24.7 | 21 54.3 | 333 59.9 | -5 19.7 |
| | 12 | 341 31.0 | 334 26.0 | 10 49.0 | 232 13.4 | 25 45.2 | 270 27.0 | 21 54.4 | 349 2.1 | -5 19.6 |
| | 13 | 356 33.5 | 349 28.8 | 10 49.3 | 247 15.6 | 25 45.1 | 285 29.2 | 21 54.4 | 4 4.2 | -5 19.4 |
| | 14 | 11 36.0 | 4 31.5 | 10 49.6 | 262 17.8 | 25 45.0 | 300 31.4 | 21 54.4 | 19 6.4 | -5 19.3 |
| | 15 | 26 38.4 | 19 34.3 | 10 49.9 | 277 20.1 | 25 44.9 | 315 33.7 | 21 54.5 | 34 8.6 | -5 19.2 |
| | 16 | 41 40.9 | 34 37.1 | 10 50.2 | 292 22.3 | 25 44.8 | 330 35.9 | 21 54.5 | 49 10.8 | -5 19.1 |
| | 17 | 56 43.4 | 49 39.9 | 10 50.5 | 307 24.5 | 25 44.7 | 345 38.1 | 21 54.5 | 64 13.0 | -5 19.0 |
| | 18 | 71 45.8 | 64 42.7 | 10 50.8 | 322 26.7 | 25 44.6 | 0 40.4 | 21 54.6 | 79 15.1 | -5 18.8 |
| | 19 | 86 48.3 | 79 45.5 | 10 51.1 | 337 29.0 | 25 44.4 | 15 42.6 | 21 54.6 | 94 17.3 | -5 18.7 |
| | 20 | 101 50.7 | 94 48.3 | 10 51.4 | 352 31.2 | 25 44.3 | 30 44.8 | 21 54.7 | 109 19.5 | -5 18.6 |
| | 21 | 116 53.2 | 109 51.1 | 10 51.7 | 7 33.4 | 25 44.2 | 45 47.0 | 21 54.7 | 124 21.7 | -5 18.5 |
| | 22 | 131 55.7 | 124 53.9 | 10 52.0 | 22 35.6 | 25 44.1 | 60 49.3 | 21 54.7 | 139 23.9 | -5 18.4 |
| | 23 | 146 58.1 | 139 56.7 | 10 52.3 | 37 37.9 | 25 44.0 | 75 51.5 | 21 54.8 | 154 26.0 | -5 18.2 |
| | | MP 13:15 | *v* 2.7 | *d* 0.3 | *v* 2.2 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 04 Tuesday | 0 | 162 0.6 | 154 59.5 | 10 52.5 | 52 40.1 | 25 43.9 | 90 53.7 | 21 54.8 | 169 28.2 | -5 18.1 |
| | 1 | 177 3.1 | 170 2.3 | 10 52.8 | 67 42.3 | 25 43.8 | 105 56.0 | 21 54.8 | 184 30.4 | -5 18.0 |
| | 2 | 192 5.5 | 185 5.1 | 10 53.1 | 82 44.5 | 25 43.7 | 120 58.2 | 21 54.9 | 199 32.6 | -5 17.9 |
| | 3 | 207 8.0 | 200 7.9 | 10 53.4 | 97 46.7 | 25 43.6 | 136 0.4 | 21 54.9 | 214 34.8 | -5 17.8 |
| | 4 | 222 10.5 | 215 10.8 | 10 53.7 | 112 48.9 | 25 43.5 | 151 2.7 | 21 54.9 | 229 36.9 | -5 17.6 |
| | 5 | 237 12.9 | 230 13.6 | 10 53.9 | 127 51.2 | 25 43.4 | 166 4.9 | 21 55.0 | 244 39.1 | -5 17.5 |
| | 6 | 252 15.4 | 245 16.4 | 10 54.2 | 142 53.4 | 25 43.3 | 181 7.1 | 21 55.0 | 259 41.3 | -5 17.4 |
| | 7 | 267 17.8 | 260 19.3 | 10 54.5 | 157 55.6 | 25 43.2 | 196 9.4 | 21 55.1 | 274 43.5 | -5 17.3 |
| | 8 | 282 20.3 | 275 22.1 | 10 54.7 | 172 57.8 | 25 43.1 | 211 11.6 | 21 55.1 | 289 45.7 | -5 17.2 |
| | 9 | 297 22.8 | 290 25.0 | 10 55.0 | 188 0.0 | 25 43.0 | 226 13.8 | 21 55.1 | 304 47.8 | -5 17.0 |
| | 10 | 312 25.2 | 305 27.8 | 10 55.3 | 203 2.2 | 25 42.9 | 241 16.0 | 21 55.2 | 319 50.0 | -5 16.9 |
| | 11 | 327 27.7 | 320 30.7 | 10 55.5 | 218 4.4 | 25 42.7 | 256 18.3 | 21 55.2 | 334 52.2 | -5 16.8 |
| | 12 | 342 30.2 | 335 33.5 | 10 55.8 | 233 6.6 | 25 42.6 | 271 20.5 | 21 55.2 | 349 54.4 | -5 16.7 |
| | 13 | 357 32.6 | 350 36.4 | 10 56.0 | 248 8.8 | 25 42.5 | 286 22.7 | 21 55.3 | 4 56.6 | -5 16.6 |
| | 14 | 12 35.1 | 5 39.2 | 10 56.3 | 263 11.0 | 25 42.4 | 301 24.9 | 21 55.3 | 19 58.8 | -5 16.4 |
| | 15 | 27 37.6 | 20 42.1 | 10 56.5 | 278 13.2 | 25 42.3 | 316 27.2 | 21 55.3 | 35 0.9 | -5 16.3 |
| | 16 | 42 40.0 | 35 45.0 | 10 56.8 | 293 15.4 | 25 42.2 | 331 29.4 | 21 55.4 | 50 3.1 | -5 16.2 |
| | 17 | 57 42.5 | 50 47.9 | 10 57.0 | 308 17.6 | 25 42.1 | 346 31.6 | 21 55.4 | 65 5.3 | -5 16.1 |
| | 18 | 72 45.0 | 65 50.7 | 10 57.3 | 323 19.8 | 25 42.0 | 1 33.8 | 21 55.5 | 80 7.5 | -5 15.9 |
| | 19 | 87 47.4 | 80 53.6 | 10 57.5 | 338 22.0 | 25 41.9 | 16 36.1 | 21 55.5 | 95 9.7 | -5 15.8 |
| | 20 | 102 49.9 | 95 56.5 | 10 57.7 | 353 24.2 | 25 41.8 | 31 38.3 | 21 55.5 | 110 11.8 | -5 15.7 |
| | 21 | 117 52.3 | 110 59.4 | 10 58.0 | 8 26.4 | 25 41.7 | 46 40.5 | 21 55.6 | 125 14.0 | -5 15.6 |
| | 22 | 132 54.8 | 126 2.3 | 10 58.2 | 23 28.6 | 25 41.6 | 61 42.7 | 21 55.6 | 140 16.2 | -5 15.5 |
| | 23 | 147 57.3 | 141 5.2 | 10 58.5 | 38 30.8 | 25 41.4 | 76 45.0 | 21 55.6 | 155 18.4 | -5 15.3 |
| | | MP 13:11 | *v* 2.8 | *d* 0.3 | *v* 2.2 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 12.5 |
| Achernar | 335 20.5 | -57 6.8 |
| Acrux | 172 59.4 | -63 14.3 |
| Adhara | 255 5.6 | -29 0.6 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.1 |
| Alkaid | 152 51.5 | 49 11.0 |
| Alnair | 27 33.2 | -46 50.4 |
| Alnilam | 275 37.5 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.1 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.3 |
| Antares | 112 15.7 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.8 |
| Atria | 107 9.9 | -69 4.1 |
| Avior | 234 14.2 | -59 35.6 |
| Bellatrix | 278 22.7 | 6 22.3 |
| Betelgeuse | 270 51.8 | 7 24.7 |
| Canopus | 263 52.1 | -52 42.8 |
| Capella | 280 21.6 | 46 1.5 |
| Deneb | 49 26.1 | 45 22.0 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.1 | 61 36.8 |
| Elnath | 278 1.6 | 28 37.8 |
| Eltanin | 90 42.3 | 51 28.7 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.0 | -57 15.2 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.5 | -60 29.5 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.5 | -34 22.3 |
| Kochab | 137 19.2 | 74 2.7 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.1 | 4 11.2 |
| Menkent | 147 57.2 | -36 29.6 |
| Miaplacidus | 221 37.5 | -69 49.3 |
| Mirfak | 308 28.2 | 49 57.2 |
| Nunki | 75 47.8 | -26 15.9 |
| Peacock | 53 6.0 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.5 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.7 | -8 10.5 |
| Rigil Kent. | 139 39.8 | -60 56.2 |
| Sabik | 102 2.7 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.6 |
| Shaula | 96 10.3 | -37 7.3 |
| Sirius | 258 26.0 | -16 45.2 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.8 | -43 32.2 |
| Vega | 80 33.3 | 38 48.1 |
| Zuben'ubi | 136 55.7 | -16 8.9 |

| 02 Sun | SHA | MP |
|---|---|---|
| Venus | 352 46.5 | 13:46 |
| Mars | 250 49.8 | 20:33 |
| Jupiter | 289 4.0 | 18:01 |
| Saturn | 7 41.2 | 12:47 |

| 03 Mon | SHA | MP |
|---|---|---|
| Venus | 352 51.6 | 13:42 |
| Mars | 250 45.0 | 20:30 |
| Jupiter | 288 58.7 | 17:57 |
| Saturn | 7 34.4 | 12:44 |

| 04 Tue | SHA | MP |
|---|---|---|
| Venus | 352 58.9 | 13:37 |
| Mars | 250 39.5 | 20:26 |
| Jupiter | 288 53.1 | 17:54 |
| Saturn | 7 27.6 | 12:40 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **02 Sunday** | 0 | 176 57.8 | -7 11.6 | 152 26.2 | 10.7 | 4 24.7 | 17.7 | 60.6 |
| | 1 | 191 57.9 | -7 10.6 | 166 55.9 | 10.6 | 4 42.4 | 17.6 | 60.6 |
| | 2 | 206 58.0 | -7 9.7 | 181 25.5 | 10.6 | 5 0.0 | 17.6 | 60.6 |
| | 3 | 221 58.1 | -7 8.7 | 195 55.1 | 10.6 | 5 17.6 | 17.6 | 60.6 |
| | 4 | 236 58.3 | -7 7.8 | 210 24.7 | 10.6 | 5 35.2 | 17.5 | 60.6 |
| | 5 | 251 58.4 | -7 6.8 | 224 54.2 | 10.5 | 5 52.7 | 17.5 | 60.6 |
| | 6 | 266 58.5 | -7 5.8 | 239 23.8 | 10.5 | 6 10.2 | 17.5 | 60.6 |
| | 7 | 281 58.6 | -7 4.9 | 253 53.3 | 10.5 | 6 27.7 | 17.4 | 60.5 |
| | 8 | 296 58.8 | -7 3.9 | 268 22.7 | 10.4 | 6 45.1 | 17.4 | 60.5 |
| | 9 | 311 58.9 | -7 3.0 | 282 52.2 | 10.4 | 7 2.5 | 17.3 | 60.5 |
| | 10 | 326 59.0 | -7 2.0 | 297 21.6 | 10.4 | 7 19.9 | 17.3 | 60.5 |
| | 11 | 341 59.1 | -7 1.1 | 311 50.9 | 10.3 | 7 37.2 | 17.3 | 60.5 |
| | 12 | 356 59.3 | -7 0.1 | 326 20.3 | 10.3 | 7 54.4 | 17.2 | 60.5 |
| | 13 | 11 59.4 | -6 59.1 | 340 49.6 | 10.3 | 8 11.6 | 17.2 | 60.5 |
| | 14 | 26 59.5 | -6 58.2 | 355 18.8 | 10.2 | 8 28.8 | 17.1 | 60.5 |
| | 15 | 41 59.7 | -6 57.2 | 9 48.0 | 10.2 | 8 45.9 | 17.1 | 60.5 |
| | 16 | 56 59.8 | -6 56.3 | 24 17.2 | 10.1 | 9 2.9 | 17.0 | 60.5 |
| | 17 | 71 59.9 | -6 55.3 | 38 46.3 | 10.1 | 9 19.9 | 16.9 | 60.5 |
| | 18 | 87 0.0 | -6 54.4 | 53 15.4 | 10.0 | 9 36.9 | 16.9 | 60.5 |
| | 19 | 102 0.2 | -6 53.4 | 67 44.5 | 10.0 | 9 53.8 | 16.8 | 60.5 |
| | 20 | 117 0.3 | -6 52.4 | 82 13.5 | 10.0 | 10 10.6 | 16.8 | 60.5 |
| | 21 | 132 0.4 | -6 51.5 | 96 42.4 | 9.9 | 10 27.3 | 16.7 | 60.4 |
| | 22 | 147 0.6 | -6 50.5 | 111 11.4 | 9.9 | 10 44.0 | 16.6 | 60.4 |
| | 23 | 162 0.7 | -6 49.6 | 125 40.2 | 9.8 | 11 0.6 | 16.6 | 60.4 |
| | | *v* 0.1 | SD 16.1 | *d* -1.0 | | SD 16.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **03 Monday** | 0 | 177 0.8 | -6 48.6 | 140 9.0 | 9.8 | 11 17.2 | 16.5 | 60.4 |
| | 1 | 192 0.9 | -6 47.6 | 154 37.8 | 9.7 | 11 33.7 | 16.4 | 60.4 |
| | 2 | 207 1.1 | -6 46.7 | 169 6.5 | 9.7 | 11 50.1 | 16.3 | 60.4 |
| | 3 | 222 1.2 | -6 45.7 | 183 35.2 | 9.6 | 12 6.4 | 16.3 | 60.4 |
| | 4 | 237 1.3 | -6 44.8 | 198 3.8 | 9.6 | 12 22.7 | 16.2 | 60.4 |
| | 5 | 252 1.5 | -6 43.8 | 212 32.4 | 9.5 | 12 38.9 | 16.1 | 60.4 |
| | 6 | 267 1.6 | -6 42.8 | 227 0.9 | 9.4 | 12 55.0 | 16.0 | 60.3 |
| | 7 | 282 1.7 | -6 41.9 | 241 29.3 | 9.4 | 13 11.0 | 15.9 | 60.3 |
| | 8 | 297 1.9 | -6 40.9 | 255 57.7 | 9.3 | 13 26.9 | 15.9 | 60.3 |
| | 9 | 312 2.0 | -6 40.0 | 270 26.0 | 9.3 | 13 42.8 | 15.8 | 60.3 |
| | 10 | 327 2.1 | -6 39.0 | 284 54.3 | 9.2 | 13 58.5 | 15.7 | 60.3 |
| | 11 | 342 2.3 | -6 38.0 | 299 22.5 | 9.2 | 14 14.2 | 15.6 | 60.3 |
| | 12 | 357 2.4 | -6 37.1 | 313 50.7 | 9.1 | 14 29.8 | 15.5 | 60.3 |
| | 13 | 12 2.5 | -6 36.1 | 328 18.8 | 9.0 | 14 45.3 | 15.4 | 60.2 |
| | 14 | 27 2.7 | -6 35.2 | 342 46.8 | 9.0 | 15 0.7 | 15.3 | 60.2 |
| | 15 | 42 2.8 | -6 34.2 | 357 14.8 | 8.9 | 15 16.0 | 15.2 | 60.2 |
| | 16 | 57 2.9 | -6 33.2 | 11 42.7 | 8.9 | 15 31.2 | 15.1 | 60.2 |
| | 17 | 72 3.1 | -6 32.3 | 26 10.6 | 8.8 | 15 46.3 | 15.0 | 60.2 |
| | 18 | 87 3.2 | -6 31.3 | 40 38.4 | 8.7 | 16 1.3 | 14.9 | 60.2 |
| | 19 | 102 3.3 | -6 30.4 | 55 6.1 | 8.7 | 16 16.3 | 14.8 | 60.1 |
| | 20 | 117 3.5 | -6 29.4 | 69 33.7 | 8.6 | 16 31.1 | 14.7 | 60.1 |
| | 21 | 132 3.6 | -6 28.4 | 84 1.3 | 8.5 | 16 45.8 | 14.6 | 60.1 |
| | 22 | 147 3.7 | -6 27.5 | 98 28.9 | 8.5 | 17 0.3 | 14.5 | 60.1 |
| | 23 | 162 3.9 | -6 26.5 | 112 56.3 | 8.4 | 17 14.8 | 14.4 | 60.1 |
| | | *v* 0.1 | SD 16.1 | *d* -1.0 | | SD 16.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **04 Tuesday** | 0 | 177 4.0 | -6 25.5 | 127 23.7 | 8.3 | 17 29.2 | 14.3 | 60.0 |
| | 1 | 192 4.1 | -6 24.6 | 141 51.0 | 8.3 | 17 43.4 | 14.1 | 60.0 |
| | 2 | 207 4.3 | -6 23.6 | 156 18.3 | 8.2 | 17 57.6 | 14.0 | 60.0 |
| | 3 | 222 4.4 | -6 22.7 | 170 45.5 | 8.1 | 18 11.6 | 13.9 | 60.0 |
| | 4 | 237 4.5 | -6 21.7 | 185 12.6 | 8.1 | 18 25.5 | 13.8 | 60.0 |
| | 5 | 252 4.7 | -6 20.7 | 199 39.7 | 8.0 | 18 39.3 | 13.7 | 60.0 |
| | 6 | 267 4.8 | -6 19.8 | 214 6.6 | 7.9 | 18 53.0 | 13.5 | 59.9 |
| | 7 | 282 5.0 | -6 18.8 | 228 33.6 | 7.8 | 19 6.5 | 13.4 | 59.9 |
| | 8 | 297 5.1 | -6 17.8 | 243 0.4 | 7.8 | 19 19.9 | 13.3 | 59.9 |
| | 9 | 312 5.2 | -6 16.9 | 257 27.2 | 7.7 | 19 33.2 | 13.2 | 59.9 |
| | 10 | 327 5.4 | -6 15.9 | 271 53.9 | 7.6 | 19 46.4 | 13.0 | 59.8 |
| | 11 | 342 5.5 | -6 14.9 | 286 20.5 | 7.6 | 19 59.4 | 12.9 | 59.8 |
| | 12 | 357 5.6 | -6 14.0 | 300 47.1 | 7.5 | 20 12.3 | 12.8 | 59.8 |
| | 13 | 12 5.8 | -6 13.0 | 315 13.6 | 7.4 | 20 25.1 | 12.6 | 59.8 |
| | 14 | 27 5.9 | -6 12.0 | 329 40.0 | 7.4 | 20 37.8 | 12.5 | 59.8 |
| | 15 | 42 6.1 | -6 11.1 | 344 6.4 | 7.3 | 20 50.3 | 12.4 | 59.7 |
| | 16 | 57 6.2 | -6 10.1 | 358 32.6 | 7.2 | 21 2.6 | 12.2 | 59.7 |
| | 17 | 72 6.3 | -6 9.2 | 12 58.9 | 7.1 | 21 14.9 | 12.1 | 59.7 |
| | 18 | 87 6.5 | -6 8.2 | 27 25.0 | 7.1 | 21 27.0 | 12.0 | 59.7 |
| | 19 | 102 6.6 | -6 7.2 | 41 51.1 | 7.0 | 21 38.9 | 11.8 | 59.6 |
| | 20 | 117 6.8 | -6 6.3 | 56 17.1 | 6.9 | 21 50.7 | 11.7 | 59.6 |
| | 21 | 132 6.9 | -6 5.3 | 70 43.0 | 6.9 | 22 2.4 | 11.5 | 59.6 |
| | 22 | 147 7.0 | -6 4.3 | 85 8.9 | 6.8 | 22 13.9 | 11.4 | 59.6 |
| | 23 | 162 7.2 | -6 3.4 | 99 34.7 | 6.7 | 22 25.3 | 11.2 | 59.5 |
| | | *v* 0.1 | SD 16.1 | *d* -1.0 | | SD 16.4 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 05:04 | 06:22 | 07:30 | 16:56 | 18:05 | 19:23 |
| 70 | 05:10 | 06:20 | 07:22 | 17:04 | 18:06 | 19:17 |
| 68 | 05:14 | 06:18 | 07:14 | 17:11 | 18:08 | 19:12 |
| 66 | 05:18 | 06:17 | 07:08 | 17:17 | 18:09 | 19:08 |
| 64 | 05:21 | 06:16 | 07:03 | 17:22 | 18:10 | 19:05 |
| 62 | 05:23 | 06:14 | 06:59 | 17:27 | 18:11 | 19:03 |
| 60 | 05:25 | 06:13 | 06:55 | 17:30 | 18:12 | 19:00 |
| 58 | 05:27 | 06:12 | 06:52 | 17:34 | 18:13 | 18:59 |
| 56 | 05:28 | 06:11 | 06:48 | 17:37 | 18:14 | 18:57 |
| 54 | 05:29 | 06:10 | 06:46 | 17:39 | 18:15 | 18:56 |
| 52 | 05:30 | 06:09 | 06:43 | 17:42 | 18:16 | 18:55 |
| 50 | 05:31 | 06:09 | 06:41 | 17:44 | 18:16 | 18:54 |
| 45 | 05:33 | 06:07 | 06:36 | 17:49 | 18:18 | 18:52 |
| 40 | 05:33 | 06:05 | 06:32 | 17:53 | 18:20 | 18:52 |
| 35 | 05:33 | 06:03 | 06:28 | 17:57 | 18:22 | 18:51 |
| 30 | 05:33 | 06:01 | 06:25 | 18:00 | 18:24 | 18:52 |
| 20 | 05:31 | 05:57 | 06:19 | 18:05 | 18:28 | 18:53 |
| 10 | 05:28 | 05:53 | 06:14 | 18:11 | 18:32 | 18:56 |
| 0 | 05:24 | 05:48 | 06:09 | 18:15 | 18:36 | 19:00 |
| -10 | 05:18 | 05:42 | 06:04 | 18:20 | 18:41 | 19:06 |
| -20 | 05:10 | 05:36 | 05:58 | 18:26 | 18:48 | 19:14 |
| -30 | 04:59 | 05:27 | 05:52 | 18:32 | 18:56 | 19:25 |
| -35 | 04:52 | 05:22 | 05:48 | 18:36 | 19:01 | 19:32 |
| -40 | 04:43 | 05:16 | 05:44 | 18:40 | 19:07 | 19:40 |
| -45 | 04:32 | 05:09 | 05:39 | 18:45 | 19:15 | 19:50 |
| -50 | 04:19 | 04:59 | 05:33 | 18:50 | 19:24 | 20:04 |
| -52 | 04:12 | 04:55 | 05:30 | 18:53 | 19:28 | 20:10 |
| -54 | 04:05 | 04:50 | 05:27 | 18:56 | 19:33 | 20:18 |
| -56 | 03:56 | 04:44 | 05:23 | 18:59 | 19:38 | 20:26 |
| -58 | 03:46 | 04:38 | 05:20 | 19:03 | 19:44 | 20:36 |
| -60 | 03:34 | 04:31 | 05:15 | 19:07 | 19:51 | 20:47 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **02** | **03** | **04** | **02** | **03** | **04** |
| 72 | 06:46 | 05:56 | | 23:02 | –:– | |
| 70 | 06:54 | 06:18 | 05:13 | 22:43 | –:– | 01:40 |
| 68 | 07:01 | 06:35 | 05:56 | 22:28 | –:– | 00:59 |
| 66 | 07:07 | 06:49 | 06:25 | 22:16 | –:– | 00:31 |
| 64 | 07:12 | 07:01 | 06:47 | 22:06 | –:– | 00:10 |
| 62 | 07:17 | 07:11 | 07:05 | 21:57 | 23:54 | –:– |
| 60 | 07:21 | 07:20 | 07:20 | 21:50 | 23:40 | –:– |
| 58 | 07:24 | 07:27 | 07:33 | 21:43 | 23:28 | –:– |
| 56 | 07:27 | 07:34 | 07:44 | 21:38 | 23:18 | –:– |
| 54 | 07:30 | 07:40 | 07:54 | 21:33 | 23:09 | –:– |
| 52 | 07:32 | 07:46 | 08:02 | 21:28 | 23:01 | –:– |
| 50 | 07:35 | 07:51 | 08:10 | 21:24 | 22:54 | –:– |
| 45 | 07:40 | 08:02 | 08:27 | 21:16 | 22:38 | –:– |
| 40 | 07:44 | 08:11 | 08:41 | 21:08 | 22:26 | 23:44 |
| 35 | 07:48 | 08:19 | 08:53 | 21:02 | 22:15 | 23:29 |
| 30 | 07:51 | 08:26 | 09:04 | 20:57 | 22:06 | 23:17 |
| 20 | 07:57 | 08:38 | 09:22 | 20:47 | 21:51 | 22:55 |
| 10 | 08:02 | 08:49 | 09:38 | 20:39 | 21:37 | 22:37 |
| 0 | 08:07 | 08:59 | 09:53 | 20:32 | 21:24 | 22:19 |
| -10 | 08:12 | 09:09 | 10:08 | 20:24 | 21:11 | 22:02 |
| -20 | 08:18 | 09:20 | 10:24 | 20:16 | 20:58 | 21:44 |
| -30 | 08:24 | 09:33 | 10:43 | 20:07 | 20:43 | 21:23 |
| -35 | 08:28 | 09:40 | 10:54 | 20:01 | 20:34 | 21:11 |
| -40 | 08:32 | 09:49 | 11:07 | 19:55 | 20:24 | 20:57 |
| -45 | 08:37 | 09:59 | 11:22 | 19:49 | 20:12 | 20:40 |
| -50 | 08:42 | 10:11 | 11:41 | 19:40 | 19:58 | 20:20 |
| -52 | 08:45 | 10:17 | 11:50 | 19:37 | 19:51 | 20:10 |
| -54 | 08:48 | 10:23 | 12:00 | 19:33 | 19:44 | 20:00 |
| -56 | 08:51 | 10:30 | 12:11 | 19:28 | 19:36 | 19:47 |
| -58 | 08:55 | 10:38 | 12:24 | 19:23 | 19:27 | 19:33 |
| -60 | 08:59 | 10:47 | 12:40 | 19:17 | 19:17 | 19:17 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **02** | 12:09 | 12:03 | 12:12 | 14:19 | 01:54 | 2 | 5 |
| **03** | 11:57 | 11:50 | 12:12 | 15:11 | 02:45 | 3 | 12 |
| **04** | 11:44 | 11:37 | 12:12 | 16:06 | 03:38 | 4 | 21 |

## 2025 March 05, 06, 07 (Wed, Thu, Fri)

| | | Aries | Venus -4.7 | | Mars -0.2 | | Jupiter -2.3 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 05 Wednesday | 0 | 162 59.7 | 156 8.1 | 10 58.7 | 53 33.0 | 25 41.3 | 91 47.2 | 21 55.7 | 170 20.6 | -5 15.2 |
| | 1 | 178 2.2 | 171 11.0 | 10 58.9 | 68 35.2 | 25 41.2 | 106 49.4 | 21 55.7 | 185 22.7 | -5 15.1 |
| | 2 | 193 4.7 | 186 13.9 | 10 59.1 | 83 37.3 | 25 41.1 | 121 51.6 | 21 55.7 | 200 24.9 | -5 15.0 |
| | 3 | 208 7.1 | 201 16.8 | 10 59.4 | 98 39.5 | 25 41.0 | 136 53.9 | 21 55.8 | 215 27.1 | -5 14.9 |
| | 4 | 223 9.6 | 216 19.8 | 10 59.6 | 113 41.7 | 25 40.9 | 151 56.1 | 21 55.8 | 230 29.3 | -5 14.7 |
| | 5 | 238 12.1 | 231 22.7 | 10 59.8 | 128 43.9 | 25 40.8 | 166 58.3 | 21 55.9 | 245 31.5 | -5 14.6 |
| | 6 | 253 14.5 | 246 25.6 | 11 0.0 | 143 46.1 | 25 40.7 | 182 0.5 | 21 55.9 | 260 33.6 | -5 14.5 |
| | 7 | 268 17.0 | 261 28.5 | 11 0.2 | 158 48.3 | 25 40.6 | 197 2.7 | 21 55.9 | 275 35.8 | -5 14.4 |
| | 8 | 283 19.5 | 276 31.5 | 11 0.4 | 173 50.4 | 25 40.5 | 212 5.0 | 21 56.0 | 290 38.0 | -5 14.3 |
| | 9 | 298 21.9 | 291 34.4 | 11 0.6 | 188 52.6 | 25 40.3 | 227 7.2 | 21 56.0 | 305 40.2 | -5 14.1 |
| | 10 | 313 24.4 | 306 37.4 | 11 0.9 | 203 54.8 | 25 40.2 | 242 9.4 | 21 56.0 | 320 42.4 | -5 14.0 |
| | 11 | 328 26.8 | 321 40.3 | 11 1.1 | 218 57.0 | 25 40.1 | 257 11.6 | 21 56.1 | 335 44.5 | -5 13.9 |
| | 12 | 343 29.3 | 336 43.2 | 11 1.3 | 233 59.1 | 25 40.0 | 272 13.8 | 21 56.1 | 350 46.7 | -5 13.8 |
| | 13 | 358 31.8 | 351 46.2 | 11 1.5 | 249 1.3 | 25 39.9 | 287 16.1 | 21 56.2 | 5 48.9 | -5 13.7 |
| | 14 | 13 34.2 | 6 49.2 | 11 1.7 | 264 3.5 | 25 39.8 | 302 18.3 | 21 56.2 | 20 51.1 | -5 13.5 |
| | 15 | 28 36.7 | 21 52.1 | 11 1.9 | 279 5.7 | 25 39.7 | 317 20.5 | 21 56.2 | 35 53.3 | -5 13.4 |
| | 16 | 43 39.2 | 36 55.1 | 11 2.0 | 294 7.8 | 25 39.6 | 332 22.7 | 21 56.3 | 50 55.4 | -5 13.3 |
| | 17 | 58 41.6 | 51 58.1 | 11 2.2 | 309 10.0 | 25 39.5 | 347 24.9 | 21 56.3 | 65 57.6 | -5 13.2 |
| | 18 | 73 44.1 | 67 1.0 | 11 2.4 | 324 12.2 | 25 39.3 | 2 27.2 | 21 56.3 | 80 59.8 | -5 13.1 |
| | 19 | 88 46.6 | 82 4.0 | 11 2.6 | 339 14.3 | 25 39.2 | 17 29.4 | 21 56.4 | 96 2.0 | -5 12.9 |
| | 20 | 103 49.0 | 97 7.0 | 11 2.8 | 354 16.5 | 25 39.1 | 32 31.6 | 21 56.4 | 111 4.2 | -5 12.8 |
| | 21 | 118 51.5 | 112 10.0 | 11 3.0 | 9 18.7 | 25 39.0 | 47 33.8 | 21 56.4 | 126 6.3 | -5 12.7 |
| | 22 | 133 53.9 | 127 12.9 | 11 3.2 | 24 20.8 | 25 38.9 | 62 36.0 | 21 56.5 | 141 8.5 | -5 12.6 |
| | 23 | 148 56.4 | 142 15.9 | 11 3.3 | 39 23.0 | 25 38.8 | 77 38.2 | 21 56.5 | 156 10.7 | -5 12.4 |
| | | MP 13:07 | *v* 2.9 | *d* 0.2 | *v* 2.2 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 06 Thursday | 0 | 163 58.9 | 157 18.9 | 11 3.5 | 54 25.1 | 25 38.7 | 92 40.5 | 21 56.6 | 171 12.9 | -5 12.3 |
| | 1 | 179 1.3 | 172 21.9 | 11 3.7 | 69 27.3 | 25 38.6 | 107 42.7 | 21 56.6 | 186 15.1 | -5 12.2 |
| | 2 | 194 3.8 | 187 24.9 | 11 3.8 | 84 29.5 | 25 38.4 | 122 44.9 | 21 56.6 | 201 17.2 | -5 12.1 |
| | 3 | 209 6.3 | 202 27.9 | 11 4.0 | 99 31.6 | 25 38.3 | 137 47.1 | 21 56.7 | 216 19.4 | -5 12.0 |
| | 4 | 224 8.7 | 217 31.0 | 11 4.2 | 114 33.8 | 25 38.2 | 152 49.3 | 21 56.7 | 231 21.6 | -5 11.8 |
| | 5 | 239 11.2 | 232 34.0 | 11 4.3 | 129 35.9 | 25 38.1 | 167 51.5 | 21 56.7 | 246 23.8 | -5 11.7 |
| | 6 | 254 13.7 | 247 37.0 | 11 4.5 | 144 38.1 | 25 38.0 | 182 53.7 | 21 56.8 | 261 26.0 | -5 11.6 |
| | 7 | 269 16.1 | 262 40.0 | 11 4.7 | 159 40.2 | 25 37.9 | 197 56.0 | 21 56.8 | 276 28.1 | -5 11.5 |
| | 8 | 284 18.6 | 277 43.0 | 11 4.8 | 174 42.4 | 25 37.8 | 212 58.2 | 21 56.9 | 291 30.3 | -5 11.4 |
| | 9 | 299 21.1 | 292 46.1 | 11 5.0 | 189 44.5 | 25 37.6 | 228 0.4 | 21 56.9 | 306 32.5 | -5 11.2 |
| | 10 | 314 23.5 | 307 49.1 | 11 5.1 | 204 46.7 | 25 37.5 | 243 2.6 | 21 56.9 | 321 34.7 | -5 11.1 |
| | 11 | 329 26.0 | 322 52.1 | 11 5.3 | 219 48.8 | 25 37.4 | 258 4.8 | 21 57.0 | 336 36.9 | -5 11.0 |
| | 12 | 344 28.4 | 337 55.2 | 11 5.4 | 234 51.0 | 25 37.3 | 273 7.0 | 21 57.0 | 351 39.0 | -5 10.9 |
| | 13 | 359 30.9 | 352 58.2 | 11 5.6 | 249 53.1 | 25 37.2 | 288 9.2 | 21 57.0 | 6 41.2 | -5 10.8 |
| | 14 | 14 33.4 | 8 1.3 | 11 5.7 | 264 55.2 | 25 37.1 | 303 11.4 | 21 57.1 | 21 43.4 | -5 10.6 |
| | 15 | 29 35.8 | 23 4.3 | 11 5.8 | 279 57.4 | 25 37.0 | 318 13.6 | 21 57.1 | 36 45.6 | -5 10.5 |
| | 16 | 44 38.3 | 38 7.4 | 11 6.0 | 294 59.5 | 25 36.8 | 333 15.9 | 21 57.2 | 51 47.8 | -5 10.4 |
| | 17 | 59 40.8 | 53 10.4 | 11 6.1 | 310 1.7 | 25 36.7 | 348 18.1 | 21 57.2 | 66 49.9 | -5 10.3 |
| | 18 | 74 43.2 | 68 13.5 | 11 6.2 | 325 3.8 | 25 36.6 | 3 20.3 | 21 57.2 | 81 52.1 | -5 10.2 |
| | 19 | 89 45.7 | 83 16.6 | 11 6.4 | 340 5.9 | 25 36.5 | 18 22.5 | 21 57.3 | 96 54.3 | -5 10.0 |
| | 20 | 104 48.2 | 98 19.6 | 11 6.5 | 355 8.1 | 25 36.4 | 33 24.7 | 21 57.3 | 111 56.5 | -5 9.9 |
| | 21 | 119 50.6 | 113 22.7 | 11 6.6 | 10 10.2 | 25 36.3 | 48 26.9 | 21 57.4 | 126 58.7 | -5 9.8 |
| | 22 | 134 53.1 | 128 25.8 | 11 6.7 | 25 12.4 | 25 36.1 | 63 29.1 | 21 57.4 | 142 0.8 | -5 9.7 |
| | 23 | 149 55.6 | 143 28.9 | 11 6.9 | 40 14.5 | 25 36.0 | 78 31.3 | 21 57.4 | 157 3.0 | -5 9.6 |
| | | MP 13:03 | *v* 3.0 | *d* 0.2 | *v* 2.2 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 07 Friday | 0 | 164 58.0 | 158 31.9 | 11 7.0 | 55 16.6 | 25 35.9 | 93 33.5 | 21 57.5 | 172 5.2 | -5 9.4 |
| | 1 | 180 0.5 | 173 35.0 | 11 7.1 | 70 18.7 | 25 35.8 | 108 35.7 | 21 57.5 | 187 7.4 | -5 9.3 |
| | 2 | 195 2.9 | 188 38.1 | 11 7.2 | 85 20.9 | 25 35.7 | 123 38.0 | 21 57.5 | 202 9.6 | -5 9.2 |
| | 3 | 210 5.4 | 203 41.2 | 11 7.3 | 100 23.0 | 25 35.6 | 138 40.2 | 21 57.6 | 217 11.7 | -5 9.1 |
| | 4 | 225 7.9 | 218 44.3 | 11 7.4 | 115 25.1 | 25 35.4 | 153 42.4 | 21 57.6 | 232 13.9 | -5 8.9 |
| | 5 | 240 10.3 | 233 47.4 | 11 7.5 | 130 27.3 | 25 35.3 | 168 44.6 | 21 57.7 | 247 16.1 | -5 8.8 |
| | 6 | 255 12.8 | 248 50.5 | 11 7.6 | 145 29.4 | 25 35.2 | 183 46.8 | 21 57.7 | 262 18.3 | -5 8.7 |
| | 7 | 270 15.3 | 263 53.6 | 11 7.7 | 160 31.5 | 25 35.1 | 198 49.0 | 21 57.7 | 277 20.5 | -5 8.6 |
| | 8 | 285 17.7 | 278 56.8 | 11 7.8 | 175 33.6 | 25 35.0 | 213 51.2 | 21 57.8 | 292 22.6 | -5 8.5 |
| | 9 | 300 20.2 | 293 59.9 | 11 7.9 | 190 35.7 | 25 34.9 | 228 53.4 | 21 57.8 | 307 24.8 | -5 8.3 |
| | 10 | 315 22.7 | 309 3.0 | 11 8.0 | 205 37.9 | 25 34.7 | 243 55.6 | 21 57.8 | 322 27.0 | -5 8.2 |
| | 11 | 330 25.1 | 324 6.1 | 11 8.1 | 220 40.0 | 25 34.6 | 258 57.8 | 21 57.9 | 337 29.2 | -5 8.1 |
| | 12 | 345 27.6 | 339 9.3 | 11 8.2 | 235 42.1 | 25 34.5 | 274 0.0 | 21 57.9 | 352 31.4 | -5 8.0 |
| | 13 | 0 30.1 | 354 12.4 | 11 8.3 | 250 44.2 | 25 34.4 | 289 2.2 | 21 58.0 | 7 33.5 | -5 7.9 |
| | 14 | 15 32.5 | 9 15.5 | 11 8.3 | 265 46.3 | 25 34.3 | 304 4.4 | 21 58.0 | 22 35.7 | -5 7.7 |
| | 15 | 30 35.0 | 24 18.7 | 11 8.4 | 280 48.4 | 25 34.1 | 319 6.6 | 21 58.0 | 37 37.9 | -5 7.6 |
| | 16 | 45 37.4 | 39 21.8 | 11 8.5 | 295 50.6 | 25 34.0 | 334 8.8 | 21 58.1 | 52 40.1 | -5 7.5 |
| | 17 | 60 39.9 | 54 25.0 | 11 8.6 | 310 52.7 | 25 33.9 | 349 11.0 | 21 58.1 | 67 42.2 | -5 7.4 |
| | 18 | 75 42.4 | 69 28.1 | 11 8.7 | 325 54.8 | 25 33.8 | 4 13.2 | 21 58.2 | 82 44.4 | -5 7.3 |
| | 19 | 90 44.8 | 84 31.3 | 11 8.7 | 340 56.9 | 25 33.7 | 19 15.4 | 21 58.2 | 97 46.6 | -5 7.1 |
| | 20 | 105 47.3 | 99 34.4 | 11 8.8 | 355 59.0 | 25 33.5 | 34 17.6 | 21 58.2 | 112 48.8 | -5 7.0 |
| | 21 | 120 49.8 | 114 37.6 | 11 8.9 | 11 1.1 | 25 33.4 | 49 19.8 | 21 58.3 | 127 51.0 | -5 6.9 |
| | 22 | 135 52.2 | 129 40.8 | 11 8.9 | 26 3.2 | 25 33.3 | 64 22.0 | 21 58.3 | 142 53.1 | -5 6.8 |
| | 23 | 150 54.7 | 144 43.9 | 11 9.0 | 41 5.3 | 25 33.2 | 79 24.2 | 21 58.3 | 157 55.3 | -5 6.7 |
| | | MP 12:59 | *v* 3.1 | *d* 0.1 | *v* 2.1 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.5 |
| Achernar | 335 20.5 | -57 6.8 |
| Acrux | 172 59.4 | -63 14.3 |
| Adhara | 255 5.6 | -29 0.6 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.2 |
| Alkaid | 152 51.5 | 49 11.0 |
| Alnair | 27 33.2 | -46 50.4 |
| Alnilam | 275 37.5 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.1 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.3 |
| Antares | 112 15.6 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.8 |
| Atria | 107 9.8 | -69 4.1 |
| Avior | 234 14.2 | -59 35.6 |
| Bellatrix | 278 22.7 | 6 22.3 |
| Betelgeuse | 270 51.9 | 7 24.6 |
| Canopus | 263 52.1 | -52 42.8 |
| Capella | 280 21.7 | 46 1.5 |
| Deneb | 49 26.1 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.1 | 61 36.8 |
| Elnath | 278 1.6 | 28 37.8 |
| Eltanin | 90 42.3 | 51 28.7 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.5 |
| Gacrux | 171 51.0 | -57 15.2 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.4 | -60 29.5 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.5 | -34 22.3 |
| Kochab | 137 19.1 | 74 2.7 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.2 | -36 29.6 |
| Miaplacidus | 221 37.5 | -69 49.3 |
| Mirfak | 308 28.3 | 49 57.2 |
| Nunki | 75 47.8 | -26 15.9 |
| Peacock | 53 6.0 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.5 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.7 | -8 10.5 |
| Rigil Kent. | 139 39.8 | -60 56.2 |
| Sabik | 102 2.7 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.6 |
| Shaula | 96 10.3 | -37 7.3 |
| Sirius | 258 26.0 | -16 45.2 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 32.2 |
| Vega | 80 33.3 | 38 48.1 |
| Zuben'ubi | 136 55.7 | -16 8.9 |

| 05 Wed | SHA | MP |
|---|---|---|
| Venus | 353 8.4 | 13:33 |
| Mars | 250 33.2 | 20:23 |
| Jupiter | 288 47.5 | 17:50 |
| Saturn | 7 20.8 | 12:37 |

| 06 Thu | SHA | MP |
|---|---|---|
| Venus | 353 20.1 | 13:28 |
| Mars | 250 26.3 | 20:19 |
| Jupiter | 288 41.6 | 17:47 |
| Saturn | 7 14.0 | 12:33 |

| 07 Fri | SHA | MP |
|---|---|---|
| Venus | 353 33.9 | 13:23 |
| Mars | 250 18.6 | 20:16 |
| Jupiter | 288 35.5 | 17:43 |
| Saturn | 7 7.2 | 12:30 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **05 Wednesday** | 0 | 177 7.3 | -6 2.4 | 114 0.4 | 6.7 | 22 36.5 | 11.1 | 59.5 |
| | 1 | 192 7.4 | -6 1.4 | 128 26.1 | 6.6 | 22 47.6 | 10.9 | 59.5 |
| | 2 | 207 7.6 | -6 0.5 | 142 51.7 | 6.5 | 22 58.5 | 10.8 | 59.5 |
| | 3 | 222 7.7 | -5 59.5 | 157 17.2 | 6.5 | 23 9.3 | 10.6 | 59.5 |
| | 4 | 237 7.9 | -5 58.5 | 171 42.7 | 6.4 | 23 19.9 | 10.5 | 59.4 |
| | 5 | 252 8.0 | -5 57.6 | 186 8.1 | 6.3 | 23 30.4 | 10.3 | 59.4 |
| | 6 | 267 8.2 | -5 56.6 | 200 33.4 | 6.3 | 23 40.7 | 10.2 | 59.4 |
| | 7 | 282 8.3 | -5 55.6 | 214 58.7 | 6.2 | 23 50.9 | 10.0 | 59.4 |
| | 8 | 297 8.4 | -5 54.7 | 229 23.9 | 6.1 | 24 0.9 | 9.8 | 59.3 |
| | 9 | 312 8.6 | -5 53.7 | 243 49.0 | 6.1 | 24 10.7 | 9.7 | 59.3 |
| | 10 | 327 8.7 | -5 52.7 | 258 14.1 | 6.0 | 24 20.4 | 9.5 | 59.3 |
| | 11 | 342 8.9 | -5 51.8 | 272 39.1 | 6.0 | 24 29.9 | 9.4 | 59.3 |
| | 12 | 357 9.0 | -5 50.8 | 287 4.1 | 5.9 | 24 39.3 | 9.2 | 59.2 |
| | 13 | 12 9.1 | -5 49.8 | 301 29.0 | 5.8 | 24 48.5 | 9.0 | 59.2 |
| | 14 | 27 9.3 | -5 48.8 | 315 53.8 | 5.8 | 24 57.5 | 8.9 | 59.2 |
| | 15 | 42 9.4 | -5 47.9 | 330 18.6 | 5.7 | 25 6.3 | 8.7 | 59.1 |
| | 16 | 57 9.6 | -5 46.9 | 344 43.4 | 5.7 | 25 15.0 | 8.5 | 59.1 |
| | 17 | 72 9.7 | -5 45.9 | 359 8.0 | 5.6 | 25 23.6 | 8.4 | 59.1 |
| | 18 | 87 9.9 | -5 45.0 | 13 32.7 | 5.6 | 25 31.9 | 8.2 | 59.1 |
| | 19 | 102 10.0 | -5 44.0 | 27 57.2 | 5.5 | 25 40.1 | 8.0 | 59.0 |
| | 20 | 117 10.1 | -5 43.0 | 42 21.8 | 5.5 | 25 48.1 | 7.8 | 59.0 |
| | 21 | 132 10.3 | -5 42.1 | 56 46.2 | 5.4 | 25 56.0 | 7.7 | 59.0 |
| | 22 | 147 10.4 | -5 41.1 | 71 10.7 | 5.4 | 26 3.6 | 7.5 | 59.0 |
| | 23 | 162 10.6 | -5 40.1 | 85 35.0 | 5.3 | 26 11.1 | 7.3 | 58.9 |
| | | *v* 0.1 | SD 16.1 | *d* -1.0 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **06 Thursday** | 0 | 177 10.7 | -5 39.2 | 99 59.4 | 5.3 | 26 18.5 | 7.1 | 58.9 |
| | 1 | 192 10.9 | -5 38.2 | 114 23.7 | 5.2 | 26 25.6 | 7.0 | 58.9 |
| | 2 | 207 11.0 | -5 37.2 | 128 47.9 | 5.2 | 26 32.6 | 6.8 | 58.9 |
| | 3 | 222 11.2 | -5 36.2 | 143 12.1 | 5.2 | 26 39.4 | 6.6 | 58.8 |
| | 4 | 237 11.3 | -5 35.3 | 157 36.3 | 5.1 | 26 46.0 | 6.4 | 58.8 |
| | 5 | 252 11.4 | -5 34.3 | 172 0.4 | 5.1 | 26 52.4 | 6.3 | 58.8 |
| | 6 | 267 11.6 | -5 33.3 | 186 24.5 | 5.1 | 26 58.7 | 6.1 | 58.7 |
| | 7 | 282 11.7 | -5 32.4 | 200 48.5 | 5.0 | 27 4.8 | 5.9 | 58.7 |
| | 8 | 297 11.9 | -5 31.4 | 215 12.6 | 5.0 | 27 10.7 | 5.7 | 58.7 |
| | 9 | 312 12.0 | -5 30.4 | 229 36.6 | 5.0 | 27 16.4 | 5.5 | 58.7 |
| | 10 | 327 12.2 | -5 29.5 | 244 0.5 | 4.9 | 27 22.0 | 5.4 | 58.6 |
| | 11 | 342 12.3 | -5 28.5 | 258 24.5 | 4.9 | 27 27.3 | 5.2 | 58.6 |
| | 12 | 357 12.5 | -5 27.5 | 272 48.4 | 4.9 | 27 32.5 | 5.0 | 58.6 |
| | 13 | 12 12.6 | -5 26.5 | 287 12.3 | 4.9 | 27 37.5 | 4.8 | 58.6 |
| | 14 | 27 12.8 | -5 25.6 | 301 36.2 | 4.8 | 27 42.3 | 4.6 | 58.5 |
| | 15 | 42 12.9 | -5 24.6 | 316 0.0 | 4.8 | 27 47.0 | 4.5 | 58.5 |
| | 16 | 57 13.1 | -5 23.6 | 330 23.8 | 4.8 | 27 51.4 | 4.3 | 58.5 |
| | 17 | 72 13.2 | -5 22.7 | 344 47.6 | 4.8 | 27 55.7 | 4.1 | 58.4 |
| | 18 | 87 13.4 | -5 21.7 | 359 11.5 | 4.8 | 27 59.8 | 3.9 | 58.4 |
| | 19 | 102 13.5 | -5 20.7 | 13 35.2 | 4.8 | 28 3.7 | 3.7 | 58.4 |
| | 20 | 117 13.7 | -5 19.7 | 27 59.0 | 4.8 | 28 7.4 | 3.5 | 58.4 |
| | 21 | 132 13.8 | -5 18.8 | 42 22.8 | 4.8 | 28 10.9 | 3.3 | 58.3 |
| | 22 | 147 14.0 | -5 17.8 | 56 46.6 | 4.8 | 28 14.3 | 3.2 | 58.3 |
| | 23 | 162 14.1 | -5 16.8 | 71 10.3 | 4.8 | 28 17.4 | 3.0 | 58.3 |
| | | *v* 0.1 | SD 16.1 | *d* -1.0 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **07 Friday** | 0 | 177 14.2 | -5 15.9 | 85 34.1 | 4.8 | 28 20.4 | 2.8 | 58.3 |
| | 1 | 192 14.4 | -5 14.9 | 99 57.9 | 4.8 | 28 23.2 | 2.6 | 58.2 |
| | 2 | 207 14.5 | -5 13.9 | 114 21.6 | 4.8 | 28 25.8 | 2.4 | 58.2 |
| | 3 | 222 14.7 | -5 12.9 | 128 45.4 | 4.8 | 28 28.2 | 2.2 | 58.2 |
| | 4 | 237 14.8 | -5 12.0 | 143 9.2 | 4.8 | 28 30.5 | 2.1 | 58.1 |
| | 5 | 252 15.0 | -5 11.0 | 157 33.0 | 4.8 | 28 32.5 | 1.9 | 58.1 |
| | 6 | 267 15.1 | -5 10.0 | 171 56.8 | 4.8 | 28 34.4 | 1.7 | 58.1 |
| | 7 | 282 15.3 | -5 9.0 | 186 20.6 | 4.8 | 28 36.1 | 1.5 | 58.1 |
| | 8 | 297 15.4 | -5 8.1 | 200 44.4 | 4.8 | 28 37.6 | 1.3 | 58.0 |
| | 9 | 312 15.6 | -5 7.1 | 215 8.3 | 4.9 | 28 38.9 | 1.1 | 58.0 |
| | 10 | 327 15.7 | -5 6.1 | 229 32.1 | 4.9 | 28 40.0 | 1.0 | 58.0 |
| | 11 | 342 15.9 | -5 5.1 | 243 56.0 | 4.9 | 28 41.0 | 0.8 | 58.0 |
| | 12 | 357 16.0 | -5 4.2 | 258 19.9 | 4.9 | 28 41.7 | 0.6 | 57.9 |
| | 13 | 12 16.2 | -5 3.2 | 272 43.9 | 5.0 | 28 42.3 | 0.4 | 57.9 |
| | 14 | 27 16.4 | -5 2.2 | 287 7.9 | 5.0 | 28 42.7 | 0.2 | 57.9 |
| | 15 | 42 16.5 | -5 1.2 | 301 31.9 | 5.0 | 28 43.0 | 0.0 | 57.8 |
| | 16 | 57 16.7 | -5 0.3 | 315 55.9 | 5.1 | 28 43.0 | -0.1 | 57.8 |
| | 17 | 72 16.8 | -4 59.3 | 330 20.0 | 5.1 | 28 42.9 | -0.3 | 57.8 |
| | 18 | 87 17.0 | -4 58.3 | 344 44.1 | 5.1 | 28 42.5 | -0.5 | 57.8 |
| | 19 | 102 17.1 | -4 57.4 | 359 8.2 | 5.2 | 28 42.0 | -0.7 | 57.7 |
| | 20 | 117 17.3 | -4 56.4 | 13 32.4 | 5.2 | 28 41.4 | -0.9 | 57.7 |
| | 21 | 132 17.4 | -4 55.4 | 27 56.6 | 5.3 | 28 40.5 | -1.0 | 57.7 |
| | 22 | 147 17.6 | -4 54.4 | 42 20.9 | 5.3 | 28 39.5 | -1.2 | 57.7 |
| | 23 | 162 17.7 | -4 53.5 | 56 45.2 | 5.4 | 28 38.2 | -1.4 | 57.6 |
| | | *v* 0.1 | SD 16.1 | *d* -1.0 | | SD 15.9 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 04:48 | 06:07 | 07:15 | 17:10 | 18:18 | 19:38 |
| 70 | 04:56 | 06:07 | 07:08 | 17:17 | 18:18 | 19:30 |
| 68 | 05:02 | 06:06 | 07:02 | 17:23 | 18:19 | 19:23 |
| 66 | 05:07 | 06:06 | 06:57 | 17:27 | 18:19 | 19:18 |
| 64 | 05:10 | 06:05 | 06:53 | 17:31 | 18:19 | 19:14 |
| 62 | 05:14 | 06:05 | 06:49 | 17:35 | 18:19 | 19:11 |
| 60 | 05:17 | 06:05 | 06:46 | 17:38 | 18:20 | 19:08 |
| 58 | 05:19 | 06:04 | 06:43 | 17:41 | 18:20 | 19:05 |
| 56 | 05:21 | 06:04 | 06:41 | 17:43 | 18:20 | 19:03 |
| 54 | 05:23 | 06:03 | 06:39 | 17:45 | 18:21 | 19:02 |
| 52 | 05:24 | 06:03 | 06:37 | 17:47 | 18:21 | 19:00 |
| 50 | 05:25 | 06:02 | 06:35 | 17:49 | 18:21 | 18:59 |
| 45 | 05:27 | 06:01 | 06:31 | 17:53 | 18:22 | 18:56 |
| 40 | 05:29 | 06:00 | 06:27 | 17:56 | 18:23 | 18:55 |
| 35 | 05:29 | 05:59 | 06:24 | 17:59 | 18:25 | 18:54 |
| 30 | 05:30 | 05:57 | 06:21 | 18:02 | 18:26 | 18:54 |
| 20 | 05:29 | 05:54 | 06:17 | 18:07 | 18:29 | 18:54 |
| 10 | 05:27 | 05:51 | 06:12 | 18:11 | 18:32 | 18:56 |
| 0 | 05:23 | 05:47 | 06:08 | 18:15 | 18:35 | 19:00 |
| -10 | 05:18 | 05:43 | 06:04 | 18:19 | 18:40 | 19:04 |
| -20 | 05:11 | 05:37 | 05:59 | 18:23 | 18:45 | 19:11 |
| -30 | 05:01 | 05:30 | 05:54 | 18:29 | 18:53 | 19:21 |
| -35 | 04:55 | 05:25 | 05:51 | 18:32 | 18:57 | 19:27 |
| -40 | 04:47 | 05:20 | 05:47 | 18:35 | 19:02 | 19:35 |
| -45 | 04:37 | 05:13 | 05:43 | 18:39 | 19:09 | 19:45 |
| -50 | 04:25 | 05:05 | 05:38 | 18:44 | 19:17 | 19:57 |
| -52 | 04:18 | 05:01 | 05:35 | 18:46 | 19:21 | 20:03 |
| -54 | 04:12 | 04:56 | 05:33 | 18:49 | 19:25 | 20:10 |
| -56 | 04:04 | 04:51 | 05:30 | 18:52 | 19:30 | 20:17 |
| -58 | 03:55 | 04:46 | 05:27 | 18:55 | 19:35 | 20:26 |
| -60 | 03:44 | 04:39 | 05:23 | 18:58 | 19:42 | 20:36 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **05** | **06** | **07** | **05** | **06** | **07** |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | 05:29 | ▭ | ▭ | 03:24 | ▭ | ▭ |
| 64 | 06:24 | ▭ | ▭ | 02:30 | ▭ | ▭ |
| 62 | 06:58 | 06:45 | ▭ | 01:58 | 04:13 | ▭ |
| 60 | 07:22 | 07:30 | 07:57 | 01:34 | 03:28 | 05:08 |
| 58 | 07:42 | 08:00 | 08:37 | 01:15 | 02:59 | 04:28 |
| 56 | 07:59 | 08:23 | 09:05 | 00:59 | 02:36 | 04:00 |
| 54 | 08:13 | 08:42 | 09:27 | 00:45 | 02:18 | 03:38 |
| 52 | 08:25 | 08:58 | 09:45 | 00:34 | 02:03 | 03:20 |
| 50 | 08:36 | 09:11 | 10:00 | 00:23 | 01:49 | 03:05 |
| 45 | 08:59 | 09:40 | 10:32 | 00:01 | 01:22 | 02:34 |
| 40 | 09:18 | 10:02 | 10:56 | –:– | 01:00 | 02:10 |
| 35 | 09:33 | 10:21 | 11:16 | –:– | 00:42 | 01:50 |
| 30 | 09:47 | 10:36 | 11:33 | –:– | 00:27 | 01:34 |
| 20 | 10:10 | 11:04 | 12:01 | –:– | 00:01 | 01:05 |
| 10 | 10:31 | 11:27 | 12:26 | 23:38 | –:– | 00:41 |
| 0 | 10:50 | 11:49 | 12:49 | 23:18 | –:– | 00:18 |
| -10 | 11:09 | 12:11 | 13:12 | 22:57 | 23:55 | –:– |
| -20 | 11:30 | 12:35 | 13:37 | 22:35 | 23:31 | –:– |
| -30 | 11:54 | 13:02 | 14:06 | 22:09 | 23:02 | –:– |
| -35 | 12:08 | 13:19 | 14:23 | 21:54 | 22:45 | 23:44 |
| -40 | 12:24 | 13:38 | 14:44 | 21:37 | 22:26 | 23:24 |
| -45 | 12:44 | 14:01 | 15:08 | 21:16 | 22:02 | 23:00 |
| -50 | 13:10 | 14:31 | 15:40 | 20:50 | 21:32 | 22:28 |
| -52 | 13:22 | 14:46 | 15:56 | 20:37 | 21:16 | 22:12 |
| -54 | 13:36 | 15:04 | 16:14 | 20:23 | 20:59 | 21:54 |
| -56 | 13:52 | 15:25 | 16:37 | 20:06 | 20:38 | 21:31 |
| -58 | 14:12 | 15:51 | 17:06 | 19:46 | 20:11 | 21:02 |
| -60 | 14:36 | 16:29 | 17:51 | 19:21 | 19:33 | 20:17 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **05** | 11:31 | 11:24 | 12:11 | 17:04 | 04:34 | 5 | 31 |
| **06** | 11:17 | 11:10 | 12:11 | 18:03 | 05:33 | 6 | 42 |
| **07** | 11:03 | 10:56 | 12:11 | 19:04 | 06:34 | 7 | 53 |

## 2025 March 08, 09, 10 (Sat, Sun, Mon)

| | | Aries | Venus -4.6 | | Mars -0.1 | | Jupiter -2.3 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 08 Saturday | 0 | 165 57.2 | 159 47.1 | 11 9.0 | 56 7.4 | 25 33.1 | 94 26.4 | 21 58.4 | 172 57.5 | -5 6.5 |
| | 1 | 180 59.6 | 174 50.3 | 11 9.1 | 71 9.5 | 25 32.9 | 109 28.6 | 21 58.4 | 187 59.7 | -5 6.4 |
| | 2 | 196 2.1 | 189 53.5 | 11 9.1 | 86 11.6 | 25 32.8 | 124 30.8 | 21 58.5 | 203 1.9 | -5 6.3 |
| | 3 | 211 4.6 | 204 56.6 | 11 9.2 | 101 13.7 | 25 32.7 | 139 33.0 | 21 58.5 | 218 4.0 | -5 6.2 |
| | 4 | 226 7.0 | 219 59.8 | 11 9.2 | 116 15.8 | 25 32.6 | 154 35.2 | 21 58.5 | 233 6.2 | -5 6.1 |
| | 5 | 241 9.5 | 235 3.0 | 11 9.3 | 131 17.9 | 25 32.5 | 169 37.4 | 21 58.6 | 248 8.4 | -5 5.9 |
| | 6 | 256 11.9 | 250 6.2 | 11 9.3 | 146 20.0 | 25 32.3 | 184 39.6 | 21 58.6 | 263 10.6 | -5 5.8 |
| | 7 | 271 14.4 | 265 9.4 | 11 9.4 | 161 22.1 | 25 32.2 | 199 41.8 | 21 58.7 | 278 12.8 | -5 5.7 |
| | 8 | 286 16.9 | 280 12.6 | 11 9.4 | 176 24.2 | 25 32.1 | 214 44.0 | 21 58.7 | 293 14.9 | -5 5.6 |
| | 9 | 301 19.3 | 295 15.8 | 11 9.4 | 191 26.3 | 25 32.0 | 229 46.2 | 21 58.7 | 308 17.1 | -5 5.4 |
| | 10 | 316 21.8 | 310 19.0 | 11 9.5 | 206 28.4 | 25 31.9 | 244 48.4 | 21 58.8 | 323 19.3 | -5 5.3 |
| | 11 | 331 24.3 | 325 22.3 | 11 9.5 | 221 30.5 | 25 31.7 | 259 50.6 | 21 58.8 | 338 21.5 | -5 5.2 |
| | 12 | 346 26.7 | 340 25.5 | 11 9.5 | 236 32.6 | 25 31.6 | 274 52.8 | 21 58.9 | 353 23.7 | -5 5.1 |
| | 13 | 1 29.2 | 355 28.7 | 11 9.6 | 251 34.6 | 25 31.5 | 289 55.0 | 21 58.9 | 8 25.8 | -5 5.0 |
| | 14 | 16 31.7 | 10 31.9 | 11 9.6 | 266 36.7 | 25 31.4 | 304 57.2 | 21 58.9 | 23 28.0 | -5 4.8 |
| | 15 | 31 34.1 | 25 35.1 | 11 9.6 | 281 38.8 | 25 31.3 | 319 59.4 | 21 59.0 | 38 30.2 | -5 4.7 |
| | 16 | 46 36.6 | 40 38.4 | 11 9.6 | 296 40.9 | 25 31.1 | 335 1.6 | 21 59.0 | 53 32.4 | -5 4.6 |
| | 17 | 61 39.0 | 55 41.6 | 11 9.6 | 311 43.0 | 25 31.0 | 350 3.8 | 21 59.1 | 68 34.6 | -5 4.5 |
| | 18 | 76 41.5 | 70 44.8 | 11 9.6 | 326 45.1 | 25 30.9 | 5 6.0 | 21 59.1 | 83 36.7 | -5 4.4 |
| | 19 | 91 44.0 | 85 48.1 | 11 9.6 | 341 47.1 | 25 30.8 | 20 8.2 | 21 59.1 | 98 38.9 | -5 4.2 |
| | 20 | 106 46.4 | 100 51.3 | 11 9.7 | 356 49.2 | 25 30.6 | 35 10.4 | 21 59.2 | 113 41.1 | -5 4.1 |
| | 21 | 121 48.9 | 115 54.6 | 11 9.7 | 11 51.3 | 25 30.5 | 50 12.6 | 21 59.2 | 128 43.3 | -5 4.0 |
| | 22 | 136 51.4 | 130 57.8 | 11 9.7 | 26 53.4 | 25 30.4 | 65 14.8 | 21 59.2 | 143 45.5 | -5 3.9 |
| | 23 | 151 53.8 | 146 1.1 | 11 9.7 | 41 55.5 | 25 30.3 | 80 17.0 | 21 59.3 | 158 47.6 | -5 3.8 |
| | | MP 12:55 | *v* 3.2 | *d* 0.1 | *v* 2.1 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Sunday | 0 | 166 56.3 | 161 4.4 | 11 9.7 | 56 57.5 | 25 30.1 | 95 19.2 | 21 59.3 | 173 49.8 | -5 3.6 |
| | 1 | 181 58.8 | 176 7.6 | 11 9.7 | 71 59.6 | 25 30.0 | 110 21.4 | 21 59.4 | 188 52.0 | -5 3.5 |
| | 2 | 197 1.2 | 191 10.9 | 11 9.6 | 87 1.7 | 25 29.9 | 125 23.6 | 21 59.4 | 203 54.2 | -5 3.4 |
| | 3 | 212 3.7 | 206 14.2 | 11 9.6 | 102 3.8 | 25 29.8 | 140 25.7 | 21 59.4 | 218 56.4 | -5 3.3 |
| | 4 | 227 6.2 | 221 17.4 | 11 9.6 | 117 5.8 | 25 29.7 | 155 27.9 | 21 59.5 | 233 58.5 | -5 3.2 |
| | 5 | 242 8.6 | 236 20.7 | 11 9.6 | 132 7.9 | 25 29.5 | 170 30.1 | 21 59.5 | 249 0.7 | -5 3.0 |
| | 6 | 257 11.1 | 251 24.0 | 11 9.6 | 147 10.0 | 25 29.4 | 185 32.3 | 21 59.6 | 264 2.9 | -5 2.9 |
| | 7 | 272 13.5 | 266 27.3 | 11 9.6 | 162 12.0 | 25 29.3 | 200 34.5 | 21 59.6 | 279 5.1 | -5 2.8 |
| | 8 | 287 16.0 | 281 30.6 | 11 9.5 | 177 14.1 | 25 29.2 | 215 36.7 | 21 59.6 | 294 7.2 | -5 2.7 |
| | 9 | 302 18.5 | 296 33.9 | 11 9.5 | 192 16.2 | 25 29.0 | 230 38.9 | 21 59.7 | 309 9.4 | -5 2.6 |
| | 10 | 317 20.9 | 311 37.2 | 11 9.5 | 207 18.2 | 25 28.9 | 245 41.1 | 21 59.7 | 324 11.6 | -5 2.4 |
| | 11 | 332 23.4 | 326 40.4 | 11 9.5 | 222 20.3 | 25 28.8 | 260 43.3 | 21 59.8 | 339 13.8 | -5 2.3 |
| | 12 | 347 25.9 | 341 43.8 | 11 9.4 | 237 22.4 | 25 28.7 | 275 45.5 | 21 59.8 | 354 16.0 | -5 2.2 |
| | 13 | 2 28.3 | 356 47.1 | 11 9.4 | 252 24.4 | 25 28.5 | 290 47.7 | 21 59.8 | 9 18.1 | -5 2.1 |
| | 14 | 17 30.8 | 11 50.4 | 11 9.3 | 267 26.5 | 25 28.4 | 305 49.8 | 21 59.9 | 24 20.3 | -5 1.9 |
| | 15 | 32 33.3 | 26 53.7 | 11 9.3 | 282 28.5 | 25 28.3 | 320 52.0 | 21 59.9 | 39 22.5 | -5 1.8 |
| | 16 | 47 35.7 | 41 57.0 | 11 9.3 | 297 30.6 | 25 28.2 | 335 54.2 | 22 0.0 | 54 24.7 | -5 1.7 |
| | 17 | 62 38.2 | 57 0.3 | 11 9.2 | 312 32.7 | 25 28.0 | 350 56.4 | 22 0.0 | 69 26.9 | -5 1.6 |
| | 18 | 77 40.7 | 72 3.6 | 11 9.2 | 327 34.7 | 25 27.9 | 5 58.6 | 22 0.0 | 84 29.0 | -5 1.5 |
| | 19 | 92 43.1 | 87 7.0 | 11 9.1 | 342 36.8 | 25 27.8 | 21 0.8 | 22 0.1 | 99 31.2 | -5 1.3 |
| | 20 | 107 45.6 | 102 10.3 | 11 9.1 | 357 38.8 | 25 27.6 | 36 3.0 | 22 0.1 | 114 33.4 | -5 1.2 |
| | 21 | 122 48.0 | 117 13.6 | 11 9.0 | 12 40.9 | 25 27.5 | 51 5.2 | 22 0.2 | 129 35.6 | -5 1.1 |
| | 22 | 137 50.5 | 132 17.0 | 11 8.9 | 27 42.9 | 25 27.4 | 66 7.4 | 22 0.2 | 144 37.8 | -5 1.0 |
| | 23 | 152 53.0 | 147 20.3 | 11 8.9 | 42 45.0 | 25 27.3 | 81 9.5 | 22 0.2 | 159 39.9 | -5 0.9 |
| | | MP 12:51 | *v* 3.3 | *d* 0.0 | *v* 2.1 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 Monday | 0 | 167 55.4 | 162 23.6 | 11 8.8 | 57 47.0 | 25 27.1 | 96 11.7 | 22 0.3 | 174 42.1 | -5 0.7 |
| | 1 | 182 57.9 | 177 27.0 | 11 8.7 | 72 49.1 | 25 27.0 | 111 13.9 | 22 0.3 | 189 44.3 | -5 0.6 |
| | 2 | 198 0.4 | 192 30.3 | 11 8.7 | 87 51.1 | 25 26.9 | 126 16.1 | 22 0.4 | 204 46.5 | -5 0.5 |
| | 3 | 213 2.8 | 207 33.7 | 11 8.6 | 102 53.2 | 25 26.8 | 141 18.3 | 22 0.4 | 219 48.7 | -5 0.4 |
| | 4 | 228 5.3 | 222 37.1 | 11 8.5 | 117 55.2 | 25 26.6 | 156 20.5 | 22 0.4 | 234 50.8 | -5 0.3 |
| | 5 | 243 7.8 | 237 40.4 | 11 8.4 | 132 57.2 | 25 26.5 | 171 22.7 | 22 0.5 | 249 53.0 | -5 0.1 |
| | 6 | 258 10.2 | 252 43.8 | 11 8.4 | 147 59.3 | 25 26.4 | 186 24.8 | 22 0.5 | 264 55.2 | -5 0.0 |
| | 7 | 273 12.7 | 267 47.1 | 11 8.3 | 163 1.3 | 25 26.2 | 201 27.0 | 22 0.6 | 279 57.4 | -4 59.9 |
| | 8 | 288 15.2 | 282 50.5 | 11 8.2 | 178 3.4 | 25 26.1 | 216 29.2 | 22 0.6 | 294 59.5 | -4 59.8 |
| | 9 | 303 17.6 | 297 53.9 | 11 8.1 | 193 5.4 | 25 26.0 | 231 31.4 | 22 0.6 | 310 1.7 | -4 59.7 |
| | 10 | 318 20.1 | 312 57.3 | 11 8.0 | 208 7.4 | 25 25.9 | 246 33.6 | 22 0.7 | 325 3.9 | -4 59.5 |
| | 11 | 333 22.5 | 328 0.6 | 11 7.9 | 223 9.5 | 25 25.7 | 261 35.8 | 22 0.7 | 340 6.1 | -4 59.4 |
| | 12 | 348 25.0 | 343 4.0 | 11 7.8 | 238 11.5 | 25 25.6 | 276 37.9 | 22 0.8 | 355 8.3 | -4 59.3 |
| | 13 | 3 27.5 | 358 7.4 | 11 7.7 | 253 13.6 | 25 25.5 | 291 40.1 | 22 0.8 | 10 10.4 | -4 59.2 |
| | 14 | 18 29.9 | 13 10.8 | 11 7.6 | 268 15.6 | 25 25.3 | 306 42.3 | 22 0.8 | 25 12.6 | -4 59.1 |
| | 15 | 33 32.4 | 28 14.2 | 11 7.5 | 283 17.6 | 25 25.2 | 321 44.5 | 22 0.9 | 40 14.8 | -4 58.9 |
| | 16 | 48 34.9 | 43 17.6 | 11 7.4 | 298 19.6 | 25 25.1 | 336 46.7 | 22 0.9 | 55 17.0 | -4 58.8 |
| | 17 | 63 37.3 | 58 21.0 | 11 7.3 | 313 21.7 | 25 25.0 | 351 48.9 | 22 1.0 | 70 19.2 | -4 58.7 |
| | 18 | 78 39.8 | 73 24.4 | 11 7.2 | 328 23.7 | 25 24.8 | 6 51.0 | 22 1.0 | 85 21.3 | -4 58.6 |
| | 19 | 93 42.3 | 88 27.8 | 11 7.1 | 343 25.7 | 25 24.7 | 21 53.2 | 22 1.0 | 100 23.5 | -4 58.4 |
| | 20 | 108 44.7 | 103 31.2 | 11 7.0 | 358 27.8 | 25 24.6 | 36 55.4 | 22 1.1 | 115 25.7 | -4 58.3 |
| | 21 | 123 47.2 | 118 34.6 | 11 6.8 | 13 29.8 | 25 24.4 | 51 57.6 | 22 1.1 | 130 27.9 | -4 58.2 |
| | 22 | 138 49.6 | 133 38.1 | 11 6.7 | 28 31.8 | 25 24.3 | 66 59.8 | 22 1.2 | 145 30.1 | -4 58.1 |
| | 23 | 153 52.1 | 148 41.5 | 11 6.6 | 43 33.8 | 25 24.2 | 82 1.9 | 22 1.2 | 160 32.2 | -4 58.0 |
| | | MP 12:47 | *v* 3.3 | *d* -0.1 | *v* 2.0 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.4 |
| Achernar | 335 20.5 | -57 6.7 |
| Acrux | 172 59.4 | -63 14.3 |
| Adhara | 255 5.6 | -29 0.6 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.2 |
| Alkaid | 152 51.5 | 49 11.0 |
| Alnair | 27 33.2 | -46 50.4 |
| Alnilam | 275 37.5 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.0 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.3 |
| Antares | 112 15.6 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.8 |
| Atria | 107 9.7 | -69 4.1 |
| Avior | 234 14.2 | -59 35.6 |
| Bellatrix | 278 22.7 | 6 22.3 |
| Betelgeuse | 270 51.9 | 7 24.6 |
| Canopus | 263 52.2 | -52 42.8 |
| Capella | 280 21.7 | 46 1.5 |
| Deneb | 49 26.1 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.1 |
| Dubhe | 193 40.1 | 61 36.8 |
| Elnath | 278 1.7 | 28 37.8 |
| Eltanin | 90 42.2 | 51 28.7 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.4 |
| Gacrux | 171 51.0 | -57 15.2 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.4 | -60 29.5 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.5 | -34 22.3 |
| Kochab | 137 19.1 | 74 2.7 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.2 | -36 29.6 |
| Miaplacidus | 221 37.5 | -69 49.4 |
| Mirfak | 308 28.3 | 49 57.2 |
| Nunki | 75 47.7 | -26 15.9 |
| Peacock | 53 5.9 | -56 39.1 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.5 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.7 | -8 10.5 |
| Rigil Kent. | 139 39.7 | -60 56.2 |
| Sabik | 102 2.6 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.6 |
| Shaula | 96 10.2 | -37 7.3 |
| Sirius | 258 26.0 | -16 45.2 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 32.2 |
| Vega | 80 33.3 | 38 48.1 |
| Zuben'ubi | 136 55.7 | -16 8.9 |

| 08 Sat | SHA | MP |
|---|---|---|
| Venus | 353 49.9 | 13:18 |
| Mars | 250 10.3 | 20:13 |
| Jupiter | 288 29.3 | 17:40 |
| Saturn | 7 0.3 | 12:26 |

| 09 Sun | SHA | MP |
|---|---|---|
| Venus | 354 8.1 | 13:13 |
| Mars | 250 1.2 | 20:09 |
| Jupiter | 288 22.9 | 17:36 |
| Saturn | 6 53.5 | 12:23 |

| 10 Mon | SHA | MP |
|---|---|---|
| Venus | 354 28.2 | 13:07 |
| Mars | 249 51.6 | 20:06 |
| Jupiter | 288 16.3 | 17:33 |
| Saturn | 6 46.7 | 12:19 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **08 Saturday** | 0 | 177 17.9 | -4 52.5 | 71 9.6 | 5.4 | 28 36.9 | -1.6 | 57.6 |
| | 1 | 192 18.0 | -4 51.5 | 85 34.0 | 5.5 | 28 35.3 | -1.7 | 57.6 |
| | 2 | 207 18.2 | -4 50.5 | 99 58.5 | 5.5 | 28 33.5 | -1.9 | 57.6 |
| | 3 | 222 18.3 | -4 49.6 | 114 23.0 | 5.6 | 28 31.6 | -2.1 | 57.5 |
| | 4 | 237 18.5 | -4 48.6 | 128 47.6 | 5.6 | 28 29.5 | -2.3 | 57.5 |
| | 5 | 252 18.6 | -4 47.6 | 143 12.2 | 5.7 | 28 27.3 | -2.4 | 57.5 |
| | 6 | 267 18.8 | -4 46.6 | 157 37.0 | 5.8 | 28 24.8 | -2.6 | 57.5 |
| | 7 | 282 19.0 | -4 45.6 | 172 1.7 | 5.8 | 28 22.2 | -2.8 | 57.4 |
| | 8 | 297 19.1 | -4 44.7 | 186 26.6 | 5.9 | 28 19.5 | -2.9 | 57.4 |
| | 9 | 312 19.3 | -4 43.7 | 200 51.4 | 6.0 | 28 16.5 | -3.1 | 57.4 |
| | 10 | 327 19.4 | -4 42.7 | 215 16.4 | 6.0 | 28 13.4 | -3.3 | 57.3 |
| | 11 | 342 19.6 | -4 41.7 | 229 41.4 | 6.1 | 28 10.1 | -3.4 | 57.3 |
| | 12 | 357 19.7 | -4 40.8 | 244 6.6 | 6.2 | 28 6.7 | -3.6 | 57.3 |
| | 13 | 12 19.9 | -4 39.8 | 258 31.7 | 6.3 | 28 3.1 | -3.8 | 57.3 |
| | 14 | 27 20.0 | -4 38.8 | 272 57.0 | 6.3 | 27 59.3 | -3.9 | 57.2 |
| | 15 | 42 20.2 | -4 37.8 | 287 22.3 | 6.4 | 27 55.3 | -4.1 | 57.2 |
| | 16 | 57 20.3 | -4 36.9 | 301 47.7 | 6.5 | 27 51.2 | -4.3 | 57.2 |
| | 17 | 72 20.5 | -4 35.9 | 316 13.2 | 6.6 | 27 47.0 | -4.4 | 57.2 |
| | 18 | 87 20.7 | -4 34.9 | 330 38.7 | 6.6 | 27 42.5 | -4.6 | 57.1 |
| | 19 | 102 20.8 | -4 33.9 | 345 4.4 | 6.7 | 27 38.0 | -4.7 | 57.1 |
| | 20 | 117 21.0 | -4 33.0 | 359 30.1 | 6.8 | 27 33.2 | -4.9 | 57.1 |
| | 21 | 132 21.1 | -4 32.0 | 13 55.9 | 6.9 | 27 28.3 | -5.1 | 57.1 |
| | 22 | 147 21.3 | -4 31.0 | 28 21.8 | 7.0 | 27 23.3 | -5.2 | 57.0 |
| | 23 | 162 21.4 | -4 30.0 | 42 47.8 | 7.1 | 27 18.0 | -5.4 | 57.0 |
| | | *v* 0.2 | SD 16.1 | *d* -1.0 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **09 Sunday** | 0 | 177 21.6 | -4 29.0 | 57 13.8 | 7.2 | 27 12.7 | -5.5 | 57.0 |
| | 1 | 192 21.8 | -4 28.1 | 71 40.0 | 7.2 | 27 7.2 | -5.7 | 57.0 |
| | 2 | 207 21.9 | -4 27.1 | 86 6.2 | 7.3 | 27 1.5 | -5.8 | 56.9 |
| | 3 | 222 22.1 | -4 26.1 | 100 32.6 | 7.4 | 26 55.7 | -6.0 | 56.9 |
| | 4 | 237 22.2 | -4 25.1 | 114 59.0 | 7.5 | 26 49.7 | -6.1 | 56.9 |
| | 5 | 252 22.4 | -4 24.2 | 129 25.5 | 7.6 | 26 43.6 | -6.3 | 56.9 |
| | 6 | 267 22.5 | -4 23.2 | 143 52.1 | 7.7 | 26 37.4 | -6.4 | 56.8 |
| | 7 | 282 22.7 | -4 22.2 | 158 18.8 | 7.8 | 26 31.0 | -6.5 | 56.8 |
| | 8 | 297 22.9 | -4 21.2 | 172 45.6 | 7.9 | 26 24.4 | -6.7 | 56.8 |
| | 9 | 312 23.0 | -4 20.2 | 187 12.5 | 8.0 | 26 17.7 | -6.8 | 56.8 |
| | 10 | 327 23.2 | -4 19.3 | 201 39.5 | 8.1 | 26 10.9 | -7.0 | 56.8 |
| | 11 | 342 23.3 | -4 18.3 | 216 6.6 | 8.2 | 26 3.9 | -7.1 | 56.7 |
| | 12 | 357 23.5 | -4 17.3 | 230 33.7 | 8.3 | 25 56.8 | -7.2 | 56.7 |
| | 13 | 12 23.7 | -4 16.3 | 245 1.0 | 8.4 | 25 49.6 | -7.4 | 56.7 |
| | 14 | 27 23.8 | -4 15.3 | 259 28.4 | 8.5 | 25 42.2 | -7.5 | 56.7 |
| | 15 | 42 24.0 | -4 14.4 | 273 55.9 | 8.6 | 25 34.7 | -7.6 | 56.6 |
| | 16 | 57 24.1 | -4 13.4 | 288 23.5 | 8.7 | 25 27.1 | -7.8 | 56.6 |
| | 17 | 72 24.3 | -4 12.4 | 302 51.1 | 8.8 | 25 19.3 | -7.9 | 56.6 |
| | 18 | 87 24.5 | -4 11.4 | 317 18.9 | 8.9 | 25 11.4 | -8.0 | 56.6 |
| | 19 | 102 24.6 | -4 10.4 | 331 46.8 | 9.0 | 25 3.3 | -8.2 | 56.5 |
| | 20 | 117 24.8 | -4 9.5 | 346 14.8 | 9.1 | 24 55.2 | -8.3 | 56.5 |
| | 21 | 132 24.9 | -4 8.5 | 0 42.9 | 9.2 | 24 46.9 | -8.4 | 56.5 |
| | 22 | 147 25.1 | -4 7.5 | 15 11.0 | 9.3 | 24 38.5 | -8.5 | 56.5 |
| | 23 | 162 25.3 | -4 6.5 | 29 39.3 | 9.4 | 24 30.0 | -8.7 | 56.5 |
| | | *v* 0.2 | SD 16.1 | *d* -1.0 | | SD 15.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **10 Monday** | 0 | 177 25.4 | -4 5.6 | 44 7.7 | 9.5 | 24 21.3 | -8.8 | 56.4 |
| | 1 | 192 25.6 | -4 4.6 | 58 36.2 | 9.6 | 24 12.5 | -8.9 | 56.4 |
| | 2 | 207 25.7 | -4 3.6 | 73 4.8 | 9.7 | 24 3.6 | -9.0 | 56.4 |
| | 3 | 222 25.9 | -4 2.6 | 87 33.5 | 9.8 | 23 54.6 | -9.1 | 56.4 |
| | 4 | 237 26.1 | -4 1.6 | 102 2.3 | 9.9 | 23 45.5 | -9.2 | 56.3 |
| | 5 | 252 26.2 | -4 0.7 | 116 31.2 | 10.0 | 23 36.2 | -9.4 | 56.3 |
| | 6 | 267 26.4 | -3 59.7 | 131 0.2 | 10.1 | 23 26.9 | -9.5 | 56.3 |
| | 7 | 282 26.5 | -3 58.7 | 145 29.3 | 10.2 | 23 17.4 | -9.6 | 56.3 |
| | 8 | 297 26.7 | -3 57.7 | 159 58.5 | 10.3 | 23 7.8 | -9.7 | 56.3 |
| | 9 | 312 26.9 | -3 56.7 | 174 27.8 | 10.4 | 22 58.2 | -9.8 | 56.2 |
| | 10 | 327 27.0 | -3 55.7 | 188 57.2 | 10.5 | 22 48.4 | -9.9 | 56.2 |
| | 11 | 342 27.2 | -3 54.8 | 203 26.8 | 10.6 | 22 38.5 | -10.0 | 56.2 |
| | 12 | 357 27.4 | -3 53.8 | 217 56.4 | 10.7 | 22 28.4 | -10.1 | 56.2 |
| | 13 | 12 27.5 | -3 52.8 | 232 26.1 | 10.8 | 22 18.3 | -10.2 | 56.1 |
| | 14 | 27 27.7 | -3 51.8 | 246 55.9 | 10.9 | 22 8.1 | -10.3 | 56.1 |
| | 15 | 42 27.8 | -3 50.8 | 261 25.8 | 11.0 | 21 57.8 | -10.4 | 56.1 |
| | 16 | 57 28.0 | -3 49.9 | 275 55.9 | 11.1 | 21 47.4 | -10.5 | 56.1 |
| | 17 | 72 28.2 | -3 48.9 | 290 26.0 | 11.2 | 21 36.9 | -10.6 | 56.1 |
| | 18 | 87 28.3 | -3 47.9 | 304 56.2 | 11.3 | 21 26.3 | -10.7 | 56.0 |
| | 19 | 102 28.5 | -3 46.9 | 319 26.5 | 11.4 | 21 15.6 | -10.8 | 56.0 |
| | 20 | 117 28.7 | -3 45.9 | 333 57.0 | 11.5 | 21 4.8 | -10.9 | 56.0 |
| | 21 | 132 28.8 | -3 45.0 | 348 27.5 | 11.6 | 20 53.9 | -11.0 | 56.0 |
| | 22 | 147 29.0 | -3 44.0 | 2 58.1 | 11.7 | 20 42.9 | -11.1 | 56.0 |
| | 23 | 162 29.2 | -3 43.0 | 17 28.8 | 11.8 | 20 31.8 | -11.2 | 55.9 |
| | | *v* 0.2 | SD 16.1 | *d* -1.0 | | SD 15.4 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 04:32 | 05:52 | 06:59 | 17:24 | 18:32 | 19:52 |
| 70 | 04:42 | 05:53 | 06:54 | 17:30 | 18:31 | 19:43 |
| 68 | 04:49 | 05:54 | 06:49 | 17:34 | 18:29 | 19:35 |
| 66 | 04:55 | 05:55 | 06:46 | 17:37 | 18:29 | 19:29 |
| 64 | 05:00 | 05:55 | 06:42 | 17:40 | 18:28 | 19:23 |
| 62 | 05:04 | 05:56 | 06:40 | 17:43 | 18:27 | 19:19 |
| 60 | 05:08 | 05:56 | 06:37 | 17:45 | 18:27 | 19:15 |
| 58 | 05:11 | 05:56 | 06:35 | 17:47 | 18:27 | 19:12 |
| 56 | 05:13 | 05:56 | 06:33 | 17:49 | 18:26 | 19:10 |
| 54 | 05:15 | 05:56 | 06:31 | 17:51 | 18:26 | 19:07 |
| 52 | 05:17 | 05:56 | 06:30 | 17:53 | 18:26 | 19:05 |
| 50 | 05:19 | 05:56 | 06:28 | 17:54 | 18:26 | 19:04 |
| 45 | 05:22 | 05:56 | 06:25 | 17:57 | 18:26 | 19:00 |
| 40 | 05:24 | 05:55 | 06:22 | 18:00 | 18:27 | 18:58 |
| 35 | 05:26 | 05:55 | 06:20 | 18:02 | 18:27 | 18:56 |
| 30 | 05:26 | 05:54 | 06:18 | 18:04 | 18:28 | 18:56 |
| 20 | 05:27 | 05:52 | 06:14 | 18:07 | 18:30 | 18:55 |
| 10 | 05:25 | 05:50 | 06:11 | 18:11 | 18:32 | 18:56 |
| 0 | 05:23 | 05:47 | 06:07 | 18:14 | 18:35 | 18:59 |
| -10 | 05:18 | 05:43 | 06:04 | 18:17 | 18:38 | 19:03 |
| -20 | 05:12 | 05:38 | 06:00 | 18:21 | 18:43 | 19:09 |
| -30 | 05:04 | 05:32 | 05:56 | 18:25 | 18:49 | 19:17 |
| -35 | 04:58 | 05:28 | 05:53 | 18:28 | 18:53 | 19:23 |
| -40 | 04:51 | 05:23 | 05:50 | 18:30 | 18:58 | 19:30 |
| -45 | 04:42 | 05:17 | 05:47 | 18:34 | 19:03 | 19:39 |
| -50 | 04:30 | 05:10 | 05:43 | 18:38 | 19:10 | 19:50 |
| -52 | 04:25 | 05:06 | 05:41 | 18:40 | 19:14 | 19:55 |
| -54 | 04:18 | 05:02 | 05:39 | 18:42 | 19:18 | 20:01 |
| -56 | 04:11 | 04:58 | 05:36 | 18:44 | 19:22 | 20:08 |
| -58 | 04:03 | 04:53 | 05:34 | 18:46 | 19:27 | 20:16 |
| -60 | 03:54 | 04:48 | 05:31 | 18:49 | 19:32 | 20:25 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **08** | **09** | **10** | **08** | **09** | **10** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | 10:50 | | | 08:10 |
| 64 | | | 11:36 | | | 07:23 |
| 62 | | 10:06 | 12:06 | | 07:03 | 06:53 |
| 60 | 09:05 | 10:45 | 12:28 | 06:05 | 06:24 | 06:29 |
| 58 | 09:43 | 11:12 | 12:46 | 05:26 | 05:56 | 06:11 |
| 56 | 10:10 | 11:33 | 13:02 | 04:59 | 05:35 | 05:55 |
| 54 | 10:31 | 11:50 | 13:15 | 04:38 | 05:17 | 05:41 |
| 52 | 10:49 | 12:05 | 13:26 | 04:20 | 05:02 | 05:29 |
| 50 | 11:04 | 12:18 | 13:36 | 04:05 | 04:48 | 05:19 |
| 45 | 11:34 | 12:44 | 13:57 | 03:34 | 04:21 | 04:57 |
| 40 | 11:58 | 13:05 | 14:14 | 03:11 | 04:00 | 04:39 |
| 35 | 12:17 | 13:22 | 14:28 | 02:51 | 03:42 | 04:24 |
| 30 | 12:34 | 13:37 | 14:40 | 02:34 | 03:26 | 04:10 |
| 20 | 13:02 | 14:02 | 15:01 | 02:05 | 03:00 | 03:48 |
| 10 | 13:26 | 14:24 | 15:19 | 01:41 | 02:37 | 03:28 |
| 0 | 13:48 | 14:44 | 15:36 | 01:18 | 02:16 | 03:10 |
| -10 | 14:11 | 15:04 | 15:53 | 00:55 | 01:54 | 02:51 |
| -20 | 14:35 | 15:26 | 16:11 | 00:30 | 01:31 | 02:31 |
| -30 | 15:03 | 15:51 | 16:31 | 00:01 | 01:04 | 02:08 |
| -35 | 15:19 | 16:05 | 16:43 | –:– | 00:48 | 01:54 |
| -40 | 15:38 | 16:22 | 16:57 | –:– | 00:29 | 01:38 |
| -45 | 16:01 | 16:42 | 17:13 | –:– | 00:07 | 01:19 |
| -50 | 16:31 | 17:07 | 17:32 | 23:38 | –:– | 00:55 |
| -52 | 16:46 | 17:19 | 17:42 | 23:23 | –:– | 00:43 |
| -54 | 17:02 | 17:33 | 17:52 | 23:07 | –:– | 00:30 |
| -56 | 17:23 | 17:49 | 18:04 | 22:47 | –:– | 00:15 |
| -58 | 17:48 | 18:08 | 18:17 | 22:22 | 23:56 | –:– |
| -60 | 18:22 | 18:31 | 18:33 | 21:48 | 23:34 | –:– |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **08** | 10:49 | 10:41 | 12:11 | 20:02 | 07:33 | 8 | 64 |
| **09** | 10:34 | 10:26 | 12:10 | 20:57 | 08:30 | 9 | 74 |
| **10** | 10:18 | 10:11 | 12:10 | 21:48 | 09:23 | 10 | 83 |

## 2025 March 11, 12, 13 (Tue, Wed, Thu)

| | | Aries | Venus -4.5 | | Mars 0.0 | | Jupiter -2.2 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 11 Tuesday | 0 | 168 54.6 | 163 44.9 | 11 6.5 | 58 35.9 | 25 24.1 | 97 4.1 | 22 1.2 | 175 34.4 | -4 57.8 |
| | 1 | 183 57.0 | 178 48.3 | 11 6.3 | 73 37.9 | 25 23.9 | 112 6.3 | 22 1.3 | 190 36.6 | -4 57.7 |
| | 2 | 198 59.5 | 193 51.7 | 11 6.2 | 88 39.9 | 25 23.8 | 127 8.5 | 22 1.3 | 205 38.8 | -4 57.6 |
| | 3 | 214 2.0 | 208 55.2 | 11 6.1 | 103 41.9 | 25 23.7 | 142 10.6 | 22 1.4 | 220 41.0 | -4 57.5 |
| | 4 | 229 4.4 | 223 58.6 | 11 5.9 | 118 43.9 | 25 23.5 | 157 12.8 | 22 1.4 | 235 43.1 | -4 57.4 |
| | 5 | 244 6.9 | 239 2.1 | 11 5.8 | 133 46.0 | 25 23.4 | 172 15.0 | 22 1.4 | 250 45.3 | -4 57.2 |
| | 6 | 259 9.4 | 254 5.5 | 11 5.6 | 148 48.0 | 25 23.3 | 187 17.2 | 22 1.5 | 265 47.5 | -4 57.1 |
| | 7 | 274 11.8 | 269 8.9 | 11 5.5 | 163 50.0 | 25 23.1 | 202 19.4 | 22 1.5 | 280 49.7 | -4 57.0 |
| | 8 | 289 14.3 | 284 12.4 | 11 5.4 | 178 52.0 | 25 23.0 | 217 21.5 | 22 1.6 | 295 51.8 | -4 56.9 |
| | 9 | 304 16.8 | 299 15.8 | 11 5.2 | 193 54.0 | 25 22.9 | 232 23.7 | 22 1.6 | 310 54.0 | -4 56.8 |
| | 10 | 319 19.2 | 314 19.3 | 11 5.0 | 208 56.0 | 25 22.7 | 247 25.9 | 22 1.7 | 325 56.2 | -4 56.6 |
| | 11 | 334 21.7 | 329 22.8 | 11 4.9 | 223 58.0 | 25 22.6 | 262 28.1 | 22 1.7 | 340 58.4 | -4 56.5 |
| | 12 | 349 24.1 | 344 26.2 | 11 4.7 | 239 0.0 | 25 22.5 | 277 30.2 | 22 1.7 | 356 0.6 | -4 56.4 |
| | 13 | 4 26.6 | 359 29.7 | 11 4.6 | 254 2.1 | 25 22.3 | 292 32.4 | 22 1.8 | 11 2.7 | -4 56.3 |
| | 14 | 19 29.1 | 14 33.2 | 11 4.4 | 269 4.1 | 25 22.2 | 307 34.6 | 22 1.8 | 26 4.9 | -4 56.2 |
| | 15 | 34 31.5 | 29 36.6 | 11 4.2 | 284 6.1 | 25 22.1 | 322 36.8 | 22 1.9 | 41 7.1 | -4 56.0 |
| | 16 | 49 34.0 | 44 40.1 | 11 4.1 | 299 8.1 | 25 21.9 | 337 38.9 | 22 1.9 | 56 9.3 | -4 55.9 |
| | 17 | 64 36.5 | 59 43.6 | 11 3.9 | 314 10.1 | 25 21.8 | 352 41.1 | 22 1.9 | 71 11.5 | -4 55.8 |
| | 18 | 79 38.9 | 74 47.1 | 11 3.7 | 329 12.1 | 25 21.7 | 7 43.3 | 22 2.0 | 86 13.6 | -4 55.7 |
| | 19 | 94 41.4 | 89 50.5 | 11 3.5 | 344 14.1 | 25 21.5 | 22 45.5 | 22 2.0 | 101 15.8 | -4 55.6 |
| | 20 | 109 43.9 | 104 54.0 | 11 3.4 | 359 16.1 | 25 21.4 | 37 47.6 | 22 2.1 | 116 18.0 | -4 55.4 |
| | 21 | 124 46.3 | 119 57.5 | 11 3.2 | 14 18.1 | 25 21.3 | 52 49.8 | 22 2.1 | 131 20.2 | -4 55.3 |
| | 22 | 139 48.8 | 135 1.0 | 11 3.0 | 29 20.1 | 25 21.1 | 67 52.0 | 22 2.1 | 146 22.4 | -4 55.2 |
| | 23 | 154 51.3 | 150 4.5 | 11 2.8 | 44 22.1 | 25 21.0 | 82 54.2 | 22 2.2 | 161 24.5 | -4 55.1 |
| | | MP 12:44 | *v* 3.4 | *d* -0.1 | *v* 2.0 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 Wednesday | 0 | 169 53.7 | 165 8.0 | 11 2.6 | 59 24.1 | 25 20.9 | 97 56.3 | 22 2.2 | 176 26.7 | -4 55.0 |
| | 1 | 184 56.2 | 180 11.5 | 11 2.4 | 74 26.1 | 25 20.7 | 112 58.5 | 22 2.3 | 191 28.9 | -4 54.8 |
| | 2 | 199 58.6 | 195 15.0 | 11 2.2 | 89 28.1 | 25 20.6 | 128 0.7 | 22 2.3 | 206 31.1 | -4 54.7 |
| | 3 | 215 1.1 | 210 18.5 | 11 2.0 | 104 30.1 | 25 20.5 | 143 2.8 | 22 2.3 | 221 33.3 | -4 54.6 |
| | 4 | 230 3.6 | 225 22.0 | 11 1.8 | 119 32.1 | 25 20.3 | 158 5.0 | 22 2.4 | 236 35.4 | -4 54.5 |
| | 5 | 245 6.0 | 240 25.5 | 11 1.6 | 134 34.1 | 25 20.2 | 173 7.2 | 22 2.4 | 251 37.6 | -4 54.4 |
| | 6 | 260 8.5 | 255 29.0 | 11 1.4 | 149 36.0 | 25 20.1 | 188 9.4 | 22 2.5 | 266 39.8 | -4 54.2 |
| | 7 | 275 11.0 | 270 32.6 | 11 1.2 | 164 38.0 | 25 19.9 | 203 11.5 | 22 2.5 | 281 42.0 | -4 54.1 |
| | 8 | 290 13.4 | 285 36.1 | 11 1.0 | 179 40.0 | 25 19.8 | 218 13.7 | 22 2.6 | 296 44.1 | -4 54.0 |
| | 9 | 305 15.9 | 300 39.6 | 11 0.8 | 194 42.0 | 25 19.7 | 233 15.9 | 22 2.6 | 311 46.3 | -4 53.9 |
| | 10 | 320 18.4 | 315 43.1 | 11 0.6 | 209 44.0 | 25 19.5 | 248 18.0 | 22 2.6 | 326 48.5 | -4 53.7 |
| | 11 | 335 20.8 | 330 46.7 | 11 0.3 | 224 46.0 | 25 19.4 | 263 20.2 | 22 2.7 | 341 50.7 | -4 53.6 |
| | 12 | 350 23.3 | 345 50.2 | 11 0.1 | 239 48.0 | 25 19.3 | 278 22.4 | 22 2.7 | 356 52.9 | -4 53.5 |
| | 13 | 5 25.7 | 0 53.7 | 10 59.9 | 254 50.0 | 25 19.1 | 293 24.5 | 22 2.8 | 11 55.0 | -4 53.4 |
| | 14 | 20 28.2 | 15 57.3 | 10 59.7 | 269 51.9 | 25 19.0 | 308 26.7 | 22 2.8 | 26 57.2 | -4 53.3 |
| | 15 | 35 30.7 | 31 0.8 | 10 59.4 | 284 53.9 | 25 18.9 | 323 28.9 | 22 2.8 | 41 59.4 | -4 53.1 |
| | 16 | 50 33.1 | 46 4.4 | 10 59.2 | 299 55.9 | 25 18.7 | 338 31.0 | 22 2.9 | 57 1.6 | -4 53.0 |
| | 17 | 65 35.6 | 61 7.9 | 10 59.0 | 314 57.9 | 25 18.6 | 353 33.2 | 22 2.9 | 72 3.8 | -4 52.9 |
| | 18 | 80 38.1 | 76 11.5 | 10 58.7 | 329 59.9 | 25 18.4 | 8 35.4 | 22 3.0 | 87 5.9 | -4 52.8 |
| | 19 | 95 40.5 | 91 15.0 | 10 58.5 | 345 1.8 | 25 18.3 | 23 37.5 | 22 3.0 | 102 8.1 | -4 52.7 |
| | 20 | 110 43.0 | 106 18.6 | 10 58.3 | 0 3.8 | 25 18.2 | 38 39.7 | 22 3.1 | 117 10.3 | -4 52.5 |
| | 21 | 125 45.5 | 121 22.1 | 10 58.0 | 15 5.8 | 25 18.0 | 53 41.9 | 22 3.1 | 132 12.5 | -4 52.4 |
| | 22 | 140 47.9 | 136 25.7 | 10 57.8 | 30 7.8 | 25 17.9 | 68 44.0 | 22 3.1 | 147 14.7 | -4 52.3 |
| | 23 | 155 50.4 | 151 29.3 | 10 57.5 | 45 9.7 | 25 17.8 | 83 46.2 | 22 3.2 | 162 16.8 | -4 52.2 |
| | | MP 12:40 | *v* 3.5 | *d* -0.2 | *v* 2.0 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 Thursday | 0 | 170 52.9 | 166 32.8 | 10 57.3 | 60 11.7 | 25 17.6 | 98 48.4 | 22 3.2 | 177 19.0 | -4 52.1 |
| | 1 | 185 55.3 | 181 36.4 | 10 57.0 | 75 13.7 | 25 17.5 | 113 50.5 | 22 3.3 | 192 21.2 | -4 51.9 |
| | 2 | 200 57.8 | 196 40.0 | 10 56.7 | 90 15.6 | 25 17.4 | 128 52.7 | 22 3.3 | 207 23.4 | -4 51.8 |
| | 3 | 216 0.2 | 211 43.5 | 10 56.5 | 105 17.6 | 25 17.2 | 143 54.9 | 22 3.3 | 222 25.6 | -4 51.7 |
| | 4 | 231 2.7 | 226 47.1 | 10 56.2 | 120 19.6 | 25 17.1 | 158 57.0 | 22 3.4 | 237 27.7 | -4 51.6 |
| | 5 | 246 5.2 | 241 50.7 | 10 55.9 | 135 21.6 | 25 16.9 | 173 59.2 | 22 3.4 | 252 29.9 | -4 51.5 |
| | 6 | 261 7.6 | 256 54.3 | 10 55.7 | 150 23.5 | 25 16.8 | 189 1.4 | 22 3.5 | 267 32.1 | -4 51.3 |
| | 7 | 276 10.1 | 271 57.9 | 10 55.4 | 165 25.5 | 25 16.7 | 204 3.5 | 22 3.5 | 282 34.3 | -4 51.2 |
| | 8 | 291 12.6 | 287 1.5 | 10 55.1 | 180 27.4 | 25 16.5 | 219 5.7 | 22 3.5 | 297 36.4 | -4 51.1 |
| | 9 | 306 15.0 | 302 5.1 | 10 54.9 | 195 29.4 | 25 16.4 | 234 7.9 | 22 3.6 | 312 38.6 | -4 51.0 |
| | 10 | 321 17.5 | 317 8.7 | 10 54.6 | 210 31.4 | 25 16.2 | 249 10.0 | 22 3.6 | 327 40.8 | -4 50.9 |
| | 11 | 336 20.0 | 332 12.3 | 10 54.3 | 225 33.3 | 25 16.1 | 264 12.2 | 22 3.7 | 342 43.0 | -4 50.7 |
| | 12 | 351 22.4 | 347 15.9 | 10 54.0 | 240 35.3 | 25 16.0 | 279 14.3 | 22 3.7 | 357 45.2 | -4 50.6 |
| | 13 | 6 24.9 | 2 19.5 | 10 53.7 | 255 37.3 | 25 15.8 | 294 16.5 | 22 3.8 | 12 47.3 | -4 50.5 |
| | 14 | 21 27.3 | 17 23.1 | 10 53.4 | 270 39.2 | 25 15.7 | 309 18.7 | 22 3.8 | 27 49.5 | -4 50.4 |
| | 15 | 36 29.8 | 32 26.7 | 10 53.1 | 285 41.2 | 25 15.6 | 324 20.8 | 22 3.8 | 42 51.7 | -4 50.3 |
| | 16 | 51 32.3 | 47 30.3 | 10 52.8 | 300 43.1 | 25 15.4 | 339 23.0 | 22 3.9 | 57 53.9 | -4 50.1 |
| | 17 | 66 34.7 | 62 33.9 | 10 52.5 | 315 45.1 | 25 15.3 | 354 25.1 | 22 3.9 | 72 56.1 | -4 50.0 |
| | 18 | 81 37.2 | 77 37.5 | 10 52.2 | 330 47.0 | 25 15.1 | 9 27.3 | 22 4.0 | 87 58.2 | -4 49.9 |
| | 19 | 96 39.7 | 92 41.1 | 10 51.9 | 345 49.0 | 25 15.0 | 24 29.5 | 22 4.0 | 103 0.4 | -4 49.8 |
| | 20 | 111 42.1 | 107 44.7 | 10 51.6 | 0 50.9 | 25 14.9 | 39 31.6 | 22 4.1 | 118 2.6 | -4 49.7 |
| | 21 | 126 44.6 | 122 48.4 | 10 51.3 | 15 52.9 | 25 14.7 | 54 33.8 | 22 4.1 | 133 4.8 | -4 49.5 |
| | 22 | 141 47.1 | 137 52.0 | 10 51.0 | 30 54.8 | 25 14.6 | 69 35.9 | 22 4.1 | 148 7.0 | -4 49.4 |
| | 23 | 156 49.5 | 152 55.6 | 10 50.7 | 45 56.8 | 25 14.4 | 84 38.1 | 22 4.2 | 163 9.1 | -4 49.3 |
| | | MP 12:36 | *v* 3.6 | *d* -0.3 | *v* 2.0 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.4 |
| Achernar | 335 20.5 | -57 6.7 |
| Acrux | 172 59.3 | -63 14.3 |
| Adhara | 255 5.6 | -29 0.6 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.2 |
| Alkaid | 152 51.5 | 49 11.0 |
| Alnair | 27 33.1 | -46 50.4 |
| Alnilam | 275 37.6 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.0 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.3 |
| Antares | 112 15.6 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.7 | -69 4.1 |
| Avior | 234 14.3 | -59 35.6 |
| Bellatrix | 278 22.7 | 6 22.3 |
| Betelgeuse | 270 51.9 | 7 24.6 |
| Canopus | 263 52.2 | -52 42.8 |
| Capella | 280 21.7 | 46 1.5 |
| Deneb | 49 26.1 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.1 | 61 36.9 |
| Elnath | 278 1.7 | 28 37.8 |
| Eltanin | 90 42.2 | 51 28.7 |
| Enif | 33 39.0 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.4 |
| Gacrux | 171 51.0 | -57 15.3 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.4 | -60 29.6 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.4 | -34 22.3 |
| Kochab | 137 19.0 | 74 2.8 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.2 | -36 29.6 |
| Miaplacidus | 221 37.5 | -69 49.4 |
| Mirfak | 308 28.3 | 49 57.2 |
| Nunki | 75 47.7 | -26 15.9 |
| Peacock | 53 5.9 | -56 39.1 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.4 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.7 | -8 10.5 |
| Rigil Kent. | 139 39.7 | -60 56.2 |
| Sabik | 102 2.6 | -15 45.4 |
| Schedar | 349 31.5 | 56 40.6 |
| Shaula | 96 10.2 | -37 7.3 |
| Sirius | 258 26.0 | -16 45.2 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 32.2 |
| Vega | 80 33.3 | 38 48.1 |
| Zuben'ubi | 136 55.7 | -16 8.9 |

| 11 Tue | SHA | MP |
|---|---|---|
| Venus | 354 50.3 | 13:02 |
| Mars | 249 41.3 | 20:03 |
| Jupiter | 288 9.5 | 17:29 |
| Saturn | 6 39.8 | 12:16 |

| 12 Wed | SHA | MP |
|---|---|---|
| Venus | 355 14.3 | 12:56 |
| Mars | 249 30.4 | 20:00 |
| Jupiter | 288 2.6 | 17:26 |
| Saturn | 6 33.0 | 12:12 |

| 13 Thu | SHA | MP |
|---|---|---|
| Venus | 355 40.0 | 12:51 |
| Mars | 249 18.9 | 19:57 |
| Jupiter | 287 55.5 | 17:22 |
| Saturn | 6 26.2 | 12:09 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **11 Tuesday** | 0 | 177 29.3 | -3 42.0 | 31 59.6 | 11.9 | 20 20.7 | -11.3 | 55.9 |
| | 1 | 192 29.5 | -3 41.0 | 46 30.5 | 12.0 | 20 9.4 | -11.3 | 55.9 |
| | 2 | 207 29.6 | -3 40.0 | 61 1.6 | 12.1 | 19 58.1 | -11.4 | 55.9 |
| | 3 | 222 29.8 | -3 39.1 | 75 32.7 | 12.2 | 19 46.6 | -11.5 | 55.9 |
| | 4 | 237 30.0 | -3 38.1 | 90 3.9 | 12.3 | 19 35.1 | -11.6 | 55.8 |
| | 5 | 252 30.1 | -3 37.1 | 104 35.2 | 12.4 | 19 23.6 | -11.7 | 55.8 |
| | 6 | 267 30.3 | -3 36.1 | 119 6.5 | 12.5 | 19 11.9 | -11.7 | 55.8 |
| | 7 | 282 30.5 | -3 35.1 | 133 38.0 | 12.6 | 19 0.1 | -11.8 | 55.8 |
| | 8 | 297 30.6 | -3 34.2 | 148 9.6 | 12.7 | 18 48.3 | -11.9 | 55.8 |
| | 9 | 312 30.8 | -3 33.2 | 162 41.3 | 12.8 | 18 36.4 | -12.0 | 55.7 |
| | 10 | 327 31.0 | -3 32.2 | 177 13.0 | 12.8 | 18 24.4 | -12.1 | 55.7 |
| | 11 | 342 31.1 | -3 31.2 | 191 44.9 | 12.9 | 18 12.4 | -12.1 | 55.7 |
| | 12 | 357 31.3 | -3 30.2 | 206 16.8 | 13.0 | 18 0.3 | -12.2 | 55.7 |
| | 13 | 12 31.5 | -3 29.2 | 220 48.8 | 13.1 | 17 48.1 | -12.3 | 55.7 |
| | 14 | 27 31.6 | -3 28.3 | 235 20.9 | 13.2 | 17 35.8 | -12.3 | 55.6 |
| | 15 | 42 31.8 | -3 27.3 | 249 53.1 | 13.3 | 17 23.4 | -12.4 | 55.6 |
| | 16 | 57 32.0 | -3 26.3 | 264 25.4 | 13.4 | 17 11.0 | -12.5 | 55.6 |
| | 17 | 72 32.1 | -3 25.3 | 278 57.8 | 13.5 | 16 58.6 | -12.5 | 55.6 |
| | 18 | 87 32.3 | -3 24.3 | 293 30.2 | 13.5 | 16 46.0 | -12.6 | 55.6 |
| | 19 | 102 32.5 | -3 23.3 | 308 2.8 | 13.6 | 16 33.4 | -12.7 | 55.5 |
| | 20 | 117 32.6 | -3 22.4 | 322 35.4 | 13.7 | 16 20.8 | -12.7 | 55.5 |
| | 21 | 132 32.8 | -3 21.4 | 337 8.1 | 13.8 | 16 8.0 | -12.8 | 55.5 |
| | 22 | 147 33.0 | -3 20.4 | 351 40.9 | 13.9 | 15 55.2 | -12.9 | 55.5 |
| | 23 | 162 33.1 | -3 19.4 | 6 13.8 | 13.9 | 15 42.4 | -12.9 | 55.5 |
| | | *v* 0.2 | SD 16.1 | *d* -1.0 | | SD 15.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **12 Wednesday** | 0 | 177 33.3 | -3 18.4 | 20 46.7 | 14.0 | 15 29.5 | -13.0 | 55.5 |
| | 1 | 192 33.5 | -3 17.4 | 35 19.7 | 14.1 | 15 16.5 | -13.0 | 55.4 |
| | 2 | 207 33.6 | -3 16.5 | 49 52.8 | 14.2 | 15 3.5 | -13.1 | 55.4 |
| | 3 | 222 33.8 | -3 15.5 | 64 26.0 | 14.3 | 14 50.4 | -13.1 | 55.4 |
| | 4 | 237 34.0 | -3 14.5 | 78 59.3 | 14.3 | 14 37.3 | -13.2 | 55.4 |
| | 5 | 252 34.1 | -3 13.5 | 93 32.6 | 14.4 | 14 24.1 | -13.2 | 55.4 |
| | 6 | 267 34.3 | -3 12.5 | 108 6.0 | 14.5 | 14 10.8 | -13.3 | 55.3 |
| | 7 | 282 34.5 | -3 11.5 | 122 39.5 | 14.6 | 13 57.5 | -13.3 | 55.3 |
| | 8 | 297 34.6 | -3 10.6 | 137 13.1 | 14.6 | 13 44.2 | -13.4 | 55.3 |
| | 9 | 312 34.8 | -3 9.6 | 151 46.7 | 14.7 | 13 30.8 | -13.4 | 55.3 |
| | 10 | 327 35.0 | -3 8.6 | 166 20.4 | 14.8 | 13 17.4 | -13.5 | 55.3 |
| | 11 | 342 35.1 | -3 7.6 | 180 54.1 | 14.8 | 13 3.9 | -13.5 | 55.3 |
| | 12 | 357 35.3 | -3 6.6 | 195 28.0 | 14.9 | 12 50.4 | -13.6 | 55.2 |
| | 13 | 12 35.5 | -3 5.6 | 210 1.9 | 15.0 | 12 36.8 | -13.6 | 55.2 |
| | 14 | 27 35.7 | -3 4.7 | 224 35.8 | 15.0 | 12 23.2 | -13.7 | 55.2 |
| | 15 | 42 35.8 | -3 3.7 | 239 9.9 | 15.1 | 12 9.5 | -13.7 | 55.2 |
| | 16 | 57 36.0 | -3 2.7 | 253 44.0 | 15.2 | 11 55.9 | -13.7 | 55.2 |
| | 17 | 72 36.2 | -3 1.7 | 268 18.1 | 15.2 | 11 42.1 | -13.8 | 55.2 |
| | 18 | 87 36.3 | -3 0.7 | 282 52.3 | 15.3 | 11 28.3 | -13.8 | 55.1 |
| | 19 | 102 36.5 | -2 59.7 | 297 26.6 | 15.3 | 11 14.5 | -13.8 | 55.1 |
| | 20 | 117 36.7 | -2 58.8 | 312 1.0 | 15.4 | 11 0.7 | -13.9 | 55.1 |
| | 21 | 132 36.8 | -2 57.8 | 326 35.4 | 15.5 | 10 46.8 | -13.9 | 55.1 |
| | 22 | 147 37.0 | -2 56.8 | 341 9.8 | 15.5 | 10 32.9 | -14.0 | 55.1 |
| | 23 | 162 37.2 | -2 55.8 | 355 44.3 | 15.6 | 10 18.9 | -14.0 | 55.1 |
| | | *v* 0.2 | SD 16.1 | *d* -1.0 | | SD 15.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **13 Thursday** | 0 | 177 37.4 | -2 54.8 | 10 18.9 | 15.6 | 10 5.0 | -14.0 | 55.0 |
| | 1 | 192 37.5 | -2 53.8 | 24 53.5 | 15.7 | 9 50.9 | -14.0 | 55.0 |
| | 2 | 207 37.7 | -2 52.8 | 39 28.2 | 15.7 | 9 36.9 | -14.1 | 55.0 |
| | 3 | 222 37.9 | -2 51.9 | 54 3.0 | 15.8 | 9 22.8 | -14.1 | 55.0 |
| | 4 | 237 38.0 | -2 50.9 | 68 37.8 | 15.8 | 9 8.7 | -14.1 | 55.0 |
| | 5 | 252 38.2 | -2 49.9 | 83 12.6 | 15.9 | 8 54.6 | -14.2 | 55.0 |
| | 6 | 267 38.4 | -2 48.9 | 97 47.5 | 15.9 | 8 40.4 | -14.2 | 55.0 |
| | 7 | 282 38.6 | -2 47.9 | 112 22.4 | 16.0 | 8 26.2 | -14.2 | 54.9 |
| | 8 | 297 38.7 | -2 46.9 | 126 57.4 | 16.0 | 8 12.0 | -14.2 | 54.9 |
| | 9 | 312 38.9 | -2 45.9 | 141 32.4 | 16.1 | 7 57.8 | -14.3 | 54.9 |
| | 10 | 327 39.1 | -2 45.0 | 156 7.5 | 16.1 | 7 43.5 | -14.3 | 54.9 |
| | 11 | 342 39.2 | -2 44.0 | 170 42.6 | 16.2 | 7 29.3 | -14.3 | 54.9 |
| | 12 | 357 39.4 | -2 43.0 | 185 17.8 | 16.2 | 7 15.0 | -14.3 | 54.9 |
| | 13 | 12 39.6 | -2 42.0 | 199 53.0 | 16.3 | 7 0.7 | -14.3 | 54.9 |
| | 14 | 27 39.8 | -2 41.0 | 214 28.3 | 16.3 | 6 46.3 | -14.4 | 54.8 |
| | 15 | 42 39.9 | -2 40.0 | 229 3.6 | 16.3 | 6 32.0 | -14.4 | 54.8 |
| | 16 | 57 40.1 | -2 39.0 | 243 38.9 | 16.4 | 6 17.6 | -14.4 | 54.8 |
| | 17 | 72 40.3 | -2 38.1 | 258 14.3 | 16.4 | 6 3.2 | -14.4 | 54.8 |
| | 18 | 87 40.4 | -2 37.1 | 272 49.7 | 16.4 | 5 48.8 | -14.4 | 54.8 |
| | 19 | 102 40.6 | -2 36.1 | 287 25.1 | 16.5 | 5 34.4 | -14.4 | 54.8 |
| | 20 | 117 40.8 | -2 35.1 | 302 0.6 | 16.5 | 5 20.0 | -14.4 | 54.8 |
| | 21 | 132 41.0 | -2 34.1 | 316 36.1 | 16.5 | 5 5.5 | -14.5 | 54.7 |
| | 22 | 147 41.1 | -2 33.1 | 331 11.7 | 16.6 | 4 51.1 | -14.5 | 54.7 |
| | 23 | 162 41.3 | -2 32.1 | 345 47.3 | 16.6 | 4 36.6 | -14.5 | 54.7 |
| | | *v* 0.2 | SD 16.1 | *d* -1.0 | | SD 15.0 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 04:16 | 05:37 | 06:44 | 17:38 | 18:46 | 20:08 |
| 70 | 04:27 | 05:39 | 06:40 | 17:42 | 18:43 | 19:56 |
| 68 | 04:36 | 05:42 | 06:37 | 17:45 | 18:40 | 19:47 |
| 66 | 04:43 | 05:43 | 06:34 | 17:47 | 18:38 | 19:39 |
| 64 | 04:49 | 05:45 | 06:32 | 17:49 | 18:37 | 19:33 |
| 62 | 04:54 | 05:46 | 06:30 | 17:51 | 18:35 | 19:27 |
| 60 | 04:58 | 05:47 | 06:28 | 17:53 | 18:34 | 19:23 |
| 58 | 05:02 | 05:48 | 06:27 | 17:54 | 18:33 | 19:19 |
| 56 | 05:05 | 05:48 | 06:25 | 17:56 | 18:33 | 19:16 |
| 54 | 05:08 | 05:49 | 06:24 | 17:57 | 18:32 | 19:13 |
| 52 | 05:10 | 05:49 | 06:23 | 17:58 | 18:31 | 19:11 |
| 50 | 05:12 | 05:50 | 06:22 | 17:59 | 18:31 | 19:09 |
| 45 | 05:16 | 05:50 | 06:20 | 18:01 | 18:30 | 19:04 |
| 40 | 05:19 | 05:51 | 06:18 | 18:03 | 18:30 | 19:01 |
| 35 | 05:21 | 05:51 | 06:16 | 18:04 | 18:30 | 18:59 |
| 30 | 05:23 | 05:51 | 06:14 | 18:06 | 18:30 | 18:57 |
| 20 | 05:24 | 05:50 | 06:12 | 18:08 | 18:30 | 18:56 |
| 10 | 05:24 | 05:48 | 06:09 | 18:11 | 18:32 | 18:56 |
| 0 | 05:22 | 05:46 | 06:07 | 18:13 | 18:34 | 18:58 |
| -10 | 05:19 | 05:43 | 06:04 | 18:16 | 18:37 | 19:01 |
| -20 | 05:13 | 05:39 | 06:01 | 18:18 | 18:40 | 19:06 |
| -30 | 05:06 | 05:34 | 05:58 | 18:22 | 18:46 | 19:14 |
| -35 | 05:01 | 05:30 | 05:56 | 18:23 | 18:49 | 19:19 |
| -40 | 04:54 | 05:26 | 05:54 | 18:26 | 18:53 | 19:25 |
| -45 | 04:46 | 05:21 | 05:51 | 18:28 | 18:58 | 19:33 |
| -50 | 04:36 | 05:15 | 05:48 | 18:31 | 19:04 | 19:43 |
| -52 | 04:31 | 05:12 | 05:46 | 18:33 | 19:07 | 19:48 |
| -54 | 04:25 | 05:08 | 05:44 | 18:34 | 19:10 | 19:53 |
| -56 | 04:19 | 05:05 | 05:43 | 18:36 | 19:14 | 19:59 |
| -58 | 04:11 | 05:00 | 05:40 | 18:38 | 19:18 | 20:06 |
| -60 | 04:03 | 04:56 | 05:38 | 18:40 | 19:22 | 20:15 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **11** | **12** | **13** | **11** | **12** | **13** |
| 72 | | 14:15 | 16:30 | | 08:04 | 07:17 |
| 70 | 12:05 | 14:38 | 16:39 | 08:38 | 07:39 | 07:05 |
| 68 | 12:47 | 14:55 | 16:46 | 07:55 | 07:19 | 06:56 |
| 66 | 13:15 | 15:09 | 16:52 | 07:26 | 07:04 | 06:47 |
| 64 | 13:36 | 15:21 | 16:58 | 07:04 | 06:51 | 06:41 |
| 62 | 13:53 | 15:31 | 17:02 | 06:46 | 06:40 | 06:35 |
| 60 | 14:07 | 15:39 | 17:06 | 06:31 | 06:30 | 06:29 |
| 58 | 14:19 | 15:46 | 17:09 | 06:18 | 06:22 | 06:25 |
| 56 | 14:29 | 15:52 | 17:12 | 06:07 | 06:15 | 06:20 |
| 54 | 14:38 | 15:58 | 17:15 | 05:57 | 06:08 | 06:17 |
| 52 | 14:46 | 16:03 | 17:17 | 05:48 | 06:02 | 06:13 |
| 50 | 14:53 | 16:08 | 17:20 | 05:41 | 05:57 | 06:10 |
| 45 | 15:09 | 16:18 | 17:24 | 05:24 | 05:45 | 06:03 |
| 40 | 15:21 | 16:26 | 17:28 | 05:10 | 05:36 | 05:58 |
| 35 | 15:32 | 16:33 | 17:32 | 04:58 | 05:27 | 05:53 |
| 30 | 15:41 | 16:39 | 17:35 | 04:48 | 05:20 | 05:48 |
| 20 | 15:57 | 16:50 | 17:40 | 04:30 | 05:07 | 05:41 |
| 10 | 16:11 | 16:59 | 17:45 | 04:14 | 04:56 | 05:34 |
| 0 | 16:23 | 17:07 | 17:49 | 03:59 | 04:45 | 05:28 |
| -10 | 16:36 | 17:16 | 17:53 | 03:44 | 04:34 | 05:21 |
| -20 | 16:50 | 17:25 | 17:58 | 03:28 | 04:23 | 05:14 |
| -30 | 17:05 | 17:35 | 18:03 | 03:10 | 04:09 | 05:06 |
| -35 | 17:14 | 17:41 | 18:06 | 02:59 | 04:01 | 05:02 |
| -40 | 17:25 | 17:48 | 18:09 | 02:46 | 03:53 | 04:56 |
| -45 | 17:36 | 17:56 | 18:13 | 02:31 | 03:42 | 04:50 |
| -50 | 17:51 | 18:05 | 18:17 | 02:13 | 03:29 | 04:43 |
| -52 | 17:57 | 18:09 | 18:19 | 02:04 | 03:23 | 04:39 |
| -54 | 18:05 | 18:14 | 18:22 | 01:55 | 03:17 | 04:35 |
| -56 | 18:13 | 18:19 | 18:24 | 01:44 | 03:09 | 04:31 |
| -58 | 18:22 | 18:25 | 18:27 | 01:31 | 03:01 | 04:26 |
| -60 | 18:33 | 18:32 | 18:30 | 01:16 | 02:52 | 04:21 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **11** | 10:03 | 09:55 | 12:10 | 22:34 | 10:11 | 11 | 90 |
| **12** | 09:47 | 09:39 | 12:10 | 23:18 | 10:56 | 12 | 95 |
| **13** | 09:31 | 09:22 | 12:09 | 23:58 | 11:38 | 13 | 98 |

## 2025 March 14, 15, 16 (Fri, Sat, Sun)

| | | Aries | Venus -4.3 | | Mars 0.0 | | Jupiter -2.2 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 14 Friday | 0 | 171 52.0 | 167 59.3 | 10 50.4 | 60 58.7 | 25 14.3 | 99 40.3 | 22 4.2 | 178 11.3 | -4 49.2 |
| | 1 | 186 54.5 | 183 2.9 | 10 50.1 | 76 0.7 | 25 14.2 | 114 42.4 | 22 4.3 | 193 13.5 | -4 49.1 |
| | 2 | 201 56.9 | 198 6.5 | 10 49.7 | 91 2.6 | 25 14.0 | 129 44.6 | 22 4.3 | 208 15.7 | -4 48.9 |
| | 3 | 216 59.4 | 213 10.2 | 10 49.4 | 106 4.6 | 25 13.9 | 144 46.7 | 22 4.3 | 223 17.9 | -4 48.8 |
| | 4 | 232 1.8 | 228 13.8 | 10 49.1 | 121 6.5 | 25 13.7 | 159 48.9 | 22 4.4 | 238 20.0 | -4 48.7 |
| | 5 | 247 4.3 | 243 17.5 | 10 48.8 | 136 8.5 | 25 13.6 | 174 51.0 | 22 4.4 | 253 22.2 | -4 48.6 |
| | 6 | 262 6.8 | 258 21.1 | 10 48.4 | 151 10.4 | 25 13.5 | 189 53.2 | 22 4.5 | 268 24.4 | -4 48.4 |
| | 7 | 277 9.2 | 273 24.7 | 10 48.1 | 166 12.3 | 25 13.3 | 204 55.4 | 22 4.5 | 283 26.6 | -4 48.3 |
| | 8 | 292 11.7 | 288 28.4 | 10 47.8 | 181 14.3 | 25 13.2 | 219 57.5 | 22 4.6 | 298 28.7 | -4 48.2 |
| | 9 | 307 14.2 | 303 32.1 | 10 47.4 | 196 16.2 | 25 13.0 | 234 59.7 | 22 4.6 | 313 30.9 | -4 48.1 |
| | 10 | 322 16.6 | 318 35.7 | 10 47.1 | 211 18.2 | 25 12.9 | 250 1.8 | 22 4.6 | 328 33.1 | -4 48.0 |
| | 11 | 337 19.1 | 333 39.4 | 10 46.7 | 226 20.1 | 25 12.7 | 265 4.0 | 22 4.7 | 343 35.3 | -4 47.8 |
| | 12 | 352 21.6 | 348 43.0 | 10 46.4 | 241 22.0 | 25 12.6 | 280 6.1 | 22 4.7 | 358 37.5 | -4 47.7 |
| | 13 | 7 24.0 | 3 46.7 | 10 46.0 | 256 24.0 | 25 12.5 | 295 8.3 | 22 4.8 | 13 39.6 | -4 47.6 |
| | 14 | 22 26.5 | 18 50.4 | 10 45.7 | 271 25.9 | 25 12.3 | 310 10.5 | 22 4.8 | 28 41.8 | -4 47.5 |
| | 15 | 37 28.9 | 33 54.0 | 10 45.3 | 286 27.8 | 25 12.2 | 325 12.6 | 22 4.9 | 43 44.0 | -4 47.4 |
| | 16 | 52 31.4 | 48 57.7 | 10 45.0 | 301 29.8 | 25 12.0 | 340 14.8 | 22 4.9 | 58 46.2 | -4 47.2 |
| | 17 | 67 33.9 | 64 1.4 | 10 44.6 | 316 31.7 | 25 11.9 | 355 16.9 | 22 4.9 | 73 48.4 | -4 47.1 |
| | 18 | 82 36.3 | 79 5.0 | 10 44.2 | 331 33.6 | 25 11.7 | 10 19.1 | 22 5.0 | 88 50.5 | -4 47.0 |
| | 19 | 97 38.8 | 94 8.7 | 10 43.9 | 346 35.6 | 25 11.6 | 25 21.2 | 22 5.0 | 103 52.7 | -4 46.9 |
| | 20 | 112 41.3 | 109 12.4 | 10 43.5 | 1 37.5 | 25 11.5 | 40 23.4 | 22 5.1 | 118 54.9 | -4 46.8 |
| | 21 | 127 43.7 | 124 16.1 | 10 43.1 | 16 39.4 | 25 11.3 | 55 25.5 | 22 5.1 | 133 57.1 | -4 46.6 |
| | 22 | 142 46.2 | 139 19.8 | 10 42.8 | 31 41.3 | 25 11.2 | 70 27.7 | 22 5.2 | 148 59.3 | -4 46.5 |
| | 23 | 157 48.7 | 154 23.4 | 10 42.4 | 46 43.3 | 25 11.0 | 85 29.8 | 22 5.2 | 164 1.4 | -4 46.4 |
| | | MP 12:32 | *v* 3.6 | *d* -0.3 | *v* 1.9 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 Saturday | 0 | 172 51.1 | 169 27.1 | 10 42.0 | 61 45.2 | 25 10.9 | 100 32.0 | 22 5.2 | 179 3.6 | -4 46.3 |
| | 1 | 187 53.6 | 184 30.8 | 10 41.6 | 76 47.1 | 25 10.7 | 115 34.1 | 22 5.3 | 194 5.8 | -4 46.2 |
| | 2 | 202 56.1 | 199 34.5 | 10 41.2 | 91 49.0 | 25 10.6 | 130 36.3 | 22 5.3 | 209 8.0 | -4 46.0 |
| | 3 | 217 58.5 | 214 38.2 | 10 40.9 | 106 51.0 | 25 10.4 | 145 38.4 | 22 5.4 | 224 10.2 | -4 45.9 |
| | 4 | 233 1.0 | 229 41.9 | 10 40.5 | 121 52.9 | 25 10.3 | 160 40.6 | 22 5.4 | 239 12.3 | -4 45.8 |
| | 5 | 248 3.4 | 244 45.6 | 10 40.1 | 136 54.8 | 25 10.2 | 175 42.7 | 22 5.4 | 254 14.5 | -4 45.7 |
| | 6 | 263 5.9 | 259 49.3 | 10 39.7 | 151 56.7 | 25 10.0 | 190 44.9 | 22 5.5 | 269 16.7 | -4 45.6 |
| | 7 | 278 8.4 | 274 53.0 | 10 39.3 | 166 58.6 | 25 9.9 | 205 47.0 | 22 5.5 | 284 18.9 | -4 45.4 |
| | 8 | 293 10.8 | 289 56.7 | 10 38.9 | 182 0.5 | 25 9.7 | 220 49.2 | 22 5.6 | 299 21.1 | -4 45.3 |
| | 9 | 308 13.3 | 305 0.4 | 10 38.5 | 197 2.5 | 25 9.6 | 235 51.3 | 22 5.6 | 314 23.2 | -4 45.2 |
| | 10 | 323 15.8 | 320 4.1 | 10 38.1 | 212 4.4 | 25 9.4 | 250 53.5 | 22 5.7 | 329 25.4 | -4 45.1 |
| | 11 | 338 18.2 | 335 7.8 | 10 37.7 | 227 6.3 | 25 9.3 | 265 55.6 | 22 5.7 | 344 27.6 | -4 45.0 |
| | 12 | 353 20.7 | 350 11.6 | 10 37.3 | 242 8.2 | 25 9.1 | 280 57.8 | 22 5.7 | 359 29.8 | -4 44.8 |
| | 13 | 8 23.2 | 5 15.3 | 10 36.9 | 257 10.1 | 25 9.0 | 295 59.9 | 22 5.8 | 14 31.9 | -4 44.7 |
| | 14 | 23 25.6 | 20 19.0 | 10 36.4 | 272 12.0 | 25 8.9 | 311 2.1 | 22 5.8 | 29 34.1 | -4 44.6 |
| | 15 | 38 28.1 | 35 22.7 | 10 36.0 | 287 13.9 | 25 8.7 | 326 4.2 | 22 5.9 | 44 36.3 | -4 44.5 |
| | 16 | 53 30.5 | 50 26.4 | 10 35.6 | 302 15.8 | 25 8.6 | 341 6.4 | 22 5.9 | 59 38.5 | -4 44.4 |
| | 17 | 68 33.0 | 65 30.2 | 10 35.2 | 317 17.8 | 25 8.4 | 356 8.5 | 22 6.0 | 74 40.7 | -4 44.2 |
| | 18 | 83 35.5 | 80 33.9 | 10 34.8 | 332 19.7 | 25 8.3 | 11 10.7 | 22 6.0 | 89 42.8 | -4 44.1 |
| | 19 | 98 37.9 | 95 37.6 | 10 34.3 | 347 21.6 | 25 8.1 | 26 12.8 | 22 6.0 | 104 45.0 | -4 44.0 |
| | 20 | 113 40.4 | 110 41.3 | 10 33.9 | 2 23.5 | 25 8.0 | 41 15.0 | 22 6.1 | 119 47.2 | -4 43.9 |
| | 21 | 128 42.9 | 125 45.1 | 10 33.5 | 17 25.4 | 25 7.8 | 56 17.1 | 22 6.1 | 134 49.4 | -4 43.8 |
| | 22 | 143 45.3 | 140 48.8 | 10 33.0 | 32 27.3 | 25 7.7 | 71 19.2 | 22 6.2 | 149 51.6 | -4 43.6 |
| | 23 | 158 47.8 | 155 52.5 | 10 32.6 | 47 29.2 | 25 7.5 | 86 21.4 | 22 6.2 | 164 53.7 | -4 43.5 |
| | | MP 12:28 | *v* 3.7 | *d* -0.4 | *v* 1.9 | *d* -0.1 | *v* 2.2 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 Sunday | 0 | 173 50.3 | 170 56.3 | 10 32.2 | 62 31.1 | 25 7.4 | 101 23.5 | 22 6.3 | 179 55.9 | -4 43.4 |
| | 1 | 188 52.7 | 186 0.0 | 10 31.7 | 77 33.0 | 25 7.2 | 116 25.7 | 22 6.3 | 194 58.1 | -4 43.3 |
| | 2 | 203 55.2 | 201 3.8 | 10 31.3 | 92 34.9 | 25 7.1 | 131 27.8 | 22 6.3 | 210 0.3 | -4 43.2 |
| | 3 | 218 57.7 | 216 7.5 | 10 30.8 | 107 36.8 | 25 6.9 | 146 30.0 | 22 6.4 | 225 2.5 | -4 43.0 |
| | 4 | 234 0.1 | 231 11.3 | 10 30.4 | 122 38.7 | 25 6.8 | 161 32.1 | 22 6.4 | 240 4.6 | -4 42.9 |
| | 5 | 249 2.6 | 246 15.0 | 10 29.9 | 137 40.6 | 25 6.6 | 176 34.3 | 22 6.5 | 255 6.8 | -4 42.8 |
| | 6 | 264 5.0 | 261 18.7 | 10 29.5 | 152 42.5 | 25 6.5 | 191 36.4 | 22 6.5 | 270 9.0 | -4 42.7 |
| | 7 | 279 7.5 | 276 22.5 | 10 29.0 | 167 44.4 | 25 6.4 | 206 38.5 | 22 6.6 | 285 11.2 | -4 42.6 |
| | 8 | 294 10.0 | 291 26.3 | 10 28.6 | 182 46.3 | 25 6.2 | 221 40.7 | 22 6.6 | 300 13.4 | -4 42.4 |
| | 9 | 309 12.4 | 306 30.0 | 10 28.1 | 197 48.1 | 25 6.1 | 236 42.8 | 22 6.6 | 315 15.5 | -4 42.3 |
| | 10 | 324 14.9 | 321 33.8 | 10 27.6 | 212 50.0 | 25 5.9 | 251 45.0 | 22 6.7 | 330 17.7 | -4 42.2 |
| | 11 | 339 17.4 | 336 37.5 | 10 27.2 | 227 51.9 | 25 5.8 | 266 47.1 | 22 6.7 | 345 19.9 | -4 42.1 |
| | 12 | 354 19.8 | 351 41.3 | 10 26.7 | 242 53.8 | 25 5.6 | 281 49.3 | 22 6.8 | 0 22.1 | -4 42.0 |
| | 13 | 9 22.3 | 6 45.0 | 10 26.2 | 257 55.7 | 25 5.5 | 296 51.4 | 22 6.8 | 15 24.3 | -4 41.8 |
| | 14 | 24 24.8 | 21 48.8 | 10 25.8 | 272 57.6 | 25 5.3 | 311 53.5 | 22 6.9 | 30 26.4 | -4 41.7 |
| | 15 | 39 27.2 | 36 52.6 | 10 25.3 | 287 59.5 | 25 5.2 | 326 55.7 | 22 6.9 | 45 28.6 | -4 41.6 |
| | 16 | 54 29.7 | 51 56.3 | 10 24.8 | 303 1.4 | 25 5.0 | 341 57.8 | 22 7.0 | 60 30.8 | -4 41.5 |
| | 17 | 69 32.2 | 67 0.1 | 10 24.3 | 318 3.3 | 25 4.9 | 357 0.0 | 22 7.0 | 75 33.0 | -4 41.4 |
| | 18 | 84 34.6 | 82 3.9 | 10 23.8 | 333 5.1 | 25 4.7 | 12 2.1 | 22 7.0 | 90 35.1 | -4 41.2 |
| | 19 | 99 37.1 | 97 7.6 | 10 23.4 | 348 7.0 | 25 4.6 | 27 4.2 | 22 7.1 | 105 37.3 | -4 41.1 |
| | 20 | 114 39.5 | 112 11.4 | 10 22.9 | 3 8.9 | 25 4.4 | 42 6.4 | 22 7.1 | 120 39.5 | -4 41.0 |
| | 21 | 129 42.0 | 127 15.2 | 10 22.4 | 18 10.8 | 25 4.3 | 57 8.5 | 22 7.2 | 135 41.7 | -4 40.9 |
| | 22 | 144 44.5 | 142 19.0 | 10 21.9 | 33 12.7 | 25 4.1 | 72 10.7 | 22 7.2 | 150 43.9 | -4 40.8 |
| | 23 | 159 46.9 | 157 22.7 | 10 21.4 | 48 14.5 | 25 4.0 | 87 12.8 | 22 7.3 | 165 46.0 | -4 40.6 |
| | | MP 12:24 | *v* 3.7 | *d* -0.4 | *v* 1.9 | *d* -0.1 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.4 |
| Achernar | 335 20.5 | -57 6.7 |
| Acrux | 172 59.3 | -63 14.3 |
| Adhara | 255 5.6 | -29 0.6 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.2 |
| Alkaid | 152 51.5 | 49 11.0 |
| Alnair | 27 33.1 | -46 50.4 |
| Alnilam | 275 37.6 | -1 11.2 |
| Alphard | 217 47.3 | -8 46.2 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.0 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.3 |
| Antares | 112 15.6 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.6 | -69 4.1 |
| Avior | 234 14.3 | -59 35.6 |
| Bellatrix | 278 22.7 | 6 22.3 |
| Betelgeuse | 270 51.9 | 7 24.6 |
| Canopus | 263 52.2 | -52 42.8 |
| Capella | 280 21.7 | 46 1.5 |
| Deneb | 49 26.1 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.1 | 61 36.9 |
| Elnath | 278 1.7 | 28 37.8 |
| Eltanin | 90 42.2 | 51 28.7 |
| Enif | 33 38.9 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.4 |
| Gacrux | 171 51.0 | -57 15.3 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.3 | -60 29.6 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.4 | -34 22.3 |
| Kochab | 137 19.0 | 74 2.8 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.2 | -36 29.6 |
| Miaplacidus | 221 37.6 | -69 49.4 |
| Mirfak | 308 28.3 | 49 57.2 |
| Nunki | 75 47.7 | -26 15.9 |
| Peacock | 53 5.9 | -56 39.1 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.4 | 12 32.2 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.7 | -8 10.5 |
| Rigil Kent. | 139 39.7 | -60 56.3 |
| Sabik | 102 2.6 | -15 45.4 |
| Schedar | 349 31.5 | 56 40.6 |
| Shaula | 96 10.2 | -37 7.3 |
| Sirius | 258 26.0 | -16 45.2 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 32.2 |
| Vega | 80 33.2 | 38 48.1 |
| Zuben'ubi | 136 55.7 | -16 8.9 |

| 14 Fri | SHA | MP |
|---|---|---|
| Venus | 356 7.3 | 12:45 |
| Mars | 249 6.7 | 19:54 |
| Jupiter | 287 48.3 | 17:19 |
| Saturn | 6 19.3 | 12:05 |

| 15 Sat | SHA | MP |
|---|---|---|
| Venus | 356 36.0 | 12:39 |
| Mars | 248 54.1 | 19:50 |
| Jupiter | 287 40.9 | 17:15 |
| Saturn | 6 12.5 | 12:02 |

| 16 Sun | SHA | MP |
|---|---|---|
| Venus | 357 6.0 | 12:33 |
| Mars | 248 40.8 | 19:47 |
| Jupiter | 287 33.3 | 17:12 |
| Saturn | 6 5.7 | 11:59 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **14 Friday** | 0 | 177 41.5 | -2 31.2 | 0 22.9 | 16.6 | 4 22.1 | -14.5 | 54.7 |
| | 1 | 192 41.7 | -2 30.2 | 14 58.5 | 16.7 | 4 7.7 | -14.5 | 54.7 |
| | 2 | 207 41.8 | -2 29.2 | 29 34.2 | 16.7 | 3 53.2 | -14.5 | 54.7 |
| | 3 | 222 42.0 | -2 28.2 | 44 9.9 | 16.7 | 3 38.7 | -14.5 | 54.7 |
| | 4 | 237 42.2 | -2 27.2 | 58 45.6 | 16.8 | 3 24.2 | -14.5 | 54.6 |
| | 5 | 252 42.4 | -2 26.2 | 73 21.4 | 16.8 | 3 9.6 | -14.5 | 54.6 |
| | 6 | 267 42.5 | -2 25.2 | 87 57.1 | 16.8 | 2 55.1 | -14.5 | 54.6 |
| | 7 | 282 42.7 | -2 24.3 | 102 32.9 | 16.8 | 2 40.6 | -14.5 | 54.6 |
| | 8 | 297 42.9 | -2 23.3 | 117 8.8 | 16.8 | 2 26.1 | -14.5 | 54.6 |
| | 9 | 312 43.0 | -2 22.3 | 131 44.6 | 16.9 | 2 11.6 | -14.5 | 54.6 |
| | 10 | 327 43.2 | -2 21.3 | 146 20.5 | 16.9 | 1 57.0 | -14.5 | 54.6 |
| | 11 | 342 43.4 | -2 20.3 | 160 56.4 | 16.9 | 1 42.5 | -14.5 | 54.6 |
| | 12 | 357 43.6 | -2 19.3 | 175 32.3 | 16.9 | 1 28.0 | -14.5 | 54.5 |
| | 13 | 12 43.7 | -2 18.3 | 190 8.2 | 16.9 | 1 13.5 | -14.5 | 54.5 |
| | 14 | 27 43.9 | -2 17.4 | 204 44.1 | 17.0 | 0 59.0 | -14.5 | 54.5 |
| | 15 | 42 44.1 | -2 16.4 | 219 20.1 | 17.0 | 0 44.4 | -14.5 | 54.5 |
| | 16 | 57 44.3 | -2 15.4 | 233 56.1 | 17.0 | 0 29.9 | -14.5 | 54.5 |
| | 17 | 72 44.4 | -2 14.4 | 248 32.1 | 17.0 | 0 15.4 | -14.5 | 54.5 |
| | 18 | 87 44.6 | -2 13.4 | 263 8.1 | 17.0 | 0 0.9 | -14.5 | 54.5 |
| | 19 | 102 44.8 | -2 12.4 | 277 44.1 | 17.0 | -0 13.6 | 14.5 | 54.5 |
| | 20 | 117 45.0 | -2 11.4 | 292 20.1 | 17.0 | -0 28.1 | 14.5 | 54.5 |
| | 21 | 132 45.1 | -2 10.4 | 306 56.1 | 17.0 | -0 42.6 | 14.5 | 54.4 |
| | 22 | 147 45.3 | -2 9.5 | 321 32.2 | 17.0 | -0 57.0 | 14.5 | 54.4 |
| | 23 | 162 45.5 | -2 8.5 | 336 8.2 | 17.1 | -1 11.5 | 14.5 | 54.4 |
| | *v* | 0.2 | SD 16.1 | *d* -1.0 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **15 Saturday** | 0 | 177 45.7 | -2 7.5 | 350 44.3 | 17.1 | -1 26.0 | 14.4 | 54.4 |
| | 1 | 192 45.9 | -2 6.5 | 5 20.3 | 17.1 | -1 40.4 | 14.4 | 54.4 |
| | 2 | 207 46.0 | -2 5.5 | 19 56.4 | 17.1 | -1 54.8 | 14.4 | 54.4 |
| | 3 | 222 46.2 | -2 4.5 | 34 32.4 | 17.1 | -2 9.3 | 14.4 | 54.4 |
| | 4 | 237 46.4 | -2 3.5 | 49 8.5 | 17.1 | -2 23.7 | 14.4 | 54.4 |
| | 5 | 252 46.6 | -2 2.6 | 63 44.6 | 17.1 | -2 38.1 | 14.4 | 54.4 |
| | 6 | 267 46.7 | -2 1.6 | 78 20.6 | 17.1 | -2 52.4 | 14.4 | 54.3 |
| | 7 | 282 46.9 | -2 0.6 | 92 56.7 | 17.1 | -3 6.8 | 14.3 | 54.3 |
| | 8 | 297 47.1 | -1 59.6 | 107 32.8 | 17.1 | -3 21.1 | 14.3 | 54.3 |
| | 9 | 312 47.3 | -1 58.6 | 122 8.8 | 17.1 | -3 35.5 | 14.3 | 54.3 |
| | 10 | 327 47.4 | -1 57.6 | 136 44.9 | 17.1 | -3 49.8 | 14.3 | 54.3 |
| | 11 | 342 47.6 | -1 56.6 | 151 21.0 | 17.1 | -4 4.1 | 14.3 | 54.3 |
| | 12 | 357 47.8 | -1 55.6 | 165 57.0 | 17.0 | -4 18.3 | 14.2 | 54.3 |
| | 13 | 12 48.0 | -1 54.7 | 180 33.1 | 17.0 | -4 32.6 | 14.2 | 54.3 |
| | 14 | 27 48.1 | -1 53.7 | 195 9.1 | 17.0 | -4 46.8 | 14.2 | 54.3 |
| | 15 | 42 48.3 | -1 52.7 | 209 45.1 | 17.0 | -5 1.0 | 14.2 | 54.3 |
| | 16 | 57 48.5 | -1 51.7 | 224 21.1 | 17.0 | -5 15.2 | 14.2 | 54.3 |
| | 17 | 72 48.7 | -1 50.7 | 238 57.1 | 17.0 | -5 29.4 | 14.1 | 54.2 |
| | 18 | 87 48.9 | -1 49.7 | 253 33.1 | 17.0 | -5 43.5 | 14.1 | 54.2 |
| | 19 | 102 49.0 | -1 48.7 | 268 9.1 | 17.0 | -5 57.6 | 14.1 | 54.2 |
| | 20 | 117 49.2 | -1 47.7 | 282 45.1 | 17.0 | -6 11.7 | 14.1 | 54.2 |
| | 21 | 132 49.4 | -1 46.8 | 297 21.0 | 16.9 | -6 25.7 | 14.0 | 54.2 |
| | 22 | 147 49.6 | -1 45.8 | 311 57.0 | 16.9 | -6 39.8 | 14.0 | 54.2 |
| | 23 | 162 49.7 | -1 44.8 | 326 32.9 | 16.9 | -6 53.8 | 14.0 | 54.2 |
| | *v* | 0.2 | SD 16.1 | *d* -1.0 | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **16 Sunday** | 0 | 177 49.9 | -1 43.8 | 341 8.8 | 16.9 | -7 7.8 | 13.9 | 54.2 |
| | 1 | 192 50.1 | -1 42.8 | 355 44.7 | 16.9 | -7 21.7 | 13.9 | 54.2 |
| | 2 | 207 50.3 | -1 41.8 | 10 20.6 | 16.8 | -7 35.6 | 13.9 | 54.2 |
| | 3 | 222 50.5 | -1 40.8 | 24 56.4 | 16.8 | -7 49.5 | 13.8 | 54.2 |
| | 4 | 237 50.6 | -1 39.8 | 39 32.2 | 16.8 | -8 3.3 | 13.8 | 54.2 |
| | 5 | 252 50.8 | -1 38.9 | 54 8.0 | 16.8 | -8 17.2 | 13.8 | 54.2 |
| | 6 | 267 51.0 | -1 37.9 | 68 43.8 | 16.8 | -8 30.9 | 13.7 | 54.2 |
| | 7 | 282 51.2 | -1 36.9 | 83 19.6 | 16.7 | -8 44.7 | 13.7 | 54.1 |
| | 8 | 297 51.4 | -1 35.9 | 97 55.3 | 16.7 | -8 58.4 | 13.7 | 54.1 |
| | 9 | 312 51.5 | -1 34.9 | 112 31.0 | 16.7 | -9 12.1 | 13.6 | 54.1 |
| | 10 | 327 51.7 | -1 33.9 | 127 6.7 | 16.7 | -9 25.7 | 13.6 | 54.1 |
| | 11 | 342 51.9 | -1 32.9 | 141 42.4 | 16.6 | -9 39.3 | 13.6 | 54.1 |
| | 12 | 357 52.1 | -1 31.9 | 156 18.0 | 16.6 | -9 52.9 | 13.5 | 54.1 |
| | 13 | 12 52.2 | -1 31.0 | 170 53.6 | 16.6 | -10 6.4 | 13.5 | 54.1 |
| | 14 | 27 52.4 | -1 30.0 | 185 29.1 | 16.5 | -10 19.9 | 13.4 | 54.1 |
| | 15 | 42 52.6 | -1 29.0 | 200 4.7 | 16.5 | -10 33.3 | 13.4 | 54.1 |
| | 16 | 57 52.8 | -1 28.0 | 214 40.2 | 16.5 | -10 46.7 | 13.4 | 54.1 |
| | 17 | 72 53.0 | -1 27.0 | 229 15.6 | 16.4 | -11 0.1 | 13.3 | 54.1 |
| | 18 | 87 53.1 | -1 26.0 | 243 51.1 | 16.4 | -11 13.4 | 13.3 | 54.1 |
| | 19 | 102 53.3 | -1 25.0 | 258 26.5 | 16.4 | -11 26.7 | 13.2 | 54.1 |
| | 20 | 117 53.5 | -1 24.0 | 273 1.8 | 16.3 | -11 39.9 | 13.2 | 54.1 |
| | 21 | 132 53.7 | -1 23.0 | 287 37.1 | 16.3 | -11 53.1 | 13.1 | 54.1 |
| | 22 | 147 53.9 | -1 22.1 | 302 12.4 | 16.2 | -12 6.2 | 13.1 | 54.1 |
| | 23 | 162 54.0 | -1 21.1 | 316 47.7 | 16.2 | -12 19.3 | 13.0 | 54.1 |
| | *v* | 0.2 | SD 16.1 | *d* -1.0 | | SD 14.8 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 03:58 | 05:21 | 06:28 | 17:52 | 19:00 | 20:24 |
| 70 | 04:12 | 05:26 | 06:26 | 17:54 | 18:55 | 20:10 |
| 68 | 04:22 | 05:29 | 06:24 | 17:56 | 18:51 | 19:59 |
| 66 | 04:31 | 05:32 | 06:23 | 17:57 | 18:48 | 19:50 |
| 64 | 04:38 | 05:34 | 06:21 | 17:58 | 18:46 | 19:42 |
| 62 | 04:44 | 05:36 | 06:20 | 17:59 | 18:44 | 19:36 |
| 60 | 04:49 | 05:38 | 06:19 | 18:00 | 18:42 | 19:31 |
| 58 | 04:53 | 05:39 | 06:18 | 18:01 | 18:40 | 19:26 |
| 56 | 04:57 | 05:41 | 06:18 | 18:02 | 18:39 | 19:22 |
| 54 | 05:00 | 05:42 | 06:17 | 18:02 | 18:38 | 19:19 |
| 52 | 05:03 | 05:43 | 06:16 | 18:03 | 18:37 | 19:16 |
| 50 | 05:06 | 05:43 | 06:16 | 18:04 | 18:36 | 19:14 |
| 45 | 05:11 | 05:45 | 06:14 | 18:05 | 18:34 | 19:08 |
| 40 | 05:15 | 05:46 | 06:13 | 18:06 | 18:33 | 19:04 |
| 35 | 05:17 | 05:47 | 06:12 | 18:07 | 18:32 | 19:01 |
| 30 | 05:19 | 05:47 | 06:11 | 18:08 | 18:32 | 18:59 |
| 20 | 05:22 | 05:47 | 06:09 | 18:09 | 18:31 | 18:57 |
| 10 | 05:22 | 05:47 | 06:08 | 18:11 | 18:32 | 18:56 |
| 0 | 05:21 | 05:45 | 06:06 | 18:12 | 18:33 | 18:57 |
| -10 | 05:19 | 05:43 | 06:04 | 18:14 | 18:35 | 18:59 |
| -20 | 05:14 | 05:40 | 06:02 | 18:16 | 18:38 | 19:03 |
| -30 | 05:08 | 05:36 | 06:00 | 18:18 | 18:42 | 19:10 |
| -35 | 05:03 | 05:33 | 05:58 | 18:19 | 18:45 | 19:14 |
| -40 | 04:58 | 05:30 | 05:57 | 18:21 | 18:48 | 19:20 |
| -45 | 04:50 | 05:25 | 05:55 | 18:23 | 18:52 | 19:27 |
| -50 | 04:41 | 05:20 | 05:52 | 18:25 | 18:57 | 19:36 |
| -52 | 04:37 | 05:17 | 05:51 | 18:26 | 19:00 | 19:40 |
| -54 | 04:32 | 05:14 | 05:50 | 18:27 | 19:02 | 19:45 |
| -56 | 04:26 | 05:11 | 05:49 | 18:28 | 19:06 | 19:51 |
| -58 | 04:19 | 05:08 | 05:47 | 18:30 | 19:09 | 19:57 |
| -60 | 04:12 | 05:03 | 05:46 | 18:31 | 19:13 | 20:04 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **14** | **15** | **16** | **14** | **15** | **16** |
| 72 | 18:31 | 20:31 | 22:42 | 06:42 | 06:10 | 05:35 |
| 70 | 18:31 | 20:21 | 22:18 | 06:39 | 06:14 | 05:47 |
| 68 | 18:30 | 20:13 | 22:01 | 06:36 | 06:17 | 05:57 |
| 66 | 18:30 | 20:07 | 21:46 | 06:33 | 06:20 | 06:06 |
| 64 | 18:30 | 20:01 | 21:35 | 06:31 | 06:22 | 06:13 |
| 62 | 18:30 | 19:57 | 21:25 | 06:29 | 06:24 | 06:19 |
| 60 | 18:30 | 19:53 | 21:17 | 06:28 | 06:26 | 06:24 |
| 58 | 18:30 | 19:49 | 21:09 | 06:26 | 06:28 | 06:29 |
| 56 | 18:30 | 19:46 | 21:03 | 06:25 | 06:29 | 06:33 |
| 54 | 18:29 | 19:43 | 20:57 | 06:24 | 06:30 | 06:37 |
| 52 | 18:29 | 19:41 | 20:52 | 06:23 | 06:32 | 06:41 |
| 50 | 18:29 | 19:38 | 20:48 | 06:22 | 06:33 | 06:44 |
| 45 | 18:29 | 19:33 | 20:38 | 06:20 | 06:35 | 06:51 |
| 40 | 18:29 | 19:29 | 20:29 | 06:18 | 06:37 | 06:57 |
| 35 | 18:29 | 19:26 | 20:22 | 06:16 | 06:39 | 07:02 |
| 30 | 18:29 | 19:22 | 20:16 | 06:15 | 06:40 | 07:06 |
| 20 | 18:29 | 19:17 | 20:06 | 06:12 | 06:43 | 07:14 |
| 10 | 18:29 | 19:12 | 19:56 | 06:10 | 06:45 | 07:21 |
| 0 | 18:29 | 19:08 | 19:48 | 06:08 | 06:48 | 07:27 |
| -10 | 18:29 | 19:04 | 19:39 | 06:06 | 06:50 | 07:34 |
| -20 | 18:28 | 18:59 | 19:30 | 06:04 | 06:52 | 07:40 |
| -30 | 18:28 | 18:54 | 19:20 | 06:01 | 06:55 | 07:48 |
| -35 | 18:28 | 18:51 | 19:14 | 06:00 | 06:56 | 07:53 |
| -40 | 18:28 | 18:48 | 19:08 | 05:58 | 06:58 | 07:58 |
| -45 | 18:28 | 18:44 | 19:00 | 05:56 | 07:00 | 08:04 |
| -50 | 18:28 | 18:39 | 18:51 | 05:53 | 07:03 | 08:12 |
| -52 | 18:28 | 18:37 | 18:47 | 05:52 | 07:04 | 08:15 |
| -54 | 18:28 | 18:35 | 18:42 | 05:51 | 07:05 | 08:19 |
| -56 | 18:28 | 18:32 | 18:37 | 05:50 | 07:06 | 08:23 |
| -58 | 18:28 | 18:30 | 18:31 | 05:48 | 07:08 | 08:28 |
| -60 | 18:28 | 18:26 | 18:25 | 05:46 | 07:10 | 08:33 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **14** | 09:14 | 09:06 | 12:09 | –:– | 12:18 | 14 | 100 |
| **15** | 08:57 | 08:49 | 12:09 | 00:38 | 12:58 | 15 | 100 |
| **16** | 08:40 | 08:32 | 12:09 | 01:17 | 13:37 | 16 | 97 |

## 2025 March 17, 18, 19 (Mon, Tue, Wed)

| | | Aries | Venus -4.1 | | Mars 0.1 | | Jupiter -2.2 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 17 Monday | 0 | 174 49.4 | 172 26.5 | 10 20.9 | 63 16.4 | 25 3.8 | 102 14.9 | 22 7.3 | 180 48.2 | -4 40.5 |
| | 1 | 189 51.9 | 187 30.3 | 10 20.4 | 78 18.3 | 25 3.7 | 117 17.1 | 22 7.3 | 195 50.4 | -4 40.4 |
| | 2 | 204 54.3 | 202 34.1 | 10 19.9 | 93 20.2 | 25 3.5 | 132 19.2 | 22 7.4 | 210 52.6 | -4 40.3 |
| | 3 | 219 56.8 | 217 37.9 | 10 19.4 | 108 22.1 | 25 3.4 | 147 21.4 | 22 7.4 | 225 54.8 | -4 40.2 |
| | 4 | 234 59.3 | 232 41.7 | 10 18.9 | 123 23.9 | 25 3.2 | 162 23.5 | 22 7.5 | 240 56.9 | -4 40.0 |
| | 5 | 250 1.7 | 247 45.4 | 10 18.4 | 138 25.8 | 25 3.1 | 177 25.6 | 22 7.5 | 255 59.1 | -4 39.9 |
| | 6 | 265 4.2 | 262 49.2 | 10 17.9 | 153 27.7 | 25 2.9 | 192 27.8 | 22 7.6 | 271 1.3 | -4 39.8 |
| | 7 | 280 6.6 | 277 53.0 | 10 17.3 | 168 29.5 | 25 2.8 | 207 29.9 | 22 7.6 | 286 3.5 | -4 39.7 |
| | 8 | 295 9.1 | 292 56.8 | 10 16.8 | 183 31.4 | 25 2.6 | 222 32.0 | 22 7.6 | 301 5.7 | -4 39.6 |
| | 9 | 310 11.6 | 308 0.6 | 10 16.3 | 198 33.3 | 25 2.4 | 237 34.2 | 22 7.7 | 316 7.8 | -4 39.4 |
| | 10 | 325 14.0 | 323 4.4 | 10 15.8 | 213 35.2 | 25 2.3 | 252 36.3 | 22 7.7 | 331 10.0 | -4 39.3 |
| | 11 | 340 16.5 | 338 8.2 | 10 15.3 | 228 37.0 | 25 2.1 | 267 38.4 | 22 7.8 | 346 12.2 | -4 39.2 |
| | 12 | 355 19.0 | 353 12.0 | 10 14.7 | 243 38.9 | 25 2.0 | 282 40.6 | 22 7.8 | 1 14.4 | -4 39.1 |
| | 13 | 10 21.4 | 8 15.8 | 10 14.2 | 258 40.8 | 25 1.8 | 297 42.7 | 22 7.9 | 16 16.6 | -4 39.0 |
| | 14 | 25 23.9 | 23 19.6 | 10 13.7 | 273 42.6 | 25 1.7 | 312 44.8 | 22 7.9 | 31 18.7 | -4 38.8 |
| | 15 | 40 26.4 | 38 23.4 | 10 13.1 | 288 44.5 | 25 1.5 | 327 47.0 | 22 7.9 | 46 20.9 | -4 38.7 |
| | 16 | 55 28.8 | 53 27.2 | 10 12.6 | 303 46.4 | 25 1.4 | 342 49.1 | 22 8.0 | 61 23.1 | -4 38.6 |
| | 17 | 70 31.3 | 68 31.0 | 10 12.1 | 318 48.2 | 25 1.2 | 357 51.3 | 22 8.0 | 76 25.3 | -4 38.5 |
| | 18 | 85 33.8 | 83 34.8 | 10 11.5 | 333 50.1 | 25 1.1 | 12 53.4 | 22 8.1 | 91 27.5 | -4 38.4 |
| | 19 | 100 36.2 | 98 38.6 | 10 11.0 | 348 51.9 | 25 0.9 | 27 55.5 | 22 8.1 | 106 29.6 | -4 38.2 |
| | 20 | 115 38.7 | 113 42.4 | 10 10.4 | 3 53.8 | 25 0.8 | 42 57.7 | 22 8.2 | 121 31.8 | -4 38.1 |
| | 21 | 130 41.1 | 128 46.2 | 10 9.9 | 18 55.7 | 25 0.6 | 57 59.8 | 22 8.2 | 136 34.0 | -4 38.0 |
| | 22 | 145 43.6 | 143 50.0 | 10 9.3 | 33 57.5 | 25 0.5 | 73 1.9 | 22 8.3 | 151 36.2 | -4 37.9 |
| | 23 | 160 46.1 | 158 53.8 | 10 8.8 | 48 59.4 | 25 0.3 | 88 4.0 | 22 8.3 | 166 38.4 | -4 37.8 |
| | | MP 12:20 | *v* 3.8 | *d* -0.5 | *v* 1.9 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Tuesday | 0 | 175 48.5 | 173 57.6 | 10 8.2 | 64 1.2 | 25 0.2 | 103 6.2 | 22 8.3 | 181 40.5 | -4 37.6 |
| | 1 | 190 51.0 | 189 1.5 | 10 7.7 | 79 3.1 | 25 0.0 | 118 8.3 | 22 8.4 | 196 42.7 | -4 37.5 |
| | 2 | 205 53.5 | 204 5.3 | 10 7.1 | 94 4.9 | 24 59.8 | 133 10.4 | 22 8.4 | 211 44.9 | -4 37.4 |
| | 3 | 220 55.9 | 219 9.1 | 10 6.6 | 109 6.8 | 24 59.7 | 148 12.6 | 22 8.5 | 226 47.1 | -4 37.3 |
| | 4 | 235 58.4 | 234 12.9 | 10 6.0 | 124 8.6 | 24 59.5 | 163 14.7 | 22 8.5 | 241 49.3 | -4 37.2 |
| | 5 | 251 0.9 | 249 16.7 | 10 5.4 | 139 10.5 | 24 59.4 | 178 16.8 | 22 8.6 | 256 51.4 | -4 37.0 |
| | 6 | 266 3.3 | 264 20.5 | 10 4.9 | 154 12.3 | 24 59.2 | 193 19.0 | 22 8.6 | 271 53.6 | -4 36.9 |
| | 7 | 281 5.8 | 279 24.4 | 10 4.3 | 169 14.2 | 24 59.1 | 208 21.1 | 22 8.6 | 286 55.8 | -4 36.8 |
| | 8 | 296 8.2 | 294 28.2 | 10 3.7 | 184 16.0 | 24 58.9 | 223 23.2 | 22 8.7 | 301 58.0 | -4 36.7 |
| | 9 | 311 10.7 | 309 32.0 | 10 3.1 | 199 17.9 | 24 58.8 | 238 25.4 | 22 8.7 | 317 0.2 | -4 36.6 |
| | 10 | 326 13.2 | 324 35.8 | 10 2.6 | 214 19.7 | 24 58.6 | 253 27.5 | 22 8.8 | 332 2.3 | -4 36.4 |
| | 11 | 341 15.6 | 339 39.7 | 10 2.0 | 229 21.6 | 24 58.4 | 268 29.6 | 22 8.8 | 347 4.5 | -4 36.3 |
| | 12 | 356 18.1 | 354 43.5 | 10 1.4 | 244 23.4 | 24 58.3 | 283 31.7 | 22 8.9 | 2 6.7 | -4 36.2 |
| | 13 | 11 20.6 | 9 47.3 | 10 0.8 | 259 25.3 | 24 58.1 | 298 33.9 | 22 8.9 | 17 8.9 | -4 36.1 |
| | 14 | 26 23.0 | 24 51.1 | 10 0.2 | 274 27.1 | 24 58.0 | 313 36.0 | 22 9.0 | 32 11.1 | -4 36.0 |
| | 15 | 41 25.5 | 39 55.0 | 9 59.7 | 289 29.0 | 24 57.8 | 328 38.1 | 22 9.0 | 47 13.2 | -4 35.8 |
| | 16 | 56 28.0 | 54 58.8 | 9 59.1 | 304 30.8 | 24 57.7 | 343 40.3 | 22 9.0 | 62 15.4 | -4 35.7 |
| | 17 | 71 30.4 | 70 2.6 | 9 58.5 | 319 32.6 | 24 57.5 | 358 42.4 | 22 9.1 | 77 17.6 | -4 35.6 |
| | 18 | 86 32.9 | 85 6.5 | 9 57.9 | 334 34.5 | 24 57.4 | 13 44.5 | 22 9.1 | 92 19.8 | -4 35.5 |
| | 19 | 101 35.4 | 100 10.3 | 9 57.3 | 349 36.3 | 24 57.2 | 28 46.6 | 22 9.2 | 107 21.9 | -4 35.4 |
| | 20 | 116 37.8 | 115 14.1 | 9 56.7 | 4 38.2 | 24 57.0 | 43 48.8 | 22 9.2 | 122 24.1 | -4 35.2 |
| | 21 | 131 40.3 | 130 17.9 | 9 56.1 | 19 40.0 | 24 56.9 | 58 50.9 | 22 9.3 | 137 26.3 | -4 35.1 |
| | 22 | 146 42.7 | 145 21.8 | 9 55.5 | 34 41.8 | 24 56.7 | 73 53.0 | 22 9.3 | 152 28.5 | -4 35.0 |
| | 23 | 161 45.2 | 160 25.6 | 9 54.9 | 49 43.7 | 24 56.6 | 88 55.1 | 22 9.4 | 167 30.7 | -4 34.9 |
| | | MP 12:16 | *v* 3.8 | *d* -0.6 | *v* 1.9 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 Wednesday | 0 | 176 47.7 | 175 29.5 | 9 54.3 | 64 45.5 | 24 56.4 | 103 57.3 | 22 9.4 | 182 32.8 | -4 34.8 |
| | 1 | 191 50.1 | 190 33.3 | 9 53.7 | 79 47.3 | 24 56.3 | 118 59.4 | 22 9.4 | 197 35.0 | -4 34.6 |
| | 2 | 206 52.6 | 205 37.1 | 9 53.0 | 94 49.2 | 24 56.1 | 134 1.5 | 22 9.5 | 212 37.2 | -4 34.5 |
| | 3 | 221 55.1 | 220 41.0 | 9 52.4 | 109 51.0 | 24 55.9 | 149 3.6 | 22 9.5 | 227 39.4 | -4 34.4 |
| | 4 | 236 57.5 | 235 44.8 | 9 51.8 | 124 52.8 | 24 55.8 | 164 5.8 | 22 9.6 | 242 41.6 | -4 34.3 |
| | 5 | 252 0.0 | 250 48.6 | 9 51.2 | 139 54.7 | 24 55.6 | 179 7.9 | 22 9.6 | 257 43.7 | -4 34.2 |
| | 6 | 267 2.5 | 265 52.5 | 9 50.6 | 154 56.5 | 24 55.5 | 194 10.0 | 22 9.7 | 272 45.9 | -4 34.0 |
| | 7 | 282 4.9 | 280 56.3 | 9 50.0 | 169 58.3 | 24 55.3 | 209 12.1 | 22 9.7 | 287 48.1 | -4 33.9 |
| | 8 | 297 7.4 | 296 0.2 | 9 49.3 | 185 0.2 | 24 55.1 | 224 14.3 | 22 9.8 | 302 50.3 | -4 33.8 |
| | 9 | 312 9.9 | 311 4.0 | 9 48.7 | 200 2.0 | 24 55.0 | 239 16.4 | 22 9.8 | 317 52.5 | -4 33.7 |
| | 10 | 327 12.3 | 326 7.9 | 9 48.1 | 215 3.8 | 24 54.8 | 254 18.5 | 22 9.8 | 332 54.6 | -4 33.6 |
| | 11 | 342 14.8 | 341 11.7 | 9 47.4 | 230 5.6 | 24 54.7 | 269 20.6 | 22 9.9 | 347 56.8 | -4 33.4 |
| | 12 | 357 17.2 | 356 15.5 | 9 46.8 | 245 7.5 | 24 54.5 | 284 22.8 | 22 9.9 | 2 59.0 | -4 33.3 |
| | 13 | 12 19.7 | 11 19.4 | 9 46.2 | 260 9.3 | 24 54.4 | 299 24.9 | 22 10.0 | 18 1.2 | -4 33.2 |
| | 14 | 27 22.2 | 26 23.2 | 9 45.5 | 275 11.1 | 24 54.2 | 314 27.0 | 22 10.0 | 33 3.4 | -4 33.1 |
| | 15 | 42 24.6 | 41 27.1 | 9 44.9 | 290 12.9 | 24 54.0 | 329 29.1 | 22 10.1 | 48 5.5 | -4 33.0 |
| | 16 | 57 27.1 | 56 30.9 | 9 44.3 | 305 14.7 | 24 53.9 | 344 31.2 | 22 10.1 | 63 7.7 | -4 32.8 |
| | 17 | 72 29.6 | 71 34.8 | 9 43.6 | 320 16.6 | 24 53.7 | 359 33.4 | 22 10.2 | 78 9.9 | -4 32.7 |
| | 18 | 87 32.0 | 86 38.6 | 9 43.0 | 335 18.4 | 24 53.6 | 14 35.5 | 22 10.2 | 93 12.1 | -4 32.6 |
| | 19 | 102 34.5 | 101 42.5 | 9 42.3 | 350 20.2 | 24 53.4 | 29 37.6 | 22 10.2 | 108 14.3 | -4 32.5 |
| | 20 | 117 37.0 | 116 46.3 | 9 41.7 | 5 22.0 | 24 53.2 | 44 39.7 | 22 10.3 | 123 16.4 | -4 32.4 |
| | 21 | 132 39.4 | 131 50.2 | 9 41.0 | 20 23.8 | 24 53.1 | 59 41.8 | 22 10.3 | 138 18.6 | -4 32.3 |
| | 22 | 147 41.9 | 146 54.0 | 9 40.4 | 35 25.7 | 24 52.9 | 74 44.0 | 22 10.4 | 153 20.8 | -4 32.1 |
| | 23 | 162 44.3 | 161 57.9 | 9 39.7 | 50 27.5 | 24 52.8 | 89 46.1 | 22 10.4 | 168 23.0 | -4 32.0 |
| | | MP 12:12 | *v* 3.8 | *d* -0.6 | *v* 1.8 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.4 |
| Achernar | 335 20.5 | -57 6.7 |
| Acrux | 172 59.3 | -63 14.3 |
| Adhara | 255 5.6 | -29 0.6 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.2 |
| Alkaid | 152 51.4 | 49 11.0 |
| Alnair | 27 33.1 | -46 50.3 |
| Alnilam | 275 37.6 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.0 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.3 |
| Antares | 112 15.5 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.6 | -69 4.1 |
| Avior | 234 14.3 | -59 35.6 |
| Bellatrix | 278 22.7 | 6 22.3 |
| Betelgeuse | 270 51.9 | 7 24.6 |
| Canopus | 263 52.2 | -52 42.8 |
| Capella | 280 21.7 | 46 1.5 |
| Deneb | 49 26.0 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.5 | -17 51.0 |
| Dubhe | 193 40.1 | 61 36.9 |
| Elnath | 278 1.7 | 28 37.8 |
| Eltanin | 90 42.1 | 51 28.7 |
| Enif | 33 38.9 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.4 |
| Gacrux | 171 51.0 | -57 15.3 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.3 | -60 29.6 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.4 | -34 22.3 |
| Kochab | 137 18.9 | 74 2.8 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.6 | -69 49.4 |
| Mirfak | 308 28.3 | 49 57.2 |
| Nunki | 75 47.7 | -26 15.9 |
| Peacock | 53 5.8 | -56 39.1 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.4 | 12 32.2 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.8 | -8 10.5 |
| Rigil Kent. | 139 39.7 | -60 56.3 |
| Sabik | 102 2.6 | -15 45.4 |
| Schedar | 349 31.5 | 56 40.5 |
| Shaula | 96 10.2 | -37 7.3 |
| Sirius | 258 26.0 | -16 45.2 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 32.2 |
| Vega | 80 33.2 | 38 48.1 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 17 Mon | SHA | MP |
|---|---|---|
| Venus | 357 37.1 | 12:27 |
| Mars | 248 27.0 | 19:44 |
| Jupiter | 287 25.5 | 17:09 |
| Saturn | 5 58.8 | 11:55 |

| 18 Tue | SHA | MP |
|---|---|---|
| Venus | 358 9.1 | 12:21 |
| Mars | 248 12.7 | 19:41 |
| Jupiter | 287 17.6 | 17:05 |
| Saturn | 5 52.0 | 11:52 |

| 19 Wed | SHA | MP |
|---|---|---|
| Venus | 358 41.8 | 12:15 |
| Mars | 247 57.8 | 19:39 |
| Jupiter | 287 9.6 | 17:02 |
| Saturn | 5 45.2 | 11:48 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **17 Monday** | 0 | 177 54.2 | -1 20.1 | 331 22.9 | 16.2 | -12 32.4 | 13.0 | 54.1 |
| | 1 | 192 54.4 | -1 19.1 | 345 58.0 | 16.1 | -12 45.4 | 12.9 | 54.1 |
| | 2 | 207 54.6 | -1 18.1 | 0 33.2 | 16.1 | -12 58.3 | 12.9 | 54.1 |
| | 3 | 222 54.8 | -1 17.1 | 15 8.3 | 16.0 | -13 11.2 | 12.8 | 54.1 |
| | 4 | 237 54.9 | -1 16.1 | 29 43.3 | 16.0 | -13 24.1 | 12.8 | 54.1 |
| | 5 | 252 55.1 | -1 15.1 | 44 18.3 | 15.9 | -13 36.9 | 12.7 | 54.1 |
| | 6 | 267 55.3 | -1 14.2 | 58 53.2 | 15.9 | -13 49.6 | 12.7 | 54.0 |
| | 7 | 282 55.5 | -1 13.2 | 73 28.1 | 15.9 | -14 2.3 | 12.6 | 54.0 |
| | 8 | 297 55.7 | -1 12.2 | 88 3.0 | 15.8 | -14 14.9 | 12.6 | 54.0 |
| | 9 | 312 55.8 | -1 11.2 | 102 37.8 | 15.8 | -14 27.5 | 12.5 | 54.0 |
| | 10 | 327 56.0 | -1 10.2 | 117 12.6 | 15.7 | -14 40.0 | 12.5 | 54.0 |
| | 11 | 342 56.2 | -1 9.2 | 131 47.3 | 15.7 | -14 52.5 | 12.4 | 54.0 |
| | 12 | 357 56.4 | -1 8.2 | 146 21.9 | 15.6 | -15 4.9 | 12.4 | 54.0 |
| | 13 | 12 56.6 | -1 7.2 | 160 56.6 | 15.6 | -15 17.3 | 12.3 | 54.0 |
| | 14 | 27 56.8 | -1 6.2 | 175 31.1 | 15.5 | -15 29.5 | 12.2 | 54.0 |
| | 15 | 42 56.9 | -1 5.3 | 190 5.6 | 15.5 | -15 41.8 | 12.2 | 54.0 |
| | 16 | 57 57.1 | -1 4.3 | 204 40.1 | 15.4 | -15 54.0 | 12.1 | 54.0 |
| | 17 | 72 57.3 | -1 3.3 | 219 14.5 | 15.3 | -16 6.1 | 12.0 | 54.0 |
| | 18 | 87 57.5 | -1 2.3 | 233 48.8 | 15.3 | -16 18.1 | 12.0 | 54.0 |
| | 19 | 102 57.7 | -1 1.3 | 248 23.1 | 15.2 | -16 30.1 | 11.9 | 54.0 |
| | 20 | 117 57.8 | -1 0.3 | 262 57.4 | 15.2 | -16 42.0 | 11.9 | 54.0 |
| | 21 | 132 58.0 | -0 59.3 | 277 31.5 | 15.1 | -16 53.9 | 11.8 | 54.0 |
| | 22 | 147 58.2 | -0 58.3 | 292 5.7 | 15.1 | -17 5.7 | 11.7 | 54.0 |
| | 23 | 162 58.4 | -0 57.4 | 306 39.7 | 15.0 | -17 17.4 | 11.7 | 54.0 |
| | *v* | 0.2 | SD 16.1 | *d* -1.0 | | SD 14.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **18 Tuesday** | 0 | 177 58.6 | -0 56.4 | 321 13.7 | 14.9 | -17 29.1 | 11.6 | 54.0 |
| | 1 | 192 58.8 | -0 55.4 | 335 47.7 | 14.9 | -17 40.6 | 11.5 | 54.0 |
| | 2 | 207 58.9 | -0 54.4 | 350 21.6 | 14.8 | -17 52.2 | 11.5 | 54.0 |
| | 3 | 222 59.1 | -0 53.4 | 4 55.4 | 14.8 | -18 3.6 | 11.4 | 54.1 |
| | 4 | 237 59.3 | -0 52.4 | 19 29.1 | 14.7 | -18 15.0 | 11.3 | 54.1 |
| | 5 | 252 59.5 | -0 51.4 | 34 2.8 | 14.6 | -18 26.3 | 11.2 | 54.1 |
| | 6 | 267 59.7 | -0 50.4 | 48 36.5 | 14.6 | -18 37.5 | 11.2 | 54.1 |
| | 7 | 282 59.8 | -0 49.4 | 63 10.0 | 14.5 | -18 48.7 | 11.1 | 54.1 |
| | 8 | 298 0.0 | -0 48.5 | 77 43.5 | 14.4 | -18 59.8 | 11.0 | 54.1 |
| | 9 | 313 0.2 | -0 47.5 | 92 17.0 | 14.4 | -19 10.8 | 10.9 | 54.1 |
| | 10 | 328 0.4 | -0 46.5 | 106 50.4 | 14.3 | -19 21.8 | 10.9 | 54.1 |
| | 11 | 343 0.6 | -0 45.5 | 121 23.7 | 14.2 | -19 32.6 | 10.8 | 54.1 |
| | 12 | 358 0.8 | -0 44.5 | 135 56.9 | 14.2 | -19 43.4 | 10.7 | 54.1 |
| | 13 | 13 0.9 | -0 43.5 | 150 30.1 | 14.1 | -19 54.1 | 10.6 | 54.1 |
| | 14 | 28 1.1 | -0 42.5 | 165 3.2 | 14.0 | -20 4.7 | 10.5 | 54.1 |
| | 15 | 43 1.3 | -0 41.5 | 179 36.2 | 14.0 | -20 15.3 | 10.5 | 54.1 |
| | 16 | 58 1.5 | -0 40.6 | 194 9.2 | 13.9 | -20 25.8 | 10.4 | 54.1 |
| | 17 | 73 1.7 | -0 39.6 | 208 42.1 | 13.8 | -20 36.1 | 10.3 | 54.1 |
| | 18 | 88 1.9 | -0 38.6 | 223 14.9 | 13.8 | -20 46.4 | 10.2 | 54.1 |
| | 19 | 103 2.0 | -0 37.6 | 237 47.7 | 13.7 | -20 56.7 | 10.1 | 54.1 |
| | 20 | 118 2.2 | -0 36.6 | 252 20.4 | 13.6 | -21 6.8 | 10.0 | 54.1 |
| | 21 | 133 2.4 | -0 35.6 | 266 53.0 | 13.5 | -21 16.8 | 10.0 | 54.1 |
| | 22 | 148 2.6 | -0 34.6 | 281 25.5 | 13.5 | -21 26.8 | 9.9 | 54.1 |
| | 23 | 163 2.8 | -0 33.6 | 295 58.0 | 13.4 | -21 36.7 | 9.8 | 54.1 |
| | *v* | 0.2 | SD 16.1 | *d* -1.0 | | SD 14.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **19 Wednesday** | 0 | 178 3.0 | -0 32.6 | 310 30.4 | 13.3 | -21 46.5 | 9.7 | 54.1 |
| | 1 | 193 3.1 | -0 31.7 | 325 2.7 | 13.2 | -21 56.2 | 9.6 | 54.2 |
| | 2 | 208 3.3 | -0 30.7 | 339 35.0 | 13.2 | -22 5.8 | 9.5 | 54.2 |
| | 3 | 223 3.5 | -0 29.7 | 354 7.1 | 13.1 | -22 15.3 | 9.4 | 54.2 |
| | 4 | 238 3.7 | -0 28.7 | 8 39.3 | 13.0 | -22 24.7 | 9.3 | 54.2 |
| | 5 | 253 3.9 | -0 27.7 | 23 11.3 | 13.0 | -22 34.1 | 9.2 | 54.2 |
| | 6 | 268 4.1 | -0 26.7 | 37 43.2 | 12.9 | -22 43.3 | 9.1 | 54.2 |
| | 7 | 283 4.2 | -0 25.7 | 52 15.1 | 12.8 | -22 52.4 | 9.0 | 54.2 |
| | 8 | 298 4.4 | -0 24.7 | 66 46.9 | 12.7 | -23 1.5 | 9.0 | 54.2 |
| | 9 | 313 4.6 | -0 23.8 | 81 18.6 | 12.6 | -23 10.4 | 8.9 | 54.2 |
| | 10 | 328 4.8 | -0 22.8 | 95 50.3 | 12.6 | -23 19.3 | 8.8 | 54.2 |
| | 11 | 343 5.0 | -0 21.8 | 110 21.8 | 12.5 | -23 28.0 | 8.7 | 54.2 |
| | 12 | 358 5.2 | -0 20.8 | 124 53.3 | 12.4 | -23 36.7 | 8.6 | 54.3 |
| | 13 | 13 5.3 | -0 19.8 | 139 24.8 | 12.3 | -23 45.3 | 8.5 | 54.3 |
| | 14 | 28 5.5 | -0 18.8 | 153 56.1 | 12.3 | -23 53.7 | 8.4 | 54.3 |
| | 15 | 43 5.7 | -0 17.8 | 168 27.4 | 12.2 | -24 2.1 | 8.3 | 54.3 |
| | 16 | 58 5.9 | -0 16.8 | 182 58.5 | 12.1 | -24 10.3 | 8.1 | 54.3 |
| | 17 | 73 6.1 | -0 15.8 | 197 29.7 | 12.0 | -24 18.5 | 8.0 | 54.3 |
| | 18 | 88 6.3 | -0 14.9 | 212 0.7 | 12.0 | -24 26.5 | 7.9 | 54.3 |
| | 19 | 103 6.5 | -0 13.9 | 226 31.6 | 11.9 | -24 34.4 | 7.8 | 54.3 |
| | 20 | 118 6.6 | -0 12.9 | 241 2.5 | 11.8 | -24 42.3 | 7.7 | 54.3 |
| | 21 | 133 6.8 | -0 11.9 | 255 33.3 | 11.7 | -24 50.0 | 7.6 | 54.4 |
| | 22 | 148 7.0 | -0 10.9 | 270 4.0 | 11.6 | -24 57.6 | 7.5 | 54.4 |
| | 23 | 163 7.2 | -0 9.9 | 284 34.7 | 11.6 | -25 5.1 | 7.4 | 54.4 |
| | *v* | 0.2 | SD 16.1 | *d* -1.0 | | SD 14.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 03:40 | 05:05 | 06:13 | 18:06 | 19:14 | 20:41 |
| 70 | 03:56 | 05:11 | 06:12 | 18:07 | 19:08 | 20:24 |
| 68 | 04:08 | 05:16 | 06:12 | 18:07 | 19:02 | 20:11 |
| 66 | 04:18 | 05:20 | 06:11 | 18:07 | 18:58 | 20:01 |
| 64 | 04:27 | 05:24 | 06:11 | 18:07 | 18:55 | 19:52 |
| 62 | 04:34 | 05:26 | 06:10 | 18:07 | 18:52 | 19:45 |
| 60 | 04:40 | 05:29 | 06:10 | 18:08 | 18:49 | 19:39 |
| 58 | 04:45 | 05:31 | 06:10 | 18:08 | 18:47 | 19:34 |
| 56 | 04:49 | 05:33 | 06:10 | 18:08 | 18:45 | 19:29 |
| 54 | 04:53 | 05:34 | 06:09 | 18:08 | 18:43 | 19:25 |
| 52 | 04:56 | 05:36 | 06:09 | 18:08 | 18:42 | 19:22 |
| 50 | 04:59 | 05:37 | 06:09 | 18:08 | 18:41 | 19:19 |
| 45 | 05:05 | 05:39 | 06:09 | 18:09 | 18:38 | 19:12 |
| 40 | 05:10 | 05:41 | 06:08 | 18:09 | 18:36 | 19:08 |
| 35 | 05:13 | 05:42 | 06:08 | 18:09 | 18:35 | 19:04 |
| 30 | 05:16 | 05:43 | 06:07 | 18:10 | 18:33 | 19:01 |
| 20 | 05:19 | 05:45 | 06:07 | 18:10 | 18:32 | 18:58 |
| 10 | 05:20 | 05:45 | 06:06 | 18:11 | 18:32 | 18:56 |
| 0 | 05:20 | 05:44 | 06:05 | 18:11 | 18:32 | 18:56 |
| -10 | 05:19 | 05:43 | 06:04 | 18:12 | 18:33 | 18:58 |
| -20 | 05:15 | 05:41 | 06:03 | 18:13 | 18:35 | 19:01 |
| -30 | 05:10 | 05:38 | 06:02 | 18:14 | 18:38 | 19:06 |
| -35 | 05:06 | 05:35 | 06:01 | 18:15 | 18:40 | 19:10 |
| -40 | 05:01 | 05:33 | 06:00 | 18:16 | 18:43 | 19:15 |
| -45 | 04:55 | 05:29 | 05:59 | 18:17 | 18:46 | 19:21 |
| -50 | 04:46 | 05:25 | 05:57 | 18:18 | 18:51 | 19:29 |
| -52 | 04:42 | 05:23 | 05:57 | 18:19 | 18:53 | 19:33 |
| -54 | 04:38 | 05:20 | 05:56 | 18:20 | 18:55 | 19:37 |
| -56 | 04:33 | 05:18 | 05:55 | 18:20 | 18:57 | 19:42 |
| -58 | 04:27 | 05:15 | 05:54 | 18:21 | 19:00 | 19:48 |
| -60 | 04:20 | 05:11 | 05:53 | 18:22 | 19:04 | 19:54 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **17** | **18** | **19** | **17** | **18** | **19** |
| 72 | –:– | ▬ | ▬ | 04:49 | ▬ | ▬ |
| 70 | –:– | 00:41 | ▬ | 05:14 | 04:19 | ▬ |
| 68 | –:– | 00:02 | ▬ | 05:34 | 05:00 | ▬ |
| 66 | 23:35 | –:– | 01:46 | 05:49 | 05:28 | 04:49 |
| 64 | 23:14 | –:– | 01:04 | 06:02 | 05:50 | 05:31 |
| 62 | 22:57 | –:– | 00:36 | 06:13 | 06:07 | 06:00 |
| 60 | 22:44 | –:– | 00:15 | 06:23 | 06:22 | 06:22 |
| 58 | 22:32 | 23:58 | –:– | 06:31 | 06:34 | 06:40 |
| 56 | 22:22 | 23:43 | –:– | 06:38 | 06:45 | 06:55 |
| 54 | 22:13 | 23:31 | –:– | 06:45 | 06:55 | 07:08 |
| 52 | 22:05 | 23:20 | –:– | 06:51 | 07:03 | 07:20 |
| 50 | 21:58 | 23:10 | –:– | 06:56 | 07:11 | 07:30 |
| 45 | 21:43 | 22:50 | 23:56 | 07:08 | 07:28 | 07:52 |
| 40 | 21:31 | 22:33 | 23:36 | 07:17 | 07:41 | 08:09 |
| 35 | 21:20 | 22:19 | 23:20 | 07:26 | 07:53 | 08:24 |
| 30 | 21:11 | 22:07 | 23:05 | 07:33 | 08:03 | 08:36 |
| 20 | 20:56 | 21:47 | 22:41 | 07:46 | 08:20 | 08:58 |
| 10 | 20:42 | 21:30 | 22:20 | 07:57 | 08:36 | 09:18 |
| 0 | 20:29 | 21:13 | 22:00 | 08:08 | 08:50 | 09:35 |
| -10 | 20:17 | 20:57 | 21:41 | 08:18 | 09:05 | 09:53 |
| -20 | 20:04 | 20:40 | 21:20 | 08:30 | 09:20 | 10:13 |
| -30 | 19:48 | 20:20 | 20:56 | 08:43 | 09:38 | 10:35 |
| -35 | 19:40 | 20:09 | 20:42 | 08:50 | 09:49 | 10:48 |
| -40 | 19:30 | 19:55 | 20:26 | 08:59 | 10:01 | 11:04 |
| -45 | 19:18 | 19:40 | 20:07 | 09:09 | 10:15 | 11:22 |
| -50 | 19:04 | 19:21 | 19:43 | 09:21 | 10:33 | 11:45 |
| -52 | 18:58 | 19:12 | 19:32 | 09:27 | 10:41 | 11:56 |
| -54 | 18:51 | 19:02 | 19:19 | 09:34 | 10:50 | 12:08 |
| -56 | 18:43 | 18:51 | 19:04 | 09:41 | 11:01 | 12:22 |
| -58 | 18:34 | 18:39 | 18:47 | 09:49 | 11:13 | 12:39 |
| -60 | 18:24 | 18:24 | 18:26 | 09:58 | 11:27 | 13:00 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **17** | 08:23 | 08:14 | 12:08 | 01:58 | 14:18 | 17 | 93 |
| **18** | 08:06 | 07:57 | 12:08 | 02:40 | 15:02 | 18 | 88 |
| **19** | 07:48 | 07:39 | 12:08 | 03:24 | 15:48 | 19 | 81 |

## 2025 March 20, 21, 22 (Thu, Fri, Saturday)

| d | h | Aries GHA | Venus -4.2 GHA | Venus -4.2 Dec | Mars 0.2 GHA | Mars 0.2 Dec | Jupiter -2.2 GHA | Jupiter -2.2 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Thursday | 0 | 177 46.8 | 177 1.7 | 9 39.1 | 65 29.3 | 24 52.6 | 104 48.2 | 22 10.5 | 183 25.2 | -4 31.9 |
| | 1 | 192 49.3 | 192 5.6 | 9 38.4 | 80 31.1 | 24 52.4 | 119 50.3 | 22 10.5 | 198 27.3 | -4 31.8 |
| | 2 | 207 51.7 | 207 9.4 | 9 37.7 | 95 32.9 | 24 52.3 | 134 52.4 | 22 10.6 | 213 29.5 | -4 31.7 |
| | 3 | 222 54.2 | 222 13.3 | 9 37.1 | 110 34.7 | 24 52.1 | 149 54.6 | 22 10.6 | 228 31.7 | -4 31.5 |
| | 4 | 237 56.7 | 237 17.1 | 9 36.4 | 125 36.5 | 24 51.9 | 164 56.7 | 22 10.6 | 243 33.9 | -4 31.4 |
| | 5 | 252 59.1 | 252 21.0 | 9 35.7 | 140 38.3 | 24 51.8 | 179 58.8 | 22 10.7 | 258 36.1 | -4 31.3 |
| | 6 | 268 1.6 | 267 24.8 | 9 35.1 | 155 40.1 | 24 51.6 | 195 0.9 | 22 10.7 | 273 38.2 | -4 31.2 |
| | 7 | 283 4.1 | 282 28.7 | 9 34.4 | 170 42.0 | 24 51.5 | 210 3.0 | 22 10.8 | 288 40.4 | -4 31.1 |
| | 8 | 298 6.5 | 297 32.5 | 9 33.7 | 185 43.8 | 24 51.3 | 225 5.1 | 22 10.8 | 303 42.6 | -4 30.9 |
| | 9 | 313 9.0 | 312 36.4 | 9 33.0 | 200 45.6 | 24 51.1 | 240 7.3 | 22 10.9 | 318 44.8 | -4 30.8 |
| | 10 | 328 11.5 | 327 40.2 | 9 32.4 | 215 47.4 | 24 51.0 | 255 9.4 | 22 10.9 | 333 47.0 | -4 30.7 |
| | 11 | 343 13.9 | 342 44.1 | 9 31.7 | 230 49.2 | 24 50.8 | 270 11.5 | 22 11.0 | 348 49.2 | -4 30.6 |
| | 12 | 358 16.4 | 357 48.0 | 9 31.0 | 245 51.0 | 24 50.7 | 285 13.6 | 22 11.0 | 3 51.3 | -4 30.5 |
| | 13 | 13 18.8 | 12 51.8 | 9 30.3 | 260 52.8 | 24 50.5 | 300 15.7 | 22 11.0 | 18 53.5 | -4 30.3 |
| | 14 | 28 21.3 | 27 55.7 | 9 29.6 | 275 54.6 | 24 50.3 | 315 17.8 | 22 11.1 | 33 55.7 | -4 30.2 |
| | 15 | 43 23.8 | 42 59.5 | 9 29.0 | 290 56.4 | 24 50.2 | 330 20.0 | 22 11.1 | 48 57.9 | -4 30.1 |
| | 16 | 58 26.2 | 58 3.4 | 9 28.3 | 305 58.2 | 24 50.0 | 345 22.1 | 22 11.2 | 64 0.1 | -4 30.0 |
| | 17 | 73 28.7 | 73 7.2 | 9 27.6 | 321 0.0 | 24 49.8 | 0 24.2 | 22 11.2 | 79 2.2 | -4 29.9 |
| | 18 | 88 31.2 | 88 11.1 | 9 26.9 | 336 1.8 | 24 49.7 | 15 26.3 | 22 11.3 | 94 4.4 | -4 29.7 |
| | 19 | 103 33.6 | 103 14.9 | 9 26.2 | 351 3.6 | 24 49.5 | 30 28.4 | 22 11.3 | 109 6.6 | -4 29.6 |
| | 20 | 118 36.1 | 118 18.8 | 9 25.5 | 6 5.4 | 24 49.3 | 45 30.5 | 22 11.4 | 124 8.8 | -4 29.5 |
| | 21 | 133 38.6 | 133 22.7 | 9 24.8 | 21 7.2 | 24 49.2 | 60 32.6 | 22 11.4 | 139 11.0 | -4 29.4 |
| | 22 | 148 41.0 | 148 26.5 | 9 24.1 | 36 9.0 | 24 49.0 | 75 34.8 | 22 11.4 | 154 13.1 | -4 29.3 |
| | 23 | 163 43.5 | 163 30.4 | 9 23.4 | 51 10.8 | 24 48.9 | 90 36.9 | 22 11.5 | 169 15.3 | -4 29.1 |
| | | MP 12:08 | *v* 3.9 | *d* -0.7 | *v* 1.8 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 Friday | 0 | 178 46.0 | 178 34.2 | 9 22.7 | 66 12.6 | 24 48.7 | 105 39.0 | 22 11.5 | 184 17.5 | -4 29.0 |
| | 1 | 193 48.4 | 193 38.1 | 9 22.0 | 81 14.3 | 24 48.5 | 120 41.1 | 22 11.6 | 199 19.7 | -4 28.9 |
| | 2 | 208 50.9 | 208 41.9 | 9 21.3 | 96 16.1 | 24 48.4 | 135 43.2 | 22 11.6 | 214 21.9 | -4 28.8 |
| | 3 | 223 53.3 | 223 45.8 | 9 20.6 | 111 17.9 | 24 48.2 | 150 45.3 | 22 11.7 | 229 24.0 | -4 28.7 |
| | 4 | 238 55.8 | 238 49.6 | 9 19.9 | 126 19.7 | 24 48.0 | 165 47.4 | 22 11.7 | 244 26.2 | -4 28.6 |
| | 5 | 253 58.3 | 253 53.5 | 9 19.1 | 141 21.5 | 24 47.9 | 180 49.5 | 22 11.8 | 259 28.4 | -4 28.4 |
| | 6 | 269 0.7 | 268 57.4 | 9 18.4 | 156 23.3 | 24 47.7 | 195 51.6 | 22 11.8 | 274 30.6 | -4 28.3 |
| | 7 | 284 3.2 | 284 1.2 | 9 17.7 | 171 25.1 | 24 47.5 | 210 53.8 | 22 11.8 | 289 32.8 | -4 28.2 |
| | 8 | 299 5.7 | 299 5.1 | 9 17.0 | 186 26.9 | 24 47.4 | 225 55.9 | 22 11.9 | 304 34.9 | -4 28.1 |
| | 9 | 314 8.1 | 314 8.9 | 9 16.3 | 201 28.7 | 24 47.2 | 240 58.0 | 22 11.9 | 319 37.1 | -4 28.0 |
| | 10 | 329 10.6 | 329 12.8 | 9 15.5 | 216 30.4 | 24 47.0 | 256 0.1 | 22 12.0 | 334 39.3 | -4 27.8 |
| | 11 | 344 13.1 | 344 16.6 | 9 14.8 | 231 32.2 | 24 46.9 | 271 2.2 | 22 12.0 | 349 41.5 | -4 27.7 |
| | 12 | 359 15.5 | 359 20.5 | 9 14.1 | 246 34.0 | 24 46.7 | 286 4.3 | 22 12.1 | 4 43.7 | -4 27.6 |
| | 13 | 14 18.0 | 14 24.3 | 9 13.4 | 261 35.8 | 24 46.5 | 301 6.4 | 22 12.1 | 19 45.8 | -4 27.5 |
| | 14 | 29 20.5 | 29 28.2 | 9 12.6 | 276 37.6 | 24 46.4 | 316 8.5 | 22 12.2 | 34 48.0 | -4 27.4 |
| | 15 | 44 22.9 | 44 32.1 | 9 11.9 | 291 39.3 | 24 46.2 | 331 10.6 | 22 12.2 | 49 50.2 | -4 27.2 |
| | 16 | 59 25.4 | 59 35.9 | 9 11.2 | 306 41.1 | 24 46.0 | 346 12.7 | 22 12.3 | 64 52.4 | -4 27.1 |
| | 17 | 74 27.8 | 74 39.8 | 9 10.4 | 321 42.9 | 24 45.9 | 1 14.9 | 22 12.3 | 79 54.6 | -4 27.0 |
| | 18 | 89 30.3 | 89 43.6 | 9 9.7 | 336 44.7 | 24 45.7 | 16 17.0 | 22 12.3 | 94 56.7 | -4 26.9 |
| | 19 | 104 32.8 | 104 47.5 | 9 9.0 | 351 46.5 | 24 45.5 | 31 19.1 | 22 12.4 | 109 58.9 | -4 26.8 |
| | 20 | 119 35.2 | 119 51.3 | 9 8.2 | 6 48.2 | 24 45.4 | 46 21.2 | 22 12.4 | 125 1.1 | -4 26.6 |
| | 21 | 134 37.7 | 134 55.2 | 9 7.5 | 21 50.0 | 24 45.2 | 61 23.3 | 22 12.5 | 140 3.3 | -4 26.5 |
| | 22 | 149 40.2 | 149 59.0 | 9 6.8 | 36 51.8 | 24 45.0 | 76 25.4 | 22 12.5 | 155 5.5 | -4 26.4 |
| | 23 | 164 42.6 | 165 2.9 | 9 6.0 | 51 53.6 | 24 44.9 | 91 27.5 | 22 12.6 | 170 7.7 | -4 26.3 |
| | | MP 12:04 | *v* 3.9 | *d* -0.7 | *v* 1.8 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 Saturday | 0 | 179 45.1 | 180 6.7 | 9 5.3 | 66 55.3 | 24 44.7 | 106 29.6 | 22 12.6 | 185 9.8 | -4 26.2 |
| | 1 | 194 47.6 | 195 10.6 | 9 4.5 | 81 57.1 | 24 44.5 | 121 31.7 | 22 12.7 | 200 12.0 | -4 26.1 |
| | 2 | 209 50.0 | 210 14.4 | 9 3.8 | 96 58.9 | 24 44.4 | 136 33.8 | 22 12.7 | 215 14.2 | -4 25.9 |
| | 3 | 224 52.5 | 225 18.3 | 9 3.0 | 112 0.7 | 24 44.2 | 151 35.9 | 22 12.7 | 230 16.4 | -4 25.8 |
| | 4 | 239 54.9 | 240 22.1 | 9 2.3 | 127 2.4 | 24 44.0 | 166 38.0 | 22 12.8 | 245 18.6 | -4 25.7 |
| | 5 | 254 57.4 | 255 26.0 | 9 1.5 | 142 4.2 | 24 43.9 | 181 40.1 | 22 12.8 | 260 20.7 | -4 25.6 |
| | 6 | 269 59.9 | 270 29.8 | 9 0.8 | 157 6.0 | 24 43.7 | 196 42.2 | 22 12.9 | 275 22.9 | -4 25.5 |
| | 7 | 285 2.3 | 285 33.7 | 9 0.0 | 172 7.7 | 24 43.5 | 211 44.3 | 22 12.9 | 290 25.1 | -4 25.3 |
| | 8 | 300 4.8 | 300 37.5 | 8 59.2 | 187 9.5 | 24 43.4 | 226 46.4 | 22 13.0 | 305 27.3 | -4 25.2 |
| | 9 | 315 7.3 | 315 41.4 | 8 58.5 | 202 11.3 | 24 43.2 | 241 48.6 | 22 13.0 | 320 29.5 | -4 25.1 |
| | 10 | 330 9.7 | 330 45.2 | 8 57.7 | 217 13.0 | 24 43.0 | 256 50.7 | 22 13.1 | 335 31.6 | -4 25.0 |
| | 11 | 345 12.2 | 345 49.1 | 8 57.0 | 232 14.8 | 24 42.8 | 271 52.8 | 22 13.1 | 350 33.8 | -4 24.9 |
| | 12 | 0 14.7 | 0 52.9 | 8 56.2 | 247 16.5 | 24 42.7 | 286 54.9 | 22 13.2 | 5 36.0 | -4 24.7 |
| | 13 | 15 17.1 | 15 56.8 | 8 55.4 | 262 18.3 | 24 42.5 | 301 57.0 | 22 13.2 | 20 38.2 | -4 24.6 |
| | 14 | 30 19.6 | 31 0.6 | 8 54.7 | 277 20.1 | 24 42.3 | 316 59.1 | 22 13.2 | 35 40.4 | -4 24.5 |
| | 15 | 45 22.1 | 46 4.4 | 8 53.9 | 292 21.8 | 24 42.2 | 332 1.2 | 22 13.3 | 50 42.5 | -4 24.4 |
| | 16 | 60 24.5 | 61 8.3 | 8 53.1 | 307 23.6 | 24 42.0 | 347 3.3 | 22 13.3 | 65 44.7 | -4 24.3 |
| | 17 | 75 27.0 | 76 12.1 | 8 52.3 | 322 25.4 | 24 41.8 | 2 5.4 | 22 13.4 | 80 46.9 | -4 24.1 |
| | 18 | 90 29.4 | 91 16.0 | 8 51.6 | 337 27.1 | 24 41.7 | 17 7.5 | 22 13.4 | 95 49.1 | -4 24.0 |
| | 19 | 105 31.9 | 106 19.8 | 8 50.8 | 352 28.9 | 24 41.5 | 32 9.6 | 22 13.5 | 110 51.3 | -4 23.9 |
| | 20 | 120 34.4 | 121 23.7 | 8 50.0 | 7 30.6 | 24 41.3 | 47 11.7 | 22 13.5 | 125 53.5 | -4 23.8 |
| | 21 | 135 36.8 | 136 27.5 | 8 49.2 | 22 32.4 | 24 41.1 | 62 13.8 | 22 13.6 | 140 55.6 | -4 23.7 |
| | 22 | 150 39.3 | 151 31.3 | 8 48.5 | 37 34.1 | 24 41.0 | 77 15.9 | 22 13.6 | 155 57.8 | -4 23.6 |
| | 23 | 165 41.8 | 166 35.2 | 8 47.7 | 52 35.9 | 24 40.8 | 92 18.0 | 22 13.7 | 171 0.0 | -4 23.4 |
| | | MP 12:00 | *v* 3.9 | *d* -0.7 | *v* 1.8 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.4 |
| Achernar | 335 20.5 | -57 6.7 |
| Acrux | 172 59.3 | -63 14.4 |
| Adhara | 255 5.7 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.2 |
| Alkaid | 152 51.4 | 49 11.0 |
| Alnair | 27 33.1 | -46 50.3 |
| Alnilam | 275 37.6 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 62 0.0 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.3 |
| Antares | 112 15.5 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.5 | -69 4.1 |
| Avior | 234 14.3 | -59 35.6 |
| Bellatrix | 278 22.8 | 6 22.3 |
| Betelgeuse | 270 51.9 | 7 24.6 |
| Canopus | 263 52.3 | -52 42.8 |
| Capella | 280 21.7 | 46 1.5 |
| Deneb | 49 26.0 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.5 | -17 51.0 |
| Dubhe | 193 40.1 | 61 36.9 |
| Elnath | 278 1.7 | 28 37.8 |
| Eltanin | 90 42.1 | 51 28.7 |
| Enif | 33 38.9 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.4 |
| Gacrux | 171 51.0 | -57 15.3 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.3 | -60 29.6 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.4 | -34 22.3 |
| Kochab | 137 18.9 | 74 2.8 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.6 | -69 49.4 |
| Mirfak | 308 28.3 | 49 57.2 |
| Nunki | 75 47.7 | -26 15.9 |
| Peacock | 53 5.8 | -56 39.1 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.4 | 12 32.2 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.8 | -8 10.5 |
| Rigil Kent. | 139 39.6 | -60 56.3 |
| Sabik | 102 2.5 | -15 45.4 |
| Schedar | 349 31.5 | 56 40.5 |
| Shaula | 96 10.1 | -37 7.3 |
| Sirius | 258 26.0 | -16 45.2 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 32.3 |
| Vega | 80 33.2 | 38 48.1 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 20 Thu | SHA | MP |
|---|---|---|
| Venus | 359 14.9 | 12:09 |
| Mars | 247 42.5 | 19:36 |
| Jupiter | 287 1.4 | 16:58 |
| Saturn | 5 38.4 | 11:45 |

| 21 Fri | SHA | MP |
|---|---|---|
| Venus | 359 48.3 | 12:03 |
| Mars | 247 26.6 | 19:33 |
| Jupiter | 286 53.0 | 16:55 |
| Saturn | 5 31.5 | 11:41 |

| 22 Sat | SHA | MP |
|---|---|---|
| Venus | 0 21.6 | 11:56 |
| Mars | 247 10.2 | 19:30 |
| Jupiter | 286 44.5 | 16:52 |
| Saturn | 5 24.7 | 11:38 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **20 Thursday** | 0 | 178 7.4 | -0 8.9 | 299 5.2 | 11.5 | -25 12.5 | 7.3 | 54.4 |
| | 1 | 193 7.6 | -0 7.9 | 313 35.7 | 11.4 | -25 19.8 | 7.2 | 54.4 |
| | 2 | 208 7.7 | -0 7.0 | 328 6.1 | 11.3 | -25 27.0 | 7.1 | 54.4 |
| | 3 | 223 7.9 | -0 6.0 | 342 36.5 | 11.3 | -25 34.0 | 6.9 | 54.4 |
| | 4 | 238 8.1 | -0 5.0 | 357 6.7 | 11.2 | -25 41.0 | 6.8 | 54.4 |
| | 5 | 253 8.3 | -0 4.0 | 11 36.9 | 11.1 | -25 47.8 | 6.7 | 54.5 |
| | 6 | 268 8.5 | -0 3.0 | 26 7.0 | 11.0 | -25 54.5 | 6.6 | 54.5 |
| | 7 | 283 8.7 | -0 2.0 | 40 37.0 | 10.9 | -26 1.1 | 6.5 | 54.5 |
| | 8 | 298 8.9 | -0 1.0 | 55 7.0 | 10.9 | -26 7.6 | 6.4 | 54.5 |
| | 9 | 313 9.0 | -0 0.0 | 69 36.9 | 10.8 | -26 13.9 | 6.2 | 54.5 |
| | 10 | 328 9.2 | 0 1.0 | 84 6.7 | 10.7 | -26 20.2 | 6.1 | 54.5 |
| | 11 | 343 9.4 | 0 1.9 | 98 36.4 | 10.6 | -26 26.3 | 6.0 | 54.6 |
| | 12 | 358 9.6 | 0 2.9 | 113 6.0 | 10.6 | -26 32.3 | 5.9 | 54.6 |
| | 13 | 13 9.8 | 0 3.9 | 127 35.6 | 10.5 | -26 38.2 | 5.8 | 54.6 |
| | 14 | 28 10.0 | 0 4.9 | 142 5.1 | 10.4 | -26 43.9 | 5.6 | 54.6 |
| | 15 | 43 10.2 | 0 5.9 | 156 34.5 | 10.4 | -26 49.5 | 5.5 | 54.6 |
| | 16 | 58 10.3 | 0 6.9 | 171 3.9 | 10.3 | -26 55.0 | 5.4 | 54.6 |
| | 17 | 73 10.5 | 0 7.9 | 185 33.2 | 10.2 | -27 0.4 | 5.3 | 54.7 |
| | 18 | 88 10.7 | 0 8.9 | 200 2.4 | 10.1 | -27 5.7 | 5.1 | 54.7 |
| | 19 | 103 10.9 | 0 9.8 | 214 31.5 | 10.1 | -27 10.8 | 5.0 | 54.7 |
| | 20 | 118 11.1 | 0 10.8 | 229 0.6 | 10.0 | -27 15.8 | 4.9 | 54.7 |
| | 21 | 133 11.3 | 0 11.8 | 243 29.6 | 9.9 | -27 20.7 | 4.7 | 54.7 |
| | 22 | 148 11.5 | 0 12.8 | 257 58.5 | 9.9 | -27 25.4 | 4.6 | 54.8 |
| | 23 | 163 11.6 | 0 13.8 | 272 27.3 | 9.8 | -27 30.0 | 4.5 | 54.8 |
| | *v* | 0.2 | SD 16.1 | *d* -1.0 | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **21 Friday** | 0 | 178 11.8 | 0 14.8 | 286 56.1 | 9.7 | -27 34.5 | 4.3 | 54.8 |
| | 1 | 193 12.0 | 0 15.8 | 301 24.8 | 9.7 | -27 38.8 | 4.2 | 54.8 |
| | 2 | 208 12.2 | 0 16.8 | 315 53.5 | 9.6 | -27 43.0 | 4.1 | 54.8 |
| | 3 | 223 12.4 | 0 17.7 | 330 22.1 | 9.5 | -27 47.1 | 3.9 | 54.9 |
| | 4 | 238 12.6 | 0 18.7 | 344 50.6 | 9.5 | -27 51.0 | 3.8 | 54.9 |
| | 5 | 253 12.8 | 0 19.7 | 359 19.0 | 9.4 | -27 54.8 | 3.7 | 54.9 |
| | 6 | 268 12.9 | 0 20.7 | 13 47.4 | 9.3 | -27 58.5 | 3.5 | 54.9 |
| | 7 | 283 13.1 | 0 21.7 | 28 15.8 | 9.3 | -28 2.0 | 3.4 | 54.9 |
| | 8 | 298 13.3 | 0 22.7 | 42 44.0 | 9.2 | -28 5.4 | 3.2 | 55.0 |
| | 9 | 313 13.5 | 0 23.7 | 57 12.2 | 9.1 | -28 8.6 | 3.1 | 55.0 |
| | 10 | 328 13.7 | 0 24.7 | 71 40.4 | 9.1 | -28 11.8 | 3.0 | 55.0 |
| | 11 | 343 13.9 | 0 25.6 | 86 8.5 | 9.0 | -28 14.7 | 2.8 | 55.0 |
| | 12 | 358 14.1 | 0 26.6 | 100 36.5 | 9.0 | -28 17.5 | 2.7 | 55.0 |
| | 13 | 13 14.2 | 0 27.6 | 115 4.4 | 8.9 | -28 20.2 | 2.5 | 55.1 |
| | 14 | 28 14.4 | 0 28.6 | 129 32.4 | 8.9 | -28 22.8 | 2.4 | 55.1 |
| | 15 | 43 14.6 | 0 29.6 | 144 0.2 | 8.8 | -28 25.2 | 2.3 | 55.1 |
| | 16 | 58 14.8 | 0 30.6 | 158 28.0 | 8.7 | -28 27.4 | 2.1 | 55.1 |
| | 17 | 73 15.0 | 0 31.6 | 172 55.8 | 8.7 | -28 29.5 | 2.0 | 55.2 |
| | 18 | 88 15.2 | 0 32.6 | 187 23.4 | 8.6 | -28 31.5 | 1.8 | 55.2 |
| | 19 | 103 15.4 | 0 33.5 | 201 51.1 | 8.6 | -28 33.3 | 1.7 | 55.2 |
| | 20 | 118 15.6 | 0 34.5 | 216 18.7 | 8.5 | -28 35.0 | 1.5 | 55.2 |
| | 21 | 133 15.7 | 0 35.5 | 230 46.2 | 8.5 | -28 36.5 | 1.4 | 55.3 |
| | 22 | 148 15.9 | 0 36.5 | 245 13.7 | 8.4 | -28 37.9 | 1.2 | 55.3 |
| | 23 | 163 16.1 | 0 37.5 | 259 41.2 | 8.4 | -28 39.1 | 1.1 | 55.3 |
| | *v* | 0.2 | SD 16.1 | *d* 1.0 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **22 Saturday** | 0 | 178 16.3 | 0 38.5 | 274 8.6 | 8.4 | -28 40.2 | 0.9 | 55.3 |
| | 1 | 193 16.5 | 0 39.5 | 288 35.9 | 8.3 | -28 41.1 | 0.8 | 55.4 |
| | 2 | 208 16.7 | 0 40.4 | 303 3.3 | 8.3 | -28 41.9 | 0.6 | 55.4 |
| | 3 | 223 16.9 | 0 41.4 | 317 30.5 | 8.2 | -28 42.5 | 0.5 | 55.4 |
| | 4 | 238 17.0 | 0 42.4 | 331 57.8 | 8.2 | -28 43.0 | 0.3 | 55.5 |
| | 5 | 253 17.2 | 0 43.4 | 346 25.0 | 8.2 | -28 43.3 | 0.2 | 55.5 |
| | 6 | 268 17.4 | 0 44.4 | 0 52.1 | 8.1 | -28 43.5 | 0.0 | 55.5 |
| | 7 | 283 17.6 | 0 45.4 | 15 19.2 | 8.1 | -28 43.5 | -0.1 | 55.5 |
| | 8 | 298 17.8 | 0 46.4 | 29 46.3 | 8.1 | -28 43.4 | -0.3 | 55.6 |
| | 9 | 313 18.0 | 0 47.4 | 44 13.4 | 8.0 | -28 43.1 | -0.4 | 55.6 |
| | 10 | 328 18.2 | 0 48.3 | 58 40.4 | 8.0 | -28 42.7 | -0.6 | 55.6 |
| | 11 | 343 18.4 | 0 49.3 | 73 7.4 | 8.0 | -28 42.1 | -0.8 | 55.7 |
| | 12 | 358 18.5 | 0 50.3 | 87 34.3 | 7.9 | -28 41.3 | -0.9 | 55.7 |
| | 13 | 13 18.7 | 0 51.3 | 102 1.3 | 7.9 | -28 40.4 | -1.1 | 55.7 |
| | 14 | 28 18.9 | 0 52.3 | 116 28.2 | 7.9 | -28 39.3 | -1.2 | 55.7 |
| | 15 | 43 19.1 | 0 53.3 | 130 55.1 | 7.9 | -28 38.1 | -1.4 | 55.8 |
| | 16 | 58 19.3 | 0 54.3 | 145 21.9 | 7.8 | -28 36.8 | -1.5 | 55.8 |
| | 17 | 73 19.5 | 0 55.2 | 159 48.8 | 7.8 | -28 35.2 | -1.7 | 55.8 |
| | 18 | 88 19.7 | 0 56.2 | 174 15.6 | 7.8 | -28 33.5 | -1.8 | 55.9 |
| | 19 | 103 19.9 | 0 57.2 | 188 42.4 | 7.8 | -28 31.7 | -2.0 | 55.9 |
| | 20 | 118 20.0 | 0 58.2 | 203 9.1 | 7.8 | -28 29.7 | -2.2 | 55.9 |
| | 21 | 133 20.2 | 0 59.2 | 217 35.9 | 7.7 | -28 27.5 | -2.3 | 56.0 |
| | 22 | 148 20.4 | 1 0.2 | 232 2.6 | 7.7 | -28 25.2 | -2.5 | 56.0 |
| | 23 | 163 20.6 | 1 1.2 | 246 29.3 | 7.7 | -28 22.7 | -2.6 | 56.0 |
| | *v* | 0.2 | SD 16.1 | *d* 1.0 | | SD 15.1 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 03:20 | 04:49 | 05:57 | 18:20 | 19:29 | 21:00 |
| 70 | 03:39 | 04:57 | 05:58 | 18:19 | 19:20 | 20:40 |
| 68 | 03:54 | 05:03 | 05:59 | 18:18 | 19:14 | 20:24 |
| 66 | 04:05 | 05:08 | 06:00 | 18:17 | 19:08 | 20:12 |
| 64 | 04:15 | 05:13 | 06:00 | 18:16 | 19:04 | 20:02 |
| 62 | 04:23 | 05:16 | 06:01 | 18:15 | 19:00 | 19:54 |
| 60 | 04:30 | 05:20 | 06:01 | 18:15 | 18:57 | 19:47 |
| 58 | 04:36 | 05:22 | 06:01 | 18:15 | 18:54 | 19:41 |
| 56 | 04:41 | 05:25 | 06:02 | 18:14 | 18:51 | 19:36 |
| 54 | 04:45 | 05:27 | 06:02 | 18:14 | 18:49 | 19:31 |
| 52 | 04:49 | 05:29 | 06:02 | 18:13 | 18:47 | 19:27 |
| 50 | 04:52 | 05:30 | 06:03 | 18:13 | 18:45 | 19:24 |
| 45 | 04:59 | 05:34 | 06:03 | 18:13 | 18:42 | 19:16 |
| 40 | 05:05 | 05:36 | 06:03 | 18:12 | 18:39 | 19:11 |
| 35 | 05:09 | 05:38 | 06:04 | 18:12 | 18:37 | 19:07 |
| 30 | 05:12 | 05:40 | 06:04 | 18:11 | 18:35 | 19:03 |
| 20 | 05:16 | 05:42 | 06:04 | 18:11 | 18:33 | 18:59 |
| 10 | 05:19 | 05:43 | 06:04 | 18:11 | 18:32 | 18:56 |
| 0 | 05:19 | 05:43 | 06:04 | 18:11 | 18:31 | 18:55 |
| -10 | 05:19 | 05:43 | 06:04 | 18:11 | 18:32 | 18:56 |
| -20 | 05:16 | 05:42 | 06:04 | 18:11 | 18:33 | 18:58 |
| -30 | 05:12 | 05:40 | 06:03 | 18:11 | 18:35 | 19:02 |
| -35 | 05:08 | 05:38 | 06:03 | 18:11 | 18:36 | 19:06 |
| -40 | 05:04 | 05:36 | 06:03 | 18:11 | 18:38 | 19:10 |
| -45 | 04:59 | 05:33 | 06:03 | 18:11 | 18:41 | 19:15 |
| -50 | 04:52 | 05:30 | 06:02 | 18:12 | 18:44 | 19:22 |
| -52 | 04:48 | 05:28 | 06:02 | 18:12 | 18:46 | 19:25 |
| -54 | 04:44 | 05:26 | 06:02 | 18:12 | 18:47 | 19:29 |
| -56 | 04:40 | 05:24 | 06:01 | 18:12 | 18:49 | 19:33 |
| -58 | 04:35 | 05:22 | 06:01 | 18:13 | 18:52 | 19:38 |
| -60 | 04:29 | 05:19 | 06:00 | 18:13 | 18:54 | 19:44 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **20** | **21** | **22** | **20** | **21** | **22** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | 03:35 | | | 04:39 | | |
| 62 | 02:25 | | | 05:49 | | |
| 60 | 01:50 | 03:26 | 04:43 | 06:25 | 06:35 | 07:09 |
| 58 | 01:25 | 02:49 | 03:59 | 06:51 | 07:12 | 07:54 |
| 56 | 01:05 | 02:23 | 03:30 | 07:11 | 07:38 | 08:23 |
| 54 | 00:49 | 02:03 | 03:07 | 07:28 | 07:59 | 08:46 |
| 52 | 00:34 | 01:46 | 02:49 | 07:43 | 08:16 | 09:04 |
| 50 | 00:22 | 01:31 | 02:33 | 07:56 | 08:31 | 09:20 |
| 45 | –:– | 01:01 | 02:01 | 08:22 | 09:01 | 09:51 |
| 40 | –:– | 00:38 | 01:37 | 08:43 | 09:25 | 10:16 |
| 35 | –:– | 00:19 | 01:17 | 09:00 | 09:44 | 10:36 |
| 30 | –:– | 00:03 | 01:00 | 09:15 | 10:01 | 10:53 |
| 20 | 23:36 | –:– | 00:31 | 09:41 | 10:29 | 11:22 |
| 10 | 23:12 | –:– | 00:06 | 10:03 | 10:53 | 11:47 |
| 0 | 22:50 | 23:43 | –:– | 10:24 | 11:16 | 12:10 |
| -10 | 22:29 | 23:20 | –:– | 10:45 | 11:38 | 12:33 |
| -20 | 22:05 | 22:56 | 23:51 | 11:07 | 12:02 | 12:57 |
| -30 | 21:38 | 22:27 | 23:23 | 11:33 | 12:31 | 13:26 |
| -35 | 21:22 | 22:10 | 23:06 | 11:48 | 12:47 | 13:43 |
| -40 | 21:04 | 21:50 | 22:46 | 12:06 | 13:07 | 14:03 |
| -45 | 20:42 | 21:26 | 22:23 | 12:28 | 13:31 | 14:27 |
| -50 | 20:14 | 20:56 | 21:52 | 12:55 | 14:01 | 14:58 |
| -52 | 20:00 | 20:40 | 21:37 | 13:09 | 14:17 | 15:13 |
| -54 | 19:44 | 20:22 | 21:19 | 13:24 | 14:34 | 15:31 |
| -56 | 19:25 | 20:01 | 20:57 | 13:43 | 14:56 | 15:53 |
| -58 | 19:02 | 19:33 | 20:29 | 14:05 | 15:23 | 16:20 |
| -60 | 18:32 | 18:53 | 19:49 | 14:35 | 16:03 | 17:01 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **20** | 07:30 | 07:22 | 12:07 | 04:12 | 16:37 | 20 | 73 |
| **21** | 07:13 | 07:04 | 12:07 | 05:03 | 17:29 | 21 | 64 |
| **22** | 06:55 | 06:46 | 12:07 | 05:56 | 18:24 | 22 | 55 |

## 2025 March 23, 24, 25 (Sun, Monday, Tue)

| d | h | Aries GHA | Venus -4.2 GHA | Venus -4.2 Dec | Mars 0.3 GHA | Mars 0.3 Dec | Jupiter -2.2 GHA | Jupiter -2.2 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Sunday | 0 | 180 44.2 | 181 39.0 | 8 46.9 | 67 37.6 | 24 40.6 | 107 20.1 | 22 13.7 | 186 2.2 | -4 23.3 |
| | 1 | 195 46.7 | 196 42.9 | 8 46.1 | 82 39.4 | 24 40.5 | 122 22.2 | 22 13.7 | 201 4.4 | -4 23.2 |
| | 2 | 210 49.2 | 211 46.7 | 8 45.3 | 97 41.1 | 24 40.3 | 137 24.3 | 22 13.8 | 216 6.5 | -4 23.1 |
| | 3 | 225 51.6 | 226 50.5 | 8 44.5 | 112 42.9 | 24 40.1 | 152 26.4 | 22 13.8 | 231 8.7 | -4 23.0 |
| | 4 | 240 54.1 | 241 54.4 | 8 43.7 | 127 44.6 | 24 39.9 | 167 28.5 | 22 13.9 | 246 10.9 | -4 22.8 |
| | 5 | 255 56.6 | 256 58.2 | 8 43.0 | 142 46.4 | 24 39.8 | 182 30.6 | 22 13.9 | 261 13.1 | -4 22.7 |
| | 6 | 270 59.0 | 272 2.0 | 8 42.2 | 157 48.1 | 24 39.6 | 197 32.7 | 22 14.0 | 276 15.3 | -4 22.6 |
| | 7 | 286 1.5 | 287 5.9 | 8 41.4 | 172 49.9 | 24 39.4 | 212 34.8 | 22 14.0 | 291 17.4 | -4 22.5 |
| | 8 | 301 3.9 | 302 9.7 | 8 40.6 | 187 51.6 | 24 39.3 | 227 36.9 | 22 14.1 | 306 19.6 | -4 22.4 |
| | 9 | 316 6.4 | 317 13.5 | 8 39.8 | 202 53.4 | 24 39.1 | 242 39.0 | 22 14.1 | 321 21.8 | -4 22.2 |
| | 10 | 331 8.9 | 332 17.3 | 8 39.0 | 217 55.1 | 24 38.9 | 257 41.1 | 22 14.2 | 336 24.0 | -4 22.1 |
| | 11 | 346 11.3 | 347 21.2 | 8 38.2 | 232 56.9 | 24 38.7 | 272 43.2 | 22 14.2 | 351 26.2 | -4 22.0 |
| | 12 | 1 13.8 | 2 25.0 | 8 37.4 | 247 58.6 | 24 38.6 | 287 45.3 | 22 14.2 | 6 28.4 | -4 21.9 |
| | 13 | 16 16.3 | 17 28.8 | 8 36.6 | 263 0.4 | 24 38.4 | 302 47.4 | 22 14.3 | 21 30.5 | -4 21.8 |
| | 14 | 31 18.7 | 32 32.7 | 8 35.8 | 278 2.1 | 24 38.2 | 317 49.5 | 22 14.3 | 36 32.7 | -4 21.7 |
| | 15 | 46 21.2 | 47 36.5 | 8 35.0 | 293 3.8 | 24 38.0 | 332 51.6 | 22 14.4 | 51 34.9 | -4 21.5 |
| | 16 | 61 23.7 | 62 40.3 | 8 34.2 | 308 5.6 | 24 37.9 | 347 53.7 | 22 14.4 | 66 37.1 | -4 21.4 |
| | 17 | 76 26.1 | 77 44.1 | 8 33.4 | 323 7.3 | 24 37.7 | 2 55.8 | 22 14.5 | 81 39.3 | -4 21.3 |
| | 18 | 91 28.6 | 92 47.9 | 8 32.6 | 338 9.1 | 24 37.5 | 17 57.8 | 22 14.5 | 96 41.4 | -4 21.2 |
| | 19 | 106 31.1 | 107 51.8 | 8 31.7 | 353 10.8 | 24 37.3 | 32 59.9 | 22 14.6 | 111 43.6 | -4 21.1 |
| | 20 | 121 33.5 | 122 55.6 | 8 30.9 | 8 12.5 | 24 37.2 | 48 2.0 | 22 14.6 | 126 45.8 | -4 20.9 |
| | 21 | 136 36.0 | 137 59.4 | 8 30.1 | 23 14.3 | 24 37.0 | 63 4.1 | 22 14.7 | 141 48.0 | -4 20.8 |
| | 22 | 151 38.4 | 153 3.2 | 8 29.3 | 38 16.0 | 24 36.8 | 78 6.2 | 22 14.7 | 156 50.2 | -4 20.7 |
| | 23 | 166 40.9 | 168 7.0 | 8 28.5 | 53 17.8 | 24 36.7 | 93 8.3 | 22 14.7 | 171 52.3 | -4 20.6 |
| | | MP 11:56 | *v* 3.8 | *d* -0.8 | *v* 1.8 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 Monday | 0 | 181 43.4 | 183 10.9 | 8 27.7 | 68 19.5 | 24 36.5 | 108 10.4 | 22 14.8 | 186 54.5 | -4 20.5 |
| | 1 | 196 45.8 | 198 14.7 | 8 26.9 | 83 21.2 | 24 36.3 | 123 12.5 | 22 14.8 | 201 56.7 | -4 20.3 |
| | 2 | 211 48.3 | 213 18.5 | 8 26.0 | 98 23.0 | 24 36.1 | 138 14.6 | 22 14.9 | 216 58.9 | -4 20.2 |
| | 3 | 226 50.8 | 228 22.3 | 8 25.2 | 113 24.7 | 24 36.0 | 153 16.7 | 22 14.9 | 232 1.1 | -4 20.1 |
| | 4 | 241 53.2 | 243 26.1 | 8 24.4 | 128 26.4 | 24 35.8 | 168 18.8 | 22 15.0 | 247 3.3 | -4 20.0 |
| | 5 | 256 55.7 | 258 29.9 | 8 23.6 | 143 28.1 | 24 35.6 | 183 20.9 | 22 15.0 | 262 5.4 | -4 19.9 |
| | 6 | 271 58.2 | 273 33.7 | 8 22.8 | 158 29.9 | 24 35.4 | 198 23.0 | 22 15.1 | 277 7.6 | -4 19.8 |
| | 7 | 287 0.6 | 288 37.5 | 8 21.9 | 173 31.6 | 24 35.2 | 213 25.1 | 22 15.1 | 292 9.8 | -4 19.6 |
| | 8 | 302 3.1 | 303 41.3 | 8 21.1 | 188 33.3 | 24 35.1 | 228 27.2 | 22 15.2 | 307 12.0 | -4 19.5 |
| | 9 | 317 5.5 | 318 45.1 | 8 20.3 | 203 35.1 | 24 34.9 | 243 29.3 | 22 15.2 | 322 14.2 | -4 19.4 |
| | 10 | 332 8.0 | 333 48.9 | 8 19.5 | 218 36.8 | 24 34.7 | 258 31.3 | 22 15.3 | 337 16.3 | -4 19.3 |
| | 11 | 347 10.5 | 348 52.7 | 8 18.6 | 233 38.5 | 24 34.5 | 273 33.4 | 22 15.3 | 352 18.5 | -4 19.2 |
| | 12 | 2 12.9 | 3 56.5 | 8 17.8 | 248 40.2 | 24 34.4 | 288 35.5 | 22 15.3 | 7 20.7 | -4 19.0 |
| | 13 | 17 15.4 | 19 0.3 | 8 17.0 | 263 42.0 | 24 34.2 | 303 37.6 | 22 15.4 | 22 22.9 | -4 18.9 |
| | 14 | 32 17.9 | 34 4.1 | 8 16.1 | 278 43.7 | 24 34.0 | 318 39.7 | 22 15.4 | 37 25.1 | -4 18.8 |
| | 15 | 47 20.3 | 49 7.9 | 8 15.3 | 293 45.4 | 24 33.8 | 333 41.8 | 22 15.5 | 52 27.3 | -4 18.7 |
| | 16 | 62 22.8 | 64 11.7 | 8 14.5 | 308 47.1 | 24 33.7 | 348 43.9 | 22 15.5 | 67 29.4 | -4 18.6 |
| | 17 | 77 25.3 | 79 15.5 | 8 13.6 | 323 48.9 | 24 33.5 | 3 46.0 | 22 15.6 | 82 31.6 | -4 18.5 |
| | 18 | 92 27.7 | 94 19.3 | 8 12.8 | 338 50.6 | 24 33.3 | 18 48.1 | 22 15.6 | 97 33.8 | -4 18.3 |
| | 19 | 107 30.2 | 109 23.1 | 8 12.0 | 353 52.3 | 24 33.1 | 33 50.2 | 22 15.7 | 112 36.0 | -4 18.2 |
| | 20 | 122 32.7 | 124 26.9 | 8 11.1 | 8 54.0 | 24 32.9 | 48 52.2 | 22 15.7 | 127 38.2 | -4 18.1 |
| | 21 | 137 35.1 | 139 30.7 | 8 10.3 | 23 55.7 | 24 32.8 | 63 54.3 | 22 15.8 | 142 40.3 | -4 18.0 |
| | 22 | 152 37.6 | 154 34.5 | 8 9.4 | 38 57.4 | 24 32.6 | 78 56.4 | 22 15.8 | 157 42.5 | -4 17.9 |
| | 23 | 167 40.0 | 169 38.2 | 8 8.6 | 53 59.2 | 24 32.4 | 93 58.5 | 22 15.8 | 172 44.7 | -4 17.7 |
| | | MP 11:52 | *v* 3.8 | *d* -0.8 | *v* 1.7 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Tuesday | 0 | 182 42.5 | 184 42.0 | 8 7.8 | 69 0.9 | 24 32.2 | 109 0.6 | 22 15.9 | 187 46.9 | -4 17.6 |
| | 1 | 197 45.0 | 199 45.8 | 8 6.9 | 84 2.6 | 24 32.1 | 124 2.7 | 22 15.9 | 202 49.1 | -4 17.5 |
| | 2 | 212 47.4 | 214 49.6 | 8 6.1 | 99 4.3 | 24 31.9 | 139 4.8 | 22 16.0 | 217 51.3 | -4 17.4 |
| | 3 | 227 49.9 | 229 53.4 | 8 5.2 | 114 6.0 | 24 31.7 | 154 6.9 | 22 16.0 | 232 53.4 | -4 17.3 |
| | 4 | 242 52.4 | 244 57.1 | 8 4.4 | 129 7.7 | 24 31.5 | 169 9.0 | 22 16.1 | 247 55.6 | -4 17.2 |
| | 5 | 257 54.8 | 260 0.9 | 8 3.5 | 144 9.4 | 24 31.3 | 184 11.0 | 22 16.1 | 262 57.8 | -4 17.0 |
| | 6 | 272 57.3 | 275 4.7 | 8 2.7 | 159 11.2 | 24 31.2 | 199 13.1 | 22 16.2 | 278 0.0 | -4 16.9 |
| | 7 | 287 59.8 | 290 8.5 | 8 1.8 | 174 12.9 | 24 31.0 | 214 15.2 | 22 16.2 | 293 2.2 | -4 16.8 |
| | 8 | 303 2.2 | 305 12.2 | 8 1.0 | 189 14.6 | 24 30.8 | 229 17.3 | 22 16.3 | 308 4.4 | -4 16.7 |
| | 9 | 318 4.7 | 320 16.0 | 8 0.1 | 204 16.3 | 24 30.6 | 244 19.4 | 22 16.3 | 323 6.5 | -4 16.6 |
| | 10 | 333 7.2 | 335 19.8 | 7 59.3 | 219 18.0 | 24 30.4 | 259 21.5 | 22 16.4 | 338 8.7 | -4 16.4 |
| | 11 | 348 9.6 | 350 23.5 | 7 58.4 | 234 19.7 | 24 30.3 | 274 23.6 | 22 16.4 | 353 10.9 | -4 16.3 |
| | 12 | 3 12.1 | 5 27.3 | 7 57.6 | 249 21.4 | 24 30.1 | 289 25.6 | 22 16.4 | 8 13.1 | -4 16.2 |
| | 13 | 18 14.5 | 20 31.1 | 7 56.7 | 264 23.1 | 24 29.9 | 304 27.7 | 22 16.5 | 23 15.3 | -4 16.1 |
| | 14 | 33 17.0 | 35 34.8 | 7 55.9 | 279 24.8 | 24 29.7 | 319 29.8 | 22 16.5 | 38 17.4 | -4 16.0 |
| | 15 | 48 19.5 | 50 38.6 | 7 55.0 | 294 26.5 | 24 29.5 | 334 31.9 | 22 16.6 | 53 19.6 | -4 15.9 |
| | 16 | 63 21.9 | 65 42.3 | 7 54.2 | 309 28.2 | 24 29.4 | 349 34.0 | 22 16.6 | 68 21.8 | -4 15.7 |
| | 17 | 78 24.4 | 80 46.1 | 7 53.3 | 324 29.9 | 24 29.2 | 4 36.1 | 22 16.7 | 83 24.0 | -4 15.6 |
| | 18 | 93 26.9 | 95 49.8 | 7 52.4 | 339 31.6 | 24 29.0 | 19 38.2 | 22 16.7 | 98 26.2 | -4 15.5 |
| | 19 | 108 29.3 | 110 53.6 | 7 51.6 | 354 33.3 | 24 28.8 | 34 40.2 | 22 16.8 | 113 28.4 | -4 15.4 |
| | 20 | 123 31.8 | 125 57.3 | 7 50.7 | 9 35.0 | 24 28.6 | 49 42.3 | 22 16.8 | 128 30.5 | -4 15.3 |
| | 21 | 138 34.3 | 141 1.1 | 7 49.9 | 24 36.7 | 24 28.5 | 64 44.4 | 22 16.9 | 143 32.7 | -4 15.1 |
| | 22 | 153 36.7 | 156 4.8 | 7 49.0 | 39 38.4 | 24 28.3 | 79 46.5 | 22 16.9 | 158 34.9 | -4 15.0 |
| | 23 | 168 39.2 | 171 8.6 | 7 48.1 | 54 40.1 | 24 28.1 | 94 48.6 | 22 17.0 | 173 37.1 | -4 14.9 |
| | | MP 11:49 | *v* 3.8 | *d* -0.8 | *v* 1.7 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.4 |
| Achernar | 335 20.6 | -57 6.7 |
| Acrux | 172 59.3 | -63 14.4 |
| Adhara | 255 5.7 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.2 |
| Alkaid | 152 51.4 | 49 11.0 |
| Alnair | 27 33.1 | -46 50.3 |
| Alnilam | 275 37.6 | -1 11.3 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 61 59.9 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.2 |
| Antares | 112 15.5 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.4 | -69 4.1 |
| Avior | 234 14.4 | -59 35.6 |
| Bellatrix | 278 22.8 | 6 22.3 |
| Betelgeuse | 270 51.9 | 7 24.6 |
| Canopus | 263 52.3 | -52 42.8 |
| Capella | 280 21.8 | 46 1.5 |
| Deneb | 49 26.0 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.1 | 61 36.9 |
| Elnath | 278 1.7 | 28 37.8 |
| Eltanin | 90 42.1 | 51 28.7 |
| Enif | 33 38.9 | 9 59.3 |
| Fomalhaut | 15 14.7 | -29 29.4 |
| Gacrux | 171 50.9 | -57 15.3 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.3 | -60 29.6 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.3 | -34 22.3 |
| Kochab | 137 18.9 | 74 2.8 |
| Markab | 13 30.1 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.7 | -69 49.4 |
| Mirfak | 308 28.4 | 49 57.2 |
| Nunki | 75 47.6 | -26 15.9 |
| Peacock | 53 5.8 | -56 39.1 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.5 |
| Rasalhague | 95 58.3 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.8 | -8 10.5 |
| Rigil Kent. | 139 39.6 | -60 56.3 |
| Sabik | 102 2.5 | -15 45.4 |
| Schedar | 349 31.5 | 56 40.5 |
| Shaula | 96 10.1 | -37 7.3 |
| Sirius | 258 26.1 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 45.9 | -43 32.3 |
| Vega | 80 33.2 | 38 48.1 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 23 Sun | SHA | MP |
|---|---|---|
| Venus | 0 54.8 | 11:50 |
| Mars | 246 53.4 | 19:27 |
| Jupiter | 286 35.9 | 16:48 |
| Saturn | 5 17.9 | 11:34 |

| 24 Mon | SHA | MP |
|---|---|---|
| Venus | 1 27.5 | 11:44 |
| Mars | 246 36.1 | 19:24 |
| Jupiter | 286 27.0 | 16:45 |
| Saturn | 5 11.2 | 11:31 |

| 25 Tue | SHA | MP |
|---|---|---|
| Venus | 1 59.5 | 11:38 |
| Mars | 246 18.4 | 19:22 |
| Jupiter | 286 18.1 | 16:42 |
| Saturn | 5 4.4 | 11:27 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **23 Sunday** | 0 | 178 20.8 | 1 2.1 | 260 56.1 | 7.7 | -28 20.1 | -2.8 | 56.1 |
| | 1 | 193 21.0 | 1 3.1 | 275 22.8 | 7.7 | -28 17.3 | -3.0 | 56.1 |
| | 2 | 208 21.2 | 1 4.1 | 289 49.5 | 7.7 | -28 14.3 | -3.1 | 56.1 |
| | 3 | 223 21.4 | 1 5.1 | 304 16.1 | 7.7 | -28 11.2 | -3.3 | 56.2 |
| | 4 | 238 21.5 | 1 6.1 | 318 42.8 | 7.7 | -28 7.9 | -3.4 | 56.2 |
| | 5 | 253 21.7 | 1 7.1 | 333 9.5 | 7.7 | -28 4.5 | -3.6 | 56.2 |
| | 6 | 268 21.9 | 1 8.1 | 347 36.1 | 7.7 | -28 0.9 | -3.7 | 56.3 |
| | 7 | 283 22.1 | 1 9.0 | 2 2.8 | 7.7 | -27 57.2 | -3.9 | 56.3 |
| | 8 | 298 22.3 | 1 10.0 | 16 29.5 | 7.7 | -27 53.3 | -4.1 | 56.3 |
| | 9 | 313 22.5 | 1 11.0 | 30 56.1 | 7.7 | -27 49.2 | -4.2 | 56.4 |
| | 10 | 328 22.7 | 1 12.0 | 45 22.8 | 7.7 | -27 45.0 | -4.4 | 56.4 |
| | 11 | 343 22.9 | 1 13.0 | 59 49.4 | 7.7 | -27 40.6 | -4.5 | 56.4 |
| | 12 | 358 23.0 | 1 14.0 | 74 16.1 | 7.7 | -27 36.0 | -4.7 | 56.5 |
| | 13 | 13 23.2 | 1 15.0 | 88 42.8 | 7.7 | -27 31.3 | -4.9 | 56.5 |
| | 14 | 28 23.4 | 1 15.9 | 103 9.4 | 7.7 | -27 26.5 | -5.0 | 56.5 |
| | 15 | 43 23.6 | 1 16.9 | 117 36.1 | 7.7 | -27 21.5 | -5.2 | 56.6 |
| | 16 | 58 23.8 | 1 17.9 | 132 2.8 | 7.7 | -27 16.3 | -5.3 | 56.6 |
| | 17 | 73 24.0 | 1 18.9 | 146 29.5 | 7.7 | -27 10.9 | -5.5 | 56.6 |
| | 18 | 88 24.2 | 1 19.9 | 160 56.2 | 7.7 | -27 5.4 | -5.7 | 56.7 |
| | 19 | 103 24.4 | 1 20.9 | 175 23.0 | 7.7 | -26 59.8 | -5.8 | 56.7 |
| | 20 | 118 24.5 | 1 21.9 | 189 49.7 | 7.8 | -26 54.0 | -6.0 | 56.7 |
| | 21 | 133 24.7 | 1 22.8 | 204 16.5 | 7.8 | -26 48.0 | -6.1 | 56.8 |
| | 22 | 148 24.9 | 1 23.8 | 218 43.2 | 7.8 | -26 41.9 | -6.3 | 56.8 |
| | 23 | 163 25.1 | 1 24.8 | 233 10.0 | 7.8 | -26 35.6 | -6.4 | 56.9 |
| | | *v* 0.2 | SD 16.0 *d* 1.0 | | SD 15.3 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **24 Monday** | 0 | 178 25.3 | 1 25.8 | 247 36.8 | 7.8 | -26 29.2 | -6.6 | 56.9 |
| | 1 | 193 25.5 | 1 26.8 | 262 3.6 | 7.8 | -26 22.6 | -6.8 | 56.9 |
| | 2 | 208 25.7 | 1 27.8 | 276 30.5 | 7.9 | -26 15.8 | -6.9 | 57.0 |
| | 3 | 223 25.9 | 1 28.7 | 290 57.3 | 7.9 | -26 8.9 | -7.1 | 57.0 |
| | 4 | 238 26.1 | 1 29.7 | 305 24.2 | 7.9 | -26 1.8 | -7.2 | 57.0 |
| | 5 | 253 26.2 | 1 30.7 | 319 51.1 | 7.9 | -25 54.6 | -7.4 | 57.1 |
| | 6 | 268 26.4 | 1 31.7 | 334 18.1 | 8.0 | -25 47.2 | -7.5 | 57.1 |
| | 7 | 283 26.6 | 1 32.7 | 348 45.0 | 8.0 | -25 39.7 | -7.7 | 57.2 |
| | 8 | 298 26.8 | 1 33.7 | 3 12.0 | 8.0 | -25 32.0 | -7.8 | 57.2 |
| | 9 | 313 27.0 | 1 34.7 | 17 39.0 | 8.0 | -25 24.2 | -8.0 | 57.2 |
| | 10 | 328 27.2 | 1 35.6 | 32 6.1 | 8.1 | -25 16.2 | -8.1 | 57.3 |
| | 11 | 343 27.4 | 1 36.6 | 46 33.1 | 8.1 | -25 8.1 | -8.3 | 57.3 |
| | 12 | 358 27.6 | 1 37.6 | 61 0.2 | 8.1 | -24 59.8 | -8.4 | 57.3 |
| | 13 | 13 27.7 | 1 38.6 | 75 27.4 | 8.2 | -24 51.3 | -8.6 | 57.4 |
| | 14 | 28 27.9 | 1 39.6 | 89 54.5 | 8.2 | -24 42.7 | -8.7 | 57.4 |
| | 15 | 43 28.1 | 1 40.6 | 104 21.7 | 8.2 | -24 34.0 | -8.9 | 57.5 |
| | 16 | 58 28.3 | 1 41.5 | 118 48.9 | 8.3 | -24 25.1 | -9.0 | 57.5 |
| | 17 | 73 28.5 | 1 42.5 | 133 16.2 | 8.3 | -24 16.1 | -9.2 | 57.5 |
| | 18 | 88 28.7 | 1 43.5 | 147 43.5 | 8.3 | -24 6.9 | -9.3 | 57.6 |
| | 19 | 103 28.9 | 1 44.5 | 162 10.8 | 8.4 | -23 57.6 | -9.5 | 57.6 |
| | 20 | 118 29.1 | 1 45.5 | 176 38.2 | 8.4 | -23 48.1 | -9.6 | 57.7 |
| | 21 | 133 29.2 | 1 46.5 | 191 5.5 | 8.4 | -23 38.4 | -9.8 | 57.7 |
| | 22 | 148 29.4 | 1 47.4 | 205 33.0 | 8.5 | -23 28.7 | -9.9 | 57.7 |
| | 23 | 163 29.6 | 1 48.4 | 220 0.4 | 8.5 | -23 18.8 | -10.1 | 57.8 |
| | | *v* 0.2 | SD 16.0 *d* 1.0 | | SD 15.5 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **25 Tuesday** | 0 | 178 29.8 | 1 49.4 | 234 27.9 | 8.5 | -23 8.7 | -10.2 | 57.8 |
| | 1 | 193 30.0 | 1 50.4 | 248 55.5 | 8.6 | -22 58.5 | -10.3 | 57.9 |
| | 2 | 208 30.2 | 1 51.4 | 263 23.1 | 8.6 | -22 48.1 | -10.5 | 57.9 |
| | 3 | 223 30.4 | 1 52.4 | 277 50.7 | 8.7 | -22 37.7 | -10.6 | 57.9 |
| | 4 | 238 30.6 | 1 53.3 | 292 18.3 | 8.7 | -22 27.0 | -10.8 | 58.0 |
| | 5 | 253 30.8 | 1 54.3 | 306 46.0 | 8.7 | -22 16.3 | -10.9 | 58.0 |
| | 6 | 268 30.9 | 1 55.3 | 321 13.8 | 8.8 | -22 5.3 | -11.0 | 58.1 |
| | 7 | 283 31.1 | 1 56.3 | 335 41.5 | 8.8 | -21 54.3 | -11.2 | 58.1 |
| | 8 | 298 31.3 | 1 57.3 | 350 9.4 | 8.9 | -21 43.1 | -11.3 | 58.1 |
| | 9 | 313 31.5 | 1 58.3 | 4 37.2 | 8.9 | -21 31.8 | -11.5 | 58.2 |
| | 10 | 328 31.7 | 1 59.2 | 19 5.1 | 8.9 | -21 20.4 | -11.6 | 58.2 |
| | 11 | 343 31.9 | 2 0.2 | 33 33.0 | 9.0 | -21 8.8 | -11.7 | 58.3 |
| | 12 | 358 32.1 | 2 1.2 | 48 1.0 | 9.0 | -20 57.0 | -11.9 | 58.3 |
| | 13 | 13 32.3 | 2 2.2 | 62 29.0 | 9.1 | -20 45.2 | -12.0 | 58.3 |
| | 14 | 28 32.4 | 2 3.2 | 76 57.1 | 9.1 | -20 33.2 | -12.1 | 58.4 |
| | 15 | 43 32.6 | 2 4.1 | 91 25.2 | 9.1 | -20 21.1 | -12.2 | 58.4 |
| | 16 | 58 32.8 | 2 5.1 | 105 53.3 | 9.2 | -20 8.8 | -12.4 | 58.5 |
| | 17 | 73 33.0 | 2 6.1 | 120 21.5 | 9.2 | -19 56.5 | -12.5 | 58.5 |
| | 18 | 88 33.2 | 2 7.1 | 134 49.7 | 9.3 | -19 44.0 | -12.6 | 58.5 |
| | 19 | 103 33.4 | 2 8.1 | 149 18.0 | 9.3 | -19 31.3 | -12.8 | 58.6 |
| | 20 | 118 33.6 | 2 9.1 | 163 46.3 | 9.3 | -19 18.6 | -12.9 | 58.6 |
| | 21 | 133 33.8 | 2 10.0 | 178 14.6 | 9.4 | -19 5.7 | -13.0 | 58.7 |
| | 22 | 148 34.0 | 2 11.0 | 192 43.0 | 9.4 | -18 52.7 | -13.1 | 58.7 |
| | 23 | 163 34.1 | 2 12.0 | 207 11.4 | 9.5 | -18 39.6 | -13.2 | 58.7 |
| | | *v* 0.2 | SD 16.0 *d* 1.0 | | SD 15.8 | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 02:59 | 04:33 | 05:42 | 18:34 | 19:44 | 21:20 |
| 70 | 03:21 | 04:42 | 05:44 | 18:31 | 19:33 | 20:56 |
| 68 | 03:38 | 04:50 | 05:46 | 18:29 | 19:25 | 20:38 |
| 66 | 03:52 | 04:57 | 05:48 | 18:27 | 19:19 | 20:24 |
| 64 | 04:03 | 05:02 | 05:50 | 18:25 | 19:13 | 20:13 |
| 62 | 04:12 | 05:06 | 05:51 | 18:24 | 19:08 | 20:03 |
| 60 | 04:20 | 05:10 | 05:52 | 18:22 | 19:04 | 19:55 |
| 58 | 04:26 | 05:14 | 05:53 | 18:21 | 19:01 | 19:48 |
| 56 | 04:32 | 05:17 | 05:54 | 18:20 | 18:58 | 19:42 |
| 54 | 04:37 | 05:19 | 05:55 | 18:19 | 18:55 | 19:37 |
| 52 | 04:42 | 05:22 | 05:55 | 18:19 | 18:52 | 19:33 |
| 50 | 04:45 | 05:24 | 05:56 | 18:18 | 18:50 | 19:29 |
| 45 | 04:53 | 05:28 | 05:57 | 18:16 | 18:46 | 19:20 |
| 40 | 05:00 | 05:31 | 05:58 | 18:15 | 18:42 | 19:14 |
| 35 | 05:04 | 05:34 | 05:59 | 18:14 | 18:40 | 19:09 |
| 30 | 05:08 | 05:36 | 06:00 | 18:13 | 18:37 | 19:05 |
| 20 | 05:14 | 05:39 | 06:01 | 18:12 | 18:34 | 19:00 |
| 10 | 05:17 | 05:41 | 06:02 | 18:11 | 18:32 | 18:56 |
| 0 | 05:19 | 05:43 | 06:03 | 18:10 | 18:30 | 18:54 |
| -10 | 05:19 | 05:43 | 06:04 | 18:09 | 18:30 | 18:54 |
| -20 | 05:17 | 05:43 | 06:05 | 18:08 | 18:30 | 18:56 |
| -30 | 05:14 | 05:41 | 06:05 | 18:07 | 18:31 | 18:59 |
| -35 | 05:11 | 05:40 | 06:06 | 18:07 | 18:32 | 19:01 |
| -40 | 05:07 | 05:39 | 06:06 | 18:06 | 18:33 | 19:05 |
| -45 | 05:03 | 05:37 | 06:06 | 18:06 | 18:35 | 19:09 |
| -50 | 04:57 | 05:35 | 06:07 | 18:05 | 18:37 | 19:15 |
| -52 | 04:54 | 05:33 | 06:07 | 18:05 | 18:39 | 19:18 |
| -54 | 04:50 | 05:32 | 06:07 | 18:05 | 18:40 | 19:21 |
| -56 | 04:46 | 05:30 | 06:07 | 18:04 | 18:41 | 19:25 |
| -58 | 04:42 | 05:28 | 06:08 | 18:04 | 18:43 | 19:29 |
| -60 | 04:37 | 05:26 | 06:08 | 18:04 | 18:45 | 19:34 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **23** | **24** | **25** | **23** | **24** | **25** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 68 | ▬ | ▬ | 08:09 | ▬ | ▬ | 09:30 |
| 66 | ▬ | ▬ | 06:59 | ▬ | ▬ | 10:39 |
| 64 | ▬ | 07:12 | 06:22 | ▬ | 08:32 | 11:15 |
| 62 | ▬ | 06:07 | 05:56 | ▬ | 09:37 | 11:40 |
| 60 | 05:20 | 05:32 | 05:35 | 08:27 | 10:11 | 12:00 |
| 58 | 04:43 | 05:06 | 05:18 | 09:04 | 10:36 | 12:16 |
| 56 | 04:17 | 04:46 | 05:04 | 09:30 | 10:56 | 12:30 |
| 54 | 03:56 | 04:29 | 04:51 | 09:51 | 11:12 | 12:42 |
| 52 | 03:38 | 04:15 | 04:40 | 10:08 | 11:26 | 12:52 |
| 50 | 03:23 | 04:02 | 04:30 | 10:23 | 11:39 | 13:02 |
| 45 | 02:53 | 03:36 | 04:09 | 10:53 | 12:04 | 13:21 |
| 40 | 02:30 | 03:15 | 03:53 | 11:16 | 12:24 | 13:37 |
| 35 | 02:10 | 02:57 | 03:38 | 11:35 | 12:41 | 13:50 |
| 30 | 01:53 | 02:42 | 03:26 | 11:52 | 12:55 | 14:02 |
| 20 | 01:25 | 02:16 | 03:04 | 12:19 | 13:20 | 14:21 |
| 10 | 01:01 | 01:54 | 02:46 | 12:43 | 13:40 | 14:38 |
| 0 | 00:38 | 01:34 | 02:28 | 13:05 | 14:00 | 14:53 |
| -10 | 00:16 | 01:13 | 02:10 | 13:27 | 14:19 | 15:09 |
| -20 | –:– | 00:50 | 01:52 | 13:50 | 14:40 | 15:25 |
| -30 | –:– | 00:24 | 01:30 | 14:17 | 15:03 | 15:44 |
| -35 | –:– | 00:09 | 01:17 | 14:33 | 15:17 | 15:55 |
| -40 | 23:51 | –:– | 01:02 | 14:51 | 15:33 | 16:07 |
| -45 | 23:29 | –:– | 00:44 | 15:14 | 15:52 | 16:22 |
| -50 | 23:02 | –:– | 00:22 | 15:42 | 16:15 | 16:40 |
| -52 | 22:49 | –:– | 00:11 | 15:56 | 16:26 | 16:48 |
| -54 | 22:33 | 23:59 | –:– | 16:12 | 16:39 | 16:57 |
| -56 | 22:15 | 23:45 | –:– | 16:30 | 16:53 | 17:08 |
| -58 | 21:52 | 23:29 | –:– | 16:53 | 17:10 | 17:19 |
| -60 | 21:23 | 23:09 | –:– | 17:23 | 17:31 | 17:33 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **23** | 06:37 | 06:28 | 12:06 | 06:52 | 19:19 | 23 | 45 |
| **24** | 06:19 | 06:10 | 12:06 | 07:47 | 20:14 | 24 | 35 |
| **25** | 06:01 | 05:52 | 12:06 | 08:41 | 21:07 | 25 | 25 |

## 2025 March 26, 27, 28 (Wed, Thu, Fri)

| | | Aries | Venus -4.2 | | Mars 0.3 | | Jupiter -2.1 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 26 Wednesday | 0 | 183 41.7 | 186 12.3 | 7 47.3 | 69 41.8 | 24 27.9 | 109 50.6 | 22 17.0 | 188 39.3 | -4 14.8 |
| | 1 | 198 44.1 | 201 16.1 | 7 46.4 | 84 43.5 | 24 27.7 | 124 52.7 | 22 17.0 | 203 41.5 | -4 14.7 |
| | 2 | 213 46.6 | 216 19.8 | 7 45.5 | 99 45.2 | 24 27.5 | 139 54.8 | 22 17.1 | 218 43.6 | -4 14.6 |
| | 3 | 228 49.0 | 231 23.5 | 7 44.7 | 114 46.9 | 24 27.4 | 154 56.9 | 22 17.1 | 233 45.8 | -4 14.4 |
| | 4 | 243 51.5 | 246 27.3 | 7 43.8 | 129 48.6 | 24 27.2 | 169 59.0 | 22 17.2 | 248 48.0 | -4 14.3 |
| | 5 | 258 54.0 | 261 31.0 | 7 42.9 | 144 50.3 | 24 27.0 | 185 1.1 | 22 17.2 | 263 50.2 | -4 14.2 |
| | 6 | 273 56.4 | 276 34.7 | 7 42.1 | 159 52.0 | 24 26.8 | 200 3.1 | 22 17.3 | 278 52.4 | -4 14.1 |
| | 7 | 288 58.9 | 291 38.5 | 7 41.2 | 174 53.7 | 24 26.6 | 215 5.2 | 22 17.3 | 293 54.5 | -4 14.0 |
| | 8 | 304 1.4 | 306 42.2 | 7 40.3 | 189 55.4 | 24 26.4 | 230 7.3 | 22 17.4 | 308 56.7 | -4 13.9 |
| | 9 | 319 3.8 | 321 45.9 | 7 39.4 | 204 57.1 | 24 26.3 | 245 9.4 | 22 17.4 | 323 58.9 | -4 13.7 |
| | 10 | 334 6.3 | 336 49.6 | 7 38.6 | 219 58.8 | 24 26.1 | 260 11.5 | 22 17.5 | 339 1.1 | -4 13.6 |
| | 11 | 349 8.8 | 351 53.3 | 7 37.7 | 235 0.4 | 24 25.9 | 275 13.5 | 22 17.5 | 354 3.3 | -4 13.5 |
| | 12 | 4 11.2 | 6 57.1 | 7 36.8 | 250 2.1 | 24 25.7 | 290 15.6 | 22 17.6 | 9 5.5 | -4 13.4 |
| | 13 | 19 13.7 | 22 0.8 | 7 36.0 | 265 3.8 | 24 25.5 | 305 17.7 | 22 17.6 | 24 7.6 | -4 13.3 |
| | 14 | 34 16.1 | 37 4.5 | 7 35.1 | 280 5.5 | 24 25.3 | 320 19.8 | 22 17.6 | 39 9.8 | -4 13.1 |
| | 15 | 49 18.6 | 52 8.2 | 7 34.2 | 295 7.2 | 24 25.2 | 335 21.9 | 22 17.7 | 54 12.0 | -4 13.0 |
| | 16 | 64 21.1 | 67 11.9 | 7 33.3 | 310 8.9 | 24 25.0 | 350 23.9 | 22 17.7 | 69 14.2 | -4 12.9 |
| | 17 | 79 23.5 | 82 15.6 | 7 32.5 | 325 10.6 | 24 24.8 | 5 26.0 | 22 17.8 | 84 16.4 | -4 12.8 |
| | 18 | 94 26.0 | 97 19.3 | 7 31.6 | 340 12.2 | 24 24.6 | 20 28.1 | 22 17.8 | 99 18.6 | -4 12.7 |
| | 19 | 109 28.5 | 112 23.0 | 7 30.7 | 355 13.9 | 24 24.4 | 35 30.2 | 22 17.9 | 114 20.7 | -4 12.6 |
| | 20 | 124 30.9 | 127 26.7 | 7 29.8 | 10 15.6 | 24 24.2 | 50 32.2 | 22 17.9 | 129 22.9 | -4 12.4 |
| | 21 | 139 33.4 | 142 30.4 | 7 28.9 | 25 17.3 | 24 24.1 | 65 34.3 | 22 18.0 | 144 25.1 | -4 12.3 |
| | 22 | 154 35.9 | 157 34.1 | 7 28.1 | 40 19.0 | 24 23.9 | 80 36.4 | 22 18.0 | 159 27.3 | -4 12.2 |
| | 23 | 169 38.3 | 172 37.8 | 7 27.2 | 55 20.7 | 24 23.7 | 95 38.5 | 22 18.1 | 174 29.5 | -4 12.1 |
| | | MP 11:45 | *v* 3.7 | *d* -0.9 | *v* 1.7 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 Thursday | 0 | 184 40.8 | 187 41.5 | 7 26.3 | 70 22.3 | 24 23.5 | 110 40.6 | 22 18.1 | 189 31.7 | -4 12.0 |
| | 1 | 199 43.3 | 202 45.2 | 7 25.4 | 85 24.0 | 24 23.3 | 125 42.6 | 22 18.2 | 204 33.8 | -4 11.9 |
| | 2 | 214 45.7 | 217 48.9 | 7 24.5 | 100 25.7 | 24 23.1 | 140 44.7 | 22 18.2 | 219 36.0 | -4 11.7 |
| | 3 | 229 48.2 | 232 52.6 | 7 23.7 | 115 27.4 | 24 22.9 | 155 46.8 | 22 18.2 | 234 38.2 | -4 11.6 |
| | 4 | 244 50.6 | 247 56.3 | 7 22.8 | 130 29.0 | 24 22.8 | 170 48.9 | 22 18.3 | 249 40.4 | -4 11.5 |
| | 5 | 259 53.1 | 263 0.0 | 7 21.9 | 145 30.7 | 24 22.6 | 185 50.9 | 22 18.3 | 264 42.6 | -4 11.4 |
| | 6 | 274 55.6 | 278 3.6 | 7 21.0 | 160 32.4 | 24 22.4 | 200 53.0 | 22 18.4 | 279 44.8 | -4 11.3 |
| | 7 | 289 58.0 | 293 7.3 | 7 20.1 | 175 34.1 | 24 22.2 | 215 55.1 | 22 18.4 | 294 46.9 | -4 11.1 |
| | 8 | 305 0.5 | 308 11.0 | 7 19.2 | 190 35.7 | 24 22.0 | 230 57.2 | 22 18.5 | 309 49.1 | -4 11.0 |
| | 9 | 320 3.0 | 323 14.7 | 7 18.3 | 205 37.4 | 24 21.8 | 245 59.2 | 22 18.5 | 324 51.3 | -4 10.9 |
| | 10 | 335 5.4 | 338 18.3 | 7 17.5 | 220 39.1 | 24 21.6 | 261 1.3 | 22 18.6 | 339 53.5 | -4 10.8 |
| | 11 | 350 7.9 | 353 22.0 | 7 16.6 | 235 40.8 | 24 21.4 | 276 3.4 | 22 18.6 | 354 55.7 | -4 10.7 |
| | 12 | 5 10.4 | 8 25.7 | 7 15.7 | 250 42.4 | 24 21.3 | 291 5.4 | 22 18.7 | 9 57.9 | -4 10.6 |
| | 13 | 20 12.8 | 23 29.3 | 7 14.8 | 265 44.1 | 24 21.1 | 306 7.5 | 22 18.7 | 25 0.0 | -4 10.4 |
| | 14 | 35 15.3 | 38 33.0 | 7 13.9 | 280 45.8 | 24 20.9 | 321 9.6 | 22 18.8 | 40 2.2 | -4 10.3 |
| | 15 | 50 17.7 | 53 36.6 | 7 13.0 | 295 47.4 | 24 20.7 | 336 11.7 | 22 18.8 | 55 4.4 | -4 10.2 |
| | 16 | 65 20.2 | 68 40.3 | 7 12.1 | 310 49.1 | 24 20.5 | 351 13.7 | 22 18.9 | 70 6.6 | -4 10.1 |
| | 17 | 80 22.7 | 83 44.0 | 7 11.2 | 325 50.8 | 24 20.3 | 6 15.8 | 22 18.9 | 85 8.8 | -4 10.0 |
| | 18 | 95 25.1 | 98 47.6 | 7 10.4 | 340 52.4 | 24 20.1 | 21 17.9 | 22 18.9 | 100 11.0 | -4 9.9 |
| | 19 | 110 27.6 | 113 51.3 | 7 9.5 | 355 54.1 | 24 19.9 | 36 20.0 | 22 19.0 | 115 13.1 | -4 9.7 |
| | 20 | 125 30.1 | 128 54.9 | 7 8.6 | 10 55.8 | 24 19.8 | 51 22.0 | 22 19.0 | 130 15.3 | -4 9.6 |
| | 21 | 140 32.5 | 143 58.6 | 7 7.7 | 25 57.4 | 24 19.6 | 66 24.1 | 22 19.1 | 145 17.5 | -4 9.5 |
| | 22 | 155 35.0 | 159 2.2 | 7 6.8 | 40 59.1 | 24 19.4 | 81 26.2 | 22 19.1 | 160 19.7 | -4 9.4 |
| | 23 | 170 37.5 | 174 5.8 | 7 5.9 | 56 0.8 | 24 19.2 | 96 28.2 | 22 19.2 | 175 21.9 | -4 9.3 |
| | | MP 11:41 | *v* 3.7 | *d* -0.9 | *v* 1.7 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 28 Friday | 0 | 185 39.9 | 189 9.5 | 7 5.0 | 71 2.4 | 24 19.0 | 111 30.3 | 22 19.2 | 190 24.1 | -4 9.2 |
| | 1 | 200 42.4 | 204 13.1 | 7 4.1 | 86 4.1 | 24 18.8 | 126 32.4 | 22 19.3 | 205 26.2 | -4 9.0 |
| | 2 | 215 44.9 | 219 16.7 | 7 3.2 | 101 5.7 | 24 18.6 | 141 34.5 | 22 19.3 | 220 28.4 | -4 8.9 |
| | 3 | 230 47.3 | 234 20.4 | 7 2.3 | 116 7.4 | 24 18.4 | 156 36.5 | 22 19.4 | 235 30.6 | -4 8.8 |
| | 4 | 245 49.8 | 249 24.0 | 7 1.4 | 131 9.1 | 24 18.2 | 171 38.6 | 22 19.4 | 250 32.8 | -4 8.7 |
| | 5 | 260 52.2 | 264 27.6 | 7 0.5 | 146 10.7 | 24 18.0 | 186 40.7 | 22 19.5 | 265 35.0 | -4 8.6 |
| | 6 | 275 54.7 | 279 31.2 | 6 59.7 | 161 12.4 | 24 17.9 | 201 42.7 | 22 19.5 | 280 37.2 | -4 8.5 |
| | 7 | 290 57.2 | 294 34.9 | 6 58.8 | 176 14.0 | 24 17.7 | 216 44.8 | 22 19.5 | 295 39.3 | -4 8.3 |
| | 8 | 305 59.6 | 309 38.5 | 6 57.9 | 191 15.7 | 24 17.5 | 231 46.9 | 22 19.6 | 310 41.5 | -4 8.2 |
| | 9 | 321 2.1 | 324 42.1 | 6 57.0 | 206 17.3 | 24 17.3 | 246 48.9 | 22 19.6 | 325 43.7 | -4 8.1 |
| | 10 | 336 4.6 | 339 45.7 | 6 56.1 | 221 19.0 | 24 17.1 | 261 51.0 | 22 19.7 | 340 45.9 | -4 8.0 |
| | 11 | 351 7.0 | 354 49.3 | 6 55.2 | 236 20.7 | 24 16.9 | 276 53.1 | 22 19.7 | 355 48.1 | -4 7.9 |
| | 12 | 6 9.5 | 9 52.9 | 6 54.3 | 251 22.3 | 24 16.7 | 291 55.1 | 22 19.8 | 10 50.3 | -4 7.7 |
| | 13 | 21 12.0 | 24 56.5 | 6 53.4 | 266 24.0 | 24 16.5 | 306 57.2 | 22 19.8 | 25 52.5 | -4 7.6 |
| | 14 | 36 14.4 | 40 0.1 | 6 52.5 | 281 25.6 | 24 16.3 | 321 59.3 | 22 19.9 | 40 54.6 | -4 7.5 |
| | 15 | 51 16.9 | 55 3.7 | 6 51.6 | 296 27.3 | 24 16.1 | 337 1.3 | 22 19.9 | 55 56.8 | -4 7.4 |
| | 16 | 66 19.3 | 70 7.3 | 6 50.7 | 311 28.9 | 24 15.9 | 352 3.4 | 22 20.0 | 70 59.0 | -4 7.3 |
| | 17 | 81 21.8 | 85 10.9 | 6 49.8 | 326 30.6 | 24 15.8 | 7 5.5 | 22 20.0 | 86 1.2 | -4 7.2 |
| | 18 | 96 24.3 | 100 14.5 | 6 48.9 | 341 32.2 | 24 15.6 | 22 7.5 | 22 20.1 | 101 3.4 | -4 7.0 |
| | 19 | 111 26.7 | 115 18.1 | 6 48.0 | 356 33.9 | 24 15.4 | 37 9.6 | 22 20.1 | 116 5.6 | -4 6.9 |
| | 20 | 126 29.2 | 130 21.7 | 6 47.1 | 11 35.5 | 24 15.2 | 52 11.7 | 22 20.2 | 131 7.7 | -4 6.8 |
| | 21 | 141 31.7 | 145 25.2 | 6 46.2 | 26 37.2 | 24 15.0 | 67 13.7 | 22 20.2 | 146 9.9 | -4 6.7 |
| | 22 | 156 34.1 | 160 28.8 | 6 45.3 | 41 38.8 | 24 14.8 | 82 15.8 | 22 20.2 | 161 12.1 | -4 6.6 |
| | 23 | 171 36.6 | 175 32.4 | 6 44.4 | 56 40.4 | 24 14.6 | 97 17.9 | 22 20.3 | 176 14.3 | -4 6.5 |
| | | MP 11:37 | *v* 3.6 | *d* -0.9 | *v* 1.7 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.4 |
| Achernar | 335 20.6 | -57 6.6 |
| Acrux | 172 59.3 | -63 14.4 |
| Adhara | 255 5.7 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.2 |
| Alkaid | 152 51.4 | 49 11.0 |
| Alnair | 27 33.1 | -46 50.3 |
| Alnilam | 275 37.6 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 61 59.9 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.2 |
| Antares | 112 15.5 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.4 | -69 4.1 |
| Avior | 234 14.4 | -59 35.7 |
| Bellatrix | 278 22.8 | 6 22.3 |
| Betelgeuse | 270 51.9 | 7 24.6 |
| Canopus | 263 52.3 | -52 42.8 |
| Capella | 280 21.8 | 46 1.5 |
| Deneb | 49 26.0 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.1 | 61 36.9 |
| Elnath | 278 1.7 | 28 37.8 |
| Eltanin | 90 42.0 | 51 28.7 |
| Enif | 33 38.9 | 9 59.3 |
| Fomalhaut | 15 14.6 | -29 29.4 |
| Gacrux | 171 50.9 | -57 15.3 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.2 | -60 29.6 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.3 | -34 22.3 |
| Kochab | 137 18.8 | 74 2.8 |
| Markab | 13 30.0 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.7 | -69 49.4 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.6 | -26 15.9 |
| Peacock | 53 5.7 | -56 39.1 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.6 | 5 9.5 |
| Rasalhague | 95 58.3 | 12 32.2 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.8 | -8 10.5 |
| Rigil Kent. | 139 39.6 | -60 56.3 |
| Sabik | 102 2.5 | -15 45.4 |
| Schedar | 349 31.5 | 56 40.5 |
| Shaula | 96 10.1 | -37 7.3 |
| Sirius | 258 26.1 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 45.9 | -43 32.3 |
| Vega | 80 33.1 | 38 48.1 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 26 Wed | SHA | MP |
|---|---|---|
| Venus | 2 30.7 | 11:32 |
| Mars | 246 0.2 | 19:19 |
| Jupiter | 286 9.0 | 16:38 |
| Saturn | 4 57.6 | 11:24 |

| 27 Thu | SHA | MP |
|---|---|---|
| Venus | 3 0.7 | 11:26 |
| Mars | 245 41.5 | 19:16 |
| Jupiter | 285 59.8 | 16:35 |
| Saturn | 4 50.9 | 11:20 |

| 28 Fri | SHA | MP |
|---|---|---|
| Venus | 3 29.5 | 11:21 |
| Mars | 245 22.5 | 19:14 |
| Jupiter | 285 50.4 | 16:32 |
| Saturn | 4 44.1 | 11:17 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **26 Wednesday** | 0 | 178 34.3 | 2 13.0 | 221 39.9 | 9.5 | -18 26.3 | -13.4 | 58.8 |
| | 1 | 193 34.5 | 2 14.0 | 236 8.4 | 9.5 | -18 13.0 | -13.5 | 58.8 |
| | 2 | 208 34.7 | 2 14.9 | 250 36.9 | 9.6 | -17 59.5 | -13.6 | 58.9 |
| | 3 | 223 34.9 | 2 15.9 | 265 5.5 | 9.6 | -17 45.9 | -13.7 | 58.9 |
| | 4 | 238 35.1 | 2 16.9 | 279 34.1 | 9.7 | -17 32.2 | -13.8 | 58.9 |
| | 5 | 253 35.3 | 2 17.9 | 294 2.8 | 9.7 | -17 18.4 | -13.9 | 59.0 |
| | 6 | 268 35.5 | 2 18.9 | 308 31.4 | 9.7 | -17 4.4 | -14.1 | 59.0 |
| | 7 | 283 35.6 | 2 19.9 | 323 0.2 | 9.8 | -16 50.4 | -14.2 | 59.1 |
| | 8 | 298 35.8 | 2 20.8 | 337 28.9 | 9.8 | -16 36.2 | -14.3 | 59.1 |
| | 9 | 313 36.0 | 2 21.8 | 351 57.7 | 9.8 | -16 21.9 | -14.4 | 59.1 |
| | 10 | 328 36.2 | 2 22.8 | 6 26.6 | 9.9 | -16 7.5 | -14.5 | 59.2 |
| | 11 | 343 36.4 | 2 23.8 | 20 55.5 | 9.9 | -15 53.0 | -14.6 | 59.2 |
| | 12 | 358 36.6 | 2 24.8 | 35 24.4 | 9.9 | -15 38.4 | -14.7 | 59.2 |
| | 13 | 13 36.8 | 2 25.7 | 49 53.3 | 10.0 | -15 23.7 | -14.8 | 59.3 |
| | 14 | 28 37.0 | 2 26.7 | 64 22.3 | 10.0 | -15 8.9 | -14.9 | 59.3 |
| | 15 | 43 37.2 | 2 27.7 | 78 51.3 | 10.0 | -14 54.0 | -15.0 | 59.4 |
| | 16 | 58 37.3 | 2 28.7 | 93 20.3 | 10.1 | -14 39.0 | -15.1 | 59.4 |
| | 17 | 73 37.5 | 2 29.7 | 107 49.4 | 10.1 | -14 23.9 | -15.2 | 59.4 |
| | 18 | 88 37.7 | 2 30.6 | 122 18.5 | 10.1 | -14 8.7 | -15.3 | 59.5 |
| | 19 | 103 37.9 | 2 31.6 | 136 47.7 | 10.2 | -13 53.4 | -15.4 | 59.5 |
| | 20 | 118 38.1 | 2 32.6 | 151 16.8 | 10.2 | -13 38.0 | -15.5 | 59.5 |
| | 21 | 133 38.3 | 2 33.6 | 165 46.0 | 10.2 | -13 22.5 | -15.6 | 59.6 |
| | 22 | 148 38.5 | 2 34.6 | 180 15.2 | 10.3 | -13 6.9 | -15.7 | 59.6 |
| | 23 | 163 38.7 | 2 35.5 | 194 44.5 | 10.3 | -12 51.2 | -15.8 | 59.7 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **27 Thursday** | 0 | 178 38.8 | 2 36.5 | 209 13.8 | 10.3 | -12 35.5 | -15.9 | 59.7 |
| | 1 | 193 39.0 | 2 37.5 | 223 43.1 | 10.3 | -12 19.6 | -15.9 | 59.7 |
| | 2 | 208 39.2 | 2 38.5 | 238 12.4 | 10.4 | -12 3.7 | -16.0 | 59.8 |
| | 3 | 223 39.4 | 2 39.4 | 252 41.8 | 10.4 | -11 47.7 | -16.1 | 59.8 |
| | 4 | 238 39.6 | 2 40.4 | 267 11.2 | 10.4 | -11 31.5 | -16.2 | 59.8 |
| | 5 | 253 39.8 | 2 41.4 | 281 40.6 | 10.4 | -11 15.4 | -16.3 | 59.9 |
| | 6 | 268 40.0 | 2 42.4 | 296 10.0 | 10.4 | -10 59.1 | -16.3 | 59.9 |
| | 7 | 283 40.2 | 2 43.4 | 310 39.4 | 10.5 | -10 42.7 | -16.4 | 59.9 |
| | 8 | 298 40.3 | 2 44.3 | 325 8.9 | 10.5 | -10 26.3 | -16.5 | 60.0 |
| | 9 | 313 40.5 | 2 45.3 | 339 38.4 | 10.5 | -10 9.8 | -16.6 | 60.0 |
| | 10 | 328 40.7 | 2 46.3 | 354 7.9 | 10.5 | -9 53.2 | -16.6 | 60.0 |
| | 11 | 343 40.9 | 2 47.3 | 8 37.4 | 10.5 | -9 36.6 | -16.7 | 60.1 |
| | 12 | 358 41.1 | 2 48.3 | 23 7.0 | 10.6 | -9 19.9 | -16.8 | 60.1 |
| | 13 | 13 41.3 | 2 49.2 | 37 36.5 | 10.6 | -9 3.1 | -16.9 | 60.1 |
| | 14 | 28 41.5 | 2 50.2 | 52 6.1 | 10.6 | -8 46.2 | -16.9 | 60.2 |
| | 15 | 43 41.7 | 2 51.2 | 66 35.7 | 10.6 | -8 29.3 | -17.0 | 60.2 |
| | 16 | 58 41.9 | 2 52.2 | 81 5.3 | 10.6 | -8 12.3 | -17.0 | 60.2 |
| | 17 | 73 42.0 | 2 53.1 | 95 34.9 | 10.6 | -7 55.3 | -17.1 | 60.2 |
| | 18 | 88 42.2 | 2 54.1 | 110 4.5 | 10.6 | -7 38.2 | -17.2 | 60.3 |
| | 19 | 103 42.4 | 2 55.1 | 124 34.1 | 10.6 | -7 21.0 | -17.2 | 60.3 |
| | 20 | 118 42.6 | 2 56.1 | 139 3.8 | 10.6 | -7 3.8 | -17.3 | 60.3 |
| | 21 | 133 42.8 | 2 57.1 | 153 33.4 | 10.7 | -6 46.5 | -17.3 | 60.4 |
| | 22 | 148 43.0 | 2 58.0 | 168 3.1 | 10.7 | -6 29.1 | -17.4 | 60.4 |
| | 23 | 163 43.2 | 2 59.0 | 182 32.7 | 10.7 | -6 11.8 | -17.4 | 60.4 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 16.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **28 Friday** | 0 | 178 43.4 | 3 0.0 | 197 2.4 | 10.7 | -5 54.3 | -17.5 | 60.4 |
| | 1 | 193 43.5 | 3 1.0 | 211 32.1 | 10.7 | -5 36.8 | -17.5 | 60.5 |
| | 2 | 208 43.7 | 3 1.9 | 226 1.7 | 10.7 | -5 19.3 | -17.6 | 60.5 |
| | 3 | 223 43.9 | 3 2.9 | 240 31.4 | 10.7 | -5 1.7 | -17.6 | 60.5 |
| | 4 | 238 44.1 | 3 3.9 | 255 1.0 | 10.7 | -4 44.1 | -17.7 | 60.6 |
| | 5 | 253 44.3 | 3 4.9 | 269 30.7 | 10.7 | -4 26.4 | -17.7 | 60.6 |
| | 6 | 268 44.5 | 3 5.8 | 284 0.4 | 10.7 | -4 8.7 | -17.7 | 60.6 |
| | 7 | 283 44.7 | 3 6.8 | 298 30.0 | 10.7 | -3 51.0 | -17.8 | 60.6 |
| | 8 | 298 44.9 | 3 7.8 | 312 59.7 | 10.6 | -3 33.2 | -17.8 | 60.7 |
| | 9 | 313 45.0 | 3 8.8 | 327 29.3 | 10.6 | -3 15.4 | -17.8 | 60.7 |
| | 10 | 328 45.2 | 3 9.8 | 341 59.0 | 10.6 | -2 57.6 | -17.9 | 60.7 |
| | 11 | 343 45.4 | 3 10.7 | 356 28.6 | 10.6 | -2 39.7 | -17.9 | 60.7 |
| | 12 | 358 45.6 | 3 11.7 | 10 58.2 | 10.6 | -2 21.8 | -17.9 | 60.7 |
| | 13 | 13 45.8 | 3 12.7 | 25 27.8 | 10.6 | -2 3.9 | -18.0 | 60.8 |
| | 14 | 28 46.0 | 3 13.7 | 39 57.4 | 10.6 | -1 45.9 | -18.0 | 60.8 |
| | 15 | 43 46.2 | 3 14.6 | 54 27.0 | 10.6 | -1 27.9 | -18.0 | 60.8 |
| | 16 | 58 46.4 | 3 15.6 | 68 56.6 | 10.6 | -1 9.9 | -18.0 | 60.8 |
| | 17 | 73 46.5 | 3 16.6 | 83 26.1 | 10.5 | -0 51.9 | -18.0 | 60.9 |
| | 18 | 88 46.7 | 3 17.6 | 97 55.7 | 10.5 | -0 33.9 | -18.0 | 60.9 |
| | 19 | 103 46.9 | 3 18.5 | 112 25.2 | 10.5 | -0 15.8 | 18.1 | 60.9 |
| | 20 | 118 47.1 | 3 19.5 | 126 54.7 | 10.5 | 0 2.2 | 18.1 | 60.9 |
| | 21 | 133 47.3 | 3 20.5 | 141 24.2 | 10.5 | 0 20.3 | 18.1 | 60.9 |
| | 22 | 148 47.5 | 3 21.5 | 155 53.6 | 10.4 | 0 38.4 | 18.1 | 60.9 |
| | 23 | 163 47.7 | 3 22.4 | 170 23.0 | 10.4 | 0 56.5 | 18.1 | 61.0 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 16.5 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 02:35 | 04:16 | 05:26 | 18:48 | 19:59 | 21:42 |
| 70 | 03:02 | 04:27 | 05:30 | 18:43 | 19:47 | 21:13 |
| 68 | 03:22 | 04:37 | 05:34 | 18:39 | 19:37 | 20:52 |
| 66 | 03:38 | 04:44 | 05:37 | 18:36 | 19:29 | 20:36 |
| 64 | 03:51 | 04:51 | 05:39 | 18:34 | 19:22 | 20:23 |
| 62 | 04:01 | 04:56 | 05:41 | 18:32 | 19:17 | 20:13 |
| 60 | 04:10 | 05:01 | 05:43 | 18:30 | 19:12 | 20:04 |
| 58 | 04:17 | 05:05 | 05:45 | 18:28 | 19:08 | 19:56 |
| 56 | 04:23 | 05:09 | 05:46 | 18:26 | 19:04 | 19:49 |
| 54 | 04:29 | 05:12 | 05:47 | 18:25 | 19:01 | 19:44 |
| 52 | 04:34 | 05:14 | 05:48 | 18:24 | 18:58 | 19:38 |
| 50 | 04:38 | 05:17 | 05:49 | 18:23 | 18:55 | 19:34 |
| 45 | 04:48 | 05:22 | 05:52 | 18:20 | 18:50 | 19:25 |
| 40 | 04:55 | 05:26 | 05:54 | 18:18 | 18:45 | 19:17 |
| 35 | 05:00 | 05:30 | 05:55 | 18:17 | 18:42 | 19:12 |
| 30 | 05:05 | 05:33 | 05:56 | 18:15 | 18:39 | 19:07 |
| 20 | 05:11 | 05:37 | 05:59 | 18:13 | 18:35 | 19:00 |
| 10 | 05:15 | 05:40 | 06:01 | 18:11 | 18:32 | 18:56 |
| 0 | 05:18 | 05:42 | 06:02 | 18:09 | 18:30 | 18:54 |
| -10 | 05:19 | 05:43 | 06:04 | 18:07 | 18:28 | 18:52 |
| -20 | 05:18 | 05:43 | 06:05 | 18:05 | 18:27 | 18:53 |
| -30 | 05:16 | 05:43 | 06:07 | 18:04 | 18:27 | 18:55 |
| -35 | 05:13 | 05:43 | 06:08 | 18:03 | 18:28 | 18:57 |
| -40 | 05:11 | 05:42 | 06:09 | 18:01 | 18:28 | 19:00 |
| -45 | 05:07 | 05:41 | 06:10 | 18:00 | 18:29 | 19:03 |
| -50 | 05:02 | 05:39 | 06:12 | 17:59 | 18:31 | 19:08 |
| -52 | 04:59 | 05:38 | 06:12 | 17:58 | 18:32 | 19:11 |
| -54 | 04:56 | 05:38 | 06:13 | 17:57 | 18:32 | 19:14 |
| -56 | 04:53 | 05:36 | 06:13 | 17:57 | 18:33 | 19:17 |
| -58 | 04:49 | 05:35 | 06:14 | 17:56 | 18:35 | 19:21 |
| -60 | 04:45 | 05:34 | 06:15 | 17:55 | 18:36 | 19:25 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **26** | **27** | **28** | **26** | **27** | **28** |
| 72 | 08:01 | 06:43 | 05:58 | 11:32 | 14:40 | 17:15 |
| 70 | 07:16 | 06:26 | 05:52 | 12:16 | 14:54 | 17:16 |
| 68 | 06:45 | 06:12 | 05:47 | 12:45 | 15:05 | 17:17 |
| 66 | 06:22 | 06:00 | 05:43 | 13:06 | 15:15 | 17:18 |
| 64 | 06:04 | 05:51 | 05:40 | 13:23 | 15:22 | 17:19 |
| 62 | 05:49 | 05:43 | 05:37 | 13:37 | 15:29 | 17:20 |
| 60 | 05:36 | 05:35 | 05:34 | 13:48 | 15:35 | 17:20 |
| 58 | 05:25 | 05:29 | 05:32 | 13:58 | 15:40 | 17:21 |
| 56 | 05:15 | 05:23 | 05:30 | 14:07 | 15:44 | 17:21 |
| 54 | 05:07 | 05:18 | 05:28 | 14:15 | 15:48 | 17:22 |
| 52 | 04:59 | 05:14 | 05:26 | 14:22 | 15:52 | 17:22 |
| 50 | 04:52 | 05:09 | 05:24 | 14:28 | 15:55 | 17:22 |
| 45 | 04:37 | 05:00 | 05:21 | 14:41 | 16:02 | 17:23 |
| 40 | 04:25 | 04:52 | 05:18 | 14:52 | 16:07 | 17:24 |
| 35 | 04:14 | 04:46 | 05:16 | 15:01 | 16:12 | 17:24 |
| 30 | 04:05 | 04:40 | 05:13 | 15:09 | 16:17 | 17:25 |
| 20 | 03:48 | 04:30 | 05:09 | 15:23 | 16:24 | 17:25 |
| 10 | 03:34 | 04:21 | 05:06 | 15:34 | 16:30 | 17:26 |
| 0 | 03:21 | 04:12 | 05:03 | 15:45 | 16:36 | 17:26 |
| -10 | 03:08 | 04:04 | 04:59 | 15:56 | 16:42 | 17:27 |
| -20 | 02:53 | 03:55 | 04:56 | 16:08 | 16:48 | 17:28 |
| -30 | 02:37 | 03:44 | 04:52 | 16:21 | 16:55 | 17:28 |
| -35 | 02:27 | 03:38 | 04:50 | 16:29 | 16:59 | 17:28 |
| -40 | 02:16 | 03:31 | 04:47 | 16:37 | 17:04 | 17:29 |
| -45 | 02:03 | 03:23 | 04:44 | 16:47 | 17:09 | 17:29 |
| -50 | 01:47 | 03:13 | 04:41 | 16:59 | 17:15 | 17:30 |
| -52 | 01:39 | 03:09 | 04:39 | 17:04 | 17:18 | 17:30 |
| -54 | 01:31 | 03:04 | 04:37 | 17:10 | 17:21 | 17:30 |
| -56 | 01:21 | 02:58 | 04:35 | 17:17 | 17:24 | 17:30 |
| -58 | 01:10 | 02:52 | 04:33 | 17:25 | 17:28 | 17:31 |
| -60 | 00:58 | 02:45 | 04:30 | 17:33 | 17:32 | 17:31 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **26** | 05:43 | 05:34 | 12:06 | 09:33 | 21:59 | 26 | 16 |
| **27** | 05:25 | 05:16 | 12:05 | 10:24 | 22:49 | 27 | 8 |
| **28** | 05:07 | 04:58 | 12:05 | 11:15 | 23:40 | 28 | 3 |

## 2025 March 29, 30, 31 (Sat, Sun, Monday)

| d | h | Aries GHA | Venus -4.1 GHA | Venus -4.1 Dec | Mars 0.4 GHA | Mars 0.4 Dec | Jupiter -2.1 GHA | Jupiter -2.1 Dec | Saturn 1.2 GHA | Saturn 1.2 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 Saturday | 0 | 186 39.1 | 190 36.0 | 6 43.5 | 71 42.1 | 24 14.4 | 112 19.9 | 22 20.3 | 191 16.5 | -4 6.3 |
| | 1 | 201 41.5 | 205 39.5 | 6 42.6 | 86 43.7 | 24 14.2 | 127 22.0 | 22 20.4 | 206 18.7 | -4 6.2 |
| | 2 | 216 44.0 | 220 43.1 | 6 41.7 | 101 45.4 | 24 14.0 | 142 24.1 | 22 20.4 | 221 20.9 | -4 6.1 |
| | 3 | 231 46.5 | 235 46.7 | 6 40.8 | 116 47.0 | 24 13.8 | 157 26.1 | 22 20.5 | 236 23.0 | -4 6.0 |
| | 4 | 246 48.9 | 250 50.2 | 6 39.9 | 131 48.7 | 24 13.6 | 172 28.2 | 22 20.5 | 251 25.2 | -4 5.9 |
| | 5 | 261 51.4 | 265 53.8 | 6 39.0 | 146 50.3 | 24 13.4 | 187 30.3 | 22 20.6 | 266 27.4 | -4 5.8 |
| | 6 | 276 53.8 | 280 57.4 | 6 38.1 | 161 51.9 | 24 13.2 | 202 32.3 | 22 20.6 | 281 29.6 | -4 5.6 |
| | 7 | 291 56.3 | 296 0.9 | 6 37.2 | 176 53.6 | 24 13.0 | 217 34.4 | 22 20.7 | 296 31.8 | -4 5.5 |
| | 8 | 306 58.8 | 311 4.5 | 6 36.3 | 191 55.2 | 24 12.9 | 232 36.4 | 22 20.7 | 311 34.0 | -4 5.4 |
| | 9 | 322 1.2 | 326 8.0 | 6 35.4 | 206 56.9 | 24 12.7 | 247 38.5 | 22 20.8 | 326 36.1 | -4 5.3 |
| | 10 | 337 3.7 | 341 11.6 | 6 34.5 | 221 58.5 | 24 12.5 | 262 40.6 | 22 20.8 | 341 38.3 | -4 5.2 |
| | 11 | 352 6.2 | 356 15.1 | 6 33.6 | 237 0.1 | 24 12.3 | 277 42.6 | 22 20.9 | 356 40.5 | -4 5.1 |
| | 12 | 7 8.6 | 11 18.6 | 6 32.8 | 252 1.8 | 24 12.1 | 292 44.7 | 22 20.9 | 11 42.7 | -4 4.9 |
| | 13 | 22 11.1 | 26 22.2 | 6 31.9 | 267 3.4 | 24 11.9 | 307 46.8 | 22 20.9 | 26 44.9 | -4 4.8 |
| | 14 | 37 13.6 | 41 25.7 | 6 31.0 | 282 5.1 | 24 11.7 | 322 48.8 | 22 21.0 | 41 47.1 | -4 4.7 |
| | 15 | 52 16.0 | 56 29.2 | 6 30.1 | 297 6.7 | 24 11.5 | 337 50.9 | 22 21.0 | 56 49.3 | -4 4.6 |
| | 16 | 67 18.5 | 71 32.8 | 6 29.2 | 312 8.3 | 24 11.3 | 352 52.9 | 22 21.1 | 71 51.4 | -4 4.5 |
| | 17 | 82 21.0 | 86 36.3 | 6 28.3 | 327 10.0 | 24 11.1 | 7 55.0 | 22 21.1 | 86 53.6 | -4 4.4 |
| | 18 | 97 23.4 | 101 39.8 | 6 27.4 | 342 11.6 | 24 10.9 | 22 57.1 | 22 21.2 | 101 55.8 | -4 4.2 |
| | 19 | 112 25.9 | 116 43.3 | 6 26.5 | 357 13.2 | 24 10.7 | 37 59.1 | 22 21.2 | 116 58.0 | -4 4.1 |
| | 20 | 127 28.3 | 131 46.9 | 6 25.6 | 12 14.8 | 24 10.5 | 53 1.2 | 22 21.3 | 132 0.2 | -4 4.0 |
| | 21 | 142 30.8 | 146 50.4 | 6 24.7 | 27 16.5 | 24 10.3 | 68 3.2 | 22 21.3 | 147 2.4 | -4 3.9 |
| | 22 | 157 33.3 | 161 53.9 | 6 23.8 | 42 18.1 | 24 10.1 | 83 5.3 | 22 21.4 | 162 4.5 | -4 3.8 |
| | 23 | 172 35.7 | 176 57.4 | 6 22.9 | 57 19.7 | 24 9.9 | 98 7.4 | 22 21.4 | 177 6.7 | -4 3.7 |
| | | MP 11:33 | *v* 3.6 | *d* -0.9 | *v* 1.6 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Sunday | 0 | 187 38.2 | 192 0.9 | 6 22.0 | 72 21.4 | 24 9.7 | 113 9.4 | 22 21.5 | 192 8.9 | -4 3.5 |
| | 1 | 202 40.7 | 207 4.4 | 6 21.1 | 87 23.0 | 24 9.5 | 128 11.5 | 22 21.5 | 207 11.1 | -4 3.4 |
| | 2 | 217 43.1 | 222 7.9 | 6 20.2 | 102 24.6 | 24 9.3 | 143 13.5 | 22 21.6 | 222 13.3 | -4 3.3 |
| | 3 | 232 45.6 | 237 11.4 | 6 19.3 | 117 26.2 | 24 9.1 | 158 15.6 | 22 21.6 | 237 15.5 | -4 3.2 |
| | 4 | 247 48.1 | 252 14.9 | 6 18.4 | 132 27.9 | 24 8.9 | 173 17.7 | 22 21.6 | 252 17.7 | -4 3.1 |
| | 5 | 262 50.5 | 267 18.4 | 6 17.5 | 147 29.5 | 24 8.7 | 188 19.7 | 22 21.7 | 267 19.8 | -4 3.0 |
| | 6 | 277 53.0 | 282 21.9 | 6 16.6 | 162 31.1 | 24 8.5 | 203 21.8 | 22 21.7 | 282 22.0 | -4 2.9 |
| | 7 | 292 55.4 | 297 25.3 | 6 15.7 | 177 32.7 | 24 8.3 | 218 23.8 | 22 21.8 | 297 24.2 | -4 2.7 |
| | 8 | 307 57.9 | 312 28.8 | 6 14.8 | 192 34.4 | 24 8.1 | 233 25.9 | 22 21.8 | 312 26.4 | -4 2.6 |
| | 9 | 323 0.4 | 327 32.3 | 6 13.9 | 207 36.0 | 24 7.9 | 248 28.0 | 22 21.9 | 327 28.6 | -4 2.5 |
| | 10 | 338 2.8 | 342 35.8 | 6 13.0 | 222 37.6 | 24 7.7 | 263 30.0 | 22 21.9 | 342 30.8 | -4 2.4 |
| | 11 | 353 5.3 | 357 39.2 | 6 12.1 | 237 39.2 | 24 7.5 | 278 32.1 | 22 22.0 | 357 33.0 | -4 2.3 |
| | 12 | 8 7.8 | 12 42.7 | 6 11.2 | 252 40.9 | 24 7.3 | 293 34.1 | 22 22.0 | 12 35.1 | -4 2.2 |
| | 13 | 23 10.2 | 27 46.2 | 6 10.3 | 267 42.5 | 24 7.1 | 308 36.2 | 22 22.1 | 27 37.3 | -4 2.0 |
| | 14 | 38 12.7 | 42 49.6 | 6 9.4 | 282 44.1 | 24 6.9 | 323 38.2 | 22 22.1 | 42 39.5 | -4 1.9 |
| | 15 | 53 15.2 | 57 53.1 | 6 8.5 | 297 45.7 | 24 6.7 | 338 40.3 | 22 22.2 | 57 41.7 | -4 1.8 |
| | 16 | 68 17.6 | 72 56.6 | 6 7.6 | 312 47.3 | 24 6.5 | 353 42.3 | 22 22.2 | 72 43.9 | -4 1.7 |
| | 17 | 83 20.1 | 88 0.0 | 6 6.7 | 327 48.9 | 24 6.3 | 8 44.4 | 22 22.3 | 87 46.1 | -4 1.6 |
| | 18 | 98 22.6 | 103 3.5 | 6 5.8 | 342 50.6 | 24 6.1 | 23 46.5 | 22 22.3 | 102 48.3 | -4 1.5 |
| | 19 | 113 25.0 | 118 6.9 | 6 4.9 | 357 52.2 | 24 5.9 | 38 48.5 | 22 22.3 | 117 50.4 | -4 1.3 |
| | 20 | 128 27.5 | 133 10.3 | 6 4.0 | 12 53.8 | 24 5.7 | 53 50.6 | 22 22.4 | 132 52.6 | -4 1.2 |
| | 21 | 143 29.9 | 148 13.8 | 6 3.1 | 27 55.4 | 24 5.5 | 68 52.6 | 22 22.4 | 147 54.8 | -4 1.1 |
| | 22 | 158 32.4 | 163 17.2 | 6 2.3 | 42 57.0 | 24 5.3 | 83 54.7 | 22 22.5 | 162 57.0 | -4 1.0 |
| | 23 | 173 34.9 | 178 20.6 | 6 1.4 | 57 58.6 | 24 5.1 | 98 56.7 | 22 22.5 | 177 59.2 | -4 0.9 |
| | | MP 11:29 | *v* 3.5 | *d* -0.9 | *v* 1.6 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 Monday | 0 | 188 37.3 | 193 24.1 | 6 0.5 | 73 0.2 | 24 4.9 | 113 58.8 | 22 22.6 | 193 1.4 | -4 0.8 |
| | 1 | 203 39.8 | 208 27.5 | 5 59.6 | 88 1.9 | 24 4.7 | 129 0.8 | 22 22.6 | 208 3.6 | -4 0.6 |
| | 2 | 218 42.3 | 223 30.9 | 5 58.7 | 103 3.5 | 24 4.5 | 144 2.9 | 22 22.7 | 223 5.7 | -4 0.5 |
| | 3 | 233 44.7 | 238 34.3 | 5 57.8 | 118 5.1 | 24 4.3 | 159 4.9 | 22 22.7 | 238 7.9 | -4 0.4 |
| | 4 | 248 47.2 | 253 37.8 | 5 56.9 | 133 6.7 | 24 4.1 | 174 7.0 | 22 22.8 | 253 10.1 | -4 0.3 |
| | 5 | 263 49.7 | 268 41.2 | 5 56.0 | 148 8.3 | 24 3.9 | 189 9.0 | 22 22.8 | 268 12.3 | -4 0.2 |
| | 6 | 278 52.1 | 283 44.6 | 5 55.1 | 163 9.9 | 24 3.7 | 204 11.1 | 22 22.9 | 283 14.5 | -4 0.1 |
| | 7 | 293 54.6 | 298 48.0 | 5 54.2 | 178 11.5 | 24 3.5 | 219 13.2 | 22 22.9 | 298 16.7 | -3 59.9 |
| | 8 | 308 57.0 | 313 51.4 | 5 53.3 | 193 13.1 | 24 3.3 | 234 15.2 | 22 23.0 | 313 18.9 | -3 59.8 |
| | 9 | 323 59.5 | 328 54.8 | 5 52.4 | 208 14.7 | 24 3.1 | 249 17.3 | 22 23.0 | 328 21.0 | -3 59.7 |
| | 10 | 339 2.0 | 343 58.2 | 5 51.5 | 223 16.3 | 24 2.9 | 264 19.3 | 22 23.0 | 343 23.2 | -3 59.6 |
| | 11 | 354 4.4 | 359 1.6 | 5 50.7 | 238 17.9 | 24 2.7 | 279 21.4 | 22 23.1 | 358 25.4 | -3 59.5 |
| | 12 | 9 6.9 | 14 5.0 | 5 49.8 | 253 19.5 | 24 2.5 | 294 23.4 | 22 23.1 | 13 27.6 | -3 59.4 |
| | 13 | 24 9.4 | 29 8.4 | 5 48.9 | 268 21.1 | 24 2.3 | 309 25.5 | 22 23.2 | 28 29.8 | -3 59.3 |
| | 14 | 39 11.8 | 44 11.8 | 5 48.0 | 283 22.7 | 24 2.1 | 324 27.5 | 22 23.2 | 43 32.0 | -3 59.1 |
| | 15 | 54 14.3 | 59 15.1 | 5 47.1 | 298 24.3 | 24 1.9 | 339 29.6 | 22 23.3 | 58 34.2 | -3 59.0 |
| | 16 | 69 16.8 | 74 18.5 | 5 46.2 | 313 25.9 | 24 1.7 | 354 31.6 | 22 23.3 | 73 36.3 | -3 58.9 |
| | 17 | 84 19.2 | 89 21.9 | 5 45.3 | 328 27.6 | 24 1.5 | 9 33.7 | 22 23.4 | 88 38.5 | -3 58.8 |
| | 18 | 99 21.7 | 104 25.3 | 5 44.4 | 343 29.2 | 24 1.3 | 24 35.7 | 22 23.4 | 103 40.7 | -3 58.7 |
| | 19 | 114 24.2 | 119 28.6 | 5 43.5 | 358 30.8 | 24 1.1 | 39 37.8 | 22 23.5 | 118 42.9 | -3 58.6 |
| | 20 | 129 26.6 | 134 32.0 | 5 42.7 | 13 32.4 | 24 0.9 | 54 39.8 | 22 23.5 | 133 45.1 | -3 58.4 |
| | 21 | 144 29.1 | 149 35.3 | 5 41.8 | 28 33.9 | 24 0.7 | 69 41.9 | 22 23.6 | 148 47.3 | -3 58.3 |
| | 22 | 159 31.5 | 164 38.7 | 5 40.9 | 43 35.5 | 24 0.5 | 84 43.9 | 22 23.6 | 163 49.5 | -3 58.2 |
| | 23 | 174 34.0 | 179 42.1 | 5 40.0 | 58 37.1 | 24 0.3 | 99 46.0 | 22 23.7 | 178 51.7 | -3 58.1 |
| | | MP 11:25 | *v* 3.4 | *d* -0.9 | *v* 1.6 | *d* -0.2 | *v* 2.1 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.4 |
| Achernar | 335 20.6 | -57 6.6 |
| Acrux | 172 59.3 | -63 14.4 |
| Adhara | 255 5.7 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.3 |
| Alkaid | 152 51.4 | 49 11.0 |
| Alnair | 27 33.0 | -46 50.3 |
| Alnilam | 275 37.6 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.3 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 61 59.9 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.2 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 9.3 | -69 4.2 |
| Avior | 234 14.4 | -59 35.7 |
| Bellatrix | 278 22.8 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.6 |
| Canopus | 263 52.3 | -52 42.8 |
| Capella | 280 21.8 | 46 1.5 |
| Deneb | 49 25.9 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.1 | 61 36.9 |
| Elnath | 278 1.8 | 28 37.8 |
| Eltanin | 90 42.0 | 51 28.7 |
| Enif | 33 38.9 | 9 59.3 |
| Fomalhaut | 15 14.6 | -29 29.4 |
| Gacrux | 171 50.9 | -57 15.4 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.2 | -60 29.7 |
| Hamal | 327 51.3 | 23 34.9 |
| Kaus Aust. | 83 32.3 | -34 22.3 |
| Kochab | 137 18.8 | 74 2.8 |
| Markab | 13 30.0 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.7 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.6 | -26 15.9 |
| Peacock | 53 5.7 | -56 39.1 |
| Pollux | 243 17.0 | 27 58.0 |
| Procyon | 244 50.6 | 5 9.5 |
| Rasalhague | 95 58.3 | 12 32.2 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.5 |
| Rigil Kent. | 139 39.5 | -60 56.3 |
| Sabik | 102 2.5 | -15 45.4 |
| Schedar | 349 31.5 | 56 40.5 |
| Shaula | 96 10.0 | -37 7.3 |
| Sirius | 258 26.1 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 45.9 | -43 32.3 |
| Vega | 80 33.1 | 38 48.0 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 29 Sat | SHA | MP |
|---|---|---|
| Venus | 3 56.9 | 11:15 |
| Mars | 245 3.0 | 19:11 |
| Jupiter | 285 40.9 | 16:28 |
| Saturn | 4 37.4 | 11:13 |

| 30 Sun | SHA | MP |
|---|---|---|
| Venus | 4 22.7 | 11:09 |
| Mars | 244 43.2 | 19:08 |
| Jupiter | 285 31.2 | 16:25 |
| Saturn | 4 30.7 | 11:10 |

| 31 Mon | SHA | MP |
|---|---|---|
| Venus | 4 46.7 | 11:04 |
| Mars | 244 22.9 | 19:06 |
| Jupiter | 285 21.4 | 16:22 |
| Saturn | 4 24.0 | 11:06 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **29 Saturday** | 0 | 178 47.9 | 3 23.4 | 184 52.5 | 10.4 | 1 14.6 | 18.1 | 61.0 |
| | 1 | 193 48.0 | 3 24.4 | 199 21.8 | 10.4 | 1 32.7 | 18.1 | 61.0 |
| | 2 | 208 48.2 | 3 25.4 | 213 51.2 | 10.3 | 1 50.8 | 18.1 | 61.0 |
| | 3 | 223 48.4 | 3 26.3 | 228 20.5 | 10.3 | 2 8.9 | 18.1 | 61.0 |
| | 4 | 238 48.6 | 3 27.3 | 242 49.8 | 10.3 | 2 26.9 | 18.1 | 61.0 |
| | 5 | 253 48.8 | 3 28.3 | 257 19.1 | 10.2 | 2 45.0 | 18.1 | 61.1 |
| | 6 | 268 49.0 | 3 29.3 | 271 48.3 | 10.2 | 3 3.1 | 18.1 | 61.1 |
| | 7 | 283 49.2 | 3 30.2 | 286 17.5 | 10.2 | 3 21.2 | 18.1 | 61.1 |
| | 8 | 298 49.4 | 3 31.2 | 300 46.7 | 10.1 | 3 39.2 | 18.0 | 61.1 |
| | 9 | 313 49.5 | 3 32.2 | 315 15.8 | 10.1 | 3 57.3 | 18.0 | 61.1 |
| | 10 | 328 49.7 | 3 33.1 | 329 44.9 | 10.1 | 4 15.3 | 18.0 | 61.1 |
| | 11 | 343 49.9 | 3 34.1 | 344 14.0 | 10.0 | 4 33.3 | 18.0 | 61.1 |
| | 12 | 358 50.1 | 3 35.1 | 358 43.0 | 10.0 | 4 51.3 | 18.0 | 61.1 |
| | 13 | 13 50.3 | 3 36.1 | 13 12.0 | 9.9 | 5 9.3 | 17.9 | 61.1 |
| | 14 | 28 50.5 | 3 37.0 | 27 40.9 | 9.9 | 5 27.2 | 17.9 | 61.2 |
| | 15 | 43 50.7 | 3 38.0 | 42 9.8 | 9.8 | 5 45.2 | 17.9 | 61.2 |
| | 16 | 58 50.8 | 3 39.0 | 56 38.6 | 9.8 | 6 3.1 | 17.9 | 61.2 |
| | 17 | 73 51.0 | 3 40.0 | 71 7.4 | 9.8 | 6 20.9 | 17.8 | 61.2 |
| | 18 | 88 51.2 | 3 40.9 | 85 36.2 | 9.7 | 6 38.8 | 17.8 | 61.2 |
| | 19 | 103 51.4 | 3 41.9 | 100 4.9 | 9.7 | 6 56.6 | 17.8 | 61.2 |
| | 20 | 118 51.6 | 3 42.9 | 114 33.6 | 9.6 | 7 14.3 | 17.7 | 61.2 |
| | 21 | 133 51.8 | 3 43.8 | 129 2.2 | 9.6 | 7 32.0 | 17.7 | 61.2 |
| | 22 | 148 52.0 | 3 44.8 | 143 30.7 | 9.5 | 7 49.7 | 17.6 | 61.2 |
| | 23 | 163 52.2 | 3 45.8 | 157 59.2 | 9.5 | 8 7.3 | 17.6 | 61.2 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 16.6 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **30 Sunday** | 0 | 178 52.3 | 3 46.8 | 172 27.7 | 9.4 | 8 24.9 | 17.5 | 61.2 |
| | 1 | 193 52.5 | 3 47.7 | 186 56.1 | 9.3 | 8 42.5 | 17.5 | 61.2 |
| | 2 | 208 52.7 | 3 48.7 | 201 24.4 | 9.3 | 9 0.0 | 17.4 | 61.2 |
| | 3 | 223 52.9 | 3 49.7 | 215 52.7 | 9.2 | 9 17.4 | 17.4 | 61.2 |
| | 4 | 238 53.1 | 3 50.6 | 230 20.9 | 9.2 | 9 34.8 | 17.3 | 61.2 |
| | 5 | 253 53.3 | 3 51.6 | 244 49.1 | 9.1 | 9 52.1 | 17.3 | 61.2 |
| | 6 | 268 53.5 | 3 52.6 | 259 17.2 | 9.1 | 10 9.4 | 17.2 | 61.2 |
| | 7 | 283 53.6 | 3 53.6 | 273 45.3 | 9.0 | 10 26.6 | 17.2 | 61.2 |
| | 8 | 298 53.8 | 3 54.5 | 288 13.3 | 8.9 | 10 43.8 | 17.1 | 61.2 |
| | 9 | 313 54.0 | 3 55.5 | 302 41.2 | 8.9 | 11 0.9 | 17.0 | 61.2 |
| | 10 | 328 54.2 | 3 56.5 | 317 9.1 | 8.8 | 11 17.9 | 16.9 | 61.2 |
| | 11 | 343 54.4 | 3 57.4 | 331 36.9 | 8.7 | 11 34.8 | 16.9 | 61.2 |
| | 12 | 358 54.6 | 3 58.4 | 346 4.6 | 8.7 | 11 51.7 | 16.8 | 61.2 |
| | 13 | 13 54.8 | 3 59.4 | 0 32.3 | 8.6 | 12 8.5 | 16.7 | 61.2 |
| | 14 | 28 55.0 | 4 0.4 | 14 59.9 | 8.5 | 12 25.2 | 16.7 | 61.2 |
| | 15 | 43 55.1 | 4 1.3 | 29 27.4 | 8.5 | 12 41.9 | 16.6 | 61.2 |
| | 16 | 58 55.3 | 4 2.3 | 43 54.9 | 8.4 | 12 58.5 | 16.5 | 61.2 |
| | 17 | 73 55.5 | 4 3.3 | 58 22.3 | 8.3 | 13 15.0 | 16.4 | 61.2 |
| | 18 | 88 55.7 | 4 4.2 | 72 49.6 | 8.3 | 13 31.4 | 16.3 | 61.2 |
| | 19 | 103 55.9 | 4 5.2 | 87 16.8 | 8.2 | 13 47.7 | 16.2 | 61.2 |
| | 20 | 118 56.1 | 4 6.2 | 101 44.0 | 8.1 | 14 3.9 | 16.1 | 61.2 |
| | 21 | 133 56.3 | 4 7.1 | 116 11.1 | 8.0 | 14 20.0 | 16.0 | 61.2 |
| | 22 | 148 56.4 | 4 8.1 | 130 38.2 | 8.0 | 14 36.1 | 16.0 | 61.1 |
| | 23 | 163 56.6 | 4 9.1 | 145 5.1 | 7.9 | 14 52.1 | 15.9 | 61.1 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 16.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **31 Monday** | 0 | 178 56.8 | 4 10.0 | 159 32.0 | 7.8 | 15 7.9 | 15.8 | 61.1 |
| | 1 | 193 57.0 | 4 11.0 | 173 58.8 | 7.7 | 15 23.7 | 15.7 | 61.1 |
| | 2 | 208 57.2 | 4 12.0 | 188 25.6 | 7.7 | 15 39.3 | 15.6 | 61.1 |
| | 3 | 223 57.4 | 4 13.0 | 202 52.2 | 7.6 | 15 54.9 | 15.4 | 61.1 |
| | 4 | 238 57.6 | 4 13.9 | 217 18.8 | 7.5 | 16 10.3 | 15.3 | 61.1 |
| | 5 | 253 57.7 | 4 14.9 | 231 45.3 | 7.4 | 16 25.7 | 15.2 | 61.1 |
| | 6 | 268 57.9 | 4 15.9 | 246 11.8 | 7.4 | 16 40.9 | 15.1 | 61.1 |
| | 7 | 283 58.1 | 4 16.8 | 260 38.1 | 7.3 | 16 56.0 | 15.0 | 61.0 |
| | 8 | 298 58.3 | 4 17.8 | 275 4.4 | 7.2 | 17 11.0 | 14.9 | 61.0 |
| | 9 | 313 58.5 | 4 18.8 | 289 30.6 | 7.1 | 17 25.9 | 14.8 | 61.0 |
| | 10 | 328 58.7 | 4 19.7 | 303 56.7 | 7.0 | 17 40.7 | 14.7 | 61.0 |
| | 11 | 343 58.9 | 4 20.7 | 318 22.7 | 7.0 | 17 55.3 | 14.5 | 61.0 |
| | 12 | 358 59.0 | 4 21.7 | 332 48.7 | 6.9 | 18 9.8 | 14.4 | 61.0 |
| | 13 | 13 59.2 | 4 22.6 | 347 14.6 | 6.8 | 18 24.3 | 14.3 | 60.9 |
| | 14 | 28 59.4 | 4 23.6 | 1 40.4 | 6.7 | 18 38.5 | 14.2 | 60.9 |
| | 15 | 43 59.6 | 4 24.6 | 16 6.1 | 6.6 | 18 52.7 | 14.0 | 60.9 |
| | 16 | 58 59.8 | 4 25.5 | 30 31.7 | 6.6 | 19 6.7 | 13.9 | 60.9 |
| | 17 | 74 0.0 | 4 26.5 | 44 57.3 | 6.5 | 19 20.6 | 13.8 | 60.9 |
| | 18 | 89 0.2 | 4 27.5 | 59 22.8 | 6.4 | 19 34.4 | 13.6 | 60.9 |
| | 19 | 104 0.3 | 4 28.4 | 73 48.2 | 6.3 | 19 48.0 | 13.5 | 60.8 |
| | 20 | 119 0.5 | 4 29.4 | 88 13.5 | 6.2 | 20 1.5 | 13.3 | 60.8 |
| | 21 | 134 0.7 | 4 30.4 | 102 38.7 | 6.2 | 20 14.8 | 13.2 | 60.8 |
| | 22 | 149 0.9 | 4 31.3 | 117 3.9 | 6.1 | 20 28.0 | 13.1 | 60.8 |
| | 23 | 164 1.1 | 4 32.3 | 131 29.0 | 6.0 | 20 41.1 | 12.9 | 60.8 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 16.7 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 02:08 | 03:58 | 05:11 | 19:02 | 20:15 | 22:09 |
| 70 | 02:42 | 04:12 | 05:16 | 18:55 | 20:00 | 21:33 |
| 68 | 03:06 | 04:23 | 05:21 | 18:50 | 19:49 | 21:08 |
| 66 | 03:23 | 04:32 | 05:25 | 18:46 | 19:40 | 20:49 |
| 64 | 03:38 | 04:40 | 05:28 | 18:43 | 19:32 | 20:35 |
| 62 | 03:49 | 04:46 | 05:31 | 18:40 | 19:25 | 20:22 |
| 60 | 03:59 | 04:51 | 05:34 | 18:37 | 19:20 | 20:12 |
| 58 | 04:07 | 04:56 | 05:36 | 18:35 | 19:15 | 20:04 |
| 56 | 04:15 | 05:00 | 05:38 | 18:33 | 19:10 | 19:56 |
| 54 | 04:21 | 05:04 | 05:40 | 18:31 | 19:07 | 19:50 |
| 52 | 04:26 | 05:07 | 05:41 | 18:29 | 19:03 | 19:44 |
| 50 | 04:31 | 05:10 | 05:43 | 18:27 | 19:00 | 19:39 |
| 45 | 04:42 | 05:17 | 05:46 | 18:24 | 18:54 | 19:29 |
| 40 | 04:49 | 05:21 | 05:49 | 18:21 | 18:49 | 19:21 |
| 35 | 04:56 | 05:26 | 05:51 | 18:19 | 18:44 | 19:14 |
| 30 | 05:01 | 05:29 | 05:53 | 18:17 | 18:41 | 19:09 |
| 20 | 05:08 | 05:34 | 05:56 | 18:14 | 18:36 | 19:01 |
| 10 | 05:13 | 05:38 | 05:59 | 18:11 | 18:32 | 18:56 |
| 0 | 05:17 | 05:41 | 06:01 | 18:08 | 18:29 | 18:53 |
| -10 | 05:18 | 05:43 | 06:04 | 18:05 | 18:26 | 18:51 |
| -20 | 05:19 | 05:44 | 06:06 | 18:03 | 18:25 | 18:50 |
| -30 | 05:17 | 05:45 | 06:09 | 18:00 | 18:24 | 18:51 |
| -35 | 05:16 | 05:45 | 06:10 | 17:58 | 18:24 | 18:53 |
| -40 | 05:14 | 05:45 | 06:12 | 17:57 | 18:24 | 18:55 |
| -45 | 05:11 | 05:45 | 06:14 | 17:55 | 18:24 | 18:58 |
| -50 | 05:06 | 05:44 | 06:16 | 17:52 | 18:24 | 19:02 |
| -52 | 05:04 | 05:44 | 06:17 | 17:51 | 18:25 | 19:04 |
| -54 | 05:02 | 05:43 | 06:18 | 17:50 | 18:25 | 19:06 |
| -56 | 04:59 | 05:42 | 06:20 | 17:49 | 18:26 | 19:09 |
| -58 | 04:56 | 05:42 | 06:21 | 17:47 | 18:26 | 19:12 |
| -60 | 04:52 | 05:41 | 06:22 | 17:46 | 18:27 | 19:15 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **29** | **30** | **31** | **29** | **30** | **31** |
| 72 | 05:18 | 04:35 | 03:26 | 19:50 | 22:54 | –:– |
| 70 | 05:22 | 04:49 | 04:03 | 19:39 | 22:19 | –:– |
| 68 | 05:25 | 05:01 | 04:29 | 19:31 | 21:55 | –:– |
| 66 | 05:27 | 05:10 | 04:50 | 19:23 | 21:36 | –:– |
| 64 | 05:29 | 05:19 | 05:06 | 19:17 | 21:22 | 23:38 |
| 62 | 05:31 | 05:26 | 05:20 | 19:12 | 21:09 | 23:14 |
| 60 | 05:33 | 05:32 | 05:32 | 19:07 | 20:59 | 22:55 |
| 58 | 05:34 | 05:38 | 05:42 | 19:04 | 20:50 | 22:40 |
| 56 | 05:36 | 05:42 | 05:51 | 19:00 | 20:42 | 22:26 |
| 54 | 05:37 | 05:47 | 05:59 | 18:57 | 20:35 | 22:15 |
| 52 | 05:38 | 05:51 | 06:06 | 18:54 | 20:28 | 22:05 |
| 50 | 05:39 | 05:55 | 06:13 | 18:51 | 20:23 | 21:56 |
| 45 | 05:41 | 06:03 | 06:27 | 18:46 | 20:11 | 21:37 |
| 40 | 05:43 | 06:09 | 06:39 | 18:41 | 20:01 | 21:22 |
| 35 | 05:45 | 06:15 | 06:49 | 18:37 | 19:52 | 21:09 |
| 30 | 05:46 | 06:20 | 06:58 | 18:34 | 19:45 | 20:58 |
| 20 | 05:49 | 06:29 | 07:13 | 18:28 | 19:32 | 20:39 |
| 10 | 05:51 | 06:38 | 07:27 | 18:22 | 19:21 | 20:22 |
| 0 | 05:53 | 06:45 | 07:40 | 18:17 | 19:11 | 20:07 |
| -10 | 05:55 | 06:53 | 07:53 | 18:13 | 19:00 | 19:51 |
| -20 | 05:58 | 07:01 | 08:07 | 18:07 | 18:49 | 19:35 |
| -30 | 06:01 | 07:11 | 08:23 | 18:01 | 18:37 | 19:16 |
| -35 | 06:02 | 07:16 | 08:32 | 17:58 | 18:30 | 19:06 |
| -40 | 06:04 | 07:23 | 08:43 | 17:54 | 18:22 | 18:53 |
| -45 | 06:06 | 07:30 | 08:56 | 17:50 | 18:12 | 18:39 |
| -50 | 06:09 | 07:39 | 09:12 | 17:44 | 18:01 | 18:21 |
| -52 | 06:10 | 07:43 | 09:19 | 17:42 | 17:56 | 18:13 |
| -54 | 06:11 | 07:48 | 09:28 | 17:39 | 17:50 | 18:04 |
| -56 | 06:13 | 07:53 | 09:37 | 17:36 | 17:44 | 17:54 |
| -58 | 06:15 | 07:59 | 09:48 | 17:33 | 17:37 | 17:42 |
| -60 | 06:17 | 08:06 | 10:00 | 17:30 | 17:29 | 17:29 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **29** | 04:49 | 04:40 | 12:05 | 12:05 | –:– | 29 | 0 |
| **30** | 04:31 | 04:22 | 12:04 | 12:58 | 00:31 | 30 | 0 |
| **31** | 04:13 | 04:04 | 12:04 | 13:53 | 01:25 | 2 | 4 |

## 2025 April 01, 02, 03 (Tue, Wed, Thu)

| d | h | Aries GHA | Venus -4.2 GHA | Venus -4.2 Dec | Mars 0.4 GHA | Mars 0.4 Dec | Jupiter -2.1 GHA | Jupiter -2.1 Dec | Saturn 1.2 GHA | Saturn 1.2 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 Tuesday | 0 | 189 36.5 | 194 45.4 | 5 39.1 | 73 38.7 | 24 0.1 | 114 48.0 | 22 23.7 | 193 53.8 | -3 58.0 |
| | 1 | 204 38.9 | 209 48.8 | 5 38.2 | 88 40.3 | 23 59.9 | 129 50.1 | 22 23.7 | 208 56.0 | -3 57.9 |
| | 2 | 219 41.4 | 224 52.1 | 5 37.4 | 103 41.9 | 23 59.7 | 144 52.1 | 22 23.8 | 223 58.2 | -3 57.8 |
| | 3 | 234 43.9 | 239 55.4 | 5 36.5 | 118 43.5 | 23 59.5 | 159 54.1 | 22 23.8 | 239 0.4 | -3 57.6 |
| | 4 | 249 46.3 | 254 58.8 | 5 35.6 | 133 45.1 | 23 59.3 | 174 56.2 | 22 23.9 | 254 2.6 | -3 57.5 |
| | 5 | 264 48.8 | 270 2.1 | 5 34.7 | 148 46.7 | 23 59.1 | 189 58.2 | 22 23.9 | 269 4.8 | -3 57.4 |
| | 6 | 279 51.3 | 285 5.4 | 5 33.8 | 163 48.3 | 23 58.8 | 205 0.3 | 22 24.0 | 284 7.0 | -3 57.3 |
| | 7 | 294 53.7 | 300 8.8 | 5 32.9 | 178 49.9 | 23 58.6 | 220 2.3 | 22 24.0 | 299 9.1 | -3 57.2 |
| | 8 | 309 56.2 | 315 12.1 | 5 32.1 | 193 51.5 | 23 58.4 | 235 4.4 | 22 24.1 | 314 11.3 | -3 57.1 |
| | 9 | 324 58.7 | 330 15.4 | 5 31.2 | 208 53.1 | 23 58.2 | 250 6.4 | 22 24.1 | 329 13.5 | -3 56.9 |
| | 10 | 340 1.1 | 345 18.7 | 5 30.3 | 223 54.7 | 23 58.0 | 265 8.5 | 22 24.2 | 344 15.7 | -3 56.8 |
| | 11 | 355 3.6 | 0 22.0 | 5 29.4 | 238 56.3 | 23 57.8 | 280 10.5 | 22 24.2 | 359 17.9 | -3 56.7 |
| | 12 | 10 6.0 | 15 25.3 | 5 28.5 | 253 57.8 | 23 57.6 | 295 12.6 | 22 24.3 | 14 20.1 | -3 56.6 |
| | 13 | 25 8.5 | 30 28.6 | 5 27.7 | 268 59.4 | 23 57.4 | 310 14.6 | 22 24.3 | 29 22.3 | -3 56.5 |
| | 14 | 40 11.0 | 45 32.0 | 5 26.8 | 284 1.0 | 23 57.2 | 325 16.7 | 22 24.4 | 44 24.5 | -3 56.4 |
| | 15 | 55 13.4 | 60 35.2 | 5 25.9 | 299 2.6 | 23 57.0 | 340 18.7 | 22 24.4 | 59 26.6 | -3 56.2 |
| | 16 | 70 15.9 | 75 38.5 | 5 25.0 | 314 4.2 | 23 56.8 | 355 20.7 | 22 24.4 | 74 28.8 | -3 56.1 |
| | 17 | 85 18.4 | 90 41.8 | 5 24.2 | 329 5.8 | 23 56.6 | 10 22.8 | 22 24.5 | 89 31.0 | -3 56.0 |
| | 18 | 100 20.8 | 105 45.1 | 5 23.3 | 344 7.4 | 23 56.4 | 25 24.8 | 22 24.5 | 104 33.2 | -3 55.9 |
| | 19 | 115 23.3 | 120 48.4 | 5 22.4 | 359 9.0 | 23 56.2 | 40 26.9 | 22 24.6 | 119 35.4 | -3 55.8 |
| | 20 | 130 25.8 | 135 51.7 | 5 21.5 | 14 10.5 | 23 55.9 | 55 28.9 | 22 24.6 | 134 37.6 | -3 55.7 |
| | 21 | 145 28.2 | 150 55.0 | 5 20.7 | 29 12.1 | 23 55.7 | 70 31.0 | 22 24.7 | 149 39.8 | -3 55.6 |
| | 22 | 160 30.7 | 165 58.2 | 5 19.8 | 44 13.7 | 23 55.5 | 85 33.0 | 22 24.7 | 164 42.0 | -3 55.4 |
| | 23 | 175 33.1 | 181 1.5 | 5 18.9 | 59 15.3 | 23 55.3 | 100 35.1 | 22 24.8 | 179 44.1 | -3 55.3 |
| | | MP 11:21 | *v* 3.3 | *d* -0.9 | *v* 1.6 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 Wednesday | 0 | 190 35.6 | 196 4.8 | 5 18.1 | 74 16.9 | 23 55.1 | 115 37.1 | 22 24.8 | 194 46.3 | -3 55.2 |
| | 1 | 205 38.1 | 211 8.0 | 5 17.2 | 89 18.4 | 23 54.9 | 130 39.1 | 22 24.9 | 209 48.5 | -3 55.1 |
| | 2 | 220 40.5 | 226 11.3 | 5 16.3 | 104 20.0 | 23 54.7 | 145 41.2 | 22 24.9 | 224 50.7 | -3 55.0 |
| | 3 | 235 43.0 | 241 14.6 | 5 15.5 | 119 21.6 | 23 54.5 | 160 43.2 | 22 25.0 | 239 52.9 | -3 54.9 |
| | 4 | 250 45.5 | 256 17.8 | 5 14.6 | 134 23.2 | 23 54.3 | 175 45.3 | 22 25.0 | 254 55.1 | -3 54.8 |
| | 5 | 265 47.9 | 271 21.1 | 5 13.7 | 149 24.8 | 23 54.1 | 190 47.3 | 22 25.1 | 269 57.3 | -3 54.6 |
| | 6 | 280 50.4 | 286 24.3 | 5 12.8 | 164 26.3 | 23 53.9 | 205 49.4 | 22 25.1 | 284 59.5 | -3 54.5 |
| | 7 | 295 52.9 | 301 27.5 | 5 12.0 | 179 27.9 | 23 53.7 | 220 51.4 | 22 25.1 | 300 1.6 | -3 54.4 |
| | 8 | 310 55.3 | 316 30.8 | 5 11.1 | 194 29.5 | 23 53.4 | 235 53.4 | 22 25.2 | 315 3.8 | -3 54.3 |
| | 9 | 325 57.8 | 331 34.0 | 5 10.3 | 209 31.1 | 23 53.2 | 250 55.5 | 22 25.2 | 330 6.0 | -3 54.2 |
| | 10 | 341 0.3 | 346 37.2 | 5 9.4 | 224 32.6 | 23 53.0 | 265 57.5 | 22 25.3 | 345 8.2 | -3 54.1 |
| | 11 | 356 2.7 | 1 40.5 | 5 8.5 | 239 34.2 | 23 52.8 | 280 59.6 | 22 25.3 | 0 10.4 | -3 53.9 |
| | 12 | 11 5.2 | 16 43.7 | 5 7.7 | 254 35.8 | 23 52.6 | 296 1.6 | 22 25.4 | 15 12.6 | -3 53.8 |
| | 13 | 26 7.6 | 31 46.9 | 5 6.8 | 269 37.4 | 23 52.4 | 311 3.6 | 22 25.4 | 30 14.8 | -3 53.7 |
| | 14 | 41 10.1 | 46 50.1 | 5 5.9 | 284 38.9 | 23 52.2 | 326 5.7 | 22 25.5 | 45 17.0 | -3 53.6 |
| | 15 | 56 12.6 | 61 53.3 | 5 5.1 | 299 40.5 | 23 52.0 | 341 7.7 | 22 25.5 | 60 19.1 | -3 53.5 |
| | 16 | 71 15.0 | 76 56.6 | 5 4.2 | 314 42.1 | 23 51.8 | 356 9.8 | 22 25.6 | 75 21.3 | -3 53.4 |
| | 17 | 86 17.5 | 91 59.8 | 5 3.4 | 329 43.7 | 23 51.5 | 11 11.8 | 22 25.6 | 90 23.5 | -3 53.3 |
| | 18 | 101 20.0 | 107 3.0 | 5 2.5 | 344 45.2 | 23 51.3 | 26 13.8 | 22 25.7 | 105 25.7 | -3 53.1 |
| | 19 | 116 22.4 | 122 6.2 | 5 1.7 | 359 46.8 | 23 51.1 | 41 15.9 | 22 25.7 | 120 27.9 | -3 53.0 |
| | 20 | 131 24.9 | 137 9.4 | 5 0.8 | 14 48.4 | 23 50.9 | 56 17.9 | 22 25.8 | 135 30.1 | -3 52.9 |
| | 21 | 146 27.4 | 152 12.5 | 4 59.9 | 29 49.9 | 23 50.7 | 71 19.9 | 22 25.8 | 150 32.3 | -3 52.8 |
| | 22 | 161 29.8 | 167 15.7 | 4 59.1 | 44 51.5 | 23 50.5 | 86 22.0 | 22 25.8 | 165 34.5 | -3 52.7 |
| | 23 | 176 32.3 | 182 18.9 | 4 58.2 | 59 53.1 | 23 50.3 | 101 24.0 | 22 25.9 | 180 36.7 | -3 52.6 |
| | | MP 11:17 | *v* 3.3 | *d* -0.9 | *v* 1.6 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 03 Thursday | 0 | 191 34.8 | 197 22.1 | 4 57.4 | 74 54.6 | 23 50.1 | 116 26.1 | 22 25.9 | 195 38.8 | -3 52.5 |
| | 1 | 206 37.2 | 212 25.3 | 4 56.5 | 89 56.2 | 23 49.8 | 131 28.1 | 22 26.0 | 210 41.0 | -3 52.3 |
| | 2 | 221 39.7 | 227 28.4 | 4 55.7 | 104 57.8 | 23 49.6 | 146 30.1 | 22 26.0 | 225 43.2 | -3 52.2 |
| | 3 | 236 42.1 | 242 31.6 | 4 54.8 | 119 59.3 | 23 49.4 | 161 32.2 | 22 26.1 | 240 45.4 | -3 52.1 |
| | 4 | 251 44.6 | 257 34.8 | 4 54.0 | 135 0.9 | 23 49.2 | 176 34.2 | 22 26.1 | 255 47.6 | -3 52.0 |
| | 5 | 266 47.1 | 272 37.9 | 4 53.1 | 150 2.5 | 23 49.0 | 191 36.2 | 22 26.2 | 270 49.8 | -3 51.9 |
| | 6 | 281 49.5 | 287 41.1 | 4 52.3 | 165 4.0 | 23 48.8 | 206 38.3 | 22 26.2 | 285 52.0 | -3 51.8 |
| | 7 | 296 52.0 | 302 44.2 | 4 51.4 | 180 5.6 | 23 48.6 | 221 40.3 | 22 26.3 | 300 54.2 | -3 51.7 |
| | 8 | 311 54.5 | 317 47.4 | 4 50.6 | 195 7.1 | 23 48.4 | 236 42.4 | 22 26.3 | 315 56.4 | -3 51.5 |
| | 9 | 326 56.9 | 332 50.5 | 4 49.7 | 210 8.7 | 23 48.1 | 251 44.4 | 22 26.4 | 330 58.5 | -3 51.4 |
| | 10 | 341 59.4 | 347 53.7 | 4 48.9 | 225 10.3 | 23 47.9 | 266 46.4 | 22 26.4 | 346 0.7 | -3 51.3 |
| | 11 | 357 1.9 | 2 56.8 | 4 48.1 | 240 11.8 | 23 47.7 | 281 48.5 | 22 26.5 | 1 2.9 | -3 51.2 |
| | 12 | 12 4.3 | 18 0.0 | 4 47.2 | 255 13.4 | 23 47.5 | 296 50.5 | 22 26.5 | 16 5.1 | -3 51.1 |
| | 13 | 27 6.8 | 33 3.1 | 4 46.4 | 270 14.9 | 23 47.3 | 311 52.5 | 22 26.6 | 31 7.3 | -3 51.0 |
| | 14 | 42 9.3 | 48 6.2 | 4 45.5 | 285 16.5 | 23 47.1 | 326 54.6 | 22 26.6 | 46 9.5 | -3 50.9 |
| | 15 | 57 11.7 | 63 9.3 | 4 44.7 | 300 18.1 | 23 46.9 | 341 56.6 | 22 26.6 | 61 11.7 | -3 50.7 |
| | 16 | 72 14.2 | 78 12.5 | 4 43.9 | 315 19.6 | 23 46.6 | 356 58.6 | 22 26.7 | 76 13.9 | -3 50.6 |
| | 17 | 87 16.6 | 93 15.6 | 4 43.0 | 330 21.2 | 23 46.4 | 12 0.7 | 22 26.7 | 91 16.1 | -3 50.5 |
| | 18 | 102 19.1 | 108 18.7 | 4 42.2 | 345 22.7 | 23 46.2 | 27 2.7 | 22 26.8 | 106 18.2 | -3 50.4 |
| | 19 | 117 21.6 | 123 21.8 | 4 41.3 | 0 24.3 | 23 46.0 | 42 4.7 | 22 26.8 | 121 20.4 | -3 50.3 |
| | 20 | 132 24.0 | 138 24.9 | 4 40.5 | 15 25.8 | 23 45.8 | 57 6.8 | 22 26.9 | 136 22.6 | -3 50.2 |
| | 21 | 147 26.5 | 153 28.0 | 4 39.7 | 30 27.4 | 23 45.6 | 72 8.8 | 22 26.9 | 151 24.8 | -3 50.1 |
| | 22 | 162 29.0 | 168 31.1 | 4 38.8 | 45 28.9 | 23 45.3 | 87 10.8 | 22 27.0 | 166 27.0 | -3 49.9 |
| | 23 | 177 31.4 | 183 34.2 | 4 38.0 | 60 30.5 | 23 45.1 | 102 12.9 | 22 27.0 | 181 29.2 | -3 49.8 |
| | | MP 11:13 | *v* 3.2 | *d* -0.9 | *v* 1.6 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.4 |
| Achernar | 335 20.6 | -57 6.6 |
| Acrux | 172 59.3 | -63 14.4 |
| Adhara | 255 5.7 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.3 |
| Alkaid | 152 51.4 | 49 11.1 |
| Alnair | 27 33.0 | -46 50.3 |
| Alnilam | 275 37.6 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.3 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.7 |
| Altair | 61 59.9 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.2 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 9.3 | -69 4.2 |
| Avior | 234 14.5 | -59 35.7 |
| Bellatrix | 278 22.8 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.6 |
| Canopus | 263 52.4 | -52 42.8 |
| Capella | 280 21.8 | 46 1.5 |
| Deneb | 49 25.9 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.1 | 61 37.0 |
| Elnath | 278 1.8 | 28 37.8 |
| Eltanin | 90 42.0 | 51 28.7 |
| Enif | 33 38.9 | 9 59.3 |
| Fomalhaut | 15 14.6 | -29 29.4 |
| Gacrux | 171 50.9 | -57 15.4 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.2 | -60 29.7 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.2 | -34 22.3 |
| Kochab | 137 18.7 | 74 2.8 |
| Markab | 13 30.0 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.8 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.6 | -26 15.9 |
| Peacock | 53 5.7 | -56 39.1 |
| Pollux | 243 17.0 | 27 58.0 |
| Procyon | 244 50.6 | 5 9.5 |
| Rasalhague | 95 58.3 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.5 |
| Rigil Kent. | 139 39.5 | -60 56.3 |
| Sabik | 102 2.5 | -15 45.4 |
| Schedar | 349 31.5 | 56 40.5 |
| Shaula | 96 10.0 | -37 7.3 |
| Sirius | 258 26.1 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.0 | -43 32.3 |
| Vega | 80 33.1 | 38 48.1 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 01 Tue | SHA | MP |
|---|---|---|
| Venus | 5 8.9 | 10:59 |
| Mars | 244 2.3 | 19:03 |
| Jupiter | 285 11.5 | 16:19 |
| Saturn | 4 17.4 | 11:03 |

| 02 Wed | SHA | MP |
|---|---|---|
| Venus | 5 29.2 | 10:53 |
| Mars | 243 41.3 | 19:01 |
| Jupiter | 285 1.5 | 16:15 |
| Saturn | 4 10.7 | 10:59 |

| 03 Thu | SHA | MP |
|---|---|---|
| Venus | 5 47.3 | 10:48 |
| Mars | 243 19.9 | 18:58 |
| Jupiter | 284 51.3 | 16:12 |
| Saturn | 4 4.1 | 10:56 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **01 Tuesday** | 0 | 179 1.3 | 4 33.3 | 145 54.0 | 5.9 | 20 54.0 | 12.8 | 60.7 |
| | 1 | 194 1.4 | 4 34.2 | 160 18.9 | 5.9 | 21 6.8 | 12.6 | 60.7 |
| | 2 | 209 1.6 | 4 35.2 | 174 43.8 | 5.8 | 21 19.4 | 12.5 | 60.7 |
| | 3 | 224 1.8 | 4 36.1 | 189 8.6 | 5.7 | 21 31.9 | 12.3 | 60.7 |
| | 4 | 239 2.0 | 4 37.1 | 203 33.3 | 5.6 | 21 44.2 | 12.2 | 60.6 |
| | 5 | 254 2.2 | 4 38.1 | 217 57.9 | 5.5 | 21 56.4 | 12.0 | 60.6 |
| | 6 | 269 2.4 | 4 39.0 | 232 22.4 | 5.5 | 22 8.4 | 11.9 | 60.6 |
| | 7 | 284 2.6 | 4 40.0 | 246 46.9 | 5.4 | 22 20.2 | 11.7 | 60.6 |
| | 8 | 299 2.7 | 4 41.0 | 261 11.3 | 5.3 | 22 31.9 | 11.5 | 60.5 |
| | 9 | 314 2.9 | 4 41.9 | 275 35.7 | 5.3 | 22 43.5 | 11.4 | 60.5 |
| | 10 | 329 3.1 | 4 42.9 | 289 59.9 | 5.2 | 22 54.8 | 11.2 | 60.5 |
| | 11 | 344 3.3 | 4 43.9 | 304 24.1 | 5.1 | 23 6.1 | 11.0 | 60.5 |
| | 12 | 359 3.5 | 4 44.8 | 318 48.2 | 5.0 | 23 17.1 | 10.9 | 60.4 |
| | 13 | 14 3.7 | 4 45.8 | 333 12.3 | 5.0 | 23 28.0 | 10.7 | 60.4 |
| | 14 | 29 3.8 | 4 46.8 | 347 36.2 | 4.9 | 23 38.7 | 10.5 | 60.4 |
| | 15 | 44 4.0 | 4 47.7 | 2 0.1 | 4.8 | 23 49.2 | 10.4 | 60.4 |
| | 16 | 59 4.2 | 4 48.7 | 16 24.0 | 4.8 | 23 59.6 | 10.2 | 60.3 |
| | 17 | 74 4.4 | 4 49.6 | 30 47.8 | 4.7 | 24 9.8 | 10.0 | 60.3 |
| | 18 | 89 4.6 | 4 50.6 | 45 11.5 | 4.7 | 24 19.9 | 9.9 | 60.3 |
| | 19 | 104 4.8 | 4 51.6 | 59 35.1 | 4.6 | 24 29.7 | 9.7 | 60.3 |
| | 20 | 119 5.0 | 4 52.5 | 73 58.7 | 4.5 | 24 39.4 | 9.5 | 60.2 |
| | 21 | 134 5.1 | 4 53.5 | 88 22.2 | 4.5 | 24 48.9 | 9.3 | 60.2 |
| | 22 | 149 5.3 | 4 54.5 | 102 45.7 | 4.4 | 24 58.2 | 9.1 | 60.2 |
| | 23 | 164 5.5 | 4 55.4 | 117 9.1 | 4.4 | 25 7.4 | 9.0 | 60.1 |
| | | *v* 0.2 | SD 16.0 *d* 1.0 | | SD 16.6 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **02 Wednesday** | 0 | 179 5.7 | 4 56.4 | 131 32.5 | 4.3 | 25 16.4 | 8.8 | 60.1 |
| | 1 | 194 5.9 | 4 57.3 | 145 55.8 | 4.3 | 25 25.1 | 8.6 | 60.1 |
| | 2 | 209 6.1 | 4 58.3 | 160 19.0 | 4.2 | 25 33.7 | 8.4 | 60.1 |
| | 3 | 224 6.2 | 4 59.3 | 174 42.2 | 4.2 | 25 42.2 | 8.2 | 60.0 |
| | 4 | 239 6.4 | 5 0.2 | 189 5.4 | 4.1 | 25 50.4 | 8.1 | 60.0 |
| | 5 | 254 6.6 | 5 1.2 | 203 28.5 | 4.1 | 25 58.5 | 7.9 | 60.0 |
| | 6 | 269 6.8 | 5 2.1 | 217 51.6 | 4.0 | 26 6.3 | 7.7 | 59.9 |
| | 7 | 284 7.0 | 5 3.1 | 232 14.6 | 4.0 | 26 14.0 | 7.5 | 59.9 |
| | 8 | 299 7.2 | 5 4.1 | 246 37.6 | 3.9 | 26 21.5 | 7.3 | 59.9 |
| | 9 | 314 7.3 | 5 5.0 | 261 0.5 | 3.9 | 26 28.8 | 7.1 | 59.8 |
| | 10 | 329 7.5 | 5 6.0 | 275 23.4 | 3.9 | 26 35.9 | 6.9 | 59.8 |
| | 11 | 344 7.7 | 5 6.9 | 289 46.3 | 3.8 | 26 42.8 | 6.7 | 59.8 |
| | 12 | 359 7.9 | 5 7.9 | 304 9.1 | 3.8 | 26 49.5 | 6.5 | 59.7 |
| | 13 | 14 8.1 | 5 8.9 | 318 31.9 | 3.8 | 26 56.1 | 6.3 | 59.7 |
| | 14 | 29 8.3 | 5 9.8 | 332 54.7 | 3.7 | 27 2.4 | 6.1 | 59.7 |
| | 15 | 44 8.4 | 5 10.8 | 347 17.4 | 3.7 | 27 8.6 | 6.0 | 59.6 |
| | 16 | 59 8.6 | 5 11.7 | 1 40.1 | 3.7 | 27 14.5 | 5.8 | 59.6 |
| | 17 | 74 8.8 | 5 12.7 | 16 2.8 | 3.7 | 27 20.3 | 5.6 | 59.6 |
| | 18 | 89 9.0 | 5 13.7 | 30 25.5 | 3.7 | 27 25.9 | 5.4 | 59.5 |
| | 19 | 104 9.2 | 5 14.6 | 44 48.2 | 3.6 | 27 31.2 | 5.2 | 59.5 |
| | 20 | 119 9.4 | 5 15.6 | 59 10.8 | 3.6 | 27 36.4 | 5.0 | 59.5 |
| | 21 | 134 9.5 | 5 16.5 | 73 33.4 | 3.6 | 27 41.4 | 4.8 | 59.4 |
| | 22 | 149 9.7 | 5 17.5 | 87 56.0 | 3.6 | 27 46.2 | 4.6 | 59.4 |
| | 23 | 164 9.9 | 5 18.5 | 102 18.6 | 3.6 | 27 50.8 | 4.4 | 59.4 |
| | | *v* 0.2 | SD 16.0 *d* 1.0 | | SD 16.4 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **03 Thursday** | 0 | 179 10.1 | 5 19.4 | 116 41.2 | 3.6 | 27 55.2 | 4.2 | 59.3 |
| | 1 | 194 10.3 | 5 20.4 | 131 3.8 | 3.6 | 27 59.3 | 4.0 | 59.3 |
| | 2 | 209 10.4 | 5 21.3 | 145 26.4 | 3.6 | 28 3.3 | 3.8 | 59.3 |
| | 3 | 224 10.6 | 5 22.3 | 159 49.0 | 3.6 | 28 7.1 | 3.6 | 59.2 |
| | 4 | 239 10.8 | 5 23.2 | 174 11.6 | 3.6 | 28 10.8 | 3.4 | 59.2 |
| | 5 | 254 11.0 | 5 24.2 | 188 34.2 | 3.6 | 28 14.2 | 3.2 | 59.2 |
| | 6 | 269 11.2 | 5 25.2 | 202 56.8 | 3.6 | 28 17.4 | 3.0 | 59.1 |
| | 7 | 284 11.4 | 5 26.1 | 217 19.5 | 3.6 | 28 20.4 | 2.8 | 59.1 |
| | 8 | 299 11.5 | 5 27.1 | 231 42.1 | 3.7 | 28 23.2 | 2.6 | 59.1 |
| | 9 | 314 11.7 | 5 28.0 | 246 4.8 | 3.7 | 28 25.8 | 2.4 | 59.0 |
| | 10 | 329 11.9 | 5 29.0 | 260 27.4 | 3.7 | 28 28.3 | 2.2 | 59.0 |
| | 11 | 344 12.1 | 5 29.9 | 274 50.1 | 3.7 | 28 30.5 | 2.0 | 58.9 |
| | 12 | 359 12.3 | 5 30.9 | 289 12.8 | 3.7 | 28 32.5 | 1.8 | 58.9 |
| | 13 | 14 12.5 | 5 31.8 | 303 35.6 | 3.8 | 28 34.4 | 1.6 | 58.9 |
| | 14 | 29 12.6 | 5 32.8 | 317 58.3 | 3.8 | 28 36.0 | 1.5 | 58.8 |
| | 15 | 44 12.8 | 5 33.8 | 332 21.1 | 3.8 | 28 37.5 | 1.3 | 58.8 |
| | 16 | 59 13.0 | 5 34.7 | 346 44.0 | 3.9 | 28 38.7 | 1.1 | 58.8 |
| | 17 | 74 13.2 | 5 35.7 | 1 6.8 | 3.9 | 28 39.8 | 0.9 | 58.7 |
| | 18 | 89 13.4 | 5 36.6 | 15 29.7 | 3.9 | 28 40.7 | 0.7 | 58.7 |
| | 19 | 104 13.5 | 5 37.6 | 29 52.7 | 4.0 | 28 41.3 | 0.5 | 58.7 |
| | 20 | 119 13.7 | 5 38.5 | 44 15.7 | 4.0 | 28 41.8 | 0.3 | 58.6 |
| | 21 | 134 13.9 | 5 39.5 | 58 38.7 | 4.1 | 28 42.1 | 0.1 | 58.6 |
| | 22 | 149 14.1 | 5 40.4 | 73 1.8 | 4.1 | 28 42.2 | -0.1 | 58.6 |
| | 23 | 164 14.3 | 5 41.4 | 87 24.9 | 4.2 | 28 42.1 | -0.3 | 58.5 |
| | | *v* 0.2 | SD 16.0 *d* 1.0 | | SD 16.2 | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 01:35 | 03:40 | 04:55 | 19:16 | 20:32 | 22:44 |
| 70 | 02:19 | 03:56 | 05:02 | 19:08 | 20:15 | 21:55 |
| 68 | 02:47 | 04:09 | 05:08 | 19:01 | 20:01 | 21:25 |
| 66 | 03:08 | 04:20 | 05:13 | 18:56 | 19:50 | 21:03 |
| 64 | 03:24 | 04:28 | 05:18 | 18:52 | 19:41 | 20:46 |
| 62 | 03:38 | 04:36 | 05:22 | 18:48 | 19:34 | 20:33 |
| 60 | 03:49 | 04:42 | 05:25 | 18:44 | 19:27 | 20:21 |
| 58 | 03:58 | 04:47 | 05:28 | 18:41 | 19:22 | 20:12 |
| 56 | 04:06 | 04:52 | 05:30 | 18:39 | 19:17 | 20:04 |
| 54 | 04:13 | 04:56 | 05:32 | 18:36 | 19:12 | 19:56 |
| 52 | 04:19 | 05:00 | 05:35 | 18:34 | 19:09 | 19:50 |
| 50 | 04:24 | 05:04 | 05:36 | 18:32 | 19:05 | 19:45 |
| 45 | 04:36 | 05:11 | 05:40 | 18:28 | 18:58 | 19:33 |
| 40 | 04:44 | 05:17 | 05:44 | 18:24 | 18:52 | 19:24 |
| 35 | 04:51 | 05:21 | 05:47 | 18:21 | 18:47 | 19:17 |
| 30 | 04:57 | 05:25 | 05:49 | 18:19 | 18:43 | 19:11 |
| 20 | 05:06 | 05:31 | 05:54 | 18:14 | 18:36 | 19:02 |
| 10 | 05:12 | 05:36 | 05:57 | 18:11 | 18:32 | 18:56 |
| 0 | 05:16 | 05:40 | 06:01 | 18:07 | 18:28 | 18:52 |
| -10 | 05:18 | 05:43 | 06:04 | 18:04 | 18:25 | 18:49 |
| -20 | 05:19 | 05:45 | 06:07 | 18:00 | 18:22 | 18:48 |
| -30 | 05:19 | 05:47 | 06:11 | 17:56 | 18:20 | 18:48 |
| -35 | 05:18 | 05:48 | 06:13 | 17:54 | 18:19 | 18:49 |
| -40 | 05:17 | 05:48 | 06:15 | 17:52 | 18:19 | 18:50 |
| -45 | 05:14 | 05:48 | 06:18 | 17:49 | 18:18 | 18:52 |
| -50 | 05:11 | 05:49 | 06:21 | 17:46 | 18:18 | 18:55 |
| -52 | 05:09 | 05:49 | 06:22 | 17:44 | 18:18 | 18:57 |
| -54 | 05:08 | 05:49 | 06:24 | 17:43 | 18:18 | 18:59 |
| -56 | 05:05 | 05:48 | 06:26 | 17:41 | 18:18 | 19:01 |
| -58 | 05:03 | 05:48 | 06:27 | 17:39 | 18:18 | 19:03 |
| -60 | 05:00 | 05:48 | 06:30 | 17:37 | 18:18 | 19:06 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **01** | **02** | **03** | **01** | **02** | **03** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | 03:19 | | | 01:05 | | |
| 66 | 04:15 | | | 00:10 | | |
| 64 | 04:48 | 04:02 | | –:– | 02:31 | |
| 62 | 05:13 | 05:04 | | –:– | 01:29 | |
| 60 | 05:33 | 05:39 | 05:57 | –:– | 00:55 | 02:47 |
| 58 | 05:50 | 06:04 | 06:34 | –:– | 00:30 | 02:11 |
| 56 | 06:04 | 06:24 | 07:00 | –:– | 00:10 | 01:44 |
| 54 | 06:16 | 06:41 | 07:21 | 23:54 | –:– | 01:23 |
| 52 | 06:27 | 06:56 | 07:39 | 23:40 | –:– | 01:06 |
| 50 | 06:36 | 07:09 | 07:54 | 23:28 | –:– | 00:51 |
| 45 | 06:57 | 07:35 | 08:24 | 23:02 | –:– | 00:21 |
| 40 | 07:14 | 07:56 | 08:48 | 22:42 | 23:58 | –:– |
| 35 | 07:28 | 08:14 | 09:08 | 22:25 | 23:38 | –:– |
| 30 | 07:40 | 08:29 | 09:25 | 22:11 | 23:22 | –:– |
| 20 | 08:01 | 08:55 | 09:53 | 21:47 | 22:54 | 23:58 |
| 10 | 08:20 | 09:17 | 10:18 | 21:26 | 22:30 | 23:33 |
| 0 | 08:37 | 09:38 | 10:41 | 21:06 | 22:08 | 23:10 |
| -10 | 08:55 | 09:59 | 11:03 | 20:47 | 21:46 | 22:47 |
| -20 | 09:14 | 10:22 | 11:28 | 20:26 | 21:22 | 22:22 |
| -30 | 09:36 | 10:49 | 11:57 | 20:02 | 20:54 | 21:53 |
| -35 | 09:49 | 11:05 | 12:14 | 19:48 | 20:38 | 21:36 |
| -40 | 10:04 | 11:23 | 12:34 | 19:32 | 20:19 | 21:16 |
| -45 | 10:22 | 11:45 | 12:59 | 19:12 | 19:56 | 20:51 |
| -50 | 10:45 | 12:14 | 13:30 | 18:49 | 19:27 | 20:20 |
| -52 | 10:56 | 12:28 | 13:46 | 18:37 | 19:12 | 20:04 |
| -54 | 11:08 | 12:44 | 14:04 | 18:24 | 18:56 | 19:45 |
| -56 | 11:22 | 13:03 | 14:27 | 18:09 | 18:36 | 19:23 |
| -58 | 11:39 | 13:28 | 14:56 | 17:52 | 18:12 | 18:53 |
| -60 | 12:00 | 14:00 | 15:41 | 17:31 | 17:39 | 18:09 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **01** | 03:55 | 03:46 | 12:04 | 14:52 | 02:22 | 3 | 9 |
| **02** | 03:37 | 03:28 | 12:03 | 15:53 | 03:22 | 4 | 18 |
| **03** | 03:20 | 03:11 | 12:03 | 16:55 | 04:24 | 5 | 27 |

## 2025 April 04, 05, 06 (Fri, Saturday, Sunday)

| | | Aries | Venus -4.4 | | Mars 0.5 | | Jupiter -2.1 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 04 Friday | 0 | 192 33.9 | 198 37.3 | 4 37.2 | 75 32.0 | 23 44.9 | 117 14.9 | 22 27.1 | 196 31.4 | -3 49.7 |
| | 1 | 207 36.4 | 213 40.4 | 4 36.3 | 90 33.6 | 23 44.7 | 132 16.9 | 22 27.1 | 211 33.6 | -3 49.6 |
| | 2 | 222 38.8 | 228 43.5 | 4 35.5 | 105 35.1 | 23 44.5 | 147 19.0 | 22 27.2 | 226 35.8 | -3 49.5 |
| | 3 | 237 41.3 | 243 46.5 | 4 34.7 | 120 36.7 | 23 44.3 | 162 21.0 | 22 27.2 | 241 37.9 | -3 49.4 |
| | 4 | 252 43.8 | 258 49.6 | 4 33.9 | 135 38.2 | 23 44.0 | 177 23.0 | 22 27.3 | 256 40.1 | -3 49.3 |
| | 5 | 267 46.2 | 273 52.7 | 4 33.0 | 150 39.8 | 23 43.8 | 192 25.1 | 22 27.3 | 271 42.3 | -3 49.1 |
| | 6 | 282 48.7 | 288 55.7 | 4 32.2 | 165 41.3 | 23 43.6 | 207 27.1 | 22 27.3 | 286 44.5 | -3 49.0 |
| | 7 | 297 51.1 | 303 58.8 | 4 31.4 | 180 42.9 | 23 43.4 | 222 29.1 | 22 27.4 | 301 46.7 | -3 48.9 |
| | 8 | 312 53.6 | 319 1.9 | 4 30.6 | 195 44.4 | 23 43.2 | 237 31.2 | 22 27.4 | 316 48.9 | -3 48.8 |
| | 9 | 327 56.1 | 334 4.9 | 4 29.7 | 210 46.0 | 23 43.0 | 252 33.2 | 22 27.5 | 331 51.1 | -3 48.7 |
| | 10 | 342 58.5 | 349 8.0 | 4 28.9 | 225 47.5 | 23 42.7 | 267 35.2 | 22 27.5 | 346 53.3 | -3 48.6 |
| | 11 | 358 1.0 | 4 11.0 | 4 28.1 | 240 49.1 | 23 42.5 | 282 37.2 | 22 27.6 | 1 55.5 | -3 48.5 |
| | 12 | 13 3.5 | 19 14.1 | 4 27.3 | 255 50.6 | 23 42.3 | 297 39.3 | 22 27.6 | 16 57.7 | -3 48.3 |
| | 13 | 28 5.9 | 34 17.1 | 4 26.5 | 270 52.2 | 23 42.1 | 312 41.3 | 22 27.7 | 31 59.8 | -3 48.2 |
| | 14 | 43 8.4 | 49 20.1 | 4 25.6 | 285 53.7 | 23 41.9 | 327 43.3 | 22 27.7 | 47 2.0 | -3 48.1 |
| | 15 | 58 10.9 | 64 23.2 | 4 24.8 | 300 55.3 | 23 41.6 | 342 45.4 | 22 27.8 | 62 4.2 | -3 48.0 |
| | 16 | 73 13.3 | 79 26.2 | 4 24.0 | 315 56.8 | 23 41.4 | 357 47.4 | 22 27.8 | 77 6.4 | -3 47.9 |
| | 17 | 88 15.8 | 94 29.2 | 4 23.2 | 330 58.3 | 23 41.2 | 12 49.4 | 22 27.9 | 92 8.6 | -3 47.8 |
| | 18 | 103 18.3 | 109 32.2 | 4 22.4 | 345 59.9 | 23 41.0 | 27 51.5 | 22 27.9 | 107 10.8 | -3 47.7 |
| | 19 | 118 20.7 | 124 35.3 | 4 21.6 | 1 1.4 | 23 40.8 | 42 53.5 | 22 28.0 | 122 13.0 | -3 47.5 |
| | 20 | 133 23.2 | 139 38.3 | 4 20.8 | 16 3.0 | 23 40.6 | 57 55.5 | 22 28.0 | 137 15.2 | -3 47.4 |
| | 21 | 148 25.6 | 154 41.3 | 4 20.0 | 31 4.5 | 23 40.3 | 72 57.5 | 22 28.0 | 152 17.4 | -3 47.3 |
| | 22 | 163 28.1 | 169 44.3 | 4 19.2 | 46 6.0 | 23 40.1 | 87 59.6 | 22 28.1 | 167 19.6 | -3 47.2 |
| | 23 | 178 30.6 | 184 47.3 | 4 18.3 | 61 7.6 | 23 39.9 | 103 1.6 | 22 28.1 | 182 21.7 | -3 47.1 |
| | | MP 11:09 | *v* 3.1 | *d* -0.8 | *v* 1.6 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Saturday | 0 | 193 33.0 | 199 50.3 | 4 17.5 | 76 9.1 | 23 39.7 | 118 3.6 | 22 28.2 | 197 23.9 | -3 47.0 |
| | 1 | 208 35.5 | 214 53.3 | 4 16.7 | 91 10.7 | 23 39.5 | 133 5.6 | 22 28.2 | 212 26.1 | -3 46.9 |
| | 2 | 223 38.0 | 229 56.3 | 4 15.9 | 106 12.2 | 23 39.2 | 148 7.7 | 22 28.3 | 227 28.3 | -3 46.7 |
| | 3 | 238 40.4 | 244 59.3 | 4 15.1 | 121 13.7 | 23 39.0 | 163 9.7 | 22 28.3 | 242 30.5 | -3 46.6 |
| | 4 | 253 42.9 | 260 2.2 | 4 14.3 | 136 15.3 | 23 38.8 | 178 11.7 | 22 28.4 | 257 32.7 | -3 46.5 |
| | 5 | 268 45.4 | 275 5.2 | 4 13.5 | 151 16.8 | 23 38.6 | 193 13.8 | 22 28.4 | 272 34.9 | -3 46.4 |
| | 6 | 283 47.8 | 290 8.2 | 4 12.7 | 166 18.3 | 23 38.3 | 208 15.8 | 22 28.5 | 287 37.1 | -3 46.3 |
| | 7 | 298 50.3 | 305 11.2 | 4 11.9 | 181 19.9 | 23 38.1 | 223 17.8 | 22 28.5 | 302 39.3 | -3 46.2 |
| | 8 | 313 52.7 | 320 14.1 | 4 11.1 | 196 21.4 | 23 37.9 | 238 19.8 | 22 28.6 | 317 41.5 | -3 46.1 |
| | 9 | 328 55.2 | 335 17.1 | 4 10.3 | 211 22.9 | 23 37.7 | 253 21.9 | 22 28.6 | 332 43.6 | -3 46.0 |
| | 10 | 343 57.7 | 350 20.1 | 4 9.5 | 226 24.5 | 23 37.5 | 268 23.9 | 22 28.7 | 347 45.8 | -3 45.8 |
| | 11 | 359 0.1 | 5 23.0 | 4 8.8 | 241 26.0 | 23 37.2 | 283 25.9 | 22 28.7 | 2 48.0 | -3 45.7 |
| | 12 | 14 2.6 | 20 26.0 | 4 8.0 | 256 27.5 | 23 37.0 | 298 27.9 | 22 28.7 | 17 50.2 | -3 45.6 |
| | 13 | 29 5.1 | 35 28.9 | 4 7.2 | 271 29.1 | 23 36.8 | 313 30.0 | 22 28.8 | 32 52.4 | -3 45.5 |
| | 14 | 44 7.5 | 50 31.8 | 4 6.4 | 286 30.6 | 23 36.6 | 328 32.0 | 22 28.8 | 47 54.6 | -3 45.4 |
| | 15 | 59 10.0 | 65 34.8 | 4 5.6 | 301 32.1 | 23 36.3 | 343 34.0 | 22 28.9 | 62 56.8 | -3 45.3 |
| | 16 | 74 12.5 | 80 37.7 | 4 4.8 | 316 33.7 | 23 36.1 | 358 36.0 | 22 28.9 | 77 59.0 | -3 45.2 |
| | 17 | 89 14.9 | 95 40.7 | 4 4.0 | 331 35.2 | 23 35.9 | 13 38.1 | 22 29.0 | 93 1.2 | -3 45.0 |
| | 18 | 104 17.4 | 110 43.6 | 4 3.2 | 346 36.7 | 23 35.7 | 28 40.1 | 22 29.0 | 108 3.4 | -3 44.9 |
| | 19 | 119 19.9 | 125 46.5 | 4 2.4 | 1 38.2 | 23 35.5 | 43 42.1 | 22 29.1 | 123 5.6 | -3 44.8 |
| | 20 | 134 22.3 | 140 49.4 | 4 1.7 | 16 39.8 | 23 35.2 | 58 44.1 | 22 29.1 | 138 7.7 | -3 44.7 |
| | 21 | 149 24.8 | 155 52.3 | 4 0.9 | 31 41.3 | 23 35.0 | 73 46.2 | 22 29.2 | 153 9.9 | -3 44.6 |
| | 22 | 164 27.2 | 170 55.3 | 4 0.1 | 46 42.8 | 23 34.8 | 88 48.2 | 22 29.2 | 168 12.1 | -3 44.5 |
| | 23 | 179 29.7 | 185 58.2 | 3 59.3 | 61 44.3 | 23 34.6 | 103 50.2 | 22 29.3 | 183 14.3 | -3 44.4 |
| | | MP 11:05 | *v* 3.0 | *d* -0.8 | *v* 1.5 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 06 Sunday | 0 | 194 32.2 | 201 1.1 | 3 58.6 | 76 45.9 | 23 34.3 | 118 52.2 | 22 29.3 | 198 16.5 | -3 44.3 |
| | 1 | 209 34.6 | 216 4.0 | 3 57.8 | 91 47.4 | 23 34.1 | 133 54.2 | 22 29.4 | 213 18.7 | -3 44.1 |
| | 2 | 224 37.1 | 231 6.9 | 3 57.0 | 106 48.9 | 23 33.9 | 148 56.3 | 22 29.4 | 228 20.9 | -3 44.0 |
| | 3 | 239 39.6 | 246 9.8 | 3 56.2 | 121 50.4 | 23 33.7 | 163 58.3 | 22 29.4 | 243 23.1 | -3 43.9 |
| | 4 | 254 42.0 | 261 12.6 | 3 55.5 | 136 52.0 | 23 33.4 | 179 0.3 | 22 29.5 | 258 25.3 | -3 43.8 |
| | 5 | 269 44.5 | 276 15.5 | 3 54.7 | 151 53.5 | 23 33.2 | 194 2.3 | 22 29.5 | 273 27.5 | -3 43.7 |
| | 6 | 284 47.0 | 291 18.4 | 3 53.9 | 166 55.0 | 23 33.0 | 209 4.3 | 22 29.6 | 288 29.7 | -3 43.6 |
| | 7 | 299 49.4 | 306 21.3 | 3 53.1 | 181 56.5 | 23 32.8 | 224 6.4 | 22 29.6 | 303 31.9 | -3 43.5 |
| | 8 | 314 51.9 | 321 24.2 | 3 52.4 | 196 58.0 | 23 32.5 | 239 8.4 | 22 29.7 | 318 34.0 | -3 43.4 |
| | 9 | 329 54.4 | 336 27.0 | 3 51.6 | 211 59.6 | 23 32.3 | 254 10.4 | 22 29.7 | 333 36.2 | -3 43.2 |
| | 10 | 344 56.8 | 351 29.9 | 3 50.8 | 227 1.1 | 23 32.1 | 269 12.4 | 22 29.8 | 348 38.4 | -3 43.1 |
| | 11 | 359 59.3 | 6 32.8 | 3 50.1 | 242 2.6 | 23 31.9 | 284 14.5 | 22 29.8 | 3 40.6 | -3 43.0 |
| | 12 | 15 1.7 | 21 35.6 | 3 49.3 | 257 4.1 | 23 31.6 | 299 16.5 | 22 29.9 | 18 42.8 | -3 42.9 |
| | 13 | 30 4.2 | 36 38.5 | 3 48.6 | 272 5.6 | 23 31.4 | 314 18.5 | 22 29.9 | 33 45.0 | -3 42.8 |
| | 14 | 45 6.7 | 51 41.3 | 3 47.8 | 287 7.2 | 23 31.2 | 329 20.5 | 22 30.0 | 48 47.2 | -3 42.7 |
| | 15 | 60 9.1 | 66 44.2 | 3 47.0 | 302 8.7 | 23 31.0 | 344 22.5 | 22 30.0 | 63 49.4 | -3 42.6 |
| | 16 | 75 11.6 | 81 47.0 | 3 46.3 | 317 10.2 | 23 30.7 | 359 24.6 | 22 30.1 | 78 51.6 | -3 42.4 |
| | 17 | 90 14.1 | 96 49.8 | 3 45.5 | 332 11.7 | 23 30.5 | 14 26.6 | 22 30.1 | 93 53.8 | -3 42.3 |
| | 18 | 105 16.5 | 111 52.7 | 3 44.8 | 347 13.2 | 23 30.3 | 29 28.6 | 22 30.1 | 108 56.0 | -3 42.2 |
| | 19 | 120 19.0 | 126 55.5 | 3 44.0 | 2 14.7 | 23 30.0 | 44 30.6 | 22 30.2 | 123 58.2 | -3 42.1 |
| | 20 | 135 21.5 | 141 58.3 | 3 43.3 | 17 16.2 | 23 29.8 | 59 32.6 | 22 30.2 | 139 0.3 | -3 42.0 |
| | 21 | 150 23.9 | 157 1.1 | 3 42.5 | 32 17.8 | 23 29.6 | 74 34.6 | 22 30.3 | 154 2.5 | -3 41.9 |
| | 22 | 165 26.4 | 172 4.0 | 3 41.8 | 47 19.3 | 23 29.4 | 89 36.7 | 22 30.3 | 169 4.7 | -3 41.8 |
| | 23 | 180 28.9 | 187 6.8 | 3 41.0 | 62 20.8 | 23 29.1 | 104 38.7 | 22 30.4 | 184 6.9 | -3 41.7 |
| | | MP 11:01 | *v* 2.9 | *d* -0.8 | *v* 1.5 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.4 |
| Achernar | 335 20.6 | -57 6.6 |
| Acrux | 172 59.3 | -63 14.4 |
| Adhara | 255 5.7 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.3 |
| Alkaid | 152 51.4 | 49 11.1 |
| Alnair | 27 33.0 | -46 50.3 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.3 | 26 37.5 |
| Alpheratz | 357 35.0 | 29 13.6 |
| Altair | 61 59.8 | 8 55.9 |
| Ankaa | 353 7.4 | -42 10.2 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 9.2 | -69 4.2 |
| Avior | 234 14.5 | -59 35.7 |
| Bellatrix | 278 22.8 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.6 |
| Canopus | 263 52.4 | -52 42.8 |
| Capella | 280 21.8 | 46 1.5 |
| Deneb | 49 25.9 | 45 21.9 |
| Denebola | 182 24.4 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.2 | 61 37.0 |
| Elnath | 278 1.8 | 28 37.8 |
| Eltanin | 90 42.0 | 51 28.7 |
| Enif | 33 38.8 | 9 59.3 |
| Fomalhaut | 15 14.6 | -29 29.3 |
| Gacrux | 171 50.9 | -57 15.4 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.2 | -60 29.7 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.2 | -34 22.3 |
| Kochab | 137 18.7 | 74 2.8 |
| Markab | 13 30.0 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.0 | -36 29.7 |
| Miaplacidus | 221 37.8 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.5 | -26 15.9 |
| Peacock | 53 5.6 | -56 39.1 |
| Pollux | 243 17.0 | 27 58.0 |
| Procyon | 244 50.6 | 5 9.5 |
| Rasalhague | 95 58.3 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.5 |
| Rigil Kent. | 139 39.5 | -60 56.3 |
| Sabik | 102 2.4 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.5 |
| Shaula | 96 10.0 | -37 7.3 |
| Sirius | 258 26.1 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.0 | -43 32.3 |
| Vega | 80 33.1 | 38 48.1 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 04 Fri | SHA | MP |
|---|---|---|
| Venus | 6 3.4 | 10:43 |
| Mars | 242 58.1 | 18:56 |
| Jupiter | 284 41.0 | 16:09 |
| Saturn | 3 57.5 | 10:52 |

| 05 Sat | SHA | MP |
|---|---|---|
| Venus | 6 17.3 | 10:39 |
| Mars | 242 36.1 | 18:53 |
| Jupiter | 284 30.6 | 16:06 |
| Saturn | 3 50.9 | 10:49 |

| 06 Sun | SHA | MP |
|---|---|---|
| Venus | 6 28.9 | 10:34 |
| Mars | 242 13.7 | 18:51 |
| Jupiter | 284 20.0 | 16:02 |
| Saturn | 3 44.3 | 10:45 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **04 Friday** | 0 | 179 14.4 | 5 42.3 | 101 48.1 | 4.2 | 28 41.9 | -0.5 | 58.5 |
| | 1 | 194 14.6 | 5 43.3 | 116 11.3 | 4.3 | 28 41.4 | -0.7 | 58.4 |
| | 2 | 209 14.8 | 5 44.3 | 130 34.6 | 4.3 | 28 40.7 | -0.8 | 58.4 |
| | 3 | 224 15.0 | 5 45.2 | 144 57.9 | 4.4 | 28 39.9 | -1.0 | 58.4 |
| | 4 | 239 15.2 | 5 46.2 | 159 21.3 | 4.5 | 28 38.9 | -1.2 | 58.3 |
| | 5 | 254 15.4 | 5 47.1 | 173 44.8 | 4.5 | 28 37.7 | -1.4 | 58.3 |
| | 6 | 269 15.5 | 5 48.1 | 188 8.4 | 4.6 | 28 36.3 | -1.6 | 58.3 |
| | 7 | 284 15.7 | 5 49.0 | 202 32.0 | 4.7 | 28 34.7 | -1.8 | 58.2 |
| | 8 | 299 15.9 | 5 50.0 | 216 55.6 | 4.7 | 28 32.9 | -1.9 | 58.2 |
| | 9 | 314 16.1 | 5 50.9 | 231 19.4 | 4.8 | 28 31.0 | -2.1 | 58.2 |
| | 10 | 329 16.3 | 5 51.9 | 245 43.2 | 4.9 | 28 28.9 | -2.3 | 58.1 |
| | 11 | 344 16.4 | 5 52.8 | 260 7.1 | 5.0 | 28 26.6 | -2.5 | 58.1 |
| | 12 | 359 16.6 | 5 53.8 | 274 31.0 | 5.0 | 28 24.1 | -2.7 | 58.1 |
| | 13 | 14 16.8 | 5 54.7 | 288 55.1 | 5.1 | 28 21.4 | -2.8 | 58.0 |
| | 14 | 29 17.0 | 5 55.7 | 303 19.2 | 5.2 | 28 18.6 | -3.0 | 58.0 |
| | 15 | 44 17.2 | 5 56.6 | 317 43.4 | 5.3 | 28 15.6 | -3.2 | 57.9 |
| | 16 | 59 17.3 | 5 57.6 | 332 7.7 | 5.4 | 28 12.4 | -3.3 | 57.9 |
| | 17 | 74 17.5 | 5 58.5 | 346 32.1 | 5.5 | 28 9.1 | -3.5 | 57.9 |
| | 18 | 89 17.7 | 5 59.5 | 0 56.6 | 5.6 | 28 5.6 | -3.7 | 57.8 |
| | 19 | 104 17.9 | 6 0.4 | 15 21.1 | 5.6 | 28 1.9 | -3.9 | 57.8 |
| | 20 | 119 18.1 | 6 1.4 | 29 45.8 | 5.7 | 27 58.0 | -4.0 | 57.8 |
| | 21 | 134 18.2 | 6 2.3 | 44 10.5 | 5.8 | 27 54.0 | -4.2 | 57.7 |
| | 22 | 149 18.4 | 6 3.3 | 58 35.3 | 5.9 | 27 49.8 | -4.4 | 57.7 |
| | 23 | 164 18.6 | 6 4.2 | 73 0.3 | 6.0 | 27 45.4 | -4.5 | 57.7 |
| | *v* | 0.2 | SD 16.0 | *d* 1.0 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **05 Saturday** | 0 | 179 18.8 | 6 5.2 | 87 25.3 | 6.1 | 27 40.9 | -4.7 | 57.6 |
| | 1 | 194 19.0 | 6 6.1 | 101 50.4 | 6.2 | 27 36.2 | -4.8 | 57.6 |
| | 2 | 209 19.1 | 6 7.1 | 116 15.6 | 6.3 | 27 31.4 | -5.0 | 57.6 |
| | 3 | 224 19.3 | 6 8.0 | 130 40.9 | 6.4 | 27 26.4 | -5.2 | 57.5 |
| | 4 | 239 19.5 | 6 9.0 | 145 6.3 | 6.5 | 27 21.2 | -5.3 | 57.5 |
| | 5 | 254 19.7 | 6 9.9 | 159 31.9 | 6.6 | 27 15.9 | -5.5 | 57.5 |
| | 6 | 269 19.8 | 6 10.9 | 173 57.5 | 6.7 | 27 10.5 | -5.6 | 57.4 |
| | 7 | 284 20.0 | 6 11.8 | 188 23.2 | 6.8 | 27 4.8 | -5.8 | 57.4 |
| | 8 | 299 20.2 | 6 12.8 | 202 49.0 | 6.9 | 26 59.1 | -5.9 | 57.4 |
| | 9 | 314 20.4 | 6 13.7 | 217 15.0 | 7.0 | 26 53.1 | -6.1 | 57.3 |
| | 10 | 329 20.6 | 6 14.7 | 231 41.0 | 7.2 | 26 47.1 | -6.2 | 57.3 |
| | 11 | 344 20.7 | 6 15.6 | 246 7.2 | 7.3 | 26 40.8 | -6.4 | 57.3 |
| | 12 | 359 20.9 | 6 16.6 | 260 33.4 | 7.4 | 26 34.5 | -6.5 | 57.2 |
| | 13 | 14 21.1 | 6 17.5 | 274 59.8 | 7.5 | 26 28.0 | -6.7 | 57.2 |
| | 14 | 29 21.3 | 6 18.5 | 289 26.3 | 7.6 | 26 21.3 | -6.8 | 57.2 |
| | 15 | 44 21.5 | 6 19.4 | 303 52.9 | 7.7 | 26 14.5 | -6.9 | 57.1 |
| | 16 | 59 21.6 | 6 20.3 | 318 19.6 | 7.8 | 26 7.6 | -7.1 | 57.1 |
| | 17 | 74 21.8 | 6 21.3 | 332 46.4 | 7.9 | 26 0.5 | -7.2 | 57.1 |
| | 18 | 89 22.0 | 6 22.2 | 347 13.3 | 8.0 | 25 53.3 | -7.3 | 57.0 |
| | 19 | 104 22.2 | 6 23.2 | 1 40.3 | 8.1 | 25 45.9 | -7.5 | 57.0 |
| | 20 | 119 22.3 | 6 24.1 | 16 7.5 | 8.3 | 25 38.4 | -7.6 | 57.0 |
| | 21 | 134 22.5 | 6 25.1 | 30 34.8 | 8.4 | 25 30.8 | -7.7 | 56.9 |
| | 22 | 149 22.7 | 6 26.0 | 45 2.1 | 8.5 | 25 23.1 | -7.9 | 56.9 |
| | 23 | 164 22.9 | 6 27.0 | 59 29.6 | 8.6 | 25 15.2 | -8.0 | 56.9 |
| | *v* | 0.2 | SD 16.0 | *d* 0.9 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **06 Sunday** | 0 | 179 23.1 | 6 27.9 | 73 57.2 | 8.7 | 25 7.2 | -8.1 | 56.8 |
| | 1 | 194 23.2 | 6 28.9 | 88 24.9 | 8.8 | 24 59.1 | -8.3 | 56.8 |
| | 2 | 209 23.4 | 6 29.8 | 102 52.8 | 8.9 | 24 50.8 | -8.4 | 56.8 |
| | 3 | 224 23.6 | 6 30.7 | 117 20.7 | 9.1 | 24 42.4 | -8.5 | 56.7 |
| | 4 | 239 23.8 | 6 31.7 | 131 48.8 | 9.2 | 24 33.9 | -8.6 | 56.7 |
| | 5 | 254 23.9 | 6 32.6 | 146 17.0 | 9.3 | 24 25.3 | -8.7 | 56.7 |
| | 6 | 269 24.1 | 6 33.6 | 160 45.2 | 9.4 | 24 16.6 | -8.9 | 56.7 |
| | 7 | 284 24.3 | 6 34.5 | 175 13.6 | 9.5 | 24 7.7 | -9.0 | 56.6 |
| | 8 | 299 24.5 | 6 35.5 | 189 42.2 | 9.6 | 23 58.7 | -9.1 | 56.6 |
| | 9 | 314 24.7 | 6 36.4 | 204 10.8 | 9.7 | 23 49.6 | -9.2 | 56.6 |
| | 10 | 329 24.8 | 6 37.3 | 218 39.5 | 9.9 | 23 40.4 | -9.3 | 56.5 |
| | 11 | 344 25.0 | 6 38.3 | 233 8.4 | 10.0 | 23 31.1 | -9.4 | 56.5 |
| | 12 | 359 25.2 | 6 39.2 | 247 37.4 | 10.1 | 23 21.7 | -9.5 | 56.5 |
| | 13 | 14 25.4 | 6 40.2 | 262 6.5 | 10.2 | 23 12.1 | -9.6 | 56.4 |
| | 14 | 29 25.5 | 6 41.1 | 276 35.7 | 10.3 | 23 2.5 | -9.8 | 56.4 |
| | 15 | 44 25.7 | 6 42.1 | 291 5.0 | 10.4 | 22 52.7 | -9.9 | 56.4 |
| | 16 | 59 25.9 | 6 43.0 | 305 34.4 | 10.5 | 22 42.9 | -10.0 | 56.4 |
| | 17 | 74 26.1 | 6 43.9 | 320 3.9 | 10.6 | 22 32.9 | -10.1 | 56.3 |
| | 18 | 89 26.2 | 6 44.9 | 334 33.6 | 10.8 | 22 22.9 | -10.2 | 56.3 |
| | 19 | 104 26.4 | 6 45.8 | 349 3.3 | 10.9 | 22 12.7 | -10.3 | 56.3 |
| | 20 | 119 26.6 | 6 46.8 | 3 33.2 | 11.0 | 22 2.4 | -10.4 | 56.2 |
| | 21 | 134 26.8 | 6 47.7 | 18 3.2 | 11.1 | 21 52.1 | -10.5 | 56.2 |
| | 22 | 149 26.9 | 6 48.6 | 32 33.2 | 11.2 | 21 41.6 | -10.5 | 56.2 |
| | 23 | 164 27.1 | 6 49.6 | 47 3.4 | 11.3 | 21 31.1 | -10.6 | 56.2 |
| | *v* | 0.2 | SD 16.0 | *d* 0.9 | | SD 15.5 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 00:44 | 03:21 | 04:39 | 19:30 | 20:50 | //// |
| 70 | 01:53 | 03:40 | 04:48 | 19:20 | 20:30 | 22:21 |
| 68 | 02:28 | 03:55 | 04:56 | 19:13 | 20:14 | 21:43 |
| 66 | 02:52 | 04:07 | 05:02 | 19:06 | 20:02 | 21:18 |
| 64 | 03:11 | 04:17 | 05:07 | 19:00 | 19:51 | 20:58 |
| 62 | 03:25 | 04:25 | 05:12 | 18:56 | 19:43 | 20:43 |
| 60 | 03:38 | 04:32 | 05:16 | 18:52 | 19:35 | 20:31 |
| 58 | 03:48 | 04:39 | 05:19 | 18:48 | 19:29 | 20:20 |
| 56 | 03:57 | 04:44 | 05:22 | 18:45 | 19:23 | 20:11 |
| 54 | 04:04 | 04:49 | 05:25 | 18:42 | 19:18 | 20:03 |
| 52 | 04:11 | 04:53 | 05:28 | 18:39 | 19:14 | 19:56 |
| 50 | 04:17 | 04:57 | 05:30 | 18:37 | 19:10 | 19:50 |
| 45 | 04:29 | 05:05 | 05:35 | 18:32 | 19:02 | 19:37 |
| 40 | 04:39 | 05:12 | 05:39 | 18:27 | 18:55 | 19:28 |
| 35 | 04:47 | 05:17 | 05:43 | 18:24 | 18:49 | 19:20 |
| 30 | 04:53 | 05:22 | 05:46 | 18:21 | 18:45 | 19:13 |
| 20 | 05:03 | 05:29 | 05:51 | 18:15 | 18:37 | 19:03 |
| 10 | 05:10 | 05:34 | 05:55 | 18:10 | 18:32 | 18:56 |
| 0 | 05:15 | 05:39 | 06:00 | 18:06 | 18:27 | 18:51 |
| -10 | 05:18 | 05:43 | 06:04 | 18:02 | 18:23 | 18:47 |
| -20 | 05:20 | 05:46 | 06:08 | 17:58 | 18:20 | 18:45 |
| -30 | 05:21 | 05:49 | 06:13 | 17:53 | 18:17 | 18:44 |
| -35 | 05:21 | 05:50 | 06:15 | 17:50 | 18:15 | 18:45 |
| -40 | 05:20 | 05:51 | 06:18 | 17:47 | 18:14 | 18:45 |
| -45 | 05:18 | 05:52 | 06:22 | 17:43 | 18:13 | 18:47 |
| -50 | 05:16 | 05:53 | 06:26 | 17:39 | 18:12 | 18:49 |
| -52 | 05:15 | 05:54 | 06:27 | 17:37 | 18:11 | 18:50 |
| -54 | 05:13 | 05:54 | 06:29 | 17:35 | 18:11 | 18:51 |
| -56 | 05:11 | 05:54 | 06:32 | 17:33 | 18:10 | 18:53 |
| -58 | 05:09 | 05:55 | 06:34 | 17:31 | 18:10 | 18:55 |
| -60 | 05:07 | 05:55 | 06:37 | 17:28 | 18:09 | 18:57 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **04** | **05** | **06** | **04** | **05** | **06** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | 07:42 | | | 07:11 |
| 64 | | | 09:07 | | | 05:45 |
| 62 | | 07:38 | 09:44 | | 05:20 | 05:07 |
| 60 | 06:50 | 08:25 | 10:10 | 04:03 | 04:32 | 04:41 |
| 58 | 07:31 | 08:56 | 10:30 | 03:23 | 04:01 | 04:20 |
| 56 | 07:59 | 09:19 | 10:47 | 02:55 | 03:38 | 04:02 |
| 54 | 08:21 | 09:37 | 11:01 | 02:33 | 03:19 | 03:47 |
| 52 | 08:39 | 09:53 | 11:14 | 02:15 | 03:03 | 03:35 |
| 50 | 08:54 | 10:07 | 11:25 | 01:59 | 02:49 | 03:23 |
| 45 | 09:25 | 10:35 | 11:47 | 01:28 | 02:20 | 02:59 |
| 40 | 09:49 | 10:56 | 12:05 | 01:04 | 01:58 | 02:40 |
| 35 | 10:09 | 11:14 | 12:21 | 00:44 | 01:39 | 02:24 |
| 30 | 10:26 | 11:30 | 12:34 | 00:27 | 01:23 | 02:10 |
| 20 | 10:54 | 11:56 | 12:56 | –:– | 00:56 | 01:46 |
| 10 | 11:19 | 12:19 | 13:15 | –:– | 00:32 | 01:26 |
| 0 | 11:42 | 12:40 | 13:33 | –:– | 00:10 | 01:06 |
| -10 | 12:05 | 13:01 | 13:51 | 23:48 | –:– | 00:46 |
| -20 | 12:29 | 13:23 | 14:10 | 23:24 | –:– | 00:25 |
| -30 | 12:58 | 13:49 | 14:32 | 22:56 | –:– | 00:01 |
| -35 | 13:14 | 14:04 | 14:45 | 22:40 | 23:46 | –:– |
| -40 | 13:34 | 14:22 | 14:59 | 22:21 | 23:29 | –:– |
| -45 | 13:58 | 14:43 | 15:17 | 21:57 | 23:09 | –:– |
| -50 | 14:29 | 15:10 | 15:38 | 21:27 | 22:43 | –:– |
| -52 | 14:44 | 15:23 | 15:48 | 21:12 | 22:31 | 23:52 |
| -54 | 15:02 | 15:37 | 15:59 | 20:54 | 22:16 | 23:42 |
| -56 | 15:23 | 15:55 | 16:12 | 20:33 | 22:00 | 23:29 |
| -58 | 15:50 | 16:15 | 16:27 | 20:07 | 21:39 | 23:15 |
| -60 | 16:28 | 16:42 | 16:45 | 19:28 | 21:14 | 22:58 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **04** | 03:02 | 02:54 | 12:03 | 17:56 | 05:26 | 6 | 38 |
| **05** | 02:45 | 02:36 | 12:03 | 18:53 | 06:25 | 7 | 49 |
| **06** | 02:28 | 02:19 | 12:02 | 19:45 | 07:20 | 8 | 60 |

## 2025 April 07, 08, 09 (Mon, Tue, Wed)

| | | Aries | Venus -4.5 | | Mars 0.6 | | Jupiter -2.1 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 07 Monday | 0 | 195 31.3 | 202 9.6 | 3 40.3 | 77 22.3 | 23 28.9 | 119 40.7 | 22 30.4 | 199 9.1 | -3 41.5 |
| | 1 | 210 33.8 | 217 12.4 | 3 39.5 | 92 23.8 | 23 28.7 | 134 42.7 | 22 30.5 | 214 11.3 | -3 41.4 |
| | 2 | 225 36.2 | 232 15.2 | 3 38.8 | 107 25.3 | 23 28.4 | 149 44.7 | 22 30.5 | 229 13.5 | -3 41.3 |
| | 3 | 240 38.7 | 247 18.0 | 3 38.1 | 122 26.8 | 23 28.2 | 164 46.7 | 22 30.6 | 244 15.7 | -3 41.2 |
| | 4 | 255 41.2 | 262 20.8 | 3 37.3 | 137 28.3 | 23 28.0 | 179 48.8 | 22 30.6 | 259 17.9 | -3 41.1 |
| | 5 | 270 43.6 | 277 23.6 | 3 36.6 | 152 29.8 | 23 27.8 | 194 50.8 | 22 30.7 | 274 20.1 | -3 41.0 |
| | 6 | 285 46.1 | 292 26.4 | 3 35.8 | 167 31.4 | 23 27.5 | 209 52.8 | 22 30.7 | 289 22.3 | -3 40.9 |
| | 7 | 300 48.6 | 307 29.1 | 3 35.1 | 182 32.9 | 23 27.3 | 224 54.8 | 22 30.8 | 304 24.5 | -3 40.8 |
| | 8 | 315 51.0 | 322 31.9 | 3 34.4 | 197 34.4 | 23 27.1 | 239 56.8 | 22 30.8 | 319 26.7 | -3 40.6 |
| | 9 | 330 53.5 | 337 34.7 | 3 33.6 | 212 35.9 | 23 26.8 | 254 58.8 | 22 30.8 | 334 28.8 | -3 40.5 |
| | 10 | 345 56.0 | 352 37.5 | 3 32.9 | 227 37.4 | 23 26.6 | 270 0.9 | 22 30.9 | 349 31.0 | -3 40.4 |
| | 11 | 0 58.4 | 7 40.2 | 3 32.2 | 242 38.9 | 23 26.4 | 285 2.9 | 22 30.9 | 4 33.2 | -3 40.3 |
| | 12 | 16 0.9 | 22 43.0 | 3 31.4 | 257 40.4 | 23 26.2 | 300 4.9 | 22 31.0 | 19 35.4 | -3 40.2 |
| | 13 | 31 3.3 | 37 45.7 | 3 30.7 | 272 41.9 | 23 25.9 | 315 6.9 | 22 31.0 | 34 37.6 | -3 40.1 |
| | 14 | 46 5.8 | 52 48.5 | 3 30.0 | 287 43.4 | 23 25.7 | 330 8.9 | 22 31.1 | 49 39.8 | -3 40.0 |
| | 15 | 61 8.3 | 67 51.2 | 3 29.3 | 302 44.9 | 23 25.5 | 345 10.9 | 22 31.1 | 64 42.0 | -3 39.9 |
| | 16 | 76 10.7 | 82 54.0 | 3 28.5 | 317 46.4 | 23 25.2 | 0 13.0 | 22 31.2 | 79 44.2 | -3 39.8 |
| | 17 | 91 13.2 | 97 56.7 | 3 27.8 | 332 47.9 | 23 25.0 | 15 15.0 | 22 31.2 | 94 46.4 | -3 39.6 |
| | 18 | 106 15.7 | 112 59.5 | 3 27.1 | 347 49.4 | 23 24.8 | 30 17.0 | 22 31.3 | 109 48.6 | -3 39.5 |
| | 19 | 121 18.1 | 128 2.2 | 3 26.4 | 2 50.9 | 23 24.5 | 45 19.0 | 22 31.3 | 124 50.8 | -3 39.4 |
| | 20 | 136 20.6 | 143 4.9 | 3 25.7 | 17 52.4 | 23 24.3 | 60 21.0 | 22 31.4 | 139 53.0 | -3 39.3 |
| | 21 | 151 23.1 | 158 7.7 | 3 24.9 | 32 53.9 | 23 24.1 | 75 23.0 | 22 31.4 | 154 55.2 | -3 39.2 |
| | 22 | 166 25.5 | 173 10.4 | 3 24.2 | 47 55.4 | 23 23.8 | 90 25.0 | 22 31.4 | 169 57.4 | -3 39.1 |
| | 23 | 181 28.0 | 188 13.1 | 3 23.5 | 62 56.9 | 23 23.6 | 105 27.0 | 22 31.5 | 184 59.6 | -3 39.0 |
| | | MP 10:57 | *v* 2.8 | *d* -0.7 | *v* 1.5 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Tuesday | 0 | 196 30.5 | 203 15.8 | 3 22.8 | 77 58.4 | 23 23.4 | 120 29.1 | 22 31.5 | 200 1.7 | -3 38.9 |
| | 1 | 211 32.9 | 218 18.5 | 3 22.1 | 92 59.9 | 23 23.1 | 135 31.1 | 22 31.6 | 215 3.9 | -3 38.7 |
| | 2 | 226 35.4 | 233 21.2 | 3 21.4 | 108 1.4 | 23 22.9 | 150 33.1 | 22 31.6 | 230 6.1 | -3 38.6 |
| | 3 | 241 37.8 | 248 23.9 | 3 20.7 | 123 2.9 | 23 22.7 | 165 35.1 | 22 31.7 | 245 8.3 | -3 38.5 |
| | 4 | 256 40.3 | 263 26.6 | 3 20.0 | 138 4.4 | 23 22.4 | 180 37.1 | 22 31.7 | 260 10.5 | -3 38.4 |
| | 5 | 271 42.8 | 278 29.3 | 3 19.3 | 153 5.9 | 23 22.2 | 195 39.1 | 22 31.8 | 275 12.7 | -3 38.3 |
| | 6 | 286 45.2 | 293 32.0 | 3 18.6 | 168 7.4 | 23 22.0 | 210 41.1 | 22 31.8 | 290 14.9 | -3 38.2 |
| | 7 | 301 47.7 | 308 34.7 | 3 17.9 | 183 8.9 | 23 21.7 | 225 43.1 | 22 31.9 | 305 17.1 | -3 38.1 |
| | 8 | 316 50.2 | 323 37.4 | 3 17.2 | 198 10.4 | 23 21.5 | 240 45.2 | 22 31.9 | 320 19.3 | -3 38.0 |
| | 9 | 331 52.6 | 338 40.1 | 3 16.5 | 213 11.9 | 23 21.3 | 255 47.2 | 22 32.0 | 335 21.5 | -3 37.8 |
| | 10 | 346 55.1 | 353 42.7 | 3 15.8 | 228 13.4 | 23 21.0 | 270 49.2 | 22 32.0 | 350 23.7 | -3 37.7 |
| | 11 | 1 57.6 | 8 45.4 | 3 15.1 | 243 14.9 | 23 20.8 | 285 51.2 | 22 32.1 | 5 25.9 | -3 37.6 |
| | 12 | 17 0.0 | 23 48.1 | 3 14.4 | 258 16.4 | 23 20.6 | 300 53.2 | 22 32.1 | 20 28.1 | -3 37.5 |
| | 13 | 32 2.5 | 38 50.7 | 3 13.7 | 273 17.9 | 23 20.3 | 315 55.2 | 22 32.1 | 35 30.3 | -3 37.4 |
| | 14 | 47 4.9 | 53 53.4 | 3 13.0 | 288 19.3 | 23 20.1 | 330 57.2 | 22 32.2 | 50 32.5 | -3 37.3 |
| | 15 | 62 7.4 | 68 56.1 | 3 12.3 | 303 20.8 | 23 19.9 | 345 59.2 | 22 32.2 | 65 34.7 | -3 37.2 |
| | 16 | 77 9.9 | 83 58.7 | 3 11.6 | 318 22.3 | 23 19.6 | 1 1.2 | 22 32.3 | 80 36.8 | -3 37.1 |
| | 17 | 92 12.3 | 99 1.4 | 3 10.9 | 333 23.8 | 23 19.4 | 16 3.2 | 22 32.3 | 95 39.0 | -3 37.0 |
| | 18 | 107 14.8 | 114 4.0 | 3 10.2 | 348 25.3 | 23 19.2 | 31 5.3 | 22 32.4 | 110 41.2 | -3 36.8 |
| | 19 | 122 17.3 | 129 6.6 | 3 9.6 | 3 26.8 | 23 18.9 | 46 7.3 | 22 32.4 | 125 43.4 | -3 36.7 |
| | 20 | 137 19.7 | 144 9.3 | 3 8.9 | 18 28.3 | 23 18.7 | 61 9.3 | 22 32.5 | 140 45.6 | -3 36.6 |
| | 21 | 152 22.2 | 159 11.9 | 3 8.2 | 33 29.8 | 23 18.5 | 76 11.3 | 22 32.5 | 155 47.8 | -3 36.5 |
| | 22 | 167 24.7 | 174 14.5 | 3 7.5 | 48 31.3 | 23 18.2 | 91 13.3 | 22 32.6 | 170 50.0 | -3 36.4 |
| | 23 | 182 27.1 | 189 17.1 | 3 6.8 | 63 32.7 | 23 18.0 | 106 15.3 | 22 32.6 | 185 52.2 | -3 36.3 |
| | | MP 10:53 | *v* 2.7 | *d* -0.7 | *v* 1.5 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Wednesday | 0 | 197 29.6 | 204 19.8 | 3 6.2 | 78 34.2 | 23 17.7 | 121 17.3 | 22 32.7 | 200 54.4 | -3 36.2 |
| | 1 | 212 32.1 | 219 22.4 | 3 5.5 | 93 35.7 | 23 17.5 | 136 19.3 | 22 32.7 | 215 56.6 | -3 36.1 |
| | 2 | 227 34.5 | 234 25.0 | 3 4.8 | 108 37.2 | 23 17.3 | 151 21.3 | 22 32.7 | 230 58.8 | -3 36.0 |
| | 3 | 242 37.0 | 249 27.6 | 3 4.1 | 123 38.7 | 23 17.0 | 166 23.3 | 22 32.8 | 246 1.0 | -3 35.8 |
| | 4 | 257 39.4 | 264 30.2 | 3 3.5 | 138 40.2 | 23 16.8 | 181 25.3 | 22 32.8 | 261 3.2 | -3 35.7 |
| | 5 | 272 41.9 | 279 32.8 | 3 2.8 | 153 41.7 | 23 16.6 | 196 27.3 | 22 32.9 | 276 5.4 | -3 35.6 |
| | 6 | 287 44.4 | 294 35.4 | 3 2.1 | 168 43.1 | 23 16.3 | 211 29.4 | 22 32.9 | 291 7.6 | -3 35.5 |
| | 7 | 302 46.8 | 309 38.0 | 3 1.5 | 183 44.6 | 23 16.1 | 226 31.4 | 22 33.0 | 306 9.8 | -3 35.4 |
| | 8 | 317 49.3 | 324 40.6 | 3 0.8 | 198 46.1 | 23 15.9 | 241 33.4 | 22 33.0 | 321 12.0 | -3 35.3 |
| | 9 | 332 51.8 | 339 43.2 | 3 0.1 | 213 47.6 | 23 15.6 | 256 35.4 | 22 33.1 | 336 14.2 | -3 35.2 |
| | 10 | 347 54.2 | 354 45.7 | 2 59.5 | 228 49.1 | 23 15.4 | 271 37.4 | 22 33.1 | 351 16.3 | -3 35.1 |
| | 11 | 2 56.7 | 9 48.3 | 2 58.8 | 243 50.6 | 23 15.1 | 286 39.4 | 22 33.2 | 6 18.5 | -3 35.0 |
| | 12 | 17 59.2 | 24 50.9 | 2 58.2 | 258 52.0 | 23 14.9 | 301 41.4 | 22 33.2 | 21 20.7 | -3 34.8 |
| | 13 | 33 1.6 | 39 53.5 | 2 57.5 | 273 53.5 | 23 14.7 | 316 43.4 | 22 33.3 | 36 22.9 | -3 34.7 |
| | 14 | 48 4.1 | 54 56.0 | 2 56.9 | 288 55.0 | 23 14.4 | 331 45.4 | 22 33.3 | 51 25.1 | -3 34.6 |
| | 15 | 63 6.6 | 69 58.6 | 2 56.2 | 303 56.5 | 23 14.2 | 346 47.4 | 22 33.3 | 66 27.3 | -3 34.5 |
| | 16 | 78 9.0 | 85 1.1 | 2 55.5 | 318 58.0 | 23 13.9 | 1 49.4 | 22 33.4 | 81 29.5 | -3 34.4 |
| | 17 | 93 11.5 | 100 3.7 | 2 54.9 | 333 59.4 | 23 13.7 | 16 51.4 | 22 33.4 | 96 31.7 | -3 34.3 |
| | 18 | 108 13.9 | 115 6.2 | 2 54.3 | 349 0.9 | 23 13.5 | 31 53.4 | 22 33.5 | 111 33.9 | -3 34.2 |
| | 19 | 123 16.4 | 130 8.8 | 2 53.6 | 4 2.4 | 23 13.2 | 46 55.4 | 22 33.5 | 126 36.1 | -3 34.1 |
| | 20 | 138 18.9 | 145 11.3 | 2 53.0 | 19 3.9 | 23 13.0 | 61 57.4 | 22 33.6 | 141 38.3 | -3 34.0 |
| | 21 | 153 21.3 | 160 13.9 | 2 52.3 | 34 5.3 | 23 12.7 | 76 59.4 | 22 33.6 | 156 40.5 | -3 33.8 |
| | 22 | 168 23.8 | 175 16.4 | 2 51.7 | 49 6.8 | 23 12.5 | 92 1.4 | 22 33.7 | 171 42.7 | -3 33.7 |
| | 23 | 183 26.3 | 190 18.9 | 2 51.0 | 64 8.3 | 23 12.3 | 107 3.4 | 22 33.7 | 186 44.9 | -3 33.6 |
| | | MP 10:50 | *v* 2.6 | *d* -0.7 | *v* 1.5 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.3 |
| Achernar | 335 20.6 | -57 6.6 |
| Acrux | 172 59.3 | -63 14.5 |
| Adhara | 255 5.7 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.3 |
| Alkaid | 152 51.3 | 49 11.1 |
| Alnair | 27 33.0 | -46 50.2 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.3 | 26 37.5 |
| Alpheratz | 357 34.9 | 29 13.6 |
| Altair | 61 59.8 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.2 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 9.2 | -69 4.2 |
| Avior | 234 14.5 | -59 35.7 |
| Bellatrix | 278 22.8 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.6 |
| Canopus | 263 52.4 | -52 42.8 |
| Capella | 280 21.8 | 46 1.5 |
| Deneb | 49 25.9 | 45 21.9 |
| Denebola | 182 24.4 | 14 25.7 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.2 | 61 37.0 |
| Elnath | 278 1.8 | 28 37.8 |
| Eltanin | 90 41.9 | 51 28.7 |
| Enif | 33 38.8 | 9 59.3 |
| Fomalhaut | 15 14.6 | -29 29.3 |
| Gacrux | 171 50.9 | -57 15.4 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.2 | -60 29.7 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.2 | -34 22.3 |
| Kochab | 137 18.7 | 74 2.9 |
| Markab | 13 30.0 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.0 | -36 29.7 |
| Miaplacidus | 221 37.9 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.5 | -26 15.9 |
| Peacock | 53 5.6 | -56 39.0 |
| Pollux | 243 17.0 | 27 58.0 |
| Procyon | 244 50.6 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.5 |
| Rigil Kent. | 139 39.5 | -60 56.4 |
| Sabik | 102 2.4 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.5 |
| Shaula | 96 9.9 | -37 7.3 |
| Sirius | 258 26.1 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.0 | -43 32.3 |
| Vega | 80 33.0 | 38 48.1 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 07 Mon | SHA | MP |
|---|---|---|
| Venus | 6 38.3 | 10:29 |
| Mars | 241 51.0 | 18:49 |
| Jupiter | 284 9.4 | 15:59 |
| Saturn | 3 37.8 | 10:42 |

| 08 Tue | SHA | MP |
|---|---|---|
| Venus | 6 45.4 | 10:25 |
| Mars | 241 28.0 | 18:46 |
| Jupiter | 283 58.6 | 15:56 |
| Saturn | 3 31.3 | 10:38 |

| 09 Wed | SHA | MP |
|---|---|---|
| Venus | 6 50.2 | 10:21 |
| Mars | 241 4.6 | 18:44 |
| Jupiter | 283 47.7 | 15:53 |
| Saturn | 3 24.8 | 10:35 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **07 Monday** | 0 | 179 27.3 | 6 50.5 | 61 33.7 | 11.4 | 21 20.4 | -10.7 | 56.1 |
| | 1 | 194 27.5 | 6 51.5 | 76 4.1 | 11.5 | 21 9.7 | -10.8 | 56.1 |
| | 2 | 209 27.6 | 6 52.4 | 90 34.7 | 11.6 | 20 58.9 | -10.9 | 56.1 |
| | 3 | 224 27.8 | 6 53.3 | 105 5.3 | 11.7 | 20 48.0 | -11.0 | 56.1 |
| | 4 | 239 28.0 | 6 54.3 | 119 36.0 | 11.8 | 20 37.0 | -11.1 | 56.0 |
| | 5 | 254 28.2 | 6 55.2 | 134 6.8 | 11.9 | 20 25.9 | -11.2 | 56.0 |
| | 6 | 269 28.3 | 6 56.2 | 148 37.8 | 12.0 | 20 14.7 | -11.3 | 56.0 |
| | 7 | 284 28.5 | 6 57.1 | 163 8.8 | 12.1 | 20 3.5 | -11.3 | 55.9 |
| | 8 | 299 28.7 | 6 58.0 | 177 39.9 | 12.2 | 19 52.1 | -11.4 | 55.9 |
| | 9 | 314 28.9 | 6 59.0 | 192 11.2 | 12.3 | 19 40.7 | -11.5 | 55.9 |
| | 10 | 329 29.0 | 6 59.9 | 206 42.5 | 12.4 | 19 29.2 | -11.6 | 55.9 |
| | 11 | 344 29.2 | 7 0.9 | 221 14.0 | 12.5 | 19 17.7 | -11.7 | 55.8 |
| | 12 | 359 29.4 | 7 1.8 | 235 45.5 | 12.6 | 19 6.0 | -11.7 | 55.8 |
| | 13 | 14 29.6 | 7 2.7 | 250 17.2 | 12.7 | 18 54.3 | -11.8 | 55.8 |
| | 14 | 29 29.7 | 7 3.7 | 264 48.9 | 12.8 | 18 42.5 | -11.9 | 55.8 |
| | 15 | 44 29.9 | 7 4.6 | 279 20.7 | 12.9 | 18 30.6 | -11.9 | 55.7 |
| | 16 | 59 30.1 | 7 5.5 | 293 52.7 | 13.0 | 18 18.6 | -12.0 | 55.7 |
| | 17 | 74 30.3 | 7 6.5 | 308 24.7 | 13.1 | 18 6.6 | -12.1 | 55.7 |
| | 18 | 89 30.4 | 7 7.4 | 322 56.8 | 13.2 | 17 54.5 | -12.2 | 55.7 |
| | 19 | 104 30.6 | 7 8.3 | 337 29.0 | 13.3 | 17 42.4 | -12.2 | 55.6 |
| | 20 | 119 30.8 | 7 9.3 | 352 1.3 | 13.4 | 17 30.1 | -12.3 | 55.6 |
| | 21 | 134 31.0 | 7 10.2 | 6 33.7 | 13.5 | 17 17.9 | -12.4 | 55.6 |
| | 22 | 149 31.1 | 7 11.2 | 21 6.2 | 13.6 | 17 5.5 | -12.4 | 55.6 |
| | 23 | 164 31.3 | 7 12.1 | 35 38.8 | 13.7 | 16 53.1 | -12.5 | 55.6 |
| | *v* | 0.2 | SD 16.0 | *d* 0.9 | | SD 15.3 | | |
| **08 Tuesday** | 0 | 179 31.5 | 7 13.0 | 50 11.4 | 13.8 | 16 40.6 | -12.5 | 55.5 |
| | 1 | 194 31.7 | 7 14.0 | 64 44.2 | 13.8 | 16 28.1 | -12.6 | 55.5 |
| | 2 | 209 31.8 | 7 14.9 | 79 17.0 | 13.9 | 16 15.5 | -12.7 | 55.5 |
| | 3 | 224 32.0 | 7 15.8 | 93 50.0 | 14.0 | 16 2.8 | -12.7 | 55.5 |
| | 4 | 239 32.2 | 7 16.8 | 108 23.0 | 14.1 | 15 50.1 | -12.8 | 55.4 |
| | 5 | 254 32.3 | 7 17.7 | 122 56.0 | 14.2 | 15 37.3 | -12.8 | 55.4 |
| | 6 | 269 32.5 | 7 18.6 | 137 29.2 | 14.3 | 15 24.5 | -12.9 | 55.4 |
| | 7 | 284 32.7 | 7 19.6 | 152 2.5 | 14.3 | 15 11.6 | -12.9 | 55.4 |
| | 8 | 299 32.9 | 7 20.5 | 166 35.8 | 14.4 | 14 58.6 | -13.0 | 55.4 |
| | 9 | 314 33.0 | 7 21.4 | 181 9.2 | 14.5 | 14 45.6 | -13.0 | 55.3 |
| | 10 | 329 33.2 | 7 22.4 | 195 42.7 | 14.6 | 14 32.6 | -13.1 | 55.3 |
| | 11 | 344 33.4 | 7 23.3 | 210 16.3 | 14.6 | 14 19.5 | -13.1 | 55.3 |
| | 12 | 359 33.6 | 7 24.2 | 224 49.9 | 14.7 | 14 6.4 | -13.2 | 55.3 |
| | 13 | 14 33.7 | 7 25.2 | 239 23.6 | 14.8 | 13 53.2 | -13.2 | 55.2 |
| | 14 | 29 33.9 | 7 26.1 | 253 57.4 | 14.9 | 13 39.9 | -13.3 | 55.2 |
| | 15 | 44 34.1 | 7 27.0 | 268 31.3 | 14.9 | 13 26.6 | -13.3 | 55.2 |
| | 16 | 59 34.2 | 7 27.9 | 283 5.2 | 15.0 | 13 13.3 | -13.4 | 55.2 |
| | 17 | 74 34.4 | 7 28.9 | 297 39.2 | 15.1 | 12 59.9 | -13.4 | 55.2 |
| | 18 | 89 34.6 | 7 29.8 | 312 13.3 | 15.1 | 12 46.5 | -13.5 | 55.1 |
| | 19 | 104 34.8 | 7 30.7 | 326 47.4 | 15.2 | 12 33.1 | -13.5 | 55.1 |
| | 20 | 119 34.9 | 7 31.7 | 341 21.6 | 15.3 | 12 19.6 | -13.5 | 55.1 |
| | 21 | 134 35.1 | 7 32.6 | 355 55.9 | 15.3 | 12 6.0 | -13.6 | 55.1 |
| | 22 | 149 35.3 | 7 33.5 | 10 30.2 | 15.4 | 11 52.4 | -13.6 | 55.1 |
| | 23 | 164 35.4 | 7 34.5 | 25 4.6 | 15.5 | 11 38.8 | -13.7 | 55.1 |
| | *v* | 0.2 | SD 16.0 | *d* 0.9 | | SD 15.1 | | |
| **09 Wednesday** | 0 | 179 35.6 | 7 35.4 | 39 39.1 | 15.5 | 11 25.2 | -13.7 | 55.0 |
| | 1 | 194 35.8 | 7 36.3 | 54 13.6 | 15.6 | 11 11.5 | -13.7 | 55.0 |
| | 2 | 209 36.0 | 7 37.3 | 68 48.2 | 15.6 | 10 57.8 | -13.8 | 55.0 |
| | 3 | 224 36.1 | 7 38.2 | 83 22.9 | 15.7 | 10 44.0 | -13.8 | 55.0 |
| | 4 | 239 36.3 | 7 39.1 | 97 57.6 | 15.8 | 10 30.2 | -13.8 | 55.0 |
| | 5 | 254 36.5 | 7 40.0 | 112 32.3 | 15.8 | 10 16.4 | -13.9 | 54.9 |
| | 6 | 269 36.6 | 7 41.0 | 127 7.1 | 15.9 | 10 2.5 | -13.9 | 54.9 |
| | 7 | 284 36.8 | 7 41.9 | 141 42.0 | 15.9 | 9 48.6 | -13.9 | 54.9 |
| | 8 | 299 37.0 | 7 42.8 | 156 16.9 | 16.0 | 9 34.7 | -13.9 | 54.9 |
| | 9 | 314 37.1 | 7 43.7 | 170 51.9 | 16.0 | 9 20.8 | -14.0 | 54.9 |
| | 10 | 329 37.3 | 7 44.7 | 185 26.9 | 16.1 | 9 6.8 | -14.0 | 54.9 |
| | 11 | 344 37.5 | 7 45.6 | 200 2.0 | 16.1 | 8 52.8 | -14.0 | 54.8 |
| | 12 | 359 37.7 | 7 46.5 | 214 37.1 | 16.2 | 8 38.8 | -14.0 | 54.8 |
| | 13 | 14 37.8 | 7 47.5 | 229 12.3 | 16.2 | 8 24.7 | -14.1 | 54.8 |
| | 14 | 29 38.0 | 7 48.4 | 243 47.5 | 16.3 | 8 10.7 | -14.1 | 54.8 |
| | 15 | 44 38.2 | 7 49.3 | 258 22.8 | 16.3 | 7 56.6 | -14.1 | 54.8 |
| | 16 | 59 38.3 | 7 50.2 | 272 58.1 | 16.4 | 7 42.5 | -14.1 | 54.8 |
| | 17 | 74 38.5 | 7 51.2 | 287 33.5 | 16.4 | 7 28.3 | -14.2 | 54.7 |
| | 18 | 89 38.7 | 7 52.1 | 302 8.9 | 16.4 | 7 14.2 | -14.2 | 54.7 |
| | 19 | 104 38.8 | 7 53.0 | 316 44.3 | 16.5 | 7 0.0 | -14.2 | 54.7 |
| | 20 | 119 39.0 | 7 53.9 | 331 19.8 | 16.5 | 6 45.8 | -14.2 | 54.7 |
| | 21 | 134 39.2 | 7 54.9 | 345 55.3 | 16.6 | 6 31.6 | -14.2 | 54.7 |
| | 22 | 149 39.3 | 7 55.8 | 0 30.9 | 16.6 | 6 17.3 | -14.2 | 54.7 |
| | 23 | 164 39.5 | 7 56.7 | 15 6.4 | 16.6 | 6 3.1 | -14.3 | 54.7 |
| | *v* | 0.2 | SD 16.0 | *d* 0.9 | | SD 15.0 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 03:00 | 04:23 | 19:45 | 21:09 | //// |
| 70 | 01:20 | 03:23 | 04:34 | 19:33 | 20:45 | 22:57 |
| 68 | 02:06 | 03:40 | 04:43 | 19:24 | 20:27 | 22:04 |
| 66 | 02:35 | 03:54 | 04:50 | 19:16 | 20:13 | 21:34 |
| 64 | 02:56 | 04:05 | 04:57 | 19:09 | 20:01 | 21:11 |
| 62 | 03:13 | 04:15 | 05:02 | 19:04 | 19:52 | 20:54 |
| 60 | 03:26 | 04:23 | 05:07 | 18:59 | 19:43 | 20:40 |
| 58 | 03:38 | 04:30 | 05:11 | 18:55 | 19:36 | 20:28 |
| 56 | 03:48 | 04:36 | 05:15 | 18:51 | 19:30 | 20:18 |
| 54 | 03:56 | 04:41 | 05:18 | 18:47 | 19:24 | 20:10 |
| 52 | 04:03 | 04:46 | 05:21 | 18:44 | 19:19 | 20:02 |
| 50 | 04:10 | 04:50 | 05:24 | 18:42 | 19:15 | 19:56 |
| 45 | 04:23 | 04:59 | 05:29 | 18:35 | 19:06 | 19:42 |
| 40 | 04:34 | 05:07 | 05:34 | 18:30 | 18:58 | 19:31 |
| 35 | 04:42 | 05:13 | 05:38 | 18:26 | 18:52 | 19:22 |
| 30 | 04:49 | 05:18 | 05:42 | 18:22 | 18:47 | 19:15 |
| 20 | 05:00 | 05:26 | 05:48 | 18:16 | 18:38 | 19:04 |
| 10 | 05:08 | 05:33 | 05:54 | 18:10 | 18:32 | 18:56 |
| 0 | 05:14 | 05:38 | 05:59 | 18:05 | 18:26 | 18:50 |
| -10 | 05:18 | 05:42 | 06:04 | 18:00 | 18:21 | 18:46 |
| -20 | 05:21 | 05:47 | 06:09 | 17:55 | 18:17 | 18:43 |
| -30 | 05:23 | 05:50 | 06:14 | 17:49 | 18:13 | 18:41 |
| -35 | 05:23 | 05:52 | 06:18 | 17:46 | 18:11 | 18:41 |
| -40 | 05:23 | 05:54 | 06:21 | 17:42 | 18:09 | 18:41 |
| -45 | 05:22 | 05:56 | 06:25 | 17:38 | 18:07 | 18:41 |
| -50 | 05:20 | 05:58 | 06:30 | 17:33 | 18:05 | 18:43 |
| -52 | 05:20 | 05:59 | 06:32 | 17:31 | 18:04 | 18:43 |
| -54 | 05:19 | 05:59 | 06:35 | 17:28 | 18:04 | 18:44 |
| -56 | 05:17 | 06:00 | 06:38 | 17:25 | 18:03 | 18:46 |
| -58 | 05:16 | 06:01 | 06:41 | 17:22 | 18:02 | 18:47 |
| -60 | 05:14 | 06:02 | 06:44 | 17:19 | 18:01 | 18:49 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **07** | **08** | **09** | **07** | **08** | **09** |
| 72 | | 11:38 | 14:01 | | 06:37 | 05:43 |
| 70 | 09:01 | 12:08 | 14:14 | 07:38 | 06:05 | 05:27 |
| 68 | 10:12 | 12:31 | 14:24 | 06:25 | 05:41 | 05:15 |
| 66 | 10:49 | 12:48 | 14:33 | 05:48 | 05:22 | 05:05 |
| 64 | 11:14 | 13:02 | 14:40 | 05:21 | 05:07 | 04:56 |
| 62 | 11:34 | 13:13 | 14:46 | 05:00 | 04:54 | 04:49 |
| 60 | 11:50 | 13:23 | 14:51 | 04:43 | 04:43 | 04:42 |
| 58 | 12:04 | 13:32 | 14:55 | 04:29 | 04:34 | 04:36 |
| 56 | 12:15 | 13:39 | 14:59 | 04:16 | 04:25 | 04:31 |
| 54 | 12:25 | 13:46 | 15:03 | 04:05 | 04:18 | 04:27 |
| 52 | 12:34 | 13:52 | 15:06 | 03:56 | 04:11 | 04:23 |
| 50 | 12:42 | 13:57 | 15:09 | 03:47 | 04:05 | 04:19 |
| 45 | 12:59 | 14:09 | 15:16 | 03:29 | 03:52 | 04:10 |
| 40 | 13:13 | 14:18 | 15:21 | 03:14 | 03:41 | 04:03 |
| 35 | 13:25 | 14:27 | 15:26 | 03:01 | 03:31 | 03:57 |
| 30 | 13:35 | 14:34 | 15:30 | 02:50 | 03:23 | 03:52 |
| 20 | 13:53 | 14:46 | 15:36 | 02:30 | 03:08 | 03:43 |
| 10 | 14:08 | 14:57 | 15:43 | 02:13 | 02:56 | 03:35 |
| 0 | 14:22 | 15:07 | 15:48 | 01:57 | 02:44 | 03:27 |
| -10 | 14:36 | 15:16 | 15:54 | 01:41 | 02:32 | 03:19 |
| -20 | 14:51 | 15:27 | 16:00 | 01:24 | 02:19 | 03:11 |
| -30 | 15:08 | 15:39 | 16:07 | 01:04 | 02:04 | 03:01 |
| -35 | 15:18 | 15:46 | 16:11 | 00:52 | 01:55 | 02:55 |
| -40 | 15:29 | 15:54 | 16:15 | 00:38 | 01:45 | 02:49 |
| -45 | 15:42 | 16:03 | 16:20 | 00:22 | 01:33 | 02:41 |
| -50 | 15:58 | 16:13 | 16:26 | 00:02 | 01:19 | 02:32 |
| -52 | 16:06 | 16:19 | 16:29 | –:– | 01:12 | 02:28 |
| -54 | 16:14 | 16:24 | 16:32 | –:– | 01:04 | 02:23 |
| -56 | 16:23 | 16:30 | 16:35 | –:– | 00:56 | 02:18 |
| -58 | 16:33 | 16:37 | 16:39 | –:– | 00:46 | 02:12 |
| -60 | 16:45 | 16:45 | 16:43 | –:– | 00:35 | 02:06 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **07** | 02:11 | 02:02 | 12:02 | 20:33 | 08:10 | 9 | 70 |
| **08** | 01:54 | 01:46 | 12:02 | 21:17 | 08:55 | 10 | 78 |
| **09** | 01:38 | 01:29 | 12:01 | 21:58 | 09:38 | 11 | 86 |

## 2025 April 10, 11, 12 (Thu, Fri, Sat)

| | | Aries | Venus -4.6 | | Mars 0.6 | | Jupiter -2.1 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 10 Thursday | 0 | 198 28.7 | 205 21.4 | 2 50.4 | 79 9.8 | 23 12.0 | 122 5.4 | 22 33.8 | 201 47.1 | -3 33.5 |
| | 1 | 213 31.2 | 220 24.0 | 2 49.8 | 94 11.2 | 23 11.8 | 137 7.4 | 22 33.8 | 216 49.3 | -3 33.4 |
| | 2 | 228 33.7 | 235 26.5 | 2 49.1 | 109 12.7 | 23 11.5 | 152 9.4 | 22 33.9 | 231 51.5 | -3 33.3 |
| | 3 | 243 36.1 | 250 29.0 | 2 48.5 | 124 14.2 | 23 11.3 | 167 11.5 | 22 33.9 | 246 53.7 | -3 33.2 |
| | 4 | 258 38.6 | 265 31.5 | 2 47.9 | 139 15.7 | 23 11.1 | 182 13.5 | 22 33.9 | 261 55.9 | -3 33.1 |
| | 5 | 273 41.0 | 280 34.0 | 2 47.2 | 154 17.1 | 23 10.8 | 197 15.5 | 22 34.0 | 276 58.1 | -3 33.0 |
| | 6 | 288 43.5 | 295 36.5 | 2 46.6 | 169 18.6 | 23 10.6 | 212 17.5 | 22 34.0 | 292 0.3 | -3 32.8 |
| | 7 | 303 46.0 | 310 39.0 | 2 46.0 | 184 20.1 | 23 10.3 | 227 19.5 | 22 34.1 | 307 2.5 | -3 32.7 |
| | 8 | 318 48.4 | 325 41.5 | 2 45.3 | 199 21.5 | 23 10.1 | 242 21.5 | 22 34.1 | 322 4.7 | -3 32.6 |
| | 9 | 333 50.9 | 340 44.0 | 2 44.7 | 214 23.0 | 23 9.9 | 257 23.5 | 22 34.2 | 337 6.8 | -3 32.5 |
| | 10 | 348 53.4 | 355 46.5 | 2 44.1 | 229 24.5 | 23 9.6 | 272 25.5 | 22 34.2 | 352 9.0 | -3 32.4 |
| | 11 | 3 55.8 | 10 49.0 | 2 43.5 | 244 26.0 | 23 9.4 | 287 27.5 | 22 34.3 | 7 11.2 | -3 32.3 |
| | 12 | 18 58.3 | 25 51.4 | 2 42.9 | 259 27.4 | 23 9.1 | 302 29.5 | 22 34.3 | 22 13.4 | -3 32.2 |
| | 13 | 34 0.8 | 40 53.9 | 2 42.2 | 274 28.9 | 23 8.9 | 317 31.5 | 22 34.4 | 37 15.6 | -3 32.1 |
| | 14 | 49 3.2 | 55 56.4 | 2 41.6 | 289 30.4 | 23 8.6 | 332 33.5 | 22 34.4 | 52 17.8 | -3 32.0 |
| | 15 | 64 5.7 | 70 58.8 | 2 41.0 | 304 31.8 | 23 8.4 | 347 35.5 | 22 34.4 | 67 20.0 | -3 31.9 |
| | 16 | 79 8.2 | 86 1.3 | 2 40.4 | 319 33.3 | 23 8.2 | 2 37.5 | 22 34.5 | 82 22.2 | -3 31.7 |
| | 17 | 94 10.6 | 101 3.8 | 2 39.8 | 334 34.8 | 23 7.9 | 17 39.5 | 22 34.5 | 97 24.4 | -3 31.6 |
| | 18 | 109 13.1 | 116 6.2 | 2 39.2 | 349 36.2 | 23 7.7 | 32 41.5 | 22 34.6 | 112 26.6 | -3 31.5 |
| | 19 | 124 15.5 | 131 8.7 | 2 38.6 | 4 37.7 | 23 7.4 | 47 43.5 | 22 34.6 | 127 28.8 | -3 31.4 |
| | 20 | 139 18.0 | 146 11.1 | 2 38.0 | 19 39.2 | 23 7.2 | 62 45.5 | 22 34.7 | 142 31.0 | -3 31.3 |
| | 21 | 154 20.5 | 161 13.6 | 2 37.4 | 34 40.6 | 23 6.9 | 77 47.5 | 22 34.7 | 157 33.2 | -3 31.2 |
| | 22 | 169 22.9 | 176 16.0 | 2 36.8 | 49 42.1 | 23 6.7 | 92 49.5 | 22 34.8 | 172 35.4 | -3 31.1 |
| | 23 | 184 25.4 | 191 18.4 | 2 36.2 | 64 43.6 | 23 6.5 | 107 51.5 | 22 34.8 | 187 37.6 | -3 31.0 |
| | | MP 10:46 | *v* 2.5 | *d* -0.6 | *v* 1.5 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 Friday | 0 | 199 27.9 | 206 20.9 | 2 35.6 | 79 45.0 | 23 6.2 | 122 53.5 | 22 34.9 | 202 39.8 | -3 30.9 |
| | 1 | 214 30.3 | 221 23.3 | 2 35.0 | 94 46.5 | 23 6.0 | 137 55.5 | 22 34.9 | 217 42.0 | -3 30.7 |
| | 2 | 229 32.8 | 236 25.7 | 2 34.4 | 109 47.9 | 23 5.7 | 152 57.5 | 22 35.0 | 232 44.2 | -3 30.6 |
| | 3 | 244 35.3 | 251 28.1 | 2 33.8 | 124 49.4 | 23 5.5 | 167 59.5 | 22 35.0 | 247 46.4 | -3 30.5 |
| | 4 | 259 37.7 | 266 30.5 | 2 33.2 | 139 50.9 | 23 5.2 | 183 1.5 | 22 35.0 | 262 48.6 | -3 30.4 |
| | 5 | 274 40.2 | 281 33.0 | 2 32.6 | 154 52.3 | 23 5.0 | 198 3.5 | 22 35.1 | 277 50.8 | -3 30.3 |
| | 6 | 289 42.6 | 296 35.4 | 2 32.0 | 169 53.8 | 23 4.7 | 213 5.5 | 22 35.1 | 292 53.0 | -3 30.2 |
| | 7 | 304 45.1 | 311 37.8 | 2 31.4 | 184 55.2 | 23 4.5 | 228 7.5 | 22 35.2 | 307 55.2 | -3 30.1 |
| | 8 | 319 47.6 | 326 40.2 | 2 30.8 | 199 56.7 | 23 4.2 | 243 9.4 | 22 35.2 | 322 57.4 | -3 30.0 |
| | 9 | 334 50.0 | 341 42.6 | 2 30.2 | 214 58.2 | 23 4.0 | 258 11.4 | 22 35.3 | 337 59.6 | -3 29.9 |
| | 10 | 349 52.5 | 356 45.0 | 2 29.7 | 229 59.6 | 23 3.8 | 273 13.4 | 22 35.3 | 353 1.8 | -3 29.8 |
| | 11 | 4 55.0 | 11 47.3 | 2 29.1 | 245 1.1 | 23 3.5 | 288 15.4 | 22 35.4 | 8 4.0 | -3 29.6 |
| | 12 | 19 57.4 | 26 49.7 | 2 28.5 | 260 2.5 | 23 3.3 | 303 17.4 | 22 35.4 | 23 6.2 | -3 29.5 |
| | 13 | 34 59.9 | 41 52.1 | 2 27.9 | 275 4.0 | 23 3.0 | 318 19.4 | 22 35.5 | 38 8.4 | -3 29.4 |
| | 14 | 50 2.4 | 56 54.5 | 2 27.4 | 290 5.5 | 23 2.8 | 333 21.4 | 22 35.5 | 53 10.6 | -3 29.3 |
| | 15 | 65 4.8 | 71 56.9 | 2 26.8 | 305 6.9 | 23 2.5 | 348 23.4 | 22 35.5 | 68 12.8 | -3 29.2 |
| | 16 | 80 7.3 | 86 59.2 | 2 26.2 | 320 8.4 | 23 2.3 | 3 25.4 | 22 35.6 | 83 15.0 | -3 29.1 |
| | 17 | 95 9.8 | 102 1.6 | 2 25.6 | 335 9.8 | 23 2.0 | 18 27.4 | 22 35.6 | 98 17.2 | -3 29.0 |
| | 18 | 110 12.2 | 117 4.0 | 2 25.1 | 350 11.3 | 23 1.8 | 33 29.4 | 22 35.7 | 113 19.3 | -3 28.9 |
| | 19 | 125 14.7 | 132 6.3 | 2 24.5 | 5 12.7 | 23 1.5 | 48 31.4 | 22 35.7 | 128 21.5 | -3 28.8 |
| | 20 | 140 17.1 | 147 8.7 | 2 23.9 | 20 14.2 | 23 1.3 | 63 33.4 | 22 35.8 | 143 23.7 | -3 28.7 |
| | 21 | 155 19.6 | 162 11.0 | 2 23.4 | 35 15.6 | 23 1.0 | 78 35.4 | 22 35.8 | 158 25.9 | -3 28.6 |
| | 22 | 170 22.1 | 177 13.4 | 2 22.8 | 50 17.1 | 23 0.8 | 93 37.4 | 22 35.9 | 173 28.1 | -3 28.4 |
| | 23 | 185 24.5 | 192 15.7 | 2 22.2 | 65 18.5 | 23 0.5 | 108 39.4 | 22 35.9 | 188 30.3 | -3 28.3 |
| | | MP 10:42 | *v* 2.4 | *d* -0.6 | *v* 1.5 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 Saturday | 0 | 200 27.0 | 207 18.0 | 2 21.7 | 80 20.0 | 23 0.3 | 123 41.4 | 22 36.0 | 203 32.5 | -3 28.2 |
| | 1 | 215 29.5 | 222 20.4 | 2 21.1 | 95 21.4 | 23 0.0 | 138 43.4 | 22 36.0 | 218 34.7 | -3 28.1 |
| | 2 | 230 31.9 | 237 22.7 | 2 20.6 | 110 22.9 | 22 59.8 | 153 45.4 | 22 36.1 | 233 36.9 | -3 28.0 |
| | 3 | 245 34.4 | 252 25.0 | 2 20.0 | 125 24.4 | 22 59.5 | 168 47.4 | 22 36.1 | 248 39.1 | -3 27.9 |
| | 4 | 260 36.9 | 267 27.4 | 2 19.5 | 140 25.8 | 22 59.3 | 183 49.4 | 22 36.1 | 263 41.3 | -3 27.8 |
| | 5 | 275 39.3 | 282 29.7 | 2 18.9 | 155 27.3 | 22 59.0 | 198 51.3 | 22 36.2 | 278 43.5 | -3 27.7 |
| | 6 | 290 41.8 | 297 32.0 | 2 18.4 | 170 28.7 | 22 58.8 | 213 53.3 | 22 36.2 | 293 45.7 | -3 27.6 |
| | 7 | 305 44.2 | 312 34.3 | 2 17.8 | 185 30.1 | 22 58.5 | 228 55.3 | 22 36.3 | 308 47.9 | -3 27.5 |
| | 8 | 320 46.7 | 327 36.6 | 2 17.3 | 200 31.6 | 22 58.3 | 243 57.3 | 22 36.3 | 323 50.1 | -3 27.3 |
| | 9 | 335 49.2 | 342 38.9 | 2 16.7 | 215 33.0 | 22 58.0 | 258 59.3 | 22 36.4 | 338 52.3 | -3 27.2 |
| | 10 | 350 51.6 | 357 41.2 | 2 16.2 | 230 34.5 | 22 57.8 | 274 1.3 | 22 36.4 | 353 54.5 | -3 27.1 |
| | 11 | 5 54.1 | 12 43.5 | 2 15.7 | 245 35.9 | 22 57.5 | 289 3.3 | 22 36.5 | 8 56.7 | -3 27.0 |
| | 12 | 20 56.6 | 27 45.8 | 2 15.1 | 260 37.4 | 22 57.3 | 304 5.3 | 22 36.5 | 23 58.9 | -3 26.9 |
| | 13 | 35 59.0 | 42 48.1 | 2 14.6 | 275 38.8 | 22 57.0 | 319 7.3 | 22 36.6 | 39 1.1 | -3 26.8 |
| | 14 | 51 1.5 | 57 50.4 | 2 14.0 | 290 40.3 | 22 56.8 | 334 9.3 | 22 36.6 | 54 3.3 | -3 26.7 |
| | 15 | 66 4.0 | 72 52.7 | 2 13.5 | 305 41.7 | 22 56.5 | 349 11.3 | 22 36.6 | 69 5.5 | -3 26.6 |
| | 16 | 81 6.4 | 87 54.9 | 2 13.0 | 320 43.2 | 22 56.3 | 4 13.3 | 22 36.7 | 84 7.7 | -3 26.5 |
| | 17 | 96 8.9 | 102 57.2 | 2 12.5 | 335 44.6 | 22 56.0 | 19 15.3 | 22 36.7 | 99 9.9 | -3 26.4 |
| | 18 | 111 11.4 | 117 59.5 | 2 11.9 | 350 46.1 | 22 55.8 | 34 17.2 | 22 36.8 | 114 12.1 | -3 26.3 |
| | 19 | 126 13.8 | 133 1.8 | 2 11.4 | 5 47.5 | 22 55.5 | 49 19.2 | 22 36.8 | 129 14.3 | -3 26.1 |
| | 20 | 141 16.3 | 148 4.0 | 2 10.9 | 20 48.9 | 22 55.3 | 64 21.2 | 22 36.9 | 144 16.5 | -3 26.0 |
| | 21 | 156 18.7 | 163 6.3 | 2 10.4 | 35 50.4 | 22 55.0 | 79 23.2 | 22 36.9 | 159 18.7 | -3 25.9 |
| | 22 | 171 21.2 | 178 8.5 | 2 9.8 | 50 51.8 | 22 54.8 | 94 25.2 | 22 37.0 | 174 20.9 | -3 25.8 |
| | 23 | 186 23.7 | 193 10.8 | 2 9.3 | 65 53.3 | 22 54.5 | 109 27.2 | 22 37.0 | 189 23.1 | -3 25.7 |
| | | MP 10:38 | *v* 2.3 | *d* -0.6 | *v* 1.5 | *d* -0.2 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.3 |
| Achernar | 335 20.6 | -57 6.6 |
| Acrux | 172 59.3 | -63 14.5 |
| Adhara | 255 5.8 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.3 |
| Alkaid | 152 51.3 | 49 11.1 |
| Alnair | 27 32.9 | -46 50.2 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.3 | 26 37.5 |
| Alpheratz | 357 34.9 | 29 13.6 |
| Altair | 61 59.8 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.1 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 9.1 | -69 4.2 |
| Avior | 234 14.5 | -59 35.7 |
| Bellatrix | 278 22.8 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.5 | -52 42.8 |
| Capella | 280 21.8 | 46 1.5 |
| Deneb | 49 25.8 | 45 21.9 |
| Denebola | 182 24.4 | 14 25.8 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.2 | 61 37.0 |
| Elnath | 278 1.8 | 28 37.8 |
| Eltanin | 90 41.9 | 51 28.7 |
| Enif | 33 38.8 | 9 59.3 |
| Fomalhaut | 15 14.6 | -29 29.3 |
| Gacrux | 171 50.9 | -57 15.4 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.7 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.2 | -34 22.3 |
| Kochab | 137 18.6 | 74 2.9 |
| Markab | 13 30.0 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.0 | -36 29.7 |
| Miaplacidus | 221 37.9 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.5 | -26 15.9 |
| Peacock | 53 5.5 | -56 39.0 |
| Pollux | 243 17.0 | 27 58.0 |
| Procyon | 244 50.6 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.5 |
| Rigil Kent. | 139 39.4 | -60 56.4 |
| Sabik | 102 2.4 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.4 |
| Shaula | 96 9.9 | -37 7.3 |
| Sirius | 258 26.1 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.0 | -43 32.3 |
| Vega | 80 33.0 | 38 48.1 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 10 Thu | SHA | MP |
|---|---|---|
| Venus | 6 52.7 | 10:17 |
| Mars | 240 41.0 | 18:42 |
| Jupiter | 283 36.7 | 15:50 |
| Saturn | 3 18.4 | 10:31 |

| 11 Fri | SHA | MP |
|---|---|---|
| Venus | 6 53.0 | 10:13 |
| Mars | 240 17.2 | 18:39 |
| Jupiter | 283 25.6 | 15:46 |
| Saturn | 3 11.9 | 10:28 |

| 12 Sat | SHA | MP |
|---|---|---|
| Venus | 6 51.0 | 10:09 |
| Mars | 239 53.0 | 18:37 |
| Jupiter | 283 14.4 | 15:43 |
| Saturn | 3 5.5 | 10:24 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **10 Thursday** | 0 | 179 39.7 | 7 57.6 | 29 42.1 | 16.7 | 5 48.8 | -14.3 | 54.6 |
| | 1 | 194 39.9 | 7 58.6 | 44 17.7 | 16.7 | 5 34.5 | -14.3 | 54.6 |
| | 2 | 209 40.0 | 7 59.5 | 58 53.4 | 16.7 | 5 20.3 | -14.3 | 54.6 |
| | 3 | 224 40.2 | 8 0.4 | 73 29.2 | 16.8 | 5 5.9 | -14.3 | 54.6 |
| | 4 | 239 40.4 | 8 1.3 | 88 4.9 | 16.8 | 4 51.6 | -14.3 | 54.6 |
| | 5 | 254 40.5 | 8 2.2 | 102 40.7 | 16.8 | 4 37.3 | -14.3 | 54.6 |
| | 6 | 269 40.7 | 8 3.2 | 117 16.5 | 16.8 | 4 23.0 | -14.3 | 54.6 |
| | 7 | 284 40.9 | 8 4.1 | 131 52.4 | 16.9 | 4 8.6 | -14.4 | 54.5 |
| | 8 | 299 41.0 | 8 5.0 | 146 28.3 | 16.9 | 3 54.3 | -14.4 | 54.5 |
| | 9 | 314 41.2 | 8 5.9 | 161 4.2 | 16.9 | 3 39.9 | -14.4 | 54.5 |
| | 10 | 329 41.4 | 8 6.9 | 175 40.1 | 17.0 | 3 25.5 | -14.4 | 54.5 |
| | 11 | 344 41.5 | 8 7.8 | 190 16.0 | 17.0 | 3 11.1 | -14.4 | 54.5 |
| | 12 | 359 41.7 | 8 8.7 | 204 52.0 | 17.0 | 2 56.8 | -14.4 | 54.5 |
| | 13 | 14 41.9 | 8 9.6 | 219 28.0 | 17.0 | 2 42.4 | -14.4 | 54.5 |
| | 14 | 29 42.0 | 8 10.5 | 234 4.0 | 17.0 | 2 28.0 | -14.4 | 54.5 |
| | 15 | 44 42.2 | 8 11.5 | 248 40.1 | 17.1 | 2 13.6 | -14.4 | 54.4 |
| | 16 | 59 42.4 | 8 12.4 | 263 16.1 | 17.1 | 1 59.2 | -14.4 | 54.4 |
| | 17 | 74 42.5 | 8 13.3 | 277 52.2 | 17.1 | 1 44.8 | -14.4 | 54.4 |
| | 18 | 89 42.7 | 8 14.2 | 292 28.3 | 17.1 | 1 30.4 | -14.4 | 54.4 |
| | 19 | 104 42.9 | 8 15.1 | 307 4.4 | 17.1 | 1 16.0 | -14.4 | 54.4 |
| | 20 | 119 43.0 | 8 16.1 | 321 40.5 | 17.1 | 1 1.6 | -14.4 | 54.4 |
| | 21 | 134 43.2 | 8 17.0 | 336 16.6 | 17.1 | 0 47.2 | -14.4 | 54.4 |
| | 22 | 149 43.4 | 8 17.9 | 350 52.8 | 17.2 | 0 32.8 | -14.4 | 54.4 |
| | 23 | 164 43.5 | 8 18.8 | 5 28.9 | 17.2 | 0 18.4 | -14.4 | 54.3 |
| | | *v* 0.2 | SD 16.0 | *d* 0.9 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **11 Friday** | 0 | 179 43.7 | 8 19.7 | 20 5.1 | 17.2 | 0 4.0 | -14.4 | 54.3 |
| | 1 | 194 43.9 | 8 20.7 | 34 41.2 | 17.2 | -0 10.4 | 14.4 | 54.3 |
| | 2 | 209 44.0 | 8 21.6 | 49 17.4 | 17.2 | -0 24.8 | 14.4 | 54.3 |
| | 3 | 224 44.2 | 8 22.5 | 63 53.6 | 17.2 | -0 39.1 | 14.4 | 54.3 |
| | 4 | 239 44.4 | 8 23.4 | 78 29.8 | 17.2 | -0 53.5 | 14.4 | 54.3 |
| | 5 | 254 44.5 | 8 24.3 | 93 6.0 | 17.2 | -1 7.8 | 14.3 | 54.3 |
| | 6 | 269 44.7 | 8 25.2 | 107 42.2 | 17.2 | -1 22.2 | 14.3 | 54.3 |
| | 7 | 284 44.8 | 8 26.2 | 122 18.4 | 17.2 | -1 36.5 | 14.3 | 54.3 |
| | 8 | 299 45.0 | 8 27.1 | 136 54.6 | 17.2 | -1 50.9 | 14.3 | 54.3 |
| | 9 | 314 45.2 | 8 28.0 | 151 30.8 | 17.2 | -2 5.2 | 14.3 | 54.2 |
| | 10 | 329 45.3 | 8 28.9 | 166 7.0 | 17.2 | -2 19.5 | 14.3 | 54.2 |
| | 11 | 344 45.5 | 8 29.8 | 180 43.2 | 17.2 | -2 33.8 | 14.3 | 54.2 |
| | 12 | 359 45.7 | 8 30.7 | 195 19.4 | 17.2 | -2 48.1 | 14.3 | 54.2 |
| | 13 | 14 45.8 | 8 31.7 | 209 55.6 | 17.2 | -3 2.3 | 14.3 | 54.2 |
| | 14 | 29 46.0 | 8 32.6 | 224 31.8 | 17.2 | -3 16.6 | 14.2 | 54.2 |
| | 15 | 44 46.2 | 8 33.5 | 239 8.0 | 17.2 | -3 30.8 | 14.2 | 54.2 |
| | 16 | 59 46.3 | 8 34.4 | 253 44.2 | 17.2 | -3 45.1 | 14.2 | 54.2 |
| | 17 | 74 46.5 | 8 35.3 | 268 20.3 | 17.2 | -3 59.3 | 14.2 | 54.2 |
| | 18 | 89 46.6 | 8 36.2 | 282 56.5 | 17.2 | -4 13.4 | 14.2 | 54.2 |
| | 19 | 104 46.8 | 8 37.1 | 297 32.6 | 17.1 | -4 27.6 | 14.1 | 54.2 |
| | 20 | 119 47.0 | 8 38.1 | 312 8.8 | 17.1 | -4 41.8 | 14.1 | 54.2 |
| | 21 | 134 47.1 | 8 39.0 | 326 44.9 | 17.1 | -4 55.9 | 14.1 | 54.1 |
| | 22 | 149 47.3 | 8 39.9 | 341 21.0 | 17.1 | -5 10.0 | 14.1 | 54.1 |
| | 23 | 164 47.5 | 8 40.8 | 355 57.1 | 17.1 | -5 24.1 | 14.1 | 54.1 |
| | | *v* 0.2 | SD 16.0 | *d* 0.9 | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **12 Saturday** | 0 | 179 47.6 | 8 41.7 | 10 33.2 | 17.1 | -5 38.1 | 14.0 | 54.1 |
| | 1 | 194 47.8 | 8 42.6 | 25 9.3 | 17.1 | -5 52.2 | 14.0 | 54.1 |
| | 2 | 209 47.9 | 8 43.5 | 39 45.4 | 17.0 | -6 6.2 | 14.0 | 54.1 |
| | 3 | 224 48.1 | 8 44.4 | 54 21.4 | 17.0 | -6 20.2 | 14.0 | 54.1 |
| | 4 | 239 48.3 | 8 45.4 | 68 57.4 | 17.0 | -6 34.2 | 13.9 | 54.1 |
| | 5 | 254 48.4 | 8 46.3 | 83 33.4 | 17.0 | -6 48.1 | 13.9 | 54.1 |
| | 6 | 269 48.6 | 8 47.2 | 98 9.4 | 17.0 | -7 2.0 | 13.9 | 54.1 |
| | 7 | 284 48.8 | 8 48.1 | 112 45.4 | 16.9 | -7 15.9 | 13.9 | 54.1 |
| | 8 | 299 48.9 | 8 49.0 | 127 21.3 | 16.9 | -7 29.8 | 13.8 | 54.1 |
| | 9 | 314 49.1 | 8 49.9 | 141 57.3 | 16.9 | -7 43.6 | 13.8 | 54.1 |
| | 10 | 329 49.2 | 8 50.8 | 156 33.1 | 16.9 | -7 57.4 | 13.8 | 54.1 |
| | 11 | 344 49.4 | 8 51.7 | 171 9.0 | 16.8 | -8 11.2 | 13.7 | 54.1 |
| | 12 | 359 49.6 | 8 52.6 | 185 44.9 | 16.8 | -8 24.9 | 13.7 | 54.1 |
| | 13 | 14 49.7 | 8 53.5 | 200 20.7 | 16.8 | -8 38.6 | 13.7 | 54.0 |
| | 14 | 29 49.9 | 8 54.5 | 214 56.5 | 16.8 | -8 52.3 | 13.6 | 54.0 |
| | 15 | 44 50.0 | 8 55.4 | 229 32.2 | 16.7 | -9 5.9 | 13.6 | 54.0 |
| | 16 | 59 50.2 | 8 56.3 | 244 8.0 | 16.7 | -9 19.5 | 13.6 | 54.0 |
| | 17 | 74 50.4 | 8 57.2 | 258 43.7 | 16.7 | -9 33.1 | 13.5 | 54.0 |
| | 18 | 89 50.5 | 8 58.1 | 273 19.3 | 16.6 | -9 46.6 | 13.5 | 54.0 |
| | 19 | 104 50.7 | 8 59.0 | 287 55.0 | 16.6 | -10 0.1 | 13.5 | 54.0 |
| | 20 | 119 50.8 | 8 59.9 | 302 30.6 | 16.6 | -10 13.5 | 13.4 | 54.0 |
| | 21 | 134 51.0 | 9 0.8 | 317 6.1 | 16.5 | -10 27.0 | 13.4 | 54.0 |
| | 22 | 149 51.2 | 9 1.7 | 331 41.7 | 16.5 | -10 40.3 | 13.3 | 54.0 |
| | 23 | 164 51.3 | 9 2.6 | 346 17.2 | 16.5 | -10 53.7 | 13.3 | 54.0 |
| | | *v* 0.2 | SD 16.0 | *d* 0.9 | | SD 14.8 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 02:38 | 04:06 | 20:00 | 21:30 | //// |
| 70 | 00:16 | 03:05 | 04:19 | 19:46 | 21:02 | //// |
| 68 | 01:41 | 03:25 | 04:30 | 19:35 | 20:41 | 22:30 |
| 66 | 02:16 | 03:41 | 04:39 | 19:26 | 20:25 | 21:51 |
| 64 | 02:41 | 03:53 | 04:46 | 19:18 | 20:12 | 21:25 |
| 62 | 03:00 | 04:04 | 04:52 | 19:12 | 20:01 | 21:06 |
| 60 | 03:15 | 04:13 | 04:58 | 19:06 | 19:51 | 20:50 |
| 58 | 03:28 | 04:21 | 05:03 | 19:01 | 19:43 | 20:37 |
| 56 | 03:38 | 04:28 | 05:07 | 18:57 | 19:36 | 20:26 |
| 54 | 03:48 | 04:34 | 05:11 | 18:53 | 19:30 | 20:17 |
| 52 | 03:56 | 04:39 | 05:14 | 18:49 | 19:25 | 20:08 |
| 50 | 04:03 | 04:44 | 05:17 | 18:46 | 19:20 | 20:01 |
| 45 | 04:17 | 04:54 | 05:24 | 18:39 | 19:10 | 19:46 |
| 40 | 04:29 | 05:02 | 05:30 | 18:34 | 19:01 | 19:34 |
| 35 | 04:38 | 05:09 | 05:34 | 18:29 | 18:54 | 19:25 |
| 30 | 04:46 | 05:14 | 05:39 | 18:24 | 18:49 | 19:17 |
| 20 | 04:57 | 05:24 | 05:46 | 18:17 | 18:39 | 19:05 |
| 10 | 05:06 | 05:31 | 05:52 | 18:10 | 18:32 | 18:56 |
| 0 | 05:13 | 05:37 | 05:58 | 18:05 | 18:25 | 18:50 |
| -10 | 05:18 | 05:42 | 06:04 | 17:59 | 18:20 | 18:44 |
| -20 | 05:22 | 05:47 | 06:10 | 17:53 | 18:15 | 18:40 |
| -30 | 05:24 | 05:52 | 06:16 | 17:46 | 18:10 | 18:38 |
| -35 | 05:25 | 05:54 | 06:20 | 17:42 | 18:07 | 18:37 |
| -40 | 05:26 | 05:57 | 06:24 | 17:38 | 18:05 | 18:36 |
| -45 | 05:25 | 06:00 | 06:29 | 17:33 | 18:02 | 18:36 |
| -50 | 05:25 | 06:02 | 06:35 | 17:27 | 17:59 | 18:37 |
| -52 | 05:24 | 06:04 | 06:38 | 17:24 | 17:58 | 18:37 |
| -54 | 05:24 | 06:05 | 06:40 | 17:21 | 17:57 | 18:37 |
| -56 | 05:23 | 06:06 | 06:44 | 17:18 | 17:55 | 18:38 |
| -58 | 05:22 | 06:08 | 06:47 | 17:14 | 17:54 | 18:39 |
| -60 | 05:21 | 06:09 | 06:51 | 17:10 | 17:52 | 18:40 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **10** | **11** | **12** | **10** | **11** | **12** |
| 72 | 16:04 | 18:02 | 20:07 | 05:06 | 04:33 | 04:00 |
| 70 | 16:07 | 17:56 | 19:49 | 05:00 | 04:35 | 04:09 |
| 68 | 16:09 | 17:51 | 19:35 | 04:55 | 04:36 | 04:17 |
| 66 | 16:11 | 17:46 | 19:24 | 04:50 | 04:37 | 04:23 |
| 64 | 16:12 | 17:43 | 19:15 | 04:47 | 04:38 | 04:29 |
| 62 | 16:14 | 17:40 | 19:07 | 04:44 | 04:38 | 04:33 |
| 60 | 16:15 | 17:37 | 19:00 | 04:41 | 04:39 | 04:37 |
| 58 | 16:16 | 17:35 | 18:54 | 04:38 | 04:40 | 04:41 |
| 56 | 16:17 | 17:33 | 18:49 | 04:36 | 04:40 | 04:44 |
| 54 | 16:17 | 17:31 | 18:44 | 04:34 | 04:41 | 04:47 |
| 52 | 16:18 | 17:29 | 18:40 | 04:32 | 04:41 | 04:50 |
| 50 | 16:19 | 17:27 | 18:36 | 04:31 | 04:42 | 04:52 |
| 45 | 16:20 | 17:24 | 18:28 | 04:27 | 04:42 | 04:58 |
| 40 | 16:22 | 17:21 | 18:21 | 04:24 | 04:43 | 05:02 |
| 35 | 16:23 | 17:19 | 18:15 | 04:21 | 04:44 | 05:06 |
| 30 | 16:24 | 17:17 | 18:10 | 04:19 | 04:44 | 05:10 |
| 20 | 16:25 | 17:13 | 18:02 | 04:15 | 04:45 | 05:16 |
| 10 | 16:27 | 17:10 | 17:54 | 04:11 | 04:46 | 05:21 |
| 0 | 16:28 | 17:07 | 17:47 | 04:08 | 04:47 | 05:26 |
| -10 | 16:29 | 17:04 | 17:40 | 04:04 | 04:48 | 05:31 |
| -20 | 16:31 | 17:01 | 17:32 | 04:00 | 04:48 | 05:37 |
| -30 | 16:33 | 16:58 | 17:24 | 03:56 | 04:49 | 05:43 |
| -35 | 16:33 | 16:56 | 17:19 | 03:53 | 04:50 | 05:46 |
| -40 | 16:35 | 16:54 | 17:13 | 03:50 | 04:51 | 05:50 |
| -45 | 16:36 | 16:51 | 17:07 | 03:47 | 04:51 | 05:55 |
| -50 | 16:37 | 16:48 | 16:59 | 03:43 | 04:52 | 06:01 |
| -52 | 16:38 | 16:47 | 16:56 | 03:41 | 04:52 | 06:03 |
| -54 | 16:39 | 16:45 | 16:52 | 03:39 | 04:53 | 06:06 |
| -56 | 16:39 | 16:44 | 16:48 | 03:37 | 04:53 | 06:09 |
| -58 | 16:40 | 16:42 | 16:43 | 03:34 | 04:54 | 06:13 |
| -60 | 16:41 | 16:40 | 16:38 | 03:31 | 04:54 | 06:17 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **10** | 01:21 | 01:13 | 12:01 | 22:37 | 10:18 | 12 | 92 |
| **11** | 01:05 | 00:57 | 12:01 | 23:17 | 10:57 | 13 | 96 |
| **12** | 00:50 | 00:42 | 12:01 | 23:56 | 11:36 | 14 | 99 |

## 2025 April 13, 14, 15 (Sun, Monday)

| d | h | Aries GHA | Venus -4.7 GHA | Venus -4.7 Dec | Mars 0.7 GHA | Mars 0.7 Dec | Jupiter -2.0 GHA | Jupiter -2.0 Dec | Saturn 1.2 GHA | Saturn 1.2 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 Sunday | 0 | 201 26.1 | 208 13.0 | 2 8.8 | 80 54.7 | 22 54.3 | 124 29.2 | 22 37.1 | 204 25.3 | -3 25.6 |
| | 1 | 216 28.6 | 223 15.3 | 2 8.3 | 95 56.2 | 22 54.0 | 139 31.2 | 22 37.1 | 219 27.5 | -3 25.5 |
| | 2 | 231 31.1 | 238 17.5 | 2 7.8 | 110 57.6 | 22 53.8 | 154 33.2 | 22 37.1 | 234 29.7 | -3 25.4 |
| | 3 | 246 33.5 | 253 19.7 | 2 7.3 | 125 59.0 | 22 53.5 | 169 35.2 | 22 37.2 | 249 31.9 | -3 25.3 |
| | 4 | 261 36.0 | 268 22.0 | 2 6.7 | 141 0.5 | 22 53.3 | 184 37.1 | 22 37.2 | 264 34.1 | -3 25.2 |
| | 5 | 276 38.5 | 283 24.2 | 2 6.2 | 156 1.9 | 22 53.0 | 199 39.1 | 22 37.3 | 279 36.3 | -3 25.1 |
| | 6 | 291 40.9 | 298 26.4 | 2 5.7 | 171 3.4 | 22 52.7 | 214 41.1 | 22 37.3 | 294 38.5 | -3 25.0 |
| | 7 | 306 43.4 | 313 28.7 | 2 5.2 | 186 4.8 | 22 52.5 | 229 43.1 | 22 37.4 | 309 40.7 | -3 24.8 |
| | 8 | 321 45.9 | 328 30.9 | 2 4.7 | 201 6.2 | 22 52.2 | 244 45.1 | 22 37.4 | 324 42.9 | -3 24.7 |
| | 9 | 336 48.3 | 343 33.1 | 2 4.2 | 216 7.7 | 22 52.0 | 259 47.1 | 22 37.5 | 339 45.1 | -3 24.6 |
| | 10 | 351 50.8 | 358 35.3 | 2 3.7 | 231 9.1 | 22 51.7 | 274 49.1 | 22 37.5 | 354 47.3 | -3 24.5 |
| | 11 | 6 53.2 | 13 37.5 | 2 3.2 | 246 10.5 | 22 51.5 | 289 51.1 | 22 37.5 | 9 49.5 | -3 24.4 |
| | 12 | 21 55.7 | 28 39.7 | 2 2.7 | 261 12.0 | 22 51.2 | 304 53.1 | 22 37.6 | 24 51.7 | -3 24.3 |
| | 13 | 36 58.2 | 43 41.9 | 2 2.2 | 276 13.4 | 22 51.0 | 319 55.0 | 22 37.6 | 39 53.9 | -3 24.2 |
| | 14 | 52 0.6 | 58 44.1 | 2 1.7 | 291 14.8 | 22 50.7 | 334 57.0 | 22 37.7 | 54 56.1 | -3 24.1 |
| | 15 | 67 3.1 | 73 46.3 | 2 1.2 | 306 16.3 | 22 50.5 | 349 59.0 | 22 37.7 | 69 58.3 | -3 24.0 |
| | 16 | 82 5.6 | 88 48.5 | 2 0.8 | 321 17.7 | 22 50.2 | 5 1.0 | 22 37.8 | 85 0.5 | -3 23.9 |
| | 17 | 97 8.0 | 103 50.7 | 2 0.3 | 336 19.1 | 22 49.9 | 20 3.0 | 22 37.8 | 100 2.7 | -3 23.8 |
| | 18 | 112 10.5 | 118 52.8 | 1 59.8 | 351 20.6 | 22 49.7 | 35 5.0 | 22 37.9 | 115 4.9 | -3 23.6 |
| | 19 | 127 13.0 | 133 55.0 | 1 59.3 | 6 22.0 | 22 49.4 | 50 7.0 | 22 37.9 | 130 7.1 | -3 23.5 |
| | 20 | 142 15.4 | 148 57.2 | 1 58.8 | 21 23.4 | 22 49.2 | 65 8.9 | 22 38.0 | 145 9.3 | -3 23.4 |
| | 21 | 157 17.9 | 163 59.4 | 1 58.3 | 36 24.9 | 22 48.9 | 80 10.9 | 22 38.0 | 160 11.5 | -3 23.3 |
| | 22 | 172 20.3 | 179 1.5 | 1 57.9 | 51 26.3 | 22 48.7 | 95 12.9 | 22 38.0 | 175 13.7 | -3 23.2 |
| | 23 | 187 22.8 | 194 3.7 | 1 57.4 | 66 27.7 | 22 48.4 | 110 14.9 | 22 38.1 | 190 15.9 | -3 23.1 |
| | | MP 10:34 | *v* 2.2 | *d* -0.5 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 Monday | 0 | 202 25.3 | 209 5.9 | 1 56.9 | 81 29.2 | 22 48.2 | 125 16.9 | 22 38.1 | 205 18.1 | -3 23.0 |
| | 1 | 217 27.7 | 224 8.0 | 1 56.4 | 96 30.6 | 22 47.9 | 140 18.9 | 22 38.2 | 220 20.3 | -3 22.9 |
| | 2 | 232 30.2 | 239 10.2 | 1 56.0 | 111 32.0 | 22 47.6 | 155 20.9 | 22 38.2 | 235 22.5 | -3 22.8 |
| | 3 | 247 32.7 | 254 12.3 | 1 55.5 | 126 33.5 | 22 47.4 | 170 22.8 | 22 38.3 | 250 24.7 | -3 22.7 |
| | 4 | 262 35.1 | 269 14.4 | 1 55.0 | 141 34.9 | 22 47.1 | 185 24.8 | 22 38.3 | 265 26.9 | -3 22.6 |
| | 5 | 277 37.6 | 284 16.6 | 1 54.6 | 156 36.3 | 22 46.9 | 200 26.8 | 22 38.4 | 280 29.1 | -3 22.5 |
| | 6 | 292 40.1 | 299 18.7 | 1 54.1 | 171 37.7 | 22 46.6 | 215 28.8 | 22 38.4 | 295 31.3 | -3 22.3 |
| | 7 | 307 42.5 | 314 20.9 | 1 53.6 | 186 39.2 | 22 46.3 | 230 30.8 | 22 38.5 | 310 33.5 | -3 22.2 |
| | 8 | 322 45.0 | 329 23.0 | 1 53.2 | 201 40.6 | 22 46.1 | 245 32.8 | 22 38.5 | 325 35.7 | -3 22.1 |
| | 9 | 337 47.5 | 344 25.1 | 1 52.7 | 216 42.0 | 22 45.8 | 260 34.8 | 22 38.5 | 340 37.9 | -3 22.0 |
| | 10 | 352 49.9 | 359 27.2 | 1 52.2 | 231 43.5 | 22 45.6 | 275 36.7 | 22 38.6 | 355 40.1 | -3 21.9 |
| | 11 | 7 52.4 | 14 29.4 | 1 51.8 | 246 44.9 | 22 45.3 | 290 38.7 | 22 38.6 | 10 42.3 | -3 21.8 |
| | 12 | 22 54.8 | 29 31.5 | 1 51.3 | 261 46.3 | 22 45.1 | 305 40.7 | 22 38.7 | 25 44.5 | -3 21.7 |
| | 13 | 37 57.3 | 44 33.6 | 1 50.9 | 276 47.7 | 22 44.8 | 320 42.7 | 22 38.7 | 40 46.7 | -3 21.6 |
| | 14 | 52 59.8 | 59 35.7 | 1 50.4 | 291 49.2 | 22 44.5 | 335 44.7 | 22 38.8 | 55 48.9 | -3 21.5 |
| | 15 | 68 2.2 | 74 37.8 | 1 50.0 | 306 50.6 | 22 44.3 | 350 46.6 | 22 38.8 | 70 51.1 | -3 21.4 |
| | 16 | 83 4.7 | 89 39.9 | 1 49.5 | 321 52.0 | 22 44.0 | 5 48.6 | 22 38.9 | 85 53.3 | -3 21.3 |
| | 17 | 98 7.2 | 104 42.0 | 1 49.1 | 336 53.4 | 22 43.8 | 20 50.6 | 22 38.9 | 100 55.5 | -3 21.2 |
| | 18 | 113 9.6 | 119 44.1 | 1 48.6 | 351 54.8 | 22 43.5 | 35 52.6 | 22 38.9 | 115 57.7 | -3 21.1 |
| | 19 | 128 12.1 | 134 46.2 | 1 48.2 | 6 56.3 | 22 43.2 | 50 54.6 | 22 39.0 | 130 59.9 | -3 20.9 |
| | 20 | 143 14.6 | 149 48.3 | 1 47.8 | 21 57.7 | 22 43.0 | 65 56.6 | 22 39.0 | 146 2.1 | -3 20.8 |
| | 21 | 158 17.0 | 164 50.3 | 1 47.3 | 36 59.1 | 22 42.7 | 80 58.5 | 22 39.1 | 161 4.3 | -3 20.7 |
| | 22 | 173 19.5 | 179 52.4 | 1 46.9 | 52 0.5 | 22 42.5 | 96 0.5 | 22 39.1 | 176 6.5 | -3 20.6 |
| | 23 | 188 21.9 | 194 54.5 | 1 46.5 | 67 2.0 | 22 42.2 | 111 2.5 | 22 39.2 | 191 8.7 | -3 20.5 |
| | | MP 10:30 | *v* 2.2 | *d* -0.5 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 Tuesday | 0 | 203 24.4 | 209 56.6 | 1 46.0 | 82 3.4 | 22 41.9 | 126 4.5 | 22 39.2 | 206 10.9 | -3 20.4 |
| | 1 | 218 26.9 | 224 58.6 | 1 45.6 | 97 4.8 | 22 41.7 | 141 6.5 | 22 39.3 | 221 13.1 | -3 20.3 |
| | 2 | 233 29.3 | 240 0.7 | 1 45.2 | 112 6.2 | 22 41.4 | 156 8.4 | 22 39.3 | 236 15.3 | -3 20.2 |
| | 3 | 248 31.8 | 255 2.8 | 1 44.7 | 127 7.6 | 22 41.1 | 171 10.4 | 22 39.3 | 251 17.5 | -3 20.1 |
| | 4 | 263 34.3 | 270 4.8 | 1 44.3 | 142 9.1 | 22 40.9 | 186 12.4 | 22 39.4 | 266 19.7 | -3 20.0 |
| | 5 | 278 36.7 | 285 6.9 | 1 43.9 | 157 10.5 | 22 40.6 | 201 14.4 | 22 39.4 | 281 21.9 | -3 19.9 |
| | 6 | 293 39.2 | 300 8.9 | 1 43.5 | 172 11.9 | 22 40.4 | 216 16.4 | 22 39.5 | 296 24.2 | -3 19.8 |
| | 7 | 308 41.7 | 315 11.0 | 1 43.0 | 187 13.3 | 22 40.1 | 231 18.3 | 22 39.5 | 311 26.4 | -3 19.7 |
| | 8 | 323 44.1 | 330 13.0 | 1 42.6 | 202 14.7 | 22 39.8 | 246 20.3 | 22 39.6 | 326 28.6 | -3 19.5 |
| | 9 | 338 46.6 | 345 15.0 | 1 42.2 | 217 16.1 | 22 39.6 | 261 22.3 | 22 39.6 | 341 30.8 | -3 19.4 |
| | 10 | 353 49.1 | 0 17.1 | 1 41.8 | 232 17.6 | 22 39.3 | 276 24.3 | 22 39.7 | 356 33.0 | -3 19.3 |
| | 11 | 8 51.5 | 15 19.1 | 1 41.4 | 247 19.0 | 22 39.0 | 291 26.3 | 22 39.7 | 11 35.2 | -3 19.2 |
| | 12 | 23 54.0 | 30 21.1 | 1 41.0 | 262 20.4 | 22 38.8 | 306 28.2 | 22 39.8 | 26 37.4 | -3 19.1 |
| | 13 | 38 56.4 | 45 23.2 | 1 40.6 | 277 21.8 | 22 38.5 | 321 30.2 | 22 39.8 | 41 39.6 | -3 19.0 |
| | 14 | 53 58.9 | 60 25.2 | 1 40.1 | 292 23.2 | 22 38.3 | 336 32.2 | 22 39.8 | 56 41.8 | -3 18.9 |
| | 15 | 69 1.4 | 75 27.2 | 1 39.7 | 307 24.6 | 22 38.0 | 351 34.2 | 22 39.9 | 71 44.0 | -3 18.8 |
| | 16 | 84 3.8 | 90 29.2 | 1 39.3 | 322 26.0 | 22 37.7 | 6 36.2 | 22 39.9 | 86 46.2 | -3 18.7 |
| | 17 | 99 6.3 | 105 31.2 | 1 38.9 | 337 27.5 | 22 37.5 | 21 38.1 | 22 40.0 | 101 48.4 | -3 18.6 |
| | 18 | 114 8.8 | 120 33.2 | 1 38.5 | 352 28.9 | 22 37.2 | 36 40.1 | 22 40.0 | 116 50.6 | -3 18.5 |
| | 19 | 129 11.2 | 135 35.2 | 1 38.1 | 7 30.3 | 22 36.9 | 51 42.1 | 22 40.1 | 131 52.8 | -3 18.4 |
| | 20 | 144 13.7 | 150 37.2 | 1 37.7 | 22 31.7 | 22 36.7 | 66 44.1 | 22 40.1 | 146 55.0 | -3 18.3 |
| | 21 | 159 16.2 | 165 39.2 | 1 37.3 | 37 33.1 | 22 36.4 | 81 46.1 | 22 40.2 | 161 57.2 | -3 18.2 |
| | 22 | 174 18.6 | 180 41.2 | 1 36.9 | 52 34.5 | 22 36.1 | 96 48.0 | 22 40.2 | 176 59.4 | -3 18.1 |
| | 23 | 189 21.1 | 195 43.2 | 1 36.5 | 67 35.9 | 22 35.9 | 111 50.0 | 22 40.2 | 192 1.6 | -3 17.9 |
| | | MP 10:26 | *v* 2.1 | *d* -0.4 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.3 |
| Achernar | 335 20.6 | -57 6.5 |
| Acrux | 172 59.3 | -63 14.5 |
| Adhara | 255 5.8 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.3 |
| Alkaid | 152 51.3 | 49 11.1 |
| Alnair | 27 32.9 | -46 50.2 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.3 | 26 37.5 |
| Alpheratz | 357 34.9 | 29 13.6 |
| Altair | 61 59.8 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 9.1 | -69 4.2 |
| Avior | 234 14.6 | -59 35.7 |
| Bellatrix | 278 22.8 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.5 | -52 42.8 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.8 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.2 | 61 37.0 |
| Elnath | 278 1.8 | 28 37.8 |
| Eltanin | 90 41.9 | 51 28.7 |
| Enif | 33 38.8 | 9 59.3 |
| Fomalhaut | 15 14.6 | -29 29.3 |
| Gacrux | 171 50.9 | -57 15.4 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.7 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.1 | -34 22.3 |
| Kochab | 137 18.6 | 74 2.9 |
| Markab | 13 30.0 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.0 | -36 29.7 |
| Miaplacidus | 221 37.9 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.4 | -26 15.9 |
| Peacock | 53 5.5 | -56 39.0 |
| Pollux | 243 17.1 | 27 58.0 |
| Procyon | 244 50.6 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.5 |
| Rigil Kent. | 139 39.4 | -60 56.4 |
| Sabik | 102 2.4 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.4 |
| Shaula | 96 9.9 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.0 | -43 32.3 |
| Vega | 80 33.0 | 38 48.1 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 13 Sun | SHA | MP |
|---|---|---|
| Venus | 6 46.9 | 10:06 |
| Mars | 239 28.6 | 18:35 |
| Jupiter | 283 3.0 | 15:40 |
| Saturn | 2 59.2 | 10:21 |

| 14 Mon | SHA | MP |
|---|---|---|
| Venus | 6 40.6 | 10:02 |
| Mars | 239 3.9 | 18:32 |
| Jupiter | 282 51.6 | 15:37 |
| Saturn | 2 52.8 | 10:17 |

| 15 Tue | SHA | MP |
|---|---|---|
| Venus | 6 32.1 | 09:59 |
| Mars | 238 39.0 | 18:30 |
| Jupiter | 282 40.1 | 15:34 |
| Saturn | 2 46.5 | 10:14 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **13 Sunday** | 0 | 179 51.5 | 9 3.5 | 0 52.6 | 16.4 | -11 7.0 | 13.3 | 54.0 |
| | 1 | 194 51.6 | 9 4.4 | 15 28.0 | 16.4 | -11 20.2 | 13.2 | 54.0 |
| | 2 | 209 51.8 | 9 5.3 | 30 3.4 | 16.3 | -11 33.4 | 13.2 | 54.0 |
| | 3 | 224 52.0 | 9 6.2 | 44 38.8 | 16.3 | -11 46.6 | 13.1 | 54.0 |
| | 4 | 239 52.1 | 9 7.1 | 59 14.1 | 16.3 | -11 59.7 | 13.1 | 54.0 |
| | 5 | 254 52.3 | 9 8.1 | 73 49.3 | 16.2 | -12 12.8 | 13.0 | 54.0 |
| | 6 | 269 52.4 | 9 9.0 | 88 24.6 | 16.2 | -12 25.8 | 13.0 | 54.0 |
| | 7 | 284 52.6 | 9 9.9 | 102 59.7 | 16.1 | -12 38.8 | 12.9 | 54.0 |
| | 8 | 299 52.7 | 9 10.8 | 117 34.9 | 16.1 | -12 51.7 | 12.9 | 54.0 |
| | 9 | 314 52.9 | 9 11.7 | 132 10.0 | 16.0 | -13 4.6 | 12.8 | 54.0 |
| | 10 | 329 53.1 | 9 12.6 | 146 45.0 | 16.0 | -13 17.4 | 12.8 | 54.0 |
| | 11 | 344 53.2 | 9 13.5 | 161 20.0 | 16.0 | -13 30.2 | 12.7 | 54.0 |
| | 12 | 359 53.4 | 9 14.4 | 175 55.0 | 15.9 | -13 43.0 | 12.7 | 54.0 |
| | 13 | 14 53.5 | 9 15.3 | 190 29.9 | 15.9 | -13 55.6 | 12.6 | 54.0 |
| | 14 | 29 53.7 | 9 16.2 | 205 4.7 | 15.8 | -14 8.3 | 12.6 | 54.0 |
| | 15 | 44 53.9 | 9 17.1 | 219 39.5 | 15.8 | -14 20.8 | 12.5 | 54.0 |
| | 16 | 59 54.0 | 9 18.0 | 234 14.3 | 15.7 | -14 33.4 | 12.5 | 54.0 |
| | 17 | 74 54.2 | 9 18.9 | 248 49.0 | 15.7 | -14 45.8 | 12.4 | 54.0 |
| | 18 | 89 54.3 | 9 19.8 | 263 23.7 | 15.6 | -14 58.2 | 12.4 | 54.0 |
| | 19 | 104 54.5 | 9 20.7 | 277 58.3 | 15.6 | -15 10.6 | 12.3 | 54.0 |
| | 20 | 119 54.6 | 9 21.6 | 292 32.8 | 15.5 | -15 22.9 | 12.2 | 54.0 |
| | 21 | 134 54.8 | 9 22.5 | 307 7.3 | 15.4 | -15 35.1 | 12.2 | 54.0 |
| | 22 | 149 54.9 | 9 23.4 | 321 41.8 | 15.4 | -15 47.3 | 12.1 | 54.0 |
| | 23 | 164 55.1 | 9 24.3 | 336 16.1 | 15.3 | -15 59.4 | 12.1 | 54.0 |
| | *v* | 0.2 | SD 16.0 *d* 0.9 | | SD 14.7 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **14 Monday** | 0 | 179 55.3 | 9 25.2 | 350 50.5 | 15.3 | -16 11.5 | 12.0 | 54.0 |
| | 1 | 194 55.4 | 9 26.1 | 5 24.7 | 15.2 | -16 23.5 | 11.9 | 54.0 |
| | 2 | 209 55.6 | 9 27.0 | 19 59.0 | 15.2 | -16 35.4 | 11.9 | 54.0 |
| | 3 | 224 55.7 | 9 27.9 | 34 33.1 | 15.1 | -16 47.3 | 11.8 | 54.0 |
| | 4 | 239 55.9 | 9 28.8 | 49 7.2 | 15.0 | -16 59.1 | 11.7 | 54.0 |
| | 5 | 254 56.0 | 9 29.7 | 63 41.3 | 15.0 | -17 10.8 | 11.7 | 54.0 |
| | 6 | 269 56.2 | 9 30.6 | 78 15.3 | 14.9 | -17 22.5 | 11.6 | 54.0 |
| | 7 | 284 56.3 | 9 31.5 | 92 49.2 | 14.9 | -17 34.1 | 11.5 | 54.0 |
| | 8 | 299 56.5 | 9 32.4 | 107 23.0 | 14.8 | -17 45.6 | 11.5 | 54.0 |
| | 9 | 314 56.7 | 9 33.3 | 121 56.8 | 14.7 | -17 57.1 | 11.4 | 54.0 |
| | 10 | 329 56.8 | 9 34.2 | 136 30.6 | 14.7 | -18 8.4 | 11.3 | 54.0 |
| | 11 | 344 57.0 | 9 35.1 | 151 4.2 | 14.6 | -18 19.8 | 11.2 | 54.0 |
| | 12 | 359 57.1 | 9 36.0 | 165 37.9 | 14.5 | -18 31.0 | 11.2 | 54.0 |
| | 13 | 14 57.3 | 9 36.9 | 180 11.4 | 14.5 | -18 42.2 | 11.1 | 54.0 |
| | 14 | 29 57.4 | 9 37.8 | 194 44.9 | 14.4 | -18 53.3 | 11.0 | 54.0 |
| | 15 | 44 57.6 | 9 38.7 | 209 18.3 | 14.4 | -19 4.3 | 11.0 | 54.0 |
| | 16 | 59 57.7 | 9 39.6 | 223 51.6 | 14.3 | -19 15.3 | 10.9 | 54.0 |
| | 17 | 74 57.9 | 9 40.5 | 238 24.9 | 14.2 | -19 26.1 | 10.8 | 54.0 |
| | 18 | 89 58.0 | 9 41.3 | 252 58.1 | 14.2 | -19 36.9 | 10.7 | 54.0 |
| | 19 | 104 58.2 | 9 42.2 | 267 31.3 | 14.1 | -19 47.7 | 10.6 | 54.0 |
| | 20 | 119 58.3 | 9 43.1 | 282 4.4 | 14.0 | -19 58.3 | 10.6 | 54.0 |
| | 21 | 134 58.5 | 9 44.0 | 296 37.4 | 13.9 | -20 8.9 | 10.5 | 54.0 |
| | 22 | 149 58.6 | 9 44.9 | 311 10.3 | 13.9 | -20 19.3 | 10.4 | 54.0 |
| | 23 | 164 58.8 | 9 45.8 | 325 43.2 | 13.8 | -20 29.7 | 10.3 | 54.0 |
| | *v* | 0.2 | SD 15.9 *d* 0.9 | | SD 14.7 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **15 Tuesday** | 0 | 179 59.0 | 9 46.7 | 340 16.0 | 13.7 | -20 40.0 | 10.2 | 54.0 |
| | 1 | 194 59.1 | 9 47.6 | 354 48.8 | 13.7 | -20 50.3 | 10.1 | 54.0 |
| | 2 | 209 59.3 | 9 48.5 | 9 21.4 | 13.6 | -21 0.4 | 10.1 | 54.0 |
| | 3 | 224 59.4 | 9 49.4 | 23 54.0 | 13.5 | -21 10.5 | 10.0 | 54.0 |
| | 4 | 239 59.6 | 9 50.3 | 38 26.6 | 13.5 | -21 20.4 | 9.9 | 54.0 |
| | 5 | 254 59.7 | 9 51.2 | 52 59.0 | 13.4 | -21 30.3 | 9.8 | 54.0 |
| | 6 | 269 59.9 | 9 52.1 | 67 31.4 | 13.3 | -21 40.1 | 9.7 | 54.0 |
| | 7 | 285 0.0 | 9 53.0 | 82 3.7 | 13.2 | -21 49.8 | 9.6 | 54.0 |
| | 8 | 300 0.2 | 9 53.8 | 96 36.0 | 13.2 | -21 59.4 | 9.5 | 54.1 |
| | 9 | 315 0.3 | 9 54.7 | 111 8.1 | 13.1 | -22 9.0 | 9.4 | 54.1 |
| | 10 | 330 0.5 | 9 55.6 | 125 40.2 | 13.0 | -22 18.4 | 9.3 | 54.1 |
| | 11 | 345 0.6 | 9 56.5 | 140 12.2 | 13.0 | -22 27.7 | 9.2 | 54.1 |
| | 12 | 0 0.8 | 9 57.4 | 154 44.2 | 12.9 | -22 37.0 | 9.1 | 54.1 |
| | 13 | 15 0.9 | 9 58.3 | 169 16.1 | 12.8 | -22 46.1 | 9.1 | 54.1 |
| | 14 | 30 1.1 | 9 59.2 | 183 47.9 | 12.7 | -22 55.2 | 9.0 | 54.1 |
| | 15 | 45 1.2 | 10 0.1 | 198 19.6 | 12.7 | -23 4.1 | 8.9 | 54.1 |
| | 16 | 60 1.4 | 10 1.0 | 212 51.3 | 12.6 | -23 13.0 | 8.8 | 54.1 |
| | 17 | 75 1.5 | 10 1.9 | 227 22.8 | 12.5 | -23 21.8 | 8.7 | 54.1 |
| | 18 | 90 1.7 | 10 2.7 | 241 54.4 | 12.4 | -23 30.4 | 8.6 | 54.1 |
| | 19 | 105 1.8 | 10 3.6 | 256 25.8 | 12.4 | -23 39.0 | 8.5 | 54.1 |
| | 20 | 120 2.0 | 10 4.5 | 270 57.2 | 12.3 | -23 47.4 | 8.4 | 54.1 |
| | 21 | 135 2.1 | 10 5.4 | 285 28.4 | 12.2 | -23 55.8 | 8.3 | 54.1 |
| | 22 | 150 2.3 | 10 6.3 | 299 59.7 | 12.1 | -24 4.0 | 8.1 | 54.2 |
| | 23 | 165 2.4 | 10 7.2 | 314 30.8 | 12.1 | -24 12.2 | 8.0 | 54.2 |
| | *v* | 0.2 | SD 15.9 *d* 0.9 | | SD 14.7 | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 02:14 | 03:49 | 20:15 | 21:54 | //// |
| 70 | //// | 02:46 | 04:05 | 19:59 | 21:19 | //// |
| 68 | 01:08 | 03:09 | 04:17 | 19:47 | 20:55 | 23:06 |
| 66 | 01:56 | 03:27 | 04:27 | 19:36 | 20:37 | 22:12 |
| 64 | 02:25 | 03:41 | 04:35 | 19:28 | 20:22 | 21:40 |
| 62 | 02:46 | 03:53 | 04:43 | 19:20 | 20:10 | 21:18 |
| 60 | 03:03 | 04:03 | 04:49 | 19:14 | 20:00 | 21:00 |
| 58 | 03:17 | 04:12 | 04:54 | 19:08 | 19:51 | 20:46 |
| 56 | 03:29 | 04:19 | 04:59 | 19:03 | 19:43 | 20:34 |
| 54 | 03:39 | 04:26 | 05:03 | 18:59 | 19:36 | 20:24 |
| 52 | 03:48 | 04:32 | 05:07 | 18:55 | 19:30 | 20:15 |
| 50 | 03:56 | 04:37 | 05:11 | 18:51 | 19:25 | 20:07 |
| 45 | 04:11 | 04:48 | 05:19 | 18:43 | 19:14 | 19:51 |
| 40 | 04:24 | 04:57 | 05:25 | 18:37 | 19:05 | 19:38 |
| 35 | 04:34 | 05:05 | 05:30 | 18:31 | 18:57 | 19:28 |
| 30 | 04:42 | 05:11 | 05:35 | 18:26 | 18:51 | 19:19 |
| 20 | 04:55 | 05:21 | 05:43 | 18:18 | 18:40 | 19:06 |
| 10 | 05:04 | 05:29 | 05:51 | 18:10 | 18:32 | 18:57 |
| 0 | 05:12 | 05:36 | 05:57 | 18:04 | 18:25 | 18:49 |
| -10 | 05:18 | 05:42 | 06:04 | 17:57 | 18:18 | 18:43 |
| -20 | 05:22 | 05:48 | 06:10 | 17:50 | 18:12 | 18:38 |
| -30 | 05:26 | 05:54 | 06:18 | 17:43 | 18:07 | 18:34 |
| -35 | 05:27 | 05:57 | 06:22 | 17:38 | 18:04 | 18:33 |
| -40 | 05:28 | 06:00 | 06:27 | 17:33 | 18:00 | 18:32 |
| -45 | 05:29 | 06:03 | 06:33 | 17:27 | 17:57 | 18:31 |
| -50 | 05:29 | 06:07 | 06:39 | 17:21 | 17:53 | 18:31 |
| -52 | 05:29 | 06:08 | 06:43 | 17:17 | 17:52 | 18:31 |
| -54 | 05:29 | 06:10 | 06:46 | 17:14 | 17:50 | 18:31 |
| -56 | 05:29 | 06:12 | 06:50 | 17:10 | 17:48 | 18:31 |
| -58 | 05:28 | 06:14 | 06:54 | 17:06 | 17:46 | 18:31 |
| -60 | 05:28 | 06:16 | 06:58 | 17:01 | 17:44 | 18:32 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **13** | **14** | **15** | **13** | **14** | **15** |
| 72 | 22:43 | –:– | ▬ | 03:20 | 02:10 | ▬ |
| 70 | 21:59 | –:– | ▬ | 03:39 | 02:56 | ▬ |
| 68 | 21:30 | 23:57 | –:– | 03:55 | 03:26 | 02:29 |
| 66 | 21:08 | 23:08 | –:– | 04:08 | 03:49 | 03:20 |
| 64 | 20:51 | 22:37 | –:– | 04:19 | 04:07 | 03:52 |
| 62 | 20:38 | 22:14 | 23:58 | 04:28 | 04:22 | 04:16 |
| 60 | 20:26 | 21:56 | 23:30 | 04:36 | 04:35 | 04:35 |
| 58 | 20:16 | 21:40 | 23:07 | 04:43 | 04:46 | 04:51 |
| 56 | 20:07 | 21:28 | 22:49 | 04:49 | 04:55 | 05:04 |
| 54 | 19:59 | 21:16 | 22:34 | 04:55 | 05:04 | 05:16 |
| 52 | 19:53 | 21:07 | 22:21 | 05:00 | 05:11 | 05:27 |
| 50 | 19:46 | 20:58 | 22:10 | 05:04 | 05:18 | 05:36 |
| 45 | 19:33 | 20:39 | 21:46 | 05:14 | 05:33 | 05:56 |
| 40 | 19:22 | 20:24 | 21:27 | 05:23 | 05:45 | 06:12 |
| 35 | 19:13 | 20:12 | 21:11 | 05:30 | 05:56 | 06:25 |
| 30 | 19:05 | 20:01 | 20:58 | 05:36 | 06:05 | 06:37 |
| 20 | 18:51 | 19:42 | 20:35 | 05:47 | 06:21 | 06:58 |
| 10 | 18:39 | 19:26 | 20:15 | 05:57 | 06:35 | 07:16 |
| 0 | 18:28 | 19:11 | 19:56 | 06:06 | 06:48 | 07:32 |
| -10 | 18:16 | 18:56 | 19:38 | 06:15 | 07:01 | 07:49 |
| -20 | 18:05 | 18:40 | 19:19 | 06:25 | 07:15 | 08:07 |
| -30 | 17:51 | 18:22 | 18:56 | 06:37 | 07:32 | 08:28 |
| -35 | 17:43 | 18:11 | 18:43 | 06:43 | 07:41 | 08:40 |
| -40 | 17:35 | 17:59 | 18:28 | 06:51 | 07:52 | 08:55 |
| -45 | 17:24 | 17:45 | 18:10 | 06:59 | 08:05 | 09:11 |
| -50 | 17:12 | 17:28 | 17:48 | 07:10 | 08:21 | 09:32 |
| -52 | 17:07 | 17:20 | 17:37 | 07:15 | 08:28 | 09:42 |
| -54 | 17:00 | 17:11 | 17:26 | 07:20 | 08:36 | 09:54 |
| -56 | 16:53 | 17:01 | 17:12 | 07:26 | 08:46 | 10:07 |
| -58 | 16:46 | 16:50 | 16:57 | 07:33 | 08:56 | 10:22 |
| -60 | 16:37 | 16:37 | 16:38 | 07:41 | 09:08 | 10:40 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **13** | 00:34 | 00:26 | 12:00 | –:– | 12:17 | 15 | 100 |
| **14** | 00:19 | 00:12 | 12:00 | 00:38 | 12:59 | 16 | 99 |
| **15** | 00:04 | 00:03 | 12:00 | 01:21 | 13:44 | 17 | 97 |

## 2025 April 16, 17, 18 (Wed, Thu, Fri)

| | | Aries | Venus -4.7 | | Mars 0.7 | | Jupiter -2.0 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 16 Wednesday | 0 | 204 23.6 | 210 45.2 | 1 36.2 | 82 37.3 | 22 35.6 | 126 52.0 | 22 40.3 | 207 3.8 | -3 17.8 |
| | 1 | 219 26.0 | 225 47.2 | 1 35.8 | 97 38.8 | 22 35.3 | 141 54.0 | 22 40.3 | 222 6.0 | -3 17.7 |
| | 2 | 234 28.5 | 240 49.2 | 1 35.4 | 112 40.2 | 22 35.1 | 156 55.9 | 22 40.4 | 237 8.2 | -3 17.6 |
| | 3 | 249 30.9 | 255 51.1 | 1 35.0 | 127 41.6 | 22 34.8 | 171 57.9 | 22 40.4 | 252 10.4 | -3 17.5 |
| | 4 | 264 33.4 | 270 53.1 | 1 34.6 | 142 43.0 | 22 34.5 | 186 59.9 | 22 40.5 | 267 12.6 | -3 17.4 |
| | 5 | 279 35.9 | 285 55.1 | 1 34.2 | 157 44.4 | 22 34.3 | 202 1.9 | 22 40.5 | 282 14.8 | -3 17.3 |
| | 6 | 294 38.3 | 300 57.0 | 1 33.9 | 172 45.8 | 22 34.0 | 217 3.8 | 22 40.6 | 297 17.0 | -3 17.2 |
| | 7 | 309 40.8 | 315 59.0 | 1 33.5 | 187 47.2 | 22 33.8 | 232 5.8 | 22 40.6 | 312 19.2 | -3 17.1 |
| | 8 | 324 43.3 | 331 1.0 | 1 33.1 | 202 48.6 | 22 33.5 | 247 7.8 | 22 40.6 | 327 21.4 | -3 17.0 |
| | 9 | 339 45.7 | 346 2.9 | 1 32.7 | 217 50.0 | 22 33.2 | 262 9.8 | 22 40.7 | 342 23.6 | -3 16.9 |
| | 10 | 354 48.2 | 1 4.9 | 1 32.3 | 232 51.4 | 22 33.0 | 277 11.7 | 22 40.7 | 357 25.8 | -3 16.8 |
| | 11 | 9 50.7 | 16 6.8 | 1 32.0 | 247 52.8 | 22 32.7 | 292 13.7 | 22 40.8 | 12 28.0 | -3 16.7 |
| | 12 | 24 53.1 | 31 8.8 | 1 31.6 | 262 54.2 | 22 32.4 | 307 15.7 | 22 40.8 | 27 30.2 | -3 16.6 |
| | 13 | 39 55.6 | 46 10.7 | 1 31.2 | 277 55.6 | 22 32.1 | 322 17.7 | 22 40.9 | 42 32.5 | -3 16.4 |
| | 14 | 54 58.1 | 61 12.6 | 1 30.9 | 292 57.0 | 22 31.9 | 337 19.6 | 22 40.9 | 57 34.7 | -3 16.3 |
| | 15 | 70 0.5 | 76 14.6 | 1 30.5 | 307 58.5 | 22 31.6 | 352 21.6 | 22 41.0 | 72 36.9 | -3 16.2 |
| | 16 | 85 3.0 | 91 16.5 | 1 30.1 | 322 59.9 | 22 31.3 | 7 23.6 | 22 41.0 | 87 39.1 | -3 16.1 |
| | 17 | 100 5.4 | 106 18.4 | 1 29.8 | 338 1.3 | 22 31.1 | 22 25.6 | 22 41.0 | 102 41.3 | -3 16.0 |
| | 18 | 115 7.9 | 121 20.4 | 1 29.4 | 353 2.7 | 22 30.8 | 37 27.5 | 22 41.1 | 117 43.5 | -3 15.9 |
| | 19 | 130 10.4 | 136 22.3 | 1 29.1 | 8 4.1 | 22 30.5 | 52 29.5 | 22 41.1 | 132 45.7 | -3 15.8 |
| | 20 | 145 12.8 | 151 24.2 | 1 28.7 | 23 5.5 | 22 30.3 | 67 31.5 | 22 41.2 | 147 47.9 | -3 15.7 |
| | 21 | 160 15.3 | 166 26.1 | 1 28.4 | 38 6.9 | 22 30.0 | 82 33.5 | 22 41.2 | 162 50.1 | -3 15.6 |
| | 22 | 175 17.8 | 181 28.0 | 1 28.0 | 53 8.3 | 22 29.7 | 97 35.4 | 22 41.3 | 177 52.3 | -3 15.5 |
| | 23 | 190 20.2 | 196 29.9 | 1 27.7 | 68 9.7 | 22 29.5 | 112 37.4 | 22 41.3 | 192 54.5 | -3 15.4 |
| | | MP 10:22 | *v* 2.0 | *d* -0.4 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 Thursday | 0 | 205 22.7 | 211 31.8 | 1 27.3 | 83 11.1 | 22 29.2 | 127 39.4 | 22 41.4 | 207 56.7 | -3 15.3 |
| | 1 | 220 25.2 | 226 33.7 | 1 27.0 | 98 12.5 | 22 28.9 | 142 41.3 | 22 41.4 | 222 58.9 | -3 15.2 |
| | 2 | 235 27.6 | 241 35.6 | 1 26.6 | 113 13.9 | 22 28.7 | 157 43.3 | 22 41.4 | 238 1.1 | -3 15.1 |
| | 3 | 250 30.1 | 256 37.5 | 1 26.3 | 128 15.3 | 22 28.4 | 172 45.3 | 22 41.5 | 253 3.3 | -3 15.0 |
| | 4 | 265 32.5 | 271 39.4 | 1 25.9 | 143 16.7 | 22 28.1 | 187 47.3 | 22 41.5 | 268 5.5 | -3 14.9 |
| | 5 | 280 35.0 | 286 41.3 | 1 25.6 | 158 18.1 | 22 27.8 | 202 49.2 | 22 41.6 | 283 7.7 | -3 14.7 |
| | 6 | 295 37.5 | 301 43.2 | 1 25.3 | 173 19.5 | 22 27.6 | 217 51.2 | 22 41.6 | 298 9.9 | -3 14.6 |
| | 7 | 310 39.9 | 316 45.1 | 1 24.9 | 188 20.9 | 22 27.3 | 232 53.2 | 22 41.7 | 313 12.1 | -3 14.5 |
| | 8 | 325 42.4 | 331 46.9 | 1 24.6 | 203 22.3 | 22 27.0 | 247 55.2 | 22 41.7 | 328 14.3 | -3 14.4 |
| | 9 | 340 44.9 | 346 48.8 | 1 24.3 | 218 23.7 | 22 26.8 | 262 57.1 | 22 41.7 | 343 16.5 | -3 14.3 |
| | 10 | 355 47.3 | 1 50.7 | 1 23.9 | 233 25.1 | 22 26.5 | 277 59.1 | 22 41.8 | 358 18.8 | -3 14.2 |
| | 11 | 10 49.8 | 16 52.6 | 1 23.6 | 248 26.5 | 22 26.2 | 293 1.1 | 22 41.8 | 13 21.0 | -3 14.1 |
| | 12 | 25 52.3 | 31 54.4 | 1 23.3 | 263 27.9 | 22 25.9 | 308 3.0 | 22 41.9 | 28 23.2 | -3 14.0 |
| | 13 | 40 54.7 | 46 56.3 | 1 23.0 | 278 29.2 | 22 25.7 | 323 5.0 | 22 41.9 | 43 25.4 | -3 13.9 |
| | 14 | 55 57.2 | 61 58.1 | 1 22.6 | 293 30.6 | 22 25.4 | 338 7.0 | 22 42.0 | 58 27.6 | -3 13.8 |
| | 15 | 70 59.7 | 77 0.0 | 1 22.3 | 308 32.0 | 22 25.1 | 353 8.9 | 22 42.0 | 73 29.8 | -3 13.7 |
| | 16 | 86 2.1 | 92 1.8 | 1 22.0 | 323 33.4 | 22 24.9 | 8 10.9 | 22 42.1 | 88 32.0 | -3 13.6 |
| | 17 | 101 4.6 | 107 3.7 | 1 21.7 | 338 34.8 | 22 24.6 | 23 12.9 | 22 42.1 | 103 34.2 | -3 13.5 |
| | 18 | 116 7.0 | 122 5.5 | 1 21.4 | 353 36.2 | 22 24.3 | 38 14.9 | 22 42.1 | 118 36.4 | -3 13.4 |
| | 19 | 131 9.5 | 137 7.4 | 1 21.0 | 8 37.6 | 22 24.0 | 53 16.8 | 22 42.2 | 133 38.6 | -3 13.3 |
| | 20 | 146 12.0 | 152 9.2 | 1 20.7 | 23 39.0 | 22 23.8 | 68 18.8 | 22 42.2 | 148 40.8 | -3 13.2 |
| | 21 | 161 14.4 | 167 11.0 | 1 20.4 | 38 40.4 | 22 23.5 | 83 20.8 | 22 42.3 | 163 43.0 | -3 13.1 |
| | 22 | 176 16.9 | 182 12.9 | 1 20.1 | 53 41.8 | 22 23.2 | 98 22.7 | 22 42.3 | 178 45.2 | -3 13.0 |
| | 23 | 191 19.4 | 197 14.7 | 1 19.8 | 68 43.2 | 22 22.9 | 113 24.7 | 22 42.4 | 193 47.4 | -3 12.8 |
| | | MP 10:18 | *v* 1.9 | *d* -0.3 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Friday | 0 | 206 21.8 | 212 16.5 | 1 19.5 | 83 44.6 | 22 22.7 | 128 26.7 | 22 42.4 | 208 49.6 | -3 12.7 |
| | 1 | 221 24.3 | 227 18.3 | 1 19.2 | 98 46.0 | 22 22.4 | 143 28.6 | 22 42.5 | 223 51.8 | -3 12.6 |
| | 2 | 236 26.8 | 242 20.2 | 1 18.9 | 113 47.4 | 22 22.1 | 158 30.6 | 22 42.5 | 238 54.0 | -3 12.5 |
| | 3 | 251 29.2 | 257 22.0 | 1 18.6 | 128 48.7 | 22 21.8 | 173 32.6 | 22 42.5 | 253 56.3 | -3 12.4 |
| | 4 | 266 31.7 | 272 23.8 | 1 18.3 | 143 50.1 | 22 21.6 | 188 34.5 | 22 42.6 | 268 58.5 | -3 12.3 |
| | 5 | 281 34.2 | 287 25.6 | 1 18.0 | 158 51.5 | 22 21.3 | 203 36.5 | 22 42.6 | 284 0.7 | -3 12.2 |
| | 6 | 296 36.6 | 302 27.4 | 1 17.7 | 173 52.9 | 22 21.0 | 218 38.5 | 22 42.7 | 299 2.9 | -3 12.1 |
| | 7 | 311 39.1 | 317 29.2 | 1 17.4 | 188 54.3 | 22 20.7 | 233 40.4 | 22 42.7 | 314 5.1 | -3 12.0 |
| | 8 | 326 41.5 | 332 31.0 | 1 17.1 | 203 55.7 | 22 20.5 | 248 42.4 | 22 42.8 | 329 7.3 | -3 11.9 |
| | 9 | 341 44.0 | 347 32.8 | 1 16.8 | 218 57.1 | 22 20.2 | 263 44.4 | 22 42.8 | 344 9.5 | -3 11.8 |
| | 10 | 356 46.5 | 2 34.6 | 1 16.5 | 233 58.5 | 22 19.9 | 278 46.3 | 22 42.8 | 359 11.7 | -3 11.7 |
| | 11 | 11 48.9 | 17 36.4 | 1 16.2 | 248 59.9 | 22 19.6 | 293 48.3 | 22 42.9 | 14 13.9 | -3 11.6 |
| | 12 | 26 51.4 | 32 38.2 | 1 16.0 | 264 1.2 | 22 19.4 | 308 50.3 | 22 42.9 | 29 16.1 | -3 11.5 |
| | 13 | 41 53.9 | 47 39.9 | 1 15.7 | 279 2.6 | 22 19.1 | 323 52.2 | 22 43.0 | 44 18.3 | -3 11.4 |
| | 14 | 56 56.3 | 62 41.7 | 1 15.4 | 294 4.0 | 22 18.8 | 338 54.2 | 22 43.0 | 59 20.5 | -3 11.3 |
| | 15 | 71 58.8 | 77 43.5 | 1 15.1 | 309 5.4 | 22 18.5 | 353 56.2 | 22 43.1 | 74 22.7 | -3 11.2 |
| | 16 | 87 1.3 | 92 45.3 | 1 14.8 | 324 6.8 | 22 18.3 | 8 58.1 | 22 43.1 | 89 24.9 | -3 11.1 |
| | 17 | 102 3.7 | 107 47.0 | 1 14.6 | 339 8.2 | 22 18.0 | 24 0.1 | 22 43.2 | 104 27.1 | -3 11.0 |
| | 18 | 117 6.2 | 122 48.8 | 1 14.3 | 354 9.6 | 22 17.7 | 39 2.1 | 22 43.2 | 119 29.4 | -3 10.8 |
| | 19 | 132 8.7 | 137 50.6 | 1 14.0 | 9 10.9 | 22 17.4 | 54 4.0 | 22 43.2 | 134 31.6 | -3 10.7 |
| | 20 | 147 11.1 | 152 52.3 | 1 13.7 | 24 12.3 | 22 17.2 | 69 6.0 | 22 43.3 | 149 33.8 | -3 10.6 |
| | 21 | 162 13.6 | 167 54.1 | 1 13.5 | 39 13.7 | 22 16.9 | 84 8.0 | 22 43.3 | 164 36.0 | -3 10.5 |
| | 22 | 177 16.0 | 182 55.8 | 1 13.2 | 54 15.1 | 22 16.6 | 99 9.9 | 22 43.4 | 179 38.2 | -3 10.4 |
| | 23 | 192 18.5 | 197 57.6 | 1 12.9 | 69 16.5 | 22 16.3 | 114 11.9 | 22 43.4 | 194 40.4 | -3 10.3 |
| | | MP 10:14 | *v* 1.8 | *d* -0.3 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.3 |
| Achernar | 335 20.6 | -57 6.5 |
| Acrux | 172 59.3 | -63 14.5 |
| Adhara | 255 5.8 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.3 |
| Alkaid | 152 51.3 | 49 11.1 |
| Alnair | 27 32.9 | -46 50.2 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.2 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.6 |
| Altair | 61 59.8 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 9.0 | -69 4.2 |
| Avior | 234 14.6 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.5 | -52 42.8 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.8 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.4 | -17 51.0 |
| Dubhe | 193 40.2 | 61 37.0 |
| Elnath | 278 1.8 | 28 37.8 |
| Eltanin | 90 41.8 | 51 28.8 |
| Enif | 33 38.8 | 9 59.3 |
| Fomalhaut | 15 14.5 | -29 29.3 |
| Gacrux | 171 50.9 | -57 15.4 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.7 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.1 | -34 22.3 |
| Kochab | 137 18.6 | 74 2.9 |
| Markab | 13 30.0 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.0 | -36 29.8 |
| Miaplacidus | 221 38.0 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.4 | -26 15.9 |
| Peacock | 53 5.5 | -56 39.0 |
| Pollux | 243 17.1 | 27 58.0 |
| Procyon | 244 50.6 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.5 |
| Rigil Kent. | 139 39.4 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.4 |
| Shaula | 96 9.9 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.0 | -43 32.3 |
| Vega | 80 33.0 | 38 48.1 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 16 Wed | SHA | MP |
|---|---|---|
| Venus | 6 21.7 | 09:56 |
| Mars | 238 13.8 | 18:28 |
| Jupiter | 282 28.4 | 15:30 |
| Saturn | 2 40.3 | 10:10 |

| 17 Thu | SHA | MP |
|---|---|---|
| Venus | 6 9.1 | 09:53 |
| Mars | 237 48.4 | 18:26 |
| Jupiter | 282 16.7 | 15:27 |
| Saturn | 2 34.0 | 10:07 |

| 18 Fri | SHA | MP |
|---|---|---|
| Venus | 5 54.7 | 09:50 |
| Mars | 237 22.7 | 18:23 |
| Jupiter | 282 4.8 | 15:24 |
| Saturn | 2 27.8 | 10:03 |

| | | Sun | | | Moon | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | | Dec | GHA | v | | Dec | d | HP |
| **16 Wednesday** | 0 | 180 | 2.6 | 10 8.1 | 329 1.9 | 12.0 | -24 | 20.2 | 7.9 | 54.2 |
| | 1 | 195 | 2.7 | 10 9.0 | 343 32.9 | 11.9 | -24 | 28.2 | 7.8 | 54.2 |
| | 2 | 210 | 2.8 | 10 9.8 | 358 3.8 | 11.8 | -24 | 36.0 | 7.7 | 54.2 |
| | 3 | 225 | 3.0 | 10 10.7 | 12 34.6 | 11.8 | -24 | 43.7 | 7.6 | 54.2 |
| | 4 | 240 | 3.1 | 10 11.6 | 27 5.4 | 11.7 | -24 | 51.3 | 7.5 | 54.2 |
| | 5 | 255 | 3.3 | 10 12.5 | 41 36.1 | 11.6 | -24 | 58.8 | 7.4 | 54.2 |
| | 6 | 270 | 3.4 | 10 13.4 | 56 6.8 | 11.6 | -25 | 6.2 | 7.3 | 54.2 |
| | 7 | 285 | 3.6 | 10 14.3 | 70 37.3 | 11.5 | -25 | 13.5 | 7.2 | 54.2 |
| | 8 | 300 | 3.7 | 10 15.1 | 85 7.8 | 11.4 | -25 | 20.7 | 7.1 | 54.2 |
| | 9 | 315 | 3.9 | 10 16.0 | 99 38.2 | 11.3 | -25 | 27.7 | 6.9 | 54.3 |
| | 10 | 330 | 4.0 | 10 16.9 | 114 8.6 | 11.3 | -25 | 34.7 | 6.8 | 54.3 |
| | 11 | 345 | 4.2 | 10 17.8 | 128 38.8 | 11.2 | -25 | 41.5 | 6.7 | 54.3 |
| | 12 | 0 | 4.3 | 10 18.7 | 143 9.0 | 11.1 | -25 | 48.2 | 6.6 | 54.3 |
| | 13 | 15 | 4.5 | 10 19.6 | 157 39.2 | 11.1 | -25 | 54.8 | 6.5 | 54.3 |
| | 14 | 30 | 4.6 | 10 20.4 | 172 9.2 | 11.0 | -26 | 1.3 | 6.4 | 54.3 |
| | 15 | 45 | 4.8 | 10 21.3 | 186 39.2 | 10.9 | -26 | 7.6 | 6.2 | 54.3 |
| | 16 | 60 | 4.9 | 10 22.2 | 201 9.1 | 10.9 | -26 | 13.8 | 6.1 | 54.3 |
| | 17 | 75 | 5.0 | 10 23.1 | 215 39.0 | 10.8 | -26 | 20.0 | 6.0 | 54.3 |
| | 18 | 90 | 5.2 | 10 24.0 | 230 8.8 | 10.7 | -26 | 25.9 | 5.9 | 54.4 |
| | 19 | 105 | 5.3 | 10 24.9 | 244 38.5 | 10.6 | -26 | 31.8 | 5.7 | 54.4 |
| | 20 | 120 | 5.5 | 10 25.7 | 259 8.1 | 10.6 | -26 | 37.6 | 5.6 | 54.4 |
| | 21 | 135 | 5.6 | 10 26.6 | 273 37.7 | 10.5 | -26 | 43.2 | 5.5 | 54.4 |
| | 22 | 150 | 5.8 | 10 27.5 | 288 7.2 | 10.5 | -26 | 48.7 | 5.4 | 54.4 |
| | 23 | 165 | 5.9 | 10 28.4 | 302 36.7 | 10.4 | -26 | 54.1 | 5.2 | 54.4 |
| | | v | 0.1 | SD 15.9 d 0.9 | SD 14.8 | | | | | |

| d | h | GHA | | Dec | GHA | v | | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|---|---|
| **17 Thursday** | 0 | 180 | 6.1 | 10 29.3 | 317 6.1 | 10.3 | -26 | 59.3 | 5.1 | 54.4 |
| | 1 | 195 | 6.2 | 10 30.1 | 331 35.4 | 10.3 | -27 | 4.4 | 5.0 | 54.4 |
| | 2 | 210 | 6.3 | 10 31.0 | 346 4.6 | 10.2 | -27 | 9.4 | 4.9 | 54.5 |
| | 3 | 225 | 6.5 | 10 31.9 | 0 33.8 | 10.1 | -27 | 14.3 | 4.7 | 54.5 |
| | 4 | 240 | 6.6 | 10 32.8 | 15 3.0 | 10.1 | -27 | 19.0 | 4.6 | 54.5 |
| | 5 | 255 | 6.8 | 10 33.6 | 29 32.0 | 10.0 | -27 | 23.6 | 4.5 | 54.5 |
| | 6 | 270 | 6.9 | 10 34.5 | 44 1.0 | 10.0 | -27 | 28.1 | 4.3 | 54.5 |
| | 7 | 285 | 7.1 | 10 35.4 | 58 30.0 | 9.9 | -27 | 32.4 | 4.2 | 54.5 |
| | 8 | 300 | 7.2 | 10 36.3 | 72 58.9 | 9.8 | -27 | 36.6 | 4.1 | 54.5 |
| | 9 | 315 | 7.4 | 10 37.2 | 87 27.7 | 9.8 | -27 | 40.7 | 3.9 | 54.6 |
| | 10 | 330 | 7.5 | 10 38.0 | 101 56.5 | 9.7 | -27 | 44.7 | 3.8 | 54.6 |
| | 11 | 345 | 7.6 | 10 38.9 | 116 25.2 | 9.7 | -27 | 48.5 | 3.7 | 54.6 |
| | 12 | 0 | 7.8 | 10 39.8 | 130 53.9 | 9.6 | -27 | 52.1 | 3.5 | 54.6 |
| | 13 | 15 | 7.9 | 10 40.7 | 145 22.5 | 9.6 | -27 | 55.7 | 3.4 | 54.6 |
| | 14 | 30 | 8.1 | 10 41.5 | 159 51.1 | 9.5 | -27 | 59.1 | 3.3 | 54.6 |
| | 15 | 45 | 8.2 | 10 42.4 | 174 19.6 | 9.5 | -28 | 2.3 | 3.1 | 54.7 |
| | 16 | 60 | 8.3 | 10 43.3 | 188 48.0 | 9.4 | -28 | 5.5 | 3.0 | 54.7 |
| | 17 | 75 | 8.5 | 10 44.2 | 203 16.4 | 9.4 | -28 | 8.4 | 2.8 | 54.7 |
| | 18 | 90 | 8.6 | 10 45.0 | 217 44.8 | 9.3 | -28 | 11.3 | 2.7 | 54.7 |
| | 19 | 105 | 8.8 | 10 45.9 | 232 13.1 | 9.3 | -28 | 14.0 | 2.6 | 54.7 |
| | 20 | 120 | 8.9 | 10 46.8 | 246 41.4 | 9.2 | -28 | 16.6 | 2.4 | 54.7 |
| | 21 | 135 | 9.1 | 10 47.7 | 261 9.6 | 9.2 | -28 | 19.0 | 2.3 | 54.8 |
| | 22 | 150 | 9.2 | 10 48.5 | 275 37.7 | 9.1 | -28 | 21.3 | 2.1 | 54.8 |
| | 23 | 165 | 9.3 | 10 49.4 | 290 5.9 | 9.1 | -28 | 23.4 | 2.0 | 54.8 |
| | | v | 0.1 | SD 15.9 d 0.9 | SD 14.8 | | | | | |

| d | h | GHA | | Dec | GHA | v | | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|---|---|
| **18 Friday** | 0 | 180 | 9.5 | 10 50.3 | 304 34.0 | 9.0 | -28 | 25.4 | 1.9 | 54.8 |
| | 1 | 195 | 9.6 | 10 51.1 | 319 2.0 | 9.0 | -28 | 27.3 | 1.7 | 54.8 |
| | 2 | 210 | 9.8 | 10 52.0 | 333 30.0 | 9.0 | -28 | 29.0 | 1.6 | 54.8 |
| | 3 | 225 | 9.9 | 10 52.9 | 347 58.0 | 8.9 | -28 | 30.5 | 1.4 | 54.9 |
| | 4 | 240 | 10.0 | 10 53.8 | 2 25.9 | 8.9 | -28 | 32.0 | 1.3 | 54.9 |
| | 5 | 255 | 10.2 | 10 54.6 | 16 53.8 | 8.9 | -28 | 33.3 | 1.1 | 54.9 |
| | 6 | 270 | 10.3 | 10 55.5 | 31 21.6 | 8.8 | -28 | 34.4 | 1.0 | 54.9 |
| | 7 | 285 | 10.4 | 10 56.4 | 45 49.5 | 8.8 | -28 | 35.4 | 0.8 | 54.9 |
| | 8 | 300 | 10.6 | 10 57.2 | 60 17.2 | 8.8 | -28 | 36.2 | 0.7 | 55.0 |
| | 9 | 315 | 10.7 | 10 58.1 | 74 45.0 | 8.7 | -28 | 36.9 | 0.5 | 55.0 |
| | 10 | 330 | 10.9 | 10 59.0 | 89 12.7 | 8.7 | -28 | 37.5 | 0.4 | 55.0 |
| | 11 | 345 | 11.0 | 10 59.8 | 103 40.4 | 8.7 | -28 | 37.9 | 0.3 | 55.0 |
| | 12 | 0 | 11.1 | 11 0.7 | 118 8.1 | 8.6 | -28 | 38.1 | 0.1 | 55.0 |
| | 13 | 15 | 11.3 | 11 1.6 | 132 35.7 | 8.6 | -28 | 38.2 | 0.0 | 55.1 |
| | 14 | 30 | 11.4 | 11 2.5 | 147 3.3 | 8.6 | -28 | 38.2 | -0.2 | 55.1 |
| | 15 | 45 | 11.6 | 11 3.3 | 161 30.9 | 8.6 | -28 | 38.0 | -0.3 | 55.1 |
| | 16 | 60 | 11.7 | 11 4.2 | 175 58.5 | 8.6 | -28 | 37.6 | -0.5 | 55.1 |
| | 17 | 75 | 11.8 | 11 5.1 | 190 26.1 | 8.5 | -28 | 37.1 | -0.6 | 55.2 |
| | 18 | 90 | 12.0 | 11 5.9 | 204 53.6 | 8.5 | -28 | 36.5 | -0.8 | 55.2 |
| | 19 | 105 | 12.1 | 11 6.8 | 219 21.1 | 8.5 | -28 | 35.7 | -0.9 | 55.2 |
| | 20 | 120 | 12.2 | 11 7.7 | 233 48.6 | 8.5 | -28 | 34.8 | -1.1 | 55.2 |
| | 21 | 135 | 12.4 | 11 8.5 | 248 16.1 | 8.5 | -28 | 33.7 | -1.2 | 55.2 |
| | 22 | 150 | 12.5 | 11 9.4 | 262 43.5 | 8.5 | -28 | 32.4 | -1.4 | 55.3 |
| | 23 | 165 | 12.6 | 11 10.2 | 277 11.0 | 8.4 | -28 | 31.0 | -1.5 | 55.3 |
| | | v | 0.1 | SD 15.9 d 0.9 | SD 15.0 | | | | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 01:46 | 03:32 | 20:31 | 22:23 | //// |
| 70 | //// | 02:26 | 03:50 | 20:13 | 21:39 | //// |
| 68 | //// | 02:53 | 04:04 | 19:58 | 21:11 | //// |
| 66 | 01:31 | 03:13 | 04:15 | 19:46 | 20:49 | 22:36 |
| 64 | 02:07 | 03:29 | 04:25 | 19:37 | 20:33 | 21:57 |
| 62 | 02:32 | 03:42 | 04:33 | 19:28 | 20:19 | 21:31 |
| 60 | 02:51 | 03:53 | 04:40 | 19:21 | 20:08 | 21:11 |
| 58 | 03:07 | 04:03 | 04:46 | 19:15 | 19:58 | 20:55 |
| 56 | 03:19 | 04:11 | 04:52 | 19:09 | 19:50 | 20:42 |
| 54 | 03:30 | 04:18 | 04:56 | 19:04 | 19:43 | 20:31 |
| 52 | 03:40 | 04:25 | 05:01 | 19:00 | 19:36 | 20:21 |
| 50 | 03:48 | 04:31 | 05:05 | 18:56 | 19:30 | 20:13 |
| 45 | 04:05 | 04:43 | 05:13 | 18:47 | 19:18 | 19:55 |
| 40 | 04:19 | 04:52 | 05:21 | 18:40 | 19:08 | 19:42 |
| 35 | 04:29 | 05:01 | 05:27 | 18:33 | 19:00 | 19:31 |
| 30 | 04:38 | 05:07 | 05:32 | 18:28 | 18:53 | 19:22 |
| 20 | 04:52 | 05:19 | 05:41 | 18:19 | 18:41 | 19:08 |
| 10 | 05:03 | 05:28 | 05:49 | 18:11 | 18:32 | 18:57 |
| 0 | 05:11 | 05:35 | 05:56 | 18:03 | 18:24 | 18:48 |
| -10 | 05:18 | 05:42 | 06:04 | 17:56 | 18:17 | 18:42 |
| -20 | 05:23 | 05:49 | 06:11 | 17:48 | 18:10 | 18:36 |
| -30 | 05:28 | 05:56 | 06:20 | 17:39 | 18:03 | 18:31 |
| -35 | 05:30 | 05:59 | 06:25 | 17:34 | 18:00 | 18:29 |
| -40 | 05:31 | 06:03 | 06:30 | 17:29 | 17:56 | 18:28 |
| -45 | 05:33 | 06:07 | 06:37 | 17:22 | 17:52 | 18:26 |
| -50 | 05:34 | 06:11 | 06:44 | 17:15 | 17:47 | 18:25 |
| -52 | 05:34 | 06:13 | 06:48 | 17:11 | 17:45 | 18:25 |
| -54 | 05:34 | 06:15 | 06:51 | 17:07 | 17:43 | 18:24 |
| -56 | 05:34 | 06:18 | 06:56 | 17:03 | 17:41 | 18:24 |
| -58 | 05:34 | 06:20 | 07:00 | 16:58 | 17:38 | 18:24 |
| -60 | 05:34 | 06:23 | 07:06 | 16:53 | 17:35 | 18:24 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **16** | **17** | **18** | **16** | **17** | **18** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 68 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 66 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 64 | 00:42 | ▬ | ▬ | 03:23 | ▬ | ▬ |
| 62 | –:– | 01:58 | ▬ | 04:07 | 03:51 | ▬ |
| 60 | –:– | 01:05 | 02:30 | 04:37 | 04:44 | 05:08 |
| 58 | –:– | 00:33 | 01:48 | 05:00 | 05:17 | 05:50 |
| 56 | –:– | 00:09 | 01:20 | 05:18 | 05:41 | 06:18 |
| 54 | 23:50 | –:– | 00:58 | 05:34 | 06:00 | 06:41 |
| 52 | 23:34 | –:– | 00:40 | 05:47 | 06:17 | 06:59 |
| 50 | 23:20 | –:– | 00:24 | 05:59 | 06:31 | 07:14 |
| 45 | 22:52 | 23:53 | –:– | 06:24 | 07:00 | 07:45 |
| 40 | 22:30 | 23:29 | –:– | 06:43 | 07:22 | 08:10 |
| 35 | 22:11 | 23:10 | –:– | 07:00 | 07:41 | 08:30 |
| 30 | 21:56 | 22:53 | 23:47 | 07:14 | 07:57 | 08:47 |
| 20 | 21:29 | 22:24 | 23:18 | 07:39 | 08:25 | 09:15 |
| 10 | 21:07 | 22:00 | 22:54 | 08:00 | 08:48 | 09:40 |
| 0 | 20:45 | 21:37 | 22:31 | 08:20 | 09:10 | 10:03 |
| -10 | 20:24 | 21:15 | 22:08 | 08:40 | 09:32 | 10:26 |
| -20 | 20:02 | 20:50 | 21:43 | 09:01 | 09:56 | 10:50 |
| -30 | 19:36 | 20:22 | 21:15 | 09:26 | 10:23 | 11:19 |
| -35 | 19:21 | 20:05 | 20:58 | 09:40 | 10:40 | 11:36 |
| -40 | 19:03 | 19:46 | 20:38 | 09:57 | 10:59 | 11:56 |
| -45 | 18:42 | 19:23 | 20:14 | 10:18 | 11:22 | 12:20 |
| -50 | 18:15 | 18:53 | 19:43 | 10:44 | 11:51 | 12:51 |
| -52 | 18:02 | 18:38 | 19:28 | 10:56 | 12:06 | 13:06 |
| -54 | 17:47 | 18:21 | 19:10 | 11:11 | 12:23 | 13:24 |
| -56 | 17:30 | 18:00 | 18:48 | 11:28 | 12:44 | 13:46 |
| -58 | 17:09 | 17:34 | 18:20 | 11:48 | 13:10 | 14:14 |
| -60 | 16:43 | 16:58 | 17:39 | 12:14 | 13:46 | 14:55 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **16** | 00:10 | 00:17 | 12:00 | 02:08 | 14:32 | 18 | 92 |
| **17** | 00:24 | 00:31 | 11:59 | 02:58 | 15:24 | 19 | 86 |
| **18** | 00:38 | 00:45 | 11:59 | 03:50 | 16:17 | 20 | 79 |

## 2025 April 19, 20, 21 (Sat, Sun, Monday)

| | | Aries | Venus -4.8 | | Mars 0.8 | | Jupiter -2.0 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 19 Saturday | 0 | 207 21.0 | 212 59.3 | 1 12.7 | 84 17.9 | 22 16.0 | 129 13.9 | 22 43.5 | 209 42.6 | -3 10.2 |
| | 1 | 222 23.4 | 228 1.1 | 1 12.4 | 99 19.2 | 22 15.8 | 144 15.8 | 22 43.5 | 224 44.8 | -3 10.1 |
| | 2 | 237 25.9 | 243 2.8 | 1 12.2 | 114 20.6 | 22 15.5 | 159 17.8 | 22 43.5 | 239 47.0 | -3 10.0 |
| | 3 | 252 28.4 | 258 4.5 | 1 11.9 | 129 22.0 | 22 15.2 | 174 19.8 | 22 43.6 | 254 49.2 | -3 9.9 |
| | 4 | 267 30.8 | 273 6.3 | 1 11.6 | 144 23.4 | 22 14.9 | 189 21.7 | 22 43.6 | 269 51.4 | -3 9.8 |
| | 5 | 282 33.3 | 288 8.0 | 1 11.4 | 159 24.8 | 22 14.7 | 204 23.7 | 22 43.7 | 284 53.6 | -3 9.7 |
| | 6 | 297 35.8 | 303 9.7 | 1 11.1 | 174 26.1 | 22 14.4 | 219 25.7 | 22 43.7 | 299 55.8 | -3 9.6 |
| | 7 | 312 38.2 | 318 11.5 | 1 10.9 | 189 27.5 | 22 14.1 | 234 27.6 | 22 43.8 | 314 58.1 | -3 9.5 |
| | 8 | 327 40.7 | 333 13.2 | 1 10.6 | 204 28.9 | 22 13.8 | 249 29.6 | 22 43.8 | 330 0.3 | -3 9.4 |
| | 9 | 342 43.1 | 348 14.9 | 1 10.4 | 219 30.3 | 22 13.5 | 264 31.5 | 22 43.8 | 345 2.5 | -3 9.3 |
| | 10 | 357 45.6 | 3 16.6 | 1 10.1 | 234 31.7 | 22 13.3 | 279 33.5 | 22 43.9 | 0 4.7 | -3 9.2 |
| | 11 | 12 48.1 | 18 18.3 | 1 9.9 | 249 33.0 | 22 13.0 | 294 35.5 | 22 43.9 | 15 6.9 | -3 9.1 |
| | 12 | 27 50.5 | 33 20.0 | 1 9.6 | 264 34.4 | 22 12.7 | 309 37.4 | 22 44.0 | 30 9.1 | -3 9.0 |
| | 13 | 42 53.0 | 48 21.7 | 1 9.4 | 279 35.8 | 22 12.4 | 324 39.4 | 22 44.0 | 45 11.3 | -3 8.9 |
| | 14 | 57 55.5 | 63 23.4 | 1 9.2 | 294 37.2 | 22 12.1 | 339 41.4 | 22 44.1 | 60 13.5 | -3 8.8 |
| | 15 | 72 57.9 | 78 25.1 | 1 8.9 | 309 38.5 | 22 11.9 | 354 43.3 | 22 44.1 | 75 15.7 | -3 8.7 |
| | 16 | 88 0.4 | 93 26.8 | 1 8.7 | 324 39.9 | 22 11.6 | 9 45.3 | 22 44.2 | 90 17.9 | -3 8.5 |
| | 17 | 103 2.9 | 108 28.5 | 1 8.5 | 339 41.3 | 22 11.3 | 24 47.2 | 22 44.2 | 105 20.1 | -3 8.4 |
| | 18 | 118 5.3 | 123 30.2 | 1 8.2 | 354 42.7 | 22 11.0 | 39 49.2 | 22 44.2 | 120 22.4 | -3 8.3 |
| | 19 | 133 7.8 | 138 31.9 | 1 8.0 | 9 44.0 | 22 10.7 | 54 51.2 | 22 44.3 | 135 24.6 | -3 8.2 |
| | 20 | 148 10.3 | 153 33.6 | 1 7.8 | 24 45.4 | 22 10.4 | 69 53.1 | 22 44.3 | 150 26.8 | -3 8.1 |
| | 21 | 163 12.7 | 168 35.3 | 1 7.5 | 39 46.8 | 22 10.2 | 84 55.1 | 22 44.4 | 165 29.0 | -3 8.0 |
| | 22 | 178 15.2 | 183 36.9 | 1 7.3 | 54 48.2 | 22 9.9 | 99 57.0 | 22 44.4 | 180 31.2 | -3 7.9 |
| | 23 | 193 17.6 | 198 38.6 | 1 7.1 | 69 49.5 | 22 9.6 | 114 59.0 | 22 44.5 | 195 33.4 | -3 7.8 |
| | | MP 10:10 | *v* 1.7 | *d* -0.3 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Sunday | 0 | 208 20.1 | 213 40.3 | 1 6.9 | 84 50.9 | 22 9.3 | 130 1.0 | 22 44.5 | 210 35.6 | -3 7.7 |
| | 1 | 223 22.6 | 228 42.0 | 1 6.6 | 99 52.3 | 22 9.0 | 145 2.9 | 22 44.5 | 225 37.8 | -3 7.6 |
| | 2 | 238 25.0 | 243 43.6 | 1 6.4 | 114 53.7 | 22 8.8 | 160 4.9 | 22 44.6 | 240 40.0 | -3 7.5 |
| | 3 | 253 27.5 | 258 45.3 | 1 6.2 | 129 55.0 | 22 8.5 | 175 6.9 | 22 44.6 | 255 42.2 | -3 7.4 |
| | 4 | 268 30.0 | 273 46.9 | 1 6.0 | 144 56.4 | 22 8.2 | 190 8.8 | 22 44.7 | 270 44.4 | -3 7.3 |
| | 5 | 283 32.4 | 288 48.6 | 1 5.8 | 159 57.8 | 22 7.9 | 205 10.8 | 22 44.7 | 285 46.7 | -3 7.2 |
| | 6 | 298 34.9 | 303 50.3 | 1 5.6 | 174 59.1 | 22 7.6 | 220 12.7 | 22 44.8 | 300 48.9 | -3 7.1 |
| | 7 | 313 37.4 | 318 51.9 | 1 5.4 | 190 0.5 | 22 7.3 | 235 14.7 | 22 44.8 | 315 51.1 | -3 7.0 |
| | 8 | 328 39.8 | 333 53.6 | 1 5.1 | 205 1.9 | 22 7.1 | 250 16.7 | 22 44.8 | 330 53.3 | -3 6.9 |
| | 9 | 343 42.3 | 348 55.2 | 1 4.9 | 220 3.3 | 22 6.8 | 265 18.6 | 22 44.9 | 345 55.5 | -3 6.8 |
| | 10 | 358 44.8 | 3 56.8 | 1 4.7 | 235 4.6 | 22 6.5 | 280 20.6 | 22 44.9 | 0 57.7 | -3 6.7 |
| | 11 | 13 47.2 | 18 58.5 | 1 4.5 | 250 6.0 | 22 6.2 | 295 22.5 | 22 45.0 | 15 59.9 | -3 6.6 |
| | 12 | 28 49.7 | 34 0.1 | 1 4.3 | 265 7.4 | 22 5.9 | 310 24.5 | 22 45.0 | 31 2.1 | -3 6.5 |
| | 13 | 43 52.1 | 49 1.7 | 1 4.1 | 280 8.7 | 22 5.6 | 325 26.4 | 22 45.1 | 46 4.3 | -3 6.4 |
| | 14 | 58 54.6 | 64 3.4 | 1 3.9 | 295 10.1 | 22 5.3 | 340 28.4 | 22 45.1 | 61 6.5 | -3 6.3 |
| | 15 | 73 57.1 | 79 5.0 | 1 3.7 | 310 11.5 | 22 5.1 | 355 30.4 | 22 45.1 | 76 8.8 | -3 6.2 |
| | 16 | 88 59.5 | 94 6.6 | 1 3.5 | 325 12.8 | 22 4.8 | 10 32.3 | 22 45.2 | 91 11.0 | -3 6.1 |
| | 17 | 104 2.0 | 109 8.2 | 1 3.3 | 340 14.2 | 22 4.5 | 25 34.3 | 22 45.2 | 106 13.2 | -3 6.0 |
| | 18 | 119 4.5 | 124 9.9 | 1 3.2 | 355 15.6 | 22 4.2 | 40 36.2 | 22 45.3 | 121 15.4 | -3 5.8 |
| | 19 | 134 6.9 | 139 11.5 | 1 3.0 | 10 16.9 | 22 3.9 | 55 38.2 | 22 45.3 | 136 17.6 | -3 5.7 |
| | 20 | 149 9.4 | 154 13.1 | 1 2.8 | 25 18.3 | 22 3.6 | 70 40.2 | 22 45.4 | 151 19.8 | -3 5.6 |
| | 21 | 164 11.9 | 169 14.7 | 1 2.6 | 40 19.7 | 22 3.3 | 85 42.1 | 22 45.4 | 166 22.0 | -3 5.5 |
| | 22 | 179 14.3 | 184 16.3 | 1 2.4 | 55 21.0 | 22 3.1 | 100 44.1 | 22 45.4 | 181 24.2 | -3 5.4 |
| | 23 | 194 16.8 | 199 17.9 | 1 2.2 | 70 22.4 | 22 2.8 | 115 46.0 | 22 45.5 | 196 26.4 | -3 5.3 |
| | | MP 10:06 | *v* 1.7 | *d* -0.2 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 Monday | 0 | 209 19.3 | 214 19.5 | 1 2.0 | 85 23.8 | 22 2.5 | 130 48.0 | 22 45.5 | 211 28.6 | -3 5.2 |
| | 1 | 224 21.7 | 229 21.1 | 1 1.9 | 100 25.1 | 22 2.2 | 145 49.9 | 22 45.6 | 226 30.9 | -3 5.1 |
| | 2 | 239 24.2 | 244 22.7 | 1 1.7 | 115 26.5 | 22 1.9 | 160 51.9 | 22 45.6 | 241 33.1 | -3 5.0 |
| | 3 | 254 26.6 | 259 24.3 | 1 1.5 | 130 27.9 | 22 1.6 | 175 53.8 | 22 45.7 | 256 35.3 | -3 4.9 |
| | 4 | 269 29.1 | 274 25.9 | 1 1.3 | 145 29.2 | 22 1.3 | 190 55.8 | 22 45.7 | 271 37.5 | -3 4.8 |
| | 5 | 284 31.6 | 289 27.4 | 1 1.2 | 160 30.6 | 22 1.1 | 205 57.8 | 22 45.7 | 286 39.7 | -3 4.7 |
| | 6 | 299 34.0 | 304 29.0 | 1 1.0 | 175 31.9 | 22 0.8 | 220 59.7 | 22 45.8 | 301 41.9 | -3 4.6 |
| | 7 | 314 36.5 | 319 30.6 | 1 0.8 | 190 33.3 | 22 0.5 | 236 1.7 | 22 45.8 | 316 44.1 | -3 4.5 |
| | 8 | 329 39.0 | 334 32.2 | 1 0.7 | 205 34.7 | 22 0.2 | 251 3.6 | 22 45.9 | 331 46.3 | -3 4.4 |
| | 9 | 344 41.4 | 349 33.8 | 1 0.5 | 220 36.0 | 21 59.9 | 266 5.6 | 22 45.9 | 346 48.5 | -3 4.3 |
| | 10 | 359 43.9 | 4 35.3 | 1 0.3 | 235 37.4 | 21 59.6 | 281 7.5 | 22 46.0 | 1 50.8 | -3 4.2 |
| | 11 | 14 46.4 | 19 36.9 | 1 0.2 | 250 38.8 | 21 59.3 | 296 9.5 | 22 46.0 | 16 53.0 | -3 4.1 |
| | 12 | 29 48.8 | 34 38.5 | 1 0.0 | 265 40.1 | 21 59.0 | 311 11.4 | 22 46.0 | 31 55.2 | -3 4.0 |
| | 13 | 44 51.3 | 49 40.0 | 0 59.8 | 280 41.5 | 21 58.7 | 326 13.4 | 22 46.1 | 46 57.4 | -3 3.9 |
| | 14 | 59 53.7 | 64 41.6 | 0 59.7 | 295 42.8 | 21 58.5 | 341 15.4 | 22 46.1 | 61 59.6 | -3 3.8 |
| | 15 | 74 56.2 | 79 43.1 | 0 59.5 | 310 44.2 | 21 58.2 | 356 17.3 | 22 46.2 | 77 1.8 | -3 3.7 |
| | 16 | 89 58.7 | 94 44.7 | 0 59.4 | 325 45.5 | 21 57.9 | 11 19.3 | 22 46.2 | 92 4.0 | -3 3.6 |
| | 17 | 105 1.1 | 109 46.2 | 0 59.2 | 340 46.9 | 21 57.6 | 26 21.2 | 22 46.3 | 107 6.2 | -3 3.5 |
| | 18 | 120 3.6 | 124 47.8 | 0 59.1 | 355 48.3 | 21 57.3 | 41 23.2 | 22 46.3 | 122 8.5 | -3 3.4 |
| | 19 | 135 6.1 | 139 49.3 | 0 58.9 | 10 49.6 | 21 57.0 | 56 25.1 | 22 46.3 | 137 10.7 | -3 3.3 |
| | 20 | 150 8.5 | 154 50.9 | 0 58.8 | 25 51.0 | 21 56.7 | 71 27.1 | 22 46.4 | 152 12.9 | -3 3.2 |
| | 21 | 165 11.0 | 169 52.4 | 0 58.6 | 40 52.3 | 21 56.4 | 86 29.0 | 22 46.4 | 167 15.1 | -3 3.1 |
| | 22 | 180 13.5 | 184 53.9 | 0 58.5 | 55 53.7 | 21 56.1 | 101 31.0 | 22 46.5 | 182 17.3 | -3 3.0 |
| | 23 | 195 15.9 | 199 55.5 | 0 58.3 | 70 55.1 | 21 55.8 | 116 32.9 | 22 46.5 | 197 19.5 | -3 2.9 |
| | | MP 10:02 | *v* 1.6 | *d* -0.2 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.3 |
| Achernar | 335 20.6 | -57 6.5 |
| Acrux | 172 59.3 | -63 14.5 |
| Adhara | 255 5.8 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.3 |
| Alkaid | 152 51.3 | 49 11.1 |
| Alnair | 27 32.9 | -46 50.2 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.2 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.6 |
| Altair | 61 59.7 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 9.0 | -69 4.2 |
| Avior | 234 14.6 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.5 | -52 42.8 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.8 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.4 | -17 50.9 |
| Dubhe | 193 40.2 | 61 37.0 |
| Elnath | 278 1.8 | 28 37.8 |
| Eltanin | 90 41.8 | 51 28.8 |
| Enif | 33 38.7 | 9 59.3 |
| Fomalhaut | 15 14.5 | -29 29.3 |
| Gacrux | 171 50.9 | -57 15.5 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.8 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.1 | -34 22.3 |
| Kochab | 137 18.6 | 74 2.9 |
| Markab | 13 29.9 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.2 |
| Menkent | 147 57.0 | -36 29.8 |
| Miaplacidus | 221 38.0 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.4 | -26 15.9 |
| Peacock | 53 5.4 | -56 39.0 |
| Pollux | 243 17.1 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.3 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.5 |
| Rigil Kent. | 139 39.4 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.4 |
| Shaula | 96 9.8 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.1 | -43 32.3 |
| Vega | 80 32.9 | 38 48.1 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 19 Sat | SHA | MP |
|---|---|---|
| Venus | 5 38.4 | 09:47 |
| Mars | 236 56.9 | 18:21 |
| Jupiter | 281 52.9 | 15:21 |
| Saturn | 2 21.6 | 10:00 |

| 20 Sun | SHA | MP |
|---|---|---|
| Venus | 5 20.2 | 09:44 |
| Mars | 236 30.8 | 18:19 |
| Jupiter | 281 40.9 | 15:18 |
| Saturn | 2 15.5 | 09:56 |

| 21 Mon | SHA | MP |
|---|---|---|
| Venus | 5 0.2 | 09:42 |
| Mars | 236 4.5 | 18:17 |
| Jupiter | 281 28.7 | 15:15 |
| Saturn | 2 9.4 | 09:53 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **19 Saturday** | 0 | 180 12.8 | 11 11.1 | 291 38.4 | 8.4 | -28 29.5 | -1.7 | 55.3 |
| | 1 | 195 12.9 | 11 12.0 | 306 5.9 | 8.4 | -28 27.8 | -1.8 | 55.3 |
| | 2 | 210 13.1 | 11 12.8 | 320 33.3 | 8.4 | -28 25.9 | -2.0 | 55.4 |
| | 3 | 225 13.2 | 11 13.7 | 335 0.7 | 8.4 | -28 23.9 | -2.1 | 55.4 |
| | 4 | 240 13.3 | 11 14.6 | 349 28.1 | 8.4 | -28 21.8 | -2.3 | 55.4 |
| | 5 | 255 13.5 | 11 15.4 | 3 55.5 | 8.4 | -28 19.5 | -2.5 | 55.4 |
| | 6 | 270 13.6 | 11 16.3 | 18 22.9 | 8.4 | -28 17.0 | -2.6 | 55.5 |
| | 7 | 285 13.7 | 11 17.2 | 32 50.3 | 8.4 | -28 14.4 | -2.8 | 55.5 |
| | 8 | 300 13.9 | 11 18.0 | 47 17.7 | 8.4 | -28 11.7 | -2.9 | 55.5 |
| | 9 | 315 14.0 | 11 18.9 | 61 45.1 | 8.4 | -28 8.8 | -3.1 | 55.5 |
| | 10 | 330 14.1 | 11 19.7 | 76 12.5 | 8.4 | -28 5.7 | -3.2 | 55.6 |
| | 11 | 345 14.3 | 11 20.6 | 90 39.9 | 8.4 | -28 2.5 | -3.4 | 55.6 |
| | 12 | 0 14.4 | 11 21.5 | 105 7.3 | 8.4 | -27 59.1 | -3.5 | 55.6 |
| | 13 | 15 14.5 | 11 22.3 | 119 34.7 | 8.4 | -27 55.6 | -3.7 | 55.7 |
| | 14 | 30 14.7 | 11 23.2 | 134 2.1 | 8.4 | -27 52.0 | -3.8 | 55.7 |
| | 15 | 45 14.8 | 11 24.0 | 148 29.5 | 8.4 | -27 48.2 | -4.0 | 55.7 |
| | 16 | 60 14.9 | 11 24.9 | 162 57.0 | 8.4 | -27 44.2 | -4.1 | 55.7 |
| | 17 | 75 15.1 | 11 25.8 | 177 24.4 | 8.5 | -27 40.1 | -4.3 | 55.8 |
| | 18 | 90 15.2 | 11 26.6 | 191 51.9 | 8.5 | -27 35.8 | -4.4 | 55.8 |
| | 19 | 105 15.3 | 11 27.5 | 206 19.3 | 8.5 | -27 31.4 | -4.6 | 55.8 |
| | 20 | 120 15.5 | 11 28.3 | 220 46.8 | 8.5 | -27 26.8 | -4.7 | 55.8 |
| | 21 | 135 15.6 | 11 29.2 | 235 14.3 | 8.5 | -27 22.1 | -4.9 | 55.9 |
| | 22 | 150 15.7 | 11 30.1 | 249 41.8 | 8.5 | -27 17.2 | -5.0 | 55.9 |
| | 23 | 165 15.8 | 11 30.9 | 264 9.3 | 8.5 | -27 12.2 | -5.2 | 55.9 |
| | *v* | 0.1 | SD 15.9 | *d* 0.9 | | SD 15.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Sunday** | 0 | 180 16.0 | 11 31.8 | 278 36.9 | 8.6 | -27 7.0 | -5.3 | 56.0 |
| | 1 | 195 16.1 | 11 32.6 | 293 4.4 | 8.6 | -27 1.7 | -5.5 | 56.0 |
| | 2 | 210 16.2 | 11 33.5 | 307 32.0 | 8.6 | -26 56.2 | -5.6 | 56.0 |
| | 3 | 225 16.4 | 11 34.3 | 321 59.6 | 8.6 | -26 50.6 | -5.8 | 56.1 |
| | 4 | 240 16.5 | 11 35.2 | 336 27.3 | 8.6 | -26 44.9 | -5.9 | 56.1 |
| | 5 | 255 16.6 | 11 36.1 | 350 54.9 | 8.7 | -26 39.0 | -6.1 | 56.1 |
| | 6 | 270 16.8 | 11 36.9 | 5 22.6 | 8.7 | -26 32.9 | -6.2 | 56.1 |
| | 7 | 285 16.9 | 11 37.8 | 19 50.3 | 8.7 | -26 26.7 | -6.4 | 56.2 |
| | 8 | 300 17.0 | 11 38.6 | 34 18.0 | 8.7 | -26 20.3 | -6.5 | 56.2 |
| | 9 | 315 17.2 | 11 39.5 | 48 45.7 | 8.8 | -26 13.8 | -6.6 | 56.2 |
| | 10 | 330 17.3 | 11 40.3 | 63 13.5 | 8.8 | -26 7.2 | -6.8 | 56.3 |
| | 11 | 345 17.4 | 11 41.2 | 77 41.3 | 8.8 | -26 0.4 | -6.9 | 56.3 |
| | 12 | 0 17.5 | 11 42.0 | 92 9.2 | 8.9 | -25 53.5 | -7.1 | 56.3 |
| | 13 | 15 17.7 | 11 42.9 | 106 37.0 | 8.9 | -25 46.4 | -7.2 | 56.4 |
| | 14 | 30 17.8 | 11 43.7 | 121 4.9 | 8.9 | -25 39.1 | -7.4 | 56.4 |
| | 15 | 45 17.9 | 11 44.6 | 135 32.8 | 9.0 | -25 31.8 | -7.5 | 56.4 |
| | 16 | 60 18.1 | 11 45.4 | 150 0.8 | 9.0 | -25 24.3 | -7.7 | 56.5 |
| | 17 | 75 18.2 | 11 46.3 | 164 28.8 | 9.0 | -25 16.6 | -7.8 | 56.5 |
| | 18 | 90 18.3 | 11 47.1 | 178 56.8 | 9.1 | -25 8.8 | -7.9 | 56.5 |
| | 19 | 105 18.4 | 11 48.0 | 193 24.9 | 9.1 | -25 0.9 | -8.1 | 56.6 |
| | 20 | 120 18.6 | 11 48.8 | 207 53.0 | 9.1 | -24 52.8 | -8.2 | 56.6 |
| | 21 | 135 18.7 | 11 49.7 | 222 21.1 | 9.2 | -24 44.6 | -8.4 | 56.6 |
| | 22 | 150 18.8 | 11 50.5 | 236 49.3 | 9.2 | -24 36.2 | -8.5 | 56.7 |
| | 23 | 165 18.9 | 11 51.4 | 251 17.5 | 9.2 | -24 27.7 | -8.6 | 56.7 |
| | *v* | 0.1 | SD 15.9 | *d* 0.9 | | SD 15.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **21 Monday** | 0 | 180 19.1 | 11 52.2 | 265 45.7 | 9.3 | -24 19.1 | -8.8 | 56.7 |
| | 1 | 195 19.2 | 11 53.1 | 280 14.0 | 9.3 | -24 10.3 | -8.9 | 56.8 |
| | 2 | 210 19.3 | 11 53.9 | 294 42.3 | 9.3 | -24 1.4 | -9.1 | 56.8 |
| | 3 | 225 19.5 | 11 54.8 | 309 10.6 | 9.4 | -23 52.3 | -9.2 | 56.8 |
| | 4 | 240 19.6 | 11 55.6 | 323 39.0 | 9.4 | -23 43.1 | -9.3 | 56.9 |
| | 5 | 255 19.7 | 11 56.5 | 338 7.4 | 9.5 | -23 33.8 | -9.5 | 56.9 |
| | 6 | 270 19.8 | 11 57.3 | 352 35.9 | 9.5 | -23 24.3 | -9.6 | 56.9 |
| | 7 | 285 20.0 | 11 58.2 | 7 4.4 | 9.5 | -23 14.7 | -9.7 | 57.0 |
| | 8 | 300 20.1 | 11 59.0 | 21 32.9 | 9.6 | -23 5.0 | -9.9 | 57.0 |
| | 9 | 315 20.2 | 11 59.9 | 36 1.5 | 9.6 | -22 55.1 | -10.0 | 57.0 |
| | 10 | 330 20.3 | 12 0.7 | 50 30.1 | 9.7 | -22 45.2 | -10.1 | 57.1 |
| | 11 | 345 20.5 | 12 1.6 | 64 58.8 | 9.7 | -22 35.0 | -10.3 | 57.1 |
| | 12 | 0 20.6 | 12 2.4 | 79 27.5 | 9.7 | -22 24.8 | -10.4 | 57.2 |
| | 13 | 15 20.7 | 12 3.3 | 93 56.2 | 9.8 | -22 14.4 | -10.5 | 57.2 |
| | 14 | 30 20.8 | 12 4.1 | 108 25.0 | 9.8 | -22 3.9 | -10.6 | 57.2 |
| | 15 | 45 20.9 | 12 4.9 | 122 53.9 | 9.9 | -21 53.2 | -10.8 | 57.3 |
| | 16 | 60 21.1 | 12 5.8 | 137 22.7 | 9.9 | -21 42.5 | -10.9 | 57.3 |
| | 17 | 75 21.2 | 12 6.6 | 151 51.6 | 9.9 | -21 31.6 | -11.0 | 57.3 |
| | 18 | 90 21.3 | 12 7.5 | 166 20.6 | 10.0 | -21 20.5 | -11.1 | 57.4 |
| | 19 | 105 21.4 | 12 8.3 | 180 49.5 | 10.0 | -21 9.4 | -11.3 | 57.4 |
| | 20 | 120 21.6 | 12 9.2 | 195 18.6 | 10.1 | -20 58.1 | -11.4 | 57.5 |
| | 21 | 135 21.7 | 12 10.0 | 209 47.6 | 10.1 | -20 46.7 | -11.5 | 57.5 |
| | 22 | 150 21.8 | 12 10.8 | 224 16.7 | 10.1 | -20 35.2 | -11.6 | 57.5 |
| | 23 | 165 21.9 | 12 11.7 | 238 45.9 | 10.2 | -20 23.5 | -11.8 | 57.6 |
| | *v* | 0.1 | SD 15.9 | *d* 0.8 | | SD 15.5 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 01:09 | 03:14 | 20:48 | 23:05 | //// |
| 70 | //// | 02:04 | 03:35 | 20:27 | 22:01 | //// |
| 68 | //// | 02:36 | 03:51 | 20:10 | 21:27 | //// |
| 66 | 00:59 | 02:59 | 04:04 | 19:57 | 21:03 | 23:12 |
| 64 | 01:48 | 03:17 | 04:14 | 19:46 | 20:44 | 22:16 |
| 62 | 02:17 | 03:31 | 04:23 | 19:37 | 20:29 | 21:45 |
| 60 | 02:39 | 03:44 | 04:31 | 19:29 | 20:17 | 21:23 |
| 58 | 02:56 | 03:54 | 04:38 | 19:22 | 20:06 | 21:05 |
| 56 | 03:10 | 04:03 | 04:44 | 19:15 | 19:57 | 20:50 |
| 54 | 03:22 | 04:11 | 04:50 | 19:10 | 19:49 | 20:38 |
| 52 | 03:32 | 04:18 | 04:54 | 19:05 | 19:42 | 20:28 |
| 50 | 03:41 | 04:24 | 04:59 | 19:00 | 19:35 | 20:19 |
| 45 | 04:00 | 04:37 | 05:08 | 18:51 | 19:22 | 20:00 |
| 40 | 04:14 | 04:48 | 05:16 | 18:43 | 19:11 | 19:45 |
| 35 | 04:25 | 04:57 | 05:23 | 18:36 | 19:02 | 19:34 |
| 30 | 04:35 | 05:04 | 05:29 | 18:30 | 18:55 | 19:24 |
| 20 | 04:50 | 05:16 | 05:39 | 18:20 | 18:42 | 19:09 |
| 10 | 05:01 | 05:26 | 05:48 | 18:11 | 18:32 | 18:57 |
| 0 | 05:10 | 05:35 | 05:56 | 18:02 | 18:23 | 18:48 |
| -10 | 05:18 | 05:42 | 06:04 | 17:54 | 18:16 | 18:40 |
| -20 | 05:24 | 05:50 | 06:12 | 17:46 | 18:08 | 18:34 |
| -30 | 05:29 | 05:57 | 06:22 | 17:36 | 18:00 | 18:28 |
| -35 | 05:32 | 06:01 | 06:27 | 17:31 | 17:56 | 18:26 |
| -40 | 05:34 | 06:06 | 06:33 | 17:24 | 17:52 | 18:24 |
| -45 | 05:36 | 06:10 | 06:40 | 17:17 | 17:47 | 18:21 |
| -50 | 05:38 | 06:16 | 06:49 | 17:09 | 17:42 | 18:19 |
| -52 | 05:39 | 06:18 | 06:53 | 17:05 | 17:39 | 18:19 |
| -54 | 05:39 | 06:20 | 06:57 | 17:00 | 17:37 | 18:18 |
| -56 | 05:40 | 06:23 | 07:02 | 16:56 | 17:34 | 18:17 |
| -58 | 05:40 | 06:26 | 07:07 | 16:50 | 17:31 | 18:16 |
| -60 | 05:41 | 06:30 | 07:13 | 16:44 | 17:27 | 18:16 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **19** | **20** | **21** | **19** | **20** | **21** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | 05:43 | | | 07:32 |
| 64 | | | 04:44 | | | 08:30 |
| 62 | | 04:23 | 04:10 | | 07:00 | 09:04 |
| 60 | 03:21 | 03:39 | 03:45 | 06:09 | 07:44 | 09:28 |
| 58 | 02:41 | 03:10 | 03:25 | 06:49 | 08:12 | 09:47 |
| 56 | 02:13 | 02:48 | 03:09 | 07:17 | 08:34 | 10:03 |
| 54 | 01:51 | 02:29 | 02:54 | 07:38 | 08:53 | 10:17 |
| 52 | 01:33 | 02:14 | 02:42 | 07:56 | 09:08 | 10:29 |
| 50 | 01:18 | 02:00 | 02:31 | 08:12 | 09:21 | 10:39 |
| 45 | 00:47 | 01:32 | 02:08 | 08:42 | 09:48 | 11:01 |
| 40 | 00:23 | 01:10 | 01:50 | 09:06 | 10:10 | 11:18 |
| 35 | 00:04 | 00:52 | 01:34 | 09:25 | 10:27 | 11:33 |
| 30 | –:– | 00:36 | 01:20 | 09:42 | 10:42 | 11:46 |
| 20 | –:– | 00:09 | 00:57 | 10:10 | 11:08 | 12:07 |
| 10 | 23:46 | –:– | 00:37 | 10:34 | 11:30 | 12:26 |
| 0 | 23:25 | –:– | 00:18 | 10:57 | 11:51 | 12:43 |
| -10 | 23:03 | 23:59 | –:– | 11:19 | 12:11 | 13:00 |
| -20 | 22:40 | 23:39 | –:– | 11:43 | 12:33 | 13:18 |
| -30 | 22:13 | 23:15 | –:– | 12:11 | 12:58 | 13:39 |
| -35 | 21:57 | 23:01 | –:– | 12:27 | 13:12 | 13:51 |
| -40 | 21:38 | 22:45 | 23:56 | 12:46 | 13:29 | 14:05 |
| -45 | 21:16 | 22:26 | 23:41 | 13:09 | 13:49 | 14:22 |
| -50 | 20:47 | 22:01 | 23:22 | 13:39 | 14:15 | 14:42 |
| -52 | 20:33 | 21:50 | 23:13 | 13:53 | 14:27 | 14:51 |
| -54 | 20:16 | 21:36 | 23:03 | 14:10 | 14:41 | 15:02 |
| -56 | 19:57 | 21:21 | 22:52 | 14:30 | 14:57 | 15:14 |
| -58 | 19:32 | 21:02 | 22:39 | 14:54 | 15:16 | 15:27 |
| -60 | 18:59 | 20:39 | 22:24 | 15:28 | 15:39 | 15:43 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **19** | 00:51 | 00:58 | 11:59 | 04:44 | 17:11 | 21 | 70 |
| **20** | 01:04 | 01:10 | 11:59 | 05:38 | 18:04 | 22 | 61 |
| **21** | 01:16 | 01:22 | 11:59 | 06:31 | 18:57 | 23 | 51 |

## 2025 April 22, 23, 24 (Tue, Wed, Thu)

| | | Aries | Venus -4.8 | | Mars 0.8 | | Jupiter -2.0 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 22 Tuesday | 0 | 210 18.4 | 214 57.0 | 0 58.2 | 85 56.4 | 21 55.6 | 131 34.9 | 22 46.6 | 212 21.7 | -3 2.8 |
| | 1 | 225 20.9 | 229 58.5 | 0 58.1 | 100 57.8 | 21 55.3 | 146 36.8 | 22 46.6 | 227 23.9 | -3 2.7 |
| | 2 | 240 23.3 | 245 0.0 | 0 57.9 | 115 59.1 | 21 55.0 | 161 38.8 | 22 46.6 | 242 26.1 | -3 2.6 |
| | 3 | 255 25.8 | 260 1.6 | 0 57.8 | 131 0.5 | 21 54.7 | 176 40.8 | 22 46.7 | 257 28.4 | -3 2.5 |
| | 4 | 270 28.2 | 275 3.1 | 0 57.6 | 146 1.8 | 21 54.4 | 191 42.7 | 22 46.7 | 272 30.6 | -3 2.4 |
| | 5 | 285 30.7 | 290 4.6 | 0 57.5 | 161 3.2 | 21 54.1 | 206 44.7 | 22 46.8 | 287 32.8 | -3 2.3 |
| | 6 | 300 33.2 | 305 6.1 | 0 57.4 | 176 4.5 | 21 53.8 | 221 46.6 | 22 46.8 | 302 35.0 | -3 2.2 |
| | 7 | 315 35.6 | 320 7.6 | 0 57.3 | 191 5.9 | 21 53.5 | 236 48.6 | 22 46.8 | 317 37.2 | -3 2.0 |
| | 8 | 330 38.1 | 335 9.1 | 0 57.1 | 206 7.2 | 21 53.2 | 251 50.5 | 22 46.9 | 332 39.4 | -3 1.9 |
| | 9 | 345 40.6 | 350 10.6 | 0 57.0 | 221 8.6 | 21 52.9 | 266 52.5 | 22 46.9 | 347 41.6 | -3 1.8 |
| | 10 | 0 43.0 | 5 12.1 | 0 56.9 | 236 10.0 | 21 52.6 | 281 54.4 | 22 47.0 | 2 43.9 | -3 1.7 |
| | 11 | 15 45.5 | 20 13.6 | 0 56.7 | 251 11.3 | 21 52.3 | 296 56.4 | 22 47.0 | 17 46.1 | -3 1.6 |
| | 12 | 30 48.0 | 35 15.1 | 0 56.6 | 266 12.7 | 21 52.0 | 311 58.3 | 22 47.1 | 32 48.3 | -3 1.5 |
| | 13 | 45 50.4 | 50 16.6 | 0 56.5 | 281 14.0 | 21 51.8 | 327 0.3 | 22 47.1 | 47 50.5 | -3 1.4 |
| | 14 | 60 52.9 | 65 18.1 | 0 56.4 | 296 15.4 | 21 51.5 | 342 2.2 | 22 47.1 | 62 52.7 | -3 1.3 |
| | 15 | 75 55.4 | 80 19.6 | 0 56.3 | 311 16.7 | 21 51.2 | 357 4.2 | 22 47.2 | 77 54.9 | -3 1.2 |
| | 16 | 90 57.8 | 95 21.1 | 0 56.2 | 326 18.1 | 21 50.9 | 12 6.1 | 22 47.2 | 92 57.1 | -3 1.1 |
| | 17 | 106 0.3 | 110 22.6 | 0 56.0 | 341 19.4 | 21 50.6 | 27 8.1 | 22 47.3 | 107 59.3 | -3 1.0 |
| | 18 | 121 2.7 | 125 24.0 | 0 55.9 | 356 20.8 | 21 50.3 | 42 10.0 | 22 47.3 | 123 1.6 | -3 0.9 |
| | 19 | 136 5.2 | 140 25.5 | 0 55.8 | 11 22.1 | 21 50.0 | 57 12.0 | 22 47.4 | 138 3.8 | -3 0.8 |
| | 20 | 151 7.7 | 155 27.0 | 0 55.7 | 26 23.5 | 21 49.7 | 72 13.9 | 22 47.4 | 153 6.0 | -3 0.7 |
| | 21 | 166 10.1 | 170 28.5 | 0 55.6 | 41 24.8 | 21 49.4 | 87 15.9 | 22 47.4 | 168 8.2 | -3 0.6 |
| | 22 | 181 12.6 | 185 29.9 | 0 55.5 | 56 26.2 | 21 49.1 | 102 17.8 | 22 47.5 | 183 10.4 | -3 0.5 |
| | 23 | 196 15.1 | 200 31.4 | 0 55.4 | 71 27.5 | 21 48.8 | 117 19.8 | 22 47.5 | 198 12.6 | -3 0.4 |
| | | MP 09:58 | *v* 1.5 | *d* -0.1 | *v* 1.4 | *d* -0.3 | *v* 2.0 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Wednesday | 0 | 211 17.5 | 215 32.9 | 0 55.3 | 86 28.9 | 21 48.5 | 132 21.7 | 22 47.6 | 213 14.8 | -3 0.3 |
| | 1 | 226 20.0 | 230 34.3 | 0 55.2 | 101 30.2 | 21 48.2 | 147 23.7 | 22 47.6 | 228 17.1 | -3 0.2 |
| | 2 | 241 22.5 | 245 35.8 | 0 55.1 | 116 31.5 | 21 47.9 | 162 25.6 | 22 47.6 | 243 19.3 | -3 0.1 |
| | 3 | 256 24.9 | 260 37.2 | 0 55.0 | 131 32.9 | 21 47.6 | 177 27.6 | 22 47.7 | 258 21.5 | -3 0.0 |
| | 4 | 271 27.4 | 275 38.7 | 0 54.9 | 146 34.2 | 21 47.3 | 192 29.5 | 22 47.7 | 273 23.7 | -2 59.9 |
| | 5 | 286 29.9 | 290 40.1 | 0 54.8 | 161 35.6 | 21 47.0 | 207 31.5 | 22 47.8 | 288 25.9 | -2 59.8 |
| | 6 | 301 32.3 | 305 41.6 | 0 54.7 | 176 36.9 | 21 46.7 | 222 33.4 | 22 47.8 | 303 28.1 | -2 59.7 |
| | 7 | 316 34.8 | 320 43.0 | 0 54.6 | 191 38.3 | 21 46.4 | 237 35.4 | 22 47.9 | 318 30.3 | -2 59.6 |
| | 8 | 331 37.2 | 335 44.5 | 0 54.5 | 206 39.6 | 21 46.1 | 252 37.3 | 22 47.9 | 333 32.6 | -2 59.5 |
| | 9 | 346 39.7 | 350 45.9 | 0 54.5 | 221 41.0 | 21 45.8 | 267 39.3 | 22 47.9 | 348 34.8 | -2 59.4 |
| | 10 | 1 42.2 | 5 47.3 | 0 54.4 | 236 42.3 | 21 45.6 | 282 41.2 | 22 48.0 | 3 37.0 | -2 59.3 |
| | 11 | 16 44.6 | 20 48.8 | 0 54.3 | 251 43.7 | 21 45.3 | 297 43.1 | 22 48.0 | 18 39.2 | -2 59.2 |
| | 12 | 31 47.1 | 35 50.2 | 0 54.2 | 266 45.0 | 21 45.0 | 312 45.1 | 22 48.1 | 33 41.4 | -2 59.1 |
| | 13 | 46 49.6 | 50 51.6 | 0 54.1 | 281 46.3 | 21 44.7 | 327 47.0 | 22 48.1 | 48 43.6 | -2 59.0 |
| | 14 | 61 52.0 | 65 53.0 | 0 54.0 | 296 47.7 | 21 44.4 | 342 49.0 | 22 48.1 | 63 45.8 | -2 58.9 |
| | 15 | 76 54.5 | 80 54.5 | 0 54.0 | 311 49.0 | 21 44.1 | 357 50.9 | 22 48.2 | 78 48.1 | -2 58.8 |
| | 16 | 91 57.0 | 95 55.9 | 0 53.9 | 326 50.4 | 21 43.8 | 12 52.9 | 22 48.2 | 93 50.3 | -2 58.7 |
| | 17 | 106 59.4 | 110 57.3 | 0 53.8 | 341 51.7 | 21 43.5 | 27 54.8 | 22 48.3 | 108 52.5 | -2 58.6 |
| | 18 | 122 1.9 | 125 58.7 | 0 53.7 | 356 53.1 | 21 43.2 | 42 56.8 | 22 48.3 | 123 54.7 | -2 58.5 |
| | 19 | 137 4.3 | 141 0.1 | 0 53.7 | 11 54.4 | 21 42.9 | 57 58.7 | 22 48.4 | 138 56.9 | -2 58.4 |
| | 20 | 152 6.8 | 156 1.5 | 0 53.6 | 26 55.7 | 21 42.6 | 73 0.7 | 22 48.4 | 153 59.1 | -2 58.3 |
| | 21 | 167 9.3 | 171 2.9 | 0 53.5 | 41 57.1 | 21 42.3 | 88 2.6 | 22 48.4 | 169 1.4 | -2 58.2 |
| | 22 | 182 11.7 | 186 4.3 | 0 53.5 | 56 58.4 | 21 42.0 | 103 4.6 | 22 48.5 | 184 3.6 | -2 58.1 |
| | 23 | 197 14.2 | 201 5.7 | 0 53.4 | 71 59.8 | 21 41.7 | 118 6.5 | 22 48.5 | 199 5.8 | -2 58.0 |
| | | MP 09:54 | *v* 1.5 | *d* -0.1 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 Thursday | 0 | 212 16.7 | 216 7.1 | 0 53.3 | 87 1.1 | 21 41.4 | 133 8.5 | 22 48.6 | 214 8.0 | -2 57.9 |
| | 1 | 227 19.1 | 231 8.5 | 0 53.3 | 102 2.4 | 21 41.1 | 148 10.4 | 22 48.6 | 229 10.2 | -2 57.8 |
| | 2 | 242 21.6 | 246 9.9 | 0 53.2 | 117 3.8 | 21 40.8 | 163 12.3 | 22 48.6 | 244 12.4 | -2 57.7 |
| | 3 | 257 24.1 | 261 11.3 | 0 53.2 | 132 5.1 | 21 40.5 | 178 14.3 | 22 48.7 | 259 14.6 | -2 57.6 |
| | 4 | 272 26.5 | 276 12.7 | 0 53.1 | 147 6.5 | 21 40.2 | 193 16.2 | 22 48.7 | 274 16.9 | -2 57.5 |
| | 5 | 287 29.0 | 291 14.1 | 0 53.1 | 162 7.8 | 21 39.9 | 208 18.2 | 22 48.8 | 289 19.1 | -2 57.4 |
| | 6 | 302 31.5 | 306 15.5 | 0 53.0 | 177 9.1 | 21 39.6 | 223 20.1 | 22 48.8 | 304 21.3 | -2 57.3 |
| | 7 | 317 33.9 | 321 16.9 | 0 52.9 | 192 10.5 | 21 39.3 | 238 22.1 | 22 48.9 | 319 23.5 | -2 57.2 |
| | 8 | 332 36.4 | 336 18.2 | 0 52.9 | 207 11.8 | 21 39.0 | 253 24.0 | 22 48.9 | 334 25.7 | -2 57.1 |
| | 9 | 347 38.8 | 351 19.6 | 0 52.8 | 222 13.1 | 21 38.7 | 268 26.0 | 22 48.9 | 349 27.9 | -2 57.0 |
| | 10 | 2 41.3 | 6 21.0 | 0 52.8 | 237 14.5 | 21 38.4 | 283 27.9 | 22 49.0 | 4 30.2 | -2 56.9 |
| | 11 | 17 43.8 | 21 22.3 | 0 52.8 | 252 15.8 | 21 38.1 | 298 29.8 | 22 49.0 | 19 32.4 | -2 56.8 |
| | 12 | 32 46.2 | 36 23.7 | 0 52.7 | 267 17.2 | 21 37.8 | 313 31.8 | 22 49.1 | 34 34.6 | -2 56.7 |
| | 13 | 47 48.7 | 51 25.1 | 0 52.7 | 282 18.5 | 21 37.5 | 328 33.7 | 22 49.1 | 49 36.8 | -2 56.6 |
| | 14 | 62 51.2 | 66 26.4 | 0 52.6 | 297 19.8 | 21 37.2 | 343 35.7 | 22 49.1 | 64 39.0 | -2 56.5 |
| | 15 | 77 53.6 | 81 27.8 | 0 52.6 | 312 21.2 | 21 36.9 | 358 37.6 | 22 49.2 | 79 41.2 | -2 56.4 |
| | 16 | 92 56.1 | 96 29.2 | 0 52.6 | 327 22.5 | 21 36.5 | 13 39.6 | 22 49.2 | 94 43.5 | -2 56.3 |
| | 17 | 107 58.6 | 111 30.5 | 0 52.5 | 342 23.8 | 21 36.2 | 28 41.5 | 22 49.3 | 109 45.7 | -2 56.2 |
| | 18 | 123 1.0 | 126 31.9 | 0 52.5 | 357 25.2 | 21 35.9 | 43 43.4 | 22 49.3 | 124 47.9 | -2 56.1 |
| | 19 | 138 3.5 | 141 33.2 | 0 52.4 | 12 26.5 | 21 35.6 | 58 45.4 | 22 49.3 | 139 50.1 | -2 56.0 |
| | 20 | 153 5.9 | 156 34.6 | 0 52.4 | 27 27.8 | 21 35.3 | 73 47.3 | 22 49.4 | 154 52.3 | -2 55.9 |
| | 21 | 168 8.4 | 171 35.9 | 0 52.4 | 42 29.2 | 21 35.0 | 88 49.3 | 22 49.4 | 169 54.5 | -2 55.8 |
| | 22 | 183 10.9 | 186 37.2 | 0 52.4 | 57 30.5 | 21 34.7 | 103 51.2 | 22 49.5 | 184 56.8 | -2 55.7 |
| | 23 | 198 13.3 | 201 38.6 | 0 52.3 | 72 31.8 | 21 34.4 | 118 53.2 | 22 49.5 | 199 59.0 | -2 55.6 |
| | | MP 09:51 | *v* 1.4 | *d* -0.1 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.3 |
| Achernar | 335 20.6 | -57 6.5 |
| Acrux | 172 59.3 | -63 14.5 |
| Adhara | 255 5.8 | -29 0.6 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.4 |
| Alkaid | 152 51.3 | 49 11.1 |
| Alnair | 27 32.8 | -46 50.2 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.4 | -8 46.2 |
| Alphecca | 126 3.2 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.6 |
| Altair | 61 59.7 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 8.9 | -69 4.2 |
| Avior | 234 14.7 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.6 | -52 42.8 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.7 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.4 | -17 50.9 |
| Dubhe | 193 40.2 | 61 37.0 |
| Elnath | 278 1.8 | 28 37.8 |
| Eltanin | 90 41.8 | 51 28.8 |
| Enif | 33 38.7 | 9 59.3 |
| Fomalhaut | 15 14.5 | -29 29.3 |
| Gacrux | 171 50.9 | -57 15.5 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.8 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.0 | -34 22.3 |
| Kochab | 137 18.6 | 74 2.9 |
| Markab | 13 29.9 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 57.0 | -36 29.8 |
| Miaplacidus | 221 38.1 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.4 | -26 15.9 |
| Peacock | 53 5.4 | -56 39.0 |
| Pollux | 243 17.1 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.5 |
| Rasalhague | 95 58.1 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.4 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.4 |
| Shaula | 96 9.8 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.1 | -43 32.3 |
| Vega | 80 32.9 | 38 48.1 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 22 Tue | SHA | MP |
|---|---|---|
| Venus | 4 38.6 | 09:39 |
| Mars | 235 38.0 | 18:15 |
| Jupiter | 281 16.5 | 15:12 |
| Saturn | 2 3.3 | 09:49 |

| 23 Wed | SHA | MP |
|---|---|---|
| Venus | 4 15.3 | 09:37 |
| Mars | 235 11.3 | 18:12 |
| Jupiter | 281 4.2 | 15:09 |
| Saturn | 1 57.3 | 09:46 |

| 24 Thu | SHA | MP |
|---|---|---|
| Venus | 3 50.5 | 09:35 |
| Mars | 234 44.4 | 18:10 |
| Jupiter | 280 51.8 | 15:05 |
| Saturn | 1 51.3 | 09:42 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **22 Tuesday** | 0 | 180 22.0 | 12 12.5 | 253 15.1 | 10.2 | -20 11.8 | -11.9 | 57.6 |
| | 1 | 195 22.2 | 12 13.4 | 267 44.3 | 10.3 | -19 59.9 | -12.0 | 57.6 |
| | 2 | 210 22.3 | 12 14.2 | 282 13.5 | 10.3 | -19 47.9 | -12.1 | 57.7 |
| | 3 | 225 22.4 | 12 15.0 | 296 42.8 | 10.3 | -19 35.8 | -12.2 | 57.7 |
| | 4 | 240 22.5 | 12 15.9 | 311 12.2 | 10.4 | -19 23.5 | -12.4 | 57.8 |
| | 5 | 255 22.7 | 12 16.7 | 325 41.6 | 10.4 | -19 11.2 | -12.5 | 57.8 |
| | 6 | 270 22.8 | 12 17.6 | 340 11.0 | 10.5 | -18 58.7 | -12.6 | 57.8 |
| | 7 | 285 22.9 | 12 18.4 | 354 40.4 | 10.5 | -18 46.1 | -12.7 | 57.9 |
| | 8 | 300 23.0 | 12 19.2 | 9 9.9 | 10.5 | -18 33.4 | -12.8 | 57.9 |
| | 9 | 315 23.1 | 12 20.1 | 23 39.5 | 10.6 | -18 20.6 | -12.9 | 57.9 |
| | 10 | 330 23.3 | 12 20.9 | 38 9.0 | 10.6 | -18 7.7 | -13.0 | 58.0 |
| | 11 | 345 23.4 | 12 21.7 | 52 38.6 | 10.6 | -17 54.7 | -13.1 | 58.0 |
| | 12 | 0 23.5 | 12 22.6 | 67 8.3 | 10.7 | -17 41.5 | -13.3 | 58.1 |
| | 13 | 15 23.6 | 12 23.4 | 81 37.9 | 10.7 | -17 28.3 | -13.4 | 58.1 |
| | 14 | 30 23.7 | 12 24.3 | 96 7.6 | 10.7 | -17 14.9 | -13.5 | 58.1 |
| | 15 | 45 23.9 | 12 25.1 | 110 37.4 | 10.8 | -17 1.4 | -13.6 | 58.2 |
| | 16 | 60 24.0 | 12 25.9 | 125 7.1 | 10.8 | -16 47.9 | -13.7 | 58.2 |
| | 17 | 75 24.1 | 12 26.8 | 139 37.0 | 10.8 | -16 34.2 | -13.8 | 58.3 |
| | 18 | 90 24.2 | 12 27.6 | 154 6.8 | 10.9 | -16 20.4 | -13.9 | 58.3 |
| | 19 | 105 24.3 | 12 28.4 | 168 36.7 | 10.9 | -16 6.5 | -14.0 | 58.3 |
| | 20 | 120 24.4 | 12 29.3 | 183 6.6 | 10.9 | -15 52.5 | -14.1 | 58.4 |
| | 21 | 135 24.6 | 12 30.1 | 197 36.5 | 11.0 | -15 38.5 | -14.2 | 58.4 |
| | 22 | 150 24.7 | 12 30.9 | 212 6.5 | 11.0 | -15 24.3 | -14.3 | 58.5 |
| | 23 | 165 24.8 | 12 31.8 | 226 36.4 | 11.0 | -15 10.0 | -14.4 | 58.5 |
| | *v* | 0.1 | SD 15.9 *d* 0.8 | | SD 15.7 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Wednesday** | 0 | 180 24.9 | 12 32.6 | 241 6.5 | 11.0 | -14 55.6 | -14.5 | 58.5 |
| | 1 | 195 25.0 | 12 33.4 | 255 36.5 | 11.1 | -14 41.1 | -14.6 | 58.6 |
| | 2 | 210 25.1 | 12 34.3 | 270 6.6 | 11.1 | -14 26.6 | -14.7 | 58.6 |
| | 3 | 225 25.3 | 12 35.1 | 284 36.7 | 11.1 | -14 11.9 | -14.8 | 58.6 |
| | 4 | 240 25.4 | 12 35.9 | 299 6.8 | 11.1 | -13 57.1 | -14.9 | 58.7 |
| | 5 | 255 25.5 | 12 36.8 | 313 36.9 | 11.2 | -13 42.3 | -14.9 | 58.7 |
| | 6 | 270 25.6 | 12 37.6 | 328 7.1 | 11.2 | -13 27.3 | -15.0 | 58.8 |
| | 7 | 285 25.7 | 12 38.4 | 342 37.3 | 11.2 | -13 12.3 | -15.1 | 58.8 |
| | 8 | 300 25.8 | 12 39.2 | 357 7.5 | 11.2 | -12 57.2 | -15.2 | 58.8 |
| | 9 | 315 26.0 | 12 40.1 | 11 37.8 | 11.3 | -12 42.0 | -15.3 | 58.9 |
| | 10 | 330 26.1 | 12 40.9 | 26 8.0 | 11.3 | -12 26.7 | -15.4 | 58.9 |
| | 11 | 345 26.2 | 12 41.7 | 40 38.3 | 11.3 | -12 11.3 | -15.5 | 59.0 |
| | 12 | 0 26.3 | 12 42.6 | 55 8.6 | 11.3 | -11 55.9 | -15.5 | 59.0 |
| | 13 | 15 26.4 | 12 43.4 | 69 38.9 | 11.3 | -11 40.3 | -15.6 | 59.0 |
| | 14 | 30 26.5 | 12 44.2 | 84 9.2 | 11.3 | -11 24.7 | -15.7 | 59.1 |
| | 15 | 45 26.6 | 12 45.0 | 98 39.6 | 11.4 | -11 9.0 | -15.8 | 59.1 |
| | 16 | 60 26.7 | 12 45.9 | 113 9.9 | 11.4 | -10 53.2 | -15.9 | 59.1 |
| | 17 | 75 26.9 | 12 46.7 | 127 40.3 | 11.4 | -10 37.4 | -15.9 | 59.2 |
| | 18 | 90 27.0 | 12 47.5 | 142 10.7 | 11.4 | -10 21.4 | -16.0 | 59.2 |
| | 19 | 105 27.1 | 12 48.3 | 156 41.0 | 11.4 | -10 5.4 | -16.1 | 59.3 |
| | 20 | 120 27.2 | 12 49.2 | 171 11.4 | 11.4 | -9 49.4 | -16.2 | 59.3 |
| | 21 | 135 27.3 | 12 50.0 | 185 41.9 | 11.4 | -9 33.2 | -16.2 | 59.3 |
| | 22 | 150 27.4 | 12 50.8 | 200 12.3 | 11.4 | -9 17.0 | -16.3 | 59.4 |
| | 23 | 165 27.5 | 12 51.6 | 214 42.7 | 11.4 | -9 0.7 | -16.4 | 59.4 |
| | *v* | 0.1 | SD 15.9 *d* 0.8 | | SD 16.0 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **24 Thursday** | 0 | 180 27.6 | 12 52.5 | 229 13.1 | 11.4 | -8 44.3 | -16.4 | 59.5 |
| | 1 | 195 27.8 | 12 53.3 | 243 43.6 | 11.4 | -8 27.9 | -16.5 | 59.5 |
| | 2 | 210 27.9 | 12 54.1 | 258 14.0 | 11.4 | -8 11.4 | -16.6 | 59.5 |
| | 3 | 225 28.0 | 12 54.9 | 272 44.4 | 11.4 | -7 54.9 | -16.6 | 59.6 |
| | 4 | 240 28.1 | 12 55.8 | 287 14.9 | 11.4 | -7 38.2 | -16.7 | 59.6 |
| | 5 | 255 28.2 | 12 56.6 | 301 45.3 | 11.4 | -7 21.6 | -16.7 | 59.6 |
| | 6 | 270 28.3 | 12 57.4 | 316 15.8 | 11.4 | -7 4.8 | -16.8 | 59.7 |
| | 7 | 285 28.4 | 12 58.2 | 330 46.2 | 11.4 | -6 48.0 | -16.8 | 59.7 |
| | 8 | 300 28.5 | 12 59.0 | 345 16.6 | 11.4 | -6 31.2 | -16.9 | 59.7 |
| | 9 | 315 28.6 | 12 59.9 | 359 47.1 | 11.4 | -6 14.3 | -17.0 | 59.8 |
| | 10 | 330 28.8 | 13 0.7 | 14 17.5 | 11.4 | -5 57.3 | -17.0 | 59.8 |
| | 11 | 345 28.9 | 13 1.5 | 28 47.9 | 11.4 | -5 40.3 | -17.1 | 59.8 |
| | 12 | 0 29.0 | 13 2.3 | 43 18.3 | 11.4 | -5 23.3 | -17.1 | 59.9 |
| | 13 | 15 29.1 | 13 3.1 | 57 48.7 | 11.4 | -5 6.2 | -17.2 | 59.9 |
| | 14 | 30 29.2 | 13 4.0 | 72 19.1 | 11.4 | -4 49.0 | -17.2 | 60.0 |
| | 15 | 45 29.3 | 13 4.8 | 86 49.5 | 11.4 | -4 31.8 | -17.2 | 60.0 |
| | 16 | 60 29.4 | 13 5.6 | 101 19.8 | 11.3 | -4 14.5 | -17.3 | 60.0 |
| | 17 | 75 29.5 | 13 6.4 | 115 50.2 | 11.3 | -3 57.3 | -17.3 | 60.1 |
| | 18 | 90 29.6 | 13 7.2 | 130 20.5 | 11.3 | -3 39.9 | -17.4 | 60.1 |
| | 19 | 105 29.7 | 13 8.1 | 144 50.8 | 11.3 | -3 22.6 | -17.4 | 60.1 |
| | 20 | 120 29.8 | 13 8.9 | 159 21.1 | 11.3 | -3 5.2 | -17.4 | 60.2 |
| | 21 | 135 29.9 | 13 9.7 | 173 51.4 | 11.3 | -2 47.7 | -17.5 | 60.2 |
| | 22 | 150 30.1 | 13 10.5 | 188 21.6 | 11.2 | -2 30.2 | -17.5 | 60.2 |
| | 23 | 165 30.2 | 13 11.3 | 202 51.9 | 11.2 | -2 12.7 | -17.5 | 60.3 |
| | *v* | 0.1 | SD 15.9 *d* 0.8 | | SD 16.2 | | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 02:56 | 21:06 | //// | //// |
| 70 | //// | 01:37 | 03:19 | 20:41 | 22:28 | //// |
| 68 | //// | 02:17 | 03:37 | 20:22 | 21:45 | //// |
| 66 | //// | 02:44 | 03:52 | 20:07 | 21:17 | //// |
| 64 | 01:25 | 03:04 | 04:04 | 19:55 | 20:56 | 22:39 |
| 62 | 02:01 | 03:20 | 04:14 | 19:45 | 20:39 | 22:01 |
| 60 | 02:26 | 03:34 | 04:23 | 19:36 | 20:25 | 21:35 |
| 58 | 02:45 | 03:45 | 04:30 | 19:28 | 20:14 | 21:15 |
| 56 | 03:00 | 03:55 | 04:37 | 19:21 | 20:04 | 20:59 |
| 54 | 03:13 | 04:03 | 04:43 | 19:15 | 19:55 | 20:46 |
| 52 | 03:24 | 04:11 | 04:48 | 19:10 | 19:47 | 20:34 |
| 50 | 03:34 | 04:18 | 04:53 | 19:05 | 19:40 | 20:25 |
| 45 | 03:54 | 04:32 | 05:03 | 18:54 | 19:26 | 20:04 |
| 40 | 04:09 | 04:43 | 05:12 | 18:46 | 19:14 | 19:49 |
| 35 | 04:21 | 04:53 | 05:19 | 18:38 | 19:05 | 19:36 |
| 30 | 04:31 | 05:01 | 05:26 | 18:32 | 18:57 | 19:26 |
| 20 | 04:47 | 05:14 | 05:37 | 18:20 | 18:43 | 19:10 |
| 10 | 05:00 | 05:25 | 05:46 | 18:11 | 18:32 | 18:58 |
| 0 | 05:09 | 05:34 | 05:55 | 18:02 | 18:23 | 18:48 |
| -10 | 05:18 | 05:42 | 06:04 | 17:53 | 18:14 | 18:39 |
| -20 | 05:25 | 05:51 | 06:13 | 17:44 | 18:06 | 18:32 |
| -30 | 05:31 | 05:59 | 06:23 | 17:33 | 17:57 | 18:26 |
| -35 | 05:34 | 06:04 | 06:29 | 17:27 | 17:53 | 18:23 |
| -40 | 05:37 | 06:08 | 06:36 | 17:20 | 17:48 | 18:20 |
| -45 | 05:39 | 06:14 | 06:44 | 17:12 | 17:42 | 18:17 |
| -50 | 05:42 | 06:20 | 06:53 | 17:03 | 17:36 | 18:14 |
| -52 | 05:43 | 06:23 | 06:58 | 16:59 | 17:33 | 18:13 |
| -54 | 05:44 | 06:26 | 07:02 | 16:54 | 17:30 | 18:12 |
| -56 | 05:45 | 06:29 | 07:08 | 16:48 | 17:27 | 18:11 |
| -58 | 05:46 | 06:32 | 07:13 | 16:43 | 17:24 | 18:09 |
| -60 | 05:47 | 06:36 | 07:20 | 16:36 | 17:20 | 18:08 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **22** | **23** | **24** | **22** | **23** | **24** |
| 72 | ■ | 05:22 | 04:30 | ■ | 11:32 | 14:09 |
| 70 | 06:07 | 04:56 | 04:19 | 08:58 | 11:55 | 14:17 |
| 68 | 05:17 | 04:37 | 04:10 | 09:47 | 12:12 | 14:23 |
| 66 | 04:45 | 04:21 | 04:03 | 10:17 | 12:26 | 14:28 |
| 64 | 04:22 | 04:08 | 03:56 | 10:40 | 12:38 | 14:32 |
| 62 | 04:03 | 03:56 | 03:51 | 10:58 | 12:48 | 14:35 |
| 60 | 03:47 | 03:47 | 03:46 | 11:13 | 12:56 | 14:38 |
| 58 | 03:34 | 03:38 | 03:42 | 11:25 | 13:03 | 14:41 |
| 56 | 03:22 | 03:31 | 03:38 | 11:36 | 13:09 | 14:44 |
| 54 | 03:12 | 03:24 | 03:34 | 11:45 | 13:15 | 14:46 |
| 52 | 03:03 | 03:18 | 03:31 | 11:54 | 13:20 | 14:48 |
| 50 | 02:54 | 03:13 | 03:28 | 12:01 | 13:25 | 14:49 |
| 45 | 02:37 | 03:01 | 03:22 | 12:17 | 13:35 | 14:53 |
| 40 | 02:23 | 02:51 | 03:17 | 12:30 | 13:43 | 14:56 |
| 35 | 02:10 | 02:43 | 03:12 | 12:41 | 13:50 | 14:59 |
| 30 | 02:00 | 02:35 | 03:08 | 12:51 | 13:56 | 15:02 |
| 20 | 01:41 | 02:22 | 03:01 | 13:07 | 14:06 | 15:06 |
| 10 | 01:25 | 02:11 | 02:55 | 13:21 | 14:15 | 15:09 |
| 0 | 01:10 | 02:00 | 02:49 | 13:34 | 14:24 | 15:12 |
| -10 | 00:55 | 01:49 | 02:43 | 13:47 | 14:32 | 15:16 |
| -20 | 00:38 | 01:38 | 02:37 | 14:01 | 14:41 | 15:19 |
| -30 | 00:19 | 01:24 | 02:30 | 14:17 | 14:51 | 15:23 |
| -35 | 00:08 | 01:17 | 02:26 | 14:26 | 14:56 | 15:25 |
| -40 | –:– | 01:08 | 02:21 | 14:36 | 15:03 | 15:28 |
| -45 | –:– | 00:58 | 02:16 | 14:48 | 15:10 | 15:30 |
| -50 | –:– | 00:45 | 02:09 | 15:02 | 15:19 | 15:34 |
| -52 | –:– | 00:39 | 02:06 | 15:09 | 15:23 | 15:35 |
| -54 | –:– | 00:32 | 02:03 | 15:16 | 15:27 | 15:37 |
| -56 | –:– | 00:25 | 01:59 | 15:24 | 15:32 | 15:39 |
| -58 | –:– | 00:17 | 01:55 | 15:34 | 15:38 | 15:41 |
| -60 | –:– | 00:07 | 01:50 | 15:44 | 15:44 | 15:43 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **22** | 01:28 | 01:34 | 11:58 | 07:22 | 19:47 | 24 | 40 |
| **23** | 01:40 | 01:45 | 11:58 | 08:12 | 20:36 | 25 | 30 |
| **24** | 01:51 | 01:56 | 11:58 | 09:01 | 21:25 | 26 | 20 |

## 2025 April 25, 26, 27 (Fri, Sat, Sun)

| | | Aries | Venus -4.8 | | Mars 0.9 | | Jupiter -2.0 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 25 Friday | 0 | 213 15.8 | 216 39.9 | 0 52.3 | 87 33.2 | 21 34.1 | 133 55.1 | 22 49.6 | 215 1.2 | -2 55.5 |
| | 1 | 228 18.3 | 231 41.3 | 0 52.3 | 102 34.5 | 21 33.8 | 148 57.0 | 22 49.6 | 230 3.4 | -2 55.4 |
| | 2 | 243 20.7 | 246 42.6 | 0 52.3 | 117 35.8 | 21 33.5 | 163 59.0 | 22 49.6 | 245 5.6 | -2 55.3 |
| | 3 | 258 23.2 | 261 43.9 | 0 52.2 | 132 37.2 | 21 33.2 | 179 0.9 | 22 49.7 | 260 7.9 | -2 55.2 |
| | 4 | 273 25.7 | 276 45.2 | 0 52.2 | 147 38.5 | 21 32.9 | 194 2.9 | 22 49.7 | 275 10.1 | -2 55.1 |
| | 5 | 288 28.1 | 291 46.6 | 0 52.2 | 162 39.8 | 21 32.6 | 209 4.8 | 22 49.8 | 290 12.3 | -2 55.0 |
| | 6 | 303 30.6 | 306 47.9 | 0 52.2 | 177 41.1 | 21 32.3 | 224 6.7 | 22 49.8 | 305 14.5 | -2 54.9 |
| | 7 | 318 33.1 | 321 49.2 | 0 52.2 | 192 42.5 | 21 32.0 | 239 8.7 | 22 49.8 | 320 16.7 | -2 54.8 |
| | 8 | 333 35.5 | 336 50.5 | 0 52.2 | 207 43.8 | 21 31.7 | 254 10.6 | 22 49.9 | 335 18.9 | -2 54.7 |
| | 9 | 348 38.0 | 351 51.8 | 0 52.1 | 222 45.1 | 21 31.4 | 269 12.6 | 22 49.9 | 350 21.2 | -2 54.6 |
| | 10 | 3 40.4 | 6 53.1 | 0 52.1 | 237 46.5 | 21 31.1 | 284 14.5 | 22 50.0 | 5 23.4 | -2 54.5 |
| | 11 | 18 42.9 | 21 54.5 | 0 52.1 | 252 47.8 | 21 30.8 | 299 16.5 | 22 50.0 | 20 25.6 | -2 54.4 |
| | 12 | 33 45.4 | 36 55.8 | 0 52.1 | 267 49.1 | 21 30.5 | 314 18.4 | 22 50.0 | 35 27.8 | -2 54.3 |
| | 13 | 48 47.8 | 51 57.1 | 0 52.1 | 282 50.4 | 21 30.1 | 329 20.3 | 22 50.1 | 50 30.0 | -2 54.2 |
| | 14 | 63 50.3 | 66 58.4 | 0 52.1 | 297 51.8 | 21 29.8 | 344 22.3 | 22 50.1 | 65 32.3 | -2 54.1 |
| | 15 | 78 52.8 | 81 59.7 | 0 52.1 | 312 53.1 | 21 29.5 | 359 24.2 | 22 50.2 | 80 34.5 | -2 54.0 |
| | 16 | 93 55.2 | 97 1.0 | 0 52.1 | 327 54.4 | 21 29.2 | 14 26.1 | 22 50.2 | 95 36.7 | -2 53.9 |
| | 17 | 108 57.7 | 112 2.3 | 0 52.1 | 342 55.8 | 21 28.9 | 29 28.1 | 22 50.2 | 110 38.9 | -2 53.8 |
| | 18 | 124 0.2 | 127 3.5 | 0 52.1 | 357 57.1 | 21 28.6 | 44 30.0 | 22 50.3 | 125 41.1 | -2 53.7 |
| | 19 | 139 2.6 | 142 4.8 | 0 52.1 | 12 58.4 | 21 28.3 | 59 32.0 | 22 50.3 | 140 43.3 | -2 53.6 |
| | 20 | 154 5.1 | 157 6.1 | 0 52.1 | 27 59.7 | 21 28.0 | 74 33.9 | 22 50.4 | 155 45.6 | -2 53.5 |
| | 21 | 169 7.5 | 172 7.4 | 0 52.1 | 43 1.1 | 21 27.7 | 89 35.8 | 22 50.4 | 170 47.8 | -2 53.4 |
| | 22 | 184 10.0 | 187 8.7 | 0 52.1 | 58 2.4 | 21 27.4 | 104 37.8 | 22 50.4 | 185 50.0 | -2 53.3 |
| | 23 | 199 12.5 | 202 10.0 | 0 52.2 | 73 3.7 | 21 27.1 | 119 39.7 | 22 50.5 | 200 52.2 | -2 53.2 |
| | | MP 09:47 | *v* 1.3 | *d* 0.0 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 Saturday | 0 | 214 14.9 | 217 11.2 | 0 52.2 | 88 5.0 | 21 26.8 | 134 41.7 | 22 50.5 | 215 54.4 | -2 53.1 |
| | 1 | 229 17.4 | 232 12.5 | 0 52.2 | 103 6.4 | 21 26.5 | 149 43.6 | 22 50.6 | 230 56.7 | -2 53.0 |
| | 2 | 244 19.9 | 247 13.8 | 0 52.2 | 118 7.7 | 21 26.1 | 164 45.5 | 22 50.6 | 245 58.9 | -2 52.9 |
| | 3 | 259 22.3 | 262 15.1 | 0 52.2 | 133 9.0 | 21 25.8 | 179 47.5 | 22 50.6 | 261 1.1 | -2 52.8 |
| | 4 | 274 24.8 | 277 16.3 | 0 52.2 | 148 10.3 | 21 25.5 | 194 49.4 | 22 50.7 | 276 3.3 | -2 52.7 |
| | 5 | 289 27.3 | 292 17.6 | 0 52.2 | 163 11.7 | 21 25.2 | 209 51.3 | 22 50.7 | 291 5.5 | -2 52.6 |
| | 6 | 304 29.7 | 307 18.9 | 0 52.3 | 178 13.0 | 21 24.9 | 224 53.3 | 22 50.8 | 306 7.8 | -2 52.5 |
| | 7 | 319 32.2 | 322 20.1 | 0 52.3 | 193 14.3 | 21 24.6 | 239 55.2 | 22 50.8 | 321 10.0 | -2 52.4 |
| | 8 | 334 34.7 | 337 21.4 | 0 52.3 | 208 15.6 | 21 24.3 | 254 57.2 | 22 50.9 | 336 12.2 | -2 52.3 |
| | 9 | 349 37.1 | 352 22.6 | 0 52.3 | 223 16.9 | 21 24.0 | 269 59.1 | 22 50.9 | 351 14.4 | -2 52.2 |
| | 10 | 4 39.6 | 7 23.9 | 0 52.4 | 238 18.3 | 21 23.7 | 285 1.0 | 22 50.9 | 6 16.6 | -2 52.1 |
| | 11 | 19 42.0 | 22 25.1 | 0 52.4 | 253 19.6 | 21 23.4 | 300 3.0 | 22 51.0 | 21 18.9 | -2 52.0 |
| | 12 | 34 44.5 | 37 26.4 | 0 52.4 | 268 20.9 | 21 23.0 | 315 4.9 | 22 51.0 | 36 21.1 | -2 51.9 |
| | 13 | 49 47.0 | 52 27.6 | 0 52.5 | 283 22.2 | 21 22.7 | 330 6.8 | 22 51.1 | 51 23.3 | -2 51.8 |
| | 14 | 64 49.4 | 67 28.9 | 0 52.5 | 298 23.5 | 21 22.4 | 345 8.8 | 22 51.1 | 66 25.5 | -2 51.7 |
| | 15 | 79 51.9 | 82 30.1 | 0 52.5 | 313 24.9 | 21 22.1 | 0 10.7 | 22 51.1 | 81 27.7 | -2 51.6 |
| | 16 | 94 54.4 | 97 31.4 | 0 52.6 | 328 26.2 | 21 21.8 | 15 12.7 | 22 51.2 | 96 30.0 | -2 51.5 |
| | 17 | 109 56.8 | 112 32.6 | 0 52.6 | 343 27.5 | 21 21.5 | 30 14.6 | 22 51.2 | 111 32.2 | -2 51.4 |
| | 18 | 124 59.3 | 127 33.8 | 0 52.6 | 358 28.8 | 21 21.2 | 45 16.5 | 22 51.3 | 126 34.4 | -2 51.3 |
| | 19 | 140 1.8 | 142 35.1 | 0 52.7 | 13 30.1 | 21 20.9 | 60 18.5 | 22 51.3 | 141 36.6 | -2 51.2 |
| | 20 | 155 4.2 | 157 36.3 | 0 52.7 | 28 31.5 | 21 20.5 | 75 20.4 | 22 51.3 | 156 38.8 | -2 51.1 |
| | 21 | 170 6.7 | 172 37.5 | 0 52.8 | 43 32.8 | 21 20.2 | 90 22.3 | 22 51.4 | 171 41.1 | -2 51.0 |
| | 22 | 185 9.2 | 187 38.7 | 0 52.8 | 58 34.1 | 21 19.9 | 105 24.3 | 22 51.4 | 186 43.3 | -2 50.9 |
| | 23 | 200 11.6 | 202 40.0 | 0 52.8 | 73 35.4 | 21 19.6 | 120 26.2 | 22 51.5 | 201 45.5 | -2 50.8 |
| | | MP 09:43 | *v* 1.3 | *d* 0.0 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 Sunday | 0 | 215 14.1 | 217 41.2 | 0 52.9 | 88 36.7 | 21 19.3 | 135 28.1 | 22 51.5 | 216 47.7 | -2 50.7 |
| | 1 | 230 16.5 | 232 42.4 | 0 52.9 | 103 38.0 | 21 19.0 | 150 30.1 | 22 51.5 | 231 49.9 | -2 50.6 |
| | 2 | 245 19.0 | 247 43.6 | 0 53.0 | 118 39.4 | 21 18.7 | 165 32.0 | 22 51.6 | 246 52.2 | -2 50.5 |
| | 3 | 260 21.5 | 262 44.8 | 0 53.0 | 133 40.7 | 21 18.4 | 180 33.9 | 22 51.6 | 261 54.4 | -2 50.4 |
| | 4 | 275 23.9 | 277 46.0 | 0 53.1 | 148 42.0 | 21 18.0 | 195 35.9 | 22 51.7 | 276 56.6 | -2 50.3 |
| | 5 | 290 26.4 | 292 47.3 | 0 53.2 | 163 43.3 | 21 17.7 | 210 37.8 | 22 51.7 | 291 58.8 | -2 50.2 |
| | 6 | 305 28.9 | 307 48.5 | 0 53.2 | 178 44.6 | 21 17.4 | 225 39.7 | 22 51.7 | 307 1.1 | -2 50.2 |
| | 7 | 320 31.3 | 322 49.7 | 0 53.3 | 193 45.9 | 21 17.1 | 240 41.7 | 22 51.8 | 322 3.3 | -2 50.1 |
| | 8 | 335 33.8 | 337 50.9 | 0 53.3 | 208 47.3 | 21 16.8 | 255 43.6 | 22 51.8 | 337 5.5 | -2 50.0 |
| | 9 | 350 36.3 | 352 52.1 | 0 53.4 | 223 48.6 | 21 16.5 | 270 45.5 | 22 51.9 | 352 7.7 | -2 49.9 |
| | 10 | 5 38.7 | 7 53.3 | 0 53.4 | 238 49.9 | 21 16.2 | 285 47.5 | 22 51.9 | 7 9.9 | -2 49.8 |
| | 11 | 20 41.2 | 22 54.5 | 0 53.5 | 253 51.2 | 21 15.8 | 300 49.4 | 22 51.9 | 22 12.2 | -2 49.7 |
| | 12 | 35 43.6 | 37 55.7 | 0 53.6 | 268 52.5 | 21 15.5 | 315 51.3 | 22 52.0 | 37 14.4 | -2 49.6 |
| | 13 | 50 46.1 | 52 56.8 | 0 53.6 | 283 53.8 | 21 15.2 | 330 53.3 | 22 52.0 | 52 16.6 | -2 49.5 |
| | 14 | 65 48.6 | 67 58.0 | 0 53.7 | 298 55.1 | 21 14.9 | 345 55.2 | 22 52.0 | 67 18.8 | -2 49.4 |
| | 15 | 80 51.0 | 82 59.2 | 0 53.8 | 313 56.4 | 21 14.6 | 0 57.1 | 22 52.1 | 82 21.0 | -2 49.3 |
| | 16 | 95 53.5 | 98 0.4 | 0 53.9 | 328 57.8 | 21 14.3 | 15 59.1 | 22 52.1 | 97 23.3 | -2 49.2 |
| | 17 | 110 56.0 | 113 1.6 | 0 53.9 | 343 59.1 | 21 13.9 | 31 1.0 | 22 52.2 | 112 25.5 | -2 49.1 |
| | 18 | 125 58.4 | 128 2.8 | 0 54.0 | 359 0.4 | 21 13.6 | 46 2.9 | 22 52.2 | 127 27.7 | -2 49.0 |
| | 19 | 141 0.9 | 143 3.9 | 0 54.1 | 14 1.7 | 21 13.3 | 61 4.9 | 22 52.2 | 142 29.9 | -2 48.9 |
| | 20 | 156 3.4 | 158 5.1 | 0 54.2 | 29 3.0 | 21 13.0 | 76 6.8 | 22 52.3 | 157 32.2 | -2 48.8 |
| | 21 | 171 5.8 | 173 6.3 | 0 54.2 | 44 4.3 | 21 12.7 | 91 8.7 | 22 52.3 | 172 34.4 | -2 48.7 |
| | 22 | 186 8.3 | 188 7.5 | 0 54.3 | 59 5.6 | 21 12.4 | 106 10.7 | 22 52.4 | 187 36.6 | -2 48.6 |
| | 23 | 201 10.8 | 203 8.6 | 0 54.4 | 74 6.9 | 21 12.0 | 121 12.6 | 22 52.4 | 202 38.8 | -2 48.5 |
| | | MP 09:39 | *v* 1.2 | *d* 0.0 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.3 |
| Achernar | 335 20.6 | -57 6.5 |
| Acrux | 172 59.3 | -63 14.6 |
| Adhara | 255 5.8 | -29 0.6 |
| Aldebaran | 290 39.7 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.4 |
| Alkaid | 152 51.3 | 49 11.2 |
| Alnair | 27 32.8 | -46 50.2 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.2 | 26 37.6 |
| Alpheratz | 357 34.9 | 29 13.6 |
| Altair | 61 59.7 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 8.9 | -69 4.2 |
| Avior | 234 14.7 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.6 | -52 42.8 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.7 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.4 | -17 50.9 |
| Dubhe | 193 40.3 | 61 37.0 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.8 | 51 28.8 |
| Enif | 33 38.7 | 9 59.3 |
| Fomalhaut | 15 14.5 | -29 29.3 |
| Gacrux | 171 50.9 | -57 15.5 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.8 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.0 | -34 22.3 |
| Kochab | 137 18.6 | 74 2.9 |
| Markab | 13 29.9 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 57.0 | -36 29.8 |
| Miaplacidus | 221 38.1 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.1 |
| Nunki | 75 47.3 | -26 15.9 |
| Peacock | 53 5.4 | -56 39.0 |
| Pollux | 243 17.1 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.1 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.4 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 31.4 | 56 40.4 |
| Shaula | 96 9.8 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.1 | -43 32.3 |
| Vega | 80 32.9 | 38 48.1 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 25 Fri | SHA | MP |
|---|---|---|
| Venus | 3 24.1 | 09:32 |
| Mars | 234 17.4 | 18:08 |
| Jupiter | 280 39.3 | 15:02 |
| Saturn | 1 45.4 | 09:39 |

| 26 Sat | SHA | MP |
|---|---|---|
| Venus | 2 56.3 | 09:30 |
| Mars | 233 50.1 | 18:06 |
| Jupiter | 280 26.7 | 14:59 |
| Saturn | 1 39.5 | 09:35 |

| 27 Sun | SHA | MP |
|---|---|---|
| Venus | 2 27.1 | 09:28 |
| Mars | 233 22.6 | 18:04 |
| Jupiter | 280 14.1 | 14:56 |
| Saturn | 1 33.6 | 09:31 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **25 Friday** | 0 | 180 30.3 | 13 12.1 | 217 22.1 | 11.2 | -1 55.2 | -17.6 | 60.3 |
| | 1 | 195 30.4 | 13 12.9 | 231 52.2 | 11.2 | -1 37.6 | -17.6 | 60.3 |
| | 2 | 210 30.5 | 13 13.8 | 246 22.4 | 11.1 | -1 20.0 | -17.6 | 60.3 |
| | 3 | 225 30.6 | 13 14.6 | 260 52.5 | 11.1 | -1 2.4 | -17.7 | 60.4 |
| | 4 | 240 30.7 | 13 15.4 | 275 22.6 | 11.1 | -0 44.7 | -17.7 | 60.4 |
| | 5 | 255 30.8 | 13 16.2 | 289 52.7 | 11.0 | -0 27.1 | -17.7 | 60.4 |
| | 6 | 270 30.9 | 13 17.0 | 304 22.7 | 11.0 | -0 9.4 | 17.7 | 60.5 |
| | 7 | 285 31.0 | 13 17.8 | 318 52.7 | 11.0 | 0 8.4 | 17.7 | 60.5 |
| | 8 | 300 31.1 | 13 18.6 | 333 22.7 | 10.9 | 0 26.1 | 17.7 | 60.5 |
| | 9 | 315 31.2 | 13 19.5 | 347 52.6 | 10.9 | 0 43.8 | 17.8 | 60.6 |
| | 10 | 330 31.3 | 13 20.3 | 2 22.5 | 10.9 | 1 1.6 | 17.8 | 60.6 |
| | 11 | 345 31.4 | 13 21.1 | 16 52.4 | 10.8 | 1 19.4 | 17.8 | 60.6 |
| | 12 | 0 31.5 | 13 21.9 | 31 22.2 | 10.8 | 1 37.1 | 17.8 | 60.6 |
| | 13 | 15 31.6 | 13 22.7 | 45 52.0 | 10.7 | 1 54.9 | 17.8 | 60.7 |
| | 14 | 30 31.7 | 13 23.5 | 60 21.7 | 10.7 | 2 12.7 | 17.8 | 60.7 |
| | 15 | 45 31.8 | 13 24.3 | 74 51.4 | 10.6 | 2 30.5 | 17.8 | 60.7 |
| | 16 | 60 31.9 | 13 25.1 | 89 21.0 | 10.6 | 2 48.3 | 17.8 | 60.7 |
| | 17 | 75 32.0 | 13 25.9 | 103 50.6 | 10.5 | 3 6.1 | 17.8 | 60.8 |
| | 18 | 90 32.1 | 13 26.7 | 118 20.2 | 10.5 | 3 23.9 | 17.8 | 60.8 |
| | 19 | 105 32.3 | 13 27.5 | 132 49.7 | 10.4 | 3 41.7 | 17.8 | 60.8 |
| | 20 | 120 32.4 | 13 28.4 | 147 19.1 | 10.4 | 3 59.5 | 17.8 | 60.8 |
| | 21 | 135 32.5 | 13 29.2 | 161 48.5 | 10.3 | 4 17.3 | 17.8 | 60.9 |
| | 22 | 150 32.6 | 13 30.0 | 176 17.9 | 10.3 | 4 35.1 | 17.8 | 60.9 |
| | 23 | 165 32.7 | 13 30.8 | 190 47.2 | 10.2 | 4 52.9 | 17.8 | 60.9 |
| | *v* | 0.1 | SD 15.9 | *d* | 0.8 | SD | 16.4 | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **26 Saturday** | 0 | 180 32.8 | 13 31.6 | 205 16.4 | 10.2 | 5 10.6 | 17.7 | 60.9 |
| | 1 | 195 32.9 | 13 32.4 | 219 45.6 | 10.1 | 5 28.4 | 17.7 | 61.0 |
| | 2 | 210 33.0 | 13 33.2 | 234 14.7 | 10.1 | 5 46.1 | 17.7 | 61.0 |
| | 3 | 225 33.1 | 13 34.0 | 248 43.8 | 10.0 | 6 3.8 | 17.7 | 61.0 |
| | 4 | 240 33.2 | 13 34.8 | 263 12.7 | 9.9 | 6 21.5 | 17.7 | 61.0 |
| | 5 | 255 33.3 | 13 35.6 | 277 41.7 | 9.9 | 6 39.1 | 17.6 | 61.0 |
| | 6 | 270 33.4 | 13 36.4 | 292 10.6 | 9.8 | 6 56.7 | 17.6 | 61.1 |
| | 7 | 285 33.5 | 13 37.2 | 306 39.4 | 9.7 | 7 14.3 | 17.6 | 61.1 |
| | 8 | 300 33.6 | 13 38.0 | 321 8.1 | 9.7 | 7 31.9 | 17.5 | 61.1 |
| | 9 | 315 33.7 | 13 38.8 | 335 36.8 | 9.6 | 7 49.5 | 17.5 | 61.1 |
| | 10 | 330 33.8 | 13 39.6 | 350 5.4 | 9.5 | 8 7.0 | 17.5 | 61.1 |
| | 11 | 345 33.9 | 13 40.4 | 4 33.9 | 9.5 | 8 24.4 | 17.4 | 61.1 |
| | 12 | 0 34.0 | 13 41.2 | 19 2.4 | 9.4 | 8 41.9 | 17.4 | 61.2 |
| | 13 | 15 34.1 | 13 42.0 | 33 30.8 | 9.3 | 8 59.2 | 17.3 | 61.2 |
| | 14 | 30 34.2 | 13 42.8 | 47 59.1 | 9.2 | 9 16.6 | 17.3 | 61.2 |
| | 15 | 45 34.3 | 13 43.6 | 62 27.3 | 9.2 | 9 33.9 | 17.3 | 61.2 |
| | 16 | 60 34.4 | 13 44.4 | 76 55.5 | 9.1 | 9 51.2 | 17.2 | 61.2 |
| | 17 | 75 34.5 | 13 45.2 | 91 23.6 | 9.0 | 10 8.4 | 17.2 | 61.2 |
| | 18 | 90 34.5 | 13 46.0 | 105 51.6 | 8.9 | 10 25.5 | 17.1 | 61.3 |
| | 19 | 105 34.6 | 13 46.8 | 120 19.5 | 8.9 | 10 42.6 | 17.0 | 61.3 |
| | 20 | 120 34.7 | 13 47.6 | 134 47.4 | 8.8 | 10 59.7 | 17.0 | 61.3 |
| | 21 | 135 34.8 | 13 48.4 | 149 15.2 | 8.7 | 11 16.6 | 16.9 | 61.3 |
| | 22 | 150 34.9 | 13 49.2 | 163 42.9 | 8.6 | 11 33.6 | 16.9 | 61.3 |
| | 23 | 165 35.0 | 13 50.0 | 178 10.5 | 8.5 | 11 50.4 | 16.8 | 61.3 |
| | *v* | 0.1 | SD 15.9 | *d* | 0.8 | SD | 16.6 | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **27 Sunday** | 0 | 180 35.1 | 13 50.8 | 192 38.0 | 8.4 | 12 7.2 | 16.7 | 61.3 |
| | 1 | 195 35.2 | 13 51.6 | 207 5.4 | 8.4 | 12 23.9 | 16.7 | 61.3 |
| | 2 | 210 35.3 | 13 52.4 | 221 32.8 | 8.3 | 12 40.6 | 16.6 | 61.3 |
| | 3 | 225 35.4 | 13 53.2 | 236 0.1 | 8.2 | 12 57.2 | 16.5 | 61.3 |
| | 4 | 240 35.5 | 13 54.0 | 250 27.2 | 8.1 | 13 13.7 | 16.4 | 61.4 |
| | 5 | 255 35.6 | 13 54.8 | 264 54.3 | 8.0 | 13 30.1 | 16.4 | 61.4 |
| | 6 | 270 35.7 | 13 55.6 | 279 21.3 | 7.9 | 13 46.5 | 16.3 | 61.4 |
| | 7 | 285 35.8 | 13 56.4 | 293 48.2 | 7.8 | 14 2.8 | 16.2 | 61.4 |
| | 8 | 300 35.9 | 13 57.2 | 308 15.0 | 7.7 | 14 18.9 | 16.1 | 61.4 |
| | 9 | 315 36.0 | 13 58.0 | 322 41.8 | 7.6 | 14 35.0 | 16.0 | 61.4 |
| | 10 | 330 36.1 | 13 58.7 | 337 8.4 | 7.5 | 14 51.1 | 15.9 | 61.4 |
| | 11 | 345 36.2 | 13 59.5 | 351 34.9 | 7.4 | 15 7.0 | 15.8 | 61.4 |
| | 12 | 0 36.3 | 14 0.3 | 6 1.4 | 7.4 | 15 22.8 | 15.7 | 61.4 |
| | 13 | 15 36.4 | 14 1.1 | 20 27.7 | 7.3 | 15 38.5 | 15.6 | 61.4 |
| | 14 | 30 36.4 | 14 1.9 | 34 54.0 | 7.2 | 15 54.2 | 15.5 | 61.4 |
| | 15 | 45 36.5 | 14 2.7 | 49 20.2 | 7.1 | 16 9.7 | 15.4 | 61.4 |
| | 16 | 60 36.6 | 14 3.5 | 63 46.2 | 7.0 | 16 25.2 | 15.3 | 61.4 |
| | 17 | 75 36.7 | 14 4.3 | 78 12.2 | 6.9 | 16 40.5 | 15.2 | 61.4 |
| | 18 | 90 36.8 | 14 5.1 | 92 38.1 | 6.8 | 16 55.7 | 15.1 | 61.4 |
| | 19 | 105 36.9 | 14 5.9 | 107 3.8 | 6.7 | 17 10.8 | 15.0 | 61.4 |
| | 20 | 120 37.0 | 14 6.6 | 121 29.5 | 6.6 | 17 25.8 | 14.9 | 61.4 |
| | 21 | 135 37.1 | 14 7.4 | 135 55.1 | 6.5 | 17 40.7 | 14.8 | 61.4 |
| | 22 | 150 37.2 | 14 8.2 | 150 20.6 | 6.4 | 17 55.5 | 14.7 | 61.4 |
| | 23 | 165 37.3 | 14 9.0 | 164 45.9 | 6.3 | 18 10.1 | 14.5 | 61.4 |
| | *v* | 0.1 | SD 15.9 | *d* | 0.8 | SD | 16.7 | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 02:36 | 21:25 | //// | //// |
| 70 | //// | 01:04 | 03:03 | 20:56 | 23:06 | //// |
| 68 | //// | 01:57 | 03:24 | 20:35 | 22:05 | //// |
| 66 | //// | 02:28 | 03:40 | 20:18 | 21:32 | //// |
| 64 | 00:56 | 02:51 | 03:53 | 20:05 | 21:08 | 23:13 |
| 62 | 01:43 | 03:09 | 04:05 | 19:53 | 20:49 | 22:18 |
| 60 | 02:12 | 03:24 | 04:14 | 19:43 | 20:34 | 21:48 |
| 58 | 02:33 | 03:36 | 04:22 | 19:35 | 20:21 | 21:26 |
| 56 | 02:50 | 03:47 | 04:30 | 19:28 | 20:11 | 21:08 |
| 54 | 03:04 | 03:56 | 04:36 | 19:21 | 20:01 | 20:54 |
| 52 | 03:16 | 04:04 | 04:42 | 19:15 | 19:53 | 20:41 |
| 50 | 03:27 | 04:12 | 04:47 | 19:10 | 19:45 | 20:31 |
| 45 | 03:48 | 04:27 | 04:58 | 18:58 | 19:30 | 20:09 |
| 40 | 04:04 | 04:39 | 05:08 | 18:49 | 19:18 | 19:53 |
| 35 | 04:17 | 04:49 | 05:16 | 18:41 | 19:07 | 19:39 |
| 30 | 04:28 | 04:58 | 05:23 | 18:34 | 18:59 | 19:28 |
| 20 | 04:45 | 05:12 | 05:35 | 18:21 | 18:44 | 19:11 |
| 10 | 04:58 | 05:23 | 05:45 | 18:11 | 18:33 | 18:58 |
| 0 | 05:09 | 05:33 | 05:55 | 18:01 | 18:23 | 18:47 |
| -10 | 05:18 | 05:42 | 06:04 | 17:52 | 18:13 | 18:38 |
| -20 | 05:25 | 05:51 | 06:14 | 17:42 | 18:04 | 18:30 |
| -30 | 05:33 | 06:01 | 06:25 | 17:30 | 17:55 | 18:23 |
| -35 | 05:36 | 06:06 | 06:32 | 17:24 | 17:50 | 18:19 |
| -40 | 05:39 | 06:11 | 06:39 | 17:16 | 17:44 | 18:16 |
| -45 | 05:43 | 06:17 | 06:48 | 17:08 | 17:38 | 18:12 |
| -50 | 05:46 | 06:24 | 06:58 | 16:57 | 17:31 | 18:09 |
| -52 | 05:48 | 06:27 | 07:03 | 16:52 | 17:28 | 18:07 |
| -54 | 05:49 | 06:31 | 07:08 | 16:47 | 17:24 | 18:06 |
| -56 | 05:51 | 06:34 | 07:14 | 16:41 | 17:21 | 18:04 |
| -58 | 05:52 | 06:38 | 07:20 | 16:35 | 17:16 | 18:03 |
| -60 | 05:54 | 06:43 | 07:27 | 16:28 | 17:12 | 18:01 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **25** | **26** | **27** | **25** | **26** | **27** |
| 72 | 03:50 | 03:11 | 02:21 | 16:39 | 19:21 | –:– |
| 70 | 03:49 | 03:19 | 02:42 | 16:35 | 19:02 | 22:06 |
| 68 | 03:48 | 03:26 | 03:00 | 16:31 | 18:47 | 21:24 |
| 66 | 03:47 | 03:31 | 03:13 | 16:28 | 18:35 | 20:56 |
| 64 | 03:46 | 03:36 | 03:25 | 16:26 | 18:25 | 20:35 |
| 62 | 03:46 | 03:40 | 03:35 | 16:24 | 18:17 | 20:18 |
| 60 | 03:45 | 03:44 | 03:44 | 16:22 | 18:10 | 20:04 |
| 58 | 03:44 | 03:47 | 03:51 | 16:21 | 18:04 | 19:53 |
| 56 | 03:44 | 03:50 | 03:58 | 16:19 | 17:58 | 19:42 |
| 54 | 03:44 | 03:53 | 04:04 | 16:18 | 17:54 | 19:33 |
| 52 | 03:43 | 03:55 | 04:09 | 16:17 | 17:49 | 19:25 |
| 50 | 03:43 | 03:58 | 04:14 | 16:16 | 17:45 | 19:18 |
| 45 | 03:42 | 04:03 | 04:25 | 16:14 | 17:37 | 19:03 |
| 40 | 03:42 | 04:07 | 04:34 | 16:12 | 17:30 | 18:50 |
| 35 | 03:41 | 04:10 | 04:42 | 16:10 | 17:23 | 18:40 |
| 30 | 03:41 | 04:14 | 04:49 | 16:09 | 17:18 | 18:31 |
| 20 | 03:40 | 04:19 | 05:01 | 16:06 | 17:09 | 18:15 |
| 10 | 03:39 | 04:24 | 05:12 | 16:04 | 17:01 | 18:01 |
| 0 | 03:38 | 04:29 | 05:22 | 16:02 | 16:53 | 17:48 |
| -10 | 03:38 | 04:34 | 05:32 | 16:00 | 16:46 | 17:36 |
| -20 | 03:37 | 04:39 | 05:43 | 15:58 | 16:38 | 17:22 |
| -30 | 03:36 | 04:45 | 05:56 | 15:55 | 16:29 | 17:07 |
| -35 | 03:36 | 04:48 | 06:03 | 15:54 | 16:24 | 16:58 |
| -40 | 03:36 | 04:52 | 06:12 | 15:52 | 16:18 | 16:48 |
| -45 | 03:35 | 04:57 | 06:22 | 15:50 | 16:11 | 16:36 |
| -50 | 03:35 | 05:02 | 06:34 | 15:48 | 16:03 | 16:22 |
| -52 | 03:34 | 05:05 | 06:39 | 15:47 | 16:00 | 16:15 |
| -54 | 03:34 | 05:08 | 06:46 | 15:46 | 15:56 | 16:08 |
| -56 | 03:34 | 05:11 | 06:53 | 15:45 | 15:51 | 16:00 |
| -58 | 03:33 | 05:15 | 07:01 | 15:43 | 15:46 | 15:51 |
| -60 | 03:33 | 05:19 | 07:10 | 15:42 | 15:41 | 15:40 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **25** | 02:01 | 02:06 | 11:58 | 09:50 | 22:15 | 27 | 11 |
| **26** | 02:11 | 02:16 | 11:58 | 10:41 | 23:08 | 28 | 5 |
| **27** | 02:21 | 02:25 | 11:58 | 11:35 | –:– | 29 | 1 |

## 2025 April 28, 29, 30 (Mon, Tue, Wed)

| | | Aries | Venus -4.7 | | Mars 0.9 | | Jupiter -2.0 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 28 Monday | 0 | 216 13.2 | 218 9.8 | 0 54.5 | 89 8.2 | 21 11.7 | 136 14.5 | 22 52.4 | 217 41.1 | -2 48.4 |
| | 1 | 231 15.7 | 233 11.0 | 0 54.6 | 104 9.6 | 21 11.4 | 151 16.5 | 22 52.5 | 232 43.3 | -2 48.3 |
| | 2 | 246 18.1 | 248 12.1 | 0 54.6 | 119 10.9 | 21 11.1 | 166 18.4 | 22 52.5 | 247 45.5 | -2 48.2 |
| | 3 | 261 20.6 | 263 13.3 | 0 54.7 | 134 12.2 | 21 10.8 | 181 20.3 | 22 52.6 | 262 47.7 | -2 48.1 |
| | 4 | 276 23.1 | 278 14.4 | 0 54.8 | 149 13.5 | 21 10.5 | 196 22.3 | 22 52.6 | 277 49.9 | -2 48.0 |
| | 5 | 291 25.5 | 293 15.6 | 0 54.9 | 164 14.8 | 21 10.1 | 211 24.2 | 22 52.6 | 292 52.2 | -2 47.9 |
| | 6 | 306 28.0 | 308 16.7 | 0 55.0 | 179 16.1 | 21 9.8 | 226 26.1 | 22 52.7 | 307 54.4 | -2 47.8 |
| | 7 | 321 30.5 | 323 17.9 | 0 55.1 | 194 17.4 | 21 9.5 | 241 28.0 | 22 52.7 | 322 56.6 | -2 47.7 |
| | 8 | 336 32.9 | 338 19.0 | 0 55.2 | 209 18.7 | 21 9.2 | 256 30.0 | 22 52.8 | 337 58.8 | -2 47.6 |
| | 9 | 351 35.4 | 353 20.2 | 0 55.3 | 224 20.0 | 21 8.9 | 271 31.9 | 22 52.8 | 353 1.1 | -2 47.5 |
| | 10 | 6 37.9 | 8 21.3 | 0 55.4 | 239 21.3 | 21 8.5 | 286 33.8 | 22 52.8 | 8 3.3 | -2 47.4 |
| | 11 | 21 40.3 | 23 22.5 | 0 55.5 | 254 22.6 | 21 8.2 | 301 35.8 | 22 52.9 | 23 5.5 | -2 47.3 |
| | 12 | 36 42.8 | 38 23.6 | 0 55.6 | 269 23.9 | 21 7.9 | 316 37.7 | 22 52.9 | 38 7.7 | -2 47.2 |
| | 13 | 51 45.3 | 53 24.8 | 0 55.7 | 284 25.2 | 21 7.6 | 331 39.6 | 22 53.0 | 53 10.0 | -2 47.1 |
| | 14 | 66 47.7 | 68 25.9 | 0 55.8 | 299 26.6 | 21 7.3 | 346 41.6 | 22 53.0 | 68 12.2 | -2 47.0 |
| | 15 | 81 50.2 | 83 27.0 | 0 55.9 | 314 27.9 | 21 6.9 | 1 43.5 | 22 53.0 | 83 14.4 | -2 46.9 |
| | 16 | 96 52.6 | 98 28.2 | 0 56.0 | 329 29.2 | 21 6.6 | 16 45.4 | 22 53.1 | 98 16.6 | -2 46.8 |
| | 17 | 111 55.1 | 113 29.3 | 0 56.1 | 344 30.5 | 21 6.3 | 31 47.3 | 22 53.1 | 113 18.9 | -2 46.7 |
| | 18 | 126 57.6 | 128 30.4 | 0 56.2 | 359 31.8 | 21 6.0 | 46 49.3 | 22 53.1 | 128 21.1 | -2 46.7 |
| | 19 | 142 0.0 | 143 31.5 | 0 56.3 | 14 33.1 | 21 5.7 | 61 51.2 | 22 53.2 | 143 23.3 | -2 46.6 |
| | 20 | 157 2.5 | 158 32.7 | 0 56.4 | 29 34.4 | 21 5.3 | 76 53.1 | 22 53.2 | 158 25.5 | -2 46.5 |
| | 21 | 172 5.0 | 173 33.8 | 0 56.5 | 44 35.7 | 21 5.0 | 91 55.1 | 22 53.3 | 173 27.8 | -2 46.4 |
| | 22 | 187 7.4 | 188 34.9 | 0 56.6 | 59 37.0 | 21 4.7 | 106 57.0 | 22 53.3 | 188 30.0 | -2 46.3 |
| | 23 | 202 9.9 | 203 36.0 | 0 56.8 | 74 38.3 | 21 4.4 | 121 58.9 | 22 53.3 | 203 32.2 | -2 46.2 |
| | | MP 09:35 | *v* 1.2 | *d* 0.1 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 Tuesday | 0 | 217 12.4 | 218 37.1 | 0 56.9 | 89 39.6 | 21 4.0 | 137 0.8 | 22 53.4 | 218 34.4 | -2 46.1 |
| | 1 | 232 14.8 | 233 38.2 | 0 57.0 | 104 40.9 | 21 3.7 | 152 2.8 | 22 53.4 | 233 36.7 | -2 46.0 |
| | 2 | 247 17.3 | 248 39.3 | 0 57.1 | 119 42.2 | 21 3.4 | 167 4.7 | 22 53.5 | 248 38.9 | -2 45.9 |
| | 3 | 262 19.7 | 263 40.5 | 0 57.2 | 134 43.5 | 21 3.1 | 182 6.6 | 22 53.5 | 263 41.1 | -2 45.8 |
| | 4 | 277 22.2 | 278 41.6 | 0 57.4 | 149 44.8 | 21 2.8 | 197 8.5 | 22 53.5 | 278 43.3 | -2 45.7 |
| | 5 | 292 24.7 | 293 42.7 | 0 57.5 | 164 46.1 | 21 2.4 | 212 10.5 | 22 53.6 | 293 45.6 | -2 45.6 |
| | 6 | 307 27.1 | 308 43.8 | 0 57.6 | 179 47.4 | 21 2.1 | 227 12.4 | 22 53.6 | 308 47.8 | -2 45.5 |
| | 7 | 322 29.6 | 323 44.9 | 0 57.7 | 194 48.7 | 21 1.8 | 242 14.3 | 22 53.7 | 323 50.0 | -2 45.4 |
| | 8 | 337 32.1 | 338 46.0 | 0 57.9 | 209 50.0 | 21 1.5 | 257 16.3 | 22 53.7 | 338 52.2 | -2 45.3 |
| | 9 | 352 34.5 | 353 47.1 | 0 58.0 | 224 51.3 | 21 1.1 | 272 18.2 | 22 53.7 | 353 54.5 | -2 45.2 |
| | 10 | 7 37.0 | 8 48.2 | 0 58.1 | 239 52.6 | 21 0.8 | 287 20.1 | 22 53.8 | 8 56.7 | -2 45.1 |
| | 11 | 22 39.5 | 23 49.2 | 0 58.2 | 254 53.9 | 21 0.5 | 302 22.0 | 22 53.8 | 23 58.9 | -2 45.0 |
| | 12 | 37 41.9 | 38 50.3 | 0 58.4 | 269 55.2 | 21 0.2 | 317 24.0 | 22 53.8 | 39 1.1 | -2 44.9 |
| | 13 | 52 44.4 | 53 51.4 | 0 58.5 | 284 56.5 | 20 59.8 | 332 25.9 | 22 53.9 | 54 3.4 | -2 44.8 |
| | 14 | 67 46.9 | 68 52.5 | 0 58.7 | 299 57.8 | 20 59.5 | 347 27.8 | 22 53.9 | 69 5.6 | -2 44.7 |
| | 15 | 82 49.3 | 83 53.6 | 0 58.8 | 314 59.1 | 20 59.2 | 2 29.7 | 22 54.0 | 84 7.8 | -2 44.6 |
| | 16 | 97 51.8 | 98 54.7 | 0 58.9 | 330 0.4 | 20 58.9 | 17 31.7 | 22 54.0 | 99 10.0 | -2 44.5 |
| | 17 | 112 54.2 | 113 55.7 | 0 59.1 | 345 1.7 | 20 58.5 | 32 33.6 | 22 54.0 | 114 12.3 | -2 44.4 |
| | 18 | 127 56.7 | 128 56.8 | 0 59.2 | 0 3.0 | 20 58.2 | 47 35.5 | 22 54.1 | 129 14.5 | -2 44.3 |
| | 19 | 142 59.2 | 143 57.9 | 0 59.4 | 15 4.3 | 20 57.9 | 62 37.4 | 22 54.1 | 144 16.7 | -2 44.3 |
| | 20 | 158 1.6 | 158 59.0 | 0 59.5 | 30 5.6 | 20 57.6 | 77 39.4 | 22 54.2 | 159 18.9 | -2 44.2 |
| | 21 | 173 4.1 | 174 0.0 | 0 59.6 | 45 6.9 | 20 57.2 | 92 41.3 | 22 54.2 | 174 21.2 | -2 44.1 |
| | 22 | 188 6.6 | 189 1.1 | 0 59.8 | 60 8.2 | 20 56.9 | 107 43.2 | 22 54.2 | 189 23.4 | -2 44.0 |
| | 23 | 203 9.0 | 204 2.2 | 0 59.9 | 75 9.5 | 20 56.6 | 122 45.1 | 22 54.3 | 204 25.6 | -2 43.9 |
| | | MP 09:31 | *v* 1.1 | *d* 0.1 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Wednesday | 0 | 218 11.5 | 219 3.2 | 1 0.1 | 90 10.8 | 20 56.3 | 137 47.1 | 22 54.3 | 219 27.8 | -2 43.8 |
| | 1 | 233 14.0 | 234 4.3 | 1 0.2 | 105 12.1 | 20 55.9 | 152 49.0 | 22 54.3 | 234 30.1 | -2 43.7 |
| | 2 | 248 16.4 | 249 5.4 | 1 0.4 | 120 13.4 | 20 55.6 | 167 50.9 | 22 54.4 | 249 32.3 | -2 43.6 |
| | 3 | 263 18.9 | 264 6.4 | 1 0.5 | 135 14.7 | 20 55.3 | 182 52.8 | 22 54.4 | 264 34.5 | -2 43.5 |
| | 4 | 278 21.4 | 279 7.5 | 1 0.7 | 150 16.0 | 20 54.9 | 197 54.8 | 22 54.5 | 279 36.8 | -2 43.4 |
| | 5 | 293 23.8 | 294 8.5 | 1 0.9 | 165 17.3 | 20 54.6 | 212 56.7 | 22 54.5 | 294 39.0 | -2 43.3 |
| | 6 | 308 26.3 | 309 9.6 | 1 1.0 | 180 18.5 | 20 54.3 | 227 58.6 | 22 54.5 | 309 41.2 | -2 43.2 |
| | 7 | 323 28.7 | 324 10.6 | 1 1.2 | 195 19.8 | 20 54.0 | 243 0.5 | 22 54.6 | 324 43.4 | -2 43.1 |
| | 8 | 338 31.2 | 339 11.7 | 1 1.3 | 210 21.1 | 20 53.6 | 258 2.5 | 22 54.6 | 339 45.7 | -2 43.0 |
| | 9 | 353 33.7 | 354 12.7 | 1 1.5 | 225 22.4 | 20 53.3 | 273 4.4 | 22 54.6 | 354 47.9 | -2 42.9 |
| | 10 | 8 36.1 | 9 13.8 | 1 1.7 | 240 23.7 | 20 53.0 | 288 6.3 | 22 54.7 | 9 50.1 | -2 42.8 |
| | 11 | 23 38.6 | 24 14.8 | 1 1.8 | 255 25.0 | 20 52.6 | 303 8.2 | 22 54.7 | 24 52.3 | -2 42.7 |
| | 12 | 38 41.1 | 39 15.9 | 1 2.0 | 270 26.3 | 20 52.3 | 318 10.2 | 22 54.8 | 39 54.6 | -2 42.6 |
| | 13 | 53 43.5 | 54 16.9 | 1 2.1 | 285 27.6 | 20 52.0 | 333 12.1 | 22 54.8 | 54 56.8 | -2 42.5 |
| | 14 | 68 46.0 | 69 17.9 | 1 2.3 | 300 28.9 | 20 51.7 | 348 14.0 | 22 54.8 | 69 59.0 | -2 42.4 |
| | 15 | 83 48.5 | 84 19.0 | 1 2.5 | 315 30.2 | 20 51.3 | 3 15.9 | 22 54.9 | 85 1.3 | -2 42.4 |
| | 16 | 98 50.9 | 99 20.0 | 1 2.7 | 330 31.5 | 20 51.0 | 18 17.8 | 22 54.9 | 100 3.5 | -2 42.3 |
| | 17 | 113 53.4 | 114 21.0 | 1 2.8 | 345 32.8 | 20 50.7 | 33 19.8 | 22 55.0 | 115 5.7 | -2 42.2 |
| | 18 | 128 55.9 | 129 22.1 | 1 3.0 | 0 34.1 | 20 50.3 | 48 21.7 | 22 55.0 | 130 7.9 | -2 42.1 |
| | 19 | 143 58.3 | 144 23.1 | 1 3.2 | 15 35.3 | 20 50.0 | 63 23.6 | 22 55.0 | 145 10.2 | -2 42.0 |
| | 20 | 159 0.8 | 159 24.1 | 1 3.4 | 30 36.6 | 20 49.7 | 78 25.5 | 22 55.1 | 160 12.4 | -2 41.9 |
| | 21 | 174 3.2 | 174 25.1 | 1 3.5 | 45 37.9 | 20 49.3 | 93 27.5 | 22 55.1 | 175 14.6 | -2 41.8 |
| | 22 | 189 5.7 | 189 26.2 | 1 3.7 | 60 39.2 | 20 49.0 | 108 29.4 | 22 55.1 | 190 16.9 | -2 41.7 |
| | 23 | 204 8.2 | 204 27.2 | 1 3.9 | 75 40.5 | 20 48.7 | 123 31.3 | 22 55.2 | 205 19.1 | -2 41.6 |
| | | MP 09:27 | *v* 1.1 | *d* 0.2 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.2 |
| Achernar | 335 20.6 | -57 6.5 |
| Acrux | 172 59.3 | -63 14.6 |
| Adhara | 255 5.9 | -29 0.6 |
| Aldebaran | 290 39.7 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.4 |
| Alkaid | 152 51.3 | 49 11.2 |
| Alnair | 27 32.8 | -46 50.2 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.2 | 26 37.6 |
| Alpheratz | 357 34.8 | 29 13.6 |
| Altair | 61 59.7 | 8 55.9 |
| Ankaa | 353 7.3 | -42 10.1 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 8.8 | -69 4.2 |
| Avior | 234 14.7 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.6 | -52 42.7 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.7 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.4 | -17 50.9 |
| Dubhe | 193 40.3 | 61 37.0 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.7 | 51 28.8 |
| Enif | 33 38.7 | 9 59.3 |
| Fomalhaut | 15 14.5 | -29 29.3 |
| Gacrux | 171 50.9 | -57 15.5 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.8 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.0 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.0 |
| Markab | 13 29.9 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 57.0 | -36 29.8 |
| Miaplacidus | 221 38.2 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.3 | -26 15.9 |
| Peacock | 53 5.3 | -56 39.0 |
| Pollux | 243 17.1 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.1 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.4 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.4 |
| Shaula | 96 9.8 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.1 | -43 32.3 |
| Vega | 80 32.9 | 38 48.1 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 28 Mon | SHA | MP |
|---|---|---|
| Venus | 1 56.6 | 09:27 |
| Mars | 232 55.0 | 18:02 |
| Jupiter | 280 1.3 | 14:53 |
| Saturn | 1 27.8 | 09:28 |

| 29 Tue | SHA | MP |
|---|---|---|
| Venus | 1 24.8 | 09:25 |
| Mars | 232 27.2 | 18:00 |
| Jupiter | 279 48.5 | 14:50 |
| Saturn | 1 22.1 | 09:24 |

| 30 Wed | SHA | MP |
|---|---|---|
| Venus | 0 51.7 | 09:23 |
| Mars | 231 59.3 | 17:58 |
| Jupiter | 279 35.6 | 14:47 |
| Saturn | 1 16.3 | 09:21 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **28 Monday** | 0 | 180 37.4 | 14 9.8 | 179 11.2 | 6.2 | 18 24.6 | 14.4 | 61.4 |
| | 1 | 195 37.5 | 14 10.6 | 193 36.4 | 6.1 | 18 39.1 | 14.3 | 61.4 |
| | 2 | 210 37.5 | 14 11.4 | 208 1.5 | 6.0 | 18 53.3 | 14.2 | 61.4 |
| | 3 | 225 37.6 | 14 12.2 | 222 26.5 | 5.9 | 19 7.5 | 14.0 | 61.4 |
| | 4 | 240 37.7 | 14 12.9 | 236 51.4 | 5.8 | 19 21.5 | 13.9 | 61.4 |
| | 5 | 255 37.8 | 14 13.7 | 251 16.2 | 5.7 | 19 35.4 | 13.8 | 61.3 |
| | 6 | 270 37.9 | 14 14.5 | 265 40.8 | 5.6 | 19 49.2 | 13.6 | 61.3 |
| | 7 | 285 38.0 | 14 15.3 | 280 5.4 | 5.5 | 20 2.8 | 13.5 | 61.3 |
| | 8 | 300 38.1 | 14 16.1 | 294 29.9 | 5.4 | 20 16.3 | 13.3 | 61.3 |
| | 9 | 315 38.2 | 14 16.9 | 308 54.3 | 5.3 | 20 29.6 | 13.2 | 61.3 |
| | 10 | 330 38.3 | 14 17.6 | 323 18.6 | 5.2 | 20 42.8 | 13.0 | 61.3 |
| | 11 | 345 38.4 | 14 18.4 | 337 42.8 | 5.1 | 20 55.8 | 12.9 | 61.3 |
| | 12 | 0 38.4 | 14 19.2 | 352 6.9 | 5.0 | 21 8.7 | 12.8 | 61.3 |
| | 13 | 15 38.5 | 14 20.0 | 6 31.0 | 4.9 | 21 21.5 | 12.6 | 61.3 |
| | 14 | 30 38.6 | 14 20.8 | 20 54.9 | 4.8 | 21 34.1 | 12.4 | 61.3 |
| | 15 | 45 38.7 | 14 21.6 | 35 18.7 | 4.7 | 21 46.5 | 12.3 | 61.2 |
| | 16 | 60 38.8 | 14 22.3 | 49 42.4 | 4.6 | 21 58.8 | 12.1 | 61.2 |
| | 17 | 75 38.9 | 14 23.1 | 64 6.1 | 4.5 | 22 11.0 | 12.0 | 61.2 |
| | 18 | 90 39.0 | 14 23.9 | 78 29.6 | 4.5 | 22 22.9 | 11.8 | 61.2 |
| | 19 | 105 39.0 | 14 24.7 | 92 53.1 | 4.4 | 22 34.7 | 11.6 | 61.2 |
| | 20 | 120 39.1 | 14 25.4 | 107 16.4 | 4.3 | 22 46.4 | 11.5 | 61.2 |
| | 21 | 135 39.2 | 14 26.2 | 121 39.7 | 4.2 | 22 57.9 | 11.3 | 61.2 |
| | 22 | 150 39.3 | 14 27.0 | 136 2.9 | 4.1 | 23 9.2 | 11.1 | 61.1 |
| | 23 | 165 39.4 | 14 27.8 | 150 26.0 | 4.0 | 23 20.3 | 11.0 | 61.1 |
| | | *v* 0.1 | SD 15.9 | *d* 0.8 | | SD 16.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **29 Tuesday** | 0 | 180 39.5 | 14 28.6 | 164 49.0 | 3.9 | 23 31.3 | 10.8 | 61.1 |
| | 1 | 195 39.6 | 14 29.3 | 179 11.9 | 3.8 | 23 42.1 | 10.6 | 61.1 |
| | 2 | 210 39.6 | 14 30.1 | 193 34.8 | 3.8 | 23 52.7 | 10.4 | 61.1 |
| | 3 | 225 39.7 | 14 30.9 | 207 57.5 | 3.7 | 24 3.2 | 10.3 | 61.0 |
| | 4 | 240 39.8 | 14 31.7 | 222 20.2 | 3.6 | 24 13.4 | 10.1 | 61.0 |
| | 5 | 255 39.9 | 14 32.4 | 236 42.8 | 3.5 | 24 23.5 | 9.9 | 61.0 |
| | 6 | 270 40.0 | 14 33.2 | 251 5.3 | 3.5 | 24 33.4 | 9.7 | 61.0 |
| | 7 | 285 40.1 | 14 34.0 | 265 27.8 | 3.4 | 24 43.2 | 9.5 | 61.0 |
| | 8 | 300 40.2 | 14 34.8 | 279 50.2 | 3.3 | 24 52.7 | 9.4 | 60.9 |
| | 9 | 315 40.2 | 14 35.5 | 294 12.5 | 3.2 | 25 2.1 | 9.2 | 60.9 |
| | 10 | 330 40.3 | 14 36.3 | 308 34.7 | 3.2 | 25 11.2 | 9.0 | 60.9 |
| | 11 | 345 40.4 | 14 37.1 | 322 56.9 | 3.1 | 25 20.2 | 8.8 | 60.9 |
| | 12 | 0 40.5 | 14 37.9 | 337 19.0 | 3.0 | 25 29.0 | 8.6 | 60.8 |
| | 13 | 15 40.6 | 14 38.6 | 351 41.1 | 3.0 | 25 37.6 | 8.4 | 60.8 |
| | 14 | 30 40.7 | 14 39.4 | 6 3.0 | 2.9 | 25 46.0 | 8.2 | 60.8 |
| | 15 | 45 40.7 | 14 40.2 | 20 25.0 | 2.9 | 25 54.2 | 8.0 | 60.8 |
| | 16 | 60 40.8 | 14 40.9 | 34 46.8 | 2.8 | 26 2.2 | 7.8 | 60.7 |
| | 17 | 75 40.9 | 14 41.7 | 49 8.6 | 2.8 | 26 10.0 | 7.6 | 60.7 |
| | 18 | 90 41.0 | 14 42.5 | 63 30.4 | 2.7 | 26 17.6 | 7.4 | 60.7 |
| | 19 | 105 41.1 | 14 43.2 | 77 52.1 | 2.7 | 26 25.0 | 7.2 | 60.7 |
| | 20 | 120 41.1 | 14 44.0 | 92 13.8 | 2.6 | 26 32.3 | 7.0 | 60.6 |
| | 21 | 135 41.2 | 14 44.8 | 106 35.4 | 2.6 | 26 39.3 | 6.8 | 60.6 |
| | 22 | 150 41.3 | 14 45.5 | 120 56.9 | 2.5 | 26 46.1 | 6.6 | 60.6 |
| | 23 | 165 41.4 | 14 46.3 | 135 18.5 | 2.5 | 26 52.7 | 6.4 | 60.6 |
| | | *v* 0.1 | SD 15.9 | *d* 0.8 | | SD 16.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **30 Wednesday** | 0 | 180 41.5 | 14 47.1 | 149 40.0 | 2.5 | 26 59.1 | 6.2 | 60.5 |
| | 1 | 195 41.5 | 14 47.8 | 164 1.4 | 2.4 | 27 5.3 | 6.0 | 60.5 |
| | 2 | 210 41.6 | 14 48.6 | 178 22.9 | 2.4 | 27 11.3 | 5.8 | 60.5 |
| | 3 | 225 41.7 | 14 49.4 | 192 44.3 | 2.4 | 27 17.1 | 5.6 | 60.4 |
| | 4 | 240 41.8 | 14 50.1 | 207 5.6 | 2.3 | 27 22.7 | 5.4 | 60.4 |
| | 5 | 255 41.9 | 14 50.9 | 221 27.0 | 2.3 | 27 28.1 | 5.2 | 60.4 |
| | 6 | 270 41.9 | 14 51.7 | 235 48.3 | 2.3 | 27 33.3 | 5.0 | 60.4 |
| | 7 | 285 42.0 | 14 52.4 | 250 9.6 | 2.3 | 27 38.2 | 4.8 | 60.3 |
| | 8 | 300 42.1 | 14 53.2 | 264 30.9 | 2.3 | 27 43.0 | 4.5 | 60.3 |
| | 9 | 315 42.2 | 14 54.0 | 278 52.2 | 2.3 | 27 47.5 | 4.3 | 60.3 |
| | 10 | 330 42.2 | 14 54.7 | 293 13.4 | 2.3 | 27 51.9 | 4.1 | 60.2 |
| | 11 | 345 42.3 | 14 55.5 | 307 34.7 | 2.3 | 27 56.0 | 3.9 | 60.2 |
| | 12 | 0 42.4 | 14 56.3 | 321 56.0 | 2.3 | 27 59.9 | 3.7 | 60.2 |
| | 13 | 15 42.5 | 14 57.0 | 336 17.2 | 2.3 | 28 3.6 | 3.5 | 60.1 |
| | 14 | 30 42.6 | 14 57.8 | 350 38.5 | 2.3 | 28 7.1 | 3.3 | 60.1 |
| | 15 | 45 42.6 | 14 58.5 | 4 59.8 | 2.3 | 28 10.4 | 3.1 | 60.1 |
| | 16 | 60 42.7 | 14 59.3 | 19 21.0 | 2.3 | 28 13.5 | 2.9 | 60.0 |
| | 17 | 75 42.8 | 15 0.1 | 33 42.3 | 2.3 | 28 16.4 | 2.7 | 60.0 |
| | 18 | 90 42.9 | 15 0.8 | 48 3.6 | 2.3 | 28 19.1 | 2.5 | 60.0 |
| | 19 | 105 42.9 | 15 1.6 | 62 24.9 | 2.3 | 28 21.5 | 2.2 | 59.9 |
| | 20 | 120 43.0 | 15 2.3 | 76 46.3 | 2.4 | 28 23.8 | 2.0 | 59.9 |
| | 21 | 135 43.1 | 15 3.1 | 91 7.6 | 2.4 | 28 25.8 | 1.8 | 59.8 |
| | 22 | 150 43.2 | 15 3.8 | 105 29.0 | 2.4 | 28 27.6 | 1.6 | 59.8 |
| | 23 | 165 43.2 | 15 4.6 | 119 50.4 | 2.5 | 28 29.2 | 1.4 | 59.8 |
| | | *v* 0.1 | SD 15.9 | *d* 0.8 | | SD 16.5 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 02:14 | 21:47 | //// | //// |
| 70 | //// | //// | 02:47 | 21:12 | //// | //// |
| 68 | //// | 01:34 | 03:10 | 20:48 | 22:29 | //// |
| 66 | //// | 02:12 | 03:28 | 20:29 | 21:48 | //// |
| 64 | //// | 02:38 | 03:43 | 20:14 | 21:20 | //// |
| 62 | 01:23 | 02:58 | 03:55 | 20:02 | 21:00 | 22:39 |
| 60 | 01:57 | 03:14 | 04:06 | 19:51 | 20:43 | 22:02 |
| 58 | 02:21 | 03:28 | 04:15 | 19:42 | 20:29 | 21:37 |
| 56 | 02:40 | 03:39 | 04:23 | 19:34 | 20:18 | 21:17 |
| 54 | 02:56 | 03:49 | 04:30 | 19:27 | 20:07 | 21:01 |
| 52 | 03:09 | 03:58 | 04:36 | 19:20 | 19:59 | 20:48 |
| 50 | 03:20 | 04:05 | 04:42 | 19:14 | 19:51 | 20:37 |
| 45 | 03:42 | 04:22 | 04:54 | 19:02 | 19:34 | 20:14 |
| 40 | 03:59 | 04:35 | 05:04 | 18:52 | 19:21 | 19:56 |
| 35 | 04:13 | 04:45 | 05:12 | 18:43 | 19:10 | 19:42 |
| 30 | 04:25 | 04:55 | 05:20 | 18:36 | 19:01 | 19:31 |
| 20 | 04:43 | 05:10 | 05:33 | 18:23 | 18:45 | 19:13 |
| 10 | 04:57 | 05:22 | 05:44 | 18:11 | 18:33 | 18:58 |
| 0 | 05:08 | 05:33 | 05:54 | 18:01 | 18:22 | 18:47 |
| -10 | 05:18 | 05:43 | 06:04 | 17:51 | 18:12 | 18:37 |
| -20 | 05:26 | 05:52 | 06:15 | 17:40 | 18:02 | 18:28 |
| -30 | 05:34 | 06:03 | 06:27 | 17:27 | 17:52 | 18:20 |
| -35 | 05:38 | 06:08 | 06:34 | 17:20 | 17:46 | 18:16 |
| -40 | 05:42 | 06:14 | 06:42 | 17:12 | 17:40 | 18:12 |
| -45 | 05:46 | 06:21 | 06:51 | 17:03 | 17:34 | 18:08 |
| -50 | 05:50 | 06:28 | 07:02 | 16:52 | 17:26 | 18:04 |
| -52 | 05:52 | 06:32 | 07:08 | 16:47 | 17:22 | 18:02 |
| -54 | 05:54 | 06:36 | 07:13 | 16:41 | 17:18 | 18:00 |
| -56 | 05:56 | 06:40 | 07:19 | 16:35 | 17:14 | 17:58 |
| -58 | 05:58 | 06:44 | 07:26 | 16:28 | 17:10 | 17:56 |
| -60 | 06:00 | 06:49 | 07:34 | 16:20 | 17:05 | 17:54 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **28** | **29** | **30** | **28** | **29** | **30** |
| 72 | | | | | | |
| 70 | 01:36 | | | –:– | | |
| 68 | 02:19 | | | –:– | | |
| 66 | 02:49 | 01:46 | | –:– | 00:05 | |
| 64 | 03:11 | 02:48 | | 23:04 | –:– | |
| 62 | 03:29 | 03:23 | 03:11 | 22:30 | –:– | 00:54 |
| 60 | 03:44 | 03:48 | 04:00 | 22:05 | –:– | 00:06 |
| 58 | 03:57 | 04:09 | 04:31 | 21:46 | 23:36 | –:– |
| 56 | 04:09 | 04:25 | 04:54 | 21:29 | 23:12 | –:– |
| 54 | 04:19 | 04:40 | 05:14 | 21:16 | 22:54 | –:– |
| 52 | 04:27 | 04:53 | 05:30 | 21:04 | 22:38 | 23:58 |
| 50 | 04:35 | 05:04 | 05:44 | 20:53 | 22:24 | 23:42 |
| 45 | 04:53 | 05:27 | 06:13 | 20:31 | 21:56 | 23:11 |
| 40 | 05:07 | 05:46 | 06:35 | 20:13 | 21:34 | 22:47 |
| 35 | 05:19 | 06:02 | 06:54 | 19:58 | 21:16 | 22:28 |
| 30 | 05:29 | 06:16 | 07:10 | 19:45 | 21:00 | 22:11 |
| 20 | 05:48 | 06:40 | 07:38 | 19:24 | 20:34 | 21:42 |
| 10 | 06:04 | 07:00 | 08:01 | 19:05 | 20:11 | 21:17 |
| 0 | 06:19 | 07:20 | 08:24 | 18:47 | 19:50 | 20:55 |
| -10 | 06:34 | 07:39 | 08:46 | 18:30 | 19:29 | 20:32 |
| -20 | 06:51 | 08:00 | 09:10 | 18:11 | 19:06 | 20:07 |
| -30 | 07:10 | 08:25 | 09:38 | 17:50 | 18:40 | 19:38 |
| -35 | 07:21 | 08:39 | 09:55 | 17:37 | 18:25 | 19:21 |
| -40 | 07:34 | 08:56 | 10:14 | 17:23 | 18:07 | 19:02 |
| -45 | 07:49 | 09:17 | 10:38 | 17:06 | 17:46 | 18:38 |
| -50 | 08:08 | 09:42 | 11:08 | 16:46 | 17:19 | 18:07 |
| -52 | 08:17 | 09:55 | 11:23 | 16:36 | 17:06 | 17:51 |
| -54 | 08:28 | 10:09 | 11:41 | 16:25 | 16:51 | 17:34 |
| -56 | 08:39 | 10:26 | 12:03 | 16:13 | 16:34 | 17:12 |
| -58 | 08:53 | 10:46 | 12:30 | 15:58 | 16:13 | 16:44 |
| -60 | 09:08 | 11:12 | 13:09 | 15:42 | 15:47 | 16:05 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **28** | 02:29 | 02:34 | 11:57 | 12:33 | 00:03 | 30 | 0 |
| **29** | 02:38 | 02:42 | 11:57 | 13:35 | 01:03 | 1 | 2 |
| **30** | 02:46 | 02:50 | 11:57 | 14:39 | 02:07 | 2 | 7 |

## 2025 May 01, 02, 03 (Thu, Fri, Sat)

| | | Aries | Venus -4.7 | | Mars 0.9 | | Jupiter -2.0 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 01 Thursday | 0 | 219 10.6 | 219 28.2 | 1 4.1 | 90 41.8 | 20 48.4 | 138 33.2 | 22 55.2 | 220 21.3 | -2 41.5 |
| | 1 | 234 13.1 | 234 29.2 | 1 4.3 | 105 43.1 | 20 48.0 | 153 35.1 | 22 55.3 | 235 23.5 | -2 41.4 |
| | 2 | 249 15.6 | 249 30.2 | 1 4.4 | 120 44.4 | 20 47.7 | 168 37.1 | 22 55.3 | 250 25.8 | -2 41.3 |
| | 3 | 264 18.0 | 264 31.2 | 1 4.6 | 135 45.7 | 20 47.4 | 183 39.0 | 22 55.3 | 265 28.0 | -2 41.2 |
| | 4 | 279 20.5 | 279 32.2 | 1 4.8 | 150 47.0 | 20 47.0 | 198 40.9 | 22 55.4 | 280 30.2 | -2 41.1 |
| | 5 | 294 23.0 | 294 33.2 | 1 5.0 | 165 48.2 | 20 46.7 | 213 42.8 | 22 55.4 | 295 32.5 | -2 41.0 |
| | 6 | 309 25.4 | 309 34.3 | 1 5.2 | 180 49.5 | 20 46.4 | 228 44.8 | 22 55.4 | 310 34.7 | -2 40.9 |
| | 7 | 324 27.9 | 324 35.3 | 1 5.4 | 195 50.8 | 20 46.0 | 243 46.7 | 22 55.5 | 325 36.9 | -2 40.8 |
| | 8 | 339 30.4 | 339 36.3 | 1 5.6 | 210 52.1 | 20 45.7 | 258 48.6 | 22 55.5 | 340 39.1 | -2 40.7 |
| | 9 | 354 32.8 | 354 37.3 | 1 5.8 | 225 53.4 | 20 45.4 | 273 50.5 | 22 55.6 | 355 41.4 | -2 40.7 |
| | 10 | 9 35.3 | 9 38.3 | 1 6.0 | 240 54.7 | 20 45.0 | 288 52.4 | 22 55.6 | 10 43.6 | -2 40.6 |
| | 11 | 24 37.7 | 24 39.2 | 1 6.2 | 255 56.0 | 20 44.7 | 303 54.4 | 22 55.6 | 25 45.8 | -2 40.5 |
| | 12 | 39 40.2 | 39 40.2 | 1 6.3 | 270 57.3 | 20 44.4 | 318 56.3 | 22 55.7 | 40 48.1 | -2 40.4 |
| | 13 | 54 42.7 | 54 41.2 | 1 6.5 | 285 58.5 | 20 44.0 | 333 58.2 | 22 55.7 | 55 50.3 | -2 40.3 |
| | 14 | 69 45.1 | 69 42.2 | 1 6.7 | 300 59.8 | 20 43.7 | 349 0.1 | 22 55.7 | 70 52.5 | -2 40.2 |
| | 15 | 84 47.6 | 84 43.2 | 1 6.9 | 316 1.1 | 20 43.4 | 4 2.0 | 22 55.8 | 85 54.8 | -2 40.1 |
| | 16 | 99 50.1 | 99 44.2 | 1 7.1 | 331 2.4 | 20 43.0 | 19 4.0 | 22 55.8 | 100 57.0 | -2 40.0 |
| | 17 | 114 52.5 | 114 45.2 | 1 7.4 | 346 3.7 | 20 42.7 | 34 5.9 | 22 55.9 | 115 59.2 | -2 39.9 |
| | 18 | 129 55.0 | 129 46.2 | 1 7.6 | 1 5.0 | 20 42.4 | 49 7.8 | 22 55.9 | 131 1.4 | -2 39.8 |
| | 19 | 144 57.5 | 144 47.1 | 1 7.8 | 16 6.3 | 20 42.0 | 64 9.7 | 22 55.9 | 146 3.7 | -2 39.7 |
| | 20 | 159 59.9 | 159 48.1 | 1 8.0 | 31 7.5 | 20 41.7 | 79 11.6 | 22 56.0 | 161 5.9 | -2 39.6 |
| | 21 | 175 2.4 | 174 49.1 | 1 8.2 | 46 8.8 | 20 41.4 | 94 13.5 | 22 56.0 | 176 8.1 | -2 39.5 |
| | 22 | 190 4.9 | 189 50.1 | 1 8.4 | 61 10.1 | 20 41.0 | 109 15.5 | 22 56.0 | 191 10.4 | -2 39.4 |
| | 23 | 205 7.3 | 204 51.0 | 1 8.6 | 76 11.4 | 20 40.7 | 124 17.4 | 22 56.1 | 206 12.6 | -2 39.3 |
| | | MP 09:23 | *v* 1.0 | *d* 0.2 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 Friday | 0 | 220 9.8 | 219 52.0 | 1 8.8 | 91 12.7 | 20 40.4 | 139 19.3 | 22 56.1 | 221 14.8 | -2 39.2 |
| | 1 | 235 12.2 | 234 53.0 | 1 9.0 | 106 14.0 | 20 40.0 | 154 21.2 | 22 56.2 | 236 17.1 | -2 39.2 |
| | 2 | 250 14.7 | 249 54.0 | 1 9.2 | 121 15.2 | 20 39.7 | 169 23.1 | 22 56.2 | 251 19.3 | -2 39.1 |
| | 3 | 265 17.2 | 264 54.9 | 1 9.5 | 136 16.5 | 20 39.3 | 184 25.1 | 22 56.2 | 266 21.5 | -2 39.0 |
| | 4 | 280 19.6 | 279 55.9 | 1 9.7 | 151 17.8 | 20 39.0 | 199 27.0 | 22 56.3 | 281 23.8 | -2 38.9 |
| | 5 | 295 22.1 | 294 56.8 | 1 9.9 | 166 19.1 | 20 38.7 | 214 28.9 | 22 56.3 | 296 26.0 | -2 38.8 |
| | 6 | 310 24.6 | 309 57.8 | 1 10.1 | 181 20.4 | 20 38.3 | 229 30.8 | 22 56.3 | 311 28.2 | -2 38.7 |
| | 7 | 325 27.0 | 324 58.8 | 1 10.3 | 196 21.6 | 20 38.0 | 244 32.7 | 22 56.4 | 326 30.4 | -2 38.6 |
| | 8 | 340 29.5 | 339 59.7 | 1 10.6 | 211 22.9 | 20 37.7 | 259 34.6 | 22 56.4 | 341 32.7 | -2 38.5 |
| | 9 | 355 32.0 | 355 0.7 | 1 10.8 | 226 24.2 | 20 37.3 | 274 36.6 | 22 56.4 | 356 34.9 | -2 38.4 |
| | 10 | 10 34.4 | 10 1.6 | 1 11.0 | 241 25.5 | 20 37.0 | 289 38.5 | 22 56.5 | 11 37.1 | -2 38.3 |
| | 11 | 25 36.9 | 25 2.6 | 1 11.2 | 256 26.8 | 20 36.6 | 304 40.4 | 22 56.5 | 26 39.4 | -2 38.2 |
| | 12 | 40 39.4 | 40 3.5 | 1 11.5 | 271 28.0 | 20 36.3 | 319 42.3 | 22 56.6 | 41 41.6 | -2 38.1 |
| | 13 | 55 41.8 | 55 4.5 | 1 11.7 | 286 29.3 | 20 36.0 | 334 44.2 | 22 56.6 | 56 43.8 | -2 38.0 |
| | 14 | 70 44.3 | 70 5.4 | 1 11.9 | 301 30.6 | 20 35.6 | 349 46.2 | 22 56.6 | 71 46.1 | -2 37.9 |
| | 15 | 85 46.7 | 85 6.4 | 1 12.2 | 316 31.9 | 20 35.3 | 4 48.1 | 22 56.7 | 86 48.3 | -2 37.9 |
| | 16 | 100 49.2 | 100 7.3 | 1 12.4 | 331 33.2 | 20 35.0 | 19 50.0 | 22 56.7 | 101 50.5 | -2 37.8 |
| | 17 | 115 51.7 | 115 8.2 | 1 12.6 | 346 34.4 | 20 34.6 | 34 51.9 | 22 56.7 | 116 52.8 | -2 37.7 |
| | 18 | 130 54.1 | 130 9.2 | 1 12.9 | 1 35.7 | 20 34.3 | 49 53.8 | 22 56.8 | 131 55.0 | -2 37.6 |
| | 19 | 145 56.6 | 145 10.1 | 1 13.1 | 16 37.0 | 20 33.9 | 64 55.7 | 22 56.8 | 146 57.2 | -2 37.5 |
| | 20 | 160 59.1 | 160 11.1 | 1 13.3 | 31 38.3 | 20 33.6 | 79 57.6 | 22 56.8 | 161 59.5 | -2 37.4 |
| | 21 | 176 1.5 | 175 12.0 | 1 13.6 | 46 39.6 | 20 33.3 | 94 59.6 | 22 56.9 | 177 1.7 | -2 37.3 |
| | 22 | 191 4.0 | 190 12.9 | 1 13.8 | 61 40.8 | 20 32.9 | 110 1.5 | 22 56.9 | 192 3.9 | -2 37.2 |
| | 23 | 206 6.5 | 205 13.8 | 1 14.0 | 76 42.1 | 20 32.6 | 125 3.4 | 22 57.0 | 207 6.2 | -2 37.1 |
| | | MP 09:19 | *v* 1.0 | *d* 0.2 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 03 Saturday | 0 | 221 8.9 | 220 14.8 | 1 14.3 | 91 43.4 | 20 32.2 | 140 5.3 | 22 57.0 | 222 8.4 | -2 37.0 |
| | 1 | 236 11.4 | 235 15.7 | 1 14.5 | 106 44.7 | 20 31.9 | 155 7.2 | 22 57.0 | 237 10.6 | -2 36.9 |
| | 2 | 251 13.8 | 250 16.6 | 1 14.8 | 121 45.9 | 20 31.6 | 170 9.1 | 22 57.1 | 252 12.9 | -2 36.8 |
| | 3 | 266 16.3 | 265 17.5 | 1 15.0 | 136 47.2 | 20 31.2 | 185 11.1 | 22 57.1 | 267 15.1 | -2 36.7 |
| | 4 | 281 18.8 | 280 18.5 | 1 15.3 | 151 48.5 | 20 30.9 | 200 13.0 | 22 57.1 | 282 17.3 | -2 36.7 |
| | 5 | 296 21.2 | 295 19.4 | 1 15.5 | 166 49.8 | 20 30.5 | 215 14.9 | 22 57.2 | 297 19.6 | -2 36.6 |
| | 6 | 311 23.7 | 310 20.3 | 1 15.8 | 181 51.1 | 20 30.2 | 230 16.8 | 22 57.2 | 312 21.8 | -2 36.5 |
| | 7 | 326 26.2 | 325 21.2 | 1 16.0 | 196 52.3 | 20 29.9 | 245 18.7 | 22 57.2 | 327 24.0 | -2 36.4 |
| | 8 | 341 28.6 | 340 22.1 | 1 16.3 | 211 53.6 | 20 29.5 | 260 20.6 | 22 57.3 | 342 26.3 | -2 36.3 |
| | 9 | 356 31.1 | 355 23.0 | 1 16.5 | 226 54.9 | 20 29.2 | 275 22.5 | 22 57.3 | 357 28.5 | -2 36.2 |
| | 10 | 11 33.6 | 10 24.0 | 1 16.8 | 241 56.2 | 20 28.8 | 290 24.5 | 22 57.4 | 12 30.7 | -2 36.1 |
| | 11 | 26 36.0 | 25 24.9 | 1 17.0 | 256 57.4 | 20 28.5 | 305 26.4 | 22 57.4 | 27 33.0 | -2 36.0 |
| | 12 | 41 38.5 | 40 25.8 | 1 17.3 | 271 58.7 | 20 28.1 | 320 28.3 | 22 57.4 | 42 35.2 | -2 35.9 |
| | 13 | 56 41.0 | 55 26.7 | 1 17.6 | 287 0.0 | 20 27.8 | 335 30.2 | 22 57.5 | 57 37.4 | -2 35.8 |
| | 14 | 71 43.4 | 70 27.6 | 1 17.8 | 302 1.2 | 20 27.5 | 350 32.1 | 22 57.5 | 72 39.7 | -2 35.7 |
| | 15 | 86 45.9 | 85 28.5 | 1 18.1 | 317 2.5 | 20 27.1 | 5 34.0 | 22 57.5 | 87 41.9 | -2 35.6 |
| | 16 | 101 48.3 | 100 29.4 | 1 18.3 | 332 3.8 | 20 26.8 | 20 35.9 | 22 57.6 | 102 44.1 | -2 35.6 |
| | 17 | 116 50.8 | 115 30.3 | 1 18.6 | 347 5.1 | 20 26.4 | 35 37.9 | 22 57.6 | 117 46.4 | -2 35.5 |
| | 18 | 131 53.3 | 130 31.2 | 1 18.9 | 2 6.3 | 20 26.1 | 50 39.8 | 22 57.6 | 132 48.6 | -2 35.4 |
| | 19 | 146 55.7 | 145 32.1 | 1 19.1 | 17 7.6 | 20 25.7 | 65 41.7 | 22 57.7 | 147 50.8 | -2 35.3 |
| | 20 | 161 58.2 | 160 33.0 | 1 19.4 | 32 8.9 | 20 25.4 | 80 43.6 | 22 57.7 | 162 53.1 | -2 35.2 |
| | 21 | 177 0.7 | 175 33.8 | 1 19.7 | 47 10.2 | 20 25.1 | 95 45.5 | 22 57.8 | 177 55.3 | -2 35.1 |
| | 22 | 192 3.1 | 190 34.7 | 1 19.9 | 62 11.4 | 20 24.7 | 110 47.4 | 22 57.8 | 192 57.5 | -2 35.0 |
| | 23 | 207 5.6 | 205 35.6 | 1 20.2 | 77 12.7 | 20 24.4 | 125 49.3 | 22 57.8 | 207 59.8 | -2 34.9 |
| | | MP 09:15 | *v* 0.9 | *d* 0.2 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.2 |
| Achernar | 335 20.5 | -57 6.4 |
| Acrux | 172 59.3 | -63 14.6 |
| Adhara | 255 5.9 | -29 0.6 |
| Aldebaran | 290 39.7 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.4 |
| Alkaid | 152 51.3 | 49 11.2 |
| Alnair | 27 32.8 | -46 50.2 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.2 | 26 37.6 |
| Alpheratz | 357 34.8 | 29 13.6 |
| Altair | 61 59.6 | 8 55.9 |
| Ankaa | 353 7.2 | -42 10.0 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.9 |
| Atria | 107 8.8 | -69 4.2 |
| Avior | 234 14.8 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.6 | -52 42.7 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.6 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.3 | -17 50.9 |
| Dubhe | 193 40.3 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.7 | 51 28.8 |
| Enif | 33 38.6 | 9 59.3 |
| Fomalhaut | 15 14.4 | -29 29.2 |
| Gacrux | 171 50.9 | -57 15.5 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.8 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 32.0 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.0 |
| Markab | 13 29.9 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 57.0 | -36 29.8 |
| Miaplacidus | 221 38.2 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.3 | -26 15.9 |
| Peacock | 53 5.3 | -56 39.0 |
| Pollux | 243 17.1 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.1 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.5 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.4 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.1 | -43 32.3 |
| Vega | 80 32.8 | 38 48.1 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 01 Thu | SHA | MP |
|---|---|---|
| Venus | 0 17.6 | 09:21 |
| Mars | 231 31.2 | 17:56 |
| Jupiter | 279 22.6 | 14:44 |
| Saturn | 1 10.7 | 09:17 |

| 02 Fri | SHA | MP |
|---|---|---|
| Venus | 359 42.2 | 09:20 |
| Mars | 231 2.9 | 17:54 |
| Jupiter | 279 9.5 | 14:41 |
| Saturn | 1 5.1 | 09:14 |

| 03 Sat | SHA | MP |
|---|---|---|
| Venus | 359 5.9 | 09:18 |
| Mars | 230 34.5 | 17:52 |
| Jupiter | 278 56.4 | 14:38 |
| Saturn | 0 59.5 | 09:10 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **01 Thursday** | 0 | 180 43.3 | 15 5.4 | 134 11.9 | 2.5 | 28 30.7 | 1.2 | 59.7 |
| | 1 | 195 43.4 | 15 6.1 | 148 33.4 | 2.5 | 28 31.9 | 1.0 | 59.7 |
| | 2 | 210 43.5 | 15 6.9 | 162 54.9 | 2.6 | 28 32.9 | 0.8 | 59.7 |
| | 3 | 225 43.5 | 15 7.6 | 177 16.5 | 2.6 | 28 33.7 | 0.6 | 59.6 |
| | 4 | 240 43.6 | 15 8.4 | 191 38.1 | 2.7 | 28 34.3 | 0.4 | 59.6 |
| | 5 | 255 43.7 | 15 9.1 | 205 59.7 | 2.7 | 28 34.6 | 0.2 | 59.6 |
| | 6 | 270 43.8 | 15 9.9 | 220 21.5 | 2.8 | 28 34.8 | 0.0 | 59.5 |
| | 7 | 285 43.8 | 15 10.6 | 234 43.2 | 2.8 | 28 34.8 | -0.2 | 59.5 |
| | 8 | 300 43.9 | 15 11.4 | 249 5.0 | 2.9 | 28 34.6 | -0.4 | 59.4 |
| | 9 | 315 44.0 | 15 12.1 | 263 26.9 | 2.9 | 28 34.2 | -0.6 | 59.4 |
| | 10 | 330 44.0 | 15 12.9 | 277 48.9 | 3.0 | 28 33.5 | -0.8 | 59.4 |
| | 11 | 345 44.1 | 15 13.7 | 292 10.9 | 3.1 | 28 32.7 | -1.0 | 59.3 |
| | 12 | 0 44.2 | 15 14.4 | 306 32.9 | 3.1 | 28 31.7 | -1.2 | 59.3 |
| | 13 | 15 44.3 | 15 15.2 | 320 55.1 | 3.2 | 28 30.5 | -1.4 | 59.3 |
| | 14 | 30 44.3 | 15 15.9 | 335 17.3 | 3.3 | 28 29.0 | -1.6 | 59.2 |
| | 15 | 45 44.4 | 15 16.7 | 349 39.6 | 3.4 | 28 27.4 | -1.8 | 59.2 |
| | 16 | 60 44.5 | 15 17.4 | 4 1.9 | 3.4 | 28 25.6 | -2.0 | 59.1 |
| | 17 | 75 44.5 | 15 18.2 | 18 24.4 | 3.5 | 28 23.6 | -2.2 | 59.1 |
| | 18 | 90 44.6 | 15 18.9 | 32 46.9 | 3.6 | 28 21.4 | -2.4 | 59.1 |
| | 19 | 105 44.7 | 15 19.6 | 47 9.5 | 3.7 | 28 19.1 | -2.6 | 59.0 |
| | 20 | 120 44.8 | 15 20.4 | 61 32.2 | 3.8 | 28 16.5 | -2.8 | 59.0 |
| | 21 | 135 44.8 | 15 21.1 | 75 55.0 | 3.9 | 28 13.7 | -2.9 | 58.9 |
| | 22 | 150 44.9 | 15 21.9 | 90 17.8 | 4.0 | 28 10.8 | -3.1 | 58.9 |
| | 23 | 165 45.0 | 15 22.6 | 104 40.8 | 4.1 | 28 7.6 | -3.3 | 58.9 |
| | | *v* 0.1 | SD 15.9 | *d* 0.8 | | SD 16.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **02 Friday** | 0 | 180 45.0 | 15 23.4 | 119 3.9 | 4.2 | 28 4.3 | -3.5 | 58.8 |
| | 1 | 195 45.1 | 15 24.1 | 133 27.0 | 4.3 | 28 0.8 | -3.7 | 58.8 |
| | 2 | 210 45.2 | 15 24.9 | 147 50.3 | 4.4 | 27 57.2 | -3.9 | 58.7 |
| | 3 | 225 45.2 | 15 25.6 | 162 13.6 | 4.5 | 27 53.3 | -4.0 | 58.7 |
| | 4 | 240 45.3 | 15 26.4 | 176 37.1 | 4.6 | 27 49.3 | -4.2 | 58.7 |
| | 5 | 255 45.4 | 15 27.1 | 191 0.6 | 4.7 | 27 45.0 | -4.4 | 58.6 |
| | 6 | 270 45.4 | 15 27.8 | 205 24.3 | 4.8 | 27 40.7 | -4.6 | 58.6 |
| | 7 | 285 45.5 | 15 28.6 | 219 48.1 | 4.9 | 27 36.1 | -4.7 | 58.5 |
| | 8 | 300 45.6 | 15 29.3 | 234 12.0 | 5.0 | 27 31.4 | -4.9 | 58.5 |
| | 9 | 315 45.6 | 15 30.1 | 248 36.0 | 5.1 | 27 26.5 | -5.1 | 58.5 |
| | 10 | 330 45.7 | 15 30.8 | 263 0.1 | 5.2 | 27 21.4 | -5.2 | 58.4 |
| | 11 | 345 45.8 | 15 31.6 | 277 24.3 | 5.3 | 27 16.1 | -5.4 | 58.4 |
| | 12 | 0 45.8 | 15 32.3 | 291 48.7 | 5.5 | 27 10.7 | -5.6 | 58.3 |
| | 13 | 15 45.9 | 15 33.0 | 306 13.1 | 5.6 | 27 5.2 | -5.7 | 58.3 |
| | 14 | 30 46.0 | 15 33.8 | 320 37.7 | 5.7 | 26 59.4 | -5.9 | 58.3 |
| | 15 | 45 46.0 | 15 34.5 | 335 2.4 | 5.8 | 26 53.6 | -6.0 | 58.2 |
| | 16 | 60 46.1 | 15 35.3 | 349 27.2 | 5.9 | 26 47.5 | -6.2 | 58.2 |
| | 17 | 75 46.2 | 15 36.0 | 3 52.1 | 6.1 | 26 41.3 | -6.4 | 58.2 |
| | 18 | 90 46.2 | 15 36.7 | 18 17.2 | 6.2 | 26 34.9 | -6.5 | 58.1 |
| | 19 | 105 46.3 | 15 37.5 | 32 42.4 | 6.3 | 26 28.4 | -6.7 | 58.1 |
| | 20 | 120 46.4 | 15 38.2 | 47 7.7 | 6.4 | 26 21.8 | -6.8 | 58.0 |
| | 21 | 135 46.4 | 15 38.9 | 61 33.1 | 6.6 | 26 15.0 | -7.0 | 58.0 |
| | 22 | 150 46.5 | 15 39.7 | 75 58.6 | 6.7 | 26 8.0 | -7.1 | 58.0 |
| | 23 | 165 46.6 | 15 40.4 | 90 24.3 | 6.8 | 26 0.9 | -7.3 | 57.9 |
| | | *v* 0.1 | SD 15.9 | *d* 0.7 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **03 Saturday** | 0 | 180 46.6 | 15 41.2 | 104 50.1 | 6.9 | 25 53.6 | -7.4 | 57.9 |
| | 1 | 195 46.7 | 15 41.9 | 119 16.1 | 7.1 | 25 46.2 | -7.5 | 57.8 |
| | 2 | 210 46.7 | 15 42.6 | 133 42.1 | 7.2 | 25 38.7 | -7.7 | 57.8 |
| | 3 | 225 46.8 | 15 43.4 | 148 8.3 | 7.3 | 25 31.0 | -7.8 | 57.8 |
| | 4 | 240 46.9 | 15 44.1 | 162 34.6 | 7.4 | 25 23.2 | -8.0 | 57.7 |
| | 5 | 255 46.9 | 15 44.8 | 177 1.1 | 7.6 | 25 15.2 | -8.1 | 57.7 |
| | 6 | 270 47.0 | 15 45.6 | 191 27.6 | 7.7 | 25 7.2 | -8.2 | 57.6 |
| | 7 | 285 47.1 | 15 46.3 | 205 54.3 | 7.8 | 24 58.9 | -8.3 | 57.6 |
| | 8 | 300 47.1 | 15 47.0 | 220 21.2 | 8.0 | 24 50.6 | -8.5 | 57.6 |
| | 9 | 315 47.2 | 15 47.7 | 234 48.1 | 8.1 | 24 42.1 | -8.6 | 57.5 |
| | 10 | 330 47.2 | 15 48.5 | 249 15.2 | 8.2 | 24 33.5 | -8.7 | 57.5 |
| | 11 | 345 47.3 | 15 49.2 | 263 42.4 | 8.4 | 24 24.8 | -8.9 | 57.4 |
| | 12 | 0 47.4 | 15 49.9 | 278 9.8 | 8.5 | 24 15.9 | -9.0 | 57.4 |
| | 13 | 15 47.4 | 15 50.7 | 292 37.3 | 8.6 | 24 7.0 | -9.1 | 57.4 |
| | 14 | 30 47.5 | 15 51.4 | 307 4.9 | 8.7 | 23 57.9 | -9.2 | 57.3 |
| | 15 | 45 47.5 | 15 52.1 | 321 32.6 | 8.9 | 23 48.6 | -9.3 | 57.3 |
| | 16 | 60 47.6 | 15 52.9 | 336 0.5 | 9.0 | 23 39.3 | -9.4 | 57.3 |
| | 17 | 75 47.7 | 15 53.6 | 350 28.5 | 9.1 | 23 29.9 | -9.6 | 57.2 |
| | 18 | 90 47.7 | 15 54.3 | 4 56.6 | 9.3 | 23 20.3 | -9.7 | 57.2 |
| | 19 | 105 47.8 | 15 55.0 | 19 24.9 | 9.4 | 23 10.6 | -9.8 | 57.1 |
| | 20 | 120 47.8 | 15 55.8 | 33 53.3 | 9.5 | 23 0.9 | -9.9 | 57.1 |
| | 21 | 135 47.9 | 15 56.5 | 48 21.8 | 9.6 | 22 51.0 | -10.0 | 57.1 |
| | 22 | 150 48.0 | 15 57.2 | 62 50.4 | 9.8 | 22 41.0 | -10.1 | 57.0 |
| | 23 | 165 48.0 | 15 57.9 | 77 19.2 | 9.9 | 22 30.9 | -10.2 | 57.0 |
| | | *v* 0.1 | SD 15.9 | *d* 0.7 | | SD 15.8 | | |

| | Twilight | | | Twilight | |
|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 01:51 | 22:11 | //// | //// |
| 70 | //// | //// | 02:30 | 21:29 | //// | //// |
| 68 | //// | 01:05 | 02:56 | 21:01 | 23:01 | //// |
| 66 | //// | 01:54 | 03:17 | 20:40 | 22:05 | //// |
| 64 | //// | 02:24 | 03:33 | 20:24 | 21:34 | //// |
| 62 | 00:57 | 02:47 | 03:46 | 20:10 | 21:10 | 23:07 |
| 60 | 01:41 | 03:04 | 03:57 | 19:58 | 20:52 | 22:18 |
| 58 | 02:09 | 03:19 | 04:07 | 19:48 | 20:37 | 21:48 |
| 56 | 02:30 | 03:31 | 04:16 | 19:40 | 20:25 | 21:27 |
| 54 | 02:47 | 03:42 | 04:23 | 19:32 | 20:14 | 21:10 |
| 52 | 03:01 | 03:51 | 04:30 | 19:25 | 20:04 | 20:55 |
| 50 | 03:13 | 04:00 | 04:36 | 19:19 | 19:56 | 20:43 |
| 45 | 03:37 | 04:17 | 04:49 | 19:06 | 19:38 | 20:19 |
| 40 | 03:55 | 04:31 | 05:00 | 18:55 | 19:24 | 20:00 |
| 35 | 04:10 | 04:42 | 05:09 | 18:46 | 19:13 | 19:45 |
| 30 | 04:22 | 04:52 | 05:17 | 18:37 | 19:03 | 19:33 |
| 20 | 04:41 | 05:08 | 05:31 | 18:24 | 18:47 | 19:14 |
| 10 | 04:55 | 05:21 | 05:43 | 18:12 | 18:33 | 18:59 |
| 0 | 05:07 | 05:32 | 05:54 | 18:00 | 18:22 | 18:47 |
| -10 | 05:18 | 05:43 | 06:05 | 17:49 | 18:11 | 18:36 |
| -20 | 05:27 | 05:53 | 06:16 | 17:38 | 18:01 | 18:27 |
| -30 | 05:36 | 06:04 | 06:29 | 17:25 | 17:49 | 18:18 |
| -35 | 05:40 | 06:10 | 06:37 | 17:17 | 17:43 | 18:13 |
| -40 | 05:45 | 06:17 | 06:45 | 17:09 | 17:37 | 18:09 |
| -45 | 05:49 | 06:24 | 06:55 | 16:59 | 17:29 | 18:04 |
| -50 | 05:54 | 06:33 | 07:07 | 16:47 | 17:21 | 17:59 |
| -52 | 05:56 | 06:37 | 07:12 | 16:41 | 17:17 | 17:57 |
| -54 | 05:59 | 06:41 | 07:19 | 16:35 | 17:13 | 17:55 |
| -56 | 06:01 | 06:45 | 07:25 | 16:28 | 17:08 | 17:52 |
| -58 | 06:03 | 06:50 | 07:33 | 16:20 | 17:03 | 17:50 |
| -60 | 06:06 | 06:56 | 07:42 | 16:12 | 16:57 | 17:47 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **01** | **02** | **03** | **01** | **02** | **03** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | 06:26 | | | 04:10 |
| 62 | | 04:57 | 07:15 | | 03:37 | 03:20 |
| 60 | 04:37 | 06:00 | 07:46 | 01:45 | 02:33 | 02:48 |
| 58 | 05:17 | 06:34 | 08:10 | 01:05 | 01:59 | 02:25 |
| 56 | 05:45 | 06:59 | 08:28 | 00:37 | 01:34 | 02:05 |
| 54 | 06:06 | 07:19 | 08:44 | 00:16 | 01:13 | 01:49 |
| 52 | 06:24 | 07:36 | 08:58 | –:– | 00:56 | 01:35 |
| 50 | 06:40 | 07:50 | 09:09 | –:– | 00:42 | 01:23 |
| 45 | 07:11 | 08:20 | 09:34 | –:– | 00:12 | 00:57 |
| 40 | 07:35 | 08:42 | 09:53 | 23:49 | –:– | 00:37 |
| 35 | 07:55 | 09:01 | 10:09 | 23:29 | –:– | 00:20 |
| 30 | 08:12 | 09:17 | 10:23 | 23:13 | –:– | 00:05 |
| 20 | 08:40 | 09:45 | 10:47 | 22:45 | 23:40 | –:– |
| 10 | 09:05 | 10:08 | 11:08 | 22:21 | 23:18 | –:– |
| 0 | 09:28 | 10:30 | 11:27 | 21:58 | 22:58 | 23:52 |
| -10 | 09:51 | 10:52 | 11:46 | 21:35 | 22:37 | 23:35 |
| -20 | 10:16 | 11:15 | 12:06 | 21:11 | 22:15 | 23:16 |
| -30 | 10:45 | 11:42 | 12:29 | 20:43 | 21:49 | 22:54 |
| -35 | 11:02 | 11:58 | 12:43 | 20:26 | 21:34 | 22:42 |
| -40 | 11:22 | 12:16 | 12:58 | 20:06 | 21:16 | 22:27 |
| -45 | 11:46 | 12:39 | 13:17 | 19:42 | 20:54 | 22:09 |
| -50 | 12:17 | 13:07 | 13:40 | 19:11 | 20:27 | 21:48 |
| -52 | 12:33 | 13:21 | 13:51 | 18:55 | 20:14 | 21:37 |
| -54 | 12:51 | 13:36 | 14:04 | 18:37 | 19:58 | 21:25 |
| -56 | 13:13 | 13:55 | 14:18 | 18:15 | 19:40 | 21:11 |
| -58 | 13:42 | 14:18 | 14:35 | 17:47 | 19:17 | 20:55 |
| -60 | 14:24 | 14:48 | 14:55 | 17:05 | 18:48 | 20:36 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **01** | 02:53 | 02:57 | 11:57 | 15:43 | 03:11 | 3 | 14 |
| **02** | 03:00 | 03:03 | 11:57 | 16:44 | 04:14 | 4 | 23 |
| **03** | 03:06 | 03:09 | 11:57 | 17:40 | 05:12 | 5 | 34 |

## 2025 May 04, 05, 06 (Sun, Mon, Tue)

| | | Aries | Venus -4.7 | | Mars 1.0 | | Jupiter -2.0 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 04 Sunday | 0 | 222 8.1 | 220 36.5 | 1 20.5 | 92 14.0 | 20 24.0 | 140 51.2 | 22 57.9 | 223 2.0 | -2 34.8 |
| | 1 | 237 10.5 | 235 37.4 | 1 20.7 | 107 15.2 | 20 23.7 | 155 53.2 | 22 57.9 | 238 4.2 | -2 34.7 |
| | 2 | 252 13.0 | 250 38.3 | 1 21.0 | 122 16.5 | 20 23.3 | 170 55.1 | 22 57.9 | 253 6.5 | -2 34.6 |
| | 3 | 267 15.5 | 265 39.1 | 1 21.3 | 137 17.8 | 20 23.0 | 185 57.0 | 22 58.0 | 268 8.7 | -2 34.5 |
| | 4 | 282 17.9 | 280 40.0 | 1 21.6 | 152 19.1 | 20 22.6 | 200 58.9 | 22 58.0 | 283 11.0 | -2 34.5 |
| | 5 | 297 20.4 | 295 40.9 | 1 21.9 | 167 20.3 | 20 22.3 | 216 0.8 | 22 58.0 | 298 13.2 | -2 34.4 |
| | 6 | 312 22.8 | 310 41.8 | 1 22.1 | 182 21.6 | 20 21.9 | 231 2.7 | 22 58.1 | 313 15.4 | -2 34.3 |
| | 7 | 327 25.3 | 325 42.7 | 1 22.4 | 197 22.9 | 20 21.6 | 246 4.6 | 22 58.1 | 328 17.7 | -2 34.2 |
| | 8 | 342 27.8 | 340 43.5 | 1 22.7 | 212 24.1 | 20 21.3 | 261 6.5 | 22 58.1 | 343 19.9 | -2 34.1 |
| | 9 | 357 30.2 | 355 44.4 | 1 23.0 | 227 25.4 | 20 20.9 | 276 8.5 | 22 58.2 | 358 22.1 | -2 34.0 |
| | 10 | 12 32.7 | 10 45.3 | 1 23.3 | 242 26.7 | 20 20.6 | 291 10.4 | 22 58.2 | 13 24.4 | -2 33.9 |
| | 11 | 27 35.2 | 25 46.1 | 1 23.5 | 257 27.9 | 20 20.2 | 306 12.3 | 22 58.3 | 28 26.6 | -2 33.8 |
| | 12 | 42 37.6 | 40 47.0 | 1 23.8 | 272 29.2 | 20 19.9 | 321 14.2 | 22 58.3 | 43 28.8 | -2 33.7 |
| | 13 | 57 40.1 | 55 47.9 | 1 24.1 | 287 30.5 | 20 19.5 | 336 16.1 | 22 58.3 | 58 31.1 | -2 33.6 |
| | 14 | 72 42.6 | 70 48.7 | 1 24.4 | 302 31.8 | 20 19.2 | 351 18.0 | 22 58.4 | 73 33.3 | -2 33.5 |
| | 15 | 87 45.0 | 85 49.6 | 1 24.7 | 317 33.0 | 20 18.8 | 6 19.9 | 22 58.4 | 88 35.5 | -2 33.5 |
| | 16 | 102 47.5 | 100 50.4 | 1 25.0 | 332 34.3 | 20 18.5 | 21 21.8 | 22 58.4 | 103 37.8 | -2 33.4 |
| | 17 | 117 50.0 | 115 51.3 | 1 25.3 | 347 35.6 | 20 18.1 | 36 23.7 | 22 58.5 | 118 40.0 | -2 33.3 |
| | 18 | 132 52.4 | 130 52.1 | 1 25.6 | 2 36.8 | 20 17.8 | 51 25.7 | 22 58.5 | 133 42.3 | -2 33.2 |
| | 19 | 147 54.9 | 145 53.0 | 1 25.9 | 17 38.1 | 20 17.4 | 66 27.6 | 22 58.5 | 148 44.5 | -2 33.1 |
| | 20 | 162 57.3 | 160 53.9 | 1 26.2 | 32 39.4 | 20 17.1 | 81 29.5 | 22 58.6 | 163 46.7 | -2 33.0 |
| | 21 | 177 59.8 | 175 54.7 | 1 26.5 | 47 40.6 | 20 16.7 | 96 31.4 | 22 58.6 | 178 49.0 | -2 32.9 |
| | 22 | 193 2.3 | 190 55.5 | 1 26.8 | 62 41.9 | 20 16.4 | 111 33.3 | 22 58.6 | 193 51.2 | -2 32.8 |
| | 23 | 208 4.7 | 205 56.4 | 1 27.1 | 77 43.2 | 20 16.0 | 126 35.2 | 22 58.7 | 208 53.4 | -2 32.7 |
| | | MP 09:11 | *v* 0.9 | *d* 0.3 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Monday | 0 | 223 7.2 | 220 57.2 | 1 27.4 | 92 44.4 | 20 15.7 | 141 37.1 | 22 58.7 | 223 55.7 | -2 32.6 |
| | 1 | 238 9.7 | 235 58.1 | 1 27.7 | 107 45.7 | 20 15.3 | 156 39.0 | 22 58.7 | 238 57.9 | -2 32.6 |
| | 2 | 253 12.1 | 250 58.9 | 1 28.0 | 122 47.0 | 20 15.0 | 171 40.9 | 22 58.8 | 254 0.2 | -2 32.5 |
| | 3 | 268 14.6 | 265 59.8 | 1 28.3 | 137 48.2 | 20 14.6 | 186 42.8 | 22 58.8 | 269 2.4 | -2 32.4 |
| | 4 | 283 17.1 | 281 0.6 | 1 28.6 | 152 49.5 | 20 14.3 | 201 44.8 | 22 58.9 | 284 4.6 | -2 32.3 |
| | 5 | 298 19.5 | 296 1.4 | 1 28.9 | 167 50.7 | 20 13.9 | 216 46.7 | 22 58.9 | 299 6.9 | -2 32.2 |
| | 6 | 313 22.0 | 311 2.3 | 1 29.2 | 182 52.0 | 20 13.6 | 231 48.6 | 22 58.9 | 314 9.1 | -2 32.1 |
| | 7 | 328 24.4 | 326 3.1 | 1 29.5 | 197 53.3 | 20 13.2 | 246 50.5 | 22 59.0 | 329 11.3 | -2 32.0 |
| | 8 | 343 26.9 | 341 3.9 | 1 29.8 | 212 54.5 | 20 12.9 | 261 52.4 | 22 59.0 | 344 13.6 | -2 31.9 |
| | 9 | 358 29.4 | 356 4.8 | 1 30.1 | 227 55.8 | 20 12.5 | 276 54.3 | 22 59.0 | 359 15.8 | -2 31.8 |
| | 10 | 13 31.8 | 11 5.6 | 1 30.4 | 242 57.1 | 20 12.2 | 291 56.2 | 22 59.1 | 14 18.1 | -2 31.7 |
| | 11 | 28 34.3 | 26 6.4 | 1 30.7 | 257 58.3 | 20 11.8 | 306 58.1 | 22 59.1 | 29 20.3 | -2 31.7 |
| | 12 | 43 36.8 | 41 7.3 | 1 31.0 | 272 59.6 | 20 11.5 | 322 0.0 | 22 59.1 | 44 22.5 | -2 31.6 |
| | 13 | 58 39.2 | 56 8.1 | 1 31.4 | 288 0.9 | 20 11.1 | 337 1.9 | 22 59.2 | 59 24.8 | -2 31.5 |
| | 14 | 73 41.7 | 71 8.9 | 1 31.7 | 303 2.1 | 20 10.8 | 352 3.8 | 22 59.2 | 74 27.0 | -2 31.4 |
| | 15 | 88 44.2 | 86 9.7 | 1 32.0 | 318 3.4 | 20 10.4 | 7 5.7 | 22 59.2 | 89 29.2 | -2 31.3 |
| | 16 | 103 46.6 | 101 10.5 | 1 32.3 | 333 4.6 | 20 10.1 | 22 7.7 | 22 59.3 | 104 31.5 | -2 31.2 |
| | 17 | 118 49.1 | 116 11.4 | 1 32.6 | 348 5.9 | 20 9.7 | 37 9.6 | 22 59.3 | 119 33.7 | -2 31.1 |
| | 18 | 133 51.6 | 131 12.2 | 1 33.0 | 3 7.2 | 20 9.4 | 52 11.5 | 22 59.3 | 134 36.0 | -2 31.0 |
| | 19 | 148 54.0 | 146 13.0 | 1 33.3 | 18 8.4 | 20 9.0 | 67 13.4 | 22 59.4 | 149 38.2 | -2 30.9 |
| | 20 | 163 56.5 | 161 13.8 | 1 33.6 | 33 9.7 | 20 8.7 | 82 15.3 | 22 59.4 | 164 40.4 | -2 30.8 |
| | 21 | 178 58.9 | 176 14.6 | 1 33.9 | 48 11.0 | 20 8.3 | 97 17.2 | 22 59.4 | 179 42.7 | -2 30.8 |
| | 22 | 194 1.4 | 191 15.4 | 1 34.2 | 63 12.2 | 20 8.0 | 112 19.1 | 22 59.5 | 194 44.9 | -2 30.7 |
| | 23 | 209 3.9 | 206 16.2 | 1 34.6 | 78 13.5 | 20 7.6 | 127 21.0 | 22 59.5 | 209 47.2 | -2 30.6 |
| | | MP 09:07 | *v* 0.8 | *d* 0.3 | *v* 1.3 | *d* -0.3 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 06 Tuesday | 0 | 224 6.3 | 221 17.0 | 1 34.9 | 93 14.7 | 20 7.3 | 142 22.9 | 22 59.5 | 224 49.4 | -2 30.5 |
| | 1 | 239 8.8 | 236 17.8 | 1 35.2 | 108 16.0 | 20 6.9 | 157 24.8 | 22 59.6 | 239 51.6 | -2 30.4 |
| | 2 | 254 11.3 | 251 18.6 | 1 35.6 | 123 17.3 | 20 6.6 | 172 26.7 | 22 59.6 | 254 53.9 | -2 30.3 |
| | 3 | 269 13.7 | 266 19.4 | 1 35.9 | 138 18.5 | 20 6.2 | 187 28.6 | 22 59.7 | 269 56.1 | -2 30.2 |
| | 4 | 284 16.2 | 281 20.2 | 1 36.2 | 153 19.8 | 20 5.8 | 202 30.5 | 22 59.7 | 284 58.4 | -2 30.1 |
| | 5 | 299 18.7 | 296 21.0 | 1 36.6 | 168 21.0 | 20 5.5 | 217 32.4 | 22 59.7 | 300 0.6 | -2 30.0 |
| | 6 | 314 21.1 | 311 21.8 | 1 36.9 | 183 22.3 | 20 5.1 | 232 34.4 | 22 59.8 | 315 2.8 | -2 30.0 |
| | 7 | 329 23.6 | 326 22.6 | 1 37.2 | 198 23.6 | 20 4.8 | 247 36.3 | 22 59.8 | 330 5.1 | -2 29.9 |
| | 8 | 344 26.1 | 341 23.4 | 1 37.6 | 213 24.8 | 20 4.4 | 262 38.2 | 22 59.8 | 345 7.3 | -2 29.8 |
| | 9 | 359 28.5 | 356 24.2 | 1 37.9 | 228 26.1 | 20 4.1 | 277 40.1 | 22 59.9 | 0 9.6 | -2 29.7 |
| | 10 | 14 31.0 | 11 25.0 | 1 38.2 | 243 27.3 | 20 3.7 | 292 42.0 | 22 59.9 | 15 11.8 | -2 29.6 |
| | 11 | 29 33.4 | 26 25.8 | 1 38.6 | 258 28.6 | 20 3.4 | 307 43.9 | 22 59.9 | 30 14.0 | -2 29.5 |
| | 12 | 44 35.9 | 41 26.6 | 1 38.9 | 273 29.8 | 20 3.0 | 322 45.8 | 23 0.0 | 45 16.3 | -2 29.4 |
| | 13 | 59 38.4 | 56 27.4 | 1 39.3 | 288 31.1 | 20 2.6 | 337 47.7 | 23 0.0 | 60 18.5 | -2 29.3 |
| | 14 | 74 40.8 | 71 28.2 | 1 39.6 | 303 32.4 | 20 2.3 | 352 49.6 | 23 0.0 | 75 20.8 | -2 29.2 |
| | 15 | 89 43.3 | 86 28.9 | 1 39.9 | 318 33.6 | 20 1.9 | 7 51.5 | 23 0.1 | 90 23.0 | -2 29.2 |
| | 16 | 104 45.8 | 101 29.7 | 1 40.3 | 333 34.9 | 20 1.6 | 22 53.4 | 23 0.1 | 105 25.2 | -2 29.1 |
| | 17 | 119 48.2 | 116 30.5 | 1 40.6 | 348 36.1 | 20 1.2 | 37 55.3 | 23 0.1 | 120 27.5 | -2 29.0 |
| | 18 | 134 50.7 | 131 31.3 | 1 41.0 | 3 37.4 | 20 0.9 | 52 57.2 | 23 0.2 | 135 29.7 | -2 28.9 |
| | 19 | 149 53.2 | 146 32.0 | 1 41.3 | 18 38.6 | 20 0.5 | 67 59.1 | 23 0.2 | 150 32.0 | -2 28.8 |
| | 20 | 164 55.6 | 161 32.8 | 1 41.7 | 33 39.9 | 20 0.2 | 83 1.0 | 23 0.2 | 165 34.2 | -2 28.7 |
| | 21 | 179 58.1 | 176 33.6 | 1 42.0 | 48 41.2 | 19 59.8 | 98 2.9 | 23 0.3 | 180 36.4 | -2 28.6 |
| | 22 | 195 0.5 | 191 34.4 | 1 42.4 | 63 42.4 | 19 59.4 | 113 4.8 | 23 0.3 | 195 38.7 | -2 28.5 |
| | 23 | 210 3.0 | 206 35.1 | 1 42.7 | 78 43.7 | 19 59.1 | 128 6.7 | 23 0.3 | 210 40.9 | -2 28.4 |
| | | MP 09:03 | *v* 0.8 | *d* 0.3 | *v* 1.3 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.2 |
| Achernar | 335 20.5 | -57 6.4 |
| Acrux | 172 59.3 | -63 14.6 |
| Adhara | 255 5.9 | -29 0.6 |
| Aldebaran | 290 39.7 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.4 |
| Alkaid | 152 51.3 | 49 11.2 |
| Alnair | 27 32.7 | -46 50.1 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.2 | 26 37.6 |
| Alpheratz | 357 34.8 | 29 13.6 |
| Altair | 61 59.6 | 8 55.9 |
| Ankaa | 353 7.2 | -42 10.0 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.3 | 19 2.9 |
| Atria | 107 8.7 | -69 4.3 |
| Avior | 234 14.8 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.6 | -52 42.7 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.6 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.3 | -17 50.9 |
| Dubhe | 193 40.3 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.7 | 51 28.8 |
| Enif | 33 38.6 | 9 59.3 |
| Fomalhaut | 15 14.4 | -29 29.2 |
| Gacrux | 171 50.9 | -57 15.5 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.8 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.0 |
| Markab | 13 29.8 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 57.0 | -36 29.8 |
| Miaplacidus | 221 38.2 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.3 | -26 15.9 |
| Peacock | 53 5.2 | -56 39.0 |
| Pollux | 243 17.1 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.1 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.5 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.4 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.7 | -11 17.8 |
| Suhail | 222 46.1 | -43 32.3 |
| Vega | 80 32.8 | 38 48.1 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 04 Sun | SHA | MP |
|---|---|---|
| Venus | 358 28.4 | 09:17 |
| Mars | 230 5.9 | 17:50 |
| Jupiter | 278 43.2 | 14:35 |
| Saturn | 0 54.0 | 09:07 |

| 05 Mon | SHA | MP |
|---|---|---|
| Venus | 357 50.0 | 09:16 |
| Mars | 229 37.2 | 17:48 |
| Jupiter | 278 29.9 | 14:32 |
| Saturn | 0 48.5 | 09:03 |

| 06 Tue | SHA | MP |
|---|---|---|
| Venus | 357 10.7 | 09:14 |
| Mars | 229 8.4 | 17:46 |
| Jupiter | 278 16.6 | 14:29 |
| Saturn | 0 43.1 | 08:59 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **04 Sunday** | 0 | 180 48.1 | 15 58.7 | 91 48.1 | 10.0 | 22 20.7 | -10.3 | 57.0 |
| | 1 | 195 48.1 | 15 59.4 | 106 17.1 | 10.1 | 22 10.4 | -10.4 | 56.9 |
| | 2 | 210 48.2 | 16 0.1 | 120 46.2 | 10.3 | 22 0.0 | -10.5 | 56.9 |
| | 3 | 225 48.3 | 16 0.8 | 135 15.5 | 10.4 | 21 49.5 | -10.6 | 56.9 |
| | 4 | 240 48.3 | 16 1.6 | 149 44.9 | 10.5 | 21 38.9 | -10.7 | 56.8 |
| | 5 | 255 48.4 | 16 2.3 | 164 14.4 | 10.6 | 21 28.2 | -10.8 | 56.8 |
| | 6 | 270 48.4 | 16 3.0 | 178 44.0 | 10.8 | 21 17.4 | -10.9 | 56.7 |
| | 7 | 285 48.5 | 16 3.7 | 193 13.8 | 10.9 | 21 6.5 | -11.0 | 56.7 |
| | 8 | 300 48.5 | 16 4.4 | 207 43.7 | 11.0 | 20 55.5 | -11.1 | 56.7 |
| | 9 | 315 48.6 | 16 5.2 | 222 13.7 | 11.1 | 20 44.5 | -11.1 | 56.6 |
| | 10 | 330 48.6 | 16 5.9 | 236 43.8 | 11.2 | 20 33.3 | -11.2 | 56.6 |
| | 11 | 345 48.7 | 16 6.6 | 251 14.0 | 11.4 | 20 22.1 | -11.3 | 56.6 |
| | 12 | 0 48.8 | 16 7.3 | 265 44.4 | 11.5 | 20 10.8 | -11.4 | 56.5 |
| | 13 | 15 48.8 | 16 8.0 | 280 14.8 | 11.6 | 19 59.4 | -11.5 | 56.5 |
| | 14 | 30 48.9 | 16 8.7 | 294 45.4 | 11.7 | 19 47.9 | -11.6 | 56.5 |
| | 15 | 45 48.9 | 16 9.5 | 309 16.1 | 11.8 | 19 36.3 | -11.6 | 56.4 |
| | 16 | 60 49.0 | 16 10.2 | 323 46.9 | 11.9 | 19 24.7 | -11.7 | 56.4 |
| | 17 | 75 49.0 | 16 10.9 | 338 17.9 | 12.0 | 19 13.0 | -11.8 | 56.4 |
| | 18 | 90 49.1 | 16 11.6 | 352 48.9 | 12.2 | 19 1.2 | -11.9 | 56.3 |
| | 19 | 105 49.1 | 16 12.3 | 7 20.1 | 12.3 | 18 49.3 | -11.9 | 56.3 |
| | 20 | 120 49.2 | 16 13.0 | 21 51.3 | 12.4 | 18 37.4 | -12.0 | 56.3 |
| | 21 | 135 49.2 | 16 13.8 | 36 22.7 | 12.5 | 18 25.4 | -12.1 | 56.2 |
| | 22 | 150 49.3 | 16 14.5 | 50 54.2 | 12.6 | 18 13.3 | -12.2 | 56.2 |
| | 23 | 165 49.4 | 16 15.2 | 65 25.7 | 12.7 | 18 1.1 | -12.2 | 56.2 |
| | *v* | 0.1 | SD 15.9 | *d* 0.7 | | SD 15.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **05 Monday** | 0 | 180 49.4 | 16 15.9 | 79 57.4 | 12.8 | 17 48.9 | -12.3 | 56.1 |
| | 1 | 195 49.5 | 16 16.6 | 94 29.2 | 12.9 | 17 36.6 | -12.4 | 56.1 |
| | 2 | 210 49.5 | 16 17.3 | 109 1.1 | 13.0 | 17 24.3 | -12.4 | 56.1 |
| | 3 | 225 49.6 | 16 18.0 | 123 33.1 | 13.1 | 17 11.9 | -12.5 | 56.0 |
| | 4 | 240 49.6 | 16 18.7 | 138 5.2 | 13.2 | 16 59.4 | -12.5 | 56.0 |
| | 5 | 255 49.7 | 16 19.5 | 152 37.4 | 13.3 | 16 46.9 | -12.6 | 56.0 |
| | 6 | 270 49.7 | 16 20.2 | 167 9.7 | 13.4 | 16 34.3 | -12.7 | 56.0 |
| | 7 | 285 49.8 | 16 20.9 | 181 42.1 | 13.5 | 16 21.6 | -12.7 | 55.9 |
| | 8 | 300 49.8 | 16 21.6 | 196 14.6 | 13.6 | 16 8.9 | -12.8 | 55.9 |
| | 9 | 315 49.9 | 16 22.3 | 210 47.2 | 13.7 | 15 56.1 | -12.8 | 55.9 |
| | 10 | 330 49.9 | 16 23.0 | 225 19.9 | 13.8 | 15 43.3 | -12.9 | 55.8 |
| | 11 | 345 50.0 | 16 23.7 | 239 52.7 | 13.9 | 15 30.4 | -12.9 | 55.8 |
| | 12 | 0 50.0 | 16 24.4 | 254 25.6 | 14.0 | 15 17.5 | -13.0 | 55.8 |
| | 13 | 15 50.1 | 16 25.1 | 268 58.5 | 14.1 | 15 4.5 | -13.0 | 55.7 |
| | 14 | 30 50.1 | 16 25.8 | 283 31.6 | 14.1 | 14 51.5 | -13.1 | 55.7 |
| | 15 | 45 50.2 | 16 26.5 | 298 4.7 | 14.2 | 14 38.4 | -13.1 | 55.7 |
| | 16 | 60 50.2 | 16 27.2 | 312 37.9 | 14.3 | 14 25.3 | -13.2 | 55.7 |
| | 17 | 75 50.3 | 16 27.9 | 327 11.2 | 14.4 | 14 12.1 | -13.2 | 55.6 |
| | 18 | 90 50.3 | 16 28.6 | 341 44.6 | 14.5 | 13 58.9 | -13.3 | 55.6 |
| | 19 | 105 50.4 | 16 29.4 | 356 18.1 | 14.6 | 13 45.6 | -13.3 | 55.6 |
| | 20 | 120 50.4 | 16 30.1 | 10 51.7 | 14.6 | 13 32.3 | -13.4 | 55.6 |
| | 21 | 135 50.4 | 16 30.8 | 25 25.3 | 14.7 | 13 18.9 | -13.4 | 55.5 |
| | 22 | 150 50.5 | 16 31.5 | 39 59.1 | 14.8 | 13 5.5 | -13.4 | 55.5 |
| | 23 | 165 50.5 | 16 32.2 | 54 32.9 | 14.9 | 12 52.1 | -13.5 | 55.5 |
| | *v* | 0.1 | SD 15.9 | *d* 0.7 | | SD 15.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **06 Tuesday** | 0 | 180 50.6 | 16 32.9 | 69 6.7 | 15.0 | 12 38.6 | -13.5 | 55.4 |
| | 1 | 195 50.6 | 16 33.6 | 83 40.7 | 15.0 | 12 25.1 | -13.6 | 55.4 |
| | 2 | 210 50.7 | 16 34.3 | 98 14.7 | 15.1 | 12 11.6 | -13.6 | 55.4 |
| | 3 | 225 50.7 | 16 35.0 | 112 48.8 | 15.2 | 11 58.0 | -13.6 | 55.4 |
| | 4 | 240 50.8 | 16 35.7 | 127 23.0 | 15.2 | 11 44.4 | -13.7 | 55.3 |
| | 5 | 255 50.8 | 16 36.4 | 141 57.2 | 15.3 | 11 30.7 | -13.7 | 55.3 |
| | 6 | 270 50.9 | 16 37.1 | 156 31.6 | 15.4 | 11 17.0 | -13.7 | 55.3 |
| | 7 | 285 50.9 | 16 37.8 | 171 5.9 | 15.5 | 11 3.3 | -13.8 | 55.3 |
| | 8 | 300 51.0 | 16 38.5 | 185 40.4 | 15.5 | 10 49.5 | -13.8 | 55.2 |
| | 9 | 315 51.0 | 16 39.2 | 200 14.9 | 15.6 | 10 35.8 | -13.8 | 55.2 |
| | 10 | 330 51.0 | 16 39.9 | 214 49.5 | 15.6 | 10 21.9 | -13.8 | 55.2 |
| | 11 | 345 51.1 | 16 40.6 | 229 24.1 | 15.7 | 10 8.1 | -13.9 | 55.2 |
| | 12 | 0 51.1 | 16 41.2 | 243 58.9 | 15.8 | 9 54.2 | -13.9 | 55.1 |
| | 13 | 15 51.2 | 16 41.9 | 258 33.6 | 15.8 | 9 40.3 | -13.9 | 55.1 |
| | 14 | 30 51.2 | 16 42.6 | 273 8.4 | 15.9 | 9 26.4 | -13.9 | 55.1 |
| | 15 | 45 51.3 | 16 43.3 | 287 43.3 | 15.9 | 9 12.5 | -14.0 | 55.1 |
| | 16 | 60 51.3 | 16 44.0 | 302 18.3 | 16.0 | 8 58.5 | -14.0 | 55.1 |
| | 17 | 75 51.3 | 16 44.7 | 316 53.3 | 16.1 | 8 44.5 | -14.0 | 55.0 |
| | 18 | 90 51.4 | 16 45.4 | 331 28.3 | 16.1 | 8 30.5 | -14.0 | 55.0 |
| | 19 | 105 51.4 | 16 46.1 | 346 3.4 | 16.2 | 8 16.4 | -14.1 | 55.0 |
| | 20 | 120 51.5 | 16 46.8 | 0 38.6 | 16.2 | 8 2.4 | -14.1 | 55.0 |
| | 21 | 135 51.5 | 16 47.5 | 15 13.8 | 16.3 | 7 48.3 | -14.1 | 54.9 |
| | 22 | 150 51.6 | 16 48.2 | 29 49.1 | 16.3 | 7 34.2 | -14.1 | 54.9 |
| | 23 | 165 51.6 | 16 48.9 | 44 24.4 | 16.4 | 7 20.1 | -14.1 | 54.9 |
| | *v* | 0.0 | SD 15.9 | *d* 0.7 | | SD 15.1 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 01:22 | 22:41 | //// | //// |
| 70 | //// | //// | 02:12 | 21:47 | //// | //// |
| 68 | //// | 00:08 | 02:42 | 21:15 | //// | //// |
| 66 | //// | 01:34 | 03:05 | 20:52 | 22:26 | //// |
| 64 | //// | 02:10 | 03:23 | 20:33 | 21:48 | //// |
| 62 | 00:06 | 02:35 | 03:37 | 20:18 | 21:22 | //// |
| 60 | 01:24 | 02:54 | 03:49 | 20:06 | 21:02 | 22:35 |
| 58 | 01:56 | 03:10 | 04:00 | 19:55 | 20:45 | 22:01 |
| 56 | 02:20 | 03:23 | 04:09 | 19:46 | 20:32 | 21:37 |
| 54 | 02:38 | 03:35 | 04:17 | 19:38 | 20:20 | 21:18 |
| 52 | 02:53 | 03:45 | 04:24 | 19:30 | 20:10 | 21:02 |
| 50 | 03:06 | 03:54 | 04:31 | 19:24 | 20:01 | 20:49 |
| 45 | 03:31 | 04:12 | 04:45 | 19:09 | 19:42 | 20:23 |
| 40 | 03:51 | 04:27 | 04:56 | 18:58 | 19:28 | 20:04 |
| 35 | 04:06 | 04:39 | 05:06 | 18:48 | 19:15 | 19:48 |
| 30 | 04:19 | 04:49 | 05:14 | 18:39 | 19:05 | 19:36 |
| 20 | 04:39 | 05:06 | 05:29 | 18:25 | 18:48 | 19:15 |
| 10 | 04:54 | 05:20 | 05:42 | 18:12 | 18:34 | 19:00 |
| 0 | 05:07 | 05:32 | 05:53 | 18:00 | 18:22 | 18:47 |
| -10 | 05:18 | 05:43 | 06:05 | 17:49 | 18:10 | 18:36 |
| -20 | 05:28 | 05:54 | 06:17 | 17:36 | 17:59 | 18:25 |
| -30 | 05:38 | 06:06 | 06:31 | 17:22 | 17:47 | 18:16 |
| -35 | 05:42 | 06:13 | 06:39 | 17:14 | 17:41 | 18:11 |
| -40 | 05:47 | 06:20 | 06:48 | 17:05 | 17:33 | 18:06 |
| -45 | 05:53 | 06:28 | 06:59 | 16:54 | 17:25 | 18:00 |
| -50 | 05:58 | 06:37 | 07:11 | 16:42 | 17:16 | 17:55 |
| -52 | 06:01 | 06:41 | 07:17 | 16:36 | 17:12 | 17:52 |
| -54 | 06:03 | 06:46 | 07:24 | 16:29 | 17:07 | 17:50 |
| -56 | 06:06 | 06:51 | 07:31 | 16:22 | 17:02 | 17:47 |
| -58 | 06:09 | 06:56 | 07:39 | 16:13 | 16:57 | 17:44 |
| -60 | 06:12 | 07:02 | 07:49 | 16:04 | 16:51 | 17:41 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **04** | **05** | **06** | **04** | **05** | **06** |
| 72 | ▭ | 08:53 | 11:33 | ▭ | 05:17 | 04:08 |
| 70 | ▭ | 09:36 | 11:50 | ▭ | 04:32 | 03:49 |
| 68 | 07:23 | 10:04 | 12:03 | 05:04 | 04:02 | 03:33 |
| 66 | 08:16 | 10:25 | 12:14 | 04:10 | 03:40 | 03:21 |
| 64 | 08:48 | 10:42 | 12:23 | 03:37 | 03:22 | 03:11 |
| 62 | 09:12 | 10:55 | 12:30 | 03:13 | 03:07 | 03:02 |
| 60 | 09:30 | 11:07 | 12:37 | 02:53 | 02:54 | 02:54 |
| 58 | 09:46 | 11:17 | 12:42 | 02:37 | 02:44 | 02:47 |
| 56 | 09:59 | 11:26 | 12:47 | 02:23 | 02:34 | 02:41 |
| 54 | 10:10 | 11:33 | 12:52 | 02:11 | 02:25 | 02:36 |
| 52 | 10:20 | 11:40 | 12:56 | 02:00 | 02:18 | 02:31 |
| 50 | 10:29 | 11:46 | 12:59 | 01:51 | 02:11 | 02:26 |
| 45 | 10:48 | 11:59 | 13:07 | 01:31 | 01:56 | 02:17 |
| 40 | 11:03 | 12:10 | 13:14 | 01:14 | 01:44 | 02:08 |
| 35 | 11:16 | 12:19 | 13:20 | 01:01 | 01:34 | 02:01 |
| 30 | 11:27 | 12:28 | 13:25 | 00:48 | 01:24 | 01:55 |
| 20 | 11:46 | 12:41 | 13:33 | 00:27 | 01:08 | 01:44 |
| 10 | 12:03 | 12:53 | 13:41 | 00:09 | 00:54 | 01:35 |
| 0 | 12:18 | 13:05 | 13:47 | –:– | 00:41 | 01:26 |
| -10 | 12:33 | 13:16 | 13:54 | –:– | 00:28 | 01:16 |
| -20 | 12:50 | 13:28 | 14:02 | –:– | 00:13 | 01:07 |
| -30 | 13:08 | 13:41 | 14:10 | 23:57 | –:– | 00:55 |
| -35 | 13:19 | 13:49 | 14:15 | 23:47 | –:– | 00:49 |
| -40 | 13:31 | 13:58 | 14:20 | 23:36 | –:– | 00:41 |
| -45 | 13:46 | 14:08 | 14:27 | 23:23 | –:– | 00:33 |
| -50 | 14:03 | 14:21 | 14:34 | 23:07 | –:– | 00:22 |
| -52 | 14:12 | 14:26 | 14:38 | 22:59 | –:– | 00:17 |
| -54 | 14:21 | 14:33 | 14:41 | 22:50 | –:– | 00:11 |
| -56 | 14:31 | 14:40 | 14:45 | 22:41 | –:– | 00:05 |
| -58 | 14:43 | 14:47 | 14:50 | 22:30 | 23:58 | –:– |
| -60 | 14:57 | 14:56 | 14:55 | 22:17 | 23:51 | –:– |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **04** | 03:12 | 03:15 | 11:57 | 18:30 | 06:05 | 6 | 44 |
| **05** | 03:18 | 03:20 | 11:57 | 19:15 | 06:53 | 7 | 54 |
| **06** | 03:22 | 03:25 | 11:57 | 19:57 | 07:37 | 8 | 64 |

## 2025 May 07, 08, 09 (Wed, Thu, Fri)

| | | Aries | Venus -4.7 | | Mars 1.0 | | Jupiter -2.0 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 07 Wednesday | 0 | 225 5.5 | 221 35.9 | 1 43.1 | 93 44.9 | 19 58.7 | 143 8.6 | 23 0.4 | 225 43.2 | -2 28.4 |
| | 1 | 240 7.9 | 236 36.7 | 1 43.4 | 108 46.2 | 19 58.4 | 158 10.5 | 23 0.4 | 240 45.4 | -2 28.3 |
| | 2 | 255 10.4 | 251 37.4 | 1 43.8 | 123 47.4 | 19 58.0 | 173 12.5 | 23 0.4 | 255 47.6 | -2 28.2 |
| | 3 | 270 12.9 | 266 38.2 | 1 44.2 | 138 48.7 | 19 57.6 | 188 14.4 | 23 0.5 | 270 49.9 | -2 28.1 |
| | 4 | 285 15.3 | 281 39.0 | 1 44.5 | 153 49.9 | 19 57.3 | 203 16.3 | 23 0.5 | 285 52.1 | -2 28.0 |
| | 5 | 300 17.8 | 296 39.7 | 1 44.9 | 168 51.2 | 19 56.9 | 218 18.2 | 23 0.5 | 300 54.4 | -2 27.9 |
| | 6 | 315 20.3 | 311 40.5 | 1 45.2 | 183 52.4 | 19 56.6 | 233 20.1 | 23 0.6 | 315 56.6 | -2 27.8 |
| | 7 | 330 22.7 | 326 41.2 | 1 45.6 | 198 53.7 | 19 56.2 | 248 22.0 | 23 0.6 | 330 58.9 | -2 27.7 |
| | 8 | 345 25.2 | 341 42.0 | 1 46.0 | 213 55.0 | 19 55.9 | 263 23.9 | 23 0.6 | 346 1.1 | -2 27.7 |
| | 9 | 0 27.7 | 356 42.8 | 1 46.3 | 228 56.2 | 19 55.5 | 278 25.8 | 23 0.7 | 1 3.3 | -2 27.6 |
| | 10 | 15 30.1 | 11 43.5 | 1 46.7 | 243 57.5 | 19 55.1 | 293 27.7 | 23 0.7 | 16 5.6 | -2 27.5 |
| | 11 | 30 32.6 | 26 44.3 | 1 47.1 | 258 58.7 | 19 54.8 | 308 29.6 | 23 0.7 | 31 7.8 | -2 27.4 |
| | 12 | 45 35.0 | 41 45.0 | 1 47.4 | 274 0.0 | 19 54.4 | 323 31.5 | 23 0.8 | 46 10.1 | -2 27.3 |
| | 13 | 60 37.5 | 56 45.8 | 1 47.8 | 289 1.2 | 19 54.1 | 338 33.4 | 23 0.8 | 61 12.3 | -2 27.2 |
| | 14 | 75 40.0 | 71 46.5 | 1 48.2 | 304 2.5 | 19 53.7 | 353 35.3 | 23 0.8 | 76 14.6 | -2 27.1 |
| | 15 | 90 42.4 | 86 47.3 | 1 48.5 | 319 3.7 | 19 53.3 | 8 37.2 | 23 0.9 | 91 16.8 | -2 27.0 |
| | 16 | 105 44.9 | 101 48.0 | 1 48.9 | 334 5.0 | 19 53.0 | 23 39.1 | 23 0.9 | 106 19.0 | -2 27.0 |
| | 17 | 120 47.4 | 116 48.7 | 1 49.3 | 349 6.2 | 19 52.6 | 38 41.0 | 23 0.9 | 121 21.3 | -2 26.9 |
| | 18 | 135 49.8 | 131 49.5 | 1 49.6 | 4 7.5 | 19 52.2 | 53 42.9 | 23 1.0 | 136 23.5 | -2 26.8 |
| | 19 | 150 52.3 | 146 50.2 | 1 50.0 | 19 8.7 | 19 51.9 | 68 44.8 | 23 1.0 | 151 25.8 | -2 26.7 |
| | 20 | 165 54.8 | 161 51.0 | 1 50.4 | 34 10.0 | 19 51.5 | 83 46.7 | 23 1.0 | 166 28.0 | -2 26.6 |
| | 21 | 180 57.2 | 176 51.7 | 1 50.8 | 49 11.2 | 19 51.2 | 98 48.6 | 23 1.1 | 181 30.3 | -2 26.5 |
| | 22 | 195 59.7 | 191 52.4 | 1 51.2 | 64 12.5 | 19 50.8 | 113 50.5 | 23 1.1 | 196 32.5 | -2 26.4 |
| | 23 | 211 2.1 | 206 53.2 | 1 51.5 | 79 13.7 | 19 50.4 | 128 52.4 | 23 1.1 | 211 34.7 | -2 26.3 |
| | | MP 08:59 | *v* 0.8 | *d* 0.4 | *v* 1.3 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Thursday | 0 | 226 4.6 | 221 53.9 | 1 51.9 | 94 15.0 | 19 50.1 | 143 54.3 | 23 1.2 | 226 37.0 | -2 26.3 |
| | 1 | 241 7.1 | 236 54.6 | 1 52.3 | 109 16.2 | 19 49.7 | 158 56.2 | 23 1.2 | 241 39.2 | -2 26.2 |
| | 2 | 256 9.5 | 251 55.4 | 1 52.7 | 124 17.5 | 19 49.4 | 173 58.1 | 23 1.2 | 256 41.5 | -2 26.1 |
| | 3 | 271 12.0 | 266 56.1 | 1 53.1 | 139 18.7 | 19 49.0 | 189 0.0 | 23 1.3 | 271 43.7 | -2 26.0 |
| | 4 | 286 14.5 | 281 56.8 | 1 53.4 | 154 20.0 | 19 48.6 | 204 1.9 | 23 1.3 | 286 46.0 | -2 25.9 |
| | 5 | 301 16.9 | 296 57.6 | 1 53.8 | 169 21.2 | 19 48.3 | 219 3.8 | 23 1.3 | 301 48.2 | -2 25.8 |
| | 6 | 316 19.4 | 311 58.3 | 1 54.2 | 184 22.5 | 19 47.9 | 234 5.7 | 23 1.4 | 316 50.5 | -2 25.7 |
| | 7 | 331 21.9 | 326 59.0 | 1 54.6 | 199 23.7 | 19 47.5 | 249 7.6 | 23 1.4 | 331 52.7 | -2 25.6 |
| | 8 | 346 24.3 | 341 59.7 | 1 55.0 | 214 25.0 | 19 47.2 | 264 9.5 | 23 1.4 | 346 54.9 | -2 25.6 |
| | 9 | 1 26.8 | 357 0.4 | 1 55.4 | 229 26.2 | 19 46.8 | 279 11.4 | 23 1.5 | 1 57.2 | -2 25.5 |
| | 10 | 16 29.3 | 12 1.2 | 1 55.8 | 244 27.5 | 19 46.4 | 294 13.3 | 23 1.5 | 16 59.4 | -2 25.4 |
| | 11 | 31 31.7 | 27 1.9 | 1 56.2 | 259 28.7 | 19 46.1 | 309 15.2 | 23 1.5 | 32 1.7 | -2 25.3 |
| | 12 | 46 34.2 | 42 2.6 | 1 56.5 | 274 30.0 | 19 45.7 | 324 17.1 | 23 1.6 | 47 3.9 | -2 25.2 |
| | 13 | 61 36.6 | 57 3.3 | 1 56.9 | 289 31.2 | 19 45.3 | 339 19.0 | 23 1.6 | 62 6.2 | -2 25.1 |
| | 14 | 76 39.1 | 72 4.0 | 1 57.3 | 304 32.5 | 19 45.0 | 354 20.9 | 23 1.6 | 77 8.4 | -2 25.0 |
| | 15 | 91 41.6 | 87 4.7 | 1 57.7 | 319 33.7 | 19 44.6 | 9 22.8 | 23 1.7 | 92 10.7 | -2 25.0 |
| | 16 | 106 44.0 | 102 5.4 | 1 58.1 | 334 35.0 | 19 44.3 | 24 24.7 | 23 1.7 | 107 12.9 | -2 24.9 |
| | 17 | 121 46.5 | 117 6.2 | 1 58.5 | 349 36.2 | 19 43.9 | 39 26.6 | 23 1.7 | 122 15.1 | -2 24.8 |
| | 18 | 136 49.0 | 132 6.9 | 1 58.9 | 4 37.5 | 19 43.5 | 54 28.5 | 23 1.8 | 137 17.4 | -2 24.7 |
| | 19 | 151 51.4 | 147 7.6 | 1 59.3 | 19 38.7 | 19 43.2 | 69 30.4 | 23 1.8 | 152 19.6 | -2 24.6 |
| | 20 | 166 53.9 | 162 8.3 | 1 59.7 | 34 40.0 | 19 42.8 | 84 32.3 | 23 1.8 | 167 21.9 | -2 24.5 |
| | 21 | 181 56.4 | 177 9.0 | 2 0.1 | 49 41.2 | 19 42.4 | 99 34.2 | 23 1.9 | 182 24.1 | -2 24.4 |
| | 22 | 196 58.8 | 192 9.7 | 2 0.5 | 64 42.4 | 19 42.1 | 114 36.1 | 23 1.9 | 197 26.4 | -2 24.4 |
| | 23 | 212 1.3 | 207 10.4 | 2 0.9 | 79 43.7 | 19 41.7 | 129 38.0 | 23 1.9 | 212 28.6 | -2 24.3 |
| | | MP 08:56 | *v* 0.7 | *d* 0.4 | *v* 1.3 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Friday | 0 | 227 3.8 | 222 11.1 | 2 1.3 | 94 44.9 | 19 41.3 | 144 39.9 | 23 2.0 | 227 30.9 | -2 24.2 |
| | 1 | 242 6.2 | 237 11.8 | 2 1.7 | 109 46.2 | 19 41.0 | 159 41.8 | 23 2.0 | 242 33.1 | -2 24.1 |
| | 2 | 257 8.7 | 252 12.5 | 2 2.1 | 124 47.4 | 19 40.6 | 174 43.7 | 23 2.0 | 257 35.4 | -2 24.0 |
| | 3 | 272 11.1 | 267 13.2 | 2 2.6 | 139 48.7 | 19 40.2 | 189 45.6 | 23 2.1 | 272 37.6 | -2 23.9 |
| | 4 | 287 13.6 | 282 13.9 | 2 3.0 | 154 49.9 | 19 39.9 | 204 47.5 | 23 2.1 | 287 39.9 | -2 23.8 |
| | 5 | 302 16.1 | 297 14.5 | 2 3.4 | 169 51.2 | 19 39.5 | 219 49.4 | 23 2.1 | 302 42.1 | -2 23.8 |
| | 6 | 317 18.5 | 312 15.2 | 2 3.8 | 184 52.4 | 19 39.1 | 234 51.3 | 23 2.1 | 317 44.3 | -2 23.7 |
| | 7 | 332 21.0 | 327 15.9 | 2 4.2 | 199 53.6 | 19 38.8 | 249 53.2 | 23 2.2 | 332 46.6 | -2 23.6 |
| | 8 | 347 23.5 | 342 16.6 | 2 4.6 | 214 54.9 | 19 38.4 | 264 55.1 | 23 2.2 | 347 48.8 | -2 23.5 |
| | 9 | 2 25.9 | 357 17.3 | 2 5.0 | 229 56.1 | 19 38.0 | 279 57.0 | 23 2.2 | 2 51.1 | -2 23.4 |
| | 10 | 17 28.4 | 12 18.0 | 2 5.4 | 244 57.4 | 19 37.6 | 294 58.9 | 23 2.3 | 17 53.3 | -2 23.3 |
| | 11 | 32 30.9 | 27 18.7 | 2 5.8 | 259 58.6 | 19 37.3 | 310 0.8 | 23 2.3 | 32 55.6 | -2 23.2 |
| | 12 | 47 33.3 | 42 19.3 | 2 6.3 | 274 59.9 | 19 36.9 | 325 2.7 | 23 2.3 | 47 57.8 | -2 23.2 |
| | 13 | 62 35.8 | 57 20.0 | 2 6.7 | 290 1.1 | 19 36.5 | 340 4.6 | 23 2.4 | 63 0.1 | -2 23.1 |
| | 14 | 77 38.2 | 72 20.7 | 2 7.1 | 305 2.4 | 19 36.2 | 355 6.5 | 23 2.4 | 78 2.3 | -2 23.0 |
| | 15 | 92 40.7 | 87 21.4 | 2 7.5 | 320 3.6 | 19 35.8 | 10 8.4 | 23 2.4 | 93 4.6 | -2 22.9 |
| | 16 | 107 43.2 | 102 22.1 | 2 7.9 | 335 4.8 | 19 35.4 | 25 10.3 | 23 2.5 | 108 6.8 | -2 22.8 |
| | 17 | 122 45.6 | 117 22.7 | 2 8.4 | 350 6.1 | 19 35.1 | 40 12.2 | 23 2.5 | 123 9.1 | -2 22.7 |
| | 18 | 137 48.1 | 132 23.4 | 2 8.8 | 5 7.3 | 19 34.7 | 55 14.1 | 23 2.5 | 138 11.3 | -2 22.6 |
| | 19 | 152 50.6 | 147 24.1 | 2 9.2 | 20 8.6 | 19 34.3 | 70 16.0 | 23 2.6 | 153 13.6 | -2 22.6 |
| | 20 | 167 53.0 | 162 24.8 | 2 9.6 | 35 9.8 | 19 33.9 | 85 17.9 | 23 2.6 | 168 15.8 | -2 22.5 |
| | 21 | 182 55.5 | 177 25.4 | 2 10.1 | 50 11.0 | 19 33.6 | 100 19.8 | 23 2.6 | 183 18.1 | -2 22.4 |
| | 22 | 197 58.0 | 192 26.1 | 2 10.5 | 65 12.3 | 19 33.2 | 115 21.7 | 23 2.7 | 198 20.3 | -2 22.3 |
| | 23 | 213 0.4 | 207 26.8 | 2 10.9 | 80 13.5 | 19 32.8 | 130 23.6 | 23 2.7 | 213 22.6 | -2 22.2 |
| | | MP 08:52 | *v* 0.7 | *d* 0.4 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.2 |
| Achernar | 335 20.5 | -57 6.4 |
| Acrux | 172 59.3 | -63 14.6 |
| Adhara | 255 5.9 | -29 0.6 |
| Aldebaran | 290 39.7 | 16 33.6 |
| Alioth | 166 12.2 | 55 49.4 |
| Alkaid | 152 51.3 | 49 11.2 |
| Alnair | 27 32.7 | -46 50.1 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.2 | 26 37.6 |
| Alpheratz | 357 34.8 | 29 13.6 |
| Altair | 61 59.6 | 8 55.9 |
| Ankaa | 353 7.2 | -42 10.0 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.3 | 19 2.9 |
| Atria | 107 8.7 | -69 4.3 |
| Avior | 234 14.8 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.7 | -52 42.7 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.6 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.3 | -17 50.9 |
| Dubhe | 193 40.3 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.7 | 51 28.8 |
| Enif | 33 38.6 | 9 59.3 |
| Fomalhaut | 15 14.4 | -29 29.2 |
| Gacrux | 171 50.9 | -57 15.5 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.8 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.0 |
| Markab | 13 29.8 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.8 |
| Miaplacidus | 221 38.3 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 5.2 | -56 39.0 |
| Pollux | 243 17.1 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.0 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.5 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 31.3 | 56 40.4 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.7 | -11 17.8 |
| Suhail | 222 46.2 | -43 32.3 |
| Vega | 80 32.8 | 38 48.1 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 07 Wed | SHA | MP |
|---|---|---|
| Venus | 356 30.4 | 09:13 |
| Mars | 228 39.4 | 17:44 |
| Jupiter | 278 3.2 | 14:26 |
| Saturn | 0 37.7 | 08:56 |

| 08 Thu | SHA | MP |
|---|---|---|
| Venus | 355 49.3 | 09:12 |
| Mars | 228 10.4 | 17:42 |
| Jupiter | 277 49.7 | 14:23 |
| Saturn | 0 32.4 | 08:52 |

| 09 Fri | SHA | MP |
|---|---|---|
| Venus | 355 7.3 | 09:11 |
| Mars | 227 41.2 | 17:40 |
| Jupiter | 277 36.2 | 14:20 |
| Saturn | 0 27.1 | 08:49 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **07 Wednesday** | 0 | 180 51.6 | 16 49.6 | 58 59.7 | 16.4 | 7 5.9 | -14.2 | 54.9 |
| | 1 | 195 51.7 | 16 50.2 | 73 35.1 | 16.4 | 6 51.8 | -14.2 | 54.9 |
| | 2 | 210 51.7 | 16 50.9 | 88 10.6 | 16.5 | 6 37.6 | -14.2 | 54.8 |
| | 3 | 225 51.8 | 16 51.6 | 102 46.1 | 16.5 | 6 23.4 | -14.2 | 54.8 |
| | 4 | 240 51.8 | 16 52.3 | 117 21.6 | 16.6 | 6 9.2 | -14.2 | 54.8 |
| | 5 | 255 51.8 | 16 53.0 | 131 57.2 | 16.6 | 5 55.0 | -14.2 | 54.8 |
| | 6 | 270 51.9 | 16 53.7 | 146 32.8 | 16.6 | 5 40.8 | -14.2 | 54.8 |
| | 7 | 285 51.9 | 16 54.4 | 161 8.4 | 16.7 | 5 26.6 | -14.2 | 54.8 |
| | 8 | 300 52.0 | 16 55.1 | 175 44.1 | 16.7 | 5 12.3 | -14.3 | 54.7 |
| | 9 | 315 52.0 | 16 55.7 | 190 19.8 | 16.8 | 4 58.1 | -14.3 | 54.7 |
| | 10 | 330 52.0 | 16 56.4 | 204 55.6 | 16.8 | 4 43.8 | -14.3 | 54.7 |
| | 11 | 345 52.1 | 16 57.1 | 219 31.4 | 16.8 | 4 29.5 | -14.3 | 54.7 |
| | 12 | 0 52.1 | 16 57.8 | 234 7.2 | 16.9 | 4 15.3 | -14.3 | 54.7 |
| | 13 | 15 52.2 | 16 58.5 | 248 43.1 | 16.9 | 4 1.0 | -14.3 | 54.6 |
| | 14 | 30 52.2 | 16 59.2 | 263 18.9 | 16.9 | 3 46.7 | -14.3 | 54.6 |
| | 15 | 45 52.2 | 16 59.8 | 277 54.9 | 16.9 | 3 32.4 | -14.3 | 54.6 |
| | 16 | 60 52.3 | 17 0.5 | 292 30.8 | 17.0 | 3 18.1 | -14.3 | 54.6 |
| | 17 | 75 52.3 | 17 1.2 | 307 6.8 | 17.0 | 3 3.8 | -14.3 | 54.6 |
| | 18 | 90 52.3 | 17 1.9 | 321 42.8 | 17.0 | 2 49.5 | -14.3 | 54.6 |
| | 19 | 105 52.4 | 17 2.6 | 336 18.8 | 17.0 | 2 35.1 | -14.3 | 54.5 |
| | 20 | 120 52.4 | 17 3.2 | 350 54.8 | 17.1 | 2 20.8 | -14.3 | 54.5 |
| | 21 | 135 52.4 | 17 3.9 | 5 30.9 | 17.1 | 2 6.5 | -14.3 | 54.5 |
| | 22 | 150 52.5 | 17 4.6 | 20 7.0 | 17.1 | 1 52.2 | -14.3 | 54.5 |
| | 23 | 165 52.5 | 17 5.3 | 34 43.1 | 17.1 | 1 37.9 | -14.3 | 54.5 |
| | | *v* 0.0 | SD 15.9 | *d* 0.7 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **08 Thursday** | 0 | 180 52.6 | 17 6.0 | 49 19.2 | 17.1 | 1 23.6 | -14.3 | 54.5 |
| | 1 | 195 52.6 | 17 6.6 | 63 55.3 | 17.2 | 1 9.2 | -14.3 | 54.5 |
| | 2 | 210 52.6 | 17 7.3 | 78 31.5 | 17.2 | 0 54.9 | -14.3 | 54.4 |
| | 3 | 225 52.7 | 17 8.0 | 93 7.7 | 17.2 | 0 40.6 | -14.3 | 54.4 |
| | 4 | 240 52.7 | 17 8.7 | 107 43.8 | 17.2 | 0 26.3 | -14.3 | 54.4 |
| | 5 | 255 52.7 | 17 9.3 | 122 20.0 | 17.2 | 0 12.0 | -14.3 | 54.4 |
| | 6 | 270 52.8 | 17 10.0 | 136 56.2 | 17.2 | -0 2.3 | 14.3 | 54.4 |
| | 7 | 285 52.8 | 17 10.7 | 151 32.5 | 17.2 | -0 16.6 | 14.3 | 54.4 |
| | 8 | 300 52.8 | 17 11.4 | 166 8.7 | 17.2 | -0 30.9 | 14.3 | 54.4 |
| | 9 | 315 52.9 | 17 12.0 | 180 44.9 | 17.2 | -0 45.1 | 14.3 | 54.3 |
| | 10 | 330 52.9 | 17 12.7 | 195 21.2 | 17.2 | -0 59.4 | 14.3 | 54.3 |
| | 11 | 345 52.9 | 17 13.4 | 209 57.4 | 17.3 | -1 13.7 | 14.2 | 54.3 |
| | 12 | 0 53.0 | 17 14.1 | 224 33.7 | 17.3 | -1 27.9 | 14.2 | 54.3 |
| | 13 | 15 53.0 | 17 14.7 | 239 9.9 | 17.3 | -1 42.1 | 14.2 | 54.3 |
| | 14 | 30 53.0 | 17 15.4 | 253 46.2 | 17.3 | -1 56.4 | 14.2 | 54.3 |
| | 15 | 45 53.1 | 17 16.1 | 268 22.4 | 17.3 | -2 10.6 | 14.2 | 54.3 |
| | 16 | 60 53.1 | 17 16.7 | 282 58.7 | 17.3 | -2 24.8 | 14.2 | 54.3 |
| | 17 | 75 53.1 | 17 17.4 | 297 34.9 | 17.3 | -2 39.0 | 14.2 | 54.3 |
| | 18 | 90 53.1 | 17 18.1 | 312 11.2 | 17.3 | -2 53.1 | 14.2 | 54.2 |
| | 19 | 105 53.2 | 17 18.8 | 326 47.5 | 17.2 | -3 7.3 | 14.1 | 54.2 |
| | 20 | 120 53.2 | 17 19.4 | 341 23.7 | 17.2 | -3 21.5 | 14.1 | 54.2 |
| | 21 | 135 53.2 | 17 20.1 | 355 59.9 | 17.2 | -3 35.6 | 14.1 | 54.2 |
| | 22 | 150 53.3 | 17 20.8 | 10 36.2 | 17.2 | -3 49.7 | 14.1 | 54.2 |
| | 23 | 165 53.3 | 17 21.4 | 25 12.4 | 17.2 | -4 3.8 | 14.1 | 54.2 |
| | | *v* 0.0 | SD 15.8 | *d* 0.7 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **09 Friday** | 0 | 180 53.3 | 17 22.1 | 39 48.6 | 17.2 | -4 17.9 | 14.1 | 54.2 |
| | 1 | 195 53.4 | 17 22.8 | 54 24.9 | 17.2 | -4 31.9 | 14.0 | 54.2 |
| | 2 | 210 53.4 | 17 23.4 | 69 1.1 | 17.2 | -4 46.0 | 14.0 | 54.2 |
| | 3 | 225 53.4 | 17 24.1 | 83 37.2 | 17.2 | -5 0.0 | 14.0 | 54.2 |
| | 4 | 240 53.4 | 17 24.7 | 98 13.4 | 17.2 | -5 14.0 | 14.0 | 54.1 |
| | 5 | 255 53.5 | 17 25.4 | 112 49.6 | 17.1 | -5 28.0 | 14.0 | 54.1 |
| | 6 | 270 53.5 | 17 26.1 | 127 25.7 | 17.1 | -5 41.9 | 13.9 | 54.1 |
| | 7 | 285 53.5 | 17 26.7 | 142 1.9 | 17.1 | -5 55.8 | 13.9 | 54.1 |
| | 8 | 300 53.6 | 17 27.4 | 156 38.0 | 17.1 | -6 9.7 | 13.9 | 54.1 |
| | 9 | 315 53.6 | 17 28.1 | 171 14.1 | 17.1 | -6 23.6 | 13.9 | 54.1 |
| | 10 | 330 53.6 | 17 28.7 | 185 50.2 | 17.1 | -6 37.5 | 13.8 | 54.1 |
| | 11 | 345 53.6 | 17 29.4 | 200 26.2 | 17.0 | -6 51.3 | 13.8 | 54.1 |
| | 12 | 0 53.7 | 17 30.0 | 215 2.3 | 17.0 | -7 5.1 | 13.8 | 54.1 |
| | 13 | 15 53.7 | 17 30.7 | 229 38.3 | 17.0 | -7 18.9 | 13.7 | 54.1 |
| | 14 | 30 53.7 | 17 31.4 | 244 14.3 | 17.0 | -7 32.6 | 13.7 | 54.1 |
| | 15 | 45 53.7 | 17 32.0 | 258 50.2 | 16.9 | -7 46.4 | 13.7 | 54.1 |
| | 16 | 60 53.8 | 17 32.7 | 273 26.2 | 16.9 | -8 0.1 | 13.7 | 54.1 |
| | 17 | 75 53.8 | 17 33.3 | 288 2.1 | 16.9 | -8 13.7 | 13.6 | 54.1 |
| | 18 | 90 53.8 | 17 34.0 | 302 38.0 | 16.9 | -8 27.3 | 13.6 | 54.1 |
| | 19 | 105 53.8 | 17 34.6 | 317 13.8 | 16.8 | -8 40.9 | 13.6 | 54.0 |
| | 20 | 120 53.9 | 17 35.3 | 331 49.7 | 16.8 | -8 54.5 | 13.5 | 54.0 |
| | 21 | 135 53.9 | 17 36.0 | 346 25.5 | 16.8 | -9 8.0 | 13.5 | 54.0 |
| | 22 | 150 53.9 | 17 36.6 | 1 1.3 | 16.7 | -9 21.5 | 13.5 | 54.0 |
| | 23 | 165 53.9 | 17 37.3 | 15 37.0 | 16.7 | -9 35.0 | 13.4 | 54.0 |
| | | *v* 0.0 | SD 15.8 | *d* 0.7 | | SD 14.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 00:42 | 23:35 | //// | //// |
| 70 | //// | //// | 01:52 | 22:07 | //// | //// |
| 68 | //// | //// | 02:28 | 21:29 | //// | //// |
| 66 | //// | 01:11 | 02:53 | 21:03 | 22:51 | //// |
| 64 | //// | 01:55 | 03:13 | 20:43 | 22:03 | //// |
| 62 | //// | 02:23 | 03:28 | 20:27 | 21:33 | //// |
| 60 | 01:03 | 02:45 | 03:42 | 20:13 | 21:11 | 22:58 |
| 58 | 01:43 | 03:02 | 03:53 | 20:02 | 20:53 | 22:14 |
| 56 | 02:09 | 03:16 | 04:03 | 19:52 | 20:39 | 21:47 |
| 54 | 02:29 | 03:28 | 04:11 | 19:43 | 20:26 | 21:26 |
| 52 | 02:45 | 03:39 | 04:19 | 19:35 | 20:16 | 21:10 |
| 50 | 02:59 | 03:48 | 04:26 | 19:28 | 20:06 | 20:56 |
| 45 | 03:26 | 04:08 | 04:41 | 19:13 | 19:46 | 20:28 |
| 40 | 03:46 | 04:23 | 04:53 | 19:01 | 19:31 | 20:08 |
| 35 | 04:02 | 04:36 | 05:03 | 18:50 | 19:18 | 19:51 |
| 30 | 04:16 | 04:46 | 05:12 | 18:41 | 19:07 | 19:38 |
| 20 | 04:37 | 05:04 | 05:27 | 18:26 | 18:49 | 19:17 |
| 10 | 04:53 | 05:19 | 05:41 | 18:12 | 18:34 | 19:00 |
| 0 | 05:06 | 05:31 | 05:53 | 18:00 | 18:22 | 18:47 |
| -10 | 05:18 | 05:43 | 06:05 | 17:48 | 18:10 | 18:35 |
| -20 | 05:29 | 05:55 | 06:18 | 17:35 | 17:58 | 18:24 |
| -30 | 05:39 | 06:08 | 06:33 | 17:20 | 17:45 | 18:14 |
| -35 | 05:44 | 06:15 | 06:41 | 17:11 | 17:38 | 18:08 |
| -40 | 05:50 | 06:22 | 06:51 | 17:02 | 17:30 | 18:03 |
| -45 | 05:56 | 06:31 | 07:02 | 16:50 | 17:22 | 17:57 |
| -50 | 06:02 | 06:41 | 07:16 | 16:37 | 17:12 | 17:50 |
| -52 | 06:05 | 06:45 | 07:22 | 16:30 | 17:07 | 17:48 |
| -54 | 06:08 | 06:50 | 07:29 | 16:23 | 17:02 | 17:45 |
| -56 | 06:11 | 06:56 | 07:37 | 16:16 | 16:57 | 17:42 |
| -58 | 06:14 | 07:02 | 07:46 | 16:07 | 16:51 | 17:38 |
| -60 | 06:18 | 07:08 | 07:56 | 15:57 | 16:44 | 17:35 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **07** | **08** | **09** | **07** | **08** | **09** |
| 72 | 13:39 | 15:37 | 17:38 | 03:28 | 02:55 | 02:23 |
| 70 | 13:45 | 15:34 | 17:24 | 03:19 | 02:54 | 02:29 |
| 68 | 13:49 | 15:31 | 17:14 | 03:12 | 02:53 | 02:35 |
| 66 | 13:53 | 15:29 | 17:05 | 03:06 | 02:53 | 02:39 |
| 64 | 13:56 | 15:27 | 16:58 | 03:01 | 02:52 | 02:43 |
| 62 | 13:59 | 15:25 | 16:51 | 02:57 | 02:52 | 02:47 |
| 60 | 14:01 | 15:24 | 16:46 | 02:53 | 02:51 | 02:50 |
| 58 | 14:03 | 15:22 | 16:41 | 02:49 | 02:51 | 02:53 |
| 56 | 14:05 | 15:21 | 16:37 | 02:46 | 02:51 | 02:55 |
| 54 | 14:07 | 15:20 | 16:33 | 02:44 | 02:51 | 02:57 |
| 52 | 14:08 | 15:19 | 16:30 | 02:41 | 02:50 | 02:59 |
| 50 | 14:10 | 15:18 | 16:27 | 02:39 | 02:50 | 03:01 |
| 45 | 14:13 | 15:16 | 16:20 | 02:34 | 02:50 | 03:05 |
| 40 | 14:15 | 15:15 | 16:14 | 02:30 | 02:49 | 03:08 |
| 35 | 14:17 | 15:14 | 16:10 | 02:26 | 02:49 | 03:11 |
| 30 | 14:19 | 15:12 | 16:05 | 02:23 | 02:48 | 03:14 |
| 20 | 14:22 | 15:10 | 15:58 | 02:17 | 02:48 | 03:18 |
| 10 | 14:25 | 15:09 | 15:52 | 02:12 | 02:47 | 03:22 |
| 0 | 14:28 | 15:07 | 15:46 | 02:07 | 02:47 | 03:26 |
| -10 | 14:31 | 15:05 | 15:40 | 02:02 | 02:46 | 03:30 |
| -20 | 14:33 | 15:04 | 15:34 | 01:57 | 02:46 | 03:34 |
| -30 | 14:37 | 15:02 | 15:27 | 01:51 | 02:45 | 03:38 |
| -35 | 14:38 | 15:01 | 15:24 | 01:48 | 02:45 | 03:41 |
| -40 | 14:40 | 15:00 | 15:19 | 01:44 | 02:44 | 03:44 |
| -45 | 14:43 | 14:58 | 15:14 | 01:39 | 02:44 | 03:47 |
| -50 | 14:46 | 14:57 | 15:08 | 01:34 | 02:43 | 03:51 |
| -52 | 14:47 | 14:56 | 15:05 | 01:31 | 02:43 | 03:53 |
| -54 | 14:48 | 14:55 | 15:02 | 01:28 | 02:42 | 03:55 |
| -56 | 14:50 | 14:54 | 14:59 | 01:25 | 02:42 | 03:58 |
| -58 | 14:52 | 14:53 | 14:55 | 01:22 | 02:42 | 04:00 |
| -60 | 14:54 | 14:52 | 14:51 | 01:18 | 02:41 | 04:03 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **07** | 03:27 | 03:28 | 11:57 | 20:37 | 08:18 | 9 | 73 |
| **08** | 03:30 | 03:32 | 11:56 | 21:16 | 08:57 | 10 | 81 |
| **09** | 03:33 | 03:35 | 11:56 | 21:56 | 09:36 | 11 | 88 |

## 2025 May 10, 11, 12 (Sat, Sun, Monday)

| | | Aries | Venus -4.6 | | Mars 1.1 | | Jupiter -2.0 | | Saturn 1.2 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 10 Saturday | 0 | 228 2.9 | 222 27.4 | 2 11.3 | 95 14.8 | 19 32.5 | 145 25.5 | 23 2.7 | 228 24.8 | -2 22.1 |
| | 1 | 243 5.4 | 237 28.1 | 2 11.8 | 110 16.0 | 19 32.1 | 160 27.4 | 23 2.8 | 243 27.0 | -2 22.0 |
| | 2 | 258 7.8 | 252 28.8 | 2 12.2 | 125 17.3 | 19 31.7 | 175 29.2 | 23 2.8 | 258 29.3 | -2 22.0 |
| | 3 | 273 10.3 | 267 29.4 | 2 12.6 | 140 18.5 | 19 31.3 | 190 31.1 | 23 2.8 | 273 31.5 | -2 21.9 |
| | 4 | 288 12.7 | 282 30.1 | 2 13.1 | 155 19.7 | 19 31.0 | 205 33.0 | 23 2.8 | 288 33.8 | -2 21.8 |
| | 5 | 303 15.2 | 297 30.7 | 2 13.5 | 170 21.0 | 19 30.6 | 220 34.9 | 23 2.9 | 303 36.0 | -2 21.7 |
| | 6 | 318 17.7 | 312 31.4 | 2 13.9 | 185 22.2 | 19 30.2 | 235 36.8 | 23 2.9 | 318 38.3 | -2 21.6 |
| | 7 | 333 20.1 | 327 32.0 | 2 14.4 | 200 23.4 | 19 29.9 | 250 38.7 | 23 2.9 | 333 40.5 | -2 21.5 |
| | 8 | 348 22.6 | 342 32.7 | 2 14.8 | 215 24.7 | 19 29.5 | 265 40.6 | 23 3.0 | 348 42.8 | -2 21.5 |
| | 9 | 3 25.1 | 357 33.4 | 2 15.2 | 230 25.9 | 19 29.1 | 280 42.5 | 23 3.0 | 3 45.0 | -2 21.4 |
| | 10 | 18 27.5 | 12 34.0 | 2 15.7 | 245 27.2 | 19 28.7 | 295 44.4 | 23 3.0 | 18 47.3 | -2 21.3 |
| | 11 | 33 30.0 | 27 34.7 | 2 16.1 | 260 28.4 | 19 28.4 | 310 46.3 | 23 3.1 | 33 49.5 | -2 21.2 |
| | 12 | 48 32.5 | 42 35.3 | 2 16.6 | 275 29.6 | 19 28.0 | 325 48.2 | 23 3.1 | 48 51.8 | -2 21.1 |
| | 13 | 63 34.9 | 57 36.0 | 2 17.0 | 290 30.9 | 19 27.6 | 340 50.1 | 23 3.1 | 63 54.0 | -2 21.0 |
| | 14 | 78 37.4 | 72 36.6 | 2 17.4 | 305 32.1 | 19 27.2 | 355 52.0 | 23 3.2 | 78 56.3 | -2 20.9 |
| | 15 | 93 39.8 | 87 37.2 | 2 17.9 | 320 33.4 | 19 26.9 | 10 53.9 | 23 3.2 | 93 58.5 | -2 20.9 |
| | 16 | 108 42.3 | 102 37.9 | 2 18.3 | 335 34.6 | 19 26.5 | 25 55.8 | 23 3.2 | 109 0.8 | -2 20.8 |
| | 17 | 123 44.8 | 117 38.5 | 2 18.8 | 350 35.8 | 19 26.1 | 40 57.7 | 23 3.3 | 124 3.0 | -2 20.7 |
| | 18 | 138 47.2 | 132 39.2 | 2 19.2 | 5 37.1 | 19 25.8 | 55 59.6 | 23 3.3 | 139 5.3 | -2 20.6 |
| | 19 | 153 49.7 | 147 39.8 | 2 19.7 | 20 38.3 | 19 25.4 | 71 1.5 | 23 3.3 | 154 7.5 | -2 20.5 |
| | 20 | 168 52.2 | 162 40.5 | 2 20.1 | 35 39.5 | 19 25.0 | 86 3.4 | 23 3.3 | 169 9.8 | -2 20.4 |
| | 21 | 183 54.6 | 177 41.1 | 2 20.6 | 50 40.8 | 19 24.6 | 101 5.3 | 23 3.4 | 184 12.0 | -2 20.4 |
| | 22 | 198 57.1 | 192 41.7 | 2 21.0 | 65 42.0 | 19 24.3 | 116 7.2 | 23 3.4 | 199 14.3 | -2 20.3 |
| | 23 | 213 59.6 | 207 42.4 | 2 21.5 | 80 43.3 | 19 23.9 | 131 9.0 | 23 3.4 | 214 16.5 | -2 20.2 |
| | | MP 08:48 | *v* 0.7 | *d* 0.4 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.2 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 Sunday | 0 | 229 2.0 | 222 43.0 | 2 21.9 | 95 44.5 | 19 23.5 | 146 10.9 | 23 3.5 | 229 18.8 | -2 20.1 |
| | 1 | 244 4.5 | 237 43.6 | 2 22.4 | 110 45.7 | 19 23.1 | 161 12.8 | 23 3.5 | 244 21.0 | -2 20.0 |
| | 2 | 259 7.0 | 252 44.3 | 2 22.8 | 125 47.0 | 19 22.7 | 176 14.7 | 23 3.5 | 259 23.3 | -2 19.9 |
| | 3 | 274 9.4 | 267 44.9 | 2 23.3 | 140 48.2 | 19 22.4 | 191 16.6 | 23 3.6 | 274 25.5 | -2 19.9 |
| | 4 | 289 11.9 | 282 45.5 | 2 23.7 | 155 49.4 | 19 22.0 | 206 18.5 | 23 3.6 | 289 27.8 | -2 19.8 |
| | 5 | 304 14.3 | 297 46.1 | 2 24.2 | 170 50.7 | 19 21.6 | 221 20.4 | 23 3.6 | 304 30.0 | -2 19.7 |
| | 6 | 319 16.8 | 312 46.8 | 2 24.6 | 185 51.9 | 19 21.2 | 236 22.3 | 23 3.7 | 319 32.3 | -2 19.6 |
| | 7 | 334 19.3 | 327 47.4 | 2 25.1 | 200 53.1 | 19 20.9 | 251 24.2 | 23 3.7 | 334 34.5 | -2 19.5 |
| | 8 | 349 21.7 | 342 48.0 | 2 25.6 | 215 54.4 | 19 20.5 | 266 26.1 | 23 3.7 | 349 36.8 | -2 19.4 |
| | 9 | 4 24.2 | 357 48.6 | 2 26.0 | 230 55.6 | 19 20.1 | 281 28.0 | 23 3.7 | 4 39.0 | -2 19.4 |
| | 10 | 19 26.7 | 12 49.3 | 2 26.5 | 245 56.8 | 19 19.7 | 296 29.9 | 23 3.8 | 19 41.3 | -2 19.3 |
| | 11 | 34 29.1 | 27 49.9 | 2 26.9 | 260 58.1 | 19 19.4 | 311 31.8 | 23 3.8 | 34 43.6 | -2 19.2 |
| | 12 | 49 31.6 | 42 50.5 | 2 27.4 | 275 59.3 | 19 19.0 | 326 33.7 | 23 3.8 | 49 45.8 | -2 19.1 |
| | 13 | 64 34.1 | 57 51.1 | 2 27.9 | 291 0.5 | 19 18.6 | 341 35.6 | 23 3.9 | 64 48.1 | -2 19.0 |
| | 14 | 79 36.5 | 72 51.7 | 2 28.3 | 306 1.8 | 19 18.2 | 356 37.4 | 23 3.9 | 79 50.3 | -2 18.9 |
| | 15 | 94 39.0 | 87 52.3 | 2 28.8 | 321 3.0 | 19 17.8 | 11 39.3 | 23 3.9 | 94 52.6 | -2 18.9 |
| | 16 | 109 41.5 | 102 53.0 | 2 29.3 | 336 4.3 | 19 17.5 | 26 41.2 | 23 4.0 | 109 54.8 | -2 18.8 |
| | 17 | 124 43.9 | 117 53.6 | 2 29.7 | 351 5.5 | 19 17.1 | 41 43.1 | 23 4.0 | 124 57.1 | -2 18.7 |
| | 18 | 139 46.4 | 132 54.2 | 2 30.2 | 6 6.7 | 19 16.7 | 56 45.0 | 23 4.0 | 139 59.3 | -2 18.6 |
| | 19 | 154 48.8 | 147 54.8 | 2 30.7 | 21 7.9 | 19 16.3 | 71 46.9 | 23 4.1 | 155 1.6 | -2 18.5 |
| | 20 | 169 51.3 | 162 55.4 | 2 31.1 | 36 9.2 | 19 15.9 | 86 48.8 | 23 4.1 | 170 3.8 | -2 18.4 |
| | 21 | 184 53.8 | 177 56.0 | 2 31.6 | 51 10.4 | 19 15.6 | 101 50.7 | 23 4.1 | 185 6.1 | -2 18.4 |
| | 22 | 199 56.2 | 192 56.6 | 2 32.1 | 66 11.6 | 19 15.2 | 116 52.6 | 23 4.1 | 200 8.3 | -2 18.3 |
| | 23 | 214 58.7 | 207 57.2 | 2 32.5 | 81 12.9 | 19 14.8 | 131 54.5 | 23 4.2 | 215 10.6 | -2 18.2 |
| | | MP 08:44 | *v* 0.6 | *d* 0.5 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 Monday | 0 | 230 1.2 | 222 57.8 | 2 33.0 | 96 14.1 | 19 14.4 | 146 56.4 | 23 4.2 | 230 12.8 | -2 18.1 |
| | 1 | 245 3.6 | 237 58.4 | 2 33.5 | 111 15.3 | 19 14.0 | 161 58.3 | 23 4.2 | 245 15.1 | -2 18.0 |
| | 2 | 260 6.1 | 252 59.0 | 2 34.0 | 126 16.6 | 19 13.7 | 177 0.1 | 23 4.3 | 260 17.3 | -2 17.9 |
| | 3 | 275 8.6 | 267 59.6 | 2 34.4 | 141 17.8 | 19 13.3 | 192 2.0 | 23 4.3 | 275 19.6 | -2 17.9 |
| | 4 | 290 11.0 | 283 0.2 | 2 34.9 | 156 19.0 | 19 12.9 | 207 3.9 | 23 4.3 | 290 21.8 | -2 17.8 |
| | 5 | 305 13.5 | 298 0.8 | 2 35.4 | 171 20.3 | 19 12.5 | 222 5.8 | 23 4.4 | 305 24.1 | -2 17.7 |
| | 6 | 320 15.9 | 313 1.4 | 2 35.9 | 186 21.5 | 19 12.1 | 237 7.7 | 23 4.4 | 320 26.4 | -2 17.6 |
| | 7 | 335 18.4 | 328 2.0 | 2 36.4 | 201 22.7 | 19 11.8 | 252 9.6 | 23 4.4 | 335 28.6 | -2 17.5 |
| | 8 | 350 20.9 | 343 2.6 | 2 36.8 | 216 24.0 | 19 11.4 | 267 11.5 | 23 4.4 | 350 30.9 | -2 17.5 |
| | 9 | 5 23.3 | 358 3.2 | 2 37.3 | 231 25.2 | 19 11.0 | 282 13.4 | 23 4.5 | 5 33.1 | -2 17.4 |
| | 10 | 20 25.8 | 13 3.8 | 2 37.8 | 246 26.4 | 19 10.6 | 297 15.3 | 23 4.5 | 20 35.4 | -2 17.3 |
| | 11 | 35 28.3 | 28 4.4 | 2 38.3 | 261 27.7 | 19 10.2 | 312 17.2 | 23 4.5 | 35 37.6 | -2 17.2 |
| | 12 | 50 30.7 | 43 5.0 | 2 38.8 | 276 28.9 | 19 9.9 | 327 19.1 | 23 4.6 | 50 39.9 | -2 17.1 |
| | 13 | 65 33.2 | 58 5.5 | 2 39.3 | 291 30.1 | 19 9.5 | 342 20.9 | 23 4.6 | 65 42.1 | -2 17.0 |
| | 14 | 80 35.7 | 73 6.1 | 2 39.7 | 306 31.3 | 19 9.1 | 357 22.8 | 23 4.6 | 80 44.4 | -2 17.0 |
| | 15 | 95 38.1 | 88 6.7 | 2 40.2 | 321 32.6 | 19 8.7 | 12 24.7 | 23 4.7 | 95 46.6 | -2 16.9 |
| | 16 | 110 40.6 | 103 7.3 | 2 40.7 | 336 33.8 | 19 8.3 | 27 26.6 | 23 4.7 | 110 48.9 | -2 16.8 |
| | 17 | 125 43.1 | 118 7.9 | 2 41.2 | 351 35.0 | 19 7.9 | 42 28.5 | 23 4.7 | 125 51.1 | -2 16.7 |
| | 18 | 140 45.5 | 133 8.5 | 2 41.7 | 6 36.3 | 19 7.6 | 57 30.4 | 23 4.7 | 140 53.4 | -2 16.6 |
| | 19 | 155 48.0 | 148 9.0 | 2 42.2 | 21 37.5 | 19 7.2 | 72 32.3 | 23 4.8 | 155 55.7 | -2 16.6 |
| | 20 | 170 50.4 | 163 9.6 | 2 42.7 | 36 38.7 | 19 6.8 | 87 34.2 | 23 4.8 | 170 57.9 | -2 16.5 |
| | 21 | 185 52.9 | 178 10.2 | 2 43.2 | 51 39.9 | 19 6.4 | 102 36.1 | 23 4.8 | 186 0.2 | -2 16.4 |
| | 22 | 200 55.4 | 193 10.8 | 2 43.7 | 66 41.2 | 19 6.0 | 117 38.0 | 23 4.9 | 201 2.4 | -2 16.3 |
| | 23 | 215 57.8 | 208 11.4 | 2 44.2 | 81 42.4 | 19 5.6 | 132 39.8 | 23 4.9 | 216 4.7 | -2 16.2 |
| | | MP 08:40 | *v* 0.6 | *d* 0.5 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.2 |
| Achernar | 335 20.5 | -57 6.4 |
| Acrux | 172 59.4 | -63 14.6 |
| Adhara | 255 5.9 | -29 0.5 |
| Aldebaran | 290 39.7 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.4 |
| Alkaid | 152 51.3 | 49 11.2 |
| Alnair | 27 32.7 | -46 50.1 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.2 | 26 37.6 |
| Alpheratz | 357 34.8 | 29 13.6 |
| Altair | 61 59.6 | 8 56.0 |
| Ankaa | 353 7.2 | -42 10.0 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.3 | 19 2.9 |
| Atria | 107 8.7 | -69 4.3 |
| Avior | 234 14.8 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.7 | -52 42.7 |
| Capella | 280 21.9 | 46 1.5 |
| Deneb | 49 25.6 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.3 | -17 50.9 |
| Dubhe | 193 40.4 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.6 | 51 28.8 |
| Enif | 33 38.6 | 9 59.3 |
| Fomalhaut | 15 14.4 | -29 29.2 |
| Gacrux | 171 51.0 | -57 15.6 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.9 |
| Hamal | 327 51.3 | 23 34.8 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.0 |
| Markab | 13 29.8 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 57.0 | -36 29.8 |
| Miaplacidus | 221 38.3 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 5.2 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.0 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.5 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 31.2 | 56 40.4 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 26.2 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.2 | -43 32.3 |
| Vega | 80 32.8 | 38 48.1 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 10 Sat | SHA | MP |
|---|---|---|
| Venus | 354 24.5 | 09:10 |
| Mars | 227 11.9 | 17:38 |
| Jupiter | 277 22.6 | 14:17 |
| Saturn | 0 21.9 | 08:45 |

| 11 Sun | SHA | MP |
|---|---|---|
| Venus | 353 41.0 | 09:09 |
| Mars | 226 42.5 | 17:36 |
| Jupiter | 277 8.9 | 14:13 |
| Saturn | 0 16.8 | 08:41 |

| 12 Mon | SHA | MP |
|---|---|---|
| Venus | 352 56.7 | 09:08 |
| Mars | 226 12.9 | 17:34 |
| Jupiter | 276 55.2 | 14:10 |
| Saturn | 0 11.7 | 08:38 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **10 Saturday** | 0 | 180 54.0 | 17 37.9 | 30 12.7 | 16.7 | -9 48.4 | 13.4 | 54.0 |
| | 1 | 195 54.0 | 17 38.6 | 44 48.4 | 16.6 | -10 1.8 | 13.4 | 54.0 |
| | 2 | 210 54.0 | 17 39.2 | 59 24.0 | 16.6 | -10 15.2 | 13.3 | 54.0 |
| | 3 | 225 54.0 | 17 39.9 | 73 59.6 | 16.6 | -10 28.5 | 13.3 | 54.0 |
| | 4 | 240 54.1 | 17 40.5 | 88 35.2 | 16.5 | -10 41.7 | 13.2 | 54.0 |
| | 5 | 255 54.1 | 17 41.2 | 103 10.7 | 16.5 | -10 55.0 | 13.2 | 54.0 |
| | 6 | 270 54.1 | 17 41.8 | 117 46.2 | 16.5 | -11 8.2 | 13.2 | 54.0 |
| | 7 | 285 54.1 | 17 42.5 | 132 21.7 | 16.4 | -11 21.3 | 13.1 | 54.0 |
| | 8 | 300 54.1 | 17 43.1 | 146 57.1 | 16.4 | -11 34.4 | 13.1 | 54.0 |
| | 9 | 315 54.2 | 17 43.8 | 161 32.4 | 16.3 | -11 47.5 | 13.0 | 54.0 |
| | 10 | 330 54.2 | 17 44.4 | 176 7.8 | 16.3 | -12 0.5 | 13.0 | 54.0 |
| | 11 | 345 54.2 | 17 45.1 | 190 43.1 | 16.2 | -12 13.5 | 12.9 | 54.0 |
| | 12 | 0 54.2 | 17 45.7 | 205 18.3 | 16.2 | -12 26.4 | 12.9 | 54.0 |
| | 13 | 15 54.2 | 17 46.4 | 219 53.5 | 16.2 | -12 39.3 | 12.8 | 54.0 |
| | 14 | 30 54.3 | 17 47.0 | 234 28.6 | 16.1 | -12 52.2 | 12.8 | 54.0 |
| | 15 | 45 54.3 | 17 47.7 | 249 3.7 | 16.1 | -13 5.0 | 12.7 | 54.0 |
| | 16 | 60 54.3 | 17 48.3 | 263 38.8 | 16.0 | -13 17.7 | 12.7 | 54.0 |
| | 17 | 75 54.3 | 17 49.0 | 278 13.8 | 16.0 | -13 30.4 | 12.6 | 54.0 |
| | 18 | 90 54.3 | 17 49.6 | 292 48.8 | 15.9 | -13 43.1 | 12.6 | 54.0 |
| | 19 | 105 54.4 | 17 50.2 | 307 23.7 | 15.9 | -13 55.7 | 12.5 | 54.0 |
| | 20 | 120 54.4 | 17 50.9 | 321 58.5 | 15.8 | -14 8.2 | 12.5 | 54.0 |
| | 21 | 135 54.4 | 17 51.5 | 336 33.3 | 15.8 | -14 20.7 | 12.4 | 54.0 |
| | 22 | 150 54.4 | 17 52.2 | 351 8.1 | 15.7 | -14 33.1 | 12.4 | 54.0 |
| | 23 | 165 54.4 | 17 52.8 | 5 42.8 | 15.6 | -14 45.5 | 12.3 | 54.0 |
| | | *v* 0.0 | SD 15.8 *d* 0.7 | | SD 14.7 | | | |
| **11 Sunday** | 0 | 180 54.5 | 17 53.5 | 20 17.5 | 15.6 | -14 57.8 | 12.3 | 54.0 |
| | 1 | 195 54.5 | 17 54.1 | 34 52.0 | 15.5 | -15 10.1 | 12.2 | 54.0 |
| | 2 | 210 54.5 | 17 54.7 | 49 26.6 | 15.5 | -15 22.3 | 12.2 | 54.0 |
| | 3 | 225 54.5 | 17 55.4 | 64 1.1 | 15.4 | -15 34.5 | 12.1 | 54.0 |
| | 4 | 240 54.5 | 17 56.0 | 78 35.5 | 15.4 | -15 46.6 | 12.0 | 54.0 |
| | 5 | 255 54.5 | 17 56.6 | 93 9.9 | 15.3 | -15 58.6 | 12.0 | 54.0 |
| | 6 | 270 54.6 | 17 57.3 | 107 44.2 | 15.2 | -16 10.6 | 11.9 | 54.0 |
| | 7 | 285 54.6 | 17 57.9 | 122 18.4 | 15.2 | -16 22.5 | 11.9 | 54.0 |
| | 8 | 300 54.6 | 17 58.6 | 136 52.6 | 15.1 | -16 34.4 | 11.8 | 54.0 |
| | 9 | 315 54.6 | 17 59.2 | 151 26.7 | 15.1 | -16 46.2 | 11.7 | 54.0 |
| | 10 | 330 54.6 | 17 59.8 | 166 0.8 | 15.0 | -16 57.9 | 11.7 | 54.0 |
| | 11 | 345 54.6 | 18 0.5 | 180 34.8 | 14.9 | -17 9.6 | 11.6 | 54.0 |
| | 12 | 0 54.6 | 18 1.1 | 195 8.7 | 14.9 | -17 21.2 | 11.5 | 54.0 |
| | 13 | 15 54.7 | 18 1.7 | 209 42.6 | 14.8 | -17 32.7 | 11.5 | 54.0 |
| | 14 | 30 54.7 | 18 2.4 | 224 16.4 | 14.8 | -17 44.2 | 11.4 | 54.0 |
| | 15 | 45 54.7 | 18 3.0 | 238 50.2 | 14.7 | -17 55.6 | 11.3 | 54.0 |
| | 16 | 60 54.7 | 18 3.6 | 253 23.9 | 14.6 | -18 6.9 | 11.3 | 54.0 |
| | 17 | 75 54.7 | 18 4.3 | 267 57.5 | 14.6 | -18 18.2 | 11.2 | 54.0 |
| | 18 | 90 54.7 | 18 4.9 | 282 31.1 | 14.5 | -18 29.3 | 11.1 | 54.0 |
| | 19 | 105 54.7 | 18 5.5 | 297 4.5 | 14.4 | -18 40.5 | 11.0 | 54.0 |
| | 20 | 120 54.8 | 18 6.2 | 311 38.0 | 14.4 | -18 51.5 | 11.0 | 54.0 |
| | 21 | 135 54.8 | 18 6.8 | 326 11.3 | 14.3 | -19 2.5 | 10.9 | 54.0 |
| | 22 | 150 54.8 | 18 7.4 | 340 44.6 | 14.2 | -19 13.4 | 10.8 | 54.0 |
| | 23 | 165 54.8 | 18 8.1 | 355 17.8 | 14.1 | -19 24.2 | 10.7 | 54.0 |
| | | *v* 0.0 | SD 15.8 *d* 0.6 | | SD 14.7 | | | |
| **12 Monday** | 0 | 180 54.8 | 18 8.7 | 9 51.0 | 14.1 | -19 34.9 | 10.7 | 54.0 |
| | 1 | 195 54.8 | 18 9.3 | 24 24.0 | 14.0 | -19 45.6 | 10.6 | 54.0 |
| | 2 | 210 54.8 | 18 9.9 | 38 57.0 | 13.9 | -19 56.2 | 10.5 | 54.0 |
| | 3 | 225 54.8 | 18 10.6 | 53 30.0 | 13.9 | -20 6.7 | 10.4 | 54.0 |
| | 4 | 240 54.8 | 18 11.2 | 68 2.8 | 13.8 | -20 17.1 | 10.3 | 54.0 |
| | 5 | 255 54.9 | 18 11.8 | 82 35.6 | 13.7 | -20 27.4 | 10.3 | 54.0 |
| | 6 | 270 54.9 | 18 12.4 | 97 8.4 | 13.6 | -20 37.7 | 10.2 | 54.0 |
| | 7 | 285 54.9 | 18 13.1 | 111 41.0 | 13.6 | -20 47.8 | 10.1 | 54.0 |
| | 8 | 300 54.9 | 18 13.7 | 126 13.6 | 13.5 | -20 57.9 | 10.0 | 54.0 |
| | 9 | 315 54.9 | 18 14.3 | 140 46.1 | 13.4 | -21 7.9 | 9.9 | 54.1 |
| | 10 | 330 54.9 | 18 14.9 | 155 18.5 | 13.4 | -21 17.9 | 9.8 | 54.1 |
| | 11 | 345 54.9 | 18 15.6 | 169 50.9 | 13.3 | -21 27.7 | 9.7 | 54.1 |
| | 12 | 0 54.9 | 18 16.2 | 184 23.1 | 13.2 | -21 37.4 | 9.7 | 54.1 |
| | 13 | 15 54.9 | 18 16.8 | 198 55.4 | 13.1 | -21 47.1 | 9.6 | 54.1 |
| | 14 | 30 54.9 | 18 17.4 | 213 27.5 | 13.1 | -21 56.7 | 9.5 | 54.1 |
| | 15 | 45 55.0 | 18 18.1 | 227 59.5 | 13.0 | -22 6.1 | 9.4 | 54.1 |
| | 16 | 60 55.0 | 18 18.7 | 242 31.5 | 12.9 | -22 15.5 | 9.3 | 54.1 |
| | 17 | 75 55.0 | 18 19.3 | 257 3.4 | 12.8 | -22 24.8 | 9.2 | 54.1 |
| | 18 | 90 55.0 | 18 19.9 | 271 35.3 | 12.8 | -22 34.0 | 9.1 | 54.1 |
| | 19 | 105 55.0 | 18 20.5 | 286 7.0 | 12.7 | -22 43.1 | 9.0 | 54.1 |
| | 20 | 120 55.0 | 18 21.1 | 300 38.7 | 12.6 | -22 52.1 | 8.9 | 54.1 |
| | 21 | 135 55.0 | 18 21.8 | 315 10.3 | 12.5 | -23 1.0 | 8.8 | 54.1 |
| | 22 | 150 55.0 | 18 22.4 | 329 41.9 | 12.5 | -23 9.8 | 8.7 | 54.1 |
| | 23 | 165 55.0 | 18 23.0 | 344 13.3 | 12.4 | -23 18.5 | 8.6 | 54.1 |
| | | *v* 0.0 | SD 15.8 *d* 0.6 | | SD 14.7 | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | //// | //// | 01:30 | 22:30 | //// | //// |
| 68 | //// | //// | 02:13 | 21:44 | //// | //// |
| 66 | //// | 00:38 | 02:41 | 21:15 | 23:33 | //// |
| 64 | //// | 01:38 | 03:03 | 20:53 | 22:19 | //// |
| 62 | //// | 02:11 | 03:20 | 20:35 | 21:45 | //// |
| 60 | 00:33 | 02:35 | 03:34 | 20:21 | 21:21 | 23:35 |
| 58 | 01:28 | 02:53 | 03:46 | 20:08 | 21:02 | 22:29 |
| 56 | 01:58 | 03:09 | 03:56 | 19:58 | 20:46 | 21:58 |
| 54 | 02:20 | 03:22 | 04:06 | 19:48 | 20:33 | 21:35 |
| 52 | 02:38 | 03:33 | 04:14 | 19:40 | 20:21 | 21:17 |
| 50 | 02:53 | 03:43 | 04:21 | 19:33 | 20:11 | 21:02 |
| 45 | 03:21 | 04:03 | 04:37 | 19:17 | 19:50 | 20:33 |
| 40 | 03:42 | 04:19 | 04:50 | 19:04 | 19:34 | 20:11 |
| 35 | 03:59 | 04:33 | 05:00 | 18:53 | 19:21 | 19:54 |
| 30 | 04:13 | 04:44 | 05:10 | 18:43 | 19:09 | 19:40 |
| 20 | 04:35 | 05:03 | 05:26 | 18:27 | 18:50 | 19:18 |
| 10 | 04:52 | 05:18 | 05:40 | 18:13 | 18:35 | 19:01 |
| 0 | 05:06 | 05:31 | 05:53 | 18:00 | 18:22 | 18:47 |
| -10 | 05:18 | 05:44 | 06:06 | 17:47 | 18:09 | 18:34 |
| -20 | 05:30 | 05:56 | 06:19 | 17:33 | 17:56 | 18:23 |
| -30 | 05:41 | 06:10 | 06:35 | 17:18 | 17:43 | 18:12 |
| -35 | 05:47 | 06:17 | 06:44 | 17:09 | 17:35 | 18:06 |
| -40 | 05:52 | 06:25 | 06:54 | 16:59 | 17:27 | 18:00 |
| -45 | 05:59 | 06:34 | 07:06 | 16:47 | 17:18 | 17:53 |
| -50 | 06:06 | 06:45 | 07:20 | 16:32 | 17:07 | 17:46 |
| -52 | 06:09 | 06:50 | 07:27 | 16:25 | 17:02 | 17:43 |
| -54 | 06:12 | 06:55 | 07:34 | 16:18 | 16:57 | 17:40 |
| -56 | 06:15 | 07:01 | 07:42 | 16:10 | 16:51 | 17:37 |
| -58 | 06:19 | 07:07 | 07:52 | 16:00 | 16:45 | 17:33 |
| -60 | 06:23 | 07:14 | 08:03 | 15:49 | 16:38 | 17:29 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **10** | **11** | **12** | **10** | **11** | **12** |
| 72 | 19:57 | –:– | ▬ | 01:46 | 00:53 | ▬ |
| 70 | 19:26 | 22:17 | –:– | 02:02 | 01:26 | 00:04 |
| 68 | 19:03 | 21:13 | –:– | 02:15 | 01:50 | 01:09 |
| 66 | 18:46 | 20:38 | 23:10 | 02:25 | 02:08 | 01:45 |
| 64 | 18:32 | 20:13 | 22:09 | 02:34 | 02:24 | 02:11 |
| 62 | 18:20 | 19:54 | 21:35 | 02:42 | 02:37 | 02:31 |
| 60 | 18:10 | 19:38 | 21:11 | 02:49 | 02:48 | 02:48 |
| 58 | 18:02 | 19:25 | 20:51 | 02:54 | 02:57 | 03:02 |
| 56 | 17:54 | 19:13 | 20:35 | 03:00 | 03:06 | 03:14 |
| 54 | 17:47 | 19:03 | 20:21 | 03:04 | 03:13 | 03:24 |
| 52 | 17:41 | 18:55 | 20:09 | 03:09 | 03:20 | 03:34 |
| 50 | 17:36 | 18:47 | 19:59 | 03:13 | 03:26 | 03:42 |
| 45 | 17:24 | 18:30 | 19:37 | 03:21 | 03:39 | 04:00 |
| 40 | 17:15 | 18:16 | 19:19 | 03:28 | 03:50 | 04:15 |
| 35 | 17:07 | 18:05 | 19:04 | 03:34 | 04:00 | 04:28 |
| 30 | 16:59 | 17:55 | 18:52 | 03:40 | 04:08 | 04:39 |
| 20 | 16:47 | 17:38 | 18:30 | 03:49 | 04:22 | 04:58 |
| 10 | 16:36 | 17:23 | 18:11 | 03:58 | 04:35 | 05:15 |
| 0 | 16:26 | 17:09 | 17:54 | 04:05 | 04:47 | 05:30 |
| -10 | 16:17 | 16:55 | 17:37 | 04:13 | 04:58 | 05:46 |
| -20 | 16:06 | 16:40 | 17:18 | 04:22 | 05:11 | 06:03 |
| -30 | 15:54 | 16:24 | 16:57 | 04:31 | 05:26 | 06:22 |
| -35 | 15:48 | 16:14 | 16:45 | 04:37 | 05:35 | 06:33 |
| -40 | 15:40 | 16:03 | 16:31 | 04:43 | 05:44 | 06:47 |
| -45 | 15:31 | 15:50 | 16:14 | 04:51 | 05:56 | 07:02 |
| -50 | 15:20 | 15:35 | 15:54 | 05:00 | 06:10 | 07:21 |
| -52 | 15:15 | 15:28 | 15:44 | 05:04 | 06:16 | 07:30 |
| -54 | 15:10 | 15:20 | 15:33 | 05:09 | 06:24 | 07:41 |
| -56 | 15:04 | 15:11 | 15:21 | 05:14 | 06:32 | 07:52 |
| -58 | 14:57 | 15:01 | 15:07 | 05:20 | 06:41 | 08:06 |
| -60 | 14:50 | 14:49 | 14:50 | 05:26 | 06:52 | 08:22 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **10** | 03:36 | 03:37 | 11:56 | 22:36 | 10:16 | 12 | 94 |
| **11** | 03:38 | 03:39 | 11:56 | 23:19 | 10:58 | 13 | 97 |
| **12** | 03:39 | 03:40 | 11:56 | –:– | 11:42 | 14 | 100 |

## 2025 May 13, 14, 15 (Tue, Wed, Thu)

| | | Aries | Venus -4.6 | | Mars 1.1 | | Jupiter -2.0 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 13 Tuesday | 0 | 231 0.3 | 223 11.9 | 2 44.7 | 96 43.6 | 19 5.3 | 147 41.7 | 23 4.9 | 231 6.9 | -2 16.1 |
| | 1 | 246 2.8 | 238 12.5 | 2 45.2 | 111 44.9 | 19 4.9 | 162 43.6 | 23 4.9 | 246 9.2 | -2 16.1 |
| | 2 | 261 5.2 | 253 13.1 | 2 45.7 | 126 46.1 | 19 4.5 | 177 45.5 | 23 5.0 | 261 11.4 | -2 16.0 |
| | 3 | 276 7.7 | 268 13.6 | 2 46.1 | 141 47.3 | 19 4.1 | 192 47.4 | 23 5.0 | 276 13.7 | -2 15.9 |
| | 4 | 291 10.2 | 283 14.2 | 2 46.6 | 156 48.5 | 19 3.7 | 207 49.3 | 23 5.0 | 291 16.0 | -2 15.8 |
| | 5 | 306 12.6 | 298 14.8 | 2 47.1 | 171 49.8 | 19 3.3 | 222 51.2 | 23 5.1 | 306 18.2 | -2 15.7 |
| | 6 | 321 15.1 | 313 15.3 | 2 47.6 | 186 51.0 | 19 2.9 | 237 53.1 | 23 5.1 | 321 20.5 | -2 15.7 |
| | 7 | 336 17.6 | 328 15.9 | 2 48.1 | 201 52.2 | 19 2.6 | 252 54.9 | 23 5.1 | 336 22.7 | -2 15.6 |
| | 8 | 351 20.0 | 343 16.5 | 2 48.6 | 216 53.4 | 19 2.2 | 267 56.8 | 23 5.2 | 351 25.0 | -2 15.5 |
| | 9 | 6 22.5 | 358 17.0 | 2 49.2 | 231 54.7 | 19 1.8 | 282 58.7 | 23 5.2 | 6 27.2 | -2 15.4 |
| | 10 | 21 24.9 | 13 17.6 | 2 49.7 | 246 55.9 | 19 1.4 | 298 0.6 | 23 5.2 | 21 29.5 | -2 15.3 |
| | 11 | 36 27.4 | 28 18.2 | 2 50.2 | 261 57.1 | 19 1.0 | 313 2.5 | 23 5.2 | 36 31.8 | -2 15.2 |
| | 12 | 51 29.9 | 43 18.7 | 2 50.7 | 276 58.3 | 19 0.6 | 328 4.4 | 23 5.3 | 51 34.0 | -2 15.2 |
| | 13 | 66 32.3 | 58 19.3 | 2 51.2 | 291 59.6 | 19 0.2 | 343 6.3 | 23 5.3 | 66 36.3 | -2 15.1 |
| | 14 | 81 34.8 | 73 19.8 | 2 51.7 | 307 0.8 | 18 59.9 | 358 8.2 | 23 5.3 | 81 38.5 | -2 15.0 |
| | 15 | 96 37.3 | 88 20.4 | 2 52.2 | 322 2.0 | 18 59.5 | 13 10.1 | 23 5.4 | 96 40.8 | -2 14.9 |
| | 16 | 111 39.7 | 103 20.9 | 2 52.7 | 337 3.2 | 18 59.1 | 28 11.9 | 23 5.4 | 111 43.0 | -2 14.8 |
| | 17 | 126 42.2 | 118 21.5 | 2 53.2 | 352 4.5 | 18 58.7 | 43 13.8 | 23 5.4 | 126 45.3 | -2 14.8 |
| | 18 | 141 44.7 | 133 22.0 | 2 53.7 | 7 5.7 | 18 58.3 | 58 15.7 | 23 5.4 | 141 47.5 | -2 14.7 |
| | 19 | 156 47.1 | 148 22.6 | 2 54.2 | 22 6.9 | 18 57.9 | 73 17.6 | 23 5.5 | 156 49.8 | -2 14.6 |
| | 20 | 171 49.6 | 163 23.1 | 2 54.7 | 37 8.1 | 18 57.5 | 88 19.5 | 23 5.5 | 171 52.1 | -2 14.5 |
| | 21 | 186 52.1 | 178 23.7 | 2 55.3 | 52 9.4 | 18 57.1 | 103 21.4 | 23 5.5 | 186 54.3 | -2 14.4 |
| | 22 | 201 54.5 | 193 24.2 | 2 55.8 | 67 10.6 | 18 56.8 | 118 23.3 | 23 5.6 | 201 56.6 | -2 14.4 |
| | 23 | 216 57.0 | 208 24.8 | 2 56.3 | 82 11.8 | 18 56.4 | 133 25.2 | 23 5.6 | 216 58.8 | -2 14.3 |
| | | MP 08:36 | *v* 0.6 | *d* 0.5 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 Wednesday | 0 | 231 59.4 | 223 25.3 | 2 56.8 | 97 13.0 | 18 56.0 | 148 27.0 | 23 5.6 | 232 1.1 | -2 14.2 |
| | 1 | 247 1.9 | 238 25.9 | 2 57.3 | 112 14.3 | 18 55.6 | 163 28.9 | 23 5.6 | 247 3.4 | -2 14.1 |
| | 2 | 262 4.4 | 253 26.4 | 2 57.8 | 127 15.5 | 18 55.2 | 178 30.8 | 23 5.7 | 262 5.6 | -2 14.0 |
| | 3 | 277 6.8 | 268 27.0 | 2 58.3 | 142 16.7 | 18 54.8 | 193 32.7 | 23 5.7 | 277 7.9 | -2 14.0 |
| | 4 | 292 9.3 | 283 27.5 | 2 58.9 | 157 17.9 | 18 54.4 | 208 34.6 | 23 5.7 | 292 10.1 | -2 13.9 |
| | 5 | 307 11.8 | 298 28.0 | 2 59.4 | 172 19.2 | 18 54.0 | 223 36.5 | 23 5.8 | 307 12.4 | -2 13.8 |
| | 6 | 322 14.2 | 313 28.6 | 2 59.9 | 187 20.4 | 18 53.6 | 238 38.4 | 23 5.8 | 322 14.6 | -2 13.7 |
| | 7 | 337 16.7 | 328 29.1 | 3 0.4 | 202 21.6 | 18 53.2 | 253 40.2 | 23 5.8 | 337 16.9 | -2 13.6 |
| | 8 | 352 19.2 | 343 29.6 | 3 0.9 | 217 22.8 | 18 52.9 | 268 42.1 | 23 5.8 | 352 19.2 | -2 13.6 |
| | 9 | 7 21.6 | 358 30.2 | 3 1.5 | 232 24.0 | 18 52.5 | 283 44.0 | 23 5.9 | 7 21.4 | -2 13.5 |
| | 10 | 22 24.1 | 13 30.7 | 3 2.0 | 247 25.3 | 18 52.1 | 298 45.9 | 23 5.9 | 22 23.7 | -2 13.4 |
| | 11 | 37 26.5 | 28 31.2 | 3 2.5 | 262 26.5 | 18 51.7 | 313 47.8 | 23 5.9 | 37 25.9 | -2 13.3 |
| | 12 | 52 29.0 | 43 31.8 | 3 3.0 | 277 27.7 | 18 51.3 | 328 49.7 | 23 6.0 | 52 28.2 | -2 13.2 |
| | 13 | 67 31.5 | 58 32.3 | 3 3.6 | 292 28.9 | 18 50.9 | 343 51.6 | 23 6.0 | 67 30.5 | -2 13.2 |
| | 14 | 82 33.9 | 73 32.8 | 3 4.1 | 307 30.2 | 18 50.5 | 358 53.4 | 23 6.0 | 82 32.7 | -2 13.1 |
| | 15 | 97 36.4 | 88 33.4 | 3 4.6 | 322 31.4 | 18 50.1 | 13 55.3 | 23 6.0 | 97 35.0 | -2 13.0 |
| | 16 | 112 38.9 | 103 33.9 | 3 5.2 | 337 32.6 | 18 49.7 | 28 57.2 | 23 6.1 | 112 37.2 | -2 12.9 |
| | 17 | 127 41.3 | 118 34.4 | 3 5.7 | 352 33.8 | 18 49.3 | 43 59.1 | 23 6.1 | 127 39.5 | -2 12.8 |
| | 18 | 142 43.8 | 133 34.9 | 3 6.2 | 7 35.0 | 18 48.9 | 59 1.0 | 23 6.1 | 142 41.8 | -2 12.8 |
| | 19 | 157 46.3 | 148 35.5 | 3 6.7 | 22 36.3 | 18 48.6 | 74 2.9 | 23 6.1 | 157 44.0 | -2 12.7 |
| | 20 | 172 48.7 | 163 36.0 | 3 7.3 | 37 37.5 | 18 48.2 | 89 4.8 | 23 6.2 | 172 46.3 | -2 12.6 |
| | 21 | 187 51.2 | 178 36.5 | 3 7.8 | 52 38.7 | 18 47.8 | 104 6.6 | 23 6.2 | 187 48.5 | -2 12.5 |
| | 22 | 202 53.7 | 193 37.0 | 3 8.3 | 67 39.9 | 18 47.4 | 119 8.5 | 23 6.2 | 202 50.8 | -2 12.4 |
| | 23 | 217 56.1 | 208 37.5 | 3 8.9 | 82 41.1 | 18 47.0 | 134 10.4 | 23 6.3 | 217 53.1 | -2 12.4 |
| | | MP 08:32 | *v* 0.5 | *d* 0.5 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 Thursday | 0 | 232 58.6 | 223 38.1 | 3 9.4 | 97 42.4 | 18 46.6 | 149 12.3 | 23 6.3 | 232 55.3 | -2 12.3 |
| | 1 | 248 1.0 | 238 38.6 | 3 10.0 | 112 43.6 | 18 46.2 | 164 14.2 | 23 6.3 | 247 57.6 | -2 12.2 |
| | 2 | 263 3.5 | 253 39.1 | 3 10.5 | 127 44.8 | 18 45.8 | 179 16.1 | 23 6.3 | 262 59.8 | -2 12.1 |
| | 3 | 278 6.0 | 268 39.6 | 3 11.0 | 142 46.0 | 18 45.4 | 194 17.9 | 23 6.4 | 278 2.1 | -2 12.0 |
| | 4 | 293 8.4 | 283 40.1 | 3 11.6 | 157 47.2 | 18 45.0 | 209 19.8 | 23 6.4 | 293 4.4 | -2 12.0 |
| | 5 | 308 10.9 | 298 40.6 | 3 12.1 | 172 48.5 | 18 44.6 | 224 21.7 | 23 6.4 | 308 6.6 | -2 11.9 |
| | 6 | 323 13.4 | 313 41.1 | 3 12.6 | 187 49.7 | 18 44.2 | 239 23.6 | 23 6.5 | 323 8.9 | -2 11.8 |
| | 7 | 338 15.8 | 328 41.7 | 3 13.2 | 202 50.9 | 18 43.8 | 254 25.5 | 23 6.5 | 338 11.1 | -2 11.7 |
| | 8 | 353 18.3 | 343 42.2 | 3 13.7 | 217 52.1 | 18 43.4 | 269 27.4 | 23 6.5 | 353 13.4 | -2 11.7 |
| | 9 | 8 20.8 | 358 42.7 | 3 14.3 | 232 53.3 | 18 43.0 | 284 29.3 | 23 6.5 | 8 15.7 | -2 11.6 |
| | 10 | 23 23.2 | 13 43.2 | 3 14.8 | 247 54.5 | 18 42.6 | 299 31.1 | 23 6.6 | 23 17.9 | -2 11.5 |
| | 11 | 38 25.7 | 28 43.7 | 3 15.4 | 262 55.8 | 18 42.3 | 314 33.0 | 23 6.6 | 38 20.2 | -2 11.4 |
| | 12 | 53 28.2 | 43 44.2 | 3 15.9 | 277 57.0 | 18 41.9 | 329 34.9 | 23 6.6 | 53 22.4 | -2 11.3 |
| | 13 | 68 30.6 | 58 44.7 | 3 16.4 | 292 58.2 | 18 41.5 | 344 36.8 | 23 6.6 | 68 24.7 | -2 11.3 |
| | 14 | 83 33.1 | 73 45.2 | 3 17.0 | 307 59.4 | 18 41.1 | 359 38.7 | 23 6.7 | 83 27.0 | -2 11.2 |
| | 15 | 98 35.5 | 88 45.7 | 3 17.5 | 323 0.6 | 18 40.7 | 14 40.6 | 23 6.7 | 98 29.2 | -2 11.1 |
| | 16 | 113 38.0 | 103 46.2 | 3 18.1 | 338 1.9 | 18 40.3 | 29 42.4 | 23 6.7 | 113 31.5 | -2 11.0 |
| | 17 | 128 40.5 | 118 46.7 | 3 18.6 | 353 3.1 | 18 39.9 | 44 44.3 | 23 6.8 | 128 33.8 | -2 10.9 |
| | 18 | 143 42.9 | 133 47.2 | 3 19.2 | 8 4.3 | 18 39.5 | 59 46.2 | 23 6.8 | 143 36.0 | -2 10.9 |
| | 19 | 158 45.4 | 148 47.7 | 3 19.7 | 23 5.5 | 18 39.1 | 74 48.1 | 23 6.8 | 158 38.3 | -2 10.8 |
| | 20 | 173 47.9 | 163 48.2 | 3 20.3 | 38 6.7 | 18 38.7 | 89 50.0 | 23 6.8 | 173 40.5 | -2 10.7 |
| | 21 | 188 50.3 | 178 48.7 | 3 20.8 | 53 7.9 | 18 38.3 | 104 51.8 | 23 6.9 | 188 42.8 | -2 10.6 |
| | 22 | 203 52.8 | 193 49.2 | 3 21.4 | 68 9.2 | 18 37.9 | 119 53.7 | 23 6.9 | 203 45.1 | -2 10.6 |
| | 23 | 218 55.3 | 208 49.7 | 3 21.9 | 83 10.4 | 18 37.5 | 134 55.6 | 23 6.9 | 218 47.3 | -2 10.5 |
| | | MP 08:28 | *v* 0.5 | *d* 0.5 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.2 |
| Achernar | 335 20.5 | -57 6.4 |
| Acrux | 172 59.4 | -63 14.6 |
| Adhara | 255 5.9 | -29 0.5 |
| Aldebaran | 290 39.7 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.4 |
| Alkaid | 152 51.3 | 49 11.2 |
| Alnair | 27 32.6 | -46 50.1 |
| Alnilam | 275 37.8 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.6 |
| Alpheratz | 357 34.7 | 29 13.6 |
| Altair | 61 59.6 | 8 56.0 |
| Ankaa | 353 7.2 | -42 10.0 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.3 | 19 3.0 |
| Atria | 107 8.6 | -69 4.3 |
| Avior | 234 14.9 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.7 | -52 42.7 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.5 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.3 | -17 50.8 |
| Dubhe | 193 40.4 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.6 | 51 28.9 |
| Enif | 33 38.6 | 9 59.3 |
| Fomalhaut | 15 14.4 | -29 29.2 |
| Gacrux | 171 51.0 | -57 15.6 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.9 |
| Hamal | 327 51.2 | 23 34.8 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.0 |
| Markab | 13 29.8 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.8 |
| Miaplacidus | 221 38.4 | -69 49.6 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 5.1 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.0 | 12 32.3 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.5 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 31.2 | 56 40.4 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.2 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.2 | -43 32.3 |
| Vega | 80 32.7 | 38 48.2 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 13 Tue | SHA | MP |
|---|---|---|
| Venus | 352 11.6 | 09:07 |
| Mars | 225 43.3 | 17:32 |
| Jupiter | 276 41.4 | 14:07 |
| Saturn | 0 6.6 | 08:34 |

| 14 Wed | SHA | MP |
|---|---|---|
| Venus | 351 25.9 | 09:06 |
| Mars | 225 13.6 | 17:30 |
| Jupiter | 276 27.6 | 14:04 |
| Saturn | 0 1.7 | 08:31 |

| 15 Thu | SHA | MP |
|---|---|---|
| Venus | 350 39.5 | 09:05 |
| Mars | 224 43.8 | 17:28 |
| Jupiter | 276 13.7 | 14:01 |
| Saturn | 359 56.7 | 08:27 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **13 Tuesday** | 0 | 180 55.0 | 18 23.6 | 358 44.7 | 12.3 | -23 27.1 | 8.5 | 54.1 |
| | 1 | 195 55.0 | 18 24.2 | 13 16.0 | 12.2 | -23 35.6 | 8.4 | 54.2 |
| | 2 | 210 55.0 | 18 24.8 | 27 47.2 | 12.2 | -23 44.0 | 8.3 | 54.2 |
| | 3 | 225 55.0 | 18 25.5 | 42 18.4 | 12.1 | -23 52.3 | 8.2 | 54.2 |
| | 4 | 240 55.0 | 18 26.1 | 56 49.5 | 12.0 | -24 0.5 | 8.1 | 54.2 |
| | 5 | 255 55.0 | 18 26.7 | 71 20.5 | 11.9 | -24 8.6 | 8.0 | 54.2 |
| | 6 | 270 55.0 | 18 27.3 | 85 51.4 | 11.9 | -24 16.6 | 7.9 | 54.2 |
| | 7 | 285 55.0 | 18 27.9 | 100 22.3 | 11.8 | -24 24.5 | 7.8 | 54.2 |
| | 8 | 300 55.1 | 18 28.5 | 114 53.1 | 11.7 | -24 32.2 | 7.7 | 54.2 |
| | 9 | 315 55.1 | 18 29.1 | 129 23.8 | 11.6 | -24 39.9 | 7.6 | 54.2 |
| | 10 | 330 55.1 | 18 29.7 | 143 54.4 | 11.6 | -24 47.5 | 7.4 | 54.2 |
| | 11 | 345 55.1 | 18 30.4 | 158 25.0 | 11.5 | -24 54.9 | 7.3 | 54.2 |
| | 12 | 0 55.1 | 18 31.0 | 172 55.4 | 11.4 | -25 2.2 | 7.2 | 54.2 |
| | 13 | 15 55.1 | 18 31.6 | 187 25.9 | 11.3 | -25 9.4 | 7.1 | 54.3 |
| | 14 | 30 55.1 | 18 32.2 | 201 56.2 | 11.3 | -25 16.5 | 7.0 | 54.3 |
| | 15 | 45 55.1 | 18 32.8 | 216 26.5 | 11.2 | -25 23.5 | 6.9 | 54.3 |
| | 16 | 60 55.1 | 18 33.4 | 230 56.7 | 11.1 | -25 30.4 | 6.8 | 54.3 |
| | 17 | 75 55.1 | 18 34.0 | 245 26.8 | 11.1 | -25 37.2 | 6.6 | 54.3 |
| | 18 | 90 55.1 | 18 34.6 | 259 56.8 | 11.0 | -25 43.8 | 6.5 | 54.3 |
| | 19 | 105 55.1 | 18 35.2 | 274 26.8 | 10.9 | -25 50.3 | 6.4 | 54.3 |
| | 20 | 120 55.1 | 18 35.8 | 288 56.7 | 10.8 | -25 56.7 | 6.3 | 54.3 |
| | 21 | 135 55.1 | 18 36.4 | 303 26.6 | 10.8 | -26 3.0 | 6.2 | 54.3 |
| | 22 | 150 55.1 | 18 37.0 | 317 56.4 | 10.7 | -26 9.2 | 6.0 | 54.3 |
| | 23 | 165 55.1 | 18 37.6 | 332 26.1 | 10.6 | -26 15.2 | 5.9 | 54.4 |
| | *v* | 0.0 | SD 15.8 *d* 0.6 | SD 14.8 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **14 Wednesday** | 0 | 180 55.1 | 18 38.2 | 346 55.7 | 10.6 | -26 21.2 | 5.8 | 54.4 |
| | 1 | 195 55.1 | 18 38.8 | 1 25.3 | 10.5 | -26 27.0 | 5.7 | 54.4 |
| | 2 | 210 55.1 | 18 39.4 | 15 54.8 | 10.4 | -26 32.6 | 5.5 | 54.4 |
| | 3 | 225 55.1 | 18 40.0 | 30 24.2 | 10.4 | -26 38.2 | 5.4 | 54.4 |
| | 4 | 240 55.1 | 18 40.6 | 44 53.6 | 10.3 | -26 43.6 | 5.3 | 54.4 |
| | 5 | 255 55.1 | 18 41.2 | 59 22.9 | 10.2 | -26 48.9 | 5.2 | 54.4 |
| | 6 | 270 55.1 | 18 41.8 | 73 52.1 | 10.2 | -26 54.1 | 5.0 | 54.4 |
| | 7 | 285 55.1 | 18 42.4 | 88 21.3 | 10.1 | -26 59.1 | 4.9 | 54.4 |
| | 8 | 300 55.1 | 18 43.0 | 102 50.4 | 10.1 | -27 4.0 | 4.8 | 54.5 |
| | 9 | 315 55.1 | 18 43.6 | 117 19.5 | 10.0 | -27 8.8 | 4.7 | 54.5 |
| | 10 | 330 55.1 | 18 44.2 | 131 48.5 | 9.9 | -27 13.5 | 4.5 | 54.5 |
| | 11 | 345 55.1 | 18 44.8 | 146 17.4 | 9.9 | -27 18.0 | 4.4 | 54.5 |
| | 12 | 0 55.1 | 18 45.4 | 160 46.3 | 9.8 | -27 22.4 | 4.3 | 54.5 |
| | 13 | 15 55.1 | 18 46.0 | 175 15.1 | 9.8 | -27 26.6 | 4.1 | 54.5 |
| | 14 | 30 55.0 | 18 46.6 | 189 43.9 | 9.7 | -27 30.7 | 4.0 | 54.5 |
| | 15 | 45 55.0 | 18 47.2 | 204 12.6 | 9.7 | -27 34.7 | 3.9 | 54.5 |
| | 16 | 60 55.0 | 18 47.8 | 218 41.3 | 9.6 | -27 38.6 | 3.7 | 54.6 |
| | 17 | 75 55.0 | 18 48.4 | 233 9.9 | 9.6 | -27 42.3 | 3.6 | 54.6 |
| | 18 | 90 55.0 | 18 49.0 | 247 38.4 | 9.5 | -27 45.9 | 3.4 | 54.6 |
| | 19 | 105 55.0 | 18 49.6 | 262 6.9 | 9.5 | -27 49.3 | 3.3 | 54.6 |
| | 20 | 120 55.0 | 18 50.2 | 276 35.4 | 9.4 | -27 52.6 | 3.2 | 54.6 |
| | 21 | 135 55.0 | 18 50.8 | 291 3.8 | 9.4 | -27 55.8 | 3.0 | 54.6 |
| | 22 | 150 55.0 | 18 51.4 | 305 32.2 | 9.3 | -27 58.8 | 2.9 | 54.6 |
| | 23 | 165 55.0 | 18 52.0 | 320 0.5 | 9.3 | -28 1.7 | 2.8 | 54.6 |
| | *v* | 0.0 | SD 15.8 *d* 0.6 | SD 14.8 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **15 Thursday** | 0 | 180 55.0 | 18 52.5 | 334 28.7 | 9.2 | -28 4.5 | 2.6 | 54.7 |
| | 1 | 195 55.0 | 18 53.1 | 348 57.0 | 9.2 | -28 7.1 | 2.5 | 54.7 |
| | 2 | 210 55.0 | 18 53.7 | 3 25.1 | 9.1 | -28 9.6 | 2.3 | 54.7 |
| | 3 | 225 55.0 | 18 54.3 | 17 53.3 | 9.1 | -28 11.9 | 2.2 | 54.7 |
| | 4 | 240 55.0 | 18 54.9 | 32 21.4 | 9.1 | -28 14.1 | 2.0 | 54.7 |
| | 5 | 255 55.0 | 18 55.5 | 46 49.4 | 9.0 | -28 16.1 | 1.9 | 54.7 |
| | 6 | 270 55.0 | 18 56.1 | 61 17.4 | 9.0 | -28 18.0 | 1.8 | 54.8 |
| | 7 | 285 55.0 | 18 56.7 | 75 45.4 | 8.9 | -28 19.8 | 1.6 | 54.8 |
| | 8 | 300 54.9 | 18 57.2 | 90 13.4 | 8.9 | -28 21.4 | 1.5 | 54.8 |
| | 9 | 315 54.9 | 18 57.8 | 104 41.3 | 8.9 | -28 22.8 | 1.3 | 54.8 |
| | 10 | 330 54.9 | 18 58.4 | 119 9.2 | 8.9 | -28 24.2 | 1.2 | 54.8 |
| | 11 | 345 54.9 | 18 59.0 | 133 37.0 | 8.8 | -28 25.3 | 1.0 | 54.8 |
| | 12 | 0 54.9 | 18 59.6 | 148 4.8 | 8.8 | -28 26.4 | 0.9 | 54.8 |
| | 13 | 15 54.9 | 19 0.2 | 162 32.6 | 8.8 | -28 27.3 | 0.7 | 54.9 |
| | 14 | 30 54.9 | 19 0.7 | 177 0.4 | 8.7 | -28 28.0 | 0.6 | 54.9 |
| | 15 | 45 54.9 | 19 1.3 | 191 28.1 | 8.7 | -28 28.6 | 0.4 | 54.9 |
| | 16 | 60 54.9 | 19 1.9 | 205 55.9 | 8.7 | -28 29.0 | 0.3 | 54.9 |
| | 17 | 75 54.9 | 19 2.5 | 220 23.5 | 8.7 | -28 29.3 | 0.1 | 54.9 |
| | 18 | 90 54.8 | 19 3.1 | 234 51.2 | 8.7 | -28 29.5 | 0.0 | 54.9 |
| | 19 | 105 54.8 | 19 3.6 | 249 18.9 | 8.6 | -28 29.5 | -0.1 | 55.0 |
| | 20 | 120 54.8 | 19 4.2 | 263 46.5 | 8.6 | -28 29.3 | -0.3 | 55.0 |
| | 21 | 135 54.8 | 19 4.8 | 278 14.1 | 8.6 | -28 29.0 | -0.4 | 55.0 |
| | 22 | 150 54.8 | 19 5.4 | 292 41.7 | 8.6 | -28 28.6 | -0.6 | 55.0 |
| | 23 | 165 54.8 | 19 6.0 | 307 9.3 | 8.6 | -28 28.0 | -0.7 | 55.0 |
| | *v* | 0.0 | SD 15.8 *d* 0.6 | SD 14.9 | | | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | //// | //// | 01:02 | 23:01 | //// | //// |
| 68 | //// | //// | 01:57 | 22:00 | //// | //// |
| 66 | //// | //// | 02:29 | 21:27 | //// | //// |
| 64 | //// | 01:20 | 02:53 | 21:02 | 22:38 | //// |
| 62 | //// | 01:59 | 03:11 | 20:43 | 21:57 | //// |
| 60 | //// | 02:25 | 03:27 | 20:28 | 21:30 | //// |
| 58 | 01:12 | 02:45 | 03:39 | 20:15 | 21:10 | 22:46 |
| 56 | 01:47 | 03:02 | 03:51 | 20:03 | 20:53 | 22:09 |
| 54 | 02:12 | 03:15 | 04:00 | 19:53 | 20:39 | 21:44 |
| 52 | 02:31 | 03:27 | 04:09 | 19:45 | 20:27 | 21:24 |
| 50 | 02:46 | 03:38 | 04:17 | 19:37 | 20:16 | 21:08 |
| 45 | 03:16 | 03:59 | 04:33 | 19:20 | 19:54 | 20:38 |
| 40 | 03:39 | 04:16 | 04:47 | 19:07 | 19:37 | 20:15 |
| 35 | 03:56 | 04:30 | 04:58 | 18:55 | 19:23 | 19:57 |
| 30 | 04:11 | 04:42 | 05:08 | 18:45 | 19:11 | 19:43 |
| 20 | 04:33 | 05:01 | 05:25 | 18:28 | 18:52 | 19:20 |
| 10 | 04:51 | 05:17 | 05:39 | 18:13 | 18:36 | 19:02 |
| 0 | 05:06 | 05:31 | 05:53 | 18:00 | 18:22 | 18:47 |
| -10 | 05:19 | 05:44 | 06:06 | 17:46 | 18:08 | 18:34 |
| -20 | 05:31 | 05:57 | 06:20 | 17:32 | 17:55 | 18:22 |
| -30 | 05:42 | 06:11 | 06:37 | 17:16 | 17:41 | 18:10 |
| -35 | 05:49 | 06:19 | 06:46 | 17:06 | 17:33 | 18:04 |
| -40 | 05:55 | 06:28 | 06:57 | 16:56 | 17:25 | 17:57 |
| -45 | 06:02 | 06:37 | 07:09 | 16:43 | 17:15 | 17:50 |
| -50 | 06:09 | 06:49 | 07:24 | 16:28 | 17:03 | 17:43 |
| -52 | 06:13 | 06:54 | 07:31 | 16:21 | 16:58 | 17:39 |
| -54 | 06:16 | 07:00 | 07:39 | 16:13 | 16:53 | 17:36 |
| -56 | 06:20 | 07:06 | 07:48 | 16:04 | 16:46 | 17:32 |
| -58 | 06:24 | 07:13 | 07:58 | 15:54 | 16:39 | 17:28 |
| -60 | 06:28 | 07:20 | 08:09 | 15:43 | 16:32 | 17:23 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **13** | **14** | **15** | **13** | **14** | **15** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | –:– | | | 00:48 | | |
| 64 | –:– | | | 01:50 | | |
| 62 | 23:27 | –:– | | 02:24 | 02:14 | |
| 60 | 22:46 | –:– | 00:15 | 02:49 | 02:55 | 03:13 |
| 58 | 22:18 | 23:37 | –:– | 03:09 | 03:24 | 03:52 |
| 56 | 21:56 | 23:10 | –:– | 03:26 | 03:46 | 04:19 |
| 54 | 21:38 | 22:49 | 23:47 | 03:40 | 04:04 | 04:40 |
| 52 | 21:23 | 22:32 | 23:29 | 03:53 | 04:19 | 04:58 |
| 50 | 21:10 | 22:17 | 23:14 | 04:04 | 04:33 | 05:13 |
| 45 | 20:43 | 21:46 | 22:43 | 04:27 | 05:00 | 05:43 |
| 40 | 20:22 | 21:23 | 22:19 | 04:45 | 05:22 | 06:07 |
| 35 | 20:05 | 21:04 | 21:59 | 05:01 | 05:40 | 06:27 |
| 30 | 19:50 | 20:47 | 21:42 | 05:15 | 05:56 | 06:43 |
| 20 | 19:24 | 20:19 | 21:14 | 05:38 | 06:22 | 07:12 |
| 10 | 19:02 | 19:55 | 20:49 | 05:58 | 06:45 | 07:36 |
| 0 | 18:42 | 19:33 | 20:26 | 06:17 | 07:06 | 07:59 |
| -10 | 18:22 | 19:11 | 20:04 | 06:36 | 07:28 | 08:21 |
| -20 | 18:00 | 18:47 | 19:39 | 06:56 | 07:51 | 08:46 |
| -30 | 17:35 | 18:20 | 19:11 | 07:20 | 08:17 | 09:14 |
| -35 | 17:21 | 18:04 | 18:54 | 07:33 | 08:33 | 09:31 |
| -40 | 17:04 | 17:45 | 18:34 | 07:50 | 08:52 | 09:50 |
| -45 | 16:44 | 17:22 | 18:10 | 08:09 | 09:14 | 10:14 |
| -50 | 16:19 | 16:53 | 17:40 | 08:33 | 09:42 | 10:45 |
| -52 | 16:07 | 16:39 | 17:24 | 08:45 | 09:56 | 11:00 |
| -54 | 15:53 | 16:22 | 17:06 | 08:58 | 10:13 | 11:18 |
| -56 | 15:37 | 16:03 | 16:45 | 09:14 | 10:32 | 11:39 |
| -58 | 15:18 | 15:39 | 16:18 | 09:32 | 10:56 | 12:07 |
| -60 | 14:54 | 15:06 | 15:38 | 09:55 | 11:28 | 12:46 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **13** | 03:40 | 03:40 | 11:56 | 00:05 | 12:29 | 15 | 100 |
| **14** | 03:40 | 03:40 | 11:56 | 00:54 | 13:20 | 16 | 98 |
| **15** | 03:40 | 03:40 | 11:56 | 01:46 | 14:12 | 17 | 95 |

## 2025 May 16, 17, 18 (Fri, Sat, Sun)

| | | Aries | Venus -4.6 | | Mars 1.1 | | Jupiter -1.9 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 16 Friday | 0 | 233 57.7 | 223 50.2 | 3 22.5 | 98 11.6 | 18 37.1 | 149 57.5 | 23 6.9 | 233 49.6 | -2 10.4 |
| | 1 | 249 0.2 | 238 50.6 | 3 23.1 | 113 12.8 | 18 36.7 | 164 59.4 | 23 7.0 | 248 51.9 | -2 10.3 |
| | 2 | 264 2.7 | 253 51.1 | 3 23.6 | 128 14.0 | 18 36.3 | 180 1.3 | 23 7.0 | 263 54.1 | -2 10.2 |
| | 3 | 279 5.1 | 268 51.6 | 3 24.2 | 143 15.2 | 18 35.9 | 195 3.1 | 23 7.0 | 278 56.4 | -2 10.2 |
| | 4 | 294 7.6 | 283 52.1 | 3 24.7 | 158 16.4 | 18 35.5 | 210 5.0 | 23 7.1 | 293 58.6 | -2 10.1 |
| | 5 | 309 10.0 | 298 52.6 | 3 25.3 | 173 17.7 | 18 35.1 | 225 6.9 | 23 7.1 | 309 0.9 | -2 10.0 |
| | 6 | 324 12.5 | 313 53.1 | 3 25.8 | 188 18.9 | 18 34.7 | 240 8.8 | 23 7.1 | 324 3.2 | -2 9.9 |
| | 7 | 339 15.0 | 328 53.6 | 3 26.4 | 203 20.1 | 18 34.3 | 255 10.7 | 23 7.1 | 339 5.4 | -2 9.9 |
| | 8 | 354 17.4 | 343 54.0 | 3 27.0 | 218 21.3 | 18 33.9 | 270 12.6 | 23 7.2 | 354 7.7 | -2 9.8 |
| | 9 | 9 19.9 | 358 54.5 | 3 27.5 | 233 22.5 | 18 33.5 | 285 14.4 | 23 7.2 | 9 10.0 | -2 9.7 |
| | 10 | 24 22.4 | 13 55.0 | 3 28.1 | 248 23.7 | 18 33.1 | 300 16.3 | 23 7.2 | 24 12.2 | -2 9.6 |
| | 11 | 39 24.8 | 28 55.5 | 3 28.6 | 263 25.0 | 18 32.7 | 315 18.2 | 23 7.2 | 39 14.5 | -2 9.5 |
| | 12 | 54 27.3 | 43 56.0 | 3 29.2 | 278 26.2 | 18 32.3 | 330 20.1 | 23 7.3 | 54 16.8 | -2 9.5 |
| | 13 | 69 29.8 | 58 56.4 | 3 29.8 | 293 27.4 | 18 31.9 | 345 22.0 | 23 7.3 | 69 19.0 | -2 9.4 |
| | 14 | 84 32.2 | 73 56.9 | 3 30.3 | 308 28.6 | 18 31.5 | 0 23.8 | 23 7.3 | 84 21.3 | -2 9.3 |
| | 15 | 99 34.7 | 88 57.4 | 3 30.9 | 323 29.8 | 18 31.1 | 15 25.7 | 23 7.3 | 99 23.5 | -2 9.2 |
| | 16 | 114 37.2 | 103 57.9 | 3 31.5 | 338 31.0 | 18 30.7 | 30 27.6 | 23 7.4 | 114 25.8 | -2 9.2 |
| | 17 | 129 39.6 | 118 58.3 | 3 32.0 | 353 32.2 | 18 30.3 | 45 29.5 | 23 7.4 | 129 28.1 | -2 9.1 |
| | 18 | 144 42.1 | 133 58.8 | 3 32.6 | 8 33.4 | 18 29.9 | 60 31.4 | 23 7.4 | 144 30.3 | -2 9.0 |
| | 19 | 159 44.5 | 148 59.3 | 3 33.2 | 23 34.7 | 18 29.5 | 75 33.2 | 23 7.5 | 159 32.6 | -2 8.9 |
| | 20 | 174 47.0 | 163 59.7 | 3 33.7 | 38 35.9 | 18 29.1 | 90 35.1 | 23 7.5 | 174 34.9 | -2 8.9 |
| | 21 | 189 49.5 | 179 0.2 | 3 34.3 | 53 37.1 | 18 28.7 | 105 37.0 | 23 7.5 | 189 37.1 | -2 8.8 |
| | 22 | 204 51.9 | 194 0.7 | 3 34.9 | 68 38.3 | 18 28.3 | 120 38.9 | 23 7.5 | 204 39.4 | -2 8.7 |
| | 23 | 219 54.4 | 209 1.2 | 3 35.5 | 83 39.5 | 18 27.9 | 135 40.8 | 23 7.6 | 219 41.7 | -2 8.6 |
| | | MP 08:24 | *v* 0.5 | *d* 0.6 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 Saturday | 0 | 234 56.9 | 224 1.6 | 3 36.0 | 98 40.7 | 18 27.5 | 150 42.6 | 23 7.6 | 234 43.9 | -2 8.5 |
| | 1 | 249 59.3 | 239 2.1 | 3 36.6 | 113 41.9 | 18 27.1 | 165 44.5 | 23 7.6 | 249 46.2 | -2 8.5 |
| | 2 | 265 1.8 | 254 2.5 | 3 37.2 | 128 43.1 | 18 26.7 | 180 46.4 | 23 7.6 | 264 48.5 | -2 8.4 |
| | 3 | 280 4.3 | 269 3.0 | 3 37.7 | 143 44.4 | 18 26.3 | 195 48.3 | 23 7.7 | 279 50.7 | -2 8.3 |
| | 4 | 295 6.7 | 284 3.5 | 3 38.3 | 158 45.6 | 18 25.9 | 210 50.2 | 23 7.7 | 294 53.0 | -2 8.2 |
| | 5 | 310 9.2 | 299 3.9 | 3 38.9 | 173 46.8 | 18 25.5 | 225 52.0 | 23 7.7 | 309 55.3 | -2 8.2 |
| | 6 | 325 11.7 | 314 4.4 | 3 39.5 | 188 48.0 | 18 25.1 | 240 53.9 | 23 7.7 | 324 57.5 | -2 8.1 |
| | 7 | 340 14.1 | 329 4.8 | 3 40.0 | 203 49.2 | 18 24.7 | 255 55.8 | 23 7.8 | 339 59.8 | -2 8.0 |
| | 8 | 355 16.6 | 344 5.3 | 3 40.6 | 218 50.4 | 18 24.3 | 270 57.7 | 23 7.8 | 355 2.1 | -2 7.9 |
| | 9 | 10 19.0 | 359 5.8 | 3 41.2 | 233 51.6 | 18 23.9 | 285 59.6 | 23 7.8 | 10 4.3 | -2 7.9 |
| | 10 | 25 21.5 | 14 6.2 | 3 41.8 | 248 52.8 | 18 23.5 | 301 1.4 | 23 7.8 | 25 6.6 | -2 7.8 |
| | 11 | 40 24.0 | 29 6.7 | 3 42.4 | 263 54.0 | 18 23.1 | 316 3.3 | 23 7.9 | 40 8.9 | -2 7.7 |
| | 12 | 55 26.4 | 44 7.1 | 3 42.9 | 278 55.3 | 18 22.7 | 331 5.2 | 23 7.9 | 55 11.1 | -2 7.6 |
| | 13 | 70 28.9 | 59 7.6 | 3 43.5 | 293 56.5 | 18 22.3 | 346 7.1 | 23 7.9 | 70 13.4 | -2 7.5 |
| | 14 | 85 31.4 | 74 8.0 | 3 44.1 | 308 57.7 | 18 21.9 | 1 9.0 | 23 7.9 | 85 15.7 | -2 7.5 |
| | 15 | 100 33.8 | 89 8.5 | 3 44.7 | 323 58.9 | 18 21.5 | 16 10.8 | 23 8.0 | 100 17.9 | -2 7.4 |
| | 16 | 115 36.3 | 104 8.9 | 3 45.3 | 339 0.1 | 18 21.1 | 31 12.7 | 23 8.0 | 115 20.2 | -2 7.3 |
| | 17 | 130 38.8 | 119 9.4 | 3 45.9 | 354 1.3 | 18 20.6 | 46 14.6 | 23 8.0 | 130 22.5 | -2 7.2 |
| | 18 | 145 41.2 | 134 9.8 | 3 46.4 | 9 2.5 | 18 20.2 | 61 16.5 | 23 8.0 | 145 24.7 | -2 7.2 |
| | 19 | 160 43.7 | 149 10.3 | 3 47.0 | 24 3.7 | 18 19.8 | 76 18.4 | 23 8.1 | 160 27.0 | -2 7.1 |
| | 20 | 175 46.1 | 164 10.7 | 3 47.6 | 39 4.9 | 18 19.4 | 91 20.2 | 23 8.1 | 175 29.3 | -2 7.0 |
| | 21 | 190 48.6 | 179 11.1 | 3 48.2 | 54 6.1 | 18 19.0 | 106 22.1 | 23 8.1 | 190 31.5 | -2 6.9 |
| | 22 | 205 51.1 | 194 11.6 | 3 48.8 | 69 7.4 | 18 18.6 | 121 24.0 | 23 8.2 | 205 33.8 | -2 6.9 |
| | 23 | 220 53.5 | 209 12.0 | 3 49.4 | 84 8.6 | 18 18.2 | 136 25.9 | 23 8.2 | 220 36.1 | -2 6.8 |
| | | MP 08:20 | *v* 0.5 | *d* 0.6 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Sunday | 0 | 235 56.0 | 224 12.5 | 3 50.0 | 99 9.8 | 18 17.8 | 151 27.7 | 23 8.2 | 235 38.3 | -2 6.7 |
| | 1 | 250 58.5 | 239 12.9 | 3 50.6 | 114 11.0 | 18 17.4 | 166 29.6 | 23 8.2 | 250 40.6 | -2 6.6 |
| | 2 | 266 0.9 | 254 13.4 | 3 51.2 | 129 12.2 | 18 17.0 | 181 31.5 | 23 8.3 | 265 42.9 | -2 6.6 |
| | 3 | 281 3.4 | 269 13.8 | 3 51.7 | 144 13.4 | 18 16.6 | 196 33.4 | 23 8.3 | 280 45.1 | -2 6.5 |
| | 4 | 296 5.9 | 284 14.2 | 3 52.3 | 159 14.6 | 18 16.2 | 211 35.3 | 23 8.3 | 295 47.4 | -2 6.4 |
| | 5 | 311 8.3 | 299 14.7 | 3 52.9 | 174 15.8 | 18 15.8 | 226 37.1 | 23 8.3 | 310 49.7 | -2 6.3 |
| | 6 | 326 10.8 | 314 15.1 | 3 53.5 | 189 17.0 | 18 15.4 | 241 39.0 | 23 8.4 | 325 51.9 | -2 6.3 |
| | 7 | 341 13.3 | 329 15.5 | 3 54.1 | 204 18.2 | 18 15.0 | 256 40.9 | 23 8.4 | 340 54.2 | -2 6.2 |
| | 8 | 356 15.7 | 344 16.0 | 3 54.7 | 219 19.4 | 18 14.6 | 271 42.8 | 23 8.4 | 355 56.5 | -2 6.1 |
| | 9 | 11 18.2 | 359 16.4 | 3 55.3 | 234 20.6 | 18 14.1 | 286 44.6 | 23 8.4 | 10 58.8 | -2 6.0 |
| | 10 | 26 20.6 | 14 16.8 | 3 55.9 | 249 21.8 | 18 13.7 | 301 46.5 | 23 8.5 | 26 1.0 | -2 6.0 |
| | 11 | 41 23.1 | 29 17.3 | 3 56.5 | 264 23.1 | 18 13.3 | 316 48.4 | 23 8.5 | 41 3.3 | -2 5.9 |
| | 12 | 56 25.6 | 44 17.7 | 3 57.1 | 279 24.3 | 18 12.9 | 331 50.3 | 23 8.5 | 56 5.6 | -2 5.8 |
| | 13 | 71 28.0 | 59 18.1 | 3 57.7 | 294 25.5 | 18 12.5 | 346 52.2 | 23 8.5 | 71 7.8 | -2 5.7 |
| | 14 | 86 30.5 | 74 18.5 | 3 58.3 | 309 26.7 | 18 12.1 | 1 54.0 | 23 8.6 | 86 10.1 | -2 5.7 |
| | 15 | 101 33.0 | 89 19.0 | 3 58.9 | 324 27.9 | 18 11.7 | 16 55.9 | 23 8.6 | 101 12.4 | -2 5.6 |
| | 16 | 116 35.4 | 104 19.4 | 3 59.5 | 339 29.1 | 18 11.3 | 31 57.8 | 23 8.6 | 116 14.6 | -2 5.5 |
| | 17 | 131 37.9 | 119 19.8 | 4 0.1 | 354 30.3 | 18 10.9 | 46 59.7 | 23 8.6 | 131 16.9 | -2 5.4 |
| | 18 | 146 40.4 | 134 20.2 | 4 0.7 | 9 31.5 | 18 10.5 | 62 1.5 | 23 8.7 | 146 19.2 | -2 5.4 |
| | 19 | 161 42.8 | 149 20.7 | 4 1.3 | 24 32.7 | 18 10.1 | 77 3.4 | 23 8.7 | 161 21.4 | -2 5.3 |
| | 20 | 176 45.3 | 164 21.1 | 4 1.9 | 39 33.9 | 18 9.6 | 92 5.3 | 23 8.7 | 176 23.7 | -2 5.2 |
| | 21 | 191 47.8 | 179 21.5 | 4 2.5 | 54 35.1 | 18 9.2 | 107 7.2 | 23 8.7 | 191 26.0 | -2 5.1 |
| | 22 | 206 50.2 | 194 21.9 | 4 3.1 | 69 36.3 | 18 8.8 | 122 9.0 | 23 8.8 | 206 28.3 | -2 5.1 |
| | 23 | 221 52.7 | 209 22.3 | 4 3.7 | 84 37.5 | 18 8.4 | 137 10.9 | 23 8.8 | 221 30.5 | -2 5.0 |
| | | MP 08:16 | *v* 0.4 | *d* 0.6 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.2 |
| Achernar | 335 20.5 | -57 6.3 |
| Acrux | 172 59.4 | -63 14.6 |
| Adhara | 255 5.9 | -29 0.5 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.5 |
| Alkaid | 152 51.3 | 49 11.2 |
| Alnair | 27 32.6 | -46 50.1 |
| Alnilam | 275 37.8 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.7 |
| Alpheratz | 357 34.7 | 29 13.6 |
| Altair | 61 59.5 | 8 56.0 |
| Ankaa | 353 7.1 | -42 10.0 |
| Antares | 112 15.1 | -26 29.3 |
| Arcturus | 145 47.3 | 19 3.0 |
| Atria | 107 8.6 | -69 4.3 |
| Avior | 234 14.9 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.7 | -52 42.7 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.5 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.3 | -17 50.8 |
| Dubhe | 193 40.4 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.6 | 51 28.9 |
| Enif | 33 38.5 | 9 59.3 |
| Fomalhaut | 15 14.3 | -29 29.2 |
| Gacrux | 171 51.0 | -57 15.6 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.0 | -60 29.9 |
| Hamal | 327 51.2 | 23 34.8 |
| Kaus Aust. | 83 31.8 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.1 |
| Markab | 13 29.7 | 15 20.3 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.8 |
| Miaplacidus | 221 38.4 | -69 49.6 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 5.1 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.0 | 12 32.4 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.5 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 31.2 | 56 40.4 |
| Shaula | 96 9.6 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.2 |
| Spica | 158 21.7 | -11 17.7 |
| Suhail | 222 46.2 | -43 32.3 |
| Vega | 80 32.7 | 38 48.2 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 16 Fri | SHA | MP |
|---|---|---|
| Venus | 349 52.4 | 09:04 |
| Mars | 224 13.9 | 17:26 |
| Jupiter | 275 59.8 | 13:58 |
| Saturn | 359 51.9 | 08:23 |

| 17 Sat | SHA | MP |
|---|---|---|
| Venus | 349 4.8 | 09:04 |
| Mars | 223 43.9 | 17:24 |
| Jupiter | 275 45.8 | 13:55 |
| Saturn | 359 47.1 | 08:20 |

| 18 Sun | SHA | MP |
|---|---|---|
| Venus | 348 16.5 | 09:03 |
| Mars | 223 13.8 | 17:22 |
| Jupiter | 275 31.7 | 13:52 |
| Saturn | 359 42.3 | 08:16 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | v | Dec | d | HP |
| **16 Friday** | 0 | 180 54.8 | 19 6.5 | 321 36.9 | 8.6 | -28 27.2 | -0.9 | 55.0 |
| | 1 | 195 54.8 | 19 7.1 | 336 4.5 | 8.6 | -28 26.3 | -1.0 | 55.1 |
| | 2 | 210 54.8 | 19 7.7 | 350 32.0 | 8.6 | -28 25.3 | -1.2 | 55.1 |
| | 3 | 225 54.7 | 19 8.3 | 4 59.6 | 8.5 | -28 24.1 | -1.3 | 55.1 |
| | 4 | 240 54.7 | 19 8.8 | 19 27.1 | 8.5 | -28 22.8 | -1.5 | 55.1 |
| | 5 | 255 54.7 | 19 9.4 | 33 54.7 | 8.5 | -28 21.3 | -1.6 | 55.1 |
| | 6 | 270 54.7 | 19 10.0 | 48 22.2 | 8.5 | -28 19.6 | -1.8 | 55.2 |
| | 7 | 285 54.7 | 19 10.6 | 62 49.7 | 8.5 | -28 17.9 | -1.9 | 55.2 |
| | 8 | 300 54.7 | 19 11.1 | 77 17.3 | 8.5 | -28 15.9 | -2.1 | 55.2 |
| | 9 | 315 54.7 | 19 11.7 | 91 44.8 | 8.5 | -28 13.8 | -2.2 | 55.2 |
| | 10 | 330 54.6 | 19 12.3 | 106 12.3 | 8.5 | -28 11.6 | -2.4 | 55.2 |
| | 11 | 345 54.6 | 19 12.8 | 120 39.9 | 8.5 | -28 9.2 | -2.5 | 55.3 |
| | 12 | 0 54.6 | 19 13.4 | 135 7.4 | 8.6 | -28 6.7 | -2.7 | 55.3 |
| | 13 | 15 54.6 | 19 14.0 | 149 35.0 | 8.6 | -28 4.0 | -2.8 | 55.3 |
| | 14 | 30 54.6 | 19 14.5 | 164 2.5 | 8.6 | -28 1.2 | -3.0 | 55.3 |
| | 15 | 45 54.6 | 19 15.1 | 178 30.1 | 8.6 | -27 58.2 | -3.1 | 55.3 |
| | 16 | 60 54.6 | 19 15.7 | 192 57.7 | 8.6 | -27 55.0 | -3.3 | 55.4 |
| | 17 | 75 54.5 | 19 16.2 | 207 25.3 | 8.6 | -27 51.8 | -3.4 | 55.4 |
| | 18 | 90 54.5 | 19 16.8 | 221 52.9 | 8.6 | -27 48.3 | -3.6 | 55.4 |
| | 19 | 105 54.5 | 19 17.4 | 236 20.5 | 8.6 | -27 44.7 | -3.7 | 55.4 |
| | 20 | 120 54.5 | 19 17.9 | 250 48.1 | 8.6 | -27 41.0 | -3.9 | 55.4 |
| | 21 | 135 54.5 | 19 18.5 | 265 15.8 | 8.7 | -27 37.1 | -4.0 | 55.5 |
| | 22 | 150 54.5 | 19 19.1 | 279 43.4 | 8.7 | -27 33.1 | -4.2 | 55.5 |
| | 23 | 165 54.4 | 19 19.6 | 294 11.1 | 8.7 | -27 29.0 | -4.3 | 55.5 |
| | v | 0.0 | SD 15.8 | d 0.6 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **17 Saturday** | 0 | 180 54.4 | 19 20.2 | 308 38.8 | 8.7 | -27 24.6 | -4.5 | 55.5 |
| | 1 | 195 54.4 | 19 20.8 | 323 6.5 | 8.8 | -27 20.2 | -4.6 | 55.5 |
| | 2 | 210 54.4 | 19 21.3 | 337 34.3 | 8.8 | -27 15.6 | -4.8 | 55.6 |
| | 3 | 225 54.4 | 19 21.9 | 352 2.1 | 8.8 | -27 10.8 | -4.9 | 55.6 |
| | 4 | 240 54.3 | 19 22.4 | 6 29.9 | 8.8 | -27 5.9 | -5.0 | 55.6 |
| | 5 | 255 54.3 | 19 23.0 | 20 57.7 | 8.9 | -27 0.9 | -5.2 | 55.6 |
| | 6 | 270 54.3 | 19 23.6 | 35 25.6 | 8.9 | -26 55.7 | -5.3 | 55.7 |
| | 7 | 285 54.3 | 19 24.1 | 49 53.4 | 8.9 | -26 50.3 | -5.5 | 55.7 |
| | 8 | 300 54.3 | 19 24.7 | 64 21.4 | 8.9 | -26 44.8 | -5.6 | 55.7 |
| | 9 | 315 54.2 | 19 25.2 | 78 49.3 | 9.0 | -26 39.2 | -5.8 | 55.7 |
| | 10 | 330 54.2 | 19 25.8 | 93 17.3 | 9.0 | -26 33.4 | -5.9 | 55.7 |
| | 11 | 345 54.2 | 19 26.4 | 107 45.3 | 9.0 | -26 27.5 | -6.1 | 55.8 |
| | 12 | 0 54.2 | 19 26.9 | 122 13.3 | 9.1 | -26 21.5 | -6.2 | 55.8 |
| | 13 | 15 54.2 | 19 27.5 | 136 41.4 | 9.1 | -26 15.3 | -6.3 | 55.8 |
| | 14 | 30 54.1 | 19 28.0 | 151 9.5 | 9.1 | -26 8.9 | -6.5 | 55.8 |
| | 15 | 45 54.1 | 19 28.6 | 165 37.7 | 9.2 | -26 2.5 | -6.6 | 55.9 |
| | 16 | 60 54.1 | 19 29.1 | 180 5.8 | 9.2 | -25 55.9 | -6.8 | 55.9 |
| | 17 | 75 54.1 | 19 29.7 | 194 34.1 | 9.3 | -25 49.1 | -6.9 | 55.9 |
| | 18 | 90 54.0 | 19 30.2 | 209 2.3 | 9.3 | -25 42.2 | -7.0 | 55.9 |
| | 19 | 105 54.0 | 19 30.8 | 223 30.6 | 9.3 | -25 35.2 | -7.2 | 56.0 |
| | 20 | 120 54.0 | 19 31.3 | 237 59.0 | 9.4 | -25 28.0 | -7.3 | 56.0 |
| | 21 | 135 54.0 | 19 31.9 | 252 27.3 | 9.4 | -25 20.7 | -7.4 | 56.0 |
| | 22 | 150 54.0 | 19 32.4 | 266 55.8 | 9.5 | -25 13.2 | -7.6 | 56.0 |
| | 23 | 165 53.9 | 19 33.0 | 281 24.2 | 9.5 | -25 5.6 | -7.7 | 56.1 |
| | v | 0.0 | SD 15.8 | d 0.6 | | SD 15.1 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **18 Sunday** | 0 | 180 53.9 | 19 33.5 | 295 52.7 | 9.5 | -24 57.9 | -7.9 | 56.1 |
| | 1 | 195 53.9 | 19 34.1 | 310 21.3 | 9.6 | -24 50.1 | -8.0 | 56.1 |
| | 2 | 210 53.9 | 19 34.6 | 324 49.9 | 9.6 | -24 42.1 | -8.1 | 56.1 |
| | 3 | 225 53.8 | 19 35.2 | 339 18.5 | 9.7 | -24 33.9 | -8.3 | 56.2 |
| | 4 | 240 53.8 | 19 35.7 | 353 47.2 | 9.7 | -24 25.7 | -8.4 | 56.2 |
| | 5 | 255 53.8 | 19 36.3 | 8 15.9 | 9.8 | -24 17.3 | -8.5 | 56.2 |
| | 6 | 270 53.8 | 19 36.8 | 22 44.7 | 9.8 | -24 8.8 | -8.7 | 56.2 |
| | 7 | 285 53.7 | 19 37.4 | 37 13.5 | 9.9 | -24 0.1 | -8.8 | 56.3 |
| | 8 | 300 53.7 | 19 37.9 | 51 42.4 | 9.9 | -23 51.4 | -8.9 | 56.3 |
| | 9 | 315 53.7 | 19 38.5 | 66 11.3 | 10.0 | -23 42.4 | -9.0 | 56.3 |
| | 10 | 330 53.7 | 19 39.0 | 80 40.3 | 10.0 | -23 33.4 | -9.2 | 56.4 |
| | 11 | 345 53.6 | 19 39.5 | 95 9.3 | 10.1 | -23 24.2 | -9.3 | 56.4 |
| | 12 | 0 53.6 | 19 40.1 | 109 38.3 | 10.1 | -23 14.9 | -9.4 | 56.4 |
| | 13 | 15 53.6 | 19 40.6 | 124 7.4 | 10.1 | -23 5.5 | -9.5 | 56.4 |
| | 14 | 30 53.5 | 19 41.2 | 138 36.6 | 10.2 | -22 56.0 | -9.7 | 56.5 |
| | 15 | 45 53.5 | 19 41.7 | 153 5.8 | 10.2 | -22 46.3 | -9.8 | 56.5 |
| | 16 | 60 53.5 | 19 42.3 | 167 35.0 | 10.3 | -22 36.5 | -9.9 | 56.5 |
| | 17 | 75 53.5 | 19 42.8 | 182 4.3 | 10.3 | -22 26.6 | -10.0 | 56.5 |
| | 18 | 90 53.4 | 19 43.3 | 196 33.6 | 10.4 | -22 16.6 | -10.2 | 56.6 |
| | 19 | 105 53.4 | 19 43.9 | 211 3.0 | 10.4 | -22 6.4 | -10.3 | 56.6 |
| | 20 | 120 53.4 | 19 44.4 | 225 32.5 | 10.5 | -21 56.1 | -10.4 | 56.6 |
| | 21 | 135 53.3 | 19 44.9 | 240 2.0 | 10.5 | -21 45.7 | -10.5 | 56.7 |
| | 22 | 150 53.3 | 19 45.5 | 254 31.5 | 10.6 | -21 35.2 | -10.6 | 56.7 |
| | 23 | 165 53.3 | 19 46.0 | 269 1.1 | 10.6 | -21 24.6 | -10.8 | 56.7 |
| | v | 0.0 | SD 15.8 | d 0.5 | | SD 15.3 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | //// | //// | 00:14 | | //// | //// |
| 68 | //// | //// | 01:40 | 22:18 | //// | //// |
| 66 | //// | //// | 02:17 | 21:39 | //// | //// |
| 64 | //// | 00:59 | 02:43 | 21:12 | 23:02 | //// |
| 62 | //// | 01:46 | 03:03 | 20:51 | 22:11 | //// |
| 60 | //// | 02:15 | 03:20 | 20:35 | 21:40 | //// |
| 58 | 00:53 | 02:37 | 03:33 | 20:21 | 21:18 | 23:07 |
| 56 | 01:36 | 02:55 | 03:45 | 20:09 | 21:00 | 22:20 |
| 54 | 02:03 | 03:09 | 03:55 | 19:59 | 20:45 | 21:52 |
| 52 | 02:23 | 03:22 | 04:04 | 19:49 | 20:32 | 21:31 |
| 50 | 02:40 | 03:33 | 04:13 | 19:41 | 20:21 | 21:14 |
| 45 | 03:12 | 03:55 | 04:30 | 19:24 | 19:58 | 20:42 |
| 40 | 03:35 | 04:13 | 04:44 | 19:10 | 19:40 | 20:19 |
| 35 | 03:53 | 04:27 | 04:56 | 18:58 | 19:26 | 20:00 |
| 30 | 04:08 | 04:40 | 05:06 | 18:47 | 19:13 | 19:45 |
| 20 | 04:32 | 05:00 | 05:24 | 18:29 | 18:53 | 19:21 |
| 10 | 04:50 | 05:16 | 05:39 | 18:14 | 18:36 | 19:03 |
| 0 | 05:06 | 05:31 | 05:53 | 18:00 | 18:22 | 18:47 |
| -10 | 05:19 | 05:45 | 06:07 | 17:46 | 18:08 | 18:34 |
| -20 | 05:32 | 05:58 | 06:22 | 17:31 | 17:54 | 18:21 |
| -30 | 05:44 | 06:13 | 06:39 | 17:14 | 17:39 | 18:08 |
| -35 | 05:51 | 06:21 | 06:48 | 17:04 | 17:31 | 18:02 |
| -40 | 05:57 | 06:30 | 06:59 | 16:53 | 17:22 | 17:55 |
| -45 | 06:05 | 06:40 | 07:12 | 16:40 | 17:12 | 17:48 |
| -50 | 06:13 | 06:52 | 07:28 | 16:24 | 17:00 | 17:39 |
| -52 | 06:16 | 06:58 | 07:36 | 16:16 | 16:54 | 17:36 |
| -54 | 06:20 | 07:04 | 07:44 | 16:08 | 16:48 | 17:32 |
| -56 | 06:24 | 07:10 | 07:53 | 15:59 | 16:42 | 17:28 |
| -58 | 06:29 | 07:18 | 08:04 | 15:48 | 16:34 | 17:23 |
| -60 | 06:34 | 07:26 | 08:16 | 15:36 | 16:26 | 17:18 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **16** | **17** | **18** | **16** | **17** | **18** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | 03:04 | | | 05:59 |
| 62 | | 02:36 | 02:22 | | 04:36 | 06:40 |
| 60 | 01:18 | 01:44 | 01:54 | 04:02 | 05:28 | 07:08 |
| 58 | 00:37 | 01:13 | 01:31 | 04:43 | 05:59 | 07:30 |
| 56 | 00:09 | 00:49 | 01:13 | 05:11 | 06:23 | 07:47 |
| 54 | –:– | 00:29 | 00:58 | 05:33 | 06:42 | 08:02 |
| 52 | –:– | 00:13 | 00:45 | 05:51 | 06:58 | 08:15 |
| 50 | 23:59 | –:– | 00:33 | 06:06 | 07:12 | 08:26 |
| 45 | 23:30 | –:– | 00:08 | 06:37 | 07:40 | 08:50 |
| 40 | 23:08 | 23:49 | –:– | 07:01 | 08:02 | 09:08 |
| 35 | 22:49 | 23:33 | –:– | 07:20 | 08:20 | 09:24 |
| 30 | 22:33 | 23:18 | 23:58 | 07:37 | 08:36 | 09:37 |
| 20 | 22:06 | 22:54 | 23:38 | 08:05 | 09:02 | 10:00 |
| 10 | 21:42 | 22:33 | 23:21 | 08:30 | 09:25 | 10:20 |
| 0 | 21:20 | 22:13 | 23:05 | 08:52 | 09:46 | 10:38 |
| -10 | 20:58 | 21:53 | 22:48 | 09:15 | 10:07 | 10:56 |
| -20 | 20:35 | 21:32 | 22:31 | 09:39 | 10:29 | 11:16 |
| -30 | 20:07 | 21:08 | 22:10 | 10:07 | 10:55 | 11:38 |
| -35 | 19:51 | 20:53 | 21:58 | 10:24 | 11:10 | 11:51 |
| -40 | 19:32 | 20:36 | 21:44 | 10:43 | 11:28 | 12:05 |
| -45 | 19:09 | 20:16 | 21:28 | 11:06 | 11:49 | 12:23 |
| -50 | 18:39 | 19:50 | 21:08 | 11:36 | 12:15 | 12:44 |
| -52 | 18:25 | 19:38 | 20:58 | 11:51 | 12:28 | 12:55 |
| -54 | 18:08 | 19:23 | 20:47 | 12:08 | 12:43 | 13:06 |
| -56 | 17:48 | 19:07 | 20:34 | 12:28 | 13:00 | 13:19 |
| -58 | 17:22 | 18:47 | 20:20 | 12:54 | 13:21 | 13:35 |
| -60 | 16:47 | 18:21 | 20:03 | 13:30 | 13:46 | 13:53 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **16** | 03:39 | 03:38 | 11:56 | 02:39 | 15:06 | 18 | 90 |
| **17** | 03:38 | 03:37 | 11:56 | 03:33 | 16:00 | 19 | 83 |
| **18** | 03:36 | 03:34 | 11:56 | 04:26 | 16:51 | 20 | 75 |

## 2025 May 19, 20, 21 (Mon, Tue, Wed)

| d | h | Aries GHA | Venus -4.5 GHA | Venus -4.5 Dec | Mars 1.2 GHA | Mars 1.2 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 Monday | 0 | 236 55.1 | 224 22.8 | 4 4.3 | 99 38.7 | 18 8.0 | 152 12.8 | 23 8.8 | 236 32.8 | -2 4.9 |
| | 1 | 251 57.6 | 239 23.2 | 4 4.9 | 114 39.9 | 18 7.6 | 167 14.7 | 23 8.8 | 251 35.1 | -2 4.8 |
| | 2 | 267 0.1 | 254 23.6 | 4 5.5 | 129 41.1 | 18 7.2 | 182 16.5 | 23 8.9 | 266 37.3 | -2 4.8 |
| | 3 | 282 2.5 | 269 24.0 | 4 6.1 | 144 42.3 | 18 6.8 | 197 18.4 | 23 8.9 | 281 39.6 | -2 4.7 |
| | 4 | 297 5.0 | 284 24.4 | 4 6.8 | 159 43.5 | 18 6.4 | 212 20.3 | 23 8.9 | 296 41.9 | -2 4.6 |
| | 5 | 312 7.5 | 299 24.8 | 4 7.4 | 174 44.7 | 18 6.0 | 227 22.2 | 23 8.9 | 311 44.2 | -2 4.5 |
| | 6 | 327 9.9 | 314 25.2 | 4 8.0 | 189 46.0 | 18 5.5 | 242 24.1 | 23 8.9 | 326 46.4 | -2 4.5 |
| | 7 | 342 12.4 | 329 25.6 | 4 8.6 | 204 47.2 | 18 5.1 | 257 25.9 | 23 9.0 | 341 48.7 | -2 4.4 |
| | 8 | 357 14.9 | 344 26.0 | 4 9.2 | 219 48.4 | 18 4.7 | 272 27.8 | 23 9.0 | 356 51.0 | -2 4.3 |
| | 9 | 12 17.3 | 359 26.5 | 4 9.8 | 234 49.6 | 18 4.3 | 287 29.7 | 23 9.0 | 11 53.2 | -2 4.2 |
| | 10 | 27 19.8 | 14 26.9 | 4 10.4 | 249 50.8 | 18 3.9 | 302 31.6 | 23 9.0 | 26 55.5 | -2 4.2 |
| | 11 | 42 22.3 | 29 27.3 | 4 11.0 | 264 52.0 | 18 3.5 | 317 33.4 | 23 9.1 | 41 57.8 | -2 4.1 |
| | 12 | 57 24.7 | 44 27.7 | 4 11.6 | 279 53.2 | 18 3.1 | 332 35.3 | 23 9.1 | 57 0.1 | -2 4.0 |
| | 13 | 72 27.2 | 59 28.1 | 4 12.3 | 294 54.4 | 18 2.7 | 347 37.2 | 23 9.1 | 72 2.3 | -2 4.0 |
| | 14 | 87 29.6 | 74 28.5 | 4 12.9 | 309 55.6 | 18 2.2 | 2 39.1 | 23 9.1 | 87 4.6 | -2 3.9 |
| | 15 | 102 32.1 | 89 28.9 | 4 13.5 | 324 56.8 | 18 1.8 | 17 40.9 | 23 9.2 | 102 6.9 | -2 3.8 |
| | 16 | 117 34.6 | 104 29.3 | 4 14.1 | 339 58.0 | 18 1.4 | 32 42.8 | 23 9.2 | 117 9.1 | -2 3.7 |
| | 17 | 132 37.0 | 119 29.7 | 4 14.7 | 354 59.2 | 18 1.0 | 47 44.7 | 23 9.2 | 132 11.4 | -2 3.7 |
| | 18 | 147 39.5 | 134 30.1 | 4 15.3 | 10 0.4 | 18 0.6 | 62 46.6 | 23 9.2 | 147 13.7 | -2 3.6 |
| | 19 | 162 42.0 | 149 30.5 | 4 16.0 | 25 1.6 | 18 0.2 | 77 48.4 | 23 9.3 | 162 16.0 | -2 3.5 |
| | 20 | 177 44.4 | 164 30.9 | 4 16.6 | 40 2.8 | 17 59.8 | 92 50.3 | 23 9.3 | 177 18.2 | -2 3.4 |
| | 21 | 192 46.9 | 179 31.3 | 4 17.2 | 55 4.0 | 17 59.3 | 107 52.2 | 23 9.3 | 192 20.5 | -2 3.4 |
| | 22 | 207 49.4 | 194 31.7 | 4 17.8 | 70 5.2 | 17 58.9 | 122 54.1 | 23 9.3 | 207 22.8 | -2 3.3 |
| | 23 | 222 51.8 | 209 32.1 | 4 18.4 | 85 6.4 | 17 58.5 | 137 55.9 | 23 9.4 | 222 25.1 | -2 3.2 |
| | | MP 08:12 | *v* 0.4 | *d* 0.6 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Tuesday | 0 | 237 54.3 | 224 32.5 | 4 19.1 | 100 7.6 | 17 58.1 | 152 57.8 | 23 9.4 | 237 27.3 | -2 3.1 |
| | 1 | 252 56.7 | 239 32.9 | 4 19.7 | 115 8.8 | 17 57.7 | 167 59.7 | 23 9.4 | 252 29.6 | -2 3.1 |
| | 2 | 267 59.2 | 254 33.2 | 4 20.3 | 130 10.0 | 17 57.3 | 183 1.5 | 23 9.4 | 267 31.9 | -2 3.0 |
| | 3 | 283 1.7 | 269 33.6 | 4 20.9 | 145 11.2 | 17 56.9 | 198 3.4 | 23 9.5 | 282 34.1 | -2 2.9 |
| | 4 | 298 4.1 | 284 34.0 | 4 21.5 | 160 12.4 | 17 56.4 | 213 5.3 | 23 9.5 | 297 36.4 | -2 2.9 |
| | 5 | 313 6.6 | 299 34.4 | 4 22.2 | 175 13.6 | 17 56.0 | 228 7.2 | 23 9.5 | 312 38.7 | -2 2.8 |
| | 6 | 328 9.1 | 314 34.8 | 4 22.8 | 190 14.8 | 17 55.6 | 243 9.0 | 23 9.5 | 327 41.0 | -2 2.7 |
| | 7 | 343 11.5 | 329 35.2 | 4 23.4 | 205 16.0 | 17 55.2 | 258 10.9 | 23 9.5 | 342 43.2 | -2 2.6 |
| | 8 | 358 14.0 | 344 35.6 | 4 24.0 | 220 17.2 | 17 54.8 | 273 12.8 | 23 9.6 | 357 45.5 | -2 2.6 |
| | 9 | 13 16.5 | 359 36.0 | 4 24.7 | 235 18.4 | 17 54.4 | 288 14.7 | 23 9.6 | 12 47.8 | -2 2.5 |
| | 10 | 28 18.9 | 14 36.3 | 4 25.3 | 250 19.6 | 17 53.9 | 303 16.5 | 23 9.6 | 27 50.1 | -2 2.4 |
| | 11 | 43 21.4 | 29 36.7 | 4 25.9 | 265 20.8 | 17 53.5 | 318 18.4 | 23 9.6 | 42 52.3 | -2 2.3 |
| | 12 | 58 23.9 | 44 37.1 | 4 26.6 | 280 22.0 | 17 53.1 | 333 20.3 | 23 9.7 | 57 54.6 | -2 2.3 |
| | 13 | 73 26.3 | 59 37.5 | 4 27.2 | 295 23.2 | 17 52.7 | 348 22.2 | 23 9.7 | 72 56.9 | -2 2.2 |
| | 14 | 88 28.8 | 74 37.9 | 4 27.8 | 310 24.4 | 17 52.3 | 3 24.0 | 23 9.7 | 87 59.2 | -2 2.1 |
| | 15 | 103 31.2 | 89 38.3 | 4 28.5 | 325 25.6 | 17 51.9 | 18 25.9 | 23 9.7 | 103 1.4 | -2 2.1 |
| | 16 | 118 33.7 | 104 38.6 | 4 29.1 | 340 26.8 | 17 51.4 | 33 27.8 | 23 9.8 | 118 3.7 | -2 2.0 |
| | 17 | 133 36.2 | 119 39.0 | 4 29.7 | 355 28.0 | 17 51.0 | 48 29.6 | 23 9.8 | 133 6.0 | -2 1.9 |
| | 18 | 148 38.6 | 134 39.4 | 4 30.3 | 10 29.2 | 17 50.6 | 63 31.5 | 23 9.8 | 148 8.3 | -2 1.8 |
| | 19 | 163 41.1 | 149 39.8 | 4 31.0 | 25 30.4 | 17 50.2 | 78 33.4 | 23 9.8 | 163 10.5 | -2 1.8 |
| | 20 | 178 43.6 | 164 40.1 | 4 31.6 | 40 31.6 | 17 49.8 | 93 35.3 | 23 9.8 | 178 12.8 | -2 1.7 |
| | 21 | 193 46.0 | 179 40.5 | 4 32.2 | 55 32.8 | 17 49.3 | 108 37.1 | 23 9.9 | 193 15.1 | -2 1.6 |
| | 22 | 208 48.5 | 194 40.9 | 4 32.9 | 70 34.0 | 17 48.9 | 123 39.0 | 23 9.9 | 208 17.4 | -2 1.6 |
| | 23 | 223 51.0 | 209 41.3 | 4 33.5 | 85 35.2 | 17 48.5 | 138 40.9 | 23 9.9 | 223 19.6 | -2 1.5 |
| | | MP 08:08 | *v* 0.4 | *d* 0.6 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 Wednesday | 0 | 238 53.4 | 224 41.6 | 4 34.2 | 100 36.4 | 17 48.1 | 153 42.8 | 23 9.9 | 238 21.9 | -2 1.4 |
| | 1 | 253 55.9 | 239 42.0 | 4 34.8 | 115 37.6 | 17 47.7 | 168 44.6 | 23 10.0 | 253 24.2 | -2 1.3 |
| | 2 | 268 58.4 | 254 42.4 | 4 35.4 | 130 38.8 | 17 47.3 | 183 46.5 | 23 10.0 | 268 26.5 | -2 1.3 |
| | 3 | 284 0.8 | 269 42.7 | 4 36.1 | 145 40.0 | 17 46.8 | 198 48.4 | 23 10.0 | 283 28.7 | -2 1.2 |
| | 4 | 299 3.3 | 284 43.1 | 4 36.7 | 160 41.2 | 17 46.4 | 213 50.2 | 23 10.0 | 298 31.0 | -2 1.1 |
| | 5 | 314 5.7 | 299 43.5 | 4 37.3 | 175 42.4 | 17 46.0 | 228 52.1 | 23 10.1 | 313 33.3 | -2 1.0 |
| | 6 | 329 8.2 | 314 43.8 | 4 38.0 | 190 43.6 | 17 45.6 | 243 54.0 | 23 10.1 | 328 35.6 | -2 1.0 |
| | 7 | 344 10.7 | 329 44.2 | 4 38.6 | 205 44.8 | 17 45.2 | 258 55.9 | 23 10.1 | 343 37.8 | -2 0.9 |
| | 8 | 359 13.1 | 344 44.6 | 4 39.3 | 220 46.0 | 17 44.7 | 273 57.7 | 23 10.1 | 358 40.1 | -2 0.8 |
| | 9 | 14 15.6 | 359 44.9 | 4 39.9 | 235 47.2 | 17 44.3 | 288 59.6 | 23 10.1 | 13 42.4 | -2 0.8 |
| | 10 | 29 18.1 | 14 45.3 | 4 40.5 | 250 48.4 | 17 43.9 | 304 1.5 | 23 10.2 | 28 44.7 | -2 0.7 |
| | 11 | 44 20.5 | 29 45.6 | 4 41.2 | 265 49.6 | 17 43.5 | 319 3.3 | 23 10.2 | 43 47.0 | -2 0.6 |
| | 12 | 59 23.0 | 44 46.0 | 4 41.8 | 280 50.8 | 17 43.0 | 334 5.2 | 23 10.2 | 58 49.2 | -2 0.5 |
| | 13 | 74 25.5 | 59 46.4 | 4 42.5 | 295 52.0 | 17 42.6 | 349 7.1 | 23 10.2 | 73 51.5 | -2 0.5 |
| | 14 | 89 27.9 | 74 46.7 | 4 43.1 | 310 53.2 | 17 42.2 | 4 9.0 | 23 10.3 | 88 53.8 | -2 0.4 |
| | 15 | 104 30.4 | 89 47.1 | 4 43.8 | 325 54.4 | 17 41.8 | 19 10.8 | 23 10.3 | 103 56.1 | -2 0.3 |
| | 16 | 119 32.8 | 104 47.4 | 4 44.4 | 340 55.5 | 17 41.4 | 34 12.7 | 23 10.3 | 118 58.3 | -2 0.3 |
| | 17 | 134 35.3 | 119 47.8 | 4 45.1 | 355 56.7 | 17 40.9 | 49 14.6 | 23 10.3 | 134 0.6 | -2 0.2 |
| | 18 | 149 37.8 | 134 48.2 | 4 45.7 | 10 57.9 | 17 40.5 | 64 16.4 | 23 10.3 | 149 2.9 | -2 0.1 |
| | 19 | 164 40.2 | 149 48.5 | 4 46.4 | 25 59.1 | 17 40.1 | 79 18.3 | 23 10.4 | 164 5.2 | -2 0.1 |
| | 20 | 179 42.7 | 164 48.9 | 4 47.0 | 41 0.3 | 17 39.7 | 94 20.2 | 23 10.4 | 179 7.5 | -2 0.0 |
| | 21 | 194 45.2 | 179 49.2 | 4 47.7 | 56 1.5 | 17 39.2 | 109 22.1 | 23 10.4 | 194 9.7 | -1 59.9 |
| | 22 | 209 47.6 | 194 49.6 | 4 48.3 | 71 2.7 | 17 38.8 | 124 23.9 | 23 10.4 | 209 12.0 | -1 59.8 |
| | 23 | 224 50.1 | 209 49.9 | 4 48.9 | 86 3.9 | 17 38.4 | 139 25.8 | 23 10.5 | 224 14.3 | -1 59.8 |
| | | MP 08:04 | *v* 0.4 | *d* 0.6 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.1 |
| Achernar | 335 20.4 | -57 6.3 |
| Acrux | 172 59.4 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.5 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.5 |
| Alkaid | 152 51.3 | 49 11.3 |
| Alnair | 27 32.6 | -46 50.1 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.7 |
| Alpheratz | 357 34.7 | 29 13.6 |
| Altair | 61 59.5 | 8 56.0 |
| Ankaa | 353 7.1 | -42 9.9 |
| Antares | 112 15.1 | -26 29.3 |
| Arcturus | 145 47.3 | 19 3.0 |
| Atria | 107 8.6 | -69 4.3 |
| Avior | 234 14.9 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.7 | -52 42.7 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.5 | 45 21.9 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.2 | -17 50.8 |
| Dubhe | 193 40.4 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.6 | 51 28.9 |
| Enif | 33 38.5 | 9 59.3 |
| Fomalhaut | 15 14.3 | -29 29.2 |
| Gacrux | 171 51.0 | -57 15.6 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.0 | -60 29.9 |
| Hamal | 327 51.2 | 23 34.8 |
| Kaus Aust. | 83 31.8 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.1 |
| Markab | 13 29.7 | 15 20.4 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.8 |
| Miaplacidus | 221 38.5 | -69 49.6 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.0 | 12 32.4 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.6 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 31.1 | 56 40.3 |
| Shaula | 96 9.6 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.7 | -11 17.8 |
| Suhail | 222 46.2 | -43 32.3 |
| Vega | 80 32.7 | 38 48.2 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 19 Mon | SHA | MP |
|---|---|---|
| Venus | 347 27.6 | 09:02 |
| Mars | 222 43.6 | 17:20 |
| Jupiter | 275 17.7 | 13:49 |
| Saturn | 359 37.7 | 08:13 |

| 20 Tue | SHA | MP |
|---|---|---|
| Venus | 346 38.2 | 09:02 |
| Mars | 222 13.3 | 17:18 |
| Jupiter | 275 3.5 | 13:46 |
| Saturn | 359 33.0 | 08:09 |

| 21 Wed | SHA | MP |
|---|---|---|
| Venus | 345 48.2 | 09:01 |
| Mars | 221 43.0 | 17:16 |
| Jupiter | 274 49.3 | 13:43 |
| Saturn | 359 28.5 | 08:05 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **19 Monday** | 0 | 180 53.3 | 19 46.5 | 283 30.7 | 10.7 | -21 13.8 | -10.9 | 56.7 |
| | 1 | 195 53.2 | 19 47.1 | 298 0.4 | 10.7 | -21 2.9 | -11.0 | 56.8 |
| | 2 | 210 53.2 | 19 47.6 | 312 30.1 | 10.8 | -20 51.9 | -11.1 | 56.8 |
| | 3 | 225 53.2 | 19 48.2 | 326 59.9 | 10.8 | -20 40.8 | -11.2 | 56.8 |
| | 4 | 240 53.1 | 19 48.7 | 341 29.7 | 10.9 | -20 29.6 | -11.3 | 56.9 |
| | 5 | 255 53.1 | 19 49.2 | 355 59.6 | 10.9 | -20 18.3 | -11.4 | 56.9 |
| | 6 | 270 53.1 | 19 49.7 | 10 29.5 | 11.0 | -20 6.9 | -11.6 | 56.9 |
| | 7 | 285 53.0 | 19 50.3 | 24 59.5 | 11.0 | -19 55.3 | -11.7 | 57.0 |
| | 8 | 300 53.0 | 19 50.8 | 39 29.5 | 11.1 | -19 43.6 | -11.8 | 57.0 |
| | 9 | 315 53.0 | 19 51.3 | 53 59.5 | 11.1 | -19 31.9 | -11.9 | 57.0 |
| | 10 | 330 52.9 | 19 51.9 | 68 29.6 | 11.1 | -19 20.0 | -12.0 | 57.0 |
| | 11 | 345 52.9 | 19 52.4 | 82 59.8 | 11.2 | -19 8.0 | -12.1 | 57.1 |
| | 12 | 0 52.9 | 19 52.9 | 97 30.0 | 11.2 | -18 55.9 | -12.2 | 57.1 |
| | 13 | 15 52.8 | 19 53.5 | 112 0.2 | 11.3 | -18 43.7 | -12.3 | 57.1 |
| | 14 | 30 52.8 | 19 54.0 | 126 30.5 | 11.3 | -18 31.4 | -12.4 | 57.2 |
| | 15 | 45 52.8 | 19 54.5 | 141 0.8 | 11.4 | -18 19.0 | -12.5 | 57.2 |
| | 16 | 60 52.7 | 19 55.0 | 155 31.2 | 11.4 | -18 6.5 | -12.6 | 57.2 |
| | 17 | 75 52.7 | 19 55.6 | 170 1.6 | 11.5 | -17 53.9 | -12.7 | 57.3 |
| | 18 | 90 52.7 | 19 56.1 | 184 32.1 | 11.5 | -17 41.2 | -12.8 | 57.3 |
| | 19 | 105 52.6 | 19 56.6 | 199 2.6 | 11.5 | -17 28.3 | -12.9 | 57.3 |
| | 20 | 120 52.6 | 19 57.1 | 213 33.1 | 11.6 | -17 15.4 | -13.0 | 57.4 |
| | 21 | 135 52.6 | 19 57.7 | 228 3.7 | 11.6 | -17 2.4 | -13.1 | 57.4 |
| | 22 | 150 52.5 | 19 58.2 | 242 34.3 | 11.7 | -16 49.3 | -13.2 | 57.4 |
| | 23 | 165 52.5 | 19 58.7 | 257 4.9 | 11.7 | -16 36.1 | -13.3 | 57.4 |
| | | *v* 0.0 | SD 15.8 | *d* 0.5 | | SD 15.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Tuesday** | 0 | 180 52.5 | 19 59.2 | 271 35.6 | 11.7 | -16 22.8 | -13.4 | 57.5 |
| | 1 | 195 52.4 | 19 59.7 | 286 6.4 | 11.8 | -16 9.4 | -13.5 | 57.5 |
| | 2 | 210 52.4 | 20 0.3 | 300 37.1 | 11.8 | -15 55.9 | -13.6 | 57.5 |
| | 3 | 225 52.4 | 20 0.8 | 315 7.9 | 11.8 | -15 42.4 | -13.7 | 57.6 |
| | 4 | 240 52.3 | 20 1.3 | 329 38.8 | 11.9 | -15 28.7 | -13.8 | 57.6 |
| | 5 | 255 52.3 | 20 1.8 | 344 9.6 | 11.9 | -15 14.9 | -13.8 | 57.6 |
| | 6 | 270 52.2 | 20 2.3 | 358 40.5 | 11.9 | -15 1.1 | -13.9 | 57.7 |
| | 7 | 285 52.2 | 20 2.9 | 13 11.5 | 12.0 | -14 47.1 | -14.0 | 57.7 |
| | 8 | 300 52.2 | 20 3.4 | 27 42.5 | 12.0 | -14 33.1 | -14.1 | 57.7 |
| | 9 | 315 52.1 | 20 3.9 | 42 13.5 | 12.0 | -14 19.0 | -14.2 | 57.8 |
| | 10 | 330 52.1 | 20 4.4 | 56 44.5 | 12.1 | -14 4.8 | -14.3 | 57.8 |
| | 11 | 345 52.1 | 20 4.9 | 71 15.6 | 12.1 | -13 50.5 | -14.4 | 57.8 |
| | 12 | 0 52.0 | 20 5.4 | 85 46.7 | 12.1 | -13 36.2 | -14.4 | 57.9 |
| | 13 | 15 52.0 | 20 5.9 | 100 17.8 | 12.1 | -13 21.7 | -14.5 | 57.9 |
| | 14 | 30 51.9 | 20 6.5 | 114 48.9 | 12.2 | -13 7.2 | -14.6 | 57.9 |
| | 15 | 45 51.9 | 20 7.0 | 129 20.1 | 12.2 | -12 52.6 | -14.7 | 58.0 |
| | 16 | 60 51.9 | 20 7.5 | 143 51.3 | 12.2 | -12 37.9 | -14.8 | 58.0 |
| | 17 | 75 51.8 | 20 8.0 | 158 22.5 | 12.2 | -12 23.2 | -14.8 | 58.0 |
| | 18 | 90 51.8 | 20 8.5 | 172 53.8 | 12.3 | -12 8.3 | -14.9 | 58.1 |
| | 19 | 105 51.7 | 20 9.0 | 187 25.0 | 12.3 | -11 53.4 | -15.0 | 58.1 |
| | 20 | 120 51.7 | 20 9.5 | 201 56.3 | 12.3 | -11 38.4 | -15.1 | 58.1 |
| | 21 | 135 51.7 | 20 10.0 | 216 27.6 | 12.3 | -11 23.4 | -15.1 | 58.2 |
| | 22 | 150 51.6 | 20 10.5 | 230 58.9 | 12.3 | -11 8.3 | -15.2 | 58.2 |
| | 23 | 165 51.6 | 20 11.0 | 245 30.3 | 12.4 | -10 53.1 | -15.3 | 58.2 |
| | | *v* 0.0 | SD 15.8 | *d* 0.5 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **21 Wednesday** | 0 | 180 51.5 | 20 11.6 | 260 1.6 | 12.4 | -10 37.8 | -15.3 | 58.3 |
| | 1 | 195 51.5 | 20 12.1 | 274 33.0 | 12.4 | -10 22.4 | -15.4 | 58.3 |
| | 2 | 210 51.5 | 20 12.6 | 289 4.4 | 12.4 | -10 7.0 | -15.5 | 58.3 |
| | 3 | 225 51.4 | 20 13.1 | 303 35.8 | 12.4 | -9 51.6 | -15.5 | 58.4 |
| | 4 | 240 51.4 | 20 13.6 | 318 7.2 | 12.4 | -9 36.0 | -15.6 | 58.4 |
| | 5 | 255 51.3 | 20 14.1 | 332 38.7 | 12.4 | -9 20.4 | -15.7 | 58.4 |
| | 6 | 270 51.3 | 20 14.6 | 347 10.1 | 12.4 | -9 4.7 | -15.7 | 58.5 |
| | 7 | 285 51.2 | 20 15.1 | 1 41.5 | 12.5 | -8 49.0 | -15.8 | 58.5 |
| | 8 | 300 51.2 | 20 15.6 | 16 13.0 | 12.5 | -8 33.2 | -15.9 | 58.5 |
| | 9 | 315 51.2 | 20 16.1 | 30 44.5 | 12.5 | -8 17.4 | -15.9 | 58.6 |
| | 10 | 330 51.1 | 20 16.6 | 45 15.9 | 12.5 | -8 1.5 | -16.0 | 58.6 |
| | 11 | 345 51.1 | 20 17.1 | 59 47.4 | 12.5 | -7 45.5 | -16.0 | 58.6 |
| | 12 | 0 51.0 | 20 17.6 | 74 18.9 | 12.5 | -7 29.5 | -16.1 | 58.7 |
| | 13 | 15 51.0 | 20 18.1 | 88 50.3 | 12.5 | -7 13.4 | -16.1 | 58.7 |
| | 14 | 30 50.9 | 20 18.6 | 103 21.8 | 12.5 | -6 57.3 | -16.2 | 58.7 |
| | 15 | 45 50.9 | 20 19.1 | 117 53.3 | 12.5 | -6 41.1 | -16.2 | 58.8 |
| | 16 | 60 50.8 | 20 19.6 | 132 24.7 | 12.5 | -6 24.8 | -16.3 | 58.8 |
| | 17 | 75 50.8 | 20 20.1 | 146 56.2 | 12.5 | -6 8.6 | -16.3 | 58.8 |
| | 18 | 90 50.7 | 20 20.6 | 161 27.7 | 12.5 | -5 52.2 | -16.4 | 58.9 |
| | 19 | 105 50.7 | 20 21.1 | 175 59.1 | 12.4 | -5 35.8 | -16.4 | 58.9 |
| | 20 | 120 50.7 | 20 21.6 | 190 30.6 | 12.4 | -5 19.4 | -16.5 | 58.9 |
| | 21 | 135 50.6 | 20 22.1 | 205 2.0 | 12.4 | -5 2.9 | -16.5 | 59.0 |
| | 22 | 150 50.6 | 20 22.6 | 219 33.4 | 12.4 | -4 46.4 | -16.6 | 59.0 |
| | 23 | 165 50.5 | 20 23.1 | 234 4.9 | 12.4 | -4 29.9 | -16.6 | 59.0 |
| | | *v* 0.0 | SD 15.8 | *d* 0.5 | | SD 15.9 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | //// | //// | 01:22 | 22:37 | //// | //// |
| 66 | //// | //// | 02:05 | 21:51 | //// | //// |
| 64 | //// | 00:28 | 02:34 | 21:22 | 23:48 | //// |
| 62 | //// | 01:33 | 02:56 | 20:59 | 22:24 | //// |
| 60 | //// | 02:06 | 03:13 | 20:42 | 21:50 | //// |
| 58 | 00:25 | 02:29 | 03:27 | 20:27 | 21:26 | 23:49 |
| 56 | 01:24 | 02:48 | 03:40 | 20:14 | 21:07 | 22:33 |
| 54 | 01:54 | 03:04 | 03:51 | 20:03 | 20:51 | 22:01 |
| 52 | 02:16 | 03:17 | 04:00 | 19:54 | 20:37 | 21:39 |
| 50 | 02:34 | 03:28 | 04:09 | 19:45 | 20:26 | 21:20 |
| 45 | 03:07 | 03:52 | 04:27 | 19:27 | 20:02 | 20:47 |
| 40 | 03:32 | 04:10 | 04:41 | 19:12 | 19:43 | 20:22 |
| 35 | 03:51 | 04:25 | 04:54 | 19:00 | 19:28 | 20:03 |
| 30 | 04:06 | 04:38 | 05:04 | 18:49 | 19:15 | 19:47 |
| 20 | 04:31 | 04:59 | 05:23 | 18:31 | 18:54 | 19:23 |
| 10 | 04:50 | 05:16 | 05:38 | 18:15 | 18:37 | 19:04 |
| 0 | 05:05 | 05:31 | 05:53 | 18:00 | 18:22 | 18:48 |
| -10 | 05:19 | 05:45 | 06:07 | 17:45 | 18:08 | 18:33 |
| -20 | 05:33 | 05:59 | 06:23 | 17:30 | 17:53 | 18:20 |
| -30 | 05:46 | 06:15 | 06:40 | 17:12 | 17:38 | 18:07 |
| -35 | 05:53 | 06:23 | 06:51 | 17:02 | 17:29 | 18:00 |
| -40 | 06:00 | 06:33 | 07:02 | 16:50 | 17:20 | 17:53 |
| -45 | 06:08 | 06:43 | 07:16 | 16:37 | 17:09 | 17:45 |
| -50 | 06:16 | 06:56 | 07:32 | 16:20 | 16:56 | 17:36 |
| -52 | 06:20 | 07:02 | 07:40 | 16:12 | 16:51 | 17:32 |
| -54 | 06:24 | 07:08 | 07:49 | 16:04 | 16:44 | 17:28 |
| -56 | 06:29 | 07:15 | 07:58 | 15:54 | 16:37 | 17:24 |
| -58 | 06:33 | 07:23 | 08:10 | 15:43 | 16:30 | 17:19 |
| -60 | 06:39 | 07:32 | 08:22 | 15:30 | 16:21 | 17:14 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **19** | **20** | **21** | **19** | **20** | **21** |
| 72 | ▬ | 03:59 | 02:57 | ▬ | 08:39 | 11:22 |
| 70 | ▬ | 03:23 | 02:42 | ▬ | 09:12 | 11:34 |
| 68 | 03:49 | 02:58 | 02:30 | 07:02 | 09:36 | 11:44 |
| 66 | 03:06 | 02:38 | 02:19 | 07:44 | 09:54 | 11:52 |
| 64 | 02:37 | 02:22 | 02:11 | 08:12 | 10:08 | 11:59 |
| 62 | 02:15 | 02:09 | 02:03 | 08:33 | 10:21 | 12:04 |
| 60 | 01:57 | 01:57 | 01:57 | 08:50 | 10:31 | 12:09 |
| 58 | 01:41 | 01:47 | 01:51 | 09:05 | 10:40 | 12:14 |
| 56 | 01:28 | 01:39 | 01:46 | 09:17 | 10:47 | 12:18 |
| 54 | 01:17 | 01:31 | 01:41 | 09:28 | 10:54 | 12:21 |
| 52 | 01:07 | 01:24 | 01:37 | 09:37 | 11:00 | 12:24 |
| 50 | 00:58 | 01:17 | 01:33 | 09:45 | 11:06 | 12:27 |
| 45 | 00:39 | 01:04 | 01:25 | 10:03 | 11:18 | 12:33 |
| 40 | 00:23 | 00:52 | 01:18 | 10:18 | 11:28 | 12:38 |
| 35 | 00:10 | 00:43 | 01:12 | 10:30 | 11:36 | 12:43 |
| 30 | –:– | 00:34 | 01:07 | 10:40 | 11:43 | 12:47 |
| 20 | –:– | 00:19 | 00:58 | 10:58 | 11:56 | 12:53 |
| 10 | –:– | 00:06 | 00:49 | 11:14 | 12:07 | 12:59 |
| 0 | 23:54 | –:– | 00:42 | 11:28 | 12:17 | 13:04 |
| -10 | 23:42 | –:– | 00:34 | 11:43 | 12:27 | 13:09 |
| -20 | 23:28 | –:– | 00:26 | 11:58 | 12:37 | 13:15 |
| -30 | 23:13 | –:– | 00:16 | 12:15 | 12:49 | 13:21 |
| -35 | 23:04 | –:– | 00:11 | 12:25 | 12:56 | 13:25 |
| -40 | 22:54 | –:– | 00:05 | 12:37 | 13:04 | 13:29 |
| -45 | 22:42 | 23:57 | –:– | 12:50 | 13:13 | 13:33 |
| -50 | 22:28 | 23:49 | –:– | 13:06 | 13:24 | 13:39 |
| -52 | 22:21 | 23:44 | –:– | 13:14 | 13:29 | 13:41 |
| -54 | 22:13 | 23:40 | –:– | 13:22 | 13:34 | 13:44 |
| -56 | 22:05 | 23:35 | –:– | 13:32 | 13:40 | 13:47 |
| -58 | 21:55 | 23:29 | –:– | 13:42 | 13:47 | 13:50 |
| -60 | 21:44 | 23:23 | –:– | 13:55 | 13:55 | 13:54 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **19** | 03:33 | 03:32 | 11:56 | 05:17 | 17:41 | 21 | 66 |
| **20** | 03:30 | 03:28 | 11:57 | 06:05 | 18:29 | 22 | 55 |
| **21** | 03:26 | 03:24 | 11:57 | 06:53 | 19:17 | 23 | 45 |

## 2025 May 22, 23, 24 (Thu, Fri, Sat)

| | | Aries | Venus -4.5 | | Mars 1.2 | | Jupiter -1.9 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 22 Thursday | 0 | 239 52.6 | 224 50.3 | 4 49.6 | 101 5.1 | 17 38.0 | 154 27.7 | 23 10.5 | 239 16.6 | -1 59.7 |
| | 1 | 254 55.0 | 239 50.6 | 4 50.3 | 116 6.3 | 17 37.6 | 169 29.5 | 23 10.5 | 254 18.9 | -1 59.6 |
| | 2 | 269 57.5 | 254 51.0 | 4 50.9 | 131 7.5 | 17 37.1 | 184 31.4 | 23 10.5 | 269 21.1 | -1 59.6 |
| | 3 | 285 0.0 | 269 51.3 | 4 51.6 | 146 8.7 | 17 36.7 | 199 33.3 | 23 10.5 | 284 23.4 | -1 59.5 |
| | 4 | 300 2.4 | 284 51.6 | 4 52.2 | 161 9.9 | 17 36.3 | 214 35.1 | 23 10.6 | 299 25.7 | -1 59.4 |
| | 5 | 315 4.9 | 299 52.0 | 4 52.9 | 176 11.1 | 17 35.9 | 229 37.0 | 23 10.6 | 314 28.0 | -1 59.3 |
| | 6 | 330 7.3 | 314 52.3 | 4 53.5 | 191 12.3 | 17 35.4 | 244 38.9 | 23 10.6 | 329 30.2 | -1 59.3 |
| | 7 | 345 9.8 | 329 52.7 | 4 54.2 | 206 13.5 | 17 35.0 | 259 40.8 | 23 10.6 | 344 32.5 | -1 59.2 |
| | 8 | 0 12.3 | 344 53.0 | 4 54.8 | 221 14.7 | 17 34.6 | 274 42.6 | 23 10.7 | 359 34.8 | -1 59.1 |
| | 9 | 15 14.7 | 359 53.4 | 4 55.5 | 236 15.9 | 17 34.2 | 289 44.5 | 23 10.7 | 14 37.1 | -1 59.1 |
| | 10 | 30 17.2 | 14 53.7 | 4 56.1 | 251 17.1 | 17 33.7 | 304 46.4 | 23 10.7 | 29 39.4 | -1 59.0 |
| | 11 | 45 19.7 | 29 54.0 | 4 56.8 | 266 18.2 | 17 33.3 | 319 48.2 | 23 10.7 | 44 41.6 | -1 58.9 |
| | 12 | 60 22.1 | 44 54.4 | 4 57.4 | 281 19.4 | 17 32.9 | 334 50.1 | 23 10.7 | 59 43.9 | -1 58.9 |
| | 13 | 75 24.6 | 59 54.7 | 4 58.1 | 296 20.6 | 17 32.5 | 349 52.0 | 23 10.8 | 74 46.2 | -1 58.8 |
| | 14 | 90 27.1 | 74 55.1 | 4 58.8 | 311 21.8 | 17 32.0 | 4 53.8 | 23 10.8 | 89 48.5 | -1 58.7 |
| | 15 | 105 29.5 | 89 55.4 | 4 59.4 | 326 23.0 | 17 31.6 | 19 55.7 | 23 10.8 | 104 50.8 | -1 58.6 |
| | 16 | 120 32.0 | 104 55.7 | 5 0.1 | 341 24.2 | 17 31.2 | 34 57.6 | 23 10.8 | 119 53.0 | -1 58.6 |
| | 17 | 135 34.5 | 119 56.1 | 5 0.7 | 356 25.4 | 17 30.8 | 49 59.5 | 23 10.8 | 134 55.3 | -1 58.5 |
| | 18 | 150 36.9 | 134 56.4 | 5 1.4 | 11 26.6 | 17 30.3 | 65 1.3 | 23 10.9 | 149 57.6 | -1 58.4 |
| | 19 | 165 39.4 | 149 56.7 | 5 2.1 | 26 27.8 | 17 29.9 | 80 3.2 | 23 10.9 | 164 59.9 | -1 58.4 |
| | 20 | 180 41.8 | 164 57.1 | 5 2.7 | 41 29.0 | 17 29.5 | 95 5.1 | 23 10.9 | 180 2.2 | -1 58.3 |
| | 21 | 195 44.3 | 179 57.4 | 5 3.4 | 56 30.2 | 17 29.0 | 110 6.9 | 23 10.9 | 195 4.4 | -1 58.2 |
| | 22 | 210 46.8 | 194 57.7 | 5 4.0 | 71 31.4 | 17 28.6 | 125 8.8 | 23 11.0 | 210 6.7 | -1 58.2 |
| | 23 | 225 49.2 | 209 58.1 | 5 4.7 | 86 32.6 | 17 28.2 | 140 10.7 | 23 11.0 | 225 9.0 | -1 58.1 |
| | | MP 08:00 | *v* 0.3 | *d* 0.7 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Friday | 0 | 240 51.7 | 224 58.4 | 5 5.4 | 101 33.7 | 17 27.8 | 155 12.5 | 23 11.0 | 240 11.3 | -1 58.0 |
| | 1 | 255 54.2 | 239 58.7 | 5 6.0 | 116 34.9 | 17 27.3 | 170 14.4 | 23 11.0 | 255 13.6 | -1 58.0 |
| | 2 | 270 56.6 | 254 59.0 | 5 6.7 | 131 36.1 | 17 26.9 | 185 16.3 | 23 11.0 | 270 15.9 | -1 57.9 |
| | 3 | 285 59.1 | 269 59.4 | 5 7.4 | 146 37.3 | 17 26.5 | 200 18.1 | 23 11.1 | 285 18.1 | -1 57.8 |
| | 4 | 301 1.6 | 284 59.7 | 5 8.0 | 161 38.5 | 17 26.1 | 215 20.0 | 23 11.1 | 300 20.4 | -1 57.7 |
| | 5 | 316 4.0 | 300 0.0 | 5 8.7 | 176 39.7 | 17 25.6 | 230 21.9 | 23 11.1 | 315 22.7 | -1 57.7 |
| | 6 | 331 6.5 | 315 0.3 | 5 9.4 | 191 40.9 | 17 25.2 | 245 23.7 | 23 11.1 | 330 25.0 | -1 57.6 |
| | 7 | 346 8.9 | 330 0.7 | 5 10.0 | 206 42.1 | 17 24.8 | 260 25.6 | 23 11.1 | 345 27.3 | -1 57.5 |
| | 8 | 1 11.4 | 345 1.0 | 5 10.7 | 221 43.3 | 17 24.3 | 275 27.5 | 23 11.2 | 0 29.5 | -1 57.5 |
| | 9 | 16 13.9 | 0 1.3 | 5 11.4 | 236 44.5 | 17 23.9 | 290 29.3 | 23 11.2 | 15 31.8 | -1 57.4 |
| | 10 | 31 16.3 | 15 1.6 | 5 12.0 | 251 45.7 | 17 23.5 | 305 31.2 | 23 11.2 | 30 34.1 | -1 57.3 |
| | 11 | 46 18.8 | 30 1.9 | 5 12.7 | 266 46.8 | 17 23.0 | 320 33.1 | 23 11.2 | 45 36.4 | -1 57.3 |
| | 12 | 61 21.3 | 45 2.3 | 5 13.4 | 281 48.0 | 17 22.6 | 335 35.0 | 23 11.2 | 60 38.7 | -1 57.2 |
| | 13 | 76 23.7 | 60 2.6 | 5 14.0 | 296 49.2 | 17 22.2 | 350 36.8 | 23 11.3 | 75 41.0 | -1 57.1 |
| | 14 | 91 26.2 | 75 2.9 | 5 14.7 | 311 50.4 | 17 21.8 | 5 38.7 | 23 11.3 | 90 43.2 | -1 57.1 |
| | 15 | 106 28.7 | 90 3.2 | 5 15.4 | 326 51.6 | 17 21.3 | 20 40.6 | 23 11.3 | 105 45.5 | -1 57.0 |
| | 16 | 121 31.1 | 105 3.5 | 5 16.1 | 341 52.8 | 17 20.9 | 35 42.4 | 23 11.3 | 120 47.8 | -1 56.9 |
| | 17 | 136 33.6 | 120 3.8 | 5 16.7 | 356 54.0 | 17 20.5 | 50 44.3 | 23 11.3 | 135 50.1 | -1 56.9 |
| | 18 | 151 36.1 | 135 4.1 | 5 17.4 | 11 55.2 | 17 20.0 | 65 46.2 | 23 11.4 | 150 52.4 | -1 56.8 |
| | 19 | 166 38.5 | 150 4.5 | 5 18.1 | 26 56.4 | 17 19.6 | 80 48.0 | 23 11.4 | 165 54.7 | -1 56.7 |
| | 20 | 181 41.0 | 165 4.8 | 5 18.7 | 41 57.5 | 17 19.2 | 95 49.9 | 23 11.4 | 180 56.9 | -1 56.7 |
| | 21 | 196 43.4 | 180 5.1 | 5 19.4 | 56 58.7 | 17 18.7 | 110 51.8 | 23 11.4 | 195 59.2 | -1 56.6 |
| | 22 | 211 45.9 | 195 5.4 | 5 20.1 | 71 59.9 | 17 18.3 | 125 53.6 | 23 11.5 | 211 1.5 | -1 56.5 |
| | 23 | 226 48.4 | 210 5.7 | 5 20.8 | 87 1.1 | 17 17.9 | 140 55.5 | 23 11.5 | 226 3.8 | -1 56.4 |
| | | MP 07:57 | *v* 0.3 | *d* 0.7 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 Saturday | 0 | 241 50.8 | 225 6.0 | 5 21.4 | 102 2.3 | 17 17.4 | 155 57.4 | 23 11.5 | 241 6.1 | -1 56.4 |
| | 1 | 256 53.3 | 240 6.3 | 5 22.1 | 117 3.5 | 17 17.0 | 170 59.2 | 23 11.5 | 256 8.4 | -1 56.3 |
| | 2 | 271 55.8 | 255 6.6 | 5 22.8 | 132 4.7 | 17 16.6 | 186 1.1 | 23 11.5 | 271 10.7 | -1 56.2 |
| | 3 | 286 58.2 | 270 6.9 | 5 23.5 | 147 5.9 | 17 16.1 | 201 3.0 | 23 11.6 | 286 12.9 | -1 56.2 |
| | 4 | 302 0.7 | 285 7.2 | 5 24.2 | 162 7.1 | 17 15.7 | 216 4.8 | 23 11.6 | 301 15.2 | -1 56.1 |
| | 5 | 317 3.2 | 300 7.5 | 5 24.8 | 177 8.2 | 17 15.3 | 231 6.7 | 23 11.6 | 316 17.5 | -1 56.0 |
| | 6 | 332 5.6 | 315 7.8 | 5 25.5 | 192 9.4 | 17 14.8 | 246 8.6 | 23 11.6 | 331 19.8 | -1 56.0 |
| | 7 | 347 8.1 | 330 8.1 | 5 26.2 | 207 10.6 | 17 14.4 | 261 10.4 | 23 11.6 | 346 22.1 | -1 55.9 |
| | 8 | 2 10.5 | 345 8.4 | 5 26.9 | 222 11.8 | 17 14.0 | 276 12.3 | 23 11.7 | 1 24.4 | -1 55.8 |
| | 9 | 17 13.0 | 0 8.7 | 5 27.6 | 237 13.0 | 17 13.5 | 291 14.2 | 23 11.7 | 16 26.6 | -1 55.8 |
| | 10 | 32 15.5 | 15 9.0 | 5 28.2 | 252 14.2 | 17 13.1 | 306 16.0 | 23 11.7 | 31 28.9 | -1 55.7 |
| | 11 | 47 17.9 | 30 9.3 | 5 28.9 | 267 15.4 | 17 12.7 | 321 17.9 | 23 11.7 | 46 31.2 | -1 55.6 |
| | 12 | 62 20.4 | 45 9.6 | 5 29.6 | 282 16.6 | 17 12.2 | 336 19.8 | 23 11.7 | 61 33.5 | -1 55.6 |
| | 13 | 77 22.9 | 60 9.9 | 5 30.3 | 297 17.7 | 17 11.8 | 351 21.6 | 23 11.7 | 76 35.8 | -1 55.5 |
| | 14 | 92 25.3 | 75 10.2 | 5 31.0 | 312 18.9 | 17 11.4 | 6 23.5 | 23 11.8 | 91 38.1 | -1 55.4 |
| | 15 | 107 27.8 | 90 10.5 | 5 31.6 | 327 20.1 | 17 10.9 | 21 25.4 | 23 11.8 | 106 40.4 | -1 55.4 |
| | 16 | 122 30.3 | 105 10.8 | 5 32.3 | 342 21.3 | 17 10.5 | 36 27.2 | 23 11.8 | 121 42.6 | -1 55.3 |
| | 17 | 137 32.7 | 120 11.1 | 5 33.0 | 357 22.5 | 17 10.1 | 51 29.1 | 23 11.8 | 136 44.9 | -1 55.2 |
| | 18 | 152 35.2 | 135 11.4 | 5 33.7 | 12 23.7 | 17 9.6 | 66 30.9 | 23 11.8 | 151 47.2 | -1 55.2 |
| | 19 | 167 37.7 | 150 11.7 | 5 34.4 | 27 24.9 | 17 9.2 | 81 32.8 | 23 11.9 | 166 49.5 | -1 55.1 |
| | 20 | 182 40.1 | 165 12.0 | 5 35.1 | 42 26.0 | 17 8.8 | 96 34.7 | 23 11.9 | 181 51.8 | -1 55.0 |
| | 21 | 197 42.6 | 180 12.3 | 5 35.8 | 57 27.2 | 17 8.3 | 111 36.5 | 23 11.9 | 196 54.1 | -1 55.0 |
| | 22 | 212 45.0 | 195 12.6 | 5 36.4 | 72 28.4 | 17 7.9 | 126 38.4 | 23 11.9 | 211 56.4 | -1 54.9 |
| | 23 | 227 47.5 | 210 12.9 | 5 37.1 | 87 29.6 | 17 7.5 | 141 40.3 | 23 11.9 | 226 58.7 | -1 54.8 |
| | | MP 07:53 | *v* 0.3 | *d* 0.7 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.1 |
| Achernar | 335 20.4 | -57 6.3 |
| Acrux | 172 59.4 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.5 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.5 |
| Alkaid | 152 51.3 | 49 11.3 |
| Alnair | 27 32.5 | -46 50.1 |
| Alnilam | 275 37.8 | -1 11.2 |
| Alphard | 217 47.5 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.7 |
| Alpheratz | 357 34.7 | 29 13.6 |
| Altair | 61 59.5 | 8 56.0 |
| Ankaa | 353 7.1 | -42 9.9 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.3 | 19 3.0 |
| Atria | 107 8.5 | -69 4.3 |
| Avior | 234 14.9 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.7 | -52 42.7 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.0 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.2 | -17 50.8 |
| Dubhe | 193 40.5 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.6 | 51 28.9 |
| Enif | 33 38.5 | 9 59.3 |
| Fomalhaut | 15 14.3 | -29 29.2 |
| Gacrux | 171 51.0 | -57 15.6 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.9 |
| Hamal | 327 51.2 | 23 34.8 |
| Kaus Aust. | 83 31.8 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.1 |
| Markab | 13 29.7 | 15 20.4 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.9 |
| Miaplacidus | 221 38.5 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 58.0 | 12 32.4 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.6 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 31.1 | 56 40.3 |
| Shaula | 96 9.6 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.8 |
| Suhail | 222 46.2 | -43 32.3 |
| Vega | 80 32.7 | 38 48.2 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 22 Thu | SHA | MP |
|---|---|---|
| Venus | 344 57.7 | 09:00 |
| Mars | 221 12.5 | 17:14 |
| Jupiter | 274 35.1 | 13:40 |
| Saturn | 359 24.0 | 08:02 |

| 23 Fri | SHA | MP |
|---|---|---|
| Venus | 344 6.7 | 09:00 |
| Mars | 220 42.0 | 17:12 |
| Jupiter | 274 20.8 | 13:37 |
| Saturn | 359 19.6 | 07:58 |

| 24 Sat | SHA | MP |
|---|---|---|
| Venus | 343 15.2 | 08:59 |
| Mars | 220 11.5 | 17:10 |
| Jupiter | 274 6.5 | 13:34 |
| Saturn | 359 15.2 | 07:54 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **22 Thursday** | 0 | 180 50.5 | 20 23.5 | 248 36.3 | 12.4 | -4 13.3 | -16.6 | 59.1 |
| | 1 | 195 50.4 | 20 24.0 | 263 7.7 | 12.4 | -3 56.6 | -16.7 | 59.1 |
| | 2 | 210 50.4 | 20 24.5 | 277 39.0 | 12.4 | -3 40.0 | -16.7 | 59.1 |
| | 3 | 225 50.3 | 20 25.0 | 292 10.4 | 12.3 | -3 23.2 | -16.8 | 59.2 |
| | 4 | 240 50.3 | 20 25.5 | 306 41.7 | 12.3 | -3 6.5 | -16.8 | 59.2 |
| | 5 | 255 50.2 | 20 26.0 | 321 13.1 | 12.3 | -2 49.7 | -16.8 | 59.2 |
| | 6 | 270 50.2 | 20 26.5 | 335 44.4 | 12.3 | -2 32.9 | -16.9 | 59.3 |
| | 7 | 285 50.1 | 20 27.0 | 350 15.6 | 12.3 | -2 16.0 | -16.9 | 59.3 |
| | 8 | 300 50.1 | 20 27.5 | 4 46.9 | 12.2 | -1 59.1 | -16.9 | 59.3 |
| | 9 | 315 50.0 | 20 28.0 | 19 18.1 | 12.2 | -1 42.2 | -16.9 | 59.4 |
| | 10 | 330 50.0 | 20 28.4 | 33 49.3 | 12.2 | -1 25.3 | -17.0 | 59.4 |
| | 11 | 345 49.9 | 20 28.9 | 48 20.5 | 12.1 | -1 8.3 | -17.0 | 59.4 |
| | 12 | 0 49.9 | 20 29.4 | 62 51.7 | 12.1 | -0 51.3 | -17.0 | 59.5 |
| | 13 | 15 49.8 | 20 29.9 | 77 22.8 | 12.1 | -0 34.3 | -17.0 | 59.5 |
| | 14 | 30 49.8 | 20 30.4 | 91 53.9 | 12.1 | -0 17.3 | -17.1 | 59.5 |
| | 15 | 45 49.7 | 20 30.9 | 106 24.9 | 12.0 | -0 0.3 | 17.1 | 59.6 |
| | 16 | 60 49.7 | 20 31.3 | 120 55.9 | 12.0 | 0 16.8 | 17.1 | 59.6 |
| | 17 | 75 49.6 | 20 31.8 | 135 26.9 | 11.9 | 0 33.9 | 17.1 | 59.6 |
| | 18 | 90 49.6 | 20 32.3 | 149 57.8 | 11.9 | 0 51.0 | 17.1 | 59.7 |
| | 19 | 105 49.5 | 20 32.8 | 164 28.7 | 11.9 | 1 8.1 | 17.1 | 59.7 |
| | 20 | 120 49.5 | 20 33.3 | 178 59.6 | 11.8 | 1 25.3 | 17.1 | 59.7 |
| | 21 | 135 49.4 | 20 33.7 | 193 30.4 | 11.8 | 1 42.4 | 17.2 | 59.7 |
| | 22 | 150 49.4 | 20 34.2 | 208 1.2 | 11.7 | 1 59.6 | 17.2 | 59.8 |
| | 23 | 165 49.3 | 20 34.7 | 222 31.9 | 11.7 | 2 16.7 | 17.2 | 59.8 |
| | | *v* 0.0 | SD 15.8 | *d* 0.5 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Friday** | 0 | 180 49.3 | 20 35.2 | 237 2.6 | 11.6 | 2 33.9 | 17.2 | 59.8 |
| | 1 | 195 49.2 | 20 35.7 | 251 33.3 | 11.6 | 2 51.1 | 17.2 | 59.9 |
| | 2 | 210 49.2 | 20 36.1 | 266 3.9 | 11.5 | 3 8.2 | 17.2 | 59.9 |
| | 3 | 225 49.1 | 20 36.6 | 280 34.4 | 11.5 | 3 25.4 | 17.2 | 59.9 |
| | 4 | 240 49.0 | 20 37.1 | 295 4.9 | 11.4 | 3 42.6 | 17.2 | 60.0 |
| | 5 | 255 49.0 | 20 37.6 | 309 35.3 | 11.4 | 3 59.8 | 17.2 | 60.0 |
| | 6 | 270 48.9 | 20 38.0 | 324 5.7 | 11.3 | 4 16.9 | 17.2 | 60.0 |
| | 7 | 285 48.9 | 20 38.5 | 338 36.0 | 11.3 | 4 34.1 | 17.2 | 60.0 |
| | 8 | 300 48.8 | 20 39.0 | 353 6.3 | 11.2 | 4 51.2 | 17.1 | 60.1 |
| | 9 | 315 48.8 | 20 39.5 | 7 36.5 | 11.1 | 5 8.4 | 17.1 | 60.1 |
| | 10 | 330 48.7 | 20 39.9 | 22 6.6 | 11.1 | 5 25.5 | 17.1 | 60.1 |
| | 11 | 345 48.7 | 20 40.4 | 36 36.7 | 11.0 | 5 42.7 | 17.1 | 60.1 |
| | 12 | 0 48.6 | 20 40.9 | 51 6.7 | 11.0 | 5 59.8 | 17.1 | 60.2 |
| | 13 | 15 48.6 | 20 41.3 | 65 36.7 | 10.9 | 6 16.9 | 17.1 | 60.2 |
| | 14 | 30 48.5 | 20 41.8 | 80 6.5 | 10.8 | 6 33.9 | 17.1 | 60.2 |
| | 15 | 45 48.4 | 20 42.3 | 94 36.4 | 10.7 | 6 51.0 | 17.0 | 60.3 |
| | 16 | 60 48.4 | 20 42.7 | 109 6.1 | 10.7 | 7 8.0 | 17.0 | 60.3 |
| | 17 | 75 48.3 | 20 43.2 | 123 35.8 | 10.6 | 7 25.1 | 17.0 | 60.3 |
| | 18 | 90 48.3 | 20 43.7 | 138 5.4 | 10.5 | 7 42.1 | 17.0 | 60.3 |
| | 19 | 105 48.2 | 20 44.1 | 152 34.9 | 10.5 | 7 59.0 | 16.9 | 60.4 |
| | 20 | 120 48.2 | 20 44.6 | 167 4.4 | 10.4 | 8 15.9 | 16.9 | 60.4 |
| | 21 | 135 48.1 | 20 45.1 | 181 33.8 | 10.3 | 8 32.9 | 16.9 | 60.4 |
| | 22 | 150 48.0 | 20 45.5 | 196 3.1 | 10.2 | 8 49.7 | 16.8 | 60.4 |
| | 23 | 165 48.0 | 20 46.0 | 210 32.3 | 10.1 | 9 6.6 | 16.8 | 60.4 |
| | | *v* -0.1 | SD 15.8 | *d* 0.5 | | SD 16.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **24 Saturday** | 0 | 180 47.9 | 20 46.5 | 225 1.4 | 10.1 | 9 23.4 | 16.8 | 60.5 |
| | 1 | 195 47.9 | 20 46.9 | 239 30.5 | 10.0 | 9 40.1 | 16.7 | 60.5 |
| | 2 | 210 47.8 | 20 47.4 | 253 59.5 | 9.9 | 9 56.8 | 16.7 | 60.5 |
| | 3 | 225 47.7 | 20 47.9 | 268 28.4 | 9.8 | 10 13.5 | 16.6 | 60.5 |
| | 4 | 240 47.7 | 20 48.3 | 282 57.2 | 9.7 | 10 30.2 | 16.6 | 60.6 |
| | 5 | 255 47.6 | 20 48.8 | 297 25.9 | 9.6 | 10 46.7 | 16.5 | 60.6 |
| | 6 | 270 47.6 | 20 49.2 | 311 54.6 | 9.5 | 11 3.3 | 16.5 | 60.6 |
| | 7 | 285 47.5 | 20 49.7 | 326 23.1 | 9.5 | 11 19.8 | 16.4 | 60.6 |
| | 8 | 300 47.4 | 20 50.2 | 340 51.6 | 9.4 | 11 36.2 | 16.4 | 60.6 |
| | 9 | 315 47.4 | 20 50.6 | 355 19.9 | 9.3 | 11 52.6 | 16.3 | 60.7 |
| | 10 | 330 47.3 | 20 51.1 | 9 48.2 | 9.2 | 12 8.9 | 16.3 | 60.7 |
| | 11 | 345 47.3 | 20 51.5 | 24 16.4 | 9.1 | 12 25.2 | 16.2 | 60.7 |
| | 12 | 0 47.2 | 20 52.0 | 38 44.5 | 9.0 | 12 41.4 | 16.1 | 60.7 |
| | 13 | 15 47.1 | 20 52.4 | 53 12.5 | 8.9 | 12 57.5 | 16.1 | 60.7 |
| | 14 | 30 47.1 | 20 52.9 | 67 40.3 | 8.8 | 13 13.6 | 16.0 | 60.8 |
| | 15 | 45 47.0 | 20 53.3 | 82 8.1 | 8.7 | 13 29.6 | 15.9 | 60.8 |
| | 16 | 60 47.0 | 20 53.8 | 96 35.8 | 8.6 | 13 45.5 | 15.9 | 60.8 |
| | 17 | 75 46.9 | 20 54.2 | 111 3.4 | 8.5 | 14 1.4 | 15.8 | 60.8 |
| | 18 | 90 46.8 | 20 54.7 | 125 30.9 | 8.4 | 14 17.2 | 15.7 | 60.8 |
| | 19 | 105 46.8 | 20 55.2 | 139 58.3 | 8.3 | 14 32.9 | 15.6 | 60.8 |
| | 20 | 120 46.7 | 20 55.6 | 154 25.6 | 8.2 | 14 48.5 | 15.6 | 60.8 |
| | 21 | 135 46.6 | 20 56.1 | 168 52.8 | 8.1 | 15 4.1 | 15.5 | 60.9 |
| | 22 | 150 46.6 | 20 56.5 | 183 19.9 | 8.0 | 15 19.5 | 15.4 | 60.9 |
| | 23 | 165 46.5 | 20 57.0 | 197 46.8 | 7.9 | 15 34.9 | 15.3 | 60.9 |
| | | *v* -0.1 | SD 15.8 | *d* 0.5 | | SD 16.5 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | //// | //// | 01:00 | 23:01 | //// | //// |
| 66 | //// | //// | 01:53 | 22:04 | //// | //// |
| 64 | //// | //// | 02:25 | 21:31 | //// | //// |
| 62 | //// | 01:18 | 02:48 | 21:07 | 22:39 | //// |
| 60 | //// | 01:56 | 03:07 | 20:48 | 22:00 | //// |
| 58 | //// | 02:22 | 03:22 | 20:33 | 21:34 | //// |
| 56 | 01:11 | 02:42 | 03:35 | 20:20 | 21:13 | 22:47 |
| 54 | 01:45 | 02:58 | 03:46 | 20:08 | 20:56 | 22:10 |
| 52 | 02:10 | 03:12 | 03:56 | 19:58 | 20:42 | 21:46 |
| 50 | 02:28 | 03:24 | 04:05 | 19:49 | 20:30 | 21:26 |
| 45 | 03:03 | 03:49 | 04:24 | 19:30 | 20:05 | 20:51 |
| 40 | 03:29 | 04:08 | 04:39 | 19:15 | 19:46 | 20:25 |
| 35 | 03:48 | 04:23 | 04:52 | 19:02 | 19:31 | 20:06 |
| 30 | 04:04 | 04:36 | 05:03 | 18:51 | 19:18 | 19:50 |
| 20 | 04:29 | 04:58 | 05:22 | 18:32 | 18:56 | 19:24 |
| 10 | 04:49 | 05:15 | 05:38 | 18:15 | 18:38 | 19:04 |
| 0 | 05:05 | 05:31 | 05:53 | 18:00 | 18:22 | 18:48 |
| -10 | 05:20 | 05:46 | 06:08 | 17:45 | 18:08 | 18:33 |
| -20 | 05:34 | 06:01 | 06:24 | 17:29 | 17:53 | 18:20 |
| -30 | 05:47 | 06:17 | 06:42 | 17:11 | 17:37 | 18:06 |
| -35 | 05:54 | 06:25 | 06:53 | 17:00 | 17:28 | 17:59 |
| -40 | 06:02 | 06:35 | 07:05 | 16:48 | 17:18 | 17:51 |
| -45 | 06:10 | 06:46 | 07:19 | 16:34 | 17:07 | 17:43 |
| -50 | 06:19 | 07:00 | 07:36 | 16:17 | 16:53 | 17:33 |
| -52 | 06:23 | 07:06 | 07:44 | 16:09 | 16:47 | 17:29 |
| -54 | 06:28 | 07:12 | 07:53 | 16:00 | 16:41 | 17:25 |
| -56 | 06:33 | 07:19 | 08:03 | 15:49 | 16:33 | 17:20 |
| -58 | 06:38 | 07:28 | 08:15 | 15:38 | 16:25 | 17:15 |
| -60 | 06:43 | 07:37 | 08:29 | 15:24 | 16:16 | 17:09 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **22** | **23** | **24** | **22** | **23** | **24** |
| 72 | 02:16 | 01:39 | 00:58<br>23:53 | 13:46 | 16:13 | 19:10 |
| 70 | 02:11 | 01:43 | 01:12 | 13:46 | 16:02 | 18:37 |
| 68 | 02:07 | 01:46 | 01:24 | 13:47 | 15:53 | 18:13 |
| 66 | 02:04 | 01:49 | 01:33 | 13:47 | 15:46 | 17:55 |
| 64 | 02:01 | 01:51 | 01:42 | 13:48 | 15:40 | 17:40 |
| 62 | 01:58 | 01:53 | 01:49 | 13:48 | 15:35 | 17:28 |
| 60 | 01:56 | 01:55 | 01:55 | 13:48 | 15:30 | 17:18 |
| 58 | 01:54 | 01:57 | 02:00 | 13:49 | 15:26 | 17:09 |
| 56 | 01:52 | 01:58 | 02:05 | 13:49 | 15:23 | 17:01 |
| 54 | 01:51 | 02:00 | 02:09 | 13:49 | 15:20 | 16:55 |
| 52 | 01:49 | 02:01 | 02:13 | 13:49 | 15:17 | 16:48 |
| 50 | 01:48 | 02:02 | 02:17 | 13:49 | 15:14 | 16:43 |
| 45 | 01:45 | 02:04 | 02:25 | 13:50 | 15:09 | 16:31 |
| 40 | 01:42 | 02:06 | 02:32 | 13:50 | 15:04 | 16:21 |
| 35 | 01:40 | 02:08 | 02:37 | 13:50 | 15:00 | 16:13 |
| 30 | 01:38 | 02:09 | 02:43 | 13:51 | 14:57 | 16:06 |
| 20 | 01:35 | 02:12 | 02:52 | 13:51 | 14:51 | 15:53 |
| 10 | 01:32 | 02:15 | 02:59 | 13:51 | 14:45 | 15:42 |
| 0 | 01:29 | 02:17 | 03:07 | 13:52 | 14:40 | 15:32 |
| -10 | 01:26 | 02:19 | 03:15 | 13:52 | 14:35 | 15:22 |
| -20 | 01:23 | 02:22 | 03:23 | 13:52 | 14:30 | 15:11 |
| -30 | 01:20 | 02:25 | 03:32 | 13:52 | 14:24 | 14:59 |
| -35 | 01:18 | 02:27 | 03:38 | 13:52 | 14:21 | 14:52 |
| -40 | 01:16 | 02:29 | 03:44 | 13:52 | 14:17 | 14:44 |
| -45 | 01:13 | 02:31 | 03:51 | 13:53 | 14:12 | 14:34 |
| -50 | 01:10 | 02:34 | 04:00 | 13:53 | 14:07 | 14:23 |
| -52 | 01:09 | 02:35 | 04:04 | 13:53 | 14:05 | 14:18 |
| -54 | 01:07 | 02:36 | 04:09 | 13:53 | 14:02 | 14:13 |
| -56 | 01:05 | 02:38 | 04:14 | 13:53 | 13:59 | 14:06 |
| -58 | 01:03 | 02:40 | 04:20 | 13:53 | 13:56 | 14:00 |
| -60 | 01:01 | 02:42 | 04:26 | 13:53 | 13:52 | 13:52 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | MP | MP | | | |
| d | 00h | 12h | | Upper | Lower | Age | Ph |
| **22** | 03:22 | 03:20 | 11:57 | 07:40 | 20:04 | 24 | 34 |
| **23** | 03:17 | 03:14 | 11:57 | 08:29 | 20:54 | 25 | 23 |
| **24** | 03:12 | 03:09 | 11:57 | 09:19 | 21:46 | 26 | 14 |

## 2025 May 25, 26, 27 (Sun, Mon, Tue)

| d | h | Aries GHA | Venus -4.5 GHA | Venus -4.5 Dec | Mars 1.2 GHA | Mars 1.2 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Sunday | 0 | 242 50.0 | 225 13.2 | 5 37.8 | 102 30.8 | 17 7.0 | 156 42.1 | 23 12.0 | 242 0.9 | -1 54.8 |
| | 1 | 257 52.4 | 240 13.4 | 5 38.5 | 117 32.0 | 17 6.6 | 171 44.0 | 23 12.0 | 257 3.2 | -1 54.7 |
| | 2 | 272 54.9 | 255 13.7 | 5 39.2 | 132 33.2 | 17 6.1 | 186 45.9 | 23 12.0 | 272 5.5 | -1 54.6 |
| | 3 | 287 57.4 | 270 14.0 | 5 39.9 | 147 34.3 | 17 5.7 | 201 47.7 | 23 12.0 | 287 7.8 | -1 54.6 |
| | 4 | 302 59.8 | 285 14.3 | 5 40.6 | 162 35.5 | 17 5.3 | 216 49.6 | 23 12.0 | 302 10.1 | -1 54.5 |
| | 5 | 318 2.3 | 300 14.6 | 5 41.3 | 177 36.7 | 17 4.8 | 231 51.5 | 23 12.1 | 317 12.4 | -1 54.4 |
| | 6 | 333 4.8 | 315 14.9 | 5 41.9 | 192 37.9 | 17 4.4 | 246 53.3 | 23 12.1 | 332 14.7 | -1 54.4 |
| | 7 | 348 7.2 | 330 15.1 | 5 42.6 | 207 39.1 | 17 4.0 | 261 55.2 | 23 12.1 | 347 17.0 | -1 54.3 |
| | 8 | 3 9.7 | 345 15.4 | 5 43.3 | 222 40.3 | 17 3.5 | 276 57.1 | 23 12.1 | 2 19.2 | -1 54.2 |
| | 9 | 18 12.2 | 0 15.7 | 5 44.0 | 237 41.5 | 17 3.1 | 291 58.9 | 23 12.1 | 17 21.5 | -1 54.2 |
| | 10 | 33 14.6 | 15 16.0 | 5 44.7 | 252 42.6 | 17 2.6 | 307 0.8 | 23 12.2 | 32 23.8 | -1 54.1 |
| | 11 | 48 17.1 | 30 16.3 | 5 45.4 | 267 43.8 | 17 2.2 | 322 2.7 | 23 12.2 | 47 26.1 | -1 54.0 |
| | 12 | 63 19.5 | 45 16.5 | 5 46.1 | 282 45.0 | 17 1.8 | 337 4.5 | 23 12.2 | 62 28.4 | -1 54.0 |
| | 13 | 78 22.0 | 60 16.8 | 5 46.8 | 297 46.2 | 17 1.3 | 352 6.4 | 23 12.2 | 77 30.7 | -1 53.9 |
| | 14 | 93 24.5 | 75 17.1 | 5 47.5 | 312 47.4 | 17 0.9 | 7 8.2 | 23 12.2 | 92 33.0 | -1 53.8 |
| | 15 | 108 26.9 | 90 17.4 | 5 48.2 | 327 48.6 | 17 0.5 | 22 10.1 | 23 12.2 | 107 35.3 | -1 53.8 |
| | 16 | 123 29.4 | 105 17.7 | 5 48.9 | 342 49.7 | 17 0.0 | 37 12.0 | 23 12.3 | 122 37.6 | -1 53.7 |
| | 17 | 138 31.9 | 120 17.9 | 5 49.6 | 357 50.9 | 16 59.6 | 52 13.8 | 23 12.3 | 137 39.8 | -1 53.6 |
| | 18 | 153 34.3 | 135 18.2 | 5 50.3 | 12 52.1 | 16 59.1 | 67 15.7 | 23 12.3 | 152 42.1 | -1 53.6 |
| | 19 | 168 36.8 | 150 18.5 | 5 51.0 | 27 53.3 | 16 58.7 | 82 17.6 | 23 12.3 | 167 44.4 | -1 53.5 |
| | 20 | 183 39.3 | 165 18.7 | 5 51.7 | 42 54.5 | 16 58.3 | 97 19.4 | 23 12.3 | 182 46.7 | -1 53.4 |
| | 21 | 198 41.7 | 180 19.0 | 5 52.4 | 57 55.7 | 16 57.8 | 112 21.3 | 23 12.4 | 197 49.0 | -1 53.4 |
| | 22 | 213 44.2 | 195 19.3 | 5 53.1 | 72 56.8 | 16 57.4 | 127 23.2 | 23 12.4 | 212 51.3 | -1 53.3 |
| | 23 | 228 46.7 | 210 19.6 | 5 53.8 | 87 58.0 | 16 56.9 | 142 25.0 | 23 12.4 | 227 53.6 | -1 53.2 |
| | | MP 07:49 | *v* 0.3 | *d* 0.7 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 Monday | 0 | 243 49.1 | 225 19.8 | 5 54.5 | 102 59.2 | 16 56.5 | 157 26.9 | 23 12.4 | 242 55.9 | -1 53.2 |
| | 1 | 258 51.6 | 240 20.1 | 5 55.2 | 118 0.4 | 16 56.1 | 172 28.7 | 23 12.4 | 257 58.2 | -1 53.1 |
| | 2 | 273 54.0 | 255 20.4 | 5 55.9 | 133 1.6 | 16 55.6 | 187 30.6 | 23 12.5 | 273 0.4 | -1 53.1 |
| | 3 | 288 56.5 | 270 20.6 | 5 56.6 | 148 2.7 | 16 55.2 | 202 32.5 | 23 12.5 | 288 2.7 | -1 53.0 |
| | 4 | 303 59.0 | 285 20.9 | 5 57.3 | 163 3.9 | 16 54.7 | 217 34.3 | 23 12.5 | 303 5.0 | -1 52.9 |
| | 5 | 319 1.4 | 300 21.2 | 5 58.0 | 178 5.1 | 16 54.3 | 232 36.2 | 23 12.5 | 318 7.3 | -1 52.9 |
| | 6 | 334 3.9 | 315 21.4 | 5 58.7 | 193 6.3 | 16 53.8 | 247 38.1 | 23 12.5 | 333 9.6 | -1 52.8 |
| | 7 | 349 6.4 | 330 21.7 | 5 59.4 | 208 7.5 | 16 53.4 | 262 39.9 | 23 12.5 | 348 11.9 | -1 52.7 |
| | 8 | 4 8.8 | 345 22.0 | 6 0.1 | 223 8.7 | 16 53.0 | 277 41.8 | 23 12.6 | 3 14.2 | -1 52.7 |
| | 9 | 19 11.3 | 0 22.2 | 6 0.8 | 238 9.8 | 16 52.5 | 292 43.7 | 23 12.6 | 18 16.5 | -1 52.6 |
| | 10 | 34 13.8 | 15 22.5 | 6 1.5 | 253 11.0 | 16 52.1 | 307 45.5 | 23 12.6 | 33 18.8 | -1 52.5 |
| | 11 | 49 16.2 | 30 22.7 | 6 2.2 | 268 12.2 | 16 51.6 | 322 47.4 | 23 12.6 | 48 21.1 | -1 52.5 |
| | 12 | 64 18.7 | 45 23.0 | 6 2.9 | 283 13.4 | 16 51.2 | 337 49.2 | 23 12.6 | 63 23.4 | -1 52.4 |
| | 13 | 79 21.1 | 60 23.3 | 6 3.6 | 298 14.6 | 16 50.7 | 352 51.1 | 23 12.7 | 78 25.6 | -1 52.3 |
| | 14 | 94 23.6 | 75 23.5 | 6 4.3 | 313 15.7 | 16 50.3 | 7 53.0 | 23 12.7 | 93 27.9 | -1 52.3 |
| | 15 | 109 26.1 | 90 23.8 | 6 5.0 | 328 16.9 | 16 49.9 | 22 54.8 | 23 12.7 | 108 30.2 | -1 52.2 |
| | 16 | 124 28.5 | 105 24.0 | 6 5.7 | 343 18.1 | 16 49.4 | 37 56.7 | 23 12.7 | 123 32.5 | -1 52.1 |
| | 17 | 139 31.0 | 120 24.3 | 6 6.4 | 358 19.3 | 16 49.0 | 52 58.6 | 23 12.7 | 138 34.8 | -1 52.1 |
| | 18 | 154 33.5 | 135 24.5 | 6 7.1 | 13 20.5 | 16 48.5 | 68 0.4 | 23 12.7 | 153 37.1 | -1 52.0 |
| | 19 | 169 35.9 | 150 24.8 | 6 7.8 | 28 21.6 | 16 48.1 | 83 2.3 | 23 12.8 | 168 39.4 | -1 52.0 |
| | 20 | 184 38.4 | 165 25.0 | 6 8.5 | 43 22.8 | 16 47.6 | 98 4.1 | 23 12.8 | 183 41.7 | -1 51.9 |
| | 21 | 199 40.9 | 180 25.3 | 6 9.2 | 58 24.0 | 16 47.2 | 113 6.0 | 23 12.8 | 198 44.0 | -1 51.8 |
| | 22 | 214 43.3 | 195 25.6 | 6 9.9 | 73 25.2 | 16 46.8 | 128 7.9 | 23 12.8 | 213 46.3 | -1 51.8 |
| | 23 | 229 45.8 | 210 25.8 | 6 10.6 | 88 26.4 | 16 46.3 | 143 9.7 | 23 12.8 | 228 48.6 | -1 51.7 |
| | | MP 07:45 | *v* 0.3 | *d* 0.7 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 Tuesday | 0 | 244 48.3 | 225 26.1 | 6 11.3 | 103 27.5 | 16 45.9 | 158 11.6 | 23 12.8 | 243 50.9 | -1 51.6 |
| | 1 | 259 50.7 | 240 26.3 | 6 12.1 | 118 28.7 | 16 45.4 | 173 13.4 | 23 12.9 | 258 53.2 | -1 51.6 |
| | 2 | 274 53.2 | 255 26.6 | 6 12.8 | 133 29.9 | 16 45.0 | 188 15.3 | 23 12.9 | 273 55.4 | -1 51.5 |
| | 3 | 289 55.6 | 270 26.8 | 6 13.5 | 148 31.1 | 16 44.5 | 203 17.2 | 23 12.9 | 288 57.7 | -1 51.4 |
| | 4 | 304 58.1 | 285 27.0 | 6 14.2 | 163 32.3 | 16 44.1 | 218 19.0 | 23 12.9 | 304 0.0 | -1 51.4 |
| | 5 | 320 0.6 | 300 27.3 | 6 14.9 | 178 33.4 | 16 43.6 | 233 20.9 | 23 12.9 | 319 2.3 | -1 51.3 |
| | 6 | 335 3.0 | 315 27.5 | 6 15.6 | 193 34.6 | 16 43.2 | 248 22.8 | 23 12.9 | 334 4.6 | -1 51.2 |
| | 7 | 350 5.5 | 330 27.8 | 6 16.3 | 208 35.8 | 16 42.7 | 263 24.6 | 23 13.0 | 349 6.9 | -1 51.2 |
| | 8 | 5 8.0 | 345 28.0 | 6 17.0 | 223 37.0 | 16 42.3 | 278 26.5 | 23 13.0 | 4 9.2 | -1 51.1 |
| | 9 | 20 10.4 | 0 28.3 | 6 17.7 | 238 38.2 | 16 41.9 | 293 28.3 | 23 13.0 | 19 11.5 | -1 51.1 |
| | 10 | 35 12.9 | 15 28.5 | 6 18.5 | 253 39.3 | 16 41.4 | 308 30.2 | 23 13.0 | 34 13.8 | -1 51.0 |
| | 11 | 50 15.4 | 30 28.8 | 6 19.2 | 268 40.5 | 16 41.0 | 323 32.1 | 23 13.0 | 49 16.1 | -1 50.9 |
| | 12 | 65 17.8 | 45 29.0 | 6 19.9 | 283 41.7 | 16 40.5 | 338 33.9 | 23 13.1 | 64 18.4 | -1 50.9 |
| | 13 | 80 20.3 | 60 29.2 | 6 20.6 | 298 42.9 | 16 40.1 | 353 35.8 | 23 13.1 | 79 20.7 | -1 50.8 |
| | 14 | 95 22.8 | 75 29.5 | 6 21.3 | 313 44.0 | 16 39.6 | 8 37.6 | 23 13.1 | 94 23.0 | -1 50.7 |
| | 15 | 110 25.2 | 90 29.7 | 6 22.0 | 328 45.2 | 16 39.2 | 23 39.5 | 23 13.1 | 109 25.3 | -1 50.7 |
| | 16 | 125 27.7 | 105 30.0 | 6 22.7 | 343 46.4 | 16 38.7 | 38 41.4 | 23 13.1 | 124 27.6 | -1 50.6 |
| | 17 | 140 30.1 | 120 30.2 | 6 23.5 | 358 47.6 | 16 38.3 | 53 43.2 | 23 13.1 | 139 29.9 | -1 50.6 |
| | 18 | 155 32.6 | 135 30.4 | 6 24.2 | 13 48.8 | 16 37.8 | 68 45.1 | 23 13.2 | 154 32.2 | -1 50.5 |
| | 19 | 170 35.1 | 150 30.7 | 6 24.9 | 28 49.9 | 16 37.4 | 83 47.0 | 23 13.2 | 169 34.5 | -1 50.4 |
| | 20 | 185 37.5 | 165 30.9 | 6 25.6 | 43 51.1 | 16 36.9 | 98 48.8 | 23 13.2 | 184 36.7 | -1 50.4 |
| | 21 | 200 40.0 | 180 31.1 | 6 26.3 | 58 52.3 | 16 36.5 | 113 50.7 | 23 13.2 | 199 39.0 | -1 50.3 |
| | 22 | 215 42.5 | 195 31.4 | 6 27.0 | 73 53.5 | 16 36.0 | 128 52.5 | 23 13.2 | 214 41.3 | -1 50.2 |
| | 23 | 230 44.9 | 210 31.6 | 6 27.8 | 88 54.6 | 16 35.6 | 143 54.4 | 23 13.2 | 229 43.6 | -1 50.2 |
| | | MP 07:41 | *v* 0.2 | *d* 0.7 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 12.0 | -40 12.1 |
| Achernar | 335 20.4 | -57 6.3 |
| Acrux | 172 59.4 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.5 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.5 |
| Alkaid | 152 51.4 | 49 11.3 |
| Alnair | 27 32.5 | -46 50.1 |
| Alnilam | 275 37.8 | -1 11.2 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.7 |
| Alpheratz | 357 34.7 | 29 13.6 |
| Altair | 61 59.5 | 8 56.0 |
| Ankaa | 353 7.1 | -42 9.9 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.3 | 19 3.0 |
| Atria | 107 8.5 | -69 4.3 |
| Avior | 234 15.0 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.7 | -52 42.7 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.0 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.2 | -17 50.8 |
| Dubhe | 193 40.5 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.6 | 51 28.9 |
| Enif | 33 38.5 | 9 59.4 |
| Fomalhaut | 15 14.2 | -29 29.2 |
| Gacrux | 171 51.0 | -57 15.6 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.9 |
| Hamal | 327 51.2 | 23 34.8 |
| Kaus Aust. | 83 31.8 | -34 22.3 |
| Kochab | 137 18.6 | 74 3.1 |
| Markab | 13 29.7 | 15 20.4 |
| Menkar | 314 6.2 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.9 |
| Miaplacidus | 221 38.6 | -69 49.5 |
| Mirfak | 308 28.4 | 49 57.0 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 58.0 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.6 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 31.1 | 56 40.3 |
| Shaula | 96 9.6 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.3 |
| Vega | 80 32.7 | 38 48.2 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 25 Sun | SHA | MP |
|---|---|---|
| Venus | 342 23.2 | 08:59 |
| Mars | 219 40.8 | 17:09 |
| Jupiter | 273 52.2 | 13:32 |
| Saturn | 359 11.0 | 07:51 |

| 26 Mon | SHA | MP |
|---|---|---|
| Venus | 341 30.7 | 08:59 |
| Mars | 219 10.1 | 17:07 |
| Jupiter | 273 37.8 | 13:29 |
| Saturn | 359 6.8 | 07:47 |

| 27 Tue | SHA | MP |
|---|---|---|
| Venus | 340 37.8 | 08:58 |
| Mars | 218 39.3 | 17:05 |
| Jupiter | 273 23.3 | 13:26 |
| Saturn | 359 2.6 | 07:43 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **25 Sunday** | 0 | 180 46.5 | 20 57.4 | 212 13.7 | 7.8 | 15 50.2 | 15.2 | 60.9 |
| | 1 | 195 46.4 | 20 57.8 | 226 40.5 | 7.7 | 16 5.4 | 15.1 | 60.9 |
| | 2 | 210 46.3 | 20 58.3 | 241 7.1 | 7.5 | 16 20.5 | 15.0 | 60.9 |
| | 3 | 225 46.3 | 20 58.7 | 255 33.7 | 7.4 | 16 35.6 | 14.9 | 60.9 |
| | 4 | 240 46.2 | 20 59.2 | 270 0.1 | 7.3 | 16 50.5 | 14.8 | 61.0 |
| | 5 | 255 46.1 | 20 59.6 | 284 26.4 | 7.2 | 17 5.3 | 14.7 | 61.0 |
| | 6 | 270 46.1 | 21 0.1 | 298 52.6 | 7.1 | 17 20.0 | 14.6 | 61.0 |
| | 7 | 285 46.0 | 21 0.5 | 313 18.7 | 7.0 | 17 34.6 | 14.5 | 61.0 |
| | 8 | 300 45.9 | 21 1.0 | 327 44.7 | 6.9 | 17 49.2 | 14.4 | 61.0 |
| | 9 | 315 45.9 | 21 1.4 | 342 10.6 | 6.8 | 18 3.6 | 14.3 | 61.0 |
| | 10 | 330 45.8 | 21 1.8 | 356 36.4 | 6.7 | 18 17.9 | 14.2 | 61.0 |
| | 11 | 345 45.7 | 21 2.3 | 11 2.0 | 6.5 | 18 32.0 | 14.1 | 61.0 |
| | 12 | 0 45.7 | 21 2.7 | 25 27.6 | 6.4 | 18 46.1 | 13.9 | 61.0 |
| | 13 | 15 45.6 | 21 3.2 | 39 53.0 | 6.3 | 19 0.0 | 13.8 | 61.0 |
| | 14 | 30 45.5 | 21 3.6 | 54 18.3 | 6.2 | 19 13.9 | 13.7 | 61.0 |
| | 15 | 45 45.5 | 21 4.0 | 68 43.5 | 6.1 | 19 27.6 | 13.6 | 61.0 |
| | 16 | 60 45.4 | 21 4.5 | 83 8.6 | 6.0 | 19 41.2 | 13.5 | 61.0 |
| | 17 | 75 45.3 | 21 4.9 | 97 33.6 | 5.9 | 19 54.6 | 13.3 | 61.1 |
| | 18 | 90 45.3 | 21 5.4 | 111 58.5 | 5.8 | 20 7.9 | 13.2 | 61.1 |
| | 19 | 105 45.2 | 21 5.8 | 126 23.2 | 5.6 | 20 21.1 | 13.1 | 61.1 |
| | 20 | 120 45.1 | 21 6.2 | 140 47.9 | 5.5 | 20 34.2 | 12.9 | 61.1 |
| | 21 | 135 45.1 | 21 6.7 | 155 12.4 | 5.4 | 20 47.1 | 12.8 | 61.1 |
| | 22 | 150 45.0 | 21 7.1 | 169 36.8 | 5.3 | 20 59.9 | 12.6 | 61.1 |
| | 23 | 165 44.9 | 21 7.5 | 184 1.1 | 5.2 | 21 12.5 | 12.5 | 61.1 |
| | | *v* -0.1 | SD 15.8 *d* 0.4 | | SD 16.6 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **26 Monday** | 0 | 180 44.9 | 21 8.0 | 198 25.3 | 5.1 | 21 25.1 | 12.4 | 61.1 |
| | 1 | 195 44.8 | 21 8.4 | 212 49.4 | 5.0 | 21 37.4 | 12.2 | 61.1 |
| | 2 | 210 44.7 | 21 8.8 | 227 13.3 | 4.9 | 21 49.6 | 12.1 | 61.1 |
| | 3 | 225 44.6 | 21 9.3 | 241 37.2 | 4.7 | 22 1.7 | 11.9 | 61.1 |
| | 4 | 240 44.6 | 21 9.7 | 256 0.9 | 4.6 | 22 13.6 | 11.8 | 61.1 |
| | 5 | 255 44.5 | 21 10.1 | 270 24.6 | 4.5 | 22 25.3 | 11.6 | 61.1 |
| | 6 | 270 44.4 | 21 10.6 | 284 48.1 | 4.4 | 22 36.9 | 11.4 | 61.1 |
| | 7 | 285 44.4 | 21 11.0 | 299 11.5 | 4.3 | 22 48.4 | 11.3 | 61.1 |
| | 8 | 300 44.3 | 21 11.4 | 313 34.8 | 4.2 | 22 59.7 | 11.1 | 61.1 |
| | 9 | 315 44.2 | 21 11.8 | 327 58.1 | 4.1 | 23 10.8 | 11.0 | 61.1 |
| | 10 | 330 44.2 | 21 12.3 | 342 21.2 | 4.0 | 23 21.7 | 10.8 | 61.1 |
| | 11 | 345 44.1 | 21 12.7 | 356 44.2 | 3.9 | 23 32.5 | 10.6 | 61.0 |
| | 12 | 0 44.0 | 21 13.1 | 11 7.1 | 3.8 | 23 43.2 | 10.5 | 61.0 |
| | 13 | 15 43.9 | 21 13.5 | 25 29.9 | 3.7 | 23 53.6 | 10.3 | 61.0 |
| | 14 | 30 43.9 | 21 14.0 | 39 52.6 | 3.6 | 24 3.9 | 10.1 | 61.0 |
| | 15 | 45 43.8 | 21 14.4 | 54 15.2 | 3.5 | 24 14.0 | 9.9 | 61.0 |
| | 16 | 60 43.7 | 21 14.8 | 68 37.7 | 3.4 | 24 23.9 | 9.8 | 61.0 |
| | 17 | 75 43.7 | 21 15.2 | 83 0.1 | 3.3 | 24 33.7 | 9.6 | 61.0 |
| | 18 | 90 43.6 | 21 15.7 | 97 22.5 | 3.2 | 24 43.2 | 9.4 | 61.0 |
| | 19 | 105 43.5 | 21 16.1 | 111 44.7 | 3.1 | 24 52.6 | 9.2 | 61.0 |
| | 20 | 120 43.4 | 21 16.5 | 126 6.8 | 3.1 | 25 1.8 | 9.0 | 61.0 |
| | 21 | 135 43.4 | 21 16.9 | 140 28.9 | 3.0 | 25 10.9 | 8.8 | 61.0 |
| | 22 | 150 43.3 | 21 17.3 | 154 50.9 | 2.9 | 25 19.7 | 8.6 | 61.0 |
| | 23 | 165 43.2 | 21 17.8 | 169 12.7 | 2.8 | 25 28.4 | 8.5 | 60.9 |
| | | *v* -0.1 | SD 15.8 *d* 0.4 | | SD 16.7 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **27 Tuesday** | 0 | 180 43.1 | 21 18.2 | 183 34.5 | 2.7 | 25 36.8 | 8.3 | 60.9 |
| | 1 | 195 43.1 | 21 18.6 | 197 56.3 | 2.6 | 25 45.1 | 8.1 | 60.9 |
| | 2 | 210 43.0 | 21 19.0 | 212 17.9 | 2.6 | 25 53.1 | 7.9 | 60.9 |
| | 3 | 225 42.9 | 21 19.4 | 226 39.5 | 2.5 | 26 1.0 | 7.7 | 60.9 |
| | 4 | 240 42.8 | 21 19.8 | 241 1.0 | 2.4 | 26 8.7 | 7.5 | 60.9 |
| | 5 | 255 42.8 | 21 20.2 | 255 22.4 | 2.4 | 26 16.2 | 7.3 | 60.9 |
| | 6 | 270 42.7 | 21 20.7 | 269 43.8 | 2.3 | 26 23.5 | 7.1 | 60.9 |
| | 7 | 285 42.6 | 21 21.1 | 284 5.1 | 2.2 | 26 30.6 | 6.9 | 60.8 |
| | 8 | 300 42.5 | 21 21.5 | 298 26.3 | 2.2 | 26 37.5 | 6.7 | 60.8 |
| | 9 | 315 42.5 | 21 21.9 | 312 47.5 | 2.1 | 26 44.1 | 6.5 | 60.8 |
| | 10 | 330 42.4 | 21 22.3 | 327 8.6 | 2.1 | 26 50.6 | 6.3 | 60.8 |
| | 11 | 345 42.3 | 21 22.7 | 341 29.7 | 2.0 | 26 56.9 | 6.1 | 60.8 |
| | 12 | 0 42.2 | 21 23.1 | 355 50.7 | 2.0 | 27 3.0 | 5.9 | 60.8 |
| | 13 | 15 42.2 | 21 23.5 | 10 11.7 | 1.9 | 27 8.8 | 5.7 | 60.7 |
| | 14 | 30 42.1 | 21 24.0 | 24 32.6 | 1.9 | 27 14.5 | 5.4 | 60.7 |
| | 15 | 45 42.0 | 21 24.4 | 38 53.5 | 1.8 | 27 19.9 | 5.2 | 60.7 |
| | 16 | 60 41.9 | 21 24.8 | 53 14.3 | 1.8 | 27 25.2 | 5.0 | 60.7 |
| | 17 | 75 41.8 | 21 25.2 | 67 35.1 | 1.8 | 27 30.2 | 4.8 | 60.7 |
| | 18 | 90 41.8 | 21 25.6 | 81 55.9 | 1.7 | 27 35.0 | 4.6 | 60.6 |
| | 19 | 105 41.7 | 21 26.0 | 96 16.6 | 1.7 | 27 39.6 | 4.4 | 60.6 |
| | 20 | 120 41.6 | 21 26.4 | 110 37.3 | 1.7 | 27 44.0 | 4.2 | 60.6 |
| | 21 | 135 41.5 | 21 26.8 | 124 58.0 | 1.7 | 27 48.2 | 4.0 | 60.6 |
| | 22 | 150 41.5 | 21 27.2 | 139 18.7 | 1.6 | 27 52.1 | 3.8 | 60.6 |
| | 23 | 165 41.4 | 21 27.6 | 153 39.4 | 1.6 | 27 55.9 | 3.5 | 60.5 |
| | | *v* -0.1 | SD 15.8 *d* 0.4 | | SD 16.6 | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | //// | //// | 00:30 | 23:43 | //// | //// |
| 66 | //// | //// | 01:41 | 22:17 | //// | //// |
| 64 | //// | //// | 02:16 | 21:40 | //// | //// |
| 62 | //// | 01:03 | 02:41 | 21:15 | 22:56 | //// |
| 60 | //// | 01:47 | 03:01 | 20:55 | 22:10 | //// |
| 58 | //// | 02:15 | 03:17 | 20:38 | 21:41 | //// |
| 56 | 00:57 | 02:36 | 03:30 | 20:25 | 21:19 | 23:02 |
| 54 | 01:37 | 02:53 | 03:42 | 20:13 | 21:02 | 22:19 |
| 52 | 02:03 | 03:08 | 03:53 | 20:02 | 20:47 | 21:53 |
| 50 | 02:23 | 03:20 | 04:02 | 19:53 | 20:34 | 21:32 |
| 45 | 03:00 | 03:46 | 04:21 | 19:33 | 20:09 | 20:55 |
| 40 | 03:26 | 04:05 | 04:37 | 19:17 | 19:49 | 20:29 |
| 35 | 03:46 | 04:21 | 04:50 | 19:04 | 19:33 | 20:08 |
| 30 | 04:03 | 04:35 | 05:02 | 18:53 | 19:19 | 19:52 |
| 20 | 04:28 | 04:57 | 05:21 | 18:33 | 18:57 | 19:26 |
| 10 | 04:49 | 05:15 | 05:38 | 18:16 | 18:39 | 19:05 |
| 0 | 05:05 | 05:31 | 05:53 | 18:01 | 18:23 | 18:48 |
| -10 | 05:20 | 05:46 | 06:09 | 17:45 | 18:07 | 18:33 |
| -20 | 05:35 | 06:02 | 06:25 | 17:29 | 17:52 | 18:19 |
| -30 | 05:49 | 06:18 | 06:44 | 17:10 | 17:36 | 18:05 |
| -35 | 05:56 | 06:27 | 06:55 | 16:59 | 17:26 | 17:57 |
| -40 | 06:04 | 06:38 | 07:07 | 16:46 | 17:16 | 17:49 |
| -45 | 06:13 | 06:49 | 07:22 | 16:32 | 17:04 | 17:41 |
| -50 | 06:22 | 07:03 | 07:40 | 16:14 | 16:51 | 17:31 |
| -52 | 06:27 | 07:09 | 07:48 | 16:05 | 16:44 | 17:27 |
| -54 | 06:31 | 07:16 | 07:58 | 15:56 | 16:37 | 17:22 |
| -56 | 06:36 | 07:24 | 08:08 | 15:45 | 16:30 | 17:17 |
| -58 | 06:42 | 07:32 | 08:20 | 15:33 | 16:21 | 17:12 |
| -60 | 06:48 | 07:42 | 08:34 | 15:19 | 16:12 | 17:06 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **25** | **26** | **27** | **25** | **26** | **27** |
| 72 | | | | | | |
| 70 | 00:28 | | | –:– | | |
| 68 | 00:54<br>23:50 | | | 21:16 | | |
| 66 | 01:14 | 00:42 | | 20:26 | –:– | |
| 64 | 01:30 | 01:14 | 00:34 | 19:55 | 22:44 | –:– |
| 62 | 01:44 | 01:38 | 01:31 | 19:32 | 21:48 | –:– |
| 60 | 01:55 | 01:57 | 02:05 | 19:14 | 21:15 | 23:09 |
| 58 | 02:05 | 02:14 | 02:30 | 18:58 | 20:50 | 22:33 |
| 56 | 02:14 | 02:27 | 02:50 | 18:45 | 20:31 | 22:08 |
| 54 | 02:22 | 02:39 | 03:06 | 18:34 | 20:15 | 21:47 |
| 52 | 02:29 | 02:50 | 03:21 | 18:24 | 20:01 | 21:30 |
| 50 | 02:35 | 03:00 | 03:33 | 18:15 | 19:49 | 21:15 |
| 45 | 02:49 | 03:20 | 04:00 | 17:57 | 19:24 | 20:45 |
| 40 | 03:01 | 03:36 | 04:20 | 17:42 | 19:04 | 20:22 |
| 35 | 03:11 | 03:50 | 04:38 | 17:29 | 18:47 | 20:03 |
| 30 | 03:19 | 04:02 | 04:53 | 17:18 | 18:33 | 19:47 |
| 20 | 03:35 | 04:23 | 05:19 | 16:59 | 18:09 | 19:19 |
| 10 | 03:48 | 04:42 | 05:41 | 16:43 | 17:48 | 18:55 |
| 0 | 04:01 | 04:59 | 06:02 | 16:28 | 17:28 | 18:33 |
| -10 | 04:14 | 05:17 | 06:23 | 16:13 | 17:09 | 18:11 |
| -20 | 04:27 | 05:35 | 06:46 | 15:57 | 16:48 | 17:47 |
| -30 | 04:43 | 05:57 | 07:12 | 15:38 | 16:25 | 17:20 |
| -35 | 04:52 | 06:10 | 07:28 | 15:28 | 16:11 | 17:03 |
| -40 | 05:03 | 06:25 | 07:46 | 15:15 | 15:55 | 16:44 |
| -45 | 05:16 | 06:43 | 08:08 | 15:01 | 15:36 | 16:22 |
| -50 | 05:31 | 07:05 | 08:37 | 14:44 | 15:12 | 15:53 |
| -52 | 05:39 | 07:16 | 08:50 | 14:36 | 15:01 | 15:38 |
| -54 | 05:47 | 07:28 | 09:07 | 14:27 | 14:48 | 15:22 |
| -56 | 05:56 | 07:42 | 09:26 | 14:17 | 14:33 | 15:02 |
| -58 | 06:06 | 07:59 | 09:49 | 14:05 | 14:16 | 14:38 |
| -60 | 06:18 | 08:19 | 10:21 | 13:52 | 13:55 | 14:06 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **25** | 03:06 | 03:03 | 11:57 | 10:14 | 22:43 | 27 | 7 |
| **26** | 02:59 | 02:56 | 11:57 | 11:14 | 23:45 | 28 | 2 |
| **27** | 02:53 | 02:49 | 11:57 | 12:17 | –:– | 29 | 0 |

## 2025 May 28, 29, 30 (Wed, Thu, Fri)

| | | Aries | Venus -4.4 | | Mars 1.2 | | Jupiter -1.9 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 28 Wednesday | 0 | 245 47.4 | 225 31.8 | 6 28.5 | 103 55.8 | 16 35.1 | 158 56.3 | 23 13.3 | 244 45.9 | -1 50.1 |
| | 1 | 260 49.9 | 240 32.1 | 6 29.2 | 118 57.0 | 16 34.7 | 173 58.1 | 23 13.3 | 259 48.2 | -1 50.1 |
| | 2 | 275 52.3 | 255 32.3 | 6 29.9 | 133 58.2 | 16 34.2 | 189 0.0 | 23 13.3 | 274 50.5 | -1 50.0 |
| | 3 | 290 54.8 | 270 32.5 | 6 30.6 | 148 59.3 | 16 33.8 | 204 1.8 | 23 13.3 | 289 52.8 | -1 49.9 |
| | 4 | 305 57.3 | 285 32.8 | 6 31.3 | 164 0.5 | 16 33.3 | 219 3.7 | 23 13.3 | 304 55.1 | -1 49.9 |
| | 5 | 320 59.7 | 300 33.0 | 6 32.1 | 179 1.7 | 16 32.9 | 234 5.6 | 23 13.3 | 319 57.4 | -1 49.8 |
| | 6 | 336 2.2 | 315 33.2 | 6 32.8 | 194 2.9 | 16 32.4 | 249 7.4 | 23 13.4 | 334 59.7 | -1 49.7 |
| | 7 | 351 4.6 | 330 33.4 | 6 33.5 | 209 4.0 | 16 32.0 | 264 9.3 | 23 13.4 | 350 2.0 | -1 49.7 |
| | 8 | 6 7.1 | 345 33.7 | 6 34.2 | 224 5.2 | 16 31.5 | 279 11.1 | 23 13.4 | 5 4.3 | -1 49.6 |
| | 9 | 21 9.6 | 0 33.9 | 6 35.0 | 239 6.4 | 16 31.1 | 294 13.0 | 23 13.4 | 20 6.6 | -1 49.6 |
| | 10 | 36 12.0 | 15 34.1 | 6 35.7 | 254 7.6 | 16 30.6 | 309 14.9 | 23 13.4 | 35 8.9 | -1 49.5 |
| | 11 | 51 14.5 | 30 34.3 | 6 36.4 | 269 8.7 | 16 30.2 | 324 16.7 | 23 13.4 | 50 11.2 | -1 49.4 |
| | 12 | 66 17.0 | 45 34.6 | 6 37.1 | 284 9.9 | 16 29.7 | 339 18.6 | 23 13.4 | 65 13.5 | -1 49.4 |
| | 13 | 81 19.4 | 60 34.8 | 6 37.8 | 299 11.1 | 16 29.3 | 354 20.4 | 23 13.5 | 80 15.8 | -1 49.3 |
| | 14 | 96 21.9 | 75 35.0 | 6 38.6 | 314 12.3 | 16 28.8 | 9 22.3 | 23 13.5 | 95 18.1 | -1 49.2 |
| | 15 | 111 24.4 | 90 35.2 | 6 39.3 | 329 13.4 | 16 28.4 | 24 24.2 | 23 13.5 | 110 20.4 | -1 49.2 |
| | 16 | 126 26.8 | 105 35.4 | 6 40.0 | 344 14.6 | 16 27.9 | 39 26.0 | 23 13.5 | 125 22.7 | -1 49.1 |
| | 17 | 141 29.3 | 120 35.7 | 6 40.7 | 359 15.8 | 16 27.5 | 54 27.9 | 23 13.5 | 140 25.0 | -1 49.1 |
| | 18 | 156 31.8 | 135 35.9 | 6 41.5 | 14 17.0 | 16 27.0 | 69 29.7 | 23 13.5 | 155 27.3 | -1 49.0 |
| | 19 | 171 34.2 | 150 36.1 | 6 42.2 | 29 18.1 | 16 26.6 | 84 31.6 | 23 13.6 | 170 29.6 | -1 48.9 |
| | 20 | 186 36.7 | 165 36.3 | 6 42.9 | 44 19.3 | 16 26.1 | 99 33.5 | 23 13.6 | 185 31.9 | -1 48.9 |
| | 21 | 201 39.1 | 180 36.5 | 6 43.6 | 59 20.5 | 16 25.7 | 114 35.3 | 23 13.6 | 200 34.2 | -1 48.8 |
| | 22 | 216 41.6 | 195 36.7 | 6 44.4 | 74 21.7 | 16 25.2 | 129 37.2 | 23 13.6 | 215 36.5 | -1 48.8 |
| | 23 | 231 44.1 | 210 37.0 | 6 45.1 | 89 22.8 | 16 24.8 | 144 39.0 | 23 13.6 | 230 38.8 | -1 48.7 |
| | | MP 07:37 | *v* 0.2 | *d* 0.7 | *v* 1.2 | *d* -0.4 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 Thursday | 0 | 246 46.5 | 225 37.2 | 6 45.8 | 104 24.0 | 16 24.3 | 159 40.9 | 23 13.6 | 245 41.1 | -1 48.6 |
| | 1 | 261 49.0 | 240 37.4 | 6 46.5 | 119 25.2 | 16 23.8 | 174 42.7 | 23 13.7 | 260 43.4 | -1 48.6 |
| | 2 | 276 51.5 | 255 37.6 | 6 47.3 | 134 26.4 | 16 23.4 | 189 44.6 | 23 13.7 | 275 45.7 | -1 48.5 |
| | 3 | 291 53.9 | 270 37.8 | 6 48.0 | 149 27.5 | 16 22.9 | 204 46.5 | 23 13.7 | 290 48.0 | -1 48.4 |
| | 4 | 306 56.4 | 285 38.0 | 6 48.7 | 164 28.7 | 16 22.5 | 219 48.3 | 23 13.7 | 305 50.3 | -1 48.4 |
| | 5 | 321 58.9 | 300 38.2 | 6 49.5 | 179 29.9 | 16 22.0 | 234 50.2 | 23 13.7 | 320 52.6 | -1 48.3 |
| | 6 | 337 1.3 | 315 38.4 | 6 50.2 | 194 31.1 | 16 21.6 | 249 52.0 | 23 13.7 | 335 54.9 | -1 48.3 |
| | 7 | 352 3.8 | 330 38.7 | 6 50.9 | 209 32.2 | 16 21.1 | 264 53.9 | 23 13.7 | 350 57.2 | -1 48.2 |
| | 8 | 7 6.3 | 345 38.9 | 6 51.6 | 224 33.4 | 16 20.7 | 279 55.8 | 23 13.8 | 5 59.5 | -1 48.1 |
| | 9 | 22 8.7 | 0 39.1 | 6 52.4 | 239 34.6 | 16 20.2 | 294 57.6 | 23 13.8 | 21 1.8 | -1 48.1 |
| | 10 | 37 11.2 | 15 39.3 | 6 53.1 | 254 35.8 | 16 19.8 | 309 59.5 | 23 13.8 | 36 4.1 | -1 48.0 |
| | 11 | 52 13.6 | 30 39.5 | 6 53.8 | 269 36.9 | 16 19.3 | 325 1.3 | 23 13.8 | 51 6.4 | -1 48.0 |
| | 12 | 67 16.1 | 45 39.7 | 6 54.6 | 284 38.1 | 16 18.8 | 340 3.2 | 23 13.8 | 66 8.7 | -1 47.9 |
| | 13 | 82 18.6 | 60 39.9 | 6 55.3 | 299 39.3 | 16 18.4 | 355 5.1 | 23 13.8 | 81 11.0 | -1 47.8 |
| | 14 | 97 21.0 | 75 40.1 | 6 56.0 | 314 40.4 | 16 17.9 | 10 6.9 | 23 13.9 | 96 13.3 | -1 47.8 |
| | 15 | 112 23.5 | 90 40.3 | 6 56.8 | 329 41.6 | 16 17.5 | 25 8.8 | 23 13.9 | 111 15.6 | -1 47.7 |
| | 16 | 127 26.0 | 105 40.5 | 6 57.5 | 344 42.8 | 16 17.0 | 40 10.6 | 23 13.9 | 126 17.9 | -1 47.7 |
| | 17 | 142 28.4 | 120 40.7 | 6 58.2 | 359 44.0 | 16 16.6 | 55 12.5 | 23 13.9 | 141 20.2 | -1 47.6 |
| | 18 | 157 30.9 | 135 40.9 | 6 59.0 | 14 45.1 | 16 16.1 | 70 14.3 | 23 13.9 | 156 22.5 | -1 47.5 |
| | 19 | 172 33.4 | 150 41.1 | 6 59.7 | 29 46.3 | 16 15.7 | 85 16.2 | 23 13.9 | 171 24.8 | -1 47.5 |
| | 20 | 187 35.8 | 165 41.3 | 7 0.4 | 44 47.5 | 16 15.2 | 100 18.1 | 23 13.9 | 186 27.1 | -1 47.4 |
| | 21 | 202 38.3 | 180 41.5 | 7 1.2 | 59 48.6 | 16 14.7 | 115 19.9 | 23 14.0 | 201 29.4 | -1 47.4 |
| | 22 | 217 40.8 | 195 41.7 | 7 1.9 | 74 49.8 | 16 14.3 | 130 21.8 | 23 14.0 | 216 31.7 | -1 47.3 |
| | 23 | 232 43.2 | 210 41.9 | 7 2.6 | 89 51.0 | 16 13.8 | 145 23.6 | 23 14.0 | 231 34.0 | -1 47.2 |
| | | MP 07:33 | *v* 0.2 | *d* 0.7 | *v* 1.2 | *d* -0.5 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Friday | 0 | 247 45.7 | 225 42.1 | 7 3.4 | 104 52.2 | 16 13.4 | 160 25.5 | 23 14.0 | 246 36.3 | -1 47.2 |
| | 1 | 262 48.1 | 240 42.3 | 7 4.1 | 119 53.3 | 16 12.9 | 175 27.4 | 23 14.0 | 261 38.6 | -1 47.1 |
| | 2 | 277 50.6 | 255 42.5 | 7 4.8 | 134 54.5 | 16 12.5 | 190 29.2 | 23 14.0 | 276 40.9 | -1 47.1 |
| | 3 | 292 53.1 | 270 42.7 | 7 5.6 | 149 55.7 | 16 12.0 | 205 31.1 | 23 14.0 | 291 43.2 | -1 47.0 |
| | 4 | 307 55.5 | 285 42.9 | 7 6.3 | 164 56.8 | 16 11.5 | 220 32.9 | 23 14.1 | 306 45.5 | -1 46.9 |
| | 5 | 322 58.0 | 300 43.1 | 7 7.0 | 179 58.0 | 16 11.1 | 235 34.8 | 23 14.1 | 321 47.8 | -1 46.9 |
| | 6 | 338 0.5 | 315 43.3 | 7 7.8 | 194 59.2 | 16 10.6 | 250 36.6 | 23 14.1 | 336 50.1 | -1 46.8 |
| | 7 | 353 2.9 | 330 43.5 | 7 8.5 | 210 0.4 | 16 10.2 | 265 38.5 | 23 14.1 | 351 52.4 | -1 46.8 |
| | 8 | 8 5.4 | 345 43.6 | 7 9.3 | 225 1.5 | 16 9.7 | 280 40.4 | 23 14.1 | 6 54.7 | -1 46.7 |
| | 9 | 23 7.9 | 0 43.8 | 7 10.0 | 240 2.7 | 16 9.2 | 295 42.2 | 23 14.1 | 21 57.0 | -1 46.6 |
| | 10 | 38 10.3 | 15 44.0 | 7 10.7 | 255 3.9 | 16 8.8 | 310 44.1 | 23 14.1 | 36 59.3 | -1 46.6 |
| | 11 | 53 12.8 | 30 44.2 | 7 11.5 | 270 5.0 | 16 8.3 | 325 45.9 | 23 14.2 | 52 1.6 | -1 46.5 |
| | 12 | 68 15.3 | 45 44.4 | 7 12.2 | 285 6.2 | 16 7.9 | 340 47.8 | 23 14.2 | 67 3.9 | -1 46.5 |
| | 13 | 83 17.7 | 60 44.6 | 7 12.9 | 300 7.4 | 16 7.4 | 355 49.6 | 23 14.2 | 82 6.2 | -1 46.4 |
| | 14 | 98 20.2 | 75 44.8 | 7 13.7 | 315 8.5 | 16 6.9 | 10 51.5 | 23 14.2 | 97 8.5 | -1 46.3 |
| | 15 | 113 22.6 | 90 45.0 | 7 14.4 | 330 9.7 | 16 6.5 | 25 53.4 | 23 14.2 | 112 10.8 | -1 46.3 |
| | 16 | 128 25.1 | 105 45.2 | 7 15.2 | 345 10.9 | 16 6.0 | 40 55.2 | 23 14.2 | 127 13.1 | -1 46.2 |
| | 17 | 143 27.6 | 120 45.3 | 7 15.9 | 0 12.1 | 16 5.6 | 55 57.1 | 23 14.2 | 142 15.4 | -1 46.2 |
| | 18 | 158 30.0 | 135 45.5 | 7 16.6 | 15 13.2 | 16 5.1 | 70 58.9 | 23 14.3 | 157 17.7 | -1 46.1 |
| | 19 | 173 32.5 | 150 45.7 | 7 17.4 | 30 14.4 | 16 4.6 | 86 0.8 | 23 14.3 | 172 20.0 | -1 46.1 |
| | 20 | 188 35.0 | 165 45.9 | 7 18.1 | 45 15.6 | 16 4.2 | 101 2.6 | 23 14.3 | 187 22.3 | -1 46.0 |
| | 21 | 203 37.4 | 180 46.1 | 7 18.9 | 60 16.7 | 16 3.7 | 116 4.5 | 23 14.3 | 202 24.6 | -1 45.9 |
| | 22 | 218 39.9 | 195 46.2 | 7 19.6 | 75 17.9 | 16 3.3 | 131 6.3 | 23 14.3 | 217 27.0 | -1 45.9 |
| | 23 | 233 42.4 | 210 46.4 | 7 20.4 | 90 19.1 | 16 2.8 | 146 8.2 | 23 14.3 | 232 29.3 | -1 45.8 |
| | | MP 07:29 | *v* 0.2 | *d* 0.7 | *v* 1.2 | *d* -0.5 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.1 |
| Achernar | 335 20.4 | -57 6.3 |
| Acrux | 172 59.4 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.5 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.3 | 55 49.5 |
| Alkaid | 152 51.4 | 49 11.3 |
| Alnair | 27 32.5 | -46 50.1 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.7 |
| Alpheratz | 357 34.6 | 29 13.7 |
| Altair | 61 59.4 | 8 56.0 |
| Ankaa | 353 7.1 | -42 9.9 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.3 | 19 3.0 |
| Atria | 107 8.5 | -69 4.4 |
| Avior | 234 15.0 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.6 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.0 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.2 | -17 50.8 |
| Dubhe | 193 40.5 | 61 37.1 |
| Elnath | 278 1.9 | 28 37.7 |
| Eltanin | 90 41.5 | 51 28.9 |
| Enif | 33 38.4 | 9 59.4 |
| Fomalhaut | 15 14.2 | -29 29.1 |
| Gacrux | 171 51.0 | -57 15.6 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.9 |
| Hamal | 327 51.2 | 23 34.8 |
| Kaus Aust. | 83 31.8 | -34 22.3 |
| Kochab | 137 18.7 | 74 3.1 |
| Markab | 13 29.7 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.9 |
| Miaplacidus | 221 38.6 | -69 49.5 |
| Mirfak | 308 28.3 | 49 57.0 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.9 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.6 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 31.0 | 56 40.3 |
| Shaula | 96 9.6 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.3 |
| Vega | 80 32.7 | 38 48.2 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 28 Wed | SHA | MP |
|---|---|---|
| Venus | 339 44.4 | 08:58 |
| Mars | 218 8.4 | 17:03 |
| Jupiter | 273 8.9 | 13:23 |
| Saturn | 358 58.5 | 07:40 |

| 29 Thu | SHA | MP |
|---|---|---|
| Venus | 338 50.6 | 08:57 |
| Mars | 217 37.5 | 17:01 |
| Jupiter | 272 54.4 | 13:20 |
| Saturn | 358 54.5 | 07:36 |

| 30 Fri | SHA | MP |
|---|---|---|
| Venus | 337 56.4 | 08:57 |
| Mars | 217 6.5 | 16:59 |
| Jupiter | 272 39.8 | 13:17 |
| Saturn | 358 50.6 | 07:32 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **28 Wednesday** | 0 | 180 41.3 | 21 28.0 | 168 0.0 | 1.6 | 27 59.4 | 3.3 | 60.5 |
| | 1 | 195 41.2 | 21 28.4 | 182 20.6 | 1.6 | 28 2.8 | 3.1 | 60.5 |
| | 2 | 210 41.1 | 21 28.8 | 196 41.2 | 1.6 | 28 5.9 | 2.9 | 60.5 |
| | 3 | 225 41.1 | 21 29.2 | 211 1.8 | 1.6 | 28 8.8 | 2.7 | 60.4 |
| | 4 | 240 41.0 | 21 29.6 | 225 22.5 | 1.6 | 28 11.5 | 2.5 | 60.4 |
| | 5 | 255 40.9 | 21 30.0 | 239 43.1 | 1.6 | 28 13.9 | 2.3 | 60.4 |
| | 6 | 270 40.8 | 21 30.4 | 254 3.7 | 1.6 | 28 16.2 | 2.0 | 60.4 |
| | 7 | 285 40.7 | 21 30.8 | 268 24.3 | 1.6 | 28 18.2 | 1.8 | 60.3 |
| | 8 | 300 40.7 | 21 31.2 | 282 45.0 | 1.7 | 28 20.0 | 1.6 | 60.3 |
| | 9 | 315 40.6 | 21 31.6 | 297 5.6 | 1.7 | 28 21.6 | 1.4 | 60.3 |
| | 10 | 330 40.5 | 21 32.0 | 311 26.3 | 1.7 | 28 23.0 | 1.2 | 60.2 |
| | 11 | 345 40.4 | 21 32.4 | 325 47.0 | 1.7 | 28 24.2 | 1.0 | 60.2 |
| | 12 | 0 40.3 | 21 32.8 | 340 7.7 | 1.8 | 28 25.2 | 0.8 | 60.2 |
| | 13 | 15 40.3 | 21 33.2 | 354 28.5 | 1.8 | 28 25.9 | 0.5 | 60.2 |
| | 14 | 30 40.2 | 21 33.6 | 8 49.3 | 1.8 | 28 26.5 | 0.3 | 60.1 |
| | 15 | 45 40.1 | 21 34.0 | 23 10.1 | 1.9 | 28 26.8 | 0.1 | 60.1 |
| | 16 | 60 40.0 | 21 34.4 | 37 31.0 | 1.9 | 28 26.9 | -0.1 | 60.1 |
| | 17 | 75 39.9 | 21 34.7 | 51 51.9 | 2.0 | 28 26.8 | -0.3 | 60.0 |
| | 18 | 90 39.9 | 21 35.1 | 66 12.9 | 2.0 | 28 26.5 | -0.5 | 60.0 |
| | 19 | 105 39.8 | 21 35.5 | 80 33.9 | 2.1 | 28 26.0 | -0.7 | 60.0 |
| | 20 | 120 39.7 | 21 35.9 | 94 54.9 | 2.1 | 28 25.3 | -0.9 | 60.0 |
| | 21 | 135 39.6 | 21 36.3 | 109 16.0 | 2.2 | 28 24.4 | -1.1 | 59.9 |
| | 22 | 150 39.5 | 21 36.7 | 123 37.2 | 2.2 | 28 23.2 | -1.3 | 59.9 |
| | 23 | 165 39.4 | 21 37.1 | 137 58.5 | 2.3 | 28 21.9 | -1.5 | 59.9 |
| | | *v* -0.1 | SD 15.8 *d* 0.4 | | SD 16.5 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **29 Thursday** | 0 | 180 39.4 | 21 37.5 | 152 19.8 | 2.4 | 28 20.3 | -1.8 | 59.8 |
| | 1 | 195 39.3 | 21 37.9 | 166 41.1 | 2.4 | 28 18.6 | -2.0 | 59.8 |
| | 2 | 210 39.2 | 21 38.2 | 181 2.6 | 2.5 | 28 16.6 | -2.2 | 59.8 |
| | 3 | 225 39.1 | 21 38.6 | 195 24.1 | 2.6 | 28 14.5 | -2.4 | 59.7 |
| | 4 | 240 39.0 | 21 39.0 | 209 45.7 | 2.7 | 28 12.1 | -2.6 | 59.7 |
| | 5 | 255 38.9 | 21 39.4 | 224 7.3 | 2.8 | 28 9.6 | -2.8 | 59.7 |
| | 6 | 270 38.8 | 21 39.8 | 238 29.1 | 2.8 | 28 6.8 | -3.0 | 59.6 |
| | 7 | 285 38.8 | 21 40.2 | 252 50.9 | 2.9 | 28 3.8 | -3.1 | 59.6 |
| | 8 | 300 38.7 | 21 40.5 | 267 12.9 | 3.0 | 28 0.7 | -3.3 | 59.6 |
| | 9 | 315 38.6 | 21 40.9 | 281 34.9 | 3.1 | 27 57.4 | -3.5 | 59.5 |
| | 10 | 330 38.5 | 21 41.3 | 295 57.0 | 3.2 | 27 53.8 | -3.7 | 59.5 |
| | 11 | 345 38.4 | 21 41.7 | 310 19.2 | 3.3 | 27 50.1 | -3.9 | 59.5 |
| | 12 | 0 38.3 | 21 42.1 | 324 41.5 | 3.4 | 27 46.2 | -4.1 | 59.4 |
| | 13 | 15 38.3 | 21 42.4 | 339 3.9 | 3.5 | 27 42.1 | -4.3 | 59.4 |
| | 14 | 30 38.2 | 21 42.8 | 353 26.4 | 3.6 | 27 37.8 | -4.5 | 59.3 |
| | 15 | 45 38.1 | 21 43.2 | 7 49.0 | 3.7 | 27 33.3 | -4.7 | 59.3 |
| | 16 | 60 38.0 | 21 43.6 | 22 11.7 | 3.8 | 27 28.6 | -4.8 | 59.3 |
| | 17 | 75 37.9 | 21 43.9 | 36 34.5 | 3.9 | 27 23.8 | -5.0 | 59.2 |
| | 18 | 90 37.8 | 21 44.3 | 50 57.5 | 4.0 | 27 18.8 | -5.2 | 59.2 |
| | 19 | 105 37.7 | 21 44.7 | 65 20.5 | 4.2 | 27 13.6 | -5.4 | 59.2 |
| | 20 | 120 37.6 | 21 45.1 | 79 43.7 | 4.3 | 27 8.2 | -5.6 | 59.1 |
| | 21 | 135 37.6 | 21 45.4 | 94 6.9 | 4.4 | 27 2.6 | -5.7 | 59.1 |
| | 22 | 150 37.5 | 21 45.8 | 108 30.3 | 4.5 | 26 56.9 | -5.9 | 59.1 |
| | 23 | 165 37.4 | 21 46.2 | 122 53.8 | 4.6 | 26 51.0 | -6.1 | 59.0 |
| | | *v* -0.1 | SD 15.8 *d* 0.4 | | SD 16.3 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **30 Friday** | 0 | 180 37.3 | 21 46.6 | 137 17.5 | 4.8 | 26 45.0 | -6.2 | 59.0 |
| | 1 | 195 37.2 | 21 46.9 | 151 41.2 | 4.9 | 26 38.7 | -6.4 | 58.9 |
| | 2 | 210 37.1 | 21 47.3 | 166 5.1 | 5.0 | 26 32.3 | -6.6 | 58.9 |
| | 3 | 225 37.0 | 21 47.7 | 180 29.1 | 5.1 | 26 25.8 | -6.7 | 58.9 |
| | 4 | 240 36.9 | 21 48.0 | 194 53.2 | 5.3 | 26 19.0 | -6.9 | 58.8 |
| | 5 | 255 36.9 | 21 48.4 | 209 17.5 | 5.4 | 26 12.1 | -7.0 | 58.8 |
| | 6 | 270 36.8 | 21 48.8 | 223 41.9 | 5.5 | 26 5.1 | -7.2 | 58.8 |
| | 7 | 285 36.7 | 21 49.1 | 238 6.4 | 5.6 | 25 57.9 | -7.4 | 58.7 |
| | 8 | 300 36.6 | 21 49.5 | 252 31.0 | 5.8 | 25 50.5 | -7.5 | 58.7 |
| | 9 | 315 36.5 | 21 49.9 | 266 55.8 | 5.9 | 25 43.0 | -7.7 | 58.6 |
| | 10 | 330 36.4 | 21 50.2 | 281 20.7 | 6.0 | 25 35.4 | -7.8 | 58.6 |
| | 11 | 345 36.3 | 21 50.6 | 295 45.8 | 6.2 | 25 27.6 | -8.0 | 58.6 |
| | 12 | 0 36.2 | 21 51.0 | 310 10.9 | 6.3 | 25 19.6 | -8.1 | 58.5 |
| | 13 | 15 36.1 | 21 51.3 | 324 36.2 | 6.4 | 25 11.5 | -8.2 | 58.5 |
| | 14 | 30 36.0 | 21 51.7 | 339 1.7 | 6.6 | 25 3.3 | -8.4 | 58.4 |
| | 15 | 45 36.0 | 21 52.0 | 353 27.3 | 6.7 | 24 54.9 | -8.5 | 58.4 |
| | 16 | 60 35.9 | 21 52.4 | 7 53.0 | 6.9 | 24 46.3 | -8.7 | 58.4 |
| | 17 | 75 35.8 | 21 52.8 | 22 18.8 | 7.0 | 24 37.7 | -8.8 | 58.3 |
| | 18 | 90 35.7 | 21 53.1 | 36 44.8 | 7.1 | 24 28.9 | -8.9 | 58.3 |
| | 19 | 105 35.6 | 21 53.5 | 51 10.9 | 7.3 | 24 20.0 | -9.1 | 58.2 |
| | 20 | 120 35.5 | 21 53.8 | 65 37.2 | 7.4 | 24 10.9 | -9.2 | 58.2 |
| | 21 | 135 35.4 | 21 54.2 | 80 3.6 | 7.5 | 24 1.7 | -9.3 | 58.2 |
| | 22 | 150 35.3 | 21 54.5 | 94 30.2 | 7.7 | 23 52.4 | -9.4 | 58.1 |
| | 23 | 165 35.2 | 21 54.9 | 108 56.8 | 7.8 | 23 43.0 | -9.6 | 58.1 |
| | | *v* -0.1 | SD 15.8 *d* 0.4 | | SD 16.1 | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | //// | //// | 01:28 | 22:30 | //// | //// |
| 64 | //// | //// | 02:08 | 21:49 | //// | //// |
| 62 | //// | 00:44 | 02:35 | 21:22 | 23:17 | //// |
| 60 | //// | 01:37 | 02:55 | 21:01 | 22:20 | //// |
| 58 | //// | 02:08 | 03:12 | 20:44 | 21:49 | //// |
| 56 | 00:40 | 02:31 | 03:26 | 20:29 | 21:25 | 23:21 |
| 54 | 01:29 | 02:49 | 03:39 | 20:17 | 21:07 | 22:29 |
| 52 | 01:57 | 03:04 | 03:49 | 20:06 | 20:52 | 21:59 |
| 50 | 02:18 | 03:17 | 03:59 | 19:56 | 20:39 | 21:38 |
| 45 | 02:56 | 03:43 | 04:19 | 19:36 | 20:12 | 20:59 |
| 40 | 03:23 | 04:03 | 04:35 | 19:20 | 19:52 | 20:32 |
| 35 | 03:44 | 04:20 | 04:49 | 19:06 | 19:35 | 20:11 |
| 30 | 04:01 | 04:34 | 05:00 | 18:54 | 19:21 | 19:54 |
| 20 | 04:28 | 04:56 | 05:20 | 18:34 | 18:58 | 19:27 |
| 10 | 04:48 | 05:15 | 05:38 | 18:17 | 18:40 | 19:06 |
| 0 | 05:06 | 05:31 | 05:54 | 18:01 | 18:23 | 18:49 |
| -10 | 05:21 | 05:47 | 06:10 | 17:45 | 18:08 | 18:34 |
| -20 | 05:36 | 06:03 | 06:26 | 17:28 | 17:52 | 18:19 |
| -30 | 05:50 | 06:20 | 06:46 | 17:09 | 17:35 | 18:04 |
| -35 | 05:58 | 06:29 | 06:57 | 16:58 | 17:25 | 17:56 |
| -40 | 06:06 | 06:40 | 07:10 | 16:45 | 17:15 | 17:48 |
| -45 | 06:15 | 06:52 | 07:25 | 16:30 | 17:03 | 17:39 |
| -50 | 06:25 | 07:06 | 07:43 | 16:11 | 16:48 | 17:29 |
| -52 | 06:30 | 07:12 | 07:52 | 16:02 | 16:42 | 17:24 |
| -54 | 06:35 | 07:20 | 08:02 | 15:53 | 16:35 | 17:20 |
| -56 | 06:40 | 07:28 | 08:13 | 15:42 | 16:27 | 17:14 |
| -58 | 06:46 | 07:36 | 08:25 | 15:29 | 16:18 | 17:09 |
| -60 | 06:52 | 07:46 | 08:40 | 15:14 | 16:08 | 17:02 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **28** | **29** | **30** | **28** | **29** | **30** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | | | | |
| 62 | 01:13 | | 04:33 | 00:23 | | 01:32 |
| 60 | 02:27 | 03:30 | 05:12 | –:– | 00:24 | 00:52 |
| 58 | 03:03 | 04:07 | 05:39 | 23:46 | –:– | 00:24 |
| 56 | 03:29 | 04:34 | 06:01 | 23:19 | –:– | 00:03 |
| 54 | 03:50 | 04:55 | 06:18 | 22:58 | 23:45 | –:– |
| 52 | 04:07 | 05:13 | 06:33 | 22:41 | 23:29 | –:– |
| 50 | 04:22 | 05:28 | 06:46 | 22:26 | 23:16 | 23:50 |
| 45 | 04:52 | 05:58 | 07:13 | 21:55 | 22:49 | 23:28 |
| 40 | 05:16 | 06:22 | 07:34 | 21:31 | 22:27 | 23:10 |
| 35 | 05:35 | 06:41 | 07:51 | 21:11 | 22:09 | 22:55 |
| 30 | 05:52 | 06:58 | 08:06 | 20:55 | 21:53 | 22:42 |
| 20 | 06:20 | 07:26 | 08:31 | 20:26 | 21:27 | 22:19 |
| 10 | 06:45 | 07:50 | 08:53 | 20:02 | 21:04 | 21:59 |
| 0 | 07:07 | 08:12 | 09:13 | 19:39 | 20:42 | 21:41 |
| -10 | 07:30 | 08:35 | 09:34 | 19:16 | 20:21 | 21:22 |
| -20 | 07:55 | 08:59 | 09:55 | 18:51 | 19:57 | 21:02 |
| -30 | 08:24 | 09:27 | 10:20 | 18:22 | 19:30 | 20:38 |
| -35 | 08:41 | 09:44 | 10:35 | 18:05 | 19:14 | 20:25 |
| -40 | 09:00 | 10:03 | 10:52 | 17:45 | 18:55 | 20:09 |
| -45 | 09:25 | 10:26 | 11:12 | 17:21 | 18:32 | 19:49 |
| -50 | 09:56 | 10:56 | 11:37 | 16:50 | 18:03 | 19:25 |
| -52 | 10:11 | 11:11 | 11:49 | 16:34 | 17:49 | 19:13 |
| -54 | 10:30 | 11:28 | 12:03 | 16:16 | 17:32 | 19:00 |
| -56 | 10:52 | 11:48 | 12:19 | 15:54 | 17:12 | 18:45 |
| -58 | 11:20 | 12:14 | 12:38 | 15:25 | 16:46 | 18:26 |
| -60 | 12:02 | 12:49 | 13:02 | 14:43 | 16:12 | 18:03 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **28** | 02:45 | 02:41 | 11:57 | 13:23 | 00:50 | 1 | 1 |
| **29** | 02:37 | 02:33 | 11:57 | 14:27 | 01:56 | 2 | 5 |
| **30** | 02:29 | 02:25 | 11:58 | 15:27 | 02:58 | 3 | 11 |

## 2025 May 31, June 01, 02 (Sat, Sun, Monday)

| | | Aries | Venus -4.4 | | Mars 1.3 | | Jupiter -1.9 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 31 Saturday | 0 | 248 44.8 | 225 46.6 | 7 21.1 | 105 20.2 | 16 2.3 | 161 10.1 | 23 14.3 | 247 31.6 | -1 45.8 |
| | 1 | 263 47.3 | 240 46.8 | 7 21.8 | 120 21.4 | 16 1.9 | 176 11.9 | 23 14.4 | 262 33.9 | -1 45.7 |
| | 2 | 278 49.8 | 255 47.0 | 7 22.6 | 135 22.6 | 16 1.4 | 191 13.8 | 23 14.4 | 277 36.2 | -1 45.6 |
| | 3 | 293 52.2 | 270 47.1 | 7 23.3 | 150 23.7 | 16 1.0 | 206 15.6 | 23 14.4 | 292 38.5 | -1 45.6 |
| | 4 | 308 54.7 | 285 47.3 | 7 24.1 | 165 24.9 | 16 0.5 | 221 17.5 | 23 14.4 | 307 40.8 | -1 45.5 |
| | 5 | 323 57.1 | 300 47.5 | 7 24.8 | 180 26.1 | 16 0.0 | 236 19.3 | 23 14.4 | 322 43.1 | -1 45.5 |
| | 6 | 338 59.6 | 315 47.7 | 7 25.6 | 195 27.3 | 15 59.6 | 251 21.2 | 23 14.4 | 337 45.4 | -1 45.4 |
| | 7 | 354 2.1 | 330 47.8 | 7 26.3 | 210 28.4 | 15 59.1 | 266 23.1 | 23 14.4 | 352 47.7 | -1 45.4 |
| | 8 | 9 4.5 | 345 48.0 | 7 27.0 | 225 29.6 | 15 58.6 | 281 24.9 | 23 14.5 | 7 50.0 | -1 45.3 |
| | 9 | 24 7.0 | 0 48.2 | 7 27.8 | 240 30.8 | 15 58.2 | 296 26.8 | 23 14.5 | 22 52.3 | -1 45.2 |
| | 10 | 39 9.5 | 15 48.4 | 7 28.5 | 255 31.9 | 15 57.7 | 311 28.6 | 23 14.5 | 37 54.6 | -1 45.2 |
| | 11 | 54 11.9 | 30 48.5 | 7 29.3 | 270 33.1 | 15 57.3 | 326 30.5 | 23 14.5 | 52 56.9 | -1 45.1 |
| | 12 | 69 14.4 | 45 48.7 | 7 30.0 | 285 34.3 | 15 56.8 | 341 32.3 | 23 14.5 | 67 59.2 | -1 45.1 |
| | 13 | 84 16.9 | 60 48.9 | 7 30.8 | 300 35.4 | 15 56.3 | 356 34.2 | 23 14.5 | 83 1.5 | -1 45.0 |
| | 14 | 99 19.3 | 75 49.0 | 7 31.5 | 315 36.6 | 15 55.9 | 11 36.0 | 23 14.5 | 98 3.8 | -1 45.0 |
| | 15 | 114 21.8 | 90 49.2 | 7 32.3 | 330 37.8 | 15 55.4 | 26 37.9 | 23 14.5 | 113 6.2 | -1 44.9 |
| | 16 | 129 24.2 | 105 49.4 | 7 33.0 | 345 38.9 | 15 54.9 | 41 39.8 | 23 14.6 | 128 8.5 | -1 44.8 |
| | 17 | 144 26.7 | 120 49.6 | 7 33.8 | 0 40.1 | 15 54.5 | 56 41.6 | 23 14.6 | 143 10.8 | -1 44.8 |
| | 18 | 159 29.2 | 135 49.7 | 7 34.5 | 15 41.3 | 15 54.0 | 71 43.5 | 23 14.6 | 158 13.1 | -1 44.7 |
| | 19 | 174 31.6 | 150 49.9 | 7 35.3 | 30 42.4 | 15 53.5 | 86 45.3 | 23 14.6 | 173 15.4 | -1 44.7 |
| | 20 | 189 34.1 | 165 50.1 | 7 36.0 | 45 43.6 | 15 53.1 | 101 47.2 | 23 14.6 | 188 17.7 | -1 44.6 |
| | 21 | 204 36.6 | 180 50.2 | 7 36.8 | 60 44.8 | 15 52.6 | 116 49.0 | 23 14.6 | 203 20.0 | -1 44.6 |
| | 22 | 219 39.0 | 195 50.4 | 7 37.5 | 75 45.9 | 15 52.1 | 131 50.9 | 23 14.6 | 218 22.3 | -1 44.5 |
| | 23 | 234 41.5 | 210 50.5 | 7 38.2 | 90 47.1 | 15 51.7 | 146 52.7 | 23 14.7 | 233 24.6 | -1 44.4 |
| | | MP 07:25 | *v* 0.2 | *d* 0.7 | *v* 1.2 | *d* -0.5 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 Sunday | 0 | 249 44.0 | 225 50.7 | 7 39.0 | 105 48.3 | 15 51.2 | 161 54.6 | 23 14.7 | 248 26.9 | -1 44.4 |
| | 1 | 264 46.4 | 240 50.9 | 7 39.7 | 120 49.4 | 15 50.7 | 176 56.5 | 23 14.7 | 263 29.2 | -1 44.3 |
| | 2 | 279 48.9 | 255 51.0 | 7 40.5 | 135 50.6 | 15 50.3 | 191 58.3 | 23 14.7 | 278 31.5 | -1 44.3 |
| | 3 | 294 51.4 | 270 51.2 | 7 41.2 | 150 51.8 | 15 49.8 | 207 0.2 | 23 14.7 | 293 33.8 | -1 44.2 |
| | 4 | 309 53.8 | 285 51.3 | 7 42.0 | 165 52.9 | 15 49.3 | 222 2.0 | 23 14.7 | 308 36.2 | -1 44.2 |
| | 5 | 324 56.3 | 300 51.5 | 7 42.7 | 180 54.1 | 15 48.9 | 237 3.9 | 23 14.7 | 323 38.5 | -1 44.1 |
| | 6 | 339 58.7 | 315 51.7 | 7 43.5 | 195 55.3 | 15 48.4 | 252 5.7 | 23 14.7 | 338 40.8 | -1 44.0 |
| | 7 | 355 1.2 | 330 51.8 | 7 44.2 | 210 56.4 | 15 47.9 | 267 7.6 | 23 14.8 | 353 43.1 | -1 44.0 |
| | 8 | 10 3.7 | 345 52.0 | 7 45.0 | 225 57.6 | 15 47.5 | 282 9.4 | 23 14.8 | 8 45.4 | -1 43.9 |
| | 9 | 25 6.1 | 0 52.1 | 7 45.8 | 240 58.8 | 15 47.0 | 297 11.3 | 23 14.8 | 23 47.7 | -1 43.9 |
| | 10 | 40 8.6 | 15 52.3 | 7 46.5 | 255 59.9 | 15 46.5 | 312 13.2 | 23 14.8 | 38 50.0 | -1 43.8 |
| | 11 | 55 11.1 | 30 52.4 | 7 47.3 | 271 1.1 | 15 46.1 | 327 15.0 | 23 14.8 | 53 52.3 | -1 43.8 |
| | 12 | 70 13.5 | 45 52.6 | 7 48.0 | 286 2.3 | 15 45.6 | 342 16.9 | 23 14.8 | 68 54.6 | -1 43.7 |
| | 13 | 85 16.0 | 60 52.8 | 7 48.8 | 301 3.4 | 15 45.1 | 357 18.7 | 23 14.8 | 83 56.9 | -1 43.6 |
| | 14 | 100 18.5 | 75 52.9 | 7 49.5 | 316 4.6 | 15 44.7 | 12 20.6 | 23 14.8 | 98 59.2 | -1 43.6 |
| | 15 | 115 20.9 | 90 53.1 | 7 50.3 | 331 5.8 | 15 44.2 | 27 22.4 | 23 14.9 | 114 1.6 | -1 43.5 |
| | 16 | 130 23.4 | 105 53.2 | 7 51.0 | 346 6.9 | 15 43.7 | 42 24.3 | 23 14.9 | 129 3.9 | -1 43.5 |
| | 17 | 145 25.9 | 120 53.4 | 7 51.8 | 1 8.1 | 15 43.3 | 57 26.1 | 23 14.9 | 144 6.2 | -1 43.4 |
| | 18 | 160 28.3 | 135 53.5 | 7 52.5 | 16 9.2 | 15 42.8 | 72 28.0 | 23 14.9 | 159 8.5 | -1 43.4 |
| | 19 | 175 30.8 | 150 53.7 | 7 53.3 | 31 10.4 | 15 42.3 | 87 29.8 | 23 14.9 | 174 10.8 | -1 43.3 |
| | 20 | 190 33.2 | 165 53.8 | 7 54.0 | 46 11.6 | 15 41.9 | 102 31.7 | 23 14.9 | 189 13.1 | -1 43.3 |
| | 21 | 205 35.7 | 180 54.0 | 7 54.8 | 61 12.7 | 15 41.4 | 117 33.6 | 23 14.9 | 204 15.4 | -1 43.2 |
| | 22 | 220 38.2 | 195 54.1 | 7 55.5 | 76 13.9 | 15 40.9 | 132 35.4 | 23 14.9 | 219 17.7 | -1 43.1 |
| | 23 | 235 40.6 | 210 54.3 | 7 56.3 | 91 15.1 | 15 40.5 | 147 37.3 | 23 15.0 | 234 20.0 | -1 43.1 |
| | | MP 07:21 | *v* 0.2 | *d* 0.7 | *v* 1.2 | *d* -0.5 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 Monday | 0 | 250 43.1 | 225 54.4 | 7 57.1 | 106 16.2 | 15 40.0 | 162 39.1 | 23 15.0 | 249 22.4 | -1 43.0 |
| | 1 | 265 45.6 | 240 54.5 | 7 57.8 | 121 17.4 | 15 39.5 | 177 41.0 | 23 15.0 | 264 24.7 | -1 43.0 |
| | 2 | 280 48.0 | 255 54.7 | 7 58.6 | 136 18.6 | 15 39.0 | 192 42.8 | 23 15.0 | 279 27.0 | -1 42.9 |
| | 3 | 295 50.5 | 270 54.8 | 7 59.3 | 151 19.7 | 15 38.6 | 207 44.7 | 23 15.0 | 294 29.3 | -1 42.9 |
| | 4 | 310 53.0 | 285 55.0 | 8 0.1 | 166 20.9 | 15 38.1 | 222 46.5 | 23 15.0 | 309 31.6 | -1 42.8 |
| | 5 | 325 55.4 | 300 55.1 | 8 0.8 | 181 22.1 | 15 37.6 | 237 48.4 | 23 15.0 | 324 33.9 | -1 42.8 |
| | 6 | 340 57.9 | 315 55.3 | 8 1.6 | 196 23.2 | 15 37.2 | 252 50.2 | 23 15.0 | 339 36.2 | -1 42.7 |
| | 7 | 356 0.3 | 330 55.4 | 8 2.3 | 211 24.4 | 15 36.7 | 267 52.1 | 23 15.0 | 354 38.5 | -1 42.6 |
| | 8 | 11 2.8 | 345 55.5 | 8 3.1 | 226 25.5 | 15 36.2 | 282 53.9 | 23 15.1 | 9 40.8 | -1 42.6 |
| | 9 | 26 5.3 | 0 55.7 | 8 3.9 | 241 26.7 | 15 35.8 | 297 55.8 | 23 15.1 | 24 43.2 | -1 42.5 |
| | 10 | 41 7.7 | 15 55.8 | 8 4.6 | 256 27.9 | 15 35.3 | 312 57.7 | 23 15.1 | 39 45.5 | -1 42.5 |
| | 11 | 56 10.2 | 30 56.0 | 8 5.4 | 271 29.0 | 15 34.8 | 327 59.5 | 23 15.1 | 54 47.8 | -1 42.4 |
| | 12 | 71 12.7 | 45 56.1 | 8 6.1 | 286 30.2 | 15 34.3 | 343 1.4 | 23 15.1 | 69 50.1 | -1 42.4 |
| | 13 | 86 15.1 | 60 56.2 | 8 6.9 | 301 31.4 | 15 33.9 | 358 3.2 | 23 15.1 | 84 52.4 | -1 42.3 |
| | 14 | 101 17.6 | 75 56.4 | 8 7.6 | 316 32.5 | 15 33.4 | 13 5.1 | 23 15.1 | 99 54.7 | -1 42.3 |
| | 15 | 116 20.1 | 90 56.5 | 8 8.4 | 331 33.7 | 15 32.9 | 28 6.9 | 23 15.1 | 114 57.0 | -1 42.2 |
| | 16 | 131 22.5 | 105 56.6 | 8 9.2 | 346 34.9 | 15 32.5 | 43 8.8 | 23 15.1 | 129 59.4 | -1 42.2 |
| | 17 | 146 25.0 | 120 56.8 | 8 9.9 | 1 36.0 | 15 32.0 | 58 10.6 | 23 15.2 | 145 1.7 | -1 42.1 |
| | 18 | 161 27.5 | 135 56.9 | 8 10.7 | 16 37.2 | 15 31.5 | 73 12.5 | 23 15.2 | 160 4.0 | -1 42.0 |
| | 19 | 176 29.9 | 150 57.0 | 8 11.4 | 31 38.3 | 15 31.0 | 88 14.3 | 23 15.2 | 175 6.3 | -1 42.0 |
| | 20 | 191 32.4 | 165 57.2 | 8 12.2 | 46 39.5 | 15 30.6 | 103 16.2 | 23 15.2 | 190 8.6 | -1 41.9 |
| | 21 | 206 34.8 | 180 57.3 | 8 13.0 | 61 40.7 | 15 30.1 | 118 18.0 | 23 15.2 | 205 10.9 | -1 41.9 |
| | 22 | 221 37.3 | 195 57.4 | 8 13.7 | 76 41.8 | 15 29.6 | 133 19.9 | 23 15.2 | 220 13.2 | -1 41.8 |
| | 23 | 236 39.8 | 210 57.6 | 8 14.5 | 91 43.0 | 15 29.1 | 148 21.8 | 23 15.2 | 235 15.5 | -1 41.8 |
| | | MP 07:17 | *v* 0.1 | *d* 0.8 | *v* 1.2 | *d* -0.5 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.1 |
| Achernar | 335 20.4 | -57 6.3 |
| Acrux | 172 59.5 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.5 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.5 |
| Alkaid | 152 51.4 | 49 11.3 |
| Alnair | 27 32.4 | -46 50.1 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.7 |
| Alpheratz | 357 34.6 | 29 13.7 |
| Altair | 61 59.4 | 8 56.0 |
| Ankaa | 353 7.0 | -42 9.9 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.3 | 19 3.0 |
| Atria | 107 8.5 | -69 4.4 |
| Avior | 234 15.0 | -59 35.7 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.6 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.0 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.2 | -17 50.8 |
| Dubhe | 193 40.5 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.0 |
| Enif | 33 38.4 | 9 59.4 |
| Fomalhaut | 15 14.2 | -29 29.1 |
| Gacrux | 171 51.0 | -57 15.6 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.9 |
| Hamal | 327 51.1 | 23 34.8 |
| Kaus Aust. | 83 31.7 | -34 22.3 |
| Kochab | 137 18.7 | 74 3.1 |
| Markab | 13 29.6 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.9 |
| Miaplacidus | 221 38.6 | -69 49.5 |
| Mirfak | 308 28.3 | 49 57.0 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.9 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.4 |
| Rigil Kent. | 139 39.3 | -60 56.6 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 31.0 | 56 40.3 |
| Shaula | 96 9.5 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.3 |
| Vega | 80 32.6 | 38 48.2 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 31 Sat | SHA | MP |
|---|---|---|
| Venus | 337 1.8 | 08:57 |
| Mars | 216 35.4 | 16:57 |
| Jupiter | 272 25.2 | 13:14 |
| Saturn | 358 46.7 | 07:29 |

| 01 Sun | SHA | MP |
|---|---|---|
| Venus | 336 6.7 | 08:57 |
| Mars | 216 4.3 | 16:55 |
| Jupiter | 272 10.6 | 13:11 |
| Saturn | 358 43.0 | 07:25 |

| 02 Mon | SHA | MP |
|---|---|---|
| Venus | 335 11.3 | 08:56 |
| Mars | 215 33.1 | 16:54 |
| Jupiter | 271 56.0 | 13:08 |
| Saturn | 358 39.3 | 07:21 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **31 Saturday** | 0 | 180 35.1 | 21 55.3 | 123 23.6 | 8.0 | 23 33.4 | -9.7 | 58.0 |
| | 1 | 195 35.0 | 21 55.6 | 137 50.6 | 8.1 | 23 23.7 | -9.8 | 58.0 |
| | 2 | 210 34.9 | 21 56.0 | 152 17.7 | 8.2 | 23 13.9 | -9.9 | 58.0 |
| | 3 | 225 34.9 | 21 56.3 | 166 44.9 | 8.4 | 23 4.0 | -10.0 | 57.9 |
| | 4 | 240 34.8 | 21 56.7 | 181 12.3 | 8.5 | 22 53.9 | -10.2 | 57.9 |
| | 5 | 255 34.7 | 21 57.0 | 195 39.8 | 8.6 | 22 43.8 | -10.3 | 57.9 |
| | 6 | 270 34.6 | 21 57.4 | 210 7.4 | 8.8 | 22 33.5 | -10.4 | 57.8 |
| | 7 | 285 34.5 | 21 57.7 | 224 35.2 | 8.9 | 22 23.1 | -10.5 | 57.8 |
| | 8 | 300 34.4 | 21 58.1 | 239 3.1 | 9.0 | 22 12.7 | -10.6 | 57.7 |
| | 9 | 315 34.3 | 21 58.4 | 253 31.1 | 9.2 | 22 2.1 | -10.7 | 57.7 |
| | 10 | 330 34.2 | 21 58.8 | 267 59.3 | 9.3 | 21 51.4 | -10.8 | 57.7 |
| | 11 | 345 34.1 | 21 59.1 | 282 27.6 | 9.4 | 21 40.6 | -10.9 | 57.6 |
| | 12 | 0 34.0 | 21 59.5 | 296 56.1 | 9.6 | 21 29.7 | -11.0 | 57.6 |
| | 13 | 15 33.9 | 21 59.8 | 311 24.7 | 9.7 | 21 18.7 | -11.1 | 57.5 |
| | 14 | 30 33.8 | 22 0.2 | 325 53.4 | 9.8 | 21 7.6 | -11.2 | 57.5 |
| | 15 | 45 33.7 | 22 0.5 | 340 22.2 | 10.0 | 20 56.4 | -11.3 | 57.5 |
| | 16 | 60 33.6 | 22 0.8 | 354 51.2 | 10.1 | 20 45.1 | -11.4 | 57.4 |
| | 17 | 75 33.5 | 22 1.2 | 9 20.3 | 10.2 | 20 33.7 | -11.5 | 57.4 |
| | 18 | 90 33.4 | 22 1.5 | 23 49.5 | 10.4 | 20 22.3 | -11.6 | 57.3 |
| | 19 | 105 33.4 | 22 1.9 | 38 18.9 | 10.5 | 20 10.7 | -11.6 | 57.3 |
| | 20 | 120 33.3 | 22 2.2 | 52 48.4 | 10.6 | 19 59.1 | -11.7 | 57.3 |
| | 21 | 135 33.2 | 22 2.6 | 67 18.0 | 10.7 | 19 47.4 | -11.8 | 57.2 |
| | 22 | 150 33.1 | 22 2.9 | 81 47.8 | 10.9 | 19 35.5 | -11.9 | 57.2 |
| | 23 | 165 33.0 | 22 3.2 | 96 17.6 | 11.0 | 19 23.7 | -12.0 | 57.2 |
| | | *v* -0.1 SD 15.8 *d* 0.4 | | SD 15.8 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **01 Sunday** | 0 | 180 32.9 | 22 3.6 | 110 47.6 | 11.1 | 19 11.7 | -12.0 | 57.1 |
| | 1 | 195 32.8 | 22 3.9 | 125 17.8 | 11.2 | 18 59.6 | -12.1 | 57.1 |
| | 2 | 210 32.7 | 22 4.3 | 139 48.0 | 11.4 | 18 47.5 | -12.2 | 57.0 |
| | 3 | 225 32.6 | 22 4.6 | 154 18.4 | 11.5 | 18 35.3 | -12.3 | 57.0 |
| | 4 | 240 32.5 | 22 4.9 | 168 48.8 | 11.6 | 18 23.0 | -12.3 | 57.0 |
| | 5 | 255 32.4 | 22 5.3 | 183 19.5 | 11.7 | 18 10.7 | -12.4 | 56.9 |
| | 6 | 270 32.3 | 22 5.6 | 197 50.2 | 11.8 | 17 58.3 | -12.5 | 56.9 |
| | 7 | 285 32.2 | 22 5.9 | 212 21.0 | 12.0 | 17 45.8 | -12.6 | 56.9 |
| | 8 | 300 32.1 | 22 6.3 | 226 52.0 | 12.1 | 17 33.2 | -12.6 | 56.8 |
| | 9 | 315 32.0 | 22 6.6 | 241 23.0 | 12.2 | 17 20.6 | -12.7 | 56.8 |
| | 10 | 330 31.9 | 22 6.9 | 255 54.2 | 12.3 | 17 7.9 | -12.7 | 56.8 |
| | 11 | 345 31.8 | 22 7.3 | 270 25.5 | 12.4 | 16 55.2 | -12.8 | 56.7 |
| | 12 | 0 31.7 | 22 7.6 | 284 56.9 | 12.5 | 16 42.4 | -12.9 | 56.7 |
| | 13 | 15 31.6 | 22 7.9 | 299 28.5 | 12.6 | 16 29.5 | -12.9 | 56.6 |
| | 14 | 30 31.5 | 22 8.3 | 314 0.1 | 12.7 | 16 16.6 | -13.0 | 56.6 |
| | 15 | 45 31.4 | 22 8.6 | 328 31.8 | 12.8 | 16 3.6 | -13.0 | 56.6 |
| | 16 | 60 31.3 | 22 8.9 | 343 3.7 | 12.9 | 15 50.5 | -13.1 | 56.5 |
| | 17 | 75 31.2 | 22 9.2 | 357 35.6 | 13.1 | 15 37.4 | -13.2 | 56.5 |
| | 18 | 90 31.1 | 22 9.6 | 12 7.7 | 13.2 | 15 24.3 | -13.2 | 56.5 |
| | 19 | 105 31.0 | 22 9.9 | 26 39.8 | 13.3 | 15 11.1 | -13.3 | 56.4 |
| | 20 | 120 30.9 | 22 10.2 | 41 12.1 | 13.4 | 14 57.8 | -13.3 | 56.4 |
| | 21 | 135 30.8 | 22 10.5 | 55 44.4 | 13.5 | 14 44.5 | -13.4 | 56.4 |
| | 22 | 150 30.7 | 22 10.9 | 70 16.9 | 13.6 | 14 31.2 | -13.4 | 56.3 |
| | 23 | 165 30.6 | 22 11.2 | 84 49.4 | 13.7 | 14 17.8 | -13.4 | 56.3 |
| | | *v* -0.1 SD 15.8 *d* 0.3 | | SD 15.6 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **02 Monday** | 0 | 180 30.5 | 22 11.5 | 99 22.1 | 13.7 | 14 4.3 | -13.5 | 56.3 |
| | 1 | 195 30.4 | 22 11.8 | 113 54.8 | 13.8 | 13 50.8 | -13.5 | 56.2 |
| | 2 | 210 30.3 | 22 12.2 | 128 27.7 | 13.9 | 13 37.3 | -13.6 | 56.2 |
| | 3 | 225 30.2 | 22 12.5 | 143 0.6 | 14.0 | 13 23.7 | -13.6 | 56.2 |
| | 4 | 240 30.1 | 22 12.8 | 157 33.6 | 14.1 | 13 10.1 | -13.7 | 56.1 |
| | 5 | 255 30.0 | 22 13.1 | 172 6.8 | 14.2 | 12 56.5 | -13.7 | 56.1 |
| | 6 | 270 29.9 | 22 13.4 | 186 40.0 | 14.3 | 12 42.8 | -13.7 | 56.1 |
| | 7 | 285 29.8 | 22 13.8 | 201 13.2 | 14.4 | 12 29.1 | -13.8 | 56.0 |
| | 8 | 300 29.7 | 22 14.1 | 215 46.6 | 14.5 | 12 15.3 | -13.8 | 56.0 |
| | 9 | 315 29.6 | 22 14.4 | 230 20.1 | 14.5 | 12 1.5 | -13.8 | 56.0 |
| | 10 | 330 29.5 | 22 14.7 | 244 53.6 | 14.6 | 11 47.7 | -13.9 | 55.9 |
| | 11 | 345 29.4 | 22 15.0 | 259 27.2 | 14.7 | 11 33.8 | -13.9 | 55.9 |
| | 12 | 0 29.3 | 22 15.3 | 274 1.0 | 14.8 | 11 19.9 | -13.9 | 55.9 |
| | 13 | 15 29.2 | 22 15.7 | 288 34.7 | 14.9 | 11 6.0 | -14.0 | 55.8 |
| | 14 | 30 29.1 | 22 16.0 | 303 8.6 | 14.9 | 10 52.0 | -14.0 | 55.8 |
| | 15 | 45 29.0 | 22 16.3 | 317 42.5 | 15.0 | 10 38.0 | -14.0 | 55.8 |
| | 16 | 60 28.9 | 22 16.6 | 332 16.5 | 15.1 | 10 24.0 | -14.0 | 55.8 |
| | 17 | 75 28.8 | 22 16.9 | 346 50.6 | 15.2 | 10 10.0 | -14.1 | 55.7 |
| | 18 | 90 28.7 | 22 17.2 | 1 24.8 | 15.2 | 9 55.9 | -14.1 | 55.7 |
| | 19 | 105 28.6 | 22 17.5 | 15 59.0 | 15.3 | 9 41.8 | -14.1 | 55.7 |
| | 20 | 120 28.5 | 22 17.8 | 30 33.3 | 15.4 | 9 27.7 | -14.1 | 55.6 |
| | 21 | 135 28.4 | 22 18.1 | 45 7.7 | 15.4 | 9 13.6 | -14.2 | 55.6 |
| | 22 | 150 28.3 | 22 18.5 | 59 42.1 | 15.5 | 8 59.4 | -14.2 | 55.6 |
| | 23 | 165 28.2 | 22 18.8 | 74 16.6 | 15.6 | 8 45.2 | -14.2 | 55.5 |
| | | *v* -0.1 SD 15.8 *d* 0.3 | | SD 15.3 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | //// | //// | 01:16 | 22:44 | //// | //// |
| 64 | //// | //// | 02:00 | 21:58 | //// | //// |
| 62 | //// | 00:16 | 02:29 | 21:28 | //// | //// |
| 60 | //// | 01:28 | 02:51 | 21:06 | 22:30 | //// |
| 58 | //// | 02:02 | 03:08 | 20:48 | 21:55 | //// |
| 56 | 00:14 | 02:26 | 03:23 | 20:33 | 21:31 | //// |
| 54 | 01:21 | 02:45 | 03:36 | 20:21 | 21:12 | 22:37 |
| 52 | 01:51 | 03:00 | 03:47 | 20:09 | 20:56 | 22:06 |
| 50 | 02:14 | 03:14 | 03:56 | 20:00 | 20:42 | 21:43 |
| 45 | 02:54 | 03:41 | 04:17 | 19:39 | 20:15 | 21:03 |
| 40 | 03:21 | 04:02 | 04:34 | 19:22 | 19:54 | 20:35 |
| 35 | 03:43 | 04:18 | 04:48 | 19:08 | 19:37 | 20:13 |
| 30 | 04:00 | 04:33 | 05:00 | 18:56 | 19:23 | 19:56 |
| 20 | 04:27 | 04:56 | 05:20 | 18:36 | 19:00 | 19:29 |
| 10 | 04:48 | 05:15 | 05:38 | 18:18 | 18:41 | 19:07 |
| 0 | 05:06 | 05:32 | 05:54 | 18:01 | 18:24 | 18:50 |
| -10 | 05:22 | 05:48 | 06:10 | 17:45 | 18:08 | 18:34 |
| -20 | 05:37 | 06:04 | 06:28 | 17:28 | 17:52 | 18:19 |
| -30 | 05:52 | 06:21 | 06:47 | 17:08 | 17:34 | 18:04 |
| -35 | 06:00 | 06:31 | 06:59 | 16:57 | 17:24 | 17:56 |
| -40 | 06:08 | 06:42 | 07:12 | 16:43 | 17:13 | 17:47 |
| -45 | 06:17 | 06:54 | 07:27 | 16:28 | 17:01 | 17:38 |
| -50 | 06:28 | 07:09 | 07:46 | 16:09 | 16:46 | 17:27 |
| -52 | 06:33 | 07:16 | 07:55 | 16:00 | 16:40 | 17:22 |
| -54 | 06:38 | 07:23 | 08:05 | 15:50 | 16:32 | 17:17 |
| -56 | 06:43 | 07:31 | 08:17 | 15:38 | 16:24 | 17:12 |
| -58 | 06:49 | 07:40 | 08:30 | 15:25 | 16:15 | 17:06 |
| -60 | 06:56 | 07:51 | 08:45 | 15:10 | 16:04 | 16:59 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **31** | **01** | **02** | **31** | **01** | **02** |
| 72 | ▭ | ▭ | 08:56 | ▭ | ▭ | 02:35 |
| 70 | ▭ | 06:45 | 09:19 | ▭ | 03:08 | 02:11 |
| 68 | ▭ | 07:25 | 09:35 | ▭ | 02:27 | 01:52 |
| 66 | 05:23 | 07:53 | 09:49 | 02:42 | 01:58 | 01:37 |
| 64 | 06:09 | 08:13 | 10:00 | 01:55 | 01:36 | 01:24 |
| 62 | 06:39 | 08:30 | 10:10 | 01:24 | 01:19 | 01:14 |
| 60 | 07:01 | 08:44 | 10:18 | 01:01 | 01:04 | 01:04 |
| 58 | 07:19 | 08:55 | 10:25 | 00:42 | 00:51 | 00:56 |
| 56 | 07:34 | 09:05 | 10:31 | 00:26 | 00:40 | 00:49 |
| 54 | 07:47 | 09:14 | 10:36 | 00:13 | 00:31 | 00:43 |
| 52 | 07:59 | 09:22 | 10:41 | 00:01 | 00:22 | 00:37 |
| 50 | 08:09 | 09:29 | 10:46 | –:– | 00:14 | 00:32 |
| 45 | 08:30 | 09:45 | 10:55 | 23:57 | –:– | 00:20 |
| 40 | 08:47 | 09:57 | 11:03 | 23:44 | –:– | 00:11 |
| 35 | 09:01 | 10:07 | 11:10 | 23:32 | –:– | 00:02 |
| 30 | 09:13 | 10:17 | 11:16 | 23:22 | 23:55 | –:– |
| 20 | 09:34 | 10:32 | 11:26 | 23:04 | 23:43 | –:– |
| 10 | 09:52 | 10:46 | 11:36 | 22:48 | 23:31 | –:– |
| 0 | 10:09 | 10:59 | 11:44 | 22:33 | 23:21 | –:– |
| -10 | 10:26 | 11:11 | 11:52 | 22:19 | 23:10 | 23:58 |
| -20 | 10:44 | 11:25 | 12:01 | 22:03 | 22:59 | 23:51 |
| -30 | 11:04 | 11:40 | 12:11 | 21:44 | 22:46 | 23:44 |
| -35 | 11:16 | 11:49 | 12:17 | 21:33 | 22:38 | 23:39 |
| -40 | 11:30 | 11:59 | 12:24 | 21:21 | 22:29 | 23:34 |
| -45 | 11:46 | 12:11 | 12:31 | 21:06 | 22:19 | 23:28 |
| -50 | 12:05 | 12:25 | 12:40 | 20:48 | 22:07 | 23:21 |
| -52 | 12:15 | 12:32 | 12:44 | 20:39 | 22:01 | 23:18 |
| -54 | 12:25 | 12:39 | 12:49 | 20:29 | 21:54 | 23:14 |
| -56 | 12:37 | 12:47 | 12:54 | 20:18 | 21:47 | 23:10 |
| -58 | 12:50 | 12:56 | 13:00 | 20:06 | 21:39 | 23:05 |
| -60 | 13:06 | 13:07 | 13:06 | 19:51 | 21:29 | 23:00 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **31** | 02:21 | 02:16 | 11:58 | 16:21 | 03:55 | 4 | 19 |
| **01** | 02:11 | 02:07 | 11:58 | 17:10 | 04:46 | 5 | 29 |
| **02** | 02:02 | 01:57 | 11:58 | 17:54 | 05:33 | 6 | 38 |

## 2025 June 03, 04, 05 (Tue, Wed, Thu)

| d | h | Aries GHA | Venus -4.4 GHA | Venus -4.4 Dec | Mars 1.3 GHA | Mars 1.3 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 03 Tuesday | 0 | 251 42.2 | 225 57.7 | 8 15.2 | 106 44.1 | 15 28.7 | 163 23.6 | 23 15.2 | 250 17.9 | -1 41.7 |
| | 1 | 266 44.7 | 240 57.8 | 8 16.0 | 121 45.3 | 15 28.2 | 178 25.5 | 23 15.2 | 265 20.2 | -1 41.7 |
| | 2 | 281 47.2 | 255 58.0 | 8 16.8 | 136 46.5 | 15 27.7 | 193 27.3 | 23 15.3 | 280 22.5 | -1 41.6 |
| | 3 | 296 49.6 | 270 58.1 | 8 17.5 | 151 47.6 | 15 27.2 | 208 29.2 | 23 15.3 | 295 24.8 | -1 41.6 |
| | 4 | 311 52.1 | 285 58.2 | 8 18.3 | 166 48.8 | 15 26.8 | 223 31.0 | 23 15.3 | 310 27.1 | -1 41.5 |
| | 5 | 326 54.6 | 300 58.3 | 8 19.1 | 181 50.0 | 15 26.3 | 238 32.9 | 23 15.3 | 325 29.4 | -1 41.5 |
| | 6 | 341 57.0 | 315 58.5 | 8 19.8 | 196 51.1 | 15 25.8 | 253 34.7 | 23 15.3 | 340 31.7 | -1 41.4 |
| | 7 | 356 59.5 | 330 58.6 | 8 20.6 | 211 52.3 | 15 25.3 | 268 36.6 | 23 15.3 | 355 34.1 | -1 41.3 |
| | 8 | 12 2.0 | 345 58.7 | 8 21.3 | 226 53.4 | 15 24.9 | 283 38.4 | 23 15.3 | 10 36.4 | -1 41.3 |
| | 9 | 27 4.4 | 0 58.8 | 8 22.1 | 241 54.6 | 15 24.4 | 298 40.3 | 23 15.3 | 25 38.7 | -1 41.2 |
| | 10 | 42 6.9 | 15 59.0 | 8 22.9 | 256 55.8 | 15 23.9 | 313 42.1 | 23 15.3 | 40 41.0 | -1 41.2 |
| | 11 | 57 9.3 | 30 59.1 | 8 23.6 | 271 56.9 | 15 23.4 | 328 44.0 | 23 15.4 | 55 43.3 | -1 41.1 |
| | 12 | 72 11.8 | 45 59.2 | 8 24.4 | 286 58.1 | 15 23.0 | 343 45.8 | 23 15.4 | 70 45.6 | -1 41.1 |
| | 13 | 87 14.3 | 60 59.3 | 8 25.2 | 301 59.2 | 15 22.5 | 358 47.7 | 23 15.4 | 85 48.0 | -1 41.0 |
| | 14 | 102 16.7 | 75 59.4 | 8 25.9 | 317 0.4 | 15 22.0 | 13 49.5 | 23 15.4 | 100 50.3 | -1 41.0 |
| | 15 | 117 19.2 | 90 59.6 | 8 26.7 | 332 1.6 | 15 21.5 | 28 51.4 | 23 15.4 | 115 52.6 | -1 40.9 |
| | 16 | 132 21.7 | 105 59.7 | 8 27.4 | 347 2.7 | 15 21.1 | 43 53.2 | 23 15.4 | 130 54.9 | -1 40.9 |
| | 17 | 147 24.1 | 120 59.8 | 8 28.2 | 2 3.9 | 15 20.6 | 58 55.1 | 23 15.4 | 145 57.2 | -1 40.8 |
| | 18 | 162 26.6 | 135 59.9 | 8 29.0 | 17 5.1 | 15 20.1 | 73 57.0 | 23 15.4 | 160 59.5 | -1 40.8 |
| | 19 | 177 29.1 | 151 0.0 | 8 29.7 | 32 6.2 | 15 19.6 | 88 58.8 | 23 15.4 | 176 1.9 | -1 40.7 |
| | 20 | 192 31.5 | 166 0.2 | 8 30.5 | 47 7.4 | 15 19.2 | 104 0.7 | 23 15.4 | 191 4.2 | -1 40.7 |
| | 21 | 207 34.0 | 181 0.3 | 8 31.3 | 62 8.5 | 15 18.7 | 119 2.5 | 23 15.5 | 206 6.5 | -1 40.6 |
| | 22 | 222 36.4 | 196 0.4 | 8 32.0 | 77 9.7 | 15 18.2 | 134 4.4 | 23 15.5 | 221 8.8 | -1 40.5 |
| | 23 | 237 38.9 | 211 0.5 | 8 32.8 | 92 10.9 | 15 17.7 | 149 6.2 | 23 15.5 | 236 11.1 | -1 40.5 |
| | | MP 07:13 | *v* 0.1 | *d* 0.8 | *v* 1.2 | *d* -0.5 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 04 Wednesday | 0 | 252 41.4 | 226 0.6 | 8 33.6 | 107 12.0 | 15 17.3 | 164 8.1 | 23 15.5 | 251 13.4 | -1 40.4 |
| | 1 | 267 43.8 | 241 0.7 | 8 34.3 | 122 13.2 | 15 16.8 | 179 9.9 | 23 15.5 | 266 15.8 | -1 40.4 |
| | 2 | 282 46.3 | 256 0.8 | 8 35.1 | 137 14.3 | 15 16.3 | 194 11.8 | 23 15.5 | 281 18.1 | -1 40.3 |
| | 3 | 297 48.8 | 271 0.9 | 8 35.9 | 152 15.5 | 15 15.8 | 209 13.6 | 23 15.5 | 296 20.4 | -1 40.3 |
| | 4 | 312 51.2 | 286 1.1 | 8 36.6 | 167 16.7 | 15 15.3 | 224 15.5 | 23 15.5 | 311 22.7 | -1 40.2 |
| | 5 | 327 53.7 | 301 1.2 | 8 37.4 | 182 17.8 | 15 14.9 | 239 17.3 | 23 15.5 | 326 25.0 | -1 40.2 |
| | 6 | 342 56.2 | 316 1.3 | 8 38.2 | 197 19.0 | 15 14.4 | 254 19.2 | 23 15.5 | 341 27.4 | -1 40.1 |
| | 7 | 357 58.6 | 331 1.4 | 8 38.9 | 212 20.1 | 15 13.9 | 269 21.0 | 23 15.6 | 356 29.7 | -1 40.1 |
| | 8 | 13 1.1 | 346 1.5 | 8 39.7 | 227 21.3 | 15 13.4 | 284 22.9 | 23 15.6 | 11 32.0 | -1 40.0 |
| | 9 | 28 3.6 | 1 1.6 | 8 40.5 | 242 22.4 | 15 12.9 | 299 24.7 | 23 15.6 | 26 34.3 | -1 40.0 |
| | 10 | 43 6.0 | 16 1.7 | 8 41.2 | 257 23.6 | 15 12.5 | 314 26.6 | 23 15.6 | 41 36.6 | -1 39.9 |
| | 11 | 58 8.5 | 31 1.8 | 8 42.0 | 272 24.8 | 15 12.0 | 329 28.4 | 23 15.6 | 56 38.9 | -1 39.9 |
| | 12 | 73 10.9 | 46 1.9 | 8 42.8 | 287 25.9 | 15 11.5 | 344 30.3 | 23 15.6 | 71 41.3 | -1 39.8 |
| | 13 | 88 13.4 | 61 2.0 | 8 43.5 | 302 27.1 | 15 11.0 | 359 32.1 | 23 15.6 | 86 43.6 | -1 39.8 |
| | 14 | 103 15.9 | 76 2.1 | 8 44.3 | 317 28.2 | 15 10.5 | 14 34.0 | 23 15.6 | 101 45.9 | -1 39.7 |
| | 15 | 118 18.3 | 91 2.2 | 8 45.1 | 332 29.4 | 15 10.1 | 29 35.8 | 23 15.6 | 116 48.2 | -1 39.7 |
| | 16 | 133 20.8 | 106 2.3 | 8 45.8 | 347 30.6 | 15 9.6 | 44 37.7 | 23 15.6 | 131 50.5 | -1 39.6 |
| | 17 | 148 23.3 | 121 2.4 | 8 46.6 | 2 31.7 | 15 9.1 | 59 39.5 | 23 15.6 | 146 52.9 | -1 39.6 |
| | 18 | 163 25.7 | 136 2.5 | 8 47.4 | 17 32.9 | 15 8.6 | 74 41.4 | 23 15.7 | 161 55.2 | -1 39.5 |
| | 19 | 178 28.2 | 151 2.6 | 8 48.1 | 32 34.0 | 15 8.1 | 89 43.2 | 23 15.7 | 176 57.5 | -1 39.5 |
| | 20 | 193 30.7 | 166 2.7 | 8 48.9 | 47 35.2 | 15 7.7 | 104 45.1 | 23 15.7 | 191 59.8 | -1 39.4 |
| | 21 | 208 33.1 | 181 2.8 | 8 49.7 | 62 36.4 | 15 7.2 | 119 46.9 | 23 15.7 | 207 2.1 | -1 39.4 |
| | 22 | 223 35.6 | 196 2.9 | 8 50.5 | 77 37.5 | 15 6.7 | 134 48.8 | 23 15.7 | 222 4.5 | -1 39.3 |
| | 23 | 238 38.1 | 211 3.0 | 8 51.2 | 92 38.7 | 15 6.2 | 149 50.7 | 23 15.7 | 237 6.8 | -1 39.3 |
| | | MP 07:09 | *v* 0.1 | *d* 0.8 | *v* 1.2 | *d* -0.5 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Thursday | 0 | 253 40.5 | 226 3.1 | 8 52.0 | 107 39.8 | 15 5.7 | 164 52.5 | 23 15.7 | 252 9.1 | -1 39.2 |
| | 1 | 268 43.0 | 241 3.2 | 8 52.8 | 122 41.0 | 15 5.3 | 179 54.4 | 23 15.7 | 267 11.4 | -1 39.2 |
| | 2 | 283 45.4 | 256 3.3 | 8 53.5 | 137 42.1 | 15 4.8 | 194 56.2 | 23 15.7 | 282 13.7 | -1 39.1 |
| | 3 | 298 47.9 | 271 3.4 | 8 54.3 | 152 43.3 | 15 4.3 | 209 58.1 | 23 15.7 | 297 16.1 | -1 39.0 |
| | 4 | 313 50.4 | 286 3.5 | 8 55.1 | 167 44.5 | 15 3.8 | 224 59.9 | 23 15.7 | 312 18.4 | -1 39.0 |
| | 5 | 328 52.8 | 301 3.6 | 8 55.8 | 182 45.6 | 15 3.3 | 240 1.8 | 23 15.8 | 327 20.7 | -1 38.9 |
| | 6 | 343 55.3 | 316 3.7 | 8 56.6 | 197 46.8 | 15 2.8 | 255 3.6 | 23 15.8 | 342 23.0 | -1 38.9 |
| | 7 | 358 57.8 | 331 3.8 | 8 57.4 | 212 47.9 | 15 2.4 | 270 5.5 | 23 15.8 | 357 25.4 | -1 38.8 |
| | 8 | 14 0.2 | 346 3.9 | 8 58.2 | 227 49.1 | 15 1.9 | 285 7.3 | 23 15.8 | 12 27.7 | -1 38.8 |
| | 9 | 29 2.7 | 1 4.0 | 8 58.9 | 242 50.2 | 15 1.4 | 300 9.2 | 23 15.8 | 27 30.0 | -1 38.7 |
| | 10 | 44 5.2 | 16 4.1 | 8 59.7 | 257 51.4 | 15 0.9 | 315 11.0 | 23 15.8 | 42 32.3 | -1 38.7 |
| | 11 | 59 7.6 | 31 4.2 | 9 0.5 | 272 52.6 | 15 0.4 | 330 12.9 | 23 15.8 | 57 34.6 | -1 38.6 |
| | 12 | 74 10.1 | 46 4.2 | 9 1.2 | 287 53.7 | 14 59.9 | 345 14.7 | 23 15.8 | 72 37.0 | -1 38.6 |
| | 13 | 89 12.5 | 61 4.3 | 9 2.0 | 302 54.9 | 14 59.5 | 0 16.6 | 23 15.8 | 87 39.3 | -1 38.5 |
| | 14 | 104 15.0 | 76 4.4 | 9 2.8 | 317 56.0 | 14 59.0 | 15 18.4 | 23 15.8 | 102 41.6 | -1 38.5 |
| | 15 | 119 17.5 | 91 4.5 | 9 3.6 | 332 57.2 | 14 58.5 | 30 20.3 | 23 15.8 | 117 43.9 | -1 38.4 |
| | 16 | 134 19.9 | 106 4.6 | 9 4.3 | 347 58.3 | 14 58.0 | 45 22.1 | 23 15.9 | 132 46.3 | -1 38.4 |
| | 17 | 149 22.4 | 121 4.7 | 9 5.1 | 2 59.5 | 14 57.5 | 60 24.0 | 23 15.9 | 147 48.6 | -1 38.3 |
| | 18 | 164 24.9 | 136 4.8 | 9 5.9 | 18 0.7 | 14 57.0 | 75 25.8 | 23 15.9 | 162 50.9 | -1 38.3 |
| | 19 | 179 27.3 | 151 4.8 | 9 6.6 | 33 1.8 | 14 56.6 | 90 27.7 | 23 15.9 | 177 53.2 | -1 38.2 |
| | 20 | 194 29.8 | 166 4.9 | 9 7.4 | 48 3.0 | 14 56.1 | 105 29.5 | 23 15.9 | 192 55.5 | -1 38.2 |
| | 21 | 209 32.3 | 181 5.0 | 9 8.2 | 63 4.1 | 14 55.6 | 120 31.4 | 23 15.9 | 207 57.9 | -1 38.1 |
| | 22 | 224 34.7 | 196 5.1 | 9 9.0 | 78 5.3 | 14 55.1 | 135 33.2 | 23 15.9 | 223 0.2 | -1 38.1 |
| | 23 | 239 37.2 | 211 5.2 | 9 9.7 | 93 6.4 | 14 54.6 | 150 35.1 | 23 15.9 | 238 2.5 | -1 38.0 |
| | | MP 07:05 | *v* 0.1 | *d* 0.8 | *v* 1.2 | *d* -0.5 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.1 |
| Achernar | 335 20.3 | -57 6.2 |
| Acrux | 172 59.5 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.5 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.5 |
| Alkaid | 152 51.4 | 49 11.3 |
| Alnair | 27 32.4 | -46 50.1 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.7 |
| Alpheratz | 357 34.6 | 29 13.7 |
| Altair | 61 59.4 | 8 56.0 |
| Ankaa | 353 7.0 | -42 9.9 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.3 | 19 3.0 |
| Atria | 107 8.4 | -69 4.4 |
| Avior | 234 15.0 | -59 35.6 |
| Bellatrix | 278 22.9 | 6 22.3 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.6 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.3 | 45 22.0 |
| Denebola | 182 24.5 | 14 25.8 |
| Diphda | 348 47.1 | -17 50.8 |
| Dubhe | 193 40.6 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.0 |
| Enif | 33 38.4 | 9 59.4 |
| Fomalhaut | 15 14.2 | -29 29.1 |
| Gacrux | 171 51.1 | -57 15.6 |
| Gienah | 175 43.1 | -17 41.1 |
| Hadar | 148 35.1 | -60 30.0 |
| Hamal | 327 51.1 | 23 34.8 |
| Kaus Aust. | 83 31.7 | -34 22.3 |
| Kochab | 137 18.7 | 74 3.1 |
| Markab | 13 29.6 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.9 |
| Miaplacidus | 221 38.7 | -69 49.5 |
| Mirfak | 308 28.3 | 49 57.0 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.8 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.3 |
| Rigil Kent. | 139 39.3 | -60 56.6 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 31.0 | 56 40.3 |
| Shaula | 96 9.5 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.3 |
| Vega | 80 32.6 | 38 48.3 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 03 Tue | SHA | MP |
|---|---|---|
| Venus | 334 15.5 | 08:56 |
| Mars | 215 1.9 | 16:52 |
| Jupiter | 271 41.4 | 13:05 |
| Saturn | 358 35.6 | 07:18 |

| 04 Wed | SHA | MP |
|---|---|---|
| Venus | 333 19.2 | 08:56 |
| Mars | 214 30.6 | 16:50 |
| Jupiter | 271 26.7 | 13:02 |
| Saturn | 358 32.1 | 07:14 |

| 05 Thu | SHA | MP |
|---|---|---|
| Venus | 332 22.6 | 08:56 |
| Mars | 213 59.3 | 16:48 |
| Jupiter | 271 12.0 | 12:59 |
| Saturn | 358 28.6 | 07:10 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **03 Tuesday** | 0 | 180 28.1 | 22 19.1 | 88 51.2 | 15.6 | 8 31.0 | -14.2 | 55.5 |
| | 1 | 195 28.0 | 22 19.4 | 103 25.8 | 15.7 | 8 16.8 | -14.2 | 55.5 |
| | 2 | 210 27.9 | 22 19.7 | 118 0.5 | 15.7 | 8 2.6 | -14.2 | 55.5 |
| | 3 | 225 27.8 | 22 20.0 | 132 35.2 | 15.8 | 7 48.3 | -14.3 | 55.4 |
| | 4 | 240 27.7 | 22 20.3 | 147 10.1 | 15.9 | 7 34.1 | -14.3 | 55.4 |
| | 5 | 255 27.6 | 22 20.6 | 161 44.9 | 15.9 | 7 19.8 | -14.3 | 55.4 |
| | 6 | 270 27.4 | 22 20.9 | 176 19.8 | 16.0 | 7 5.5 | -14.3 | 55.4 |
| | 7 | 285 27.3 | 22 21.2 | 190 54.8 | 16.0 | 6 51.2 | -14.3 | 55.3 |
| | 8 | 300 27.2 | 22 21.5 | 205 29.8 | 16.1 | 6 36.9 | -14.3 | 55.3 |
| | 9 | 315 27.1 | 22 21.8 | 220 4.9 | 16.1 | 6 22.5 | -14.3 | 55.3 |
| | 10 | 330 27.0 | 22 22.1 | 234 40.1 | 16.2 | 6 8.2 | -14.4 | 55.3 |
| | 11 | 345 26.9 | 22 22.4 | 249 15.2 | 16.2 | 5 53.8 | -14.4 | 55.2 |
| | 12 | 0 26.8 | 22 22.7 | 263 50.5 | 16.3 | 5 39.5 | -14.4 | 55.2 |
| | 13 | 15 26.7 | 22 23.0 | 278 25.7 | 16.3 | 5 25.1 | -14.4 | 55.2 |
| | 14 | 30 26.6 | 22 23.3 | 293 1.1 | 16.4 | 5 10.7 | -14.4 | 55.2 |
| | 15 | 45 26.5 | 22 23.6 | 307 36.4 | 16.4 | 4 56.3 | -14.4 | 55.1 |
| | 16 | 60 26.4 | 22 23.9 | 322 11.8 | 16.4 | 4 42.0 | -14.4 | 55.1 |
| | 17 | 75 26.3 | 22 24.2 | 336 47.3 | 16.5 | 4 27.6 | -14.4 | 55.1 |
| | 18 | 90 26.2 | 22 24.5 | 351 22.8 | 16.5 | 4 13.2 | -14.4 | 55.1 |
| | 19 | 105 26.1 | 22 24.8 | 5 58.3 | 16.6 | 3 58.8 | -14.4 | 55.0 |
| | 20 | 120 26.0 | 22 25.1 | 20 33.9 | 16.6 | 3 44.3 | -14.4 | 55.0 |
| | 21 | 135 25.9 | 22 25.3 | 35 9.5 | 16.6 | 3 29.9 | -14.4 | 55.0 |
| | 22 | 150 25.8 | 22 25.6 | 49 45.1 | 16.7 | 3 15.5 | -14.4 | 55.0 |
| | 23 | 165 25.7 | 22 25.9 | 64 20.8 | 16.7 | 3 1.1 | -14.4 | 54.9 |
| | | *v* -0.1 | SD 15.8 | *d* 0.3 | | SD 15.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **04 Wednesday** | 0 | 180 25.5 | 22 26.2 | 78 56.5 | 16.7 | 2 46.7 | -14.4 | 54.9 |
| | 1 | 195 25.4 | 22 26.5 | 93 32.2 | 16.8 | 2 32.3 | -14.4 | 54.9 |
| | 2 | 210 25.3 | 22 26.8 | 108 8.0 | 16.8 | 2 17.9 | -14.4 | 54.9 |
| | 3 | 225 25.2 | 22 27.1 | 122 43.8 | 16.8 | 2 3.5 | -14.4 | 54.9 |
| | 4 | 240 25.1 | 22 27.4 | 137 19.6 | 16.8 | 1 49.1 | -14.4 | 54.8 |
| | 5 | 255 25.0 | 22 27.7 | 151 55.5 | 16.9 | 1 34.7 | -14.4 | 54.8 |
| | 6 | 270 24.9 | 22 27.9 | 166 31.3 | 16.9 | 1 20.3 | -14.4 | 54.8 |
| | 7 | 285 24.8 | 22 28.2 | 181 7.2 | 16.9 | 1 5.9 | -14.4 | 54.8 |
| | 8 | 300 24.7 | 22 28.5 | 195 43.1 | 16.9 | 0 51.5 | -14.4 | 54.8 |
| | 9 | 315 24.6 | 22 28.8 | 210 19.1 | 17.0 | 0 37.1 | -14.4 | 54.7 |
| | 10 | 330 24.5 | 22 29.1 | 224 55.0 | 17.0 | 0 22.8 | -14.4 | 54.7 |
| | 11 | 345 24.4 | 22 29.4 | 239 31.0 | 17.0 | 0 8.4 | -14.4 | 54.7 |
| | 12 | 0 24.2 | 22 29.7 | 254 7.0 | 17.0 | -0 5.9 | 14.3 | 54.7 |
| | 13 | 15 24.1 | 22 29.9 | 268 43.0 | 17.0 | -0 20.3 | 14.3 | 54.7 |
| | 14 | 30 24.0 | 22 30.2 | 283 19.1 | 17.0 | -0 34.6 | 14.3 | 54.6 |
| | 15 | 45 23.9 | 22 30.5 | 297 55.1 | 17.1 | -0 48.9 | 14.3 | 54.6 |
| | 16 | 60 23.8 | 22 30.8 | 312 31.1 | 17.1 | -1 3.2 | 14.3 | 54.6 |
| | 17 | 75 23.7 | 22 31.1 | 327 7.2 | 17.1 | -1 17.5 | 14.3 | 54.6 |
| | 18 | 90 23.6 | 22 31.3 | 341 43.3 | 17.1 | -1 31.8 | 14.3 | 54.6 |
| | 19 | 105 23.5 | 22 31.6 | 356 19.4 | 17.1 | -1 46.1 | 14.3 | 54.6 |
| | 20 | 120 23.4 | 22 31.9 | 10 55.5 | 17.1 | -2 0.3 | 14.2 | 54.5 |
| | 21 | 135 23.3 | 22 32.2 | 25 31.6 | 17.1 | -2 14.6 | 14.2 | 54.5 |
| | 22 | 150 23.2 | 22 32.4 | 40 7.7 | 17.1 | -2 28.8 | 14.2 | 54.5 |
| | 23 | 165 23.0 | 22 32.7 | 54 43.8 | 17.1 | -2 43.0 | 14.2 | 54.5 |
| | | *v* -0.1 | SD 15.8 | *d* 0.3 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **05 Thursday** | 0 | 180 22.9 | 22 33.0 | 69 19.9 | 17.1 | -2 57.2 | 14.2 | 54.5 |
| | 1 | 195 22.8 | 22 33.3 | 83 56.0 | 17.1 | -3 11.4 | 14.2 | 54.5 |
| | 2 | 210 22.7 | 22 33.5 | 98 32.1 | 17.1 | -3 25.5 | 14.1 | 54.5 |
| | 3 | 225 22.6 | 22 33.8 | 113 8.2 | 17.1 | -3 39.7 | 14.1 | 54.4 |
| | 4 | 240 22.5 | 22 34.1 | 127 44.3 | 17.1 | -3 53.8 | 14.1 | 54.4 |
| | 5 | 255 22.4 | 22 34.3 | 142 20.4 | 17.1 | -4 7.9 | 14.1 | 54.4 |
| | 6 | 270 22.3 | 22 34.6 | 156 56.5 | 17.1 | -4 22.0 | 14.1 | 54.4 |
| | 7 | 285 22.2 | 22 34.9 | 171 32.6 | 17.1 | -4 36.0 | 14.0 | 54.4 |
| | 8 | 300 22.0 | 22 35.2 | 186 8.7 | 17.1 | -4 50.1 | 14.0 | 54.4 |
| | 9 | 315 21.9 | 22 35.4 | 200 44.8 | 17.1 | -5 4.1 | 14.0 | 54.4 |
| | 10 | 330 21.8 | 22 35.7 | 215 20.9 | 17.1 | -5 18.1 | 14.0 | 54.3 |
| | 11 | 345 21.7 | 22 36.0 | 229 56.9 | 17.1 | -5 32.0 | 13.9 | 54.3 |
| | 12 | 0 21.6 | 22 36.2 | 244 33.0 | 17.0 | -5 46.0 | 13.9 | 54.3 |
| | 13 | 15 21.5 | 22 36.5 | 259 9.0 | 17.0 | -5 59.9 | 13.9 | 54.3 |
| | 14 | 30 21.4 | 22 36.7 | 273 45.1 | 17.0 | -6 13.8 | 13.9 | 54.3 |
| | 15 | 45 21.3 | 22 37.0 | 288 21.1 | 17.0 | -6 27.6 | 13.8 | 54.3 |
| | 16 | 60 21.1 | 22 37.3 | 302 57.1 | 17.0 | -6 41.5 | 13.8 | 54.3 |
| | 17 | 75 21.0 | 22 37.5 | 317 33.1 | 17.0 | -6 55.3 | 13.8 | 54.3 |
| | 18 | 90 20.9 | 22 37.8 | 332 9.0 | 16.9 | -7 9.0 | 13.7 | 54.3 |
| | 19 | 105 20.8 | 22 38.1 | 346 45.0 | 16.9 | -7 22.8 | 13.7 | 54.2 |
| | 20 | 120 20.7 | 22 38.3 | 1 20.9 | 16.9 | -7 36.5 | 13.7 | 54.2 |
| | 21 | 135 20.6 | 22 38.6 | 15 56.8 | 16.9 | -7 50.2 | 13.7 | 54.2 |
| | 22 | 150 20.5 | 22 38.8 | 30 32.7 | 16.9 | -8 3.8 | 13.6 | 54.2 |
| | 23 | 165 20.4 | 22 39.1 | 45 8.5 | 16.8 | -8 17.5 | 13.6 | 54.2 |
| | | *v* -0.1 | SD 15.8 | *d* 0.3 | | SD 14.9 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | //// | //// | 01:03 | 22:58 | //// | //// |
| 64 | //// | //// | 01:53 | 22:06 | //// | //// |
| 62 | //// | //// | 02:23 | 21:34 | //// | //// |
| 60 | //// | 01:20 | 02:46 | 21:11 | 22:39 | //// |
| 58 | //// | 01:56 | 03:05 | 20:53 | 22:02 | //// |
| 56 | //// | 02:21 | 03:20 | 20:37 | 21:36 | //// |
| 54 | 01:13 | 02:41 | 03:33 | 20:24 | 21:16 | 22:46 |
| 52 | 01:46 | 02:57 | 03:44 | 20:13 | 21:00 | 22:12 |
| 50 | 02:10 | 03:11 | 03:54 | 20:03 | 20:46 | 21:48 |
| 45 | 02:51 | 03:39 | 04:16 | 19:41 | 20:18 | 21:06 |
| 40 | 03:20 | 04:00 | 04:32 | 19:24 | 19:57 | 20:37 |
| 35 | 03:41 | 04:17 | 04:47 | 19:10 | 19:39 | 20:15 |
| 30 | 03:59 | 04:32 | 04:59 | 18:58 | 19:25 | 19:58 |
| 20 | 04:27 | 04:56 | 05:20 | 18:37 | 19:01 | 19:30 |
| 10 | 04:48 | 05:15 | 05:38 | 18:19 | 18:41 | 19:08 |
| 0 | 05:06 | 05:32 | 05:55 | 18:02 | 18:24 | 18:50 |
| -10 | 05:22 | 05:48 | 06:11 | 17:45 | 18:08 | 18:34 |
| -20 | 05:38 | 06:05 | 06:29 | 17:28 | 17:51 | 18:19 |
| -30 | 05:53 | 06:23 | 06:49 | 17:07 | 17:34 | 18:03 |
| -35 | 06:01 | 06:33 | 07:01 | 16:56 | 17:24 | 17:55 |
| -40 | 06:10 | 06:44 | 07:14 | 16:42 | 17:12 | 17:46 |
| -45 | 06:20 | 06:56 | 07:30 | 16:26 | 17:00 | 17:37 |
| -50 | 06:30 | 07:11 | 07:49 | 16:07 | 16:45 | 17:26 |
| -52 | 06:35 | 07:18 | 07:58 | 15:58 | 16:38 | 17:21 |
| -54 | 06:40 | 07:26 | 08:09 | 15:47 | 16:30 | 17:16 |
| -56 | 06:46 | 07:34 | 08:21 | 15:36 | 16:22 | 17:10 |
| -58 | 06:52 | 07:44 | 08:34 | 15:22 | 16:12 | 17:04 |
| -60 | 06:59 | 07:55 | 08:50 | 15:06 | 16:01 | 16:57 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **03** | **04** | **05** | **03** | **04** | **05** |
| 72 | 11:11 | 13:11 | 15:10 | 01:50 | 01:16 | 00:44 |
| 70 | 11:20 | 13:11 | 15:00 | 01:38 | 01:12 | 00:48 |
| 68 | 11:27 | 13:10 | 14:52 | 01:29 | 01:10 | 00:52 |
| 66 | 11:32 | 13:10 | 14:46 | 01:21 | 01:08 | 00:55 |
| 64 | 11:37 | 13:09 | 14:40 | 01:15 | 01:06 | 00:57 |
| 62 | 11:41 | 13:09 | 14:35 | 01:09 | 01:04 | 00:59 |
| 60 | 11:45 | 13:09 | 14:31 | 01:04 | 01:03 | 01:01 |
| 58 | 11:48 | 13:08 | 14:27 | 00:59 | 01:01 | 01:03 |
| 56 | 11:51 | 13:08 | 14:24 | 00:55 | 01:00 | 01:05 |
| 54 | 11:54 | 13:08 | 14:21 | 00:52 | 00:59 | 01:06 |
| 52 | 11:56 | 13:08 | 14:19 | 00:48 | 00:58 | 01:07 |
| 50 | 11:58 | 13:08 | 14:16 | 00:45 | 00:57 | 01:09 |
| 45 | 12:03 | 13:07 | 14:11 | 00:39 | 00:55 | 01:11 |
| 40 | 12:06 | 13:07 | 14:07 | 00:33 | 00:54 | 01:13 |
| 35 | 12:10 | 13:07 | 14:03 | 00:29 | 00:52 | 01:15 |
| 30 | 12:12 | 13:07 | 14:00 | 00:24 | 00:51 | 01:17 |
| 20 | 12:17 | 13:06 | 13:54 | 00:17 | 00:49 | 01:20 |
| 10 | 12:22 | 13:06 | 13:49 | 00:10 | 00:47 | 01:22 |
| 0 | 12:26 | 13:06 | 13:45 | 00:04 | 00:45 | 01:25 |
| -10 | 12:30 | 13:05 | 13:40 | –:– | 00:43 | 01:27 |
| -20 | 12:34 | 13:05 | 13:36 | –:– | 00:41 | 01:29 |
| -30 | 12:39 | 13:05 | 13:30 | –:– | 00:39 | 01:32 |
| -35 | 12:42 | 13:05 | 13:27 | –:– | 00:37 | 01:34 |
| -40 | 12:45 | 13:05 | 13:24 | –:– | 00:36 | 01:36 |
| -45 | 12:49 | 13:04 | 13:20 | –:– | 00:34 | 01:38 |
| -50 | 12:53 | 13:04 | 13:15 | –:– | 00:32 | 01:41 |
| -52 | 12:55 | 13:04 | 13:13 | –:– | 00:31 | 01:42 |
| -54 | 12:57 | 13:04 | 13:11 | –:– | 00:30 | 01:43 |
| -56 | 12:59 | 13:04 | 13:08 | –:– | 00:28 | 01:45 |
| -58 | 13:02 | 13:04 | 13:05 | –:– | 00:27 | 01:46 |
| -60 | 13:05 | 13:04 | 13:02 | –:– | 00:26 | 01:48 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **03** | 01:52 | 01:47 | 11:58 | 18:35 | 06:15 | 7 | 48 |
| **04** | 01:42 | 01:37 | 11:58 | 19:15 | 06:55 | 8 | 58 |
| **05** | 01:32 | 01:26 | 11:59 | 19:54 | 07:35 | 9 | 68 |

## 2025 June 06, 07, 08 (Fri, Sat, Sun)

| | | Aries | Venus -4.3 | | Mars 1.3 | | Jupiter -1.9 | | Saturn 1.1 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 06 Friday | 0 | 254 39.7 | 226 5.3 | 9 10.5 | 108 7.6 | 14 54.1 | 165 36.9 | 23 15.9 | 253 4.8 | -1 38.0 |
| | 1 | 269 42.1 | 241 5.3 | 9 11.3 | 123 8.7 | 14 53.6 | 180 38.8 | 23 15.9 | 268 7.2 | -1 37.9 |
| | 2 | 284 44.6 | 256 5.4 | 9 12.1 | 138 9.9 | 14 53.2 | 195 40.6 | 23 15.9 | 283 9.5 | -1 37.9 |
| | 3 | 299 47.0 | 271 5.5 | 9 12.8 | 153 11.1 | 14 52.7 | 210 42.5 | 23 15.9 | 298 11.8 | -1 37.8 |
| | 4 | 314 49.5 | 286 5.6 | 9 13.6 | 168 12.2 | 14 52.2 | 225 44.3 | 23 15.9 | 313 14.1 | -1 37.8 |
| | 5 | 329 52.0 | 301 5.7 | 9 14.4 | 183 13.4 | 14 51.7 | 240 46.2 | 23 16.0 | 328 16.5 | -1 37.7 |
| | 6 | 344 54.4 | 316 5.7 | 9 15.2 | 198 14.5 | 14 51.2 | 255 48.0 | 23 16.0 | 343 18.8 | -1 37.7 |
| | 7 | 359 56.9 | 331 5.8 | 9 15.9 | 213 15.7 | 14 50.7 | 270 49.9 | 23 16.0 | 358 21.1 | -1 37.6 |
| | 8 | 14 59.4 | 346 5.9 | 9 16.7 | 228 16.8 | 14 50.2 | 285 51.7 | 23 16.0 | 13 23.4 | -1 37.6 |
| | 9 | 30 1.8 | 1 6.0 | 9 17.5 | 243 18.0 | 14 49.8 | 300 53.6 | 23 16.0 | 28 25.8 | -1 37.6 |
| | 10 | 45 4.3 | 16 6.0 | 9 18.3 | 258 19.1 | 14 49.3 | 315 55.4 | 23 16.0 | 43 28.1 | -1 37.5 |
| | 11 | 60 6.8 | 31 6.1 | 9 19.0 | 273 20.3 | 14 48.8 | 330 57.3 | 23 16.0 | 58 30.4 | -1 37.5 |
| | 12 | 75 9.2 | 46 6.2 | 9 19.8 | 288 21.5 | 14 48.3 | 345 59.1 | 23 16.0 | 73 32.7 | -1 37.4 |
| | 13 | 90 11.7 | 61 6.3 | 9 20.6 | 303 22.6 | 14 47.8 | 1 1.0 | 23 16.0 | 88 35.1 | -1 37.4 |
| | 14 | 105 14.2 | 76 6.3 | 9 21.4 | 318 23.8 | 14 47.3 | 16 2.8 | 23 16.0 | 103 37.4 | -1 37.3 |
| | 15 | 120 16.6 | 91 6.4 | 9 22.1 | 333 24.9 | 14 46.8 | 31 4.7 | 23 16.0 | 118 39.7 | -1 37.3 |
| | 16 | 135 19.1 | 106 6.5 | 9 22.9 | 348 26.1 | 14 46.3 | 46 6.5 | 23 16.0 | 133 42.0 | -1 37.2 |
| | 17 | 150 21.5 | 121 6.5 | 9 23.7 | 3 27.2 | 14 45.9 | 61 8.4 | 23 16.0 | 148 44.4 | -1 37.2 |
| | 18 | 165 24.0 | 136 6.6 | 9 24.5 | 18 28.4 | 14 45.4 | 76 10.2 | 23 16.1 | 163 46.7 | -1 37.1 |
| | 19 | 180 26.5 | 151 6.7 | 9 25.2 | 33 29.5 | 14 44.9 | 91 12.1 | 23 16.1 | 178 49.0 | -1 37.1 |
| | 20 | 195 28.9 | 166 6.7 | 9 26.0 | 48 30.7 | 14 44.4 | 106 13.9 | 23 16.1 | 193 51.3 | -1 37.0 |
| | 21 | 210 31.4 | 181 6.8 | 9 26.8 | 63 31.8 | 14 43.9 | 121 15.8 | 23 16.1 | 208 53.7 | -1 37.0 |
| | 22 | 225 33.9 | 196 6.9 | 9 27.6 | 78 33.0 | 14 43.4 | 136 17.6 | 23 16.1 | 223 56.0 | -1 36.9 |
| | 23 | 240 36.3 | 211 6.9 | 9 28.3 | 93 34.2 | 14 42.9 | 151 19.5 | 23 16.1 | 238 58.3 | -1 36.9 |
| | | MP 07:02 | *v* 0.1 | *d* 0.8 | *v* 1.2 | *d* -0.5 | *v* 1.9 | *d* 0.0 | *v* 2.3 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 07 Saturday | 0 | 255 38.8 | 226 7.0 | 9 29.1 | 108 35.3 | 14 42.4 | 166 21.3 | 23 16.1 | 254 0.7 | -1 36.8 |
| | 1 | 270 41.3 | 241 7.1 | 9 29.9 | 123 36.5 | 14 41.9 | 181 23.2 | 23 16.1 | 269 3.0 | -1 36.8 |
| | 2 | 285 43.7 | 256 7.1 | 9 30.7 | 138 37.6 | 14 41.5 | 196 25.0 | 23 16.1 | 284 5.3 | -1 36.7 |
| | 3 | 300 46.2 | 271 7.2 | 9 31.4 | 153 38.8 | 14 41.0 | 211 26.9 | 23 16.1 | 299 7.6 | -1 36.7 |
| | 4 | 315 48.6 | 286 7.3 | 9 32.2 | 168 39.9 | 14 40.5 | 226 28.7 | 23 16.1 | 314 10.0 | -1 36.6 |
| | 5 | 330 51.1 | 301 7.3 | 9 33.0 | 183 41.1 | 14 40.0 | 241 30.6 | 23 16.1 | 329 12.3 | -1 36.6 |
| | 6 | 345 53.6 | 316 7.4 | 9 33.8 | 198 42.2 | 14 39.5 | 256 32.4 | 23 16.1 | 344 14.6 | -1 36.5 |
| | 7 | 0 56.0 | 331 7.5 | 9 34.6 | 213 43.4 | 14 39.0 | 271 34.3 | 23 16.1 | 359 16.9 | -1 36.5 |
| | 8 | 15 58.5 | 346 7.5 | 9 35.3 | 228 44.5 | 14 38.5 | 286 36.1 | 23 16.2 | 14 19.3 | -1 36.4 |
| | 9 | 31 1.0 | 1 7.6 | 9 36.1 | 243 45.7 | 14 38.0 | 301 38.0 | 23 16.2 | 29 21.6 | -1 36.4 |
| | 10 | 46 3.4 | 16 7.6 | 9 36.9 | 258 46.8 | 14 37.5 | 316 39.8 | 23 16.2 | 44 23.9 | -1 36.3 |
| | 11 | 61 5.9 | 31 7.7 | 9 37.7 | 273 48.0 | 14 37.0 | 331 41.7 | 23 16.2 | 59 26.3 | -1 36.3 |
| | 12 | 76 8.4 | 46 7.7 | 9 38.4 | 288 49.2 | 14 36.5 | 346 43.5 | 23 16.2 | 74 28.6 | -1 36.2 |
| | 13 | 91 10.8 | 61 7.8 | 9 39.2 | 303 50.3 | 14 36.1 | 1 45.4 | 23 16.2 | 89 30.9 | -1 36.2 |
| | 14 | 106 13.3 | 76 7.9 | 9 40.0 | 318 51.5 | 14 35.6 | 16 47.2 | 23 16.2 | 104 33.3 | -1 36.2 |
| | 15 | 121 15.8 | 91 7.9 | 9 40.8 | 333 52.6 | 14 35.1 | 31 49.0 | 23 16.2 | 119 35.6 | -1 36.1 |
| | 16 | 136 18.2 | 106 8.0 | 9 41.6 | 348 53.8 | 14 34.6 | 46 50.9 | 23 16.2 | 134 37.9 | -1 36.1 |
| | 17 | 151 20.7 | 121 8.0 | 9 42.3 | 3 54.9 | 14 34.1 | 61 52.7 | 23 16.2 | 149 40.2 | -1 36.0 |
| | 18 | 166 23.1 | 136 8.1 | 9 43.1 | 18 56.1 | 14 33.6 | 76 54.6 | 23 16.2 | 164 42.6 | -1 36.0 |
| | 19 | 181 25.6 | 151 8.1 | 9 43.9 | 33 57.2 | 14 33.1 | 91 56.4 | 23 16.2 | 179 44.9 | -1 35.9 |
| | 20 | 196 28.1 | 166 8.2 | 9 44.7 | 48 58.4 | 14 32.6 | 106 58.3 | 23 16.2 | 194 47.2 | -1 35.9 |
| | 21 | 211 30.5 | 181 8.2 | 9 45.4 | 63 59.5 | 14 32.1 | 122 0.1 | 23 16.2 | 209 49.6 | -1 35.8 |
| | 22 | 226 33.0 | 196 8.3 | 9 46.2 | 79 0.7 | 14 31.6 | 137 2.0 | 23 16.2 | 224 51.9 | -1 35.8 |
| | 23 | 241 35.5 | 211 8.3 | 9 47.0 | 94 1.8 | 14 31.1 | 152 3.8 | 23 16.2 | 239 54.2 | -1 35.7 |
| | | MP 06:58 | *v* 0.1 | *d* 0.8 | *v* 1.2 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.3 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Sunday | 0 | 256 37.9 | 226 8.4 | 9 47.8 | 109 3.0 | 14 30.6 | 167 5.7 | 23 16.3 | 254 56.5 | -1 35.7 |
| | 1 | 271 40.4 | 241 8.4 | 9 48.6 | 124 4.1 | 14 30.1 | 182 7.5 | 23 16.3 | 269 58.9 | -1 35.6 |
| | 2 | 286 42.9 | 256 8.5 | 9 49.3 | 139 5.3 | 14 29.7 | 197 9.4 | 23 16.3 | 285 1.2 | -1 35.6 |
| | 3 | 301 45.3 | 271 8.5 | 9 50.1 | 154 6.4 | 14 29.2 | 212 11.2 | 23 16.3 | 300 3.5 | -1 35.5 |
| | 4 | 316 47.8 | 286 8.6 | 9 50.9 | 169 7.6 | 14 28.7 | 227 13.1 | 23 16.3 | 315 5.9 | -1 35.5 |
| | 5 | 331 50.3 | 301 8.6 | 9 51.7 | 184 8.7 | 14 28.2 | 242 14.9 | 23 16.3 | 330 8.2 | -1 35.5 |
| | 6 | 346 52.7 | 316 8.7 | 9 52.5 | 199 9.9 | 14 27.7 | 257 16.8 | 23 16.3 | 345 10.5 | -1 35.4 |
| | 7 | 1 55.2 | 331 8.7 | 9 53.2 | 214 11.0 | 14 27.2 | 272 18.6 | 23 16.3 | 0 12.9 | -1 35.4 |
| | 8 | 16 57.6 | 346 8.8 | 9 54.0 | 229 12.2 | 14 26.7 | 287 20.5 | 23 16.3 | 15 15.2 | -1 35.3 |
| | 9 | 32 0.1 | 1 8.8 | 9 54.8 | 244 13.3 | 14 26.2 | 302 22.3 | 23 16.3 | 30 17.5 | -1 35.3 |
| | 10 | 47 2.6 | 16 8.8 | 9 55.6 | 259 14.5 | 14 25.7 | 317 24.2 | 23 16.3 | 45 19.9 | -1 35.2 |
| | 11 | 62 5.0 | 31 8.9 | 9 56.4 | 274 15.7 | 14 25.2 | 332 26.0 | 23 16.3 | 60 22.2 | -1 35.2 |
| | 12 | 77 7.5 | 46 8.9 | 9 57.1 | 289 16.8 | 14 24.7 | 347 27.9 | 23 16.3 | 75 24.5 | -1 35.1 |
| | 13 | 92 10.0 | 61 9.0 | 9 57.9 | 304 18.0 | 14 24.2 | 2 29.7 | 23 16.3 | 90 26.9 | -1 35.1 |
| | 14 | 107 12.4 | 76 9.0 | 9 58.7 | 319 19.1 | 14 23.7 | 17 31.6 | 23 16.3 | 105 29.2 | -1 35.0 |
| | 15 | 122 14.9 | 91 9.1 | 9 59.5 | 334 20.3 | 14 23.2 | 32 33.4 | 23 16.3 | 120 31.5 | -1 35.0 |
| | 16 | 137 17.4 | 106 9.1 | 10 0.3 | 349 21.4 | 14 22.7 | 47 35.3 | 23 16.3 | 135 33.9 | -1 34.9 |
| | 17 | 152 19.8 | 121 9.1 | 10 1.0 | 4 22.6 | 14 22.2 | 62 37.1 | 23 16.3 | 150 36.2 | -1 34.9 |
| | 18 | 167 22.3 | 136 9.2 | 10 1.8 | 19 23.7 | 14 21.7 | 77 39.0 | 23 16.4 | 165 38.5 | -1 34.9 |
| | 19 | 182 24.7 | 151 9.2 | 10 2.6 | 34 24.9 | 14 21.2 | 92 40.8 | 23 16.4 | 180 40.9 | -1 34.8 |
| | 20 | 197 27.2 | 166 9.2 | 10 3.4 | 49 26.0 | 14 20.7 | 107 42.7 | 23 16.4 | 195 43.2 | -1 34.8 |
| | 21 | 212 29.7 | 181 9.3 | 10 4.2 | 64 27.2 | 14 20.3 | 122 44.5 | 23 16.4 | 210 45.5 | -1 34.7 |
| | 22 | 227 32.1 | 196 9.3 | 10 4.9 | 79 28.3 | 14 19.8 | 137 46.3 | 23 16.4 | 225 47.9 | -1 34.7 |
| | 23 | 242 34.6 | 211 9.3 | 10 5.7 | 94 29.5 | 14 19.3 | 152 48.2 | 23 16.4 | 240 50.2 | -1 34.6 |
| | | MP 06:54 | *v* 0.0 | *d* 0.8 | *v* 1.2 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.3 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.0 |
| Achernar | 335 20.3 | -57 6.2 |
| Acrux | 172 59.5 | -63 14.7 |
| Adhara | 255 6.0 | -29 0.5 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.5 |
| Alkaid | 152 51.4 | 49 11.3 |
| Alnair | 27 32.4 | -46 50.0 |
| Alnilam | 275 37.7 | -1 11.2 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.7 |
| Alpheratz | 357 34.6 | 29 13.7 |
| Altair | 61 59.4 | 8 56.0 |
| Ankaa | 353 7.0 | -42 9.9 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.0 |
| Atria | 107 8.4 | -69 4.4 |
| Avior | 234 15.1 | -59 35.6 |
| Bellatrix | 278 22.9 | 6 22.4 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.6 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.3 | 45 22.0 |
| Denebola | 182 24.6 | 14 25.8 |
| Diphda | 348 47.1 | -17 50.7 |
| Dubhe | 193 40.6 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.0 |
| Enif | 33 38.4 | 9 59.4 |
| Fomalhaut | 15 14.1 | -29 29.1 |
| Gacrux | 171 51.1 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.1 | -60 30.0 |
| Hamal | 327 51.1 | 23 34.8 |
| Kaus Aust. | 83 31.7 | -34 22.3 |
| Kochab | 137 18.7 | 74 3.2 |
| Markab | 13 29.6 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.3 |
| Menkent | 147 56.9 | -36 29.9 |
| Miaplacidus | 221 38.7 | -69 49.5 |
| Mirfak | 308 28.3 | 49 57.0 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.8 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.3 |
| Rigil Kent. | 139 39.3 | -60 56.6 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 30.9 | 56 40.3 |
| Shaula | 96 9.5 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.3 |
| Vega | 80 32.6 | 38 48.3 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 06 Fri | SHA | MP |
|---|---|---|
| Venus | 331 25.6 | 08:56 |
| Mars | 213 27.9 | 16:46 |
| Jupiter | 270 57.3 | 12:56 |
| Saturn | 358 25.2 | 07:07 |

| 07 Sat | SHA | MP |
|---|---|---|
| Venus | 330 28.2 | 08:56 |
| Mars | 212 56.5 | 16:44 |
| Jupiter | 270 42.5 | 12:53 |
| Saturn | 358 21.9 | 07:03 |

| 08 Sun | SHA | MP |
|---|---|---|
| Venus | 329 30.5 | 08:55 |
| Mars | 212 25.1 | 16:43 |
| Jupiter | 270 27.8 | 12:50 |
| Saturn | 358 18.6 | 06:59 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **06 Friday** | 0 | 180 20.2 | 22 39.4 | 59 44.4 | 16.8 | -8 31.1 | 13.6 | 54.2 |
| | 1 | 195 20.1 | 22 39.6 | 74 20.2 | 16.8 | -8 44.6 | 13.5 | 54.2 |
| | 2 | 210 20.0 | 22 39.9 | 88 56.0 | 16.8 | -8 58.1 | 13.5 | 54.2 |
| | 3 | 225 19.9 | 22 40.1 | 103 31.7 | 16.7 | -9 11.6 | 13.4 | 54.2 |
| | 4 | 240 19.8 | 22 40.4 | 118 7.5 | 16.7 | -9 25.1 | 13.4 | 54.2 |
| | 5 | 255 19.7 | 22 40.6 | 132 43.1 | 16.7 | -9 38.5 | 13.4 | 54.2 |
| | 6 | 270 19.6 | 22 40.9 | 147 18.8 | 16.6 | -9 51.8 | 13.3 | 54.2 |
| | 7 | 285 19.4 | 22 41.1 | 161 54.5 | 16.6 | -10 5.2 | 13.3 | 54.1 |
| | 8 | 300 19.3 | 22 41.4 | 176 30.1 | 16.6 | -10 18.5 | 13.3 | 54.1 |
| | 9 | 315 19.2 | 22 41.6 | 191 5.6 | 16.5 | -10 31.7 | 13.2 | 54.1 |
| | 10 | 330 19.1 | 22 41.9 | 205 41.2 | 16.5 | -10 45.0 | 13.2 | 54.1 |
| | 11 | 345 19.0 | 22 42.1 | 220 16.7 | 16.5 | -10 58.1 | 13.1 | 54.1 |
| | 12 | 0 18.9 | 22 42.4 | 234 52.1 | 16.4 | -11 11.3 | 13.1 | 54.1 |
| | 13 | 15 18.8 | 22 42.6 | 249 27.5 | 16.4 | -11 24.4 | 13.1 | 54.1 |
| | 14 | 30 18.6 | 22 42.9 | 264 2.9 | 16.3 | -11 37.4 | 13.0 | 54.1 |
| | 15 | 45 18.5 | 22 43.1 | 278 38.3 | 16.3 | -11 50.4 | 13.0 | 54.1 |
| | 16 | 60 18.4 | 22 43.4 | 293 13.6 | 16.3 | -12 3.4 | 12.9 | 54.1 |
| | 17 | 75 18.3 | 22 43.6 | 307 48.8 | 16.2 | -12 16.3 | 12.9 | 54.1 |
| | 18 | 90 18.2 | 22 43.9 | 322 24.1 | 16.2 | -12 29.2 | 12.8 | 54.1 |
| | 19 | 105 18.1 | 22 44.1 | 336 59.2 | 16.1 | -12 42.0 | 12.8 | 54.1 |
| | 20 | 120 17.9 | 22 44.4 | 351 34.4 | 16.1 | -12 54.8 | 12.7 | 54.1 |
| | 21 | 135 17.8 | 22 44.6 | 6 9.5 | 16.0 | -13 7.5 | 12.7 | 54.1 |
| | 22 | 150 17.7 | 22 44.8 | 20 44.5 | 16.0 | -13 20.2 | 12.6 | 54.1 |
| | 23 | 165 17.6 | 22 45.1 | 35 19.5 | 15.9 | -13 32.8 | 12.6 | 54.1 |
| | | *v* -0.1 | SD 15.8 | *d* 0.3 | | SD 14.8 | | |
| **07 Saturday** | 0 | 180 17.5 | 22 45.3 | 49 54.4 | 15.9 | -13 45.4 | 12.5 | 54.1 |
| | 1 | 195 17.4 | 22 45.6 | 64 29.3 | 15.8 | -13 58.0 | 12.5 | 54.1 |
| | 2 | 210 17.2 | 22 45.8 | 79 4.2 | 15.8 | -14 10.4 | 12.4 | 54.1 |
| | 3 | 225 17.1 | 22 46.0 | 93 39.0 | 15.7 | -14 22.9 | 12.4 | 54.1 |
| | 4 | 240 17.0 | 22 46.3 | 108 13.7 | 15.7 | -14 35.2 | 12.3 | 54.1 |
| | 5 | 255 16.9 | 22 46.5 | 122 48.4 | 15.6 | -14 47.5 | 12.3 | 54.1 |
| | 6 | 270 16.8 | 22 46.8 | 137 23.1 | 15.6 | -14 59.8 | 12.2 | 54.1 |
| | 7 | 285 16.7 | 22 47.0 | 151 57.6 | 15.5 | -15 12.0 | 12.1 | 54.1 |
| | 8 | 300 16.5 | 22 47.2 | 166 32.2 | 15.5 | -15 24.2 | 12.1 | 54.1 |
| | 9 | 315 16.4 | 22 47.5 | 181 6.6 | 15.4 | -15 36.3 | 12.0 | 54.1 |
| | 10 | 330 16.3 | 22 47.7 | 195 41.1 | 15.4 | -15 48.3 | 12.0 | 54.1 |
| | 11 | 345 16.2 | 22 47.9 | 210 15.4 | 15.3 | -16 0.3 | 11.9 | 54.1 |
| | 12 | 0 16.1 | 22 48.2 | 224 49.7 | 15.2 | -16 12.2 | 11.9 | 54.1 |
| | 13 | 15 16.0 | 22 48.4 | 239 23.9 | 15.2 | -16 24.0 | 11.8 | 54.1 |
| | 14 | 30 15.8 | 22 48.6 | 253 58.1 | 15.1 | -16 35.8 | 11.7 | 54.1 |
| | 15 | 45 15.7 | 22 48.9 | 268 32.2 | 15.1 | -16 47.5 | 11.7 | 54.1 |
| | 16 | 60 15.6 | 22 49.1 | 283 6.3 | 15.0 | -16 59.2 | 11.6 | 54.1 |
| | 17 | 75 15.5 | 22 49.3 | 297 40.3 | 14.9 | -17 10.8 | 11.5 | 54.1 |
| | 18 | 90 15.4 | 22 49.5 | 312 14.2 | 14.9 | -17 22.3 | 11.5 | 54.1 |
| | 19 | 105 15.2 | 22 49.8 | 326 48.1 | 14.8 | -17 33.8 | 11.4 | 54.1 |
| | 20 | 120 15.1 | 22 50.0 | 341 21.9 | 14.7 | -17 45.2 | 11.3 | 54.1 |
| | 21 | 135 15.0 | 22 50.2 | 355 55.6 | 14.7 | -17 56.5 | 11.3 | 54.1 |
| | 22 | 150 14.9 | 22 50.4 | 10 29.3 | 14.6 | -18 7.8 | 11.2 | 54.1 |
| | 23 | 165 14.8 | 22 50.7 | 25 2.9 | 14.5 | -18 19.0 | 11.1 | 54.1 |
| | | *v* -0.1 | SD 15.8 | *d* 0.2 | | SD 14.8 | | |
| **08 Sunday** | 0 | 180 14.7 | 22 50.9 | 39 36.4 | 14.5 | -18 30.1 | 11.0 | 54.1 |
| | 1 | 195 14.5 | 22 51.1 | 54 9.9 | 14.4 | -18 41.1 | 11.0 | 54.1 |
| | 2 | 210 14.4 | 22 51.3 | 68 43.3 | 14.3 | -18 52.1 | 10.9 | 54.1 |
| | 3 | 225 14.3 | 22 51.6 | 83 16.6 | 14.3 | -19 3.0 | 10.8 | 54.1 |
| | 4 | 240 14.2 | 22 51.8 | 97 49.9 | 14.2 | -19 13.9 | 10.8 | 54.1 |
| | 5 | 255 14.1 | 22 52.0 | 112 23.1 | 14.1 | -19 24.6 | 10.7 | 54.1 |
| | 6 | 270 13.9 | 22 52.2 | 126 56.2 | 14.0 | -19 35.3 | 10.6 | 54.1 |
| | 7 | 285 13.8 | 22 52.4 | 141 29.2 | 14.0 | -19 45.9 | 10.5 | 54.1 |
| | 8 | 300 13.7 | 22 52.7 | 156 2.2 | 13.9 | -19 56.4 | 10.4 | 54.1 |
| | 9 | 315 13.6 | 22 52.9 | 170 35.1 | 13.8 | -20 6.9 | 10.4 | 54.1 |
| | 10 | 330 13.5 | 22 53.1 | 185 7.9 | 13.8 | -20 17.2 | 10.3 | 54.1 |
| | 11 | 345 13.3 | 22 53.3 | 199 40.7 | 13.7 | -20 27.5 | 10.2 | 54.1 |
| | 12 | 0 13.2 | 22 53.5 | 214 13.4 | 13.6 | -20 37.7 | 10.1 | 54.1 |
| | 13 | 15 13.1 | 22 53.7 | 228 46.0 | 13.5 | -20 47.8 | 10.0 | 54.1 |
| | 14 | 30 13.0 | 22 54.0 | 243 18.5 | 13.5 | -20 57.9 | 9.9 | 54.1 |
| | 15 | 45 12.9 | 22 54.2 | 257 51.0 | 13.4 | -21 7.8 | 9.9 | 54.1 |
| | 16 | 60 12.7 | 22 54.4 | 272 23.3 | 13.3 | -21 17.7 | 9.8 | 54.1 |
| | 17 | 75 12.6 | 22 54.6 | 286 55.6 | 13.2 | -21 27.4 | 9.7 | 54.2 |
| | 18 | 90 12.5 | 22 54.8 | 301 27.9 | 13.2 | -21 37.1 | 9.6 | 54.2 |
| | 19 | 105 12.4 | 22 55.0 | 316 0.0 | 13.1 | -21 46.7 | 9.5 | 54.2 |
| | 20 | 120 12.2 | 22 55.2 | 330 32.1 | 13.0 | -21 56.2 | 9.4 | 54.2 |
| | 21 | 135 12.1 | 22 55.4 | 345 4.1 | 12.9 | -22 5.7 | 9.3 | 54.2 |
| | 22 | 150 12.0 | 22 55.6 | 359 36.0 | 12.8 | -22 15.0 | 9.2 | 54.2 |
| | 23 | 165 11.9 | 22 55.9 | 14 7.9 | 12.8 | -22 24.2 | 9.1 | 54.2 |
| | | *v* -0.1 | SD 15.8 | *d* 0.2 | | SD 14.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | //// | //// | 00:49 | 23:14 | //// | //// |
| 64 | //// | //// | 01:46 | 22:13 | //// | //// |
| 62 | //// | //// | 02:19 | 21:40 | //// | //// |
| 60 | //// | 01:12 | 02:43 | 21:16 | 22:48 | //// |
| 58 | //// | 01:51 | 03:02 | 20:57 | 22:08 | //// |
| 56 | //// | 02:18 | 03:17 | 20:41 | 21:41 | //// |
| 54 | 01:05 | 02:38 | 03:31 | 20:27 | 21:20 | 22:54 |
| 52 | 01:42 | 02:55 | 03:42 | 20:16 | 21:03 | 22:17 |
| 50 | 02:07 | 03:09 | 03:53 | 20:05 | 20:49 | 21:52 |
| 45 | 02:49 | 03:37 | 04:14 | 19:44 | 20:20 | 21:09 |
| 40 | 03:18 | 03:59 | 04:32 | 19:26 | 19:59 | 20:40 |
| 35 | 03:40 | 04:17 | 04:46 | 19:12 | 19:41 | 20:17 |
| 30 | 03:58 | 04:31 | 04:59 | 18:59 | 19:26 | 19:59 |
| 20 | 04:26 | 04:55 | 05:20 | 18:38 | 19:02 | 19:31 |
| 10 | 04:48 | 05:15 | 05:38 | 18:19 | 18:42 | 19:09 |
| 0 | 05:07 | 05:33 | 05:55 | 18:02 | 18:25 | 18:51 |
| -10 | 05:23 | 05:49 | 06:12 | 17:46 | 18:08 | 18:34 |
| -20 | 05:39 | 06:06 | 06:30 | 17:28 | 17:51 | 18:19 |
| -30 | 05:54 | 06:24 | 06:50 | 17:07 | 17:33 | 18:03 |
| -35 | 06:03 | 06:34 | 07:02 | 16:55 | 17:23 | 17:55 |
| -40 | 06:12 | 06:46 | 07:16 | 16:41 | 17:12 | 17:46 |
| -45 | 06:22 | 06:58 | 07:32 | 16:25 | 16:59 | 17:36 |
| -50 | 06:33 | 07:14 | 07:52 | 16:05 | 16:43 | 17:25 |
| -52 | 06:38 | 07:21 | 08:01 | 15:56 | 16:36 | 17:20 |
| -54 | 06:43 | 07:29 | 08:12 | 15:45 | 16:29 | 17:14 |
| -56 | 06:49 | 07:37 | 08:24 | 15:33 | 16:20 | 17:08 |
| -58 | 06:55 | 07:47 | 08:38 | 15:19 | 16:10 | 17:02 |
| -60 | 07:02 | 07:58 | 08:54 | 15:03 | 15:59 | 16:55 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **06** | **07** | **08** | **06** | **07** | **08** |
| 72 | 17:20 | ▬ | ▬ | 00:10<br>23:25 | ▬ | ▬ |
| 70 | 16:57 | 19:19 | ▬ | 00:22<br>23:50 | 22:56 | ▬ |
| 68 | 16:39 | 18:39 | ▬ | 00:33 | 00:10<br>23:37 | ▬ |
| 66 | 16:24 | 18:12 | 20:21 | 00:41 | 00:26 | 00:05<br>23:29 |
| 64 | 16:13 | 17:51 | 19:41 | 00:48 | 00:39 | 00:27 |
| 62 | 16:03 | 17:35 | 19:13 | 00:55 | 00:50 | 00:44 |
| 60 | 15:54 | 17:21 | 18:52 | 01:00 | 00:59 | 00:59 |
| 58 | 15:47 | 17:09 | 18:34 | 01:05 | 01:08 | 01:11 |
| 56 | 15:41 | 16:59 | 18:20 | 01:09 | 01:15 | 01:22 |
| 54 | 15:35 | 16:50 | 18:08 | 01:13 | 01:21 | 01:32 |
| 52 | 15:30 | 16:42 | 17:57 | 01:17 | 01:27 | 01:40 |
| 50 | 15:25 | 16:35 | 17:47 | 01:20 | 01:33 | 01:48 |
| 45 | 15:15 | 16:20 | 17:27 | 01:27 | 01:44 | 02:05 |
| 40 | 15:07 | 16:08 | 17:10 | 01:33 | 01:54 | 02:18 |
| 35 | 15:00 | 15:57 | 16:57 | 01:38 | 02:03 | 02:30 |
| 30 | 14:53 | 15:48 | 16:45 | 01:43 | 02:10 | 02:40 |
| 20 | 14:43 | 15:33 | 16:24 | 01:51 | 02:23 | 02:58 |
| 10 | 14:34 | 15:19 | 16:07 | 01:57 | 02:34 | 03:13 |
| 0 | 14:25 | 15:06 | 15:51 | 02:04 | 02:45 | 03:27 |
| -10 | 14:16 | 14:54 | 15:34 | 02:11 | 02:55 | 03:42 |
| -20 | 14:07 | 14:41 | 15:17 | 02:18 | 03:07 | 03:57 |
| -30 | 13:57 | 14:25 | 14:57 | 02:26 | 03:20 | 04:15 |
| -35 | 13:51 | 14:17 | 14:46 | 02:30 | 03:27 | 04:26 |
| -40 | 13:44 | 14:07 | 14:33 | 02:36 | 03:36 | 04:38 |
| -45 | 13:37 | 13:55 | 14:18 | 02:42 | 03:46 | 04:52 |
| -50 | 13:27 | 13:41 | 13:59 | 02:49 | 03:59 | 05:10 |
| -52 | 13:23 | 13:35 | 13:50 | 02:53 | 04:05 | 05:18 |
| -54 | 13:18 | 13:28 | 13:40 | 02:57 | 04:11 | 05:27 |
| -56 | 13:13 | 13:20 | 13:29 | 03:01 | 04:18 | 05:38 |
| -58 | 13:08 | 13:11 | 13:16 | 03:06 | 04:26 | 05:50 |
| -60 | 13:01 | 13:01 | 13:01 | 03:11 | 04:35 | 06:04 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **06** | 01:21 | 01:15 | 11:59 | 20:35 | 08:14 | 10 | 76 |
| **07** | 01:10 | 01:04 | 11:59 | 21:17 | 08:55 | 11 | 84 |
| **08** | 00:59 | 00:53 | 11:59 | 22:02 | 09:39 | 12 | 90 |

## 2025 June 09, 10, 11 (Mon, Tue, Wed)

| d | h | Aries GHA | Venus -4.3 GHA | Venus -4.3 Dec | Mars 1.4 GHA | Mars 1.4 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 1.1 GHA | Saturn 1.1 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Monday | 0 | 257 37.1 | 226 9.4 | 10 6.5 | 109 30.6 | 14 18.8 | 167 50.0 | 23 16.4 | 255 52.5 | -1 34.6 |
| | 1 | 272 39.5 | 241 9.4 | 10 7.3 | 124 31.8 | 14 18.3 | 182 51.9 | 23 16.4 | 270 54.9 | -1 34.5 |
| | 2 | 287 42.0 | 256 9.4 | 10 8.1 | 139 32.9 | 14 17.8 | 197 53.7 | 23 16.4 | 285 57.2 | -1 34.5 |
| | 3 | 302 44.5 | 271 9.5 | 10 8.8 | 154 34.1 | 14 17.3 | 212 55.6 | 23 16.4 | 300 59.5 | -1 34.5 |
| | 4 | 317 46.9 | 286 9.5 | 10 9.6 | 169 35.2 | 14 16.8 | 227 57.4 | 23 16.4 | 316 1.9 | -1 34.4 |
| | 5 | 332 49.4 | 301 9.5 | 10 10.4 | 184 36.4 | 14 16.3 | 242 59.3 | 23 16.4 | 331 4.2 | -1 34.4 |
| | 6 | 347 51.9 | 316 9.6 | 10 11.2 | 199 37.5 | 14 15.8 | 258 1.1 | 23 16.4 | 346 6.5 | -1 34.3 |
| | 7 | 2 54.3 | 331 9.6 | 10 12.0 | 214 38.7 | 14 15.3 | 273 3.0 | 23 16.4 | 1 8.9 | -1 34.3 |
| | 8 | 17 56.8 | 346 9.6 | 10 12.7 | 229 39.8 | 14 14.8 | 288 4.8 | 23 16.4 | 16 11.2 | -1 34.2 |
| | 9 | 32 59.2 | 1 9.7 | 10 13.5 | 244 41.0 | 14 14.3 | 303 6.7 | 23 16.4 | 31 13.5 | -1 34.2 |
| | 10 | 48 1.7 | 16 9.7 | 10 14.3 | 259 42.1 | 14 13.8 | 318 8.5 | 23 16.4 | 46 15.9 | -1 34.1 |
| | 11 | 63 4.2 | 31 9.7 | 10 15.1 | 274 43.3 | 14 13.3 | 333 10.4 | 23 16.4 | 61 18.2 | -1 34.1 |
| | 12 | 78 6.6 | 46 9.7 | 10 15.9 | 289 44.4 | 14 12.8 | 348 12.2 | 23 16.4 | 76 20.5 | -1 34.0 |
| | 13 | 93 9.1 | 61 9.8 | 10 16.7 | 304 45.6 | 14 12.3 | 3 14.1 | 23 16.4 | 91 22.9 | -1 34.0 |
| | 14 | 108 11.6 | 76 9.8 | 10 17.4 | 319 46.7 | 14 11.8 | 18 15.9 | 23 16.5 | 106 25.2 | -1 34.0 |
| | 15 | 123 14.0 | 91 9.8 | 10 18.2 | 334 47.9 | 14 11.3 | 33 17.8 | 23 16.5 | 121 27.5 | -1 33.9 |
| | 16 | 138 16.5 | 106 9.8 | 10 19.0 | 349 49.0 | 14 10.8 | 48 19.6 | 23 16.5 | 136 29.9 | -1 33.9 |
| | 17 | 153 19.0 | 121 9.9 | 10 19.8 | 4 50.2 | 14 10.3 | 63 21.5 | 23 16.5 | 151 32.2 | -1 33.8 |
| | 18 | 168 21.4 | 136 9.9 | 10 20.6 | 19 51.3 | 14 9.8 | 78 23.3 | 23 16.5 | 166 34.6 | -1 33.8 |
| | 19 | 183 23.9 | 151 9.9 | 10 21.3 | 34 52.5 | 14 9.3 | 93 25.1 | 23 16.5 | 181 36.9 | -1 33.7 |
| | 20 | 198 26.4 | 166 9.9 | 10 22.1 | 49 53.6 | 14 8.8 | 108 27.0 | 23 16.5 | 196 39.2 | -1 33.7 |
| | 21 | 213 28.8 | 181 9.9 | 10 22.9 | 64 54.8 | 14 8.3 | 123 28.8 | 23 16.5 | 211 41.6 | -1 33.7 |
| | 22 | 228 31.3 | 196 10.0 | 10 23.7 | 79 55.9 | 14 7.8 | 138 30.7 | 23 16.5 | 226 43.9 | -1 33.6 |
| | 23 | 243 33.7 | 211 10.0 | 10 24.5 | 94 57.1 | 14 7.3 | 153 32.5 | 23 16.5 | 241 46.2 | -1 33.6 |
| | | MP 06:50 | *v* 0.0 | *d* 0.8 | *v* 1.2 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.3 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 Tuesday | 0 | 258 36.2 | 226 10.0 | 10 25.2 | 109 58.2 | 14 6.8 | 168 34.4 | 23 16.5 | 256 48.6 | -1 33.5 |
| | 1 | 273 38.7 | 241 10.0 | 10 26.0 | 124 59.3 | 14 6.3 | 183 36.2 | 23 16.5 | 271 50.9 | -1 33.5 |
| | 2 | 288 41.1 | 256 10.0 | 10 26.8 | 140 0.5 | 14 5.8 | 198 38.1 | 23 16.5 | 286 53.2 | -1 33.4 |
| | 3 | 303 43.6 | 271 10.1 | 10 27.6 | 155 1.6 | 14 5.3 | 213 39.9 | 23 16.5 | 301 55.6 | -1 33.4 |
| | 4 | 318 46.1 | 286 10.1 | 10 28.4 | 170 2.8 | 14 4.8 | 228 41.8 | 23 16.5 | 316 57.9 | -1 33.3 |
| | 5 | 333 48.5 | 301 10.1 | 10 29.2 | 185 3.9 | 14 4.3 | 243 43.6 | 23 16.5 | 332 0.3 | -1 33.3 |
| | 6 | 348 51.0 | 316 10.1 | 10 29.9 | 200 5.1 | 14 3.8 | 258 45.5 | 23 16.5 | 347 2.6 | -1 33.3 |
| | 7 | 3 53.5 | 331 10.1 | 10 30.7 | 215 6.2 | 14 3.3 | 273 47.3 | 23 16.5 | 2 4.9 | -1 33.2 |
| | 8 | 18 55.9 | 346 10.1 | 10 31.5 | 230 7.4 | 14 2.8 | 288 49.2 | 23 16.5 | 17 7.3 | -1 33.2 |
| | 9 | 33 58.4 | 1 10.1 | 10 32.3 | 245 8.5 | 14 2.3 | 303 51.0 | 23 16.5 | 32 9.6 | -1 33.1 |
| | 10 | 49 0.9 | 16 10.1 | 10 33.1 | 260 9.7 | 14 1.8 | 318 52.9 | 23 16.5 | 47 12.0 | -1 33.1 |
| | 11 | 64 3.3 | 31 10.2 | 10 33.9 | 275 10.8 | 14 1.3 | 333 54.7 | 23 16.5 | 62 14.3 | -1 33.0 |
| | 12 | 79 5.8 | 46 10.2 | 10 34.6 | 290 12.0 | 14 0.8 | 348 56.5 | 23 16.5 | 77 16.6 | -1 33.0 |
| | 13 | 94 8.2 | 61 10.2 | 10 35.4 | 305 13.1 | 14 0.3 | 3 58.4 | 23 16.5 | 92 19.0 | -1 33.0 |
| | 14 | 109 10.7 | 76 10.2 | 10 36.2 | 320 14.3 | 13 59.8 | 19 0.2 | 23 16.5 | 107 21.3 | -1 32.9 |
| | 15 | 124 13.2 | 91 10.2 | 10 37.0 | 335 15.4 | 13 59.3 | 34 2.1 | 23 16.5 | 122 23.6 | -1 32.9 |
| | 16 | 139 15.6 | 106 10.2 | 10 37.8 | 350 16.6 | 13 58.8 | 49 3.9 | 23 16.6 | 137 26.0 | -1 32.8 |
| | 17 | 154 18.1 | 121 10.2 | 10 38.5 | 5 17.7 | 13 58.3 | 64 5.8 | 23 16.6 | 152 28.3 | -1 32.8 |
| | 18 | 169 20.6 | 136 10.2 | 10 39.3 | 20 18.9 | 13 57.7 | 79 7.6 | 23 16.6 | 167 30.7 | -1 32.7 |
| | 19 | 184 23.0 | 151 10.2 | 10 40.1 | 35 20.0 | 13 57.2 | 94 9.5 | 23 16.6 | 182 33.0 | -1 32.7 |
| | 20 | 199 25.5 | 166 10.2 | 10 40.9 | 50 21.2 | 13 56.7 | 109 11.3 | 23 16.6 | 197 35.3 | -1 32.7 |
| | 21 | 214 28.0 | 181 10.2 | 10 41.7 | 65 22.3 | 13 56.2 | 124 13.2 | 23 16.6 | 212 37.7 | -1 32.6 |
| | 22 | 229 30.4 | 196 10.2 | 10 42.5 | 80 23.5 | 13 55.7 | 139 15.0 | 23 16.6 | 227 40.0 | -1 32.6 |
| | 23 | 244 32.9 | 211 10.2 | 10 43.2 | 95 24.6 | 13 55.2 | 154 16.9 | 23 16.6 | 242 42.4 | -1 32.5 |
| | | MP 06:46 | *v* 0.0 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.3 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 Wednesday | 0 | 259 35.4 | 226 10.2 | 10 44.0 | 110 25.7 | 13 54.7 | 169 18.7 | 23 16.6 | 257 44.7 | -1 32.5 |
| | 1 | 274 37.8 | 241 10.2 | 10 44.8 | 125 26.9 | 13 54.2 | 184 20.5 | 23 16.6 | 272 47.0 | -1 32.4 |
| | 2 | 289 40.3 | 256 10.3 | 10 45.6 | 140 28.0 | 13 53.7 | 199 22.4 | 23 16.6 | 287 49.4 | -1 32.4 |
| | 3 | 304 42.7 | 271 10.3 | 10 46.4 | 155 29.2 | 13 53.2 | 214 24.2 | 23 16.6 | 302 51.7 | -1 32.4 |
| | 4 | 319 45.2 | 286 10.3 | 10 47.2 | 170 30.3 | 13 52.7 | 229 26.1 | 23 16.6 | 317 54.1 | -1 32.3 |
| | 5 | 334 47.7 | 301 10.3 | 10 47.9 | 185 31.5 | 13 52.2 | 244 27.9 | 23 16.6 | 332 56.4 | -1 32.3 |
| | 6 | 349 50.1 | 316 10.3 | 10 48.7 | 200 32.6 | 13 51.7 | 259 29.8 | 23 16.6 | 347 58.8 | -1 32.2 |
| | 7 | 4 52.6 | 331 10.2 | 10 49.5 | 215 33.8 | 13 51.2 | 274 31.6 | 23 16.6 | 3 1.1 | -1 32.2 |
| | 8 | 19 55.1 | 346 10.2 | 10 50.3 | 230 34.9 | 13 50.7 | 289 33.5 | 23 16.6 | 18 3.4 | -1 32.2 |
| | 9 | 34 57.5 | 1 10.2 | 10 51.1 | 245 36.1 | 13 50.2 | 304 35.3 | 23 16.6 | 33 5.8 | -1 32.1 |
| | 10 | 50 0.0 | 16 10.2 | 10 51.9 | 260 37.2 | 13 49.7 | 319 37.2 | 23 16.6 | 48 8.1 | -1 32.1 |
| | 11 | 65 2.5 | 31 10.2 | 10 52.6 | 275 38.4 | 13 49.2 | 334 39.0 | 23 16.6 | 63 10.5 | -1 32.0 |
| | 12 | 80 4.9 | 46 10.2 | 10 53.4 | 290 39.5 | 13 48.7 | 349 40.9 | 23 16.6 | 78 12.8 | -1 32.0 |
| | 13 | 95 7.4 | 61 10.2 | 10 54.2 | 305 40.7 | 13 48.2 | 4 42.7 | 23 16.6 | 93 15.1 | -1 31.9 |
| | 14 | 110 9.8 | 76 10.2 | 10 55.0 | 320 41.8 | 13 47.6 | 19 44.6 | 23 16.6 | 108 17.5 | -1 31.9 |
| | 15 | 125 12.3 | 91 10.2 | 10 55.8 | 335 42.9 | 13 47.1 | 34 46.4 | 23 16.6 | 123 19.8 | -1 31.9 |
| | 16 | 140 14.8 | 106 10.2 | 10 56.5 | 350 44.1 | 13 46.6 | 49 48.2 | 23 16.6 | 138 22.2 | -1 31.8 |
| | 17 | 155 17.2 | 121 10.2 | 10 57.3 | 5 45.2 | 13 46.1 | 64 50.1 | 23 16.6 | 153 24.5 | -1 31.8 |
| | 18 | 170 19.7 | 136 10.2 | 10 58.1 | 20 46.4 | 13 45.6 | 79 51.9 | 23 16.6 | 168 26.9 | -1 31.7 |
| | 19 | 185 22.2 | 151 10.2 | 10 58.9 | 35 47.5 | 13 45.1 | 94 53.8 | 23 16.6 | 183 29.2 | -1 31.7 |
| | 20 | 200 24.6 | 166 10.2 | 10 59.7 | 50 48.7 | 13 44.6 | 109 55.6 | 23 16.6 | 198 31.5 | -1 31.7 |
| | 21 | 215 27.1 | 181 10.2 | 11 0.5 | 65 49.8 | 13 44.1 | 124 57.5 | 23 16.6 | 213 33.9 | -1 31.6 |
| | 22 | 230 29.6 | 196 10.1 | 11 1.2 | 80 51.0 | 13 43.6 | 139 59.3 | 23 16.6 | 228 36.2 | -1 31.6 |
| | 23 | 245 32.0 | 211 10.1 | 11 2.0 | 95 52.1 | 13 43.1 | 155 1.2 | 23 16.6 | 243 38.6 | -1 31.5 |
| | | MP 06:42 | *v* 0.0 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.3 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.0 |
| Achernar | 335 20.3 | -57 6.2 |
| Acrux | 172 59.5 | -63 14.7 |
| Adhara | 255 6.0 | -29 0.5 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.5 |
| Alkaid | 152 51.4 | 49 11.3 |
| Alnair | 27 32.3 | -46 50.0 |
| Alnilam | 275 37.7 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.7 |
| Alpheratz | 357 34.5 | 29 13.7 |
| Altair | 61 59.4 | 8 56.1 |
| Ankaa | 353 6.9 | -42 9.9 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.0 |
| Atria | 107 8.4 | -69 4.4 |
| Avior | 234 15.1 | -59 35.6 |
| Bellatrix | 278 22.9 | 6 22.4 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.6 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.3 | 45 22.0 |
| Denebola | 182 24.6 | 14 25.8 |
| Diphda | 348 47.1 | -17 50.7 |
| Dubhe | 193 40.6 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.0 |
| Enif | 33 38.3 | 9 59.4 |
| Fomalhaut | 15 14.1 | -29 29.1 |
| Gacrux | 171 51.1 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.1 | -60 30.0 |
| Hamal | 327 51.1 | 23 34.8 |
| Kaus Aust. | 83 31.7 | -34 22.3 |
| Kochab | 137 18.8 | 74 3.2 |
| Markab | 13 29.6 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.3 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 38.8 | -69 49.5 |
| Mirfak | 308 28.2 | 49 57.0 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.8 | -56 39.0 |
| Pollux | 243 17.2 | 27 58.0 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.3 |
| Rigil Kent. | 139 39.3 | -60 56.6 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 30.9 | 56 40.3 |
| Shaula | 96 9.5 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.3 |
| Vega | 80 32.6 | 38 48.3 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 09 Mon | SHA | MP |
|---|---|---|
| Venus | 328 32.3 | 08:55 |
| Mars | 211 53.5 | 16:41 |
| Jupiter | 270 13.0 | 12:47 |
| Saturn | 358 15.5 | 06:55 |

| 10 Tue | SHA | MP |
|---|---|---|
| Venus | 327 33.8 | 08:55 |
| Mars | 211 22.0 | 16:39 |
| Jupiter | 269 58.2 | 12:44 |
| Saturn | 358 12.4 | 06:52 |

| 11 Wed | SHA | MP |
|---|---|---|
| Venus | 326 34.9 | 08:55 |
| Mars | 210 50.4 | 16:37 |
| Jupiter | 269 43.4 | 12:41 |
| Saturn | 358 9.4 | 06:48 |

| | | Sun | | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | v | Dec | d | HP |
| **09 Monday** | 0 | 180 11.8 | 22 56.1 | 28 39.6 | 12.7 | -22 33.4 | 9.0 | 54.2 |
| | 1 | 195 11.6 | 22 56.3 | 43 11.3 | 12.6 | -22 42.4 | 9.0 | 54.2 |
| | 2 | 210 11.5 | 22 56.5 | 57 42.9 | 12.5 | -22 51.3 | 8.9 | 54.2 |
| | 3 | 225 11.4 | 22 56.7 | 72 14.4 | 12.5 | -23 0.2 | 8.8 | 54.2 |
| | 4 | 240 11.3 | 22 56.9 | 86 45.9 | 12.4 | -23 9.0 | 8.7 | 54.2 |
| | 5 | 255 11.2 | 22 57.1 | 101 17.3 | 12.3 | -23 17.6 | 8.6 | 54.2 |
| | 6 | 270 11.0 | 22 57.3 | 115 48.6 | 12.2 | -23 26.2 | 8.5 | 54.3 |
| | 7 | 285 10.9 | 22 57.5 | 130 19.8 | 12.1 | -23 34.6 | 8.4 | 54.3 |
| | 8 | 300 10.8 | 22 57.7 | 144 50.9 | 12.1 | -23 43.0 | 8.3 | 54.3 |
| | 9 | 315 10.7 | 22 57.9 | 159 22.0 | 12.0 | -23 51.2 | 8.1 | 54.3 |
| | 10 | 330 10.5 | 22 58.1 | 173 53.0 | 11.9 | -23 59.4 | 8.0 | 54.3 |
| | 11 | 345 10.4 | 22 58.3 | 188 23.9 | 11.8 | -24 7.4 | 7.9 | 54.3 |
| | 12 | 0 10.3 | 22 58.5 | 202 54.7 | 11.7 | -24 15.4 | 7.8 | 54.3 |
| | 13 | 15 10.2 | 22 58.7 | 217 25.4 | 11.7 | -24 23.2 | 7.7 | 54.3 |
| | 14 | 30 10.0 | 22 58.9 | 231 56.1 | 11.6 | -24 30.9 | 7.6 | 54.3 |
| | 15 | 45 9.9 | 22 59.1 | 246 26.7 | 11.5 | -24 38.5 | 7.5 | 54.3 |
| | 16 | 60 9.8 | 22 59.3 | 260 57.2 | 11.4 | -24 46.1 | 7.4 | 54.3 |
| | 17 | 75 9.7 | 22 59.5 | 275 27.6 | 11.4 | -24 53.4 | 7.3 | 54.4 |
| | 18 | 90 9.6 | 22 59.7 | 289 58.0 | 11.3 | -25 0.7 | 7.2 | 54.4 |
| | 19 | 105 9.4 | 22 59.9 | 304 28.3 | 11.2 | -25 7.9 | 7.1 | 54.4 |
| | 20 | 120 9.3 | 23 0.1 | 318 58.5 | 11.1 | -25 15.0 | 6.9 | 54.4 |
| | 21 | 135 9.2 | 23 0.3 | 333 28.6 | 11.1 | -25 21.9 | 6.8 | 54.4 |
| | 22 | 150 9.1 | 23 0.4 | 347 58.6 | 11.0 | -25 28.7 | 6.7 | 54.4 |
| | 23 | 165 8.9 | 23 0.6 | 2 28.6 | 10.9 | -25 35.5 | 6.6 | 54.4 |
| | | v -0.1 SD 15.8 d 0.2 | | SD 14.8 | | | | |
| **10 Tuesday** | 0 | 180 8.8 | 23 0.8 | 16 58.5 | 10.8 | -25 42.0 | 6.5 | 54.4 |
| | 1 | 195 8.7 | 23 1.0 | 31 28.3 | 10.8 | -25 48.5 | 6.4 | 54.4 |
| | 2 | 210 8.6 | 23 1.2 | 45 58.1 | 10.7 | -25 54.9 | 6.2 | 54.5 |
| | 3 | 225 8.4 | 23 1.4 | 60 27.8 | 10.6 | -26 1.1 | 6.1 | 54.5 |
| | 4 | 240 8.3 | 23 1.6 | 74 57.4 | 10.5 | -26 7.2 | 6.0 | 54.5 |
| | 5 | 255 8.2 | 23 1.8 | 89 26.9 | 10.5 | -26 13.2 | 5.9 | 54.5 |
| | 6 | 270 8.1 | 23 2.0 | 103 56.4 | 10.4 | -26 19.1 | 5.7 | 54.5 |
| | 7 | 285 7.9 | 23 2.1 | 118 25.8 | 10.3 | -26 24.8 | 5.6 | 54.5 |
| | 8 | 300 7.8 | 23 2.3 | 132 55.1 | 10.3 | -26 30.5 | 5.5 | 54.5 |
| | 9 | 315 7.7 | 23 2.5 | 147 24.3 | 10.2 | -26 36.0 | 5.4 | 54.5 |
| | 10 | 330 7.6 | 23 2.7 | 161 53.5 | 10.1 | -26 41.3 | 5.2 | 54.5 |
| | 11 | 345 7.4 | 23 2.9 | 176 22.6 | 10.0 | -26 46.6 | 5.1 | 54.6 |
| | 12 | 0 7.3 | 23 3.1 | 190 51.7 | 10.0 | -26 51.7 | 5.0 | 54.6 |
| | 13 | 15 7.2 | 23 3.2 | 205 20.7 | 9.9 | -26 56.7 | 4.9 | 54.6 |
| | 14 | 30 7.1 | 23 3.4 | 219 49.6 | 9.9 | -27 1.5 | 4.7 | 54.6 |
| | 15 | 45 6.9 | 23 3.6 | 234 18.4 | 9.8 | -27 6.3 | 4.6 | 54.6 |
| | 16 | 60 6.8 | 23 3.8 | 248 47.2 | 9.7 | -27 10.9 | 4.5 | 54.6 |
| | 17 | 75 6.7 | 23 4.0 | 263 15.9 | 9.7 | -27 15.3 | 4.3 | 54.6 |
| | 18 | 90 6.6 | 23 4.1 | 277 44.6 | 9.6 | -27 19.6 | 4.2 | 54.7 |
| | 19 | 105 6.4 | 23 4.3 | 292 13.2 | 9.5 | -27 23.8 | 4.1 | 54.7 |
| | 20 | 120 6.3 | 23 4.5 | 306 41.7 | 9.5 | -27 27.9 | 3.9 | 54.7 |
| | 21 | 135 6.2 | 23 4.7 | 321 10.2 | 9.4 | -27 31.8 | 3.8 | 54.7 |
| | 22 | 150 6.1 | 23 4.8 | 335 38.6 | 9.4 | -27 35.6 | 3.6 | 54.7 |
| | 23 | 165 5.9 | 23 5.0 | 350 7.0 | 9.3 | -27 39.3 | 3.5 | 54.7 |
| | | v -0.1 SD 15.8 d 0.2 | | SD 14.8 | | | | |
| **11 Wednesday** | 0 | 180 5.8 | 23 5.2 | 4 35.3 | 9.3 | -27 42.8 | 3.4 | 54.7 |
| | 1 | 195 5.7 | 23 5.4 | 19 3.6 | 9.2 | -27 46.1 | 3.2 | 54.7 |
| | 2 | 210 5.6 | 23 5.5 | 33 31.8 | 9.2 | -27 49.4 | 3.1 | 54.8 |
| | 3 | 225 5.4 | 23 5.7 | 48 0.0 | 9.1 | -27 52.5 | 3.0 | 54.8 |
| | 4 | 240 5.3 | 23 5.9 | 62 28.1 | 9.1 | -27 55.4 | 2.8 | 54.8 |
| | 5 | 255 5.2 | 23 6.0 | 76 56.1 | 9.0 | -27 58.2 | 2.7 | 54.8 |
| | 6 | 270 5.0 | 23 6.2 | 91 24.1 | 9.0 | -28 0.9 | 2.5 | 54.8 |
| | 7 | 285 4.9 | 23 6.4 | 105 52.1 | 8.9 | -28 3.4 | 2.4 | 54.8 |
| | 8 | 300 4.8 | 23 6.6 | 120 20.0 | 8.9 | -28 5.8 | 2.2 | 54.9 |
| | 9 | 315 4.7 | 23 6.7 | 134 47.9 | 8.8 | -28 8.1 | 2.1 | 54.9 |
| | 10 | 330 4.5 | 23 6.9 | 149 15.7 | 8.8 | -28 10.2 | 2.0 | 54.9 |
| | 11 | 345 4.4 | 23 7.1 | 163 43.5 | 8.7 | -28 12.1 | 1.8 | 54.9 |
| | 12 | 0 4.3 | 23 7.2 | 178 11.2 | 8.7 | -28 13.9 | 1.7 | 54.9 |
| | 13 | 15 4.2 | 23 7.4 | 192 38.9 | 8.7 | -28 15.6 | 1.5 | 54.9 |
| | 14 | 30 4.0 | 23 7.5 | 207 6.6 | 8.6 | -28 17.1 | 1.4 | 54.9 |
| | 15 | 45 3.9 | 23 7.7 | 221 34.3 | 8.6 | -28 18.5 | 1.2 | 55.0 |
| | 16 | 60 3.8 | 23 7.9 | 236 1.9 | 8.6 | -28 19.7 | 1.1 | 55.0 |
| | 17 | 75 3.6 | 23 8.0 | 250 29.4 | 8.5 | -28 20.8 | 0.9 | 55.0 |
| | 18 | 90 3.5 | 23 8.2 | 264 57.0 | 8.5 | -28 21.7 | 0.8 | 55.0 |
| | 19 | 105 3.4 | 23 8.4 | 279 24.5 | 8.5 | -28 22.5 | 0.6 | 55.0 |
| | 20 | 120 3.3 | 23 8.5 | 293 52.0 | 8.5 | -28 23.1 | 0.5 | 55.0 |
| | 21 | 135 3.1 | 23 8.7 | 308 19.4 | 8.4 | -28 23.6 | 0.3 | 55.1 |
| | 22 | 150 3.0 | 23 8.8 | 322 46.9 | 8.4 | -28 23.9 | 0.2 | 55.1 |
| | 23 | 165 2.9 | 23 9.0 | 337 14.3 | 8.4 | -28 24.1 | 0.0 | 55.1 |
| | | v -0.1 SD 15.8 d 0.2 | | SD 14.9 | | | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | //// | //// | 00:33 | 23:32 | //// | //// |
| 64 | //// | //// | 01:41 | 22:20 | //// | //// |
| 62 | //// | //// | 02:15 | 21:45 | //// | //// |
| 60 | //// | 01:04 | 02:40 | 21:20 | 22:57 | //// |
| 58 | //// | 01:47 | 02:59 | 21:00 | 22:13 | //// |
| 56 | //// | 02:15 | 03:15 | 20:44 | 21:45 | //// |
| 54 | 00:59 | 02:36 | 03:29 | 20:30 | 21:24 | 23:02 |
| 52 | 01:38 | 02:53 | 03:41 | 20:18 | 21:06 | 22:22 |
| 50 | 02:04 | 03:08 | 03:51 | 20:08 | 20:52 | 21:55 |
| 45 | 02:47 | 03:36 | 04:13 | 19:46 | 20:23 | 21:12 |
| 40 | 03:17 | 03:58 | 04:31 | 19:28 | 20:01 | 20:42 |
| 35 | 03:40 | 04:16 | 04:46 | 19:13 | 19:43 | 20:19 |
| 30 | 03:58 | 04:31 | 04:58 | 19:00 | 19:28 | 20:01 |
| 20 | 04:26 | 04:55 | 05:20 | 18:39 | 19:03 | 19:32 |
| 10 | 04:48 | 05:15 | 05:38 | 18:20 | 18:43 | 19:10 |
| 0 | 05:07 | 05:33 | 05:56 | 18:03 | 18:25 | 18:52 |
| -10 | 05:24 | 05:50 | 06:13 | 17:46 | 18:09 | 18:35 |
| -20 | 05:40 | 06:07 | 06:31 | 17:28 | 17:52 | 18:19 |
| -30 | 05:56 | 06:25 | 06:52 | 17:07 | 17:33 | 18:03 |
| -35 | 06:04 | 06:36 | 07:04 | 16:55 | 17:23 | 17:54 |
| -40 | 06:13 | 06:47 | 07:18 | 16:41 | 17:11 | 17:45 |
| -45 | 06:23 | 07:00 | 07:34 | 16:25 | 16:58 | 17:35 |
| -50 | 06:35 | 07:16 | 07:54 | 16:04 | 16:42 | 17:24 |
| -52 | 06:40 | 07:23 | 08:04 | 15:55 | 16:35 | 17:19 |
| -54 | 06:45 | 07:31 | 08:15 | 15:44 | 16:27 | 17:13 |
| -56 | 06:51 | 07:40 | 08:27 | 15:32 | 16:19 | 17:07 |
| -58 | 06:58 | 07:50 | 08:41 | 15:17 | 16:09 | 17:01 |
| -60 | 07:05 | 08:01 | 08:58 | 15:01 | 15:57 | 16:54 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **09** | **10** | **11** | **09** | **10** | **11** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | 22:04 | | | 00:10<br>23:26 | | |
| 62 | 21:00 | 23:07 | –:– | 00:38 | 00:30 | 00:10 |
| 60 | 20:26 | 21:59 | 23:12 | 01:00 | 01:05 | 01:19 |
| 58 | 20:01 | 21:24 | 22:31 | 01:18 | 01:30 | 01:54 |
| 56 | 19:42 | 20:59 | 22:04 | 01:33 | 01:51 | 02:19 |
| 54 | 19:25 | 20:39 | 21:42 | 01:46 | 02:07 | 02:40 |
| 52 | 19:11 | 20:22 | 21:24 | 01:58 | 02:22 | 02:57 |
| 50 | 18:59 | 20:08 | 21:08 | 02:08 | 02:35 | 03:11 |
| 45 | 18:34 | 19:38 | 20:38 | 02:29 | 03:01 | 03:41 |
| 40 | 18:13 | 19:15 | 20:14 | 02:47 | 03:21 | 04:04 |
| 35 | 17:57 | 18:57 | 19:54 | 03:01 | 03:39 | 04:23 |
| 30 | 17:42 | 18:41 | 19:37 | 03:14 | 03:54 | 04:40 |
| 20 | 17:18 | 18:13 | 19:09 | 03:36 | 04:19 | 05:07 |
| 10 | 16:57 | 17:50 | 18:44 | 03:55 | 04:41 | 05:31 |
| 0 | 16:38 | 17:28 | 18:21 | 04:13 | 05:02 | 05:54 |
| -10 | 16:19 | 17:07 | 17:59 | 04:31 | 05:23 | 06:16 |
| -20 | 15:58 | 16:44 | 17:34 | 04:50 | 05:45 | 06:40 |
| -30 | 15:34 | 16:17 | 17:06 | 05:12 | 06:11 | 07:08 |
| -35 | 15:20 | 16:01 | 16:49 | 05:26 | 06:26 | 07:25 |
| -40 | 15:04 | 15:43 | 16:30 | 05:41 | 06:44 | 07:44 |
| -45 | 14:45 | 15:21 | 16:06 | 05:59 | 07:05 | 08:07 |
| -50 | 14:22 | 14:53 | 15:36 | 06:22 | 07:32 | 08:37 |
| -52 | 14:10 | 14:39 | 15:21 | 06:32 | 07:45 | 08:52 |
| -54 | 13:58 | 14:24 | 15:04 | 06:45 | 08:01 | 09:10 |
| -56 | 13:43 | 14:05 | 14:43 | 06:59 | 08:19 | 09:31 |
| -58 | 13:26 | 13:43 | 14:16 | 07:16 | 08:41 | 09:57 |
| -60 | 13:05 | 13:14 | 13:38 | 07:36 | 09:10 | 10:35 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **09** | 00:47 | 00:41 | 11:59 | 22:50 | 10:25 | 13 | 95 |
| **10** | 00:35 | 00:29 | 12:00 | 23:41 | 11:15 | 14 | 98 |
| **11** | 00:23 | 00:17 | 12:00 | –:– | 12:08 | 15 | 100 |

## 2025 June 12, 13, 14 (Thu, Fri, Saturn)

| | | Aries | Venus -4.3 | | Mars 1.4 | | Jupiter -1.9 | | Saturn 1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 12 Thursday | 0 | 260 34.5 | 226 10.1 | 11 2.8 | 110 53.3 | 13 42.6 | 170 3.0 | 23 16.6 | 258 40.9 | -1 31.5 |
| | 1 | 275 37.0 | 241 10.1 | 11 3.6 | 125 54.4 | 13 42.1 | 185 4.9 | 23 16.6 | 273 43.3 | -1 31.5 |
| | 2 | 290 39.4 | 256 10.1 | 11 4.4 | 140 55.5 | 13 41.6 | 200 6.7 | 23 16.6 | 288 45.6 | -1 31.4 |
| | 3 | 305 41.9 | 271 10.1 | 11 5.2 | 155 56.7 | 13 41.0 | 215 8.5 | 23 16.6 | 303 47.9 | -1 31.4 |
| | 4 | 320 44.3 | 286 10.1 | 11 5.9 | 170 57.8 | 13 40.5 | 230 10.4 | 23 16.6 | 318 50.3 | -1 31.3 |
| | 5 | 335 46.8 | 301 10.0 | 11 6.7 | 185 59.0 | 13 40.0 | 245 12.2 | 23 16.6 | 333 52.6 | -1 31.3 |
| | 6 | 350 49.3 | 316 10.0 | 11 7.5 | 201 0.1 | 13 39.5 | 260 14.1 | 23 16.7 | 348 55.0 | -1 31.3 |
| | 7 | 5 51.7 | 331 10.0 | 11 8.3 | 216 1.3 | 13 39.0 | 275 15.9 | 23 16.7 | 3 57.3 | -1 31.2 |
| | 8 | 20 54.2 | 346 10.0 | 11 9.1 | 231 2.4 | 13 38.5 | 290 17.8 | 23 16.7 | 18 59.7 | -1 31.2 |
| | 9 | 35 56.7 | 1 10.0 | 11 9.8 | 246 3.6 | 13 38.0 | 305 19.6 | 23 16.7 | 34 2.0 | -1 31.1 |
| | 10 | 50 59.1 | 16 10.0 | 11 10.6 | 261 4.7 | 13 37.5 | 320 21.5 | 23 16.7 | 49 4.4 | -1 31.1 |
| | 11 | 66 1.6 | 31 9.9 | 11 11.4 | 276 5.8 | 13 37.0 | 335 23.3 | 23 16.7 | 64 6.7 | -1 31.1 |
| | 12 | 81 4.1 | 46 9.9 | 11 12.2 | 291 7.0 | 13 36.5 | 350 25.2 | 23 16.7 | 79 9.1 | -1 31.0 |
| | 13 | 96 6.5 | 61 9.9 | 11 13.0 | 306 8.1 | 13 36.0 | 5 27.0 | 23 16.7 | 94 11.4 | -1 31.0 |
| | 14 | 111 9.0 | 76 9.9 | 11 13.8 | 321 9.3 | 13 35.4 | 20 28.8 | 23 16.7 | 109 13.7 | -1 30.9 |
| | 15 | 126 11.5 | 91 9.9 | 11 14.5 | 336 10.4 | 13 34.9 | 35 30.7 | 23 16.7 | 124 16.1 | -1 30.9 |
| | 16 | 141 13.9 | 106 9.8 | 11 15.3 | 351 11.6 | 13 34.4 | 50 32.5 | 23 16.7 | 139 18.4 | -1 30.9 |
| | 17 | 156 16.4 | 121 9.8 | 11 16.1 | 6 12.7 | 13 33.9 | 65 34.4 | 23 16.7 | 154 20.8 | -1 30.8 |
| | 18 | 171 18.8 | 136 9.8 | 11 16.9 | 21 13.9 | 13 33.4 | 80 36.2 | 23 16.7 | 169 23.1 | -1 30.8 |
| | 19 | 186 21.3 | 151 9.8 | 11 17.7 | 36 15.0 | 13 32.9 | 95 38.1 | 23 16.7 | 184 25.5 | -1 30.7 |
| | 20 | 201 23.8 | 166 9.7 | 11 18.5 | 51 16.1 | 13 32.4 | 110 39.9 | 23 16.7 | 199 27.8 | -1 30.7 |
| | 21 | 216 26.2 | 181 9.7 | 11 19.2 | 66 17.3 | 13 31.9 | 125 41.8 | 23 16.7 | 214 30.2 | -1 30.7 |
| | 22 | 231 28.7 | 196 9.7 | 11 20.0 | 81 18.4 | 13 31.4 | 140 43.6 | 23 16.7 | 229 32.5 | -1 30.6 |
| | 23 | 246 31.2 | 211 9.7 | 11 20.8 | 96 19.6 | 13 30.8 | 155 45.5 | 23 16.7 | 244 34.9 | -1 30.6 |
| | | MP 06:38 | *v* 0.0 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.3 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 Friday | 0 | 261 33.6 | 226 9.6 | 11 21.6 | 111 20.7 | 13 30.3 | 170 47.3 | 23 16.7 | 259 37.2 | -1 30.5 |
| | 1 | 276 36.1 | 241 9.6 | 11 22.4 | 126 21.9 | 13 29.8 | 185 49.1 | 23 16.7 | 274 39.6 | -1 30.5 |
| | 2 | 291 38.6 | 256 9.6 | 11 23.1 | 141 23.0 | 13 29.3 | 200 51.0 | 23 16.7 | 289 41.9 | -1 30.5 |
| | 3 | 306 41.0 | 271 9.5 | 11 23.9 | 156 24.1 | 13 28.8 | 215 52.8 | 23 16.7 | 304 44.3 | -1 30.4 |
| | 4 | 321 43.5 | 286 9.5 | 11 24.7 | 171 25.3 | 13 28.3 | 230 54.7 | 23 16.7 | 319 46.6 | -1 30.4 |
| | 5 | 336 46.0 | 301 9.5 | 11 25.5 | 186 26.4 | 13 27.8 | 245 56.5 | 23 16.7 | 334 48.9 | -1 30.3 |
| | 6 | 351 48.4 | 316 9.4 | 11 26.3 | 201 27.6 | 13 27.3 | 260 58.4 | 23 16.7 | 349 51.3 | -1 30.3 |
| | 7 | 6 50.9 | 331 9.4 | 11 27.1 | 216 28.7 | 13 26.7 | 276 0.2 | 23 16.7 | 4 53.6 | -1 30.3 |
| | 8 | 21 53.3 | 346 9.4 | 11 27.8 | 231 29.9 | 13 26.2 | 291 2.1 | 23 16.7 | 19 56.0 | -1 30.2 |
| | 9 | 36 55.8 | 1 9.3 | 11 28.6 | 246 31.0 | 13 25.7 | 306 3.9 | 23 16.7 | 34 58.3 | -1 30.2 |
| | 10 | 51 58.3 | 16 9.3 | 11 29.4 | 261 32.2 | 13 25.2 | 321 5.8 | 23 16.7 | 50 0.7 | -1 30.2 |
| | 11 | 67 0.7 | 31 9.3 | 11 30.2 | 276 33.3 | 13 24.7 | 336 7.6 | 23 16.7 | 65 3.0 | -1 30.1 |
| | 12 | 82 3.2 | 46 9.2 | 11 31.0 | 291 34.4 | 13 24.2 | 351 9.4 | 23 16.7 | 80 5.4 | -1 30.1 |
| | 13 | 97 5.7 | 61 9.2 | 11 31.7 | 306 35.6 | 13 23.7 | 6 11.3 | 23 16.7 | 95 7.7 | -1 30.0 |
| | 14 | 112 8.1 | 76 9.2 | 11 32.5 | 321 36.7 | 13 23.2 | 21 13.1 | 23 16.7 | 110 10.1 | -1 30.0 |
| | 15 | 127 10.6 | 91 9.1 | 11 33.3 | 336 37.9 | 13 22.6 | 36 15.0 | 23 16.7 | 125 12.4 | -1 30.0 |
| | 16 | 142 13.1 | 106 9.1 | 11 34.1 | 351 39.0 | 13 22.1 | 51 16.8 | 23 16.7 | 140 14.8 | -1 29.9 |
| | 17 | 157 15.5 | 121 9.0 | 11 34.9 | 6 40.1 | 13 21.6 | 66 18.7 | 23 16.7 | 155 17.1 | -1 29.9 |
| | 18 | 172 18.0 | 136 9.0 | 11 35.7 | 21 41.3 | 13 21.1 | 81 20.5 | 23 16.7 | 170 19.5 | -1 29.9 |
| | 19 | 187 20.5 | 151 9.0 | 11 36.4 | 36 42.4 | 13 20.6 | 96 22.4 | 23 16.7 | 185 21.8 | -1 29.8 |
| | 20 | 202 22.9 | 166 8.9 | 11 37.2 | 51 43.6 | 13 20.1 | 111 24.2 | 23 16.7 | 200 24.2 | -1 29.8 |
| | 21 | 217 25.4 | 181 8.9 | 11 38.0 | 66 44.7 | 13 19.6 | 126 26.0 | 23 16.7 | 215 26.5 | -1 29.7 |
| | 22 | 232 27.8 | 196 8.8 | 11 38.8 | 81 45.9 | 13 19.0 | 141 27.9 | 23 16.7 | 230 28.9 | -1 29.7 |
| | 23 | 247 30.3 | 211 8.8 | 11 39.6 | 96 47.0 | 13 18.5 | 156 29.7 | 23 16.7 | 245 31.2 | -1 29.7 |
| | | MP 06:34 | *v* 0.0 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.3 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 Saturday | 0 | 262 32.8 | 226 8.8 | 11 40.3 | 111 48.1 | 13 18.0 | 171 31.6 | 23 16.7 | 260 33.6 | -1 29.6 |
| | 1 | 277 35.2 | 241 8.7 | 11 41.1 | 126 49.3 | 13 17.5 | 186 33.4 | 23 16.7 | 275 35.9 | -1 29.6 |
| | 2 | 292 37.7 | 256 8.7 | 11 41.9 | 141 50.4 | 13 17.0 | 201 35.3 | 23 16.7 | 290 38.3 | -1 29.6 |
| | 3 | 307 40.2 | 271 8.6 | 11 42.7 | 156 51.6 | 13 16.5 | 216 37.1 | 23 16.7 | 305 40.6 | -1 29.5 |
| | 4 | 322 42.6 | 286 8.6 | 11 43.5 | 171 52.7 | 13 15.9 | 231 39.0 | 23 16.7 | 320 43.0 | -1 29.5 |
| | 5 | 337 45.1 | 301 8.5 | 11 44.2 | 186 53.9 | 13 15.4 | 246 40.8 | 23 16.7 | 335 45.3 | -1 29.4 |
| | 6 | 352 47.6 | 316 8.5 | 11 45.0 | 201 55.0 | 13 14.9 | 261 42.7 | 23 16.7 | 350 47.7 | -1 29.4 |
| | 7 | 7 50.0 | 331 8.4 | 11 45.8 | 216 56.1 | 13 14.4 | 276 44.5 | 23 16.7 | 5 50.0 | -1 29.4 |
| | 8 | 22 52.5 | 346 8.4 | 11 46.6 | 231 57.3 | 13 13.9 | 291 46.3 | 23 16.7 | 20 52.4 | -1 29.3 |
| | 9 | 37 55.0 | 1 8.3 | 11 47.4 | 246 58.4 | 13 13.4 | 306 48.2 | 23 16.7 | 35 54.7 | -1 29.3 |
| | 10 | 52 57.4 | 16 8.3 | 11 48.1 | 261 59.6 | 13 12.8 | 321 50.0 | 23 16.7 | 50 57.1 | -1 29.3 |
| | 11 | 67 59.9 | 31 8.2 | 11 48.9 | 277 0.7 | 13 12.3 | 336 51.9 | 23 16.7 | 65 59.5 | -1 29.2 |
| | 12 | 83 2.3 | 46 8.2 | 11 49.7 | 292 1.8 | 13 11.8 | 351 53.7 | 23 16.7 | 81 1.8 | -1 29.2 |
| | 13 | 98 4.8 | 61 8.1 | 11 50.5 | 307 3.0 | 13 11.3 | 6 55.6 | 23 16.7 | 96 4.2 | -1 29.1 |
| | 14 | 113 7.3 | 76 8.1 | 11 51.3 | 322 4.1 | 13 10.8 | 21 57.4 | 23 16.7 | 111 6.5 | -1 29.1 |
| | 15 | 128 9.7 | 91 8.0 | 11 52.0 | 337 5.3 | 13 10.3 | 36 59.3 | 23 16.7 | 126 8.9 | -1 29.1 |
| | 16 | 143 12.2 | 106 8.0 | 11 52.8 | 352 6.4 | 13 9.7 | 52 1.1 | 23 16.7 | 141 11.2 | -1 29.0 |
| | 17 | 158 14.7 | 121 7.9 | 11 53.6 | 7 7.5 | 13 9.2 | 67 2.9 | 23 16.7 | 156 13.6 | -1 29.0 |
| | 18 | 173 17.1 | 136 7.9 | 11 54.4 | 22 8.7 | 13 8.7 | 82 4.8 | 23 16.7 | 171 15.9 | -1 29.0 |
| | 19 | 188 19.6 | 151 7.8 | 11 55.2 | 37 9.8 | 13 8.2 | 97 6.6 | 23 16.7 | 186 18.3 | -1 28.9 |
| | 20 | 203 22.1 | 166 7.8 | 11 55.9 | 52 11.0 | 13 7.7 | 112 8.5 | 23 16.7 | 201 20.6 | -1 28.9 |
| | 21 | 218 24.5 | 181 7.7 | 11 56.7 | 67 12.1 | 13 7.1 | 127 10.3 | 23 16.7 | 216 23.0 | -1 28.9 |
| | 22 | 233 27.0 | 196 7.6 | 11 57.5 | 82 13.3 | 13 6.6 | 142 12.2 | 23 16.7 | 231 25.3 | -1 28.8 |
| | 23 | 248 29.4 | 211 7.6 | 11 58.3 | 97 14.4 | 13 6.1 | 157 14.0 | 23 16.7 | 246 27.7 | -1 28.8 |
| | | MP 06:30 | *v* 0.0 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.9 | -40 12.0 |
| Achernar | 335 20.3 | -57 6.2 |
| Acrux | 172 59.6 | -63 14.7 |
| Adhara | 255 6.0 | -29 0.4 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.5 |
| Alkaid | 152 51.4 | 49 11.3 |
| Alnair | 27 32.3 | -46 50.0 |
| Alnilam | 275 37.7 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.8 |
| Alpheratz | 357 34.5 | 29 13.7 |
| Altair | 61 59.3 | 8 56.1 |
| Ankaa | 353 6.9 | -42 9.8 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.0 |
| Atria | 107 8.4 | -69 4.4 |
| Avior | 234 15.1 | -59 35.6 |
| Bellatrix | 278 22.9 | 6 22.4 |
| Betelgeuse | 270 52.1 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.6 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.3 | 45 22.0 |
| Denebola | 182 24.6 | 14 25.8 |
| Diphda | 348 47.1 | -17 50.7 |
| Dubhe | 193 40.6 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.0 |
| Enif | 33 38.3 | 9 59.4 |
| Fomalhaut | 15 14.1 | -29 29.1 |
| Gacrux | 171 51.1 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.1 | -60 30.0 |
| Hamal | 327 51.1 | 23 34.9 |
| Kaus Aust. | 83 31.7 | -34 22.3 |
| Kochab | 137 18.8 | 74 3.2 |
| Markab | 13 29.5 | 15 20.4 |
| Menkar | 314 6.1 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 38.8 | -69 49.5 |
| Mirfak | 308 28.2 | 49 56.9 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.7 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.3 |
| Rigil Kent. | 139 39.3 | -60 56.6 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.9 | 56 40.3 |
| Shaula | 96 9.5 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.3 |
| Vega | 80 32.6 | 38 48.3 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 12 Thu | SHA | MP |
|---|---|---|
| Venus | 325 35.6 | 08:55 |
| Mars | 210 18.8 | 16:35 |
| Jupiter | 269 28.5 | 12:38 |
| Saturn | 358 6.4 | 06:44 |

| 13 Fri | SHA | MP |
|---|---|---|
| Venus | 324 36.0 | 08:55 |
| Mars | 209 47.1 | 16:33 |
| Jupiter | 269 13.7 | 12:35 |
| Saturn | 358 3.6 | 06:40 |

| 14 Sat | SHA | MP |
|---|---|---|
| Venus | 323 36.0 | 08:55 |
| Mars | 209 15.4 | 16:32 |
| Jupiter | 268 58.8 | 12:32 |
| Saturn | 358 0.8 | 06:37 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **12 Thursday** | 0 | 180 2.7 | 23 9.1 | 351 41.7 | 8.4 | -28 24.1 | -0.1 | 55.1 |
| | 1 | 195 2.6 | 23 9.3 | 6 9.0 | 8.4 | -28 24.0 | -0.3 | 55.1 |
| | 2 | 210 2.5 | 23 9.5 | 20 36.4 | 8.3 | -28 23.7 | -0.4 | 55.1 |
| | 3 | 225 2.4 | 23 9.6 | 35 3.7 | 8.3 | -28 23.3 | -0.6 | 55.2 |
| | 4 | 240 2.2 | 23 9.8 | 49 31.0 | 8.3 | -28 22.7 | -0.7 | 55.2 |
| | 5 | 255 2.1 | 23 9.9 | 63 58.4 | 8.3 | -28 22.0 | -0.9 | 55.2 |
| | 6 | 270 2.0 | 23 10.1 | 78 25.6 | 8.3 | -28 21.1 | -1.0 | 55.2 |
| | 7 | 285 1.8 | 23 10.2 | 92 52.9 | 8.3 | -28 20.1 | -1.2 | 55.2 |
| | 8 | 300 1.7 | 23 10.4 | 107 20.2 | 8.3 | -28 18.9 | -1.3 | 55.2 |
| | 9 | 315 1.6 | 23 10.5 | 121 47.5 | 8.3 | -28 17.6 | -1.5 | 55.3 |
| | 10 | 330 1.5 | 23 10.7 | 136 14.7 | 8.3 | -28 16.1 | -1.6 | 55.3 |
| | 11 | 345 1.3 | 23 10.8 | 150 42.0 | 8.3 | -28 14.5 | -1.8 | 55.3 |
| | 12 | 0 1.2 | 23 11.0 | 165 9.2 | 8.3 | -28 12.7 | -1.9 | 55.3 |
| | 13 | 15 1.1 | 23 11.1 | 179 36.5 | 8.3 | -28 10.8 | -2.1 | 55.3 |
| | 14 | 30 0.9 | 23 11.3 | 194 3.8 | 8.3 | -28 8.7 | -2.2 | 55.3 |
| | 15 | 45 0.8 | 23 11.4 | 208 31.0 | 8.3 | -28 6.5 | -2.4 | 55.4 |
| | 16 | 60 0.7 | 23 11.6 | 222 58.3 | 8.3 | -28 4.1 | -2.5 | 55.4 |
| | 17 | 75 0.6 | 23 11.7 | 237 25.5 | 8.3 | -28 1.5 | -2.7 | 55.4 |
| | 18 | 90 0.4 | 23 11.8 | 251 52.8 | 8.3 | -27 58.8 | -2.8 | 55.4 |
| | 19 | 105 0.3 | 23 12.0 | 266 20.1 | 8.3 | -27 56.0 | -3.0 | 55.4 |
| | 20 | 120 0.2 | 23 12.1 | 280 47.4 | 8.3 | -27 53.0 | -3.1 | 55.5 |
| | 21 | 135 0.0 | 23 12.3 | 295 14.7 | 8.3 | -27 49.8 | -3.3 | 55.5 |
| | 22 | 149 59.9 | 23 12.4 | 309 42.0 | 8.3 | -27 46.6 | -3.4 | 55.5 |
| | 23 | 164 59.8 | 23 12.6 | 324 9.3 | 8.3 | -27 43.1 | -3.6 | 55.5 |
| | | *v* -0.1 SD 15.8 *d* 0.2 | | SD 15.0 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **13 Friday** | 0 | 179 59.6 | 23 12.7 | 338 36.7 | 8.4 | -27 39.5 | -3.7 | 55.5 |
| | 1 | 194 59.5 | 23 12.8 | 353 4.1 | 8.4 | -27 35.8 | -3.9 | 55.6 |
| | 2 | 209 59.4 | 23 13.0 | 7 31.4 | 8.4 | -27 31.9 | -4.0 | 55.6 |
| | 3 | 224 59.3 | 23 13.1 | 21 58.8 | 8.4 | -27 27.8 | -4.2 | 55.6 |
| | 4 | 239 59.1 | 23 13.2 | 36 26.3 | 8.4 | -27 23.6 | -4.3 | 55.6 |
| | 5 | 254 59.0 | 23 13.4 | 50 53.7 | 8.5 | -27 19.3 | -4.5 | 55.6 |
| | 6 | 269 58.9 | 23 13.5 | 65 21.2 | 8.5 | -27 14.8 | -4.6 | 55.6 |
| | 7 | 284 58.7 | 23 13.7 | 79 48.7 | 8.5 | -27 10.1 | -4.8 | 55.7 |
| | 8 | 299 58.6 | 23 13.8 | 94 16.2 | 8.6 | -27 5.3 | -4.9 | 55.7 |
| | 9 | 314 58.5 | 23 13.9 | 108 43.8 | 8.6 | -27 0.4 | -5.1 | 55.7 |
| | 10 | 329 58.3 | 23 14.1 | 123 11.4 | 8.6 | -26 55.3 | -5.2 | 55.7 |
| | 11 | 344 58.2 | 23 14.2 | 137 39.0 | 8.6 | -26 50.1 | -5.4 | 55.7 |
| | 12 | 359 58.1 | 23 14.3 | 152 6.6 | 8.7 | -26 44.7 | -5.5 | 55.8 |
| | 13 | 14 57.9 | 23 14.4 | 166 34.3 | 8.7 | -26 39.2 | -5.7 | 55.8 |
| | 14 | 29 57.8 | 23 14.6 | 181 2.0 | 8.8 | -26 33.5 | -5.8 | 55.8 |
| | 15 | 44 57.7 | 23 14.7 | 195 29.8 | 8.8 | -26 27.7 | -6.0 | 55.8 |
| | 16 | 59 57.6 | 23 14.8 | 209 57.6 | 8.8 | -26 21.7 | -6.1 | 55.8 |
| | 17 | 74 57.4 | 23 15.0 | 224 25.4 | 8.9 | -26 15.6 | -6.2 | 55.9 |
| | 18 | 89 57.3 | 23 15.1 | 238 53.3 | 8.9 | -26 9.4 | -6.4 | 55.9 |
| | 19 | 104 57.2 | 23 15.2 | 253 21.2 | 8.9 | -26 3.0 | -6.5 | 55.9 |
| | 20 | 119 57.0 | 23 15.3 | 267 49.1 | 9.0 | -25 56.5 | -6.7 | 55.9 |
| | 21 | 134 56.9 | 23 15.5 | 282 17.1 | 9.0 | -25 49.8 | -6.8 | 55.9 |
| | 22 | 149 56.8 | 23 15.6 | 296 45.1 | 9.1 | -25 43.0 | -6.9 | 56.0 |
| | 23 | 164 56.6 | 23 15.7 | 311 13.2 | 9.1 | -25 36.1 | -7.1 | 56.0 |
| | | *v* -0.1 SD 15.8 *d* 0.1 | | SD 15.1 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **14 Saturday** | 0 | 179 56.5 | 23 15.8 | 325 41.3 | 9.2 | -25 29.0 | -7.2 | 56.0 |
| | 1 | 194 56.4 | 23 16.0 | 340 9.5 | 9.2 | -25 21.8 | -7.4 | 56.0 |
| | 2 | 209 56.2 | 23 16.1 | 354 37.7 | 9.3 | -25 14.4 | -7.5 | 56.0 |
| | 3 | 224 56.1 | 23 16.2 | 9 5.9 | 9.3 | -25 6.9 | -7.6 | 56.1 |
| | 4 | 239 56.0 | 23 16.3 | 23 34.3 | 9.4 | -24 59.3 | -7.8 | 56.1 |
| | 5 | 254 55.8 | 23 16.4 | 38 2.6 | 9.4 | -24 51.5 | -7.9 | 56.1 |
| | 6 | 269 55.7 | 23 16.6 | 52 31.0 | 9.5 | -24 43.6 | -8.0 | 56.1 |
| | 7 | 284 55.6 | 23 16.7 | 66 59.5 | 9.5 | -24 35.6 | -8.2 | 56.1 |
| | 8 | 299 55.4 | 23 16.8 | 81 28.0 | 9.6 | -24 27.4 | -8.3 | 56.2 |
| | 9 | 314 55.3 | 23 16.9 | 95 56.5 | 9.6 | -24 19.1 | -8.4 | 56.2 |
| | 10 | 329 55.2 | 23 17.0 | 110 25.1 | 9.7 | -24 10.7 | -8.6 | 56.2 |
| | 11 | 344 55.1 | 23 17.1 | 124 53.8 | 9.7 | -24 2.1 | -8.7 | 56.2 |
| | 12 | 359 54.9 | 23 17.3 | 139 22.5 | 9.8 | -23 53.4 | -8.8 | 56.3 |
| | 13 | 14 54.8 | 23 17.4 | 153 51.3 | 9.8 | -23 44.6 | -9.0 | 56.3 |
| | 14 | 29 54.7 | 23 17.5 | 168 20.1 | 9.9 | -23 35.6 | -9.1 | 56.3 |
| | 15 | 44 54.5 | 23 17.6 | 182 49.0 | 9.9 | -23 26.6 | -9.2 | 56.3 |
| | 16 | 59 54.4 | 23 17.7 | 197 17.9 | 10.0 | -23 17.3 | -9.3 | 56.3 |
| | 17 | 74 54.3 | 23 17.8 | 211 46.9 | 10.0 | -23 8.0 | -9.5 | 56.4 |
| | 18 | 89 54.1 | 23 17.9 | 226 15.9 | 10.1 | -22 58.6 | -9.6 | 56.4 |
| | 19 | 104 54.0 | 23 18.0 | 240 45.0 | 10.1 | -22 49.0 | -9.7 | 56.4 |
| | 20 | 119 53.9 | 23 18.1 | 255 14.1 | 10.2 | -22 39.3 | -9.8 | 56.4 |
| | 21 | 134 53.7 | 23 18.2 | 269 43.3 | 10.3 | -22 29.5 | -9.9 | 56.4 |
| | 22 | 149 53.6 | 23 18.4 | 284 12.6 | 10.3 | -22 19.5 | -10.1 | 56.5 |
| | 23 | 164 53.5 | 23 18.5 | 298 41.9 | 10.4 | -22 9.5 | -10.2 | 56.5 |
| | | *v* -0.1 SD 15.7 *d* 0.1 | | SD 15.3 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | //// | //// | 00:09 | ▭ | //// | //// |
| 64 | //// | //// | 01:36 | 22:25 | //// | //// |
| 62 | //// | //// | 02:12 | 21:49 | //// | //// |
| 60 | //// | 00:58 | 02:38 | 21:23 | 23:04 | //// |
| 58 | //// | 01:44 | 02:57 | 21:03 | 22:17 | //// |
| 56 | //// | 02:12 | 03:14 | 20:46 | 21:48 | //// |
| 54 | 00:53 | 02:34 | 03:28 | 20:32 | 21:26 | 23:09 |
| 52 | 01:35 | 02:52 | 03:40 | 20:20 | 21:09 | 22:26 |
| 50 | 02:02 | 03:06 | 03:51 | 20:09 | 20:54 | 21:59 |
| 45 | 02:46 | 03:36 | 04:13 | 19:47 | 20:24 | 21:14 |
| 40 | 03:16 | 03:58 | 04:31 | 19:29 | 20:02 | 20:44 |
| 35 | 03:39 | 04:16 | 04:45 | 19:14 | 19:44 | 20:21 |
| 30 | 03:58 | 04:31 | 04:58 | 19:02 | 19:29 | 20:02 |
| 20 | 04:26 | 04:56 | 05:20 | 18:40 | 19:04 | 19:33 |
| 10 | 04:49 | 05:16 | 05:39 | 18:21 | 18:44 | 19:11 |
| 0 | 05:08 | 05:34 | 05:56 | 18:04 | 18:26 | 18:52 |
| -10 | 05:24 | 05:51 | 06:13 | 17:46 | 18:09 | 18:35 |
| -20 | 05:40 | 06:08 | 06:32 | 17:28 | 17:52 | 18:19 |
| -30 | 05:57 | 06:26 | 06:53 | 17:07 | 17:33 | 18:03 |
| -35 | 06:05 | 06:37 | 07:05 | 16:55 | 17:23 | 17:54 |
| -40 | 06:15 | 06:49 | 07:19 | 16:41 | 17:11 | 17:45 |
| -45 | 06:25 | 07:02 | 07:36 | 16:24 | 16:58 | 17:35 |
| -50 | 06:36 | 07:18 | 07:56 | 16:04 | 16:42 | 17:23 |
| -52 | 06:41 | 07:25 | 08:06 | 15:54 | 16:35 | 17:18 |
| -54 | 06:47 | 07:33 | 08:17 | 15:43 | 16:27 | 17:13 |
| -56 | 06:53 | 07:42 | 08:29 | 15:30 | 16:18 | 17:07 |
| -58 | 07:00 | 07:52 | 08:44 | 15:16 | 16:08 | 17:00 |
| -60 | 07:07 | 08:04 | 09:01 | 14:59 | 15:56 | 16:53 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **12** | **13** | **14** | **12** | **13** | **14** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 68 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 66 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 64 | ▬ | ▬ | 01:28 | ▬ | ▬ | 03:27 |
| 62 | ▬ | 00:52 | 00:34 | ▬ | 02:11 | 04:20 |
| 60 | 23:48 | –:– | 00:02 | 01:57 | 03:14 | 04:52 |
| 58 | 23:14 | 23:37 | 23:49 | 02:38 | 03:48 | 05:16 |
| 56 | 22:49 | 23:18 | 23:35 | 03:06 | 04:13 | 05:35 |
| 54 | 22:29 | 23:01 | 23:23 | 03:27 | 04:33 | 05:51 |
| 52 | 22:12 | 22:47 | 23:12 | 03:45 | 04:49 | 06:05 |
| 50 | 21:58 | 22:35 | 23:02 | 04:01 | 05:04 | 06:17 |
| 45 | 21:28 | 22:09 | 22:42 | 04:32 | 05:33 | 06:41 |
| 40 | 21:05 | 21:49 | 22:25 | 04:55 | 05:55 | 07:01 |
| 35 | 20:46 | 21:32 | 22:11 | 05:15 | 06:14 | 07:17 |
| 30 | 20:30 | 21:17 | 21:59 | 05:32 | 06:30 | 07:31 |
| 20 | 20:02 | 20:52 | 21:37 | 06:01 | 06:57 | 07:55 |
| 10 | 19:38 | 20:30 | 21:19 | 06:25 | 07:20 | 08:16 |
| 0 | 19:16 | 20:10 | 21:02 | 06:48 | 07:42 | 08:35 |
| -10 | 18:53 | 19:49 | 20:44 | 07:10 | 08:03 | 08:54 |
| -20 | 18:30 | 19:27 | 20:26 | 07:34 | 08:26 | 09:14 |
| -30 | 18:02 | 19:02 | 20:04 | 08:03 | 08:53 | 09:37 |
| -35 | 17:45 | 18:47 | 19:51 | 08:19 | 09:08 | 09:51 |
| -40 | 17:26 | 18:29 | 19:37 | 08:39 | 09:26 | 10:06 |
| -45 | 17:03 | 18:08 | 19:19 | 09:02 | 09:48 | 10:25 |
| -50 | 16:33 | 17:41 | 18:57 | 09:33 | 10:16 | 10:48 |
| -52 | 16:18 | 17:28 | 18:47 | 09:48 | 10:29 | 10:59 |
| -54 | 16:00 | 17:13 | 18:35 | 10:05 | 10:44 | 11:11 |
| -56 | 15:40 | 16:55 | 18:22 | 10:26 | 11:03 | 11:25 |
| -58 | 15:13 | 16:34 | 18:06 | 10:52 | 11:24 | 11:42 |
| -60 | 14:36 | 16:06 | 17:47 | 11:29 | 11:53 | 12:01 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **12** | 00:11 | 00:05 | 12:00 | 00:34 | 13:02 | 16 | 100 |
| **13** | 00:01 | 00:08 | 12:00 | 01:29 | 13:56 | 17 | 97 |
| **14** | 00:14 | 00:20 | 12:00 | 02:22 | 14:48 | 18 | 93 |

## 2025 June 15, 16, 17 (Sun, Mon, Tue)

| d | h | Aries GHA | Venus -4.3 GHA | Venus -4.3 Dec | Mars 1.4 GHA | Mars 1.4 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 1.0 GHA | Saturn 1.0 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 Sunday | 0 | 263 31.9 | 226 7.5 | 11 59.1 | 112 15.5 | 13 5.6 | 172 15.9 | 23 16.7 | 261 30.0 | -1 28.7 |
| | 1 | 278 34.4 | 241 7.5 | 11 59.8 | 127 16.7 | 13 5.1 | 187 17.7 | 23 16.7 | 276 32.4 | -1 28.7 |
| | 2 | 293 36.8 | 256 7.4 | 12 0.6 | 142 17.8 | 13 4.6 | 202 19.5 | 23 16.7 | 291 34.8 | -1 28.7 |
| | 3 | 308 39.3 | 271 7.3 | 12 1.4 | 157 19.0 | 13 4.0 | 217 21.4 | 23 16.7 | 306 37.1 | -1 28.6 |
| | 4 | 323 41.8 | 286 7.3 | 12 2.2 | 172 20.1 | 13 3.5 | 232 23.2 | 23 16.7 | 321 39.5 | -1 28.6 |
| | 5 | 338 44.2 | 301 7.2 | 12 2.9 | 187 21.2 | 13 3.0 | 247 25.1 | 23 16.7 | 336 41.8 | -1 28.6 |
| | 6 | 353 46.7 | 316 7.2 | 12 3.7 | 202 22.4 | 13 2.5 | 262 26.9 | 23 16.7 | 351 44.2 | -1 28.5 |
| | 7 | 8 49.2 | 331 7.1 | 12 4.5 | 217 23.5 | 13 2.0 | 277 28.8 | 23 16.7 | 6 46.5 | -1 28.5 |
| | 8 | 23 51.6 | 346 7.0 | 12 5.3 | 232 24.7 | 13 1.4 | 292 30.6 | 23 16.7 | 21 48.9 | -1 28.5 |
| | 9 | 38 54.1 | 1 7.0 | 12 6.1 | 247 25.8 | 13 0.9 | 307 32.5 | 23 16.7 | 36 51.2 | -1 28.4 |
| | 10 | 53 56.6 | 16 6.9 | 12 6.8 | 262 26.9 | 13 0.4 | 322 34.3 | 23 16.7 | 51 53.6 | -1 28.4 |
| | 11 | 68 59.0 | 31 6.8 | 12 7.6 | 277 28.1 | 12 59.9 | 337 36.1 | 23 16.7 | 66 56.0 | -1 28.4 |
| | 12 | 84 1.5 | 46 6.8 | 12 8.4 | 292 29.2 | 12 59.4 | 352 38.0 | 23 16.7 | 81 58.3 | -1 28.3 |
| | 13 | 99 3.9 | 61 6.7 | 12 9.2 | 307 30.4 | 12 58.8 | 7 39.8 | 23 16.7 | 97 0.7 | -1 28.3 |
| | 14 | 114 6.4 | 76 6.6 | 12 10.0 | 322 31.5 | 12 58.3 | 22 41.7 | 23 16.7 | 112 3.0 | -1 28.2 |
| | 15 | 129 8.9 | 91 6.6 | 12 10.7 | 337 32.6 | 12 57.8 | 37 43.5 | 23 16.7 | 127 5.4 | -1 28.2 |
| | 16 | 144 11.3 | 106 6.5 | 12 11.5 | 352 33.8 | 12 57.3 | 52 45.4 | 23 16.7 | 142 7.7 | -1 28.2 |
| | 17 | 159 13.8 | 121 6.4 | 12 12.3 | 7 34.9 | 12 56.7 | 67 47.2 | 23 16.7 | 157 10.1 | -1 28.1 |
| | 18 | 174 16.3 | 136 6.4 | 12 13.1 | 22 36.0 | 12 56.2 | 82 49.0 | 23 16.7 | 172 12.4 | -1 28.1 |
| | 19 | 189 18.7 | 151 6.3 | 12 13.8 | 37 37.2 | 12 55.7 | 97 50.9 | 23 16.7 | 187 14.8 | -1 28.1 |
| | 20 | 204 21.2 | 166 6.2 | 12 14.6 | 52 38.3 | 12 55.2 | 112 52.7 | 23 16.7 | 202 17.2 | -1 28.0 |
| | 21 | 219 23.7 | 181 6.1 | 12 15.4 | 67 39.5 | 12 54.7 | 127 54.6 | 23 16.7 | 217 19.5 | -1 28.0 |
| | 22 | 234 26.1 | 196 6.1 | 12 16.2 | 82 40.6 | 12 54.1 | 142 56.4 | 23 16.7 | 232 21.9 | -1 28.0 |
| | 23 | 249 28.6 | 211 6.0 | 12 16.9 | 97 41.7 | 12 53.6 | 157 58.3 | 23 16.7 | 247 24.2 | -1 27.9 |
| | | MP 06:26 | *v* -0.1 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 Monday | 0 | 264 31.1 | 226 5.9 | 12 17.7 | 112 42.9 | 12 53.1 | 173 0.1 | 23 16.7 | 262 26.6 | -1 27.9 |
| | 1 | 279 33.5 | 241 5.8 | 12 18.5 | 127 44.0 | 12 52.6 | 188 2.0 | 23 16.7 | 277 28.9 | -1 27.9 |
| | 2 | 294 36.0 | 256 5.8 | 12 19.3 | 142 45.2 | 12 52.0 | 203 3.8 | 23 16.6 | 292 31.3 | -1 27.8 |
| | 3 | 309 38.4 | 271 5.7 | 12 20.1 | 157 46.3 | 12 51.5 | 218 5.6 | 23 16.6 | 307 33.7 | -1 27.8 |
| | 4 | 324 40.9 | 286 5.6 | 12 20.8 | 172 47.4 | 12 51.0 | 233 7.5 | 23 16.6 | 322 36.0 | -1 27.8 |
| | 5 | 339 43.4 | 301 5.5 | 12 21.6 | 187 48.6 | 12 50.5 | 248 9.3 | 23 16.6 | 337 38.4 | -1 27.7 |
| | 6 | 354 45.8 | 316 5.5 | 12 22.4 | 202 49.7 | 12 50.0 | 263 11.2 | 23 16.6 | 352 40.7 | -1 27.7 |
| | 7 | 9 48.3 | 331 5.4 | 12 23.2 | 217 50.9 | 12 49.4 | 278 13.0 | 23 16.6 | 7 43.1 | -1 27.7 |
| | 8 | 24 50.8 | 346 5.3 | 12 23.9 | 232 52.0 | 12 48.9 | 293 14.9 | 23 16.6 | 22 45.5 | -1 27.6 |
| | 9 | 39 53.2 | 1 5.2 | 12 24.7 | 247 53.1 | 12 48.4 | 308 16.7 | 23 16.6 | 37 47.8 | -1 27.6 |
| | 10 | 54 55.7 | 16 5.1 | 12 25.5 | 262 54.3 | 12 47.9 | 323 18.6 | 23 16.6 | 52 50.2 | -1 27.6 |
| | 11 | 69 58.2 | 31 5.1 | 12 26.3 | 277 55.4 | 12 47.3 | 338 20.4 | 23 16.6 | 67 52.5 | -1 27.5 |
| | 12 | 85 0.6 | 46 5.0 | 12 27.0 | 292 56.5 | 12 46.8 | 353 22.2 | 23 16.6 | 82 54.9 | -1 27.5 |
| | 13 | 100 3.1 | 61 4.9 | 12 27.8 | 307 57.7 | 12 46.3 | 8 24.1 | 23 16.6 | 97 57.2 | -1 27.5 |
| | 14 | 115 5.6 | 76 4.8 | 12 28.6 | 322 58.8 | 12 45.8 | 23 25.9 | 23 16.6 | 112 59.6 | -1 27.4 |
| | 15 | 130 8.0 | 91 4.7 | 12 29.4 | 338 0.0 | 12 45.2 | 38 27.8 | 23 16.6 | 128 2.0 | -1 27.4 |
| | 16 | 145 10.5 | 106 4.6 | 12 30.1 | 353 1.1 | 12 44.7 | 53 29.6 | 23 16.6 | 143 4.3 | -1 27.4 |
| | 17 | 160 12.9 | 121 4.6 | 12 30.9 | 8 2.2 | 12 44.2 | 68 31.5 | 23 16.6 | 158 6.7 | -1 27.3 |
| | 18 | 175 15.4 | 136 4.5 | 12 31.7 | 23 3.4 | 12 43.7 | 83 33.3 | 23 16.6 | 173 9.0 | -1 27.3 |
| | 19 | 190 17.9 | 151 4.4 | 12 32.5 | 38 4.5 | 12 43.1 | 98 35.1 | 23 16.6 | 188 11.4 | -1 27.3 |
| | 20 | 205 20.3 | 166 4.3 | 12 33.2 | 53 5.6 | 12 42.6 | 113 37.0 | 23 16.6 | 203 13.8 | -1 27.2 |
| | 21 | 220 22.8 | 181 4.2 | 12 34.0 | 68 6.8 | 12 42.1 | 128 38.8 | 23 16.6 | 218 16.1 | -1 27.2 |
| | 22 | 235 25.3 | 196 4.1 | 12 34.8 | 83 7.9 | 12 41.6 | 143 40.7 | 23 16.6 | 233 18.5 | -1 27.2 |
| | 23 | 250 27.7 | 211 4.0 | 12 35.6 | 98 9.1 | 12 41.0 | 158 42.5 | 23 16.6 | 248 20.9 | -1 27.1 |
| | | MP 06:22 | *v* -0.1 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 Tuesday | 0 | 265 30.2 | 226 3.9 | 12 36.3 | 113 10.2 | 12 40.5 | 173 44.4 | 23 16.6 | 263 23.2 | -1 27.1 |
| | 1 | 280 32.7 | 241 3.9 | 12 37.1 | 128 11.3 | 12 40.0 | 188 46.2 | 23 16.6 | 278 25.6 | -1 27.1 |
| | 2 | 295 35.1 | 256 3.8 | 12 37.9 | 143 12.5 | 12 39.5 | 203 48.0 | 23 16.6 | 293 27.9 | -1 27.0 |
| | 3 | 310 37.6 | 271 3.7 | 12 38.6 | 158 13.6 | 12 38.9 | 218 49.9 | 23 16.6 | 308 30.3 | -1 27.0 |
| | 4 | 325 40.0 | 286 3.6 | 12 39.4 | 173 14.7 | 12 38.4 | 233 51.7 | 23 16.6 | 323 32.7 | -1 27.0 |
| | 5 | 340 42.5 | 301 3.5 | 12 40.2 | 188 15.9 | 12 37.9 | 248 53.6 | 23 16.6 | 338 35.0 | -1 26.9 |
| | 6 | 355 45.0 | 316 3.4 | 12 41.0 | 203 17.0 | 12 37.4 | 263 55.4 | 23 16.6 | 353 37.4 | -1 26.9 |
| | 7 | 10 47.4 | 331 3.3 | 12 41.7 | 218 18.1 | 12 36.8 | 278 57.3 | 23 16.6 | 8 39.7 | -1 26.9 |
| | 8 | 25 49.9 | 346 3.2 | 12 42.5 | 233 19.3 | 12 36.3 | 293 59.1 | 23 16.6 | 23 42.1 | -1 26.8 |
| | 9 | 40 52.4 | 1 3.1 | 12 43.3 | 248 20.4 | 12 35.8 | 309 1.0 | 23 16.6 | 38 44.5 | -1 26.8 |
| | 10 | 55 54.8 | 16 3.0 | 12 44.1 | 263 21.6 | 12 35.2 | 324 2.8 | 23 16.6 | 53 46.8 | -1 26.8 |
| | 11 | 70 57.3 | 31 2.9 | 12 44.8 | 278 22.7 | 12 34.7 | 339 4.6 | 23 16.6 | 68 49.2 | -1 26.7 |
| | 12 | 85 59.8 | 46 2.8 | 12 45.6 | 293 23.8 | 12 34.2 | 354 6.5 | 23 16.6 | 83 51.6 | -1 26.7 |
| | 13 | 101 2.2 | 61 2.7 | 12 46.4 | 308 25.0 | 12 33.7 | 9 8.3 | 23 16.6 | 98 53.9 | -1 26.7 |
| | 14 | 116 4.7 | 76 2.6 | 12 47.1 | 323 26.1 | 12 33.1 | 24 10.2 | 23 16.6 | 113 56.3 | -1 26.6 |
| | 15 | 131 7.2 | 91 2.5 | 12 47.9 | 338 27.2 | 12 32.6 | 39 12.0 | 23 16.5 | 128 58.6 | -1 26.6 |
| | 16 | 146 9.6 | 106 2.4 | 12 48.7 | 353 28.4 | 12 32.1 | 54 13.9 | 23 16.5 | 144 1.0 | -1 26.6 |
| | 17 | 161 12.1 | 121 2.3 | 12 49.5 | 8 29.5 | 12 31.5 | 69 15.7 | 23 16.5 | 159 3.4 | -1 26.5 |
| | 18 | 176 14.5 | 136 2.2 | 12 50.2 | 23 30.6 | 12 31.0 | 84 17.5 | 23 16.5 | 174 5.7 | -1 26.5 |
| | 19 | 191 17.0 | 151 2.1 | 12 51.0 | 38 31.8 | 12 30.5 | 99 19.4 | 23 16.5 | 189 8.1 | -1 26.5 |
| | 20 | 206 19.5 | 166 2.0 | 12 51.8 | 53 32.9 | 12 30.0 | 114 21.2 | 23 16.5 | 204 10.5 | -1 26.5 |
| | 21 | 221 21.9 | 181 1.9 | 12 52.5 | 68 34.1 | 12 29.4 | 129 23.1 | 23 16.5 | 219 12.8 | -1 26.4 |
| | 22 | 236 24.4 | 196 1.8 | 12 53.3 | 83 35.2 | 12 28.9 | 144 24.9 | 23 16.5 | 234 15.2 | -1 26.4 |
| | 23 | 251 26.9 | 211 1.7 | 12 54.1 | 98 36.3 | 12 28.4 | 159 26.8 | 23 16.5 | 249 17.6 | -1 26.4 |
| | | MP 06:18 | *v* -0.1 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 12.0 |
| Achernar | 335 20.2 | -57 6.2 |
| Acrux | 172 59.6 | -63 14.7 |
| Adhara | 255 6.0 | -29 0.4 |
| Aldebaran | 290 39.6 | 16 33.6 |
| Alioth | 166 12.4 | 55 49.5 |
| Alkaid | 152 51.4 | 49 11.3 |
| Alnair | 27 32.3 | -46 50.0 |
| Alnilam | 275 37.7 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.8 |
| Alpheratz | 357 34.5 | 29 13.7 |
| Altair | 61 59.3 | 8 56.1 |
| Ankaa | 353 6.9 | -42 9.8 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.0 |
| Atria | 107 8.4 | -69 4.4 |
| Avior | 234 15.1 | -59 35.6 |
| Bellatrix | 278 22.8 | 6 22.4 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.6 |
| Capella | 280 21.9 | 46 1.4 |
| Deneb | 49 25.2 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.8 |
| Diphda | 348 47.0 | -17 50.7 |
| Dubhe | 193 40.7 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.0 |
| Enif | 33 38.3 | 9 59.4 |
| Fomalhaut | 15 14.1 | -29 29.1 |
| Gacrux | 171 51.1 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.1 | -60 30.0 |
| Hamal | 327 51.0 | 23 34.9 |
| Kaus Aust. | 83 31.6 | -34 22.3 |
| Kochab | 137 18.9 | 74 3.2 |
| Markab | 13 29.5 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 38.8 | -69 49.5 |
| Mirfak | 308 28.2 | 49 56.9 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.7 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.4 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.3 |
| Rigil Kent. | 139 39.3 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.8 | 56 40.4 |
| Shaula | 96 9.5 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.3 |
| Vega | 80 32.6 | 38 48.3 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 15 Sun | SHA | MP |
|---|---|---|
| Venus | 322 35.6 | 08:56 |
| Mars | 208 43.6 | 16:30 |
| Jupiter | 268 43.9 | 12:29 |
| Saturn | 357 58.1 | 06:33 |

| 16 Mon | SHA | MP |
|---|---|---|
| Venus | 321 34.9 | 08:56 |
| Mars | 208 11.8 | 16:28 |
| Jupiter | 268 29.1 | 12:26 |
| Saturn | 357 55.5 | 06:29 |

| 17 Tue | SHA | MP |
|---|---|---|
| Venus | 320 33.8 | 08:56 |
| Mars | 207 40.0 | 16:26 |
| Jupiter | 268 14.2 | 12:24 |
| Saturn | 357 53.0 | 06:25 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **15 Sunday** | 0 | 179 53.3 | 23 18.6 | 313 11.3 | 10.4 | -21 59.3 | -10.3 | 56.5 |
| | 1 | 194 53.2 | 23 18.7 | 327 40.7 | 10.5 | -21 49.0 | -10.4 | 56.5 |
| | 2 | 209 53.1 | 23 18.8 | 342 10.2 | 10.5 | -21 38.6 | -10.5 | 56.6 |
| | 3 | 224 52.9 | 23 18.9 | 356 39.7 | 10.6 | -21 28.0 | -10.6 | 56.6 |
| | 4 | 239 52.8 | 23 19.0 | 11 9.3 | 10.7 | -21 17.4 | -10.8 | 56.6 |
| | 5 | 254 52.7 | 23 19.1 | 25 39.0 | 10.7 | -21 6.6 | -10.9 | 56.6 |
| | 6 | 269 52.5 | 23 19.2 | 40 8.7 | 10.8 | -20 55.8 | -11.0 | 56.6 |
| | 7 | 284 52.4 | 23 19.3 | 54 38.5 | 10.8 | -20 44.8 | -11.1 | 56.7 |
| | 8 | 299 52.3 | 23 19.4 | 69 8.3 | 10.9 | -20 33.7 | -11.2 | 56.7 |
| | 9 | 314 52.1 | 23 19.5 | 83 38.2 | 10.9 | -20 22.5 | -11.3 | 56.7 |
| | 10 | 329 52.0 | 23 19.6 | 98 8.1 | 11.0 | -20 11.1 | -11.4 | 56.7 |
| | 11 | 344 51.9 | 23 19.7 | 112 38.1 | 11.0 | -19 59.7 | -11.5 | 56.8 |
| | 12 | 359 51.7 | 23 19.8 | 127 8.1 | 11.1 | -19 48.2 | -11.6 | 56.8 |
| | 13 | 14 51.6 | 23 19.9 | 141 38.2 | 11.2 | -19 36.6 | -11.7 | 56.8 |
| | 14 | 29 51.5 | 23 20.0 | 156 8.4 | 11.2 | -19 24.8 | -11.8 | 56.8 |
| | 15 | 44 51.3 | 23 20.1 | 170 38.6 | 11.3 | -19 13.0 | -11.9 | 56.9 |
| | 16 | 59 51.2 | 23 20.2 | 185 8.9 | 11.3 | -19 1.0 | -12.1 | 56.9 |
| | 17 | 74 51.1 | 23 20.3 | 199 39.2 | 11.4 | -18 49.0 | -12.2 | 56.9 |
| | 18 | 89 50.9 | 23 20.3 | 214 9.6 | 11.4 | -18 36.8 | -12.3 | 56.9 |
| | 19 | 104 50.8 | 23 20.4 | 228 40.0 | 11.5 | -18 24.6 | -12.4 | 56.9 |
| | 20 | 119 50.7 | 23 20.5 | 243 10.5 | 11.5 | -18 12.2 | -12.4 | 57.0 |
| | 21 | 134 50.5 | 23 20.6 | 257 41.0 | 11.6 | -17 59.8 | -12.5 | 57.0 |
| | 22 | 149 50.4 | 23 20.7 | 272 11.6 | 11.6 | -17 47.2 | -12.6 | 57.0 |
| | 23 | 164 50.3 | 23 20.8 | 286 42.2 | 11.7 | -17 34.6 | -12.7 | 57.0 |
| | | *v* -0.1 | SD 15.7 | *d* 0.1 | | SD 15.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **16 Monday** | 0 | 179 50.1 | 23 20.9 | 301 12.9 | 11.7 | -17 21.8 | -12.8 | 57.1 |
| | 1 | 194 50.0 | 23 21.0 | 315 43.6 | 11.8 | -17 9.0 | -12.9 | 57.1 |
| | 2 | 209 49.8 | 23 21.1 | 330 14.4 | 11.8 | -16 56.1 | -13.0 | 57.1 |
| | 3 | 224 49.7 | 23 21.1 | 344 45.2 | 11.9 | -16 43.1 | -13.1 | 57.1 |
| | 4 | 239 49.6 | 23 21.2 | 359 16.1 | 11.9 | -16 30.0 | -13.2 | 57.2 |
| | 5 | 254 49.4 | 23 21.3 | 13 47.0 | 12.0 | -16 16.8 | -13.3 | 57.2 |
| | 6 | 269 49.3 | 23 21.4 | 28 18.0 | 12.0 | -16 3.5 | -13.4 | 57.2 |
| | 7 | 284 49.2 | 23 21.5 | 42 49.0 | 12.1 | -15 50.1 | -13.5 | 57.2 |
| | 8 | 299 49.0 | 23 21.6 | 57 20.1 | 12.1 | -15 36.7 | -13.5 | 57.3 |
| | 9 | 314 48.9 | 23 21.7 | 71 51.2 | 12.2 | -15 23.2 | -13.6 | 57.3 |
| | 10 | 329 48.8 | 23 21.7 | 86 22.4 | 12.2 | -15 9.5 | -13.7 | 57.3 |
| | 11 | 344 48.6 | 23 21.8 | 100 53.6 | 12.2 | -14 55.8 | -13.8 | 57.3 |
| | 12 | 359 48.5 | 23 21.9 | 115 24.8 | 12.3 | -14 42.0 | -13.9 | 57.4 |
| | 13 | 14 48.4 | 23 22.0 | 129 56.1 | 12.3 | -14 28.2 | -13.9 | 57.4 |
| | 14 | 29 48.2 | 23 22.0 | 144 27.4 | 12.4 | -14 14.2 | -14.0 | 57.4 |
| | 15 | 44 48.1 | 23 22.1 | 158 58.8 | 12.4 | -14 0.2 | -14.1 | 57.4 |
| | 16 | 59 48.0 | 23 22.2 | 173 30.2 | 12.4 | -13 46.1 | -14.2 | 57.4 |
| | 17 | 74 47.8 | 23 22.3 | 188 1.6 | 12.5 | -13 31.9 | -14.3 | 57.5 |
| | 18 | 89 47.7 | 23 22.4 | 202 33.1 | 12.5 | -13 17.7 | -14.3 | 57.5 |
| | 19 | 104 47.6 | 23 22.4 | 217 4.6 | 12.5 | -13 3.4 | -14.4 | 57.5 |
| | 20 | 119 47.4 | 23 22.5 | 231 36.1 | 12.6 | -12 49.0 | -14.5 | 57.5 |
| | 21 | 134 47.3 | 23 22.6 | 246 7.7 | 12.6 | -12 34.5 | -14.5 | 57.6 |
| | 22 | 149 47.2 | 23 22.7 | 260 39.3 | 12.6 | -12 20.0 | -14.6 | 57.6 |
| | 23 | 164 47.0 | 23 22.7 | 275 11.0 | 12.7 | -12 5.3 | -14.7 | 57.6 |
| | | *v* -0.1 | SD 15.7 | *d* 0.1 | | SD 15.6 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **17 Tuesday** | 0 | 179 46.9 | 23 22.8 | 289 42.7 | 12.7 | -11 50.7 | -14.7 | 57.6 |
| | 1 | 194 46.7 | 23 22.9 | 304 14.4 | 12.7 | -11 35.9 | -14.8 | 57.7 |
| | 2 | 209 46.6 | 23 22.9 | 318 46.1 | 12.8 | -11 21.1 | -14.9 | 57.7 |
| | 3 | 224 46.5 | 23 23.0 | 333 17.9 | 12.8 | -11 6.2 | -14.9 | 57.7 |
| | 4 | 239 46.3 | 23 23.1 | 347 49.7 | 12.8 | -10 51.3 | -15.0 | 57.7 |
| | 5 | 254 46.2 | 23 23.1 | 2 21.5 | 12.8 | -10 36.3 | -15.1 | 57.8 |
| | 6 | 269 46.1 | 23 23.2 | 16 53.4 | 12.9 | -10 21.2 | -15.1 | 57.8 |
| | 7 | 284 45.9 | 23 23.3 | 31 25.2 | 12.9 | -10 6.1 | -15.2 | 57.8 |
| | 8 | 299 45.8 | 23 23.3 | 45 57.1 | 12.9 | -9 50.9 | -15.2 | 57.8 |
| | 9 | 314 45.7 | 23 23.4 | 60 29.0 | 12.9 | -9 35.7 | -15.3 | 57.9 |
| | 10 | 329 45.5 | 23 23.5 | 75 1.0 | 13.0 | -9 20.4 | -15.4 | 57.9 |
| | 11 | 344 45.4 | 23 23.5 | 89 32.9 | 13.0 | -9 5.0 | -15.4 | 57.9 |
| | 12 | 359 45.3 | 23 23.6 | 104 4.9 | 13.0 | -8 49.6 | -15.5 | 57.9 |
| | 13 | 14 45.1 | 23 23.7 | 118 36.9 | 13.0 | -8 34.1 | -15.5 | 58.0 |
| | 14 | 29 45.0 | 23 23.7 | 133 8.9 | 13.0 | -8 18.6 | -15.6 | 58.0 |
| | 15 | 44 44.8 | 23 23.8 | 147 41.0 | 13.0 | -8 3.1 | -15.6 | 58.0 |
| | 16 | 59 44.7 | 23 23.8 | 162 13.0 | 13.1 | -7 47.4 | -15.7 | 58.0 |
| | 17 | 74 44.6 | 23 23.9 | 176 45.1 | 13.1 | -7 31.8 | -15.7 | 58.1 |
| | 18 | 89 44.4 | 23 24.0 | 191 17.1 | 13.1 | -7 16.0 | -15.8 | 58.1 |
| | 19 | 104 44.3 | 23 24.0 | 205 49.2 | 13.1 | -7 0.3 | -15.8 | 58.1 |
| | 20 | 119 44.2 | 23 24.1 | 220 21.3 | 13.1 | -6 44.5 | -15.9 | 58.1 |
| | 21 | 134 44.0 | 23 24.1 | 234 53.4 | 13.1 | -6 28.6 | -15.9 | 58.2 |
| | 22 | 149 43.9 | 23 24.2 | 249 25.5 | 13.1 | -6 12.7 | -15.9 | 58.2 |
| | 23 | 164 43.8 | 23 24.2 | 263 57.6 | 13.1 | -5 56.8 | -16.0 | 58.2 |
| | | *v* -0.1 | SD 15.7 | *d* 0.1 | | SD 15.7 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 64 | //// | //// | 01:33 | 22:29 | //// | //// |
| 62 | //// | //// | 02:10 | 21:51 | //// | //// |
| 60 | //// | 00:53 | 02:36 | 21:25 | 23:10 | //// |
| 58 | //// | 01:42 | 02:56 | 21:05 | 22:20 | //// |
| 56 | //// | 02:11 | 03:13 | 20:48 | 21:51 | //// |
| 54 | 00:48 | 02:33 | 03:27 | 20:34 | 21:29 | 23:14 |
| 52 | 01:33 | 02:51 | 03:39 | 20:22 | 21:11 | 22:28 |
| 50 | 02:01 | 03:06 | 03:50 | 20:11 | 20:56 | 22:01 |
| 45 | 02:46 | 03:35 | 04:13 | 19:49 | 20:26 | 21:16 |
| 40 | 03:16 | 03:58 | 04:31 | 19:31 | 20:03 | 20:45 |
| 35 | 03:39 | 04:16 | 04:46 | 19:16 | 19:45 | 20:22 |
| 30 | 03:58 | 04:31 | 04:59 | 19:03 | 19:30 | 20:03 |
| 20 | 04:27 | 04:56 | 05:20 | 18:41 | 19:05 | 19:34 |
| 10 | 04:49 | 05:16 | 05:39 | 18:22 | 18:45 | 19:12 |
| 0 | 05:08 | 05:34 | 05:57 | 18:04 | 18:27 | 18:53 |
| -10 | 05:25 | 05:51 | 06:14 | 17:47 | 18:10 | 18:36 |
| -20 | 05:41 | 06:09 | 06:33 | 17:28 | 17:52 | 18:20 |
| -30 | 05:58 | 06:27 | 06:54 | 17:07 | 17:34 | 18:03 |
| -35 | 06:06 | 06:38 | 07:06 | 16:55 | 17:23 | 17:55 |
| -40 | 06:16 | 06:50 | 07:20 | 16:41 | 17:11 | 17:45 |
| -45 | 06:26 | 07:03 | 07:37 | 16:24 | 16:58 | 17:35 |
| -50 | 06:38 | 07:19 | 07:58 | 16:03 | 16:42 | 17:23 |
| -52 | 06:43 | 07:27 | 08:08 | 15:54 | 16:34 | 17:18 |
| -54 | 06:49 | 07:35 | 08:19 | 15:42 | 16:26 | 17:12 |
| -56 | 06:55 | 07:44 | 08:31 | 15:30 | 16:17 | 17:06 |
| -58 | 07:01 | 07:54 | 08:46 | 15:15 | 16:07 | 17:00 |
| -60 | 07:09 | 08:06 | 09:03 | 14:58 | 15:55 | 16:52 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **15** | **16** | **17** | **15** | **16** | **17** |
| 72 | ▬ | 02:38 | 01:21 | ▬ | 05:53 | 08:50 |
| 70 | ▬ | 01:49 | 01:02 | ▬ | 06:39 | 09:06 |
| 68 | 02:31 | 01:18 | 00:47 | 04:14 | 07:09 | 09:19 |
| 66 | 01:27 | 00:54 | 00:35 | 05:16 | 07:31 | 09:30 |
| 64 | 00:52 | 00:36 | 00:24 | 05:50 | 07:49 | 09:38 |
| 62 | 00:26 | 00:21 | 00:15 | 06:15 | 08:03 | 09:46 |
| 60 | 00:06 | 00:08 | 00:07 | 06:34 | 08:15 | 09:52 |
| 58 | 23:56 | –:– | 00:01 | 06:50 | 08:25 | 09:58 |
| 56 | 23:47 | 23:55 | –:– | 07:04 | 08:34 | 10:03 |
| 54 | 23:38 | 23:49 | 23:58 | 07:16 | 08:42 | 10:07 |
| 52 | 23:30 | 23:44 | 23:56 | 07:26 | 08:49 | 10:11 |
| 50 | 23:23 | 23:40 | 23:54 | 07:35 | 08:55 | 10:15 |
| 45 | 23:08 | 23:30 | 23:50 | 07:54 | 09:08 | 10:22 |
| 40 | 22:55 | 23:22 | 23:46 | 08:10 | 09:19 | 10:29 |
| 35 | 22:45 | 23:15 | 23:42 | 08:23 | 09:29 | 10:34 |
| 30 | 22:35 | 23:08 | 23:39 | 08:34 | 09:37 | 10:39 |
| 20 | 22:19 | 22:58 | 23:34 | 08:54 | 09:51 | 10:47 |
| 10 | 22:05 | 22:48 | 23:30 | 09:10 | 10:03 | 10:55 |
| 0 | 21:51 | 22:39 | 23:26 | 09:26 | 10:14 | 11:01 |
| -10 | 21:38 | 22:30 | 23:21 | 09:41 | 10:26 | 11:08 |
| -20 | 21:24 | 22:20 | 23:17 | 09:58 | 10:38 | 11:15 |
| -30 | 21:07 | 22:09 | 23:11 | 10:16 | 10:51 | 11:23 |
| -35 | 20:57 | 22:03 | 23:08 | 10:27 | 10:59 | 11:27 |
| -40 | 20:46 | 21:56 | 23:05 | 10:39 | 11:08 | 11:32 |
| -45 | 20:33 | 21:47 | 23:01 | 10:54 | 11:18 | 11:38 |
| -50 | 20:17 | 21:37 | 22:56 | 11:12 | 11:30 | 11:45 |
| -52 | 20:09 | 21:32 | 22:54 | 11:20 | 11:36 | 11:49 |
| -54 | 20:01 | 21:26 | 22:52 | 11:29 | 11:42 | 11:52 |
| -56 | 19:51 | 21:20 | 22:49 | 11:39 | 11:49 | 11:56 |
| -58 | 19:40 | 21:14 | 22:46 | 11:51 | 11:57 | 12:00 |
| -60 | 19:28 | 21:06 | 22:43 | 12:04 | 12:05 | 12:05 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **15** | 00:27 | 00:33 | 12:01 | 03:14 | 15:39 | 19 | 87 |
| **16** | 00:40 | 00:46 | 12:01 | 04:03 | 16:27 | 20 | 79 |
| **17** | 00:52 | 00:59 | 12:01 | 04:50 | 17:13 | 21 | 69 |

## 2025 June 18, 19, 20 (Wed, Thu, Fri)

| d | h | Aries GHA | Venus -4.2 GHA | Venus -4.2 Dec | Mars 1.4 GHA | Mars 1.4 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 1.0 GHA | Saturn 1.0 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Wednesday | 0 | 266 29.3 | 226 1.6 | 12 54.9 | 113 37.5 | 12 27.8 | 174 28.6 | 23 16.5 | 264 19.9 | -1 26.3 |
| | 1 | 281 31.8 | 241 1.5 | 12 55.6 | 128 38.6 | 12 27.3 | 189 30.4 | 23 16.5 | 279 22.3 | -1 26.3 |
| | 2 | 296 34.3 | 256 1.4 | 12 56.4 | 143 39.7 | 12 26.8 | 204 32.3 | 23 16.5 | 294 24.7 | -1 26.3 |
| | 3 | 311 36.7 | 271 1.3 | 12 57.2 | 158 40.9 | 12 26.3 | 219 34.1 | 23 16.5 | 309 27.0 | -1 26.2 |
| | 4 | 326 39.2 | 286 1.2 | 12 57.9 | 173 42.0 | 12 25.7 | 234 36.0 | 23 16.5 | 324 29.4 | -1 26.2 |
| | 5 | 341 41.7 | 301 1.1 | 12 58.7 | 188 43.1 | 12 25.2 | 249 37.8 | 23 16.5 | 339 31.8 | -1 26.2 |
| | 6 | 356 44.1 | 316 1.0 | 12 59.5 | 203 44.3 | 12 24.7 | 264 39.7 | 23 16.5 | 354 34.1 | -1 26.1 |
| | 7 | 11 46.6 | 331 0.9 | 13 0.2 | 218 45.4 | 12 24.1 | 279 41.5 | 23 16.5 | 9 36.5 | -1 26.1 |
| | 8 | 26 49.0 | 346 0.8 | 13 1.0 | 233 46.5 | 12 23.6 | 294 43.3 | 23 16.5 | 24 38.8 | -1 26.1 |
| | 9 | 41 51.5 | 1 0.6 | 13 1.8 | 248 47.7 | 12 23.1 | 309 45.2 | 23 16.5 | 39 41.2 | -1 26.1 |
| | 10 | 56 54.0 | 16 0.5 | 13 2.5 | 263 48.8 | 12 22.5 | 324 47.0 | 23 16.5 | 54 43.6 | -1 26.0 |
| | 11 | 71 56.4 | 31 0.4 | 13 3.3 | 278 49.9 | 12 22.0 | 339 48.9 | 23 16.5 | 69 45.9 | -1 26.0 |
| | 12 | 86 58.9 | 46 0.3 | 13 4.1 | 293 51.1 | 12 21.5 | 354 50.7 | 23 16.5 | 84 48.3 | -1 26.0 |
| | 13 | 102 1.4 | 61 0.2 | 13 4.8 | 308 52.2 | 12 20.9 | 9 52.6 | 23 16.5 | 99 50.7 | -1 25.9 |
| | 14 | 117 3.8 | 76 0.1 | 13 5.6 | 323 53.4 | 12 20.4 | 24 54.4 | 23 16.5 | 114 53.0 | -1 25.9 |
| | 15 | 132 6.3 | 91 0.0 | 13 6.4 | 338 54.5 | 12 19.9 | 39 56.3 | 23 16.5 | 129 55.4 | -1 25.9 |
| | 16 | 147 8.8 | 105 59.9 | 13 7.1 | 353 55.6 | 12 19.4 | 54 58.1 | 23 16.4 | 144 57.8 | -1 25.8 |
| | 17 | 162 11.2 | 120 59.7 | 13 7.9 | 8 56.8 | 12 18.8 | 69 59.9 | 23 16.4 | 160 0.1 | -1 25.8 |
| | 18 | 177 13.7 | 135 59.6 | 13 8.7 | 23 57.9 | 12 18.3 | 85 1.8 | 23 16.4 | 175 2.5 | -1 25.8 |
| | 19 | 192 16.1 | 150 59.5 | 13 9.5 | 38 59.0 | 12 17.8 | 100 3.6 | 23 16.4 | 190 4.9 | -1 25.8 |
| | 20 | 207 18.6 | 165 59.4 | 13 10.2 | 54 0.2 | 12 17.2 | 115 5.5 | 23 16.4 | 205 7.2 | -1 25.7 |
| | 21 | 222 21.1 | 180 59.3 | 13 11.0 | 69 1.3 | 12 16.7 | 130 7.3 | 23 16.4 | 220 9.6 | -1 25.7 |
| | 22 | 237 23.5 | 195 59.2 | 13 11.8 | 84 2.4 | 12 16.2 | 145 9.2 | 23 16.4 | 235 12.0 | -1 25.7 |
| | 23 | 252 26.0 | 210 59.0 | 13 12.5 | 99 3.6 | 12 15.6 | 160 11.0 | 23 16.4 | 250 14.4 | -1 25.6 |
| | | MP 06:14 | *v* -0.1 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 Thursday | 0 | 267 28.5 | 225 58.9 | 13 13.3 | 114 4.7 | 12 15.1 | 175 12.8 | 23 16.4 | 265 16.7 | -1 25.6 |
| | 1 | 282 30.9 | 240 58.8 | 13 14.0 | 129 5.8 | 12 14.6 | 190 14.7 | 23 16.4 | 280 19.1 | -1 25.6 |
| | 2 | 297 33.4 | 255 58.7 | 13 14.8 | 144 7.0 | 12 14.0 | 205 16.5 | 23 16.4 | 295 21.5 | -1 25.5 |
| | 3 | 312 35.9 | 270 58.6 | 13 15.6 | 159 8.1 | 12 13.5 | 220 18.4 | 23 16.4 | 310 23.8 | -1 25.5 |
| | 4 | 327 38.3 | 285 58.4 | 13 16.3 | 174 9.2 | 12 13.0 | 235 20.2 | 23 16.4 | 325 26.2 | -1 25.5 |
| | 5 | 342 40.8 | 300 58.3 | 13 17.1 | 189 10.4 | 12 12.4 | 250 22.1 | 23 16.4 | 340 28.6 | -1 25.5 |
| | 6 | 357 43.3 | 315 58.2 | 13 17.9 | 204 11.5 | 12 11.9 | 265 23.9 | 23 16.4 | 355 30.9 | -1 25.4 |
| | 7 | 12 45.7 | 330 58.1 | 13 18.6 | 219 12.6 | 12 11.4 | 280 25.7 | 23 16.4 | 10 33.3 | -1 25.4 |
| | 8 | 27 48.2 | 345 57.9 | 13 19.4 | 234 13.8 | 12 10.8 | 295 27.6 | 23 16.4 | 25 35.7 | -1 25.4 |
| | 9 | 42 50.6 | 0 57.8 | 13 20.2 | 249 14.9 | 12 10.3 | 310 29.4 | 23 16.4 | 40 38.0 | -1 25.3 |
| | 10 | 57 53.1 | 15 57.7 | 13 20.9 | 264 16.0 | 12 9.8 | 325 31.3 | 23 16.4 | 55 40.4 | -1 25.3 |
| | 11 | 72 55.6 | 30 57.6 | 13 21.7 | 279 17.2 | 12 9.2 | 340 33.1 | 23 16.4 | 70 42.8 | -1 25.3 |
| | 12 | 87 58.0 | 45 57.4 | 13 22.5 | 294 18.3 | 12 8.7 | 355 35.0 | 23 16.4 | 85 45.2 | -1 25.3 |
| | 13 | 103 0.5 | 60 57.3 | 13 23.2 | 309 19.4 | 12 8.1 | 10 36.8 | 23 16.3 | 100 47.5 | -1 25.2 |
| | 14 | 118 3.0 | 75 57.2 | 13 24.0 | 324 20.6 | 12 7.6 | 25 38.6 | 23 16.3 | 115 49.9 | -1 25.2 |
| | 15 | 133 5.4 | 90 57.0 | 13 24.7 | 339 21.7 | 12 7.1 | 40 40.5 | 23 16.3 | 130 52.3 | -1 25.2 |
| | 16 | 148 7.9 | 105 56.9 | 13 25.5 | 354 22.8 | 12 6.5 | 55 42.3 | 23 16.3 | 145 54.6 | -1 25.1 |
| | 17 | 163 10.4 | 120 56.8 | 13 26.3 | 9 24.0 | 12 6.0 | 70 44.2 | 23 16.3 | 160 57.0 | -1 25.1 |
| | 18 | 178 12.8 | 135 56.7 | 13 27.0 | 24 25.1 | 12 5.5 | 85 46.0 | 23 16.3 | 175 59.4 | -1 25.1 |
| | 19 | 193 15.3 | 150 56.5 | 13 27.8 | 39 26.2 | 12 4.9 | 100 47.9 | 23 16.3 | 191 1.7 | -1 25.1 |
| | 20 | 208 17.8 | 165 56.4 | 13 28.6 | 54 27.4 | 12 4.4 | 115 49.7 | 23 16.3 | 206 4.1 | -1 25.0 |
| | 21 | 223 20.2 | 180 56.3 | 13 29.3 | 69 28.5 | 12 3.9 | 130 51.5 | 23 16.3 | 221 6.5 | -1 25.0 |
| | 22 | 238 22.7 | 195 56.1 | 13 30.1 | 84 29.6 | 12 3.3 | 145 53.4 | 23 16.3 | 236 8.9 | -1 25.0 |
| | 23 | 253 25.1 | 210 56.0 | 13 30.8 | 99 30.8 | 12 2.8 | 160 55.2 | 23 16.3 | 251 11.2 | -1 24.9 |
| | | MP 06:10 | *v* -0.1 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Friday | 0 | 268 27.6 | 225 55.9 | 13 31.6 | 114 31.9 | 12 2.3 | 175 57.1 | 23 16.3 | 266 13.6 | -1 24.9 |
| | 1 | 283 30.1 | 240 55.7 | 13 32.4 | 129 33.0 | 12 1.7 | 190 58.9 | 23 16.3 | 281 16.0 | -1 24.9 |
| | 2 | 298 32.5 | 255 55.6 | 13 33.1 | 144 34.2 | 12 1.2 | 206 0.8 | 23 16.3 | 296 18.3 | -1 24.9 |
| | 3 | 313 35.0 | 270 55.4 | 13 33.9 | 159 35.3 | 12 0.6 | 221 2.6 | 23 16.3 | 311 20.7 | -1 24.8 |
| | 4 | 328 37.5 | 285 55.3 | 13 34.6 | 174 36.4 | 12 0.1 | 236 4.4 | 23 16.3 | 326 23.1 | -1 24.8 |
| | 5 | 343 39.9 | 300 55.2 | 13 35.4 | 189 37.6 | 11 59.6 | 251 6.3 | 23 16.3 | 341 25.5 | -1 24.8 |
| | 6 | 358 42.4 | 315 55.0 | 13 36.2 | 204 38.7 | 11 59.0 | 266 8.1 | 23 16.2 | 356 27.8 | -1 24.7 |
| | 7 | 13 44.9 | 330 54.9 | 13 36.9 | 219 39.8 | 11 58.5 | 281 10.0 | 23 16.2 | 11 30.2 | -1 24.7 |
| | 8 | 28 47.3 | 345 54.8 | 13 37.7 | 234 40.9 | 11 58.0 | 296 11.8 | 23 16.2 | 26 32.6 | -1 24.7 |
| | 9 | 43 49.8 | 0 54.6 | 13 38.4 | 249 42.1 | 11 57.4 | 311 13.7 | 23 16.2 | 41 35.0 | -1 24.7 |
| | 10 | 58 52.2 | 15 54.5 | 13 39.2 | 264 43.2 | 11 56.9 | 326 15.5 | 23 16.2 | 56 37.3 | -1 24.6 |
| | 11 | 73 54.7 | 30 54.3 | 13 40.0 | 279 44.3 | 11 56.3 | 341 17.3 | 23 16.2 | 71 39.7 | -1 24.6 |
| | 12 | 88 57.2 | 45 54.2 | 13 40.7 | 294 45.5 | 11 55.8 | 356 19.2 | 23 16.2 | 86 42.1 | -1 24.6 |
| | 13 | 103 59.6 | 60 54.0 | 13 41.5 | 309 46.6 | 11 55.3 | 11 21.0 | 23 16.2 | 101 44.5 | -1 24.6 |
| | 14 | 119 2.1 | 75 53.9 | 13 42.2 | 324 47.7 | 11 54.7 | 26 22.9 | 23 16.2 | 116 46.8 | -1 24.5 |
| | 15 | 134 4.6 | 90 53.8 | 13 43.0 | 339 48.9 | 11 54.2 | 41 24.7 | 23 16.2 | 131 49.2 | -1 24.5 |
| | 16 | 149 7.0 | 105 53.6 | 13 43.8 | 354 50.0 | 11 53.7 | 56 26.6 | 23 16.2 | 146 51.6 | -1 24.5 |
| | 17 | 164 9.5 | 120 53.5 | 13 44.5 | 9 51.1 | 11 53.1 | 71 28.4 | 23 16.2 | 161 53.9 | -1 24.4 |
| | 18 | 179 12.0 | 135 53.3 | 13 45.3 | 24 52.3 | 11 52.6 | 86 30.2 | 23 16.2 | 176 56.3 | -1 24.4 |
| | 19 | 194 14.4 | 150 53.2 | 13 46.0 | 39 53.4 | 11 52.0 | 101 32.1 | 23 16.2 | 191 58.7 | -1 24.4 |
| | 20 | 209 16.9 | 165 53.0 | 13 46.8 | 54 54.5 | 11 51.5 | 116 33.9 | 23 16.2 | 207 1.1 | -1 24.4 |
| | 21 | 224 19.4 | 180 52.9 | 13 47.5 | 69 55.7 | 11 51.0 | 131 35.8 | 23 16.1 | 222 3.4 | -1 24.3 |
| | 22 | 239 21.8 | 195 52.7 | 13 48.3 | 84 56.8 | 11 50.4 | 146 37.6 | 23 16.1 | 237 5.8 | -1 24.3 |
| | 23 | 254 24.3 | 210 52.6 | 13 49.0 | 99 57.9 | 11 49.9 | 161 39.5 | 23 16.1 | 252 8.2 | -1 24.3 |
| | | MP 06:06 | *v* -0.1 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 12.0 |
| Achernar | 335 20.2 | -57 6.2 |
| Acrux | 172 59.6 | -63 14.7 |
| Adhara | 255 6.0 | -29 0.4 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.5 | 55 49.5 |
| Alkaid | 152 51.4 | 49 11.4 |
| Alnair | 27 32.2 | -46 50.0 |
| Alnilam | 275 37.7 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.8 |
| Alpheratz | 357 34.4 | 29 13.7 |
| Altair | 61 59.3 | 8 56.1 |
| Ankaa | 353 6.9 | -42 9.8 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.0 |
| Atria | 107 8.4 | -69 4.5 |
| Avior | 234 15.1 | -59 35.6 |
| Bellatrix | 278 22.8 | 6 22.4 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.5 |
| Capella | 280 21.8 | 46 1.4 |
| Deneb | 49 25.2 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.8 |
| Diphda | 348 47.0 | -17 50.7 |
| Dubhe | 193 40.7 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.1 |
| Enif | 33 38.3 | 9 59.4 |
| Fomalhaut | 15 14.0 | -29 29.1 |
| Gacrux | 171 51.2 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.1 | -60 30.0 |
| Hamal | 327 51.0 | 23 34.9 |
| Kaus Aust. | 83 31.6 | -34 22.3 |
| Kochab | 137 18.9 | 74 3.2 |
| Markab | 13 29.5 | 15 20.4 |
| Menkar | 314 6.0 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 38.9 | -69 49.5 |
| Mirfak | 308 28.2 | 49 56.9 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.7 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.3 |
| Rigil Kent. | 139 39.4 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.8 | 56 40.4 |
| Shaula | 96 9.5 | -37 7.3 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.3 |
| Vega | 80 32.6 | 38 48.3 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 18 Wed | SHA | MP |
|---|---|---|
| Venus | 319 32.3 | 08:56 |
| Mars | 207 8.1 | 16:24 |
| Jupiter | 267 59.3 | 12:21 |
| Saturn | 357 50.6 | 06:22 |

| 19 Thu | SHA | MP |
|---|---|---|
| Venus | 318 30.4 | 08:56 |
| Mars | 206 36.2 | 16:22 |
| Jupiter | 267 44.4 | 12:18 |
| Saturn | 357 48.3 | 06:18 |

| 20 Fri | SHA | MP |
|---|---|---|
| Venus | 317 28.2 | 08:56 |
| Mars | 206 4.3 | 16:21 |
| Jupiter | 267 29.5 | 12:15 |
| Saturn | 357 46.0 | 06:14 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **18 Wednesday** | 0 | 179 43.6 | 23 24.3 | 278 29.7 | 13.1 | -5 40.8 | -16.0 | 58.2 |
| | 1 | 194 43.5 | 23 24.3 | 293 1.8 | 13.1 | -5 24.8 | -16.1 | 58.3 |
| | 2 | 209 43.4 | 23 24.4 | 307 33.9 | 13.1 | -5 8.7 | -16.1 | 58.3 |
| | 3 | 224 43.2 | 23 24.4 | 322 6.0 | 13.1 | -4 52.6 | -16.1 | 58.3 |
| | 4 | 239 43.1 | 23 24.5 | 336 38.1 | 13.1 | -4 36.5 | -16.2 | 58.3 |
| | 5 | 254 42.9 | 23 24.6 | 351 10.3 | 13.1 | -4 20.3 | -16.2 | 58.4 |
| | 6 | 269 42.8 | 23 24.6 | 5 42.4 | 13.1 | -4 4.1 | -16.2 | 58.4 |
| | 7 | 284 42.7 | 23 24.6 | 20 14.5 | 13.1 | -3 47.9 | -16.3 | 58.4 |
| | 8 | 299 42.5 | 23 24.7 | 34 46.6 | 13.1 | -3 31.6 | -16.3 | 58.4 |
| | 9 | 314 42.4 | 23 24.7 | 49 18.6 | 13.1 | -3 15.3 | -16.3 | 58.5 |
| | 10 | 329 42.3 | 23 24.8 | 63 50.7 | 13.1 | -2 59.0 | -16.4 | 58.5 |
| | 11 | 344 42.1 | 23 24.8 | 78 22.8 | 13.1 | -2 42.7 | -16.4 | 58.5 |
| | 12 | 359 42.0 | 23 24.9 | 92 54.8 | 13.0 | -2 26.3 | -16.4 | 58.5 |
| | 13 | 14 41.9 | 23 24.9 | 107 26.9 | 13.0 | -2 9.9 | -16.4 | 58.6 |
| | 14 | 29 41.7 | 23 25.0 | 121 58.9 | 13.0 | -1 53.4 | -16.5 | 58.6 |
| | 15 | 44 41.6 | 23 25.0 | 136 30.9 | 13.0 | -1 37.0 | -16.5 | 58.6 |
| | 16 | 59 41.4 | 23 25.1 | 151 2.9 | 13.0 | -1 20.5 | -16.5 | 58.6 |
| | 17 | 74 41.3 | 23 25.1 | 165 34.9 | 13.0 | -1 4.0 | -16.5 | 58.7 |
| | 18 | 89 41.2 | 23 25.1 | 180 6.9 | 12.9 | -0 47.5 | -16.5 | 58.7 |
| | 19 | 104 41.0 | 23 25.2 | 194 38.8 | 12.9 | -0 31.0 | -16.5 | 58.7 |
| | 20 | 119 40.9 | 23 25.2 | 209 10.7 | 12.9 | -0 14.4 | 16.6 | 58.7 |
| | 21 | 134 40.8 | 23 25.3 | 223 42.6 | 12.9 | 0 2.1 | 16.6 | 58.8 |
| | 22 | 149 40.6 | 23 25.3 | 238 14.5 | 12.8 | 0 18.7 | 16.6 | 58.8 |
| | 23 | 164 40.5 | 23 25.3 | 252 46.3 | 12.8 | 0 35.3 | 16.6 | 58.8 |
| | | *v* -0.1 | SD 15.7 | *d* 0.1 | | SD 15.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **19 Thursday** | 0 | 179 40.3 | 23 25.4 | 267 18.1 | 12.8 | 0 51.9 | 16.6 | 58.8 |
| | 1 | 194 40.2 | 23 25.4 | 281 49.9 | 12.7 | 1 8.5 | 16.6 | 58.9 |
| | 2 | 209 40.1 | 23 25.4 | 296 21.6 | 12.7 | 1 25.1 | 16.6 | 58.9 |
| | 3 | 224 39.9 | 23 25.5 | 310 53.3 | 12.7 | 1 41.7 | 16.6 | 58.9 |
| | 4 | 239 39.8 | 23 25.5 | 325 25.0 | 12.6 | 1 58.3 | 16.6 | 58.9 |
| | 5 | 254 39.7 | 23 25.5 | 339 56.6 | 12.6 | 2 15.0 | 16.6 | 59.0 |
| | 6 | 269 39.5 | 23 25.6 | 354 28.2 | 12.6 | 2 31.6 | 16.6 | 59.0 |
| | 7 | 284 39.4 | 23 25.6 | 8 59.8 | 12.5 | 2 48.2 | 16.6 | 59.0 |
| | 8 | 299 39.3 | 23 25.6 | 23 31.3 | 12.5 | 3 4.9 | 16.6 | 59.0 |
| | 9 | 314 39.1 | 23 25.7 | 38 2.8 | 12.4 | 3 21.5 | 16.6 | 59.1 |
| | 10 | 329 39.0 | 23 25.7 | 52 34.3 | 12.4 | 3 38.2 | 16.6 | 59.1 |
| | 11 | 344 38.8 | 23 25.7 | 67 5.6 | 12.3 | 3 54.8 | 16.6 | 59.1 |
| | 12 | 359 38.7 | 23 25.8 | 81 37.0 | 12.3 | 4 11.4 | 16.6 | 59.1 |
| | 13 | 14 38.6 | 23 25.8 | 96 8.3 | 12.3 | 4 28.0 | 16.6 | 59.1 |
| | 14 | 29 38.4 | 23 25.8 | 110 39.6 | 12.2 | 4 44.6 | 16.6 | 59.2 |
| | 15 | 44 38.3 | 23 25.8 | 125 10.8 | 12.2 | 5 1.2 | 16.6 | 59.2 |
| | 16 | 59 38.2 | 23 25.9 | 139 41.9 | 12.1 | 5 17.8 | 16.6 | 59.2 |
| | 17 | 74 38.0 | 23 25.9 | 154 13.0 | 12.0 | 5 34.4 | 16.6 | 59.2 |
| | 18 | 89 37.9 | 23 25.9 | 168 44.0 | 12.0 | 5 50.9 | 16.5 | 59.3 |
| | 19 | 104 37.8 | 23 25.9 | 183 15.0 | 11.9 | 6 7.5 | 16.5 | 59.3 |
| | 20 | 119 37.6 | 23 26.0 | 197 46.0 | 11.9 | 6 24.0 | 16.5 | 59.3 |
| | 21 | 134 37.5 | 23 26.0 | 212 16.8 | 11.8 | 6 40.5 | 16.5 | 59.3 |
| | 22 | 149 37.3 | 23 26.0 | 226 47.6 | 11.7 | 6 57.0 | 16.5 | 59.4 |
| | 23 | 164 37.2 | 23 26.0 | 241 18.4 | 11.7 | 7 13.5 | 16.4 | 59.4 |
| | | *v* -0.1 | SD 15.7 | *d* 0.0 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Friday** | 0 | 179 37.1 | 23 26.0 | 255 49.1 | 11.6 | 7 29.9 | 16.4 | 59.4 |
| | 1 | 194 36.9 | 23 26.1 | 270 19.7 | 11.6 | 7 46.3 | 16.4 | 59.4 |
| | 2 | 209 36.8 | 23 26.1 | 284 50.3 | 11.5 | 8 2.7 | 16.4 | 59.4 |
| | 3 | 224 36.7 | 23 26.1 | 299 20.7 | 11.4 | 8 19.1 | 16.3 | 59.5 |
| | 4 | 239 36.5 | 23 26.1 | 313 51.2 | 11.3 | 8 35.4 | 16.3 | 59.5 |
| | 5 | 254 36.4 | 23 26.1 | 328 21.5 | 11.3 | 8 51.7 | 16.3 | 59.5 |
| | 6 | 269 36.2 | 23 26.1 | 342 51.8 | 11.2 | 9 7.9 | 16.2 | 59.5 |
| | 7 | 284 36.1 | 23 26.2 | 357 22.0 | 11.1 | 9 24.2 | 16.2 | 59.5 |
| | 8 | 299 36.0 | 23 26.2 | 11 52.1 | 11.1 | 9 40.3 | 16.2 | 59.6 |
| | 9 | 314 35.8 | 23 26.2 | 26 22.2 | 11.0 | 9 56.5 | 16.1 | 59.6 |
| | 10 | 329 35.7 | 23 26.2 | 40 52.1 | 10.9 | 10 12.6 | 16.1 | 59.6 |
| | 11 | 344 35.6 | 23 26.2 | 55 22.0 | 10.8 | 10 28.7 | 16.0 | 59.6 |
| | 12 | 359 35.4 | 23 26.2 | 69 51.8 | 10.7 | 10 44.7 | 16.0 | 59.7 |
| | 13 | 14 35.3 | 23 26.2 | 84 21.6 | 10.7 | 11 0.7 | 15.9 | 59.7 |
| | 14 | 29 35.1 | 23 26.2 | 98 51.2 | 10.6 | 11 16.6 | 15.9 | 59.7 |
| | 15 | 44 35.0 | 23 26.3 | 113 20.8 | 10.5 | 11 32.5 | 15.8 | 59.7 |
| | 16 | 59 34.9 | 23 26.3 | 127 50.3 | 10.4 | 11 48.3 | 15.8 | 59.7 |
| | 17 | 74 34.7 | 23 26.3 | 142 19.7 | 10.3 | 12 4.1 | 15.7 | 59.7 |
| | 18 | 89 34.6 | 23 26.3 | 156 49.0 | 10.2 | 12 19.8 | 15.7 | 59.8 |
| | 19 | 104 34.5 | 23 26.3 | 171 18.2 | 10.1 | 12 35.5 | 15.6 | 59.8 |
| | 20 | 119 34.3 | 23 26.3 | 185 47.3 | 10.0 | 12 51.1 | 15.5 | 59.8 |
| | 21 | 134 34.2 | 23 26.3 | 200 16.4 | 9.9 | 13 6.7 | 15.5 | 59.8 |
| | 22 | 149 34.1 | 23 26.3 | 214 45.3 | 9.9 | 13 22.1 | 15.4 | 59.8 |
| | 23 | 164 33.9 | 23 26.3 | 229 14.2 | 9.8 | 13 37.6 | 15.4 | 59.9 |
| | | *v* -0.1 | SD 15.7 | *d* 0.0 | | SD 16.2 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 64 | //// | //// | 01:31 | 22:31 | //// | //// |
| 62 | //// | //// | 02:09 | 21:53 | //// | //// |
| 60 | //// | 00:50 | 02:36 | 21:27 | 23:13 | //// |
| 58 | //// | 01:40 | 02:56 | 21:07 | 22:22 | //// |
| 56 | //// | 02:10 | 03:13 | 20:50 | 21:52 | //// |
| 54 | 00:46 | 02:33 | 03:27 | 20:35 | 21:30 | 23:17 |
| 52 | 01:32 | 02:51 | 03:39 | 20:23 | 21:12 | 22:30 |
| 50 | 02:00 | 03:06 | 03:50 | 20:12 | 20:57 | 22:03 |
| 45 | 02:46 | 03:35 | 04:13 | 19:50 | 20:27 | 21:17 |
| 40 | 03:16 | 03:58 | 04:31 | 19:32 | 20:04 | 20:46 |
| 35 | 03:39 | 04:16 | 04:46 | 19:17 | 19:46 | 20:23 |
| 30 | 03:58 | 04:31 | 04:59 | 19:04 | 19:31 | 20:04 |
| 20 | 04:27 | 04:56 | 05:21 | 18:41 | 19:06 | 19:35 |
| 10 | 04:50 | 05:17 | 05:40 | 18:22 | 18:46 | 19:13 |
| 0 | 05:09 | 05:35 | 05:58 | 18:05 | 18:27 | 18:54 |
| -10 | 05:26 | 05:52 | 06:15 | 17:47 | 18:10 | 18:37 |
| -20 | 05:42 | 06:09 | 06:34 | 17:29 | 17:53 | 18:20 |
| -30 | 05:58 | 06:28 | 06:55 | 17:08 | 17:34 | 18:04 |
| -35 | 06:07 | 06:39 | 07:07 | 16:55 | 17:23 | 17:55 |
| -40 | 06:17 | 06:51 | 07:21 | 16:41 | 17:12 | 17:46 |
| -45 | 06:27 | 07:04 | 07:38 | 16:24 | 16:58 | 17:35 |
| -50 | 06:39 | 07:20 | 07:59 | 16:03 | 16:42 | 17:24 |
| -52 | 06:44 | 07:28 | 08:09 | 15:54 | 16:35 | 17:18 |
| -54 | 06:50 | 07:36 | 08:20 | 15:42 | 16:26 | 17:13 |
| -56 | 06:56 | 07:45 | 08:33 | 15:30 | 16:17 | 17:06 |
| -58 | 07:03 | 07:55 | 08:47 | 15:15 | 16:07 | 17:00 |
| -60 | 07:10 | 08:07 | 09:05 | 14:58 | 15:55 | 16:52 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **18** | **19** | **20** | **18** | **19** | **20** |
| 72 | 00:38 | 00:02<br>23:24 | 22:34 | 11:12 | 13:32 | 16:07 |
| 70 | 00:31 | 00:03<br>23:34 | 22:59 | 11:16 | 13:25 | 15:45 |
| 68 | 00:24 | 00:04<br>23:43 | 23:17 | 11:20 | 13:20 | 15:29 |
| 66 | 00:19 | 00:04<br>23:50 | 23:33 | 11:22 | 13:16 | 15:15 |
| 64 | 00:14 | 00:05<br>23:56 | 23:45 | 11:25 | 13:12 | 15:04 |
| 62 | 00:10 | 00:06 | 00:01<br>23:56 | 11:27 | 13:09 | 14:55 |
| 60 | 00:07 | 00:06 | 00:05 | 11:28 | 13:06 | 14:47 |
| 58 | 00:04 | 00:06 | 00:09 | 11:30 | 13:03 | 14:40 |
| 56 | 00:01 | 00:07 | 00:13 | 11:31 | 13:01 | 14:34 |
| 54 | –:– | 00:07 | 00:16 | 11:32 | 12:59 | 14:29 |
| 52 | –:– | 00:07 | 00:19 | 11:33 | 12:57 | 14:24 |
| 50 | –:– | 00:08 | 00:22 | 11:34 | 12:56 | 14:20 |
| 45 | –:– | 00:08 | 00:28 | 11:37 | 12:52 | 14:10 |
| 40 | –:– | 00:09 | 00:33 | 11:38 | 12:49 | 14:02 |
| 35 | –:– | 00:09 | 00:37 | 11:40 | 12:47 | 13:56 |
| 30 | –:– | 00:10 | 00:41 | 11:41 | 12:44 | 13:50 |
| 20 | –:– | 00:10 | 00:48 | 11:44 | 12:41 | 13:40 |
| 10 | –:– | 00:11 | 00:54 | 11:46 | 12:37 | 13:31 |
| 0 | –:– | 00:12 | 00:59 | 11:47 | 12:34 | 13:23 |
| -10 | –:– | 00:12 | 01:05 | 11:49 | 12:31 | 13:14 |
| -20 | –:– | 00:13 | 01:11 | 11:51 | 12:27 | 13:06 |
| -30 | –:– | 00:14 | 01:18 | 11:53 | 12:24 | 12:56 |
| -35 | –:– | 00:15 | 01:22 | 11:54 | 12:21 | 12:50 |
| -40 | –:– | 00:15 | 01:27 | 11:56 | 12:19 | 12:44 |
| -45 | –:– | 00:16 | 01:33 | 11:57 | 12:16 | 12:36 |
| -50 | –:– | 00:17 | 01:39 | 11:59 | 12:13 | 12:28 |
| -52 | –:– | 00:17 | 01:42 | 12:00 | 12:11 | 12:23 |
| -54 | –:– | 00:18 | 01:46 | 12:01 | 12:09 | 12:19 |
| -56 | –:– | 00:18 | 01:50 | 12:02 | 12:08 | 12:14 |
| -58 | –:– | 00:19 | 01:54 | 12:03 | 12:05 | 12:09 |
| -60 | –:– | 00:19 | 01:59 | 12:04 | 12:03 | 12:02 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **18** | 01:06 | 01:12 | 12:01 | 05:36 | 18:00 | 22 | 59 |
| **19** | 01:19 | 01:25 | 12:01 | 06:23 | 18:47 | 23 | 48 |
| **20** | 01:32 | 01:38 | 12:02 | 07:11 | 19:36 | 24 | 37 |

## 2025 June 21, 22, 23 (Sat, Sun, Monday)

| | | Aries | Venus -4.2 | | Mars 1.4 | | Jupiter -1.9 | | Saturn 1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 21 Saturday | 0 | 269 26.7 | 225 52.4 | 13 49.8 | 114 59.0 | 11 49.3 | 176 41.3 | 23 16.1 | 267 10.6 | -1 24.3 |
| | 1 | 284 29.2 | 240 52.3 | 13 50.6 | 130 0.2 | 11 48.8 | 191 43.1 | 23 16.1 | 282 12.9 | -1 24.2 |
| | 2 | 299 31.7 | 255 52.1 | 13 51.3 | 145 1.3 | 11 48.3 | 206 45.0 | 23 16.1 | 297 15.3 | -1 24.2 |
| | 3 | 314 34.1 | 270 52.0 | 13 52.1 | 160 2.4 | 11 47.7 | 221 46.8 | 23 16.1 | 312 17.7 | -1 24.2 |
| | 4 | 329 36.6 | 285 51.8 | 13 52.8 | 175 3.6 | 11 47.2 | 236 48.7 | 23 16.1 | 327 20.1 | -1 24.2 |
| | 5 | 344 39.1 | 300 51.7 | 13 53.6 | 190 4.7 | 11 46.6 | 251 50.5 | 23 16.1 | 342 22.5 | -1 24.1 |
| | 6 | 359 41.5 | 315 51.5 | 13 54.3 | 205 5.8 | 11 46.1 | 266 52.3 | 23 16.1 | 357 24.8 | -1 24.1 |
| | 7 | 14 44.0 | 330 51.4 | 13 55.1 | 220 7.0 | 11 45.6 | 281 54.2 | 23 16.1 | 12 27.2 | -1 24.1 |
| | 8 | 29 46.5 | 345 51.2 | 13 55.8 | 235 8.1 | 11 45.0 | 296 56.0 | 23 16.1 | 27 29.6 | -1 24.1 |
| | 9 | 44 48.9 | 0 51.1 | 13 56.6 | 250 9.2 | 11 44.5 | 311 57.9 | 23 16.1 | 42 32.0 | -1 24.0 |
| | 10 | 59 51.4 | 15 50.9 | 13 57.3 | 265 10.4 | 11 43.9 | 326 59.7 | 23 16.1 | 57 34.3 | -1 24.0 |
| | 11 | 74 53.9 | 30 50.7 | 13 58.1 | 280 11.5 | 11 43.4 | 342 1.6 | 23 16.0 | 72 36.7 | -1 24.0 |
| | 12 | 89 56.3 | 45 50.6 | 13 58.9 | 295 12.6 | 11 42.8 | 357 3.4 | 23 16.0 | 87 39.1 | -1 23.9 |
| | 13 | 104 58.8 | 60 50.4 | 13 59.6 | 310 13.7 | 11 42.3 | 12 5.2 | 23 16.0 | 102 41.5 | -1 23.9 |
| | 14 | 120 1.2 | 75 50.3 | 14 0.4 | 325 14.9 | 11 41.8 | 27 7.1 | 23 16.0 | 117 43.8 | -1 23.9 |
| | 15 | 135 3.7 | 90 50.1 | 14 1.1 | 340 16.0 | 11 41.2 | 42 8.9 | 23 16.0 | 132 46.2 | -1 23.9 |
| | 16 | 150 6.2 | 105 49.9 | 14 1.9 | 355 17.1 | 11 40.7 | 57 10.8 | 23 16.0 | 147 48.6 | -1 23.8 |
| | 17 | 165 8.6 | 120 49.8 | 14 2.6 | 10 18.3 | 11 40.1 | 72 12.6 | 23 16.0 | 162 51.0 | -1 23.8 |
| | 18 | 180 11.1 | 135 49.6 | 14 3.4 | 25 19.4 | 11 39.6 | 87 14.5 | 23 16.0 | 177 53.4 | -1 23.8 |
| | 19 | 195 13.6 | 150 49.5 | 14 4.1 | 40 20.5 | 11 39.1 | 102 16.3 | 23 16.0 | 192 55.7 | -1 23.8 |
| | 20 | 210 16.0 | 165 49.3 | 14 4.9 | 55 21.6 | 11 38.5 | 117 18.1 | 23 16.0 | 207 58.1 | -1 23.7 |
| | 21 | 225 18.5 | 180 49.1 | 14 5.6 | 70 22.8 | 11 38.0 | 132 20.0 | 23 16.0 | 223 0.5 | -1 23.7 |
| | 22 | 240 21.0 | 195 49.0 | 14 6.4 | 85 23.9 | 11 37.4 | 147 21.8 | 23 16.0 | 238 2.9 | -1 23.7 |
| | 23 | 255 23.4 | 210 48.8 | 14 7.1 | 100 25.0 | 11 36.9 | 162 23.7 | 23 16.0 | 253 5.2 | -1 23.7 |
| | | MP 06:03 | *v* -0.2 | *d* 0.8 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 Sunday | 0 | 270 25.9 | 225 48.6 | 14 7.9 | 115 26.2 | 11 36.3 | 177 25.5 | 23 16.0 | 268 7.6 | -1 23.6 |
| | 1 | 285 28.3 | 240 48.5 | 14 8.6 | 130 27.3 | 11 35.8 | 192 27.4 | 23 15.9 | 283 10.0 | -1 23.6 |
| | 2 | 300 30.8 | 255 48.3 | 14 9.4 | 145 28.4 | 11 35.2 | 207 29.2 | 23 15.9 | 298 12.4 | -1 23.6 |
| | 3 | 315 33.3 | 270 48.1 | 14 10.1 | 160 29.6 | 11 34.7 | 222 31.0 | 23 15.9 | 313 14.8 | -1 23.6 |
| | 4 | 330 35.7 | 285 48.0 | 14 10.9 | 175 30.7 | 11 34.2 | 237 32.9 | 23 15.9 | 328 17.1 | -1 23.5 |
| | 5 | 345 38.2 | 300 47.8 | 14 11.6 | 190 31.8 | 11 33.6 | 252 34.7 | 23 15.9 | 343 19.5 | -1 23.5 |
| | 6 | 0 40.7 | 315 47.6 | 14 12.4 | 205 32.9 | 11 33.1 | 267 36.6 | 23 15.9 | 358 21.9 | -1 23.5 |
| | 7 | 15 43.1 | 330 47.5 | 14 13.1 | 220 34.1 | 11 32.5 | 282 38.4 | 23 15.9 | 13 24.3 | -1 23.5 |
| | 8 | 30 45.6 | 345 47.3 | 14 13.9 | 235 35.2 | 11 32.0 | 297 40.3 | 23 15.9 | 28 26.7 | -1 23.5 |
| | 9 | 45 48.1 | 0 47.1 | 14 14.6 | 250 36.3 | 11 31.4 | 312 42.1 | 23 15.9 | 43 29.0 | -1 23.4 |
| | 10 | 60 50.5 | 15 47.0 | 14 15.4 | 265 37.5 | 11 30.9 | 327 43.9 | 23 15.9 | 58 31.4 | -1 23.4 |
| | 11 | 75 53.0 | 30 46.8 | 14 16.1 | 280 38.6 | 11 30.3 | 342 45.8 | 23 15.9 | 73 33.8 | -1 23.4 |
| | 12 | 90 55.5 | 45 46.6 | 14 16.8 | 295 39.7 | 11 29.8 | 357 47.6 | 23 15.9 | 88 36.2 | -1 23.4 |
| | 13 | 105 57.9 | 60 46.4 | 14 17.6 | 310 40.8 | 11 29.3 | 12 49.5 | 23 15.8 | 103 38.6 | -1 23.3 |
| | 14 | 121 0.4 | 75 46.3 | 14 18.3 | 325 42.0 | 11 28.7 | 27 51.3 | 23 15.8 | 118 41.0 | -1 23.3 |
| | 15 | 136 2.8 | 90 46.1 | 14 19.1 | 340 43.1 | 11 28.2 | 42 53.2 | 23 15.8 | 133 43.3 | -1 23.3 |
| | 16 | 151 5.3 | 105 45.9 | 14 19.8 | 355 44.2 | 11 27.6 | 57 55.0 | 23 15.8 | 148 45.7 | -1 23.3 |
| | 17 | 166 7.8 | 120 45.7 | 14 20.6 | 10 45.4 | 11 27.1 | 72 56.8 | 23 15.8 | 163 48.1 | -1 23.2 |
| | 18 | 181 10.2 | 135 45.6 | 14 21.3 | 25 46.5 | 11 26.5 | 87 58.7 | 23 15.8 | 178 50.5 | -1 23.2 |
| | 19 | 196 12.7 | 150 45.4 | 14 22.1 | 40 47.6 | 11 26.0 | 103 0.5 | 23 15.8 | 193 52.9 | -1 23.2 |
| | 20 | 211 15.2 | 165 45.2 | 14 22.8 | 55 48.7 | 11 25.4 | 118 2.4 | 23 15.8 | 208 55.2 | -1 23.2 |
| | 21 | 226 17.6 | 180 45.0 | 14 23.6 | 70 49.9 | 11 24.9 | 133 4.2 | 23 15.8 | 223 57.6 | -1 23.1 |
| | 22 | 241 20.1 | 195 44.9 | 14 24.3 | 85 51.0 | 11 24.3 | 148 6.0 | 23 15.8 | 239 0.0 | -1 23.1 |
| | 23 | 256 22.6 | 210 44.7 | 14 25.0 | 100 52.1 | 11 23.8 | 163 7.9 | 23 15.8 | 254 2.4 | -1 23.1 |
| | | MP 05:59 | *v* -0.2 | *d* 0.7 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Monday | 0 | 271 25.0 | 225 44.5 | 14 25.8 | 115 53.2 | 11 23.3 | 178 9.7 | 23 15.7 | 269 4.8 | -1 23.1 |
| | 1 | 286 27.5 | 240 44.3 | 14 26.5 | 130 54.4 | 11 22.7 | 193 11.6 | 23 15.7 | 284 7.2 | -1 23.1 |
| | 2 | 301 30.0 | 255 44.1 | 14 27.3 | 145 55.5 | 11 22.2 | 208 13.4 | 23 15.7 | 299 9.5 | -1 23.0 |
| | 3 | 316 32.4 | 270 44.0 | 14 28.0 | 160 56.6 | 11 21.6 | 223 15.3 | 23 15.7 | 314 11.9 | -1 23.0 |
| | 4 | 331 34.9 | 285 43.8 | 14 28.8 | 175 57.8 | 11 21.1 | 238 17.1 | 23 15.7 | 329 14.3 | -1 23.0 |
| | 5 | 346 37.3 | 300 43.6 | 14 29.5 | 190 58.9 | 11 20.5 | 253 18.9 | 23 15.7 | 344 16.7 | -1 23.0 |
| | 6 | 1 39.8 | 315 43.4 | 14 30.2 | 206 0.0 | 11 20.0 | 268 20.8 | 23 15.7 | 359 19.1 | -1 22.9 |
| | 7 | 16 42.3 | 330 43.2 | 14 31.0 | 221 1.1 | 11 19.4 | 283 22.6 | 23 15.7 | 14 21.5 | -1 22.9 |
| | 8 | 31 44.7 | 345 43.0 | 14 31.7 | 236 2.3 | 11 18.9 | 298 24.5 | 23 15.7 | 29 23.8 | -1 22.9 |
| | 9 | 46 47.2 | 0 42.9 | 14 32.5 | 251 3.4 | 11 18.3 | 313 26.3 | 23 15.7 | 44 26.2 | -1 22.9 |
| | 10 | 61 49.7 | 15 42.7 | 14 33.2 | 266 4.5 | 11 17.8 | 328 28.2 | 23 15.7 | 59 28.6 | -1 22.8 |
| | 11 | 76 52.1 | 30 42.5 | 14 33.9 | 281 5.6 | 11 17.2 | 343 30.0 | 23 15.6 | 74 31.0 | -1 22.8 |
| | 12 | 91 54.6 | 45 42.3 | 14 34.7 | 296 6.8 | 11 16.7 | 358 31.8 | 23 15.6 | 89 33.4 | -1 22.8 |
| | 13 | 106 57.1 | 60 42.1 | 14 35.4 | 311 7.9 | 11 16.1 | 13 33.7 | 23 15.6 | 104 35.8 | -1 22.8 |
| | 14 | 121 59.5 | 75 41.9 | 14 36.2 | 326 9.0 | 11 15.6 | 28 35.5 | 23 15.6 | 119 38.1 | -1 22.8 |
| | 15 | 137 2.0 | 90 41.7 | 14 36.9 | 341 10.2 | 11 15.0 | 43 37.4 | 23 15.6 | 134 40.5 | -1 22.7 |
| | 16 | 152 4.5 | 105 41.5 | 14 37.6 | 356 11.3 | 11 14.5 | 58 39.2 | 23 15.6 | 149 42.9 | -1 22.7 |
| | 17 | 167 6.9 | 120 41.4 | 14 38.4 | 11 12.4 | 11 13.9 | 73 41.1 | 23 15.6 | 164 45.3 | -1 22.7 |
| | 18 | 182 9.4 | 135 41.2 | 14 39.1 | 26 13.5 | 11 13.4 | 88 42.9 | 23 15.6 | 179 47.7 | -1 22.7 |
| | 19 | 197 11.8 | 150 41.0 | 14 39.8 | 41 14.7 | 11 12.8 | 103 44.7 | 23 15.6 | 194 50.1 | -1 22.6 |
| | 20 | 212 14.3 | 165 40.8 | 14 40.6 | 56 15.8 | 11 12.3 | 118 46.6 | 23 15.6 | 209 52.5 | -1 22.6 |
| | 21 | 227 16.8 | 180 40.6 | 14 41.3 | 71 16.9 | 11 11.7 | 133 48.4 | 23 15.5 | 224 54.8 | -1 22.6 |
| | 22 | 242 19.2 | 195 40.4 | 14 42.1 | 86 18.0 | 11 11.2 | 148 50.3 | 23 15.5 | 239 57.2 | -1 22.6 |
| | 23 | 257 21.7 | 210 40.2 | 14 42.8 | 101 19.2 | 11 10.6 | 163 52.1 | 23 15.5 | 254 59.6 | -1 22.6 |
| | | MP 05:55 | *v* -0.2 | *d* 0.7 | *v* 1.1 | *d* -0.5 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 12.0 |
| Achernar | 335 20.2 | -57 6.2 |
| Acrux | 172 59.6 | -63 14.7 |
| Adhara | 255 6.0 | -29 0.4 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.5 | 55 49.5 |
| Alkaid | 152 51.5 | 49 11.4 |
| Alnair | 27 32.2 | -46 50.0 |
| Alnilam | 275 37.7 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.8 |
| Alpheratz | 357 34.4 | 29 13.7 |
| Altair | 61 59.3 | 8 56.1 |
| Ankaa | 353 6.8 | -42 9.8 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.0 |
| Atria | 107 8.4 | -69 4.5 |
| Avior | 234 15.2 | -59 35.6 |
| Bellatrix | 278 22.8 | 6 22.4 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.5 |
| Capella | 280 21.8 | 46 1.4 |
| Deneb | 49 25.2 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.9 |
| Diphda | 348 47.0 | -17 50.7 |
| Dubhe | 193 40.7 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.1 |
| Enif | 33 38.3 | 9 59.5 |
| Fomalhaut | 15 14.0 | -29 29.1 |
| Gacrux | 171 51.2 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.1 | -60 30.0 |
| Hamal | 327 51.0 | 23 34.9 |
| Kaus Aust. | 83 31.6 | -34 22.3 |
| Kochab | 137 18.9 | 74 3.2 |
| Markab | 13 29.5 | 15 20.5 |
| Menkar | 314 6.0 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 38.9 | -69 49.5 |
| Mirfak | 308 28.1 | 49 56.9 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.7 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.9 | -8 10.3 |
| Rigil Kent. | 139 39.4 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.8 | 56 40.4 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 26.3 | -16 45.1 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.3 |
| Vega | 80 32.5 | 38 48.4 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 21 Sat | SHA | MP |
|---|---|---|
| Venus | 316 25.7 | 08:57 |
| Mars | 205 32.3 | 16:19 |
| Jupiter | 267 14.5 | 12:12 |
| Saturn | 357 43.8 | 06:10 |

| 22 Sun | SHA | MP |
|---|---|---|
| Venus | 315 22.8 | 08:57 |
| Mars | 205 0.3 | 16:17 |
| Jupiter | 266 59.6 | 12:09 |
| Saturn | 357 41.7 | 06:07 |

| 23 Mon | SHA | MP |
|---|---|---|
| Venus | 314 19.5 | 08:57 |
| Mars | 204 28.2 | 16:15 |
| Jupiter | 266 44.7 | 12:06 |
| Saturn | 357 39.7 | 06:03 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **21 Saturday** | 0 | 179 33.8 | 23 26.3 | 243 42.9 | 9.7 | 13 52.9 | 15.3 | 59.9 |
| | 1 | 194 33.6 | 23 26.3 | 258 11.6 | 9.6 | 14 8.2 | 15.2 | 59.9 |
| | 2 | 209 33.5 | 23 26.3 | 272 40.1 | 9.5 | 14 23.4 | 15.1 | 59.9 |
| | 3 | 224 33.4 | 23 26.3 | 287 8.6 | 9.4 | 14 38.6 | 15.1 | 59.9 |
| | 4 | 239 33.2 | 23 26.3 | 301 37.0 | 9.3 | 14 53.7 | 15.0 | 59.9 |
| | 5 | 254 33.1 | 23 26.3 | 316 5.2 | 9.2 | 15 8.7 | 14.9 | 60.0 |
| | 6 | 269 33.0 | 23 26.3 | 330 33.4 | 9.1 | 15 23.6 | 14.8 | 60.0 |
| | 7 | 284 32.8 | 23 26.3 | 345 1.5 | 9.0 | 15 38.4 | 14.8 | 60.0 |
| | 8 | 299 32.7 | 23 26.3 | 359 29.4 | 8.9 | 15 53.2 | 14.7 | 60.0 |
| | 9 | 314 32.5 | 23 26.3 | 13 57.3 | 8.7 | 16 7.9 | 14.6 | 60.0 |
| | 10 | 329 32.4 | 23 26.3 | 28 25.0 | 8.6 | 16 22.5 | 14.5 | 60.0 |
| | 11 | 344 32.3 | 23 26.3 | 42 52.7 | 8.5 | 16 37.0 | 14.4 | 60.1 |
| | 12 | 359 32.1 | 23 26.3 | 57 20.2 | 8.4 | 16 51.4 | 14.3 | 60.1 |
| | 13 | 14 32.0 | 23 26.3 | 71 47.6 | 8.3 | 17 5.7 | 14.2 | 60.1 |
| | 14 | 29 31.9 | 23 26.3 | 86 14.9 | 8.2 | 17 20.0 | 14.1 | 60.1 |
| | 15 | 44 31.7 | 23 26.2 | 100 42.1 | 8.1 | 17 34.1 | 14.0 | 60.1 |
| | 16 | 59 31.6 | 23 26.2 | 115 9.2 | 8.0 | 17 48.1 | 13.9 | 60.1 |
| | 17 | 74 31.5 | 23 26.2 | 129 36.2 | 7.9 | 18 2.1 | 13.8 | 60.1 |
| | 18 | 89 31.3 | 23 26.2 | 144 3.1 | 7.8 | 18 15.9 | 13.7 | 60.1 |
| | 19 | 104 31.2 | 23 26.2 | 158 29.9 | 7.7 | 18 29.7 | 13.6 | 60.2 |
| | 20 | 119 31.0 | 23 26.2 | 172 56.5 | 7.5 | 18 43.3 | 13.5 | 60.2 |
| | 21 | 134 30.9 | 23 26.2 | 187 23.1 | 7.4 | 18 56.8 | 13.4 | 60.2 |
| | 22 | 149 30.8 | 23 26.2 | 201 49.5 | 7.3 | 19 10.2 | 13.3 | 60.2 |
| | 23 | 164 30.6 | 23 26.2 | 216 15.8 | 7.2 | 19 23.5 | 13.2 | 60.2 |
| | | *v* -0.1 | SD 15.7 | *d* 0.0 | | SD 16.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **22 Sunday** | 0 | 179 30.5 | 23 26.1 | 230 42.0 | 7.1 | 19 36.7 | 13.1 | 60.2 |
| | 1 | 194 30.4 | 23 26.1 | 245 8.1 | 7.0 | 19 49.8 | 13.0 | 60.2 |
| | 2 | 209 30.2 | 23 26.1 | 259 34.1 | 6.9 | 20 2.7 | 12.8 | 60.2 |
| | 3 | 224 30.1 | 23 26.1 | 273 59.9 | 6.7 | 20 15.6 | 12.7 | 60.2 |
| | 4 | 239 29.9 | 23 26.1 | 288 25.7 | 6.6 | 20 28.3 | 12.6 | 60.3 |
| | 5 | 254 29.8 | 23 26.1 | 302 51.3 | 6.5 | 20 40.9 | 12.5 | 60.3 |
| | 6 | 269 29.7 | 23 26.0 | 317 16.8 | 6.4 | 20 53.3 | 12.3 | 60.3 |
| | 7 | 284 29.5 | 23 26.0 | 331 42.2 | 6.3 | 21 5.7 | 12.2 | 60.3 |
| | 8 | 299 29.4 | 23 26.0 | 346 7.5 | 6.2 | 21 17.9 | 12.1 | 60.3 |
| | 9 | 314 29.3 | 23 26.0 | 0 32.6 | 6.1 | 21 29.9 | 11.9 | 60.3 |
| | 10 | 329 29.1 | 23 25.9 | 14 57.7 | 5.9 | 21 41.9 | 11.8 | 60.3 |
| | 11 | 344 29.0 | 23 25.9 | 29 22.6 | 5.8 | 21 53.7 | 11.7 | 60.3 |
| | 12 | 359 28.9 | 23 25.9 | 43 47.5 | 5.7 | 22 5.3 | 11.5 | 60.3 |
| | 13 | 14 28.7 | 23 25.9 | 58 12.2 | 5.6 | 22 16.8 | 11.4 | 60.3 |
| | 14 | 29 28.6 | 23 25.9 | 72 36.8 | 5.5 | 22 28.2 | 11.2 | 60.3 |
| | 15 | 44 28.4 | 23 25.8 | 87 1.2 | 5.4 | 22 39.4 | 11.1 | 60.3 |
| | 16 | 59 28.3 | 23 25.8 | 101 25.6 | 5.3 | 22 50.5 | 10.9 | 60.3 |
| | 17 | 74 28.2 | 23 25.8 | 115 49.9 | 5.1 | 23 1.4 | 10.8 | 60.3 |
| | 18 | 89 28.0 | 23 25.7 | 130 14.0 | 5.0 | 23 12.2 | 10.6 | 60.4 |
| | 19 | 104 27.9 | 23 25.7 | 144 38.1 | 4.9 | 23 22.8 | 10.5 | 60.4 |
| | 20 | 119 27.8 | 23 25.7 | 159 2.0 | 4.8 | 23 33.3 | 10.3 | 60.4 |
| | 21 | 134 27.6 | 23 25.7 | 173 25.8 | 4.7 | 23 43.6 | 10.2 | 60.4 |
| | 22 | 149 27.5 | 23 25.6 | 187 49.5 | 4.6 | 23 53.8 | 10.0 | 60.4 |
| | 23 | 164 27.4 | 23 25.6 | 202 13.1 | 4.5 | 24 3.8 | 9.8 | 60.4 |
| | | *v* -0.1 | SD 15.7 | *d* 0.0 | | SD 16.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Monday** | 0 | 179 27.2 | 23 25.6 | 216 36.6 | 4.4 | 24 13.6 | 9.7 | 60.4 |
| | 1 | 194 27.1 | 23 25.5 | 231 0.0 | 4.3 | 24 23.3 | 9.5 | 60.4 |
| | 2 | 209 26.9 | 23 25.5 | 245 23.3 | 4.2 | 24 32.8 | 9.3 | 60.4 |
| | 3 | 224 26.8 | 23 25.5 | 259 46.5 | 4.1 | 24 42.1 | 9.2 | 60.4 |
| | 4 | 239 26.7 | 23 25.4 | 274 9.6 | 4.0 | 24 51.3 | 9.0 | 60.4 |
| | 5 | 254 26.5 | 23 25.4 | 288 32.6 | 3.9 | 25 0.3 | 8.8 | 60.4 |
| | 6 | 269 26.4 | 23 25.4 | 302 55.5 | 3.8 | 25 9.1 | 8.6 | 60.4 |
| | 7 | 284 26.3 | 23 25.3 | 317 18.2 | 3.7 | 25 17.7 | 8.5 | 60.4 |
| | 8 | 299 26.1 | 23 25.3 | 331 40.9 | 3.6 | 25 26.2 | 8.3 | 60.4 |
| | 9 | 314 26.0 | 23 25.2 | 346 3.6 | 3.5 | 25 34.4 | 8.1 | 60.4 |
| | 10 | 329 25.9 | 23 25.2 | 0 26.1 | 3.4 | 25 42.6 | 7.9 | 60.4 |
| | 11 | 344 25.7 | 23 25.2 | 14 48.5 | 3.3 | 25 50.5 | 7.7 | 60.4 |
| | 12 | 359 25.6 | 23 25.1 | 29 10.8 | 3.3 | 25 58.2 | 7.5 | 60.4 |
| | 13 | 14 25.4 | 23 25.1 | 43 33.1 | 3.2 | 26 5.8 | 7.4 | 60.4 |
| | 14 | 29 25.3 | 23 25.0 | 57 55.3 | 3.1 | 26 13.1 | 7.2 | 60.4 |
| | 15 | 44 25.2 | 23 25.0 | 72 17.3 | 3.0 | 26 20.3 | 7.0 | 60.4 |
| | 16 | 59 25.0 | 23 25.0 | 86 39.4 | 2.9 | 26 27.3 | 6.8 | 60.3 |
| | 17 | 74 24.9 | 23 24.9 | 101 1.3 | 2.9 | 26 34.1 | 6.6 | 60.3 |
| | 18 | 89 24.8 | 23 24.9 | 115 23.2 | 2.8 | 26 40.7 | 6.4 | 60.3 |
| | 19 | 104 24.6 | 23 24.8 | 129 44.9 | 2.7 | 26 47.1 | 6.2 | 60.3 |
| | 20 | 119 24.5 | 23 24.8 | 144 6.7 | 2.7 | 26 53.3 | 6.0 | 60.3 |
| | 21 | 134 24.4 | 23 24.7 | 158 28.3 | 2.6 | 26 59.3 | 5.8 | 60.3 |
| | 22 | 149 24.2 | 23 24.7 | 172 49.9 | 2.5 | 27 5.1 | 5.6 | 60.3 |
| | 23 | 164 24.1 | 23 24.6 | 187 11.4 | 2.5 | 27 10.7 | 5.4 | 60.3 |
| | | *v* -0.1 | SD 15.7 | *d* 0.0 | | SD 16.5 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 64 | //// | //// | 01:31 | 22:33 | //// | //// |
| 62 | //// | //// | 02:09 | 21:54 | //// | //// |
| 60 | //// | 00:49 | 02:36 | 21:28 | 23:14 | //// |
| 58 | //// | 01:40 | 02:56 | 21:07 | 22:23 | //// |
| 56 | //// | 02:10 | 03:13 | 20:50 | 21:53 | //// |
| 54 | 00:45 | 02:33 | 03:27 | 20:36 | 21:31 | 23:19 |
| 52 | 01:32 | 02:51 | 03:40 | 20:24 | 21:13 | 22:31 |
| 50 | 02:00 | 03:06 | 03:51 | 20:13 | 20:58 | 22:03 |
| 45 | 02:46 | 03:36 | 04:13 | 19:50 | 20:28 | 21:18 |
| 40 | 03:17 | 03:58 | 04:31 | 19:32 | 20:05 | 20:47 |
| 35 | 03:40 | 04:17 | 04:46 | 19:17 | 19:47 | 20:24 |
| 30 | 03:59 | 04:32 | 04:59 | 19:04 | 19:32 | 20:05 |
| 20 | 04:28 | 04:57 | 05:22 | 18:42 | 19:07 | 19:36 |
| 10 | 04:50 | 05:18 | 05:41 | 18:23 | 18:46 | 19:13 |
| 0 | 05:09 | 05:36 | 05:58 | 18:06 | 18:28 | 18:54 |
| -10 | 05:26 | 05:53 | 06:16 | 17:48 | 18:11 | 18:37 |
| -20 | 05:43 | 06:10 | 06:34 | 17:30 | 17:54 | 18:21 |
| -30 | 05:59 | 06:29 | 06:55 | 17:08 | 17:35 | 18:05 |
| -35 | 06:08 | 06:40 | 07:08 | 16:56 | 17:24 | 17:56 |
| -40 | 06:17 | 06:52 | 07:22 | 16:42 | 17:12 | 17:46 |
| -45 | 06:28 | 07:05 | 07:39 | 16:25 | 16:59 | 17:36 |
| -50 | 06:40 | 07:21 | 08:00 | 16:04 | 16:43 | 17:24 |
| -52 | 06:45 | 07:29 | 08:10 | 15:54 | 16:35 | 17:19 |
| -54 | 06:51 | 07:37 | 08:21 | 15:43 | 16:27 | 17:13 |
| -56 | 06:57 | 07:46 | 08:33 | 15:30 | 16:18 | 17:07 |
| -58 | 07:04 | 07:56 | 08:48 | 15:15 | 16:07 | 17:00 |
| -60 | 07:11 | 08:08 | 09:06 | 14:58 | 15:56 | 16:53 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **21** | **22** | **23** | **21** | **22** | **23** |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | 21:49 | ▭ | ▭ | 18:46 | ▭ | ▭ |
| 68 | 22:37 | ▭ | ▭ | 18:00 | ▭ | ▭ |
| 66 | 23:09 | 22:04 | ▭ | 17:30 | 20:35 | ▭ |
| 64 | 23:32 | 23:10 | ▭ | 17:08 | 19:31 | ▭ |
| 62 | 23:51 | 23:45 | 23:37 | 16:50 | 18:56 | 21:16 |
| 60 | 00:05 | 00:07 | 00:11 | 16:35 | 18:31 | 20:28 |
| 58 | 00:13 | 00:20 | 00:32 | 16:23 | 18:11 | 19:58 |
| 56 | 00:21 | 00:31 | 00:49 | 16:13 | 17:55 | 19:35 |
| 54 | 00:27 | 00:42 | 01:03 | 16:03 | 17:41 | 19:16 |
| 52 | 00:33 | 00:51 | 01:16 | 15:55 | 17:29 | 19:00 |
| 50 | 00:38 | 00:59 | 01:27 | 15:48 | 17:18 | 18:47 |
| 45 | 00:50 | 01:16 | 01:51 | 15:32 | 16:56 | 18:19 |
| 40 | 00:59 | 01:31 | 02:10 | 15:19 | 16:38 | 17:57 |
| 35 | 01:08 | 01:43 | 02:26 | 15:08 | 16:23 | 17:39 |
| 30 | 01:15 | 01:54 | 02:39 | 14:58 | 16:10 | 17:23 |
| 20 | 01:28 | 02:12 | 03:03 | 14:42 | 15:48 | 16:57 |
| 10 | 01:39 | 02:29 | 03:24 | 14:28 | 15:29 | 16:34 |
| 0 | 01:50 | 02:44 | 03:43 | 14:15 | 15:12 | 16:13 |
| -10 | 02:00 | 03:00 | 04:03 | 14:02 | 14:54 | 15:52 |
| -20 | 02:12 | 03:16 | 04:24 | 13:48 | 14:35 | 15:30 |
| -30 | 02:25 | 03:36 | 04:49 | 13:32 | 14:14 | 15:04 |
| -35 | 02:33 | 03:47 | 05:03 | 13:23 | 14:01 | 14:48 |
| -40 | 02:42 | 04:00 | 05:20 | 13:12 | 13:47 | 14:31 |
| -45 | 02:53 | 04:16 | 05:40 | 13:00 | 13:30 | 14:09 |
| -50 | 03:05 | 04:35 | 06:06 | 12:45 | 13:09 | 13:43 |
| -52 | 03:11 | 04:44 | 06:19 | 12:39 | 12:59 | 13:30 |
| -54 | 03:18 | 04:55 | 06:33 | 12:31 | 12:48 | 13:15 |
| -56 | 03:25 | 05:07 | 06:50 | 12:23 | 12:36 | 12:58 |
| -58 | 03:34 | 05:20 | 07:10 | 12:13 | 12:21 | 12:37 |
| -60 | 03:44 | 05:36 | 07:36 | 12:02 | 12:04 | 12:11 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **21** | 01:45 | 01:51 | 12:02 | 08:02 | 20:29 | 25 | 26 |
| **22** | 01:58 | 02:05 | 12:02 | 08:58 | 21:27 | 26 | 16 |
| **23** | 02:11 | 02:18 | 12:02 | 09:58 | 22:30 | 27 | 8 |

## 2025 June 24, 25, 26 (Tue, Wed, Thu)

| | | Aries | Venus -4.2 | | Mars 1.5 | | Jupiter -1.9 | | Saturn 1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 24 Tuesday | 0 | 272 24.2 | 225 40.0 | 14 43.5 | 116 20.3 | 11 10.1 | 178 53.9 | 23 15.5 | 270 2.0 | -1 22.5 |
| | 1 | 287 26.6 | 240 39.8 | 14 44.3 | 131 21.4 | 11 9.5 | 193 55.8 | 23 15.5 | 285 4.4 | -1 22.5 |
| | 2 | 302 29.1 | 255 39.6 | 14 45.0 | 146 22.5 | 11 9.0 | 208 57.6 | 23 15.5 | 300 6.8 | -1 22.5 |
| | 3 | 317 31.6 | 270 39.4 | 14 45.7 | 161 23.7 | 11 8.4 | 223 59.5 | 23 15.5 | 315 9.2 | -1 22.5 |
| | 4 | 332 34.0 | 285 39.2 | 14 46.5 | 176 24.8 | 11 7.9 | 239 1.3 | 23 15.5 | 330 11.6 | -1 22.5 |
| | 5 | 347 36.5 | 300 39.0 | 14 47.2 | 191 25.9 | 11 7.3 | 254 3.2 | 23 15.5 | 345 13.9 | -1 22.4 |
| | 6 | 2 39.0 | 315 38.8 | 14 47.9 | 206 27.0 | 11 6.8 | 269 5.0 | 23 15.5 | 0 16.3 | -1 22.4 |
| | 7 | 17 41.4 | 330 38.6 | 14 48.7 | 221 28.2 | 11 6.2 | 284 6.8 | 23 15.4 | 15 18.7 | -1 22.4 |
| | 8 | 32 43.9 | 345 38.4 | 14 49.4 | 236 29.3 | 11 5.7 | 299 8.7 | 23 15.4 | 30 21.1 | -1 22.4 |
| | 9 | 47 46.3 | 0 38.2 | 14 50.1 | 251 30.4 | 11 5.1 | 314 10.5 | 23 15.4 | 45 23.5 | -1 22.3 |
| | 10 | 62 48.8 | 15 38.0 | 14 50.9 | 266 31.5 | 11 4.6 | 329 12.4 | 23 15.4 | 60 25.9 | -1 22.3 |
| | 11 | 77 51.3 | 30 37.8 | 14 51.6 | 281 32.7 | 11 4.0 | 344 14.2 | 23 15.4 | 75 28.3 | -1 22.3 |
| | 12 | 92 53.7 | 45 37.6 | 14 52.3 | 296 33.8 | 11 3.5 | 359 16.0 | 23 15.4 | 90 30.7 | -1 22.3 |
| | 13 | 107 56.2 | 60 37.4 | 14 53.1 | 311 34.9 | 11 2.9 | 14 17.9 | 23 15.4 | 105 33.0 | -1 22.3 |
| | 14 | 122 58.7 | 75 37.2 | 14 53.8 | 326 36.0 | 11 2.4 | 29 19.7 | 23 15.3 | 120 35.4 | -1 22.2 |
| | 15 | 138 1.1 | 90 37.0 | 14 54.5 | 341 37.2 | 11 1.8 | 44 21.6 | 23 15.3 | 135 37.8 | -1 22.2 |
| | 16 | 153 3.6 | 105 36.8 | 14 55.3 | 356 38.3 | 11 1.3 | 59 23.4 | 23 15.3 | 150 40.2 | -1 22.2 |
| | 17 | 168 6.1 | 120 36.6 | 14 56.0 | 11 39.4 | 11 0.7 | 74 25.3 | 23 15.3 | 165 42.6 | -1 22.2 |
| | 18 | 183 8.5 | 135 36.4 | 14 56.7 | 26 40.5 | 11 0.2 | 89 27.1 | 23 15.3 | 180 45.0 | -1 22.2 |
| | 19 | 198 11.0 | 150 36.2 | 14 57.5 | 41 41.7 | 10 59.6 | 104 29.0 | 23 15.3 | 195 47.4 | -1 22.1 |
| | 20 | 213 13.5 | 165 36.0 | 14 58.2 | 56 42.8 | 10 59.1 | 119 30.8 | 23 15.3 | 210 49.8 | -1 22.1 |
| | 21 | 228 15.9 | 180 35.8 | 14 58.9 | 71 43.9 | 10 58.5 | 134 32.7 | 23 15.3 | 225 52.2 | -1 22.1 |
| | 22 | 243 18.4 | 195 35.6 | 14 59.6 | 86 45.0 | 10 58.0 | 149 34.5 | 23 15.3 | 240 54.5 | -1 22.1 |
| | 23 | 258 20.8 | 210 35.4 | 15 0.4 | 101 46.2 | 10 57.4 | 164 36.4 | 23 15.3 | 255 56.9 | -1 22.1 |
| | | MP 05:51 | *v* -0.2 | *d* 0.7 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Wednesday | 0 | 273 23.3 | 225 35.2 | 15 1.1 | 116 47.3 | 10 56.8 | 179 38.2 | 23 15.3 | 270 59.3 | -1 22.0 |
| | 1 | 288 25.8 | 240 34.9 | 15 1.8 | 131 48.4 | 10 56.3 | 194 40.0 | 23 15.3 | 286 1.7 | -1 22.0 |
| | 2 | 303 28.2 | 255 34.7 | 15 2.6 | 146 49.5 | 10 55.7 | 209 41.9 | 23 15.2 | 301 4.1 | -1 22.0 |
| | 3 | 318 30.7 | 270 34.5 | 15 3.3 | 161 50.7 | 10 55.2 | 224 43.7 | 23 15.2 | 316 6.5 | -1 22.0 |
| | 4 | 333 33.2 | 285 34.3 | 15 4.0 | 176 51.8 | 10 54.6 | 239 45.6 | 23 15.2 | 331 8.9 | -1 22.0 |
| | 5 | 348 35.6 | 300 34.1 | 15 4.7 | 191 52.9 | 10 54.1 | 254 47.4 | 23 15.2 | 346 11.3 | -1 21.9 |
| | 6 | 3 38.1 | 315 33.9 | 15 5.5 | 206 54.0 | 10 53.5 | 269 49.3 | 23 15.2 | 1 13.7 | -1 21.9 |
| | 7 | 18 40.6 | 330 33.7 | 15 6.2 | 221 55.2 | 10 53.0 | 284 51.1 | 23 15.2 | 16 16.1 | -1 21.9 |
| | 8 | 33 43.0 | 345 33.5 | 15 6.9 | 236 56.3 | 10 52.4 | 299 52.9 | 23 15.2 | 31 18.5 | -1 21.9 |
| | 9 | 48 45.5 | 0 33.2 | 15 7.6 | 251 57.4 | 10 51.9 | 314 54.8 | 23 15.2 | 46 20.8 | -1 21.9 |
| | 10 | 63 48.0 | 15 33.0 | 15 8.4 | 266 58.5 | 10 51.3 | 329 56.6 | 23 15.2 | 61 23.2 | -1 21.8 |
| | 11 | 78 50.4 | 30 32.8 | 15 9.1 | 281 59.7 | 10 50.8 | 344 58.5 | 23 15.1 | 76 25.6 | -1 21.8 |
| | 12 | 93 52.9 | 45 32.6 | 15 9.8 | 297 0.8 | 10 50.2 | 0 0.3 | 23 15.1 | 91 28.0 | -1 21.8 |
| | 13 | 108 55.3 | 60 32.4 | 15 10.5 | 312 1.9 | 10 49.6 | 15 2.1 | 23 15.1 | 106 30.4 | -1 21.8 |
| | 14 | 123 57.8 | 75 32.2 | 15 11.3 | 327 3.0 | 10 49.1 | 30 4.0 | 23 15.1 | 121 32.8 | -1 21.8 |
| | 15 | 139 0.3 | 90 31.9 | 15 12.0 | 342 4.1 | 10 48.5 | 45 5.8 | 23 15.1 | 136 35.2 | -1 21.8 |
| | 16 | 154 2.7 | 105 31.7 | 15 12.7 | 357 5.3 | 10 48.0 | 60 7.7 | 23 15.1 | 151 37.6 | -1 21.7 |
| | 17 | 169 5.2 | 120 31.5 | 15 13.4 | 12 6.4 | 10 47.4 | 75 9.5 | 23 15.1 | 166 40.0 | -1 21.7 |
| | 18 | 184 7.7 | 135 31.3 | 15 14.2 | 27 7.5 | 10 46.9 | 90 11.4 | 23 15.1 | 181 42.4 | -1 21.7 |
| | 19 | 199 10.1 | 150 31.1 | 15 14.9 | 42 8.6 | 10 46.3 | 105 13.2 | 23 15.1 | 196 44.8 | -1 21.7 |
| | 20 | 214 12.6 | 165 30.8 | 15 15.6 | 57 9.8 | 10 45.8 | 120 15.0 | 23 15.0 | 211 47.2 | -1 21.7 |
| | 21 | 229 15.1 | 180 30.6 | 15 16.3 | 72 10.9 | 10 45.2 | 135 16.9 | 23 15.0 | 226 49.6 | -1 21.6 |
| | 22 | 244 17.5 | 195 30.4 | 15 17.0 | 87 12.0 | 10 44.6 | 150 18.7 | 23 15.0 | 241 51.9 | -1 21.6 |
| | 23 | 259 20.0 | 210 30.2 | 15 17.8 | 102 13.1 | 10 44.1 | 165 20.6 | 23 15.0 | 256 54.3 | -1 21.6 |
| | | MP 05:47 | *v* -0.2 | *d* 0.7 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 Thursday | 0 | 274 22.5 | 225 30.0 | 15 18.5 | 117 14.3 | 10 43.5 | 180 22.4 | 23 15.0 | 271 56.7 | -1 21.6 |
| | 1 | 289 24.9 | 240 29.7 | 15 19.2 | 132 15.4 | 10 43.0 | 195 24.3 | 23 15.0 | 286 59.1 | -1 21.6 |
| | 2 | 304 27.4 | 255 29.5 | 15 19.9 | 147 16.5 | 10 42.4 | 210 26.1 | 23 15.0 | 302 1.5 | -1 21.6 |
| | 3 | 319 29.8 | 270 29.3 | 15 20.6 | 162 17.6 | 10 41.9 | 225 27.9 | 23 15.0 | 317 3.9 | -1 21.5 |
| | 4 | 334 32.3 | 285 29.1 | 15 21.4 | 177 18.7 | 10 41.3 | 240 29.8 | 23 15.0 | 332 6.3 | -1 21.5 |
| | 5 | 349 34.8 | 300 28.8 | 15 22.1 | 192 19.9 | 10 40.7 | 255 31.6 | 23 14.9 | 347 8.7 | -1 21.5 |
| | 6 | 4 37.2 | 315 28.6 | 15 22.8 | 207 21.0 | 10 40.2 | 270 33.5 | 23 14.9 | 2 11.1 | -1 21.5 |
| | 7 | 19 39.7 | 330 28.4 | 15 23.5 | 222 22.1 | 10 39.6 | 285 35.3 | 23 14.9 | 17 13.5 | -1 21.5 |
| | 8 | 34 42.2 | 345 28.1 | 15 24.2 | 237 23.2 | 10 39.1 | 300 37.2 | 23 14.9 | 32 15.9 | -1 21.4 |
| | 9 | 49 44.6 | 0 27.9 | 15 25.0 | 252 24.4 | 10 38.5 | 315 39.0 | 23 14.9 | 47 18.3 | -1 21.4 |
| | 10 | 64 47.1 | 15 27.7 | 15 25.7 | 267 25.5 | 10 38.0 | 330 40.8 | 23 14.9 | 62 20.7 | -1 21.4 |
| | 11 | 79 49.6 | 30 27.5 | 15 26.4 | 282 26.6 | 10 37.4 | 345 42.7 | 23 14.9 | 77 23.1 | -1 21.4 |
| | 12 | 94 52.0 | 45 27.2 | 15 27.1 | 297 27.7 | 10 36.8 | 0 44.5 | 23 14.9 | 92 25.5 | -1 21.4 |
| | 13 | 109 54.5 | 60 27.0 | 15 27.8 | 312 28.8 | 10 36.3 | 15 46.4 | 23 14.8 | 107 27.9 | -1 21.4 |
| | 14 | 124 56.9 | 75 26.8 | 15 28.5 | 327 30.0 | 10 35.7 | 30 48.2 | 23 14.8 | 122 30.3 | -1 21.3 |
| | 15 | 139 59.4 | 90 26.5 | 15 29.2 | 342 31.1 | 10 35.2 | 45 50.1 | 23 14.8 | 137 32.7 | -1 21.3 |
| | 16 | 155 1.9 | 105 26.3 | 15 30.0 | 357 32.2 | 10 34.6 | 60 51.9 | 23 14.8 | 152 35.1 | -1 21.3 |
| | 17 | 170 4.3 | 120 26.1 | 15 30.7 | 12 33.3 | 10 34.0 | 75 53.7 | 23 14.8 | 167 37.5 | -1 21.3 |
| | 18 | 185 6.8 | 135 25.8 | 15 31.4 | 27 34.5 | 10 33.5 | 90 55.6 | 23 14.8 | 182 39.9 | -1 21.3 |
| | 19 | 200 9.3 | 150 25.6 | 15 32.1 | 42 35.6 | 10 32.9 | 105 57.4 | 23 14.8 | 197 42.3 | -1 21.3 |
| | 20 | 215 11.7 | 165 25.4 | 15 32.8 | 57 36.7 | 10 32.4 | 120 59.3 | 23 14.8 | 212 44.6 | -1 21.2 |
| | 21 | 230 14.2 | 180 25.1 | 15 33.5 | 72 37.8 | 10 31.8 | 136 1.1 | 23 14.7 | 227 47.0 | -1 21.2 |
| | 22 | 245 16.7 | 195 24.9 | 15 34.2 | 87 38.9 | 10 31.2 | 151 3.0 | 23 14.7 | 242 49.4 | -1 21.2 |
| | 23 | 260 19.1 | 210 24.6 | 15 34.9 | 102 40.1 | 10 30.7 | 166 4.8 | 23 14.7 | 257 51.8 | -1 21.2 |
| | | MP 05:43 | *v* -0.2 | *d* 0.7 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 11.9 |
| Achernar | 335 20.1 | -57 6.1 |
| Acrux | 172 59.6 | -63 14.7 |
| Adhara | 255 6.0 | -29 0.4 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.5 | 55 49.5 |
| Alkaid | 152 51.5 | 49 11.4 |
| Alnair | 27 32.2 | -46 50.0 |
| Alnilam | 275 37.7 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.8 |
| Alpheratz | 357 34.4 | 29 13.7 |
| Altair | 61 59.3 | 8 56.1 |
| Ankaa | 353 6.8 | -42 9.8 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.1 |
| Atria | 107 8.4 | -69 4.5 |
| Avior | 234 15.2 | -59 35.6 |
| Bellatrix | 278 22.8 | 6 22.4 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.5 |
| Capella | 280 21.8 | 46 1.4 |
| Deneb | 49 25.2 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.9 |
| Diphda | 348 47.0 | -17 50.7 |
| Dubhe | 193 40.7 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.1 |
| Enif | 33 38.2 | 9 59.5 |
| Fomalhaut | 15 14.0 | -29 29.1 |
| Gacrux | 171 51.2 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.2 | -60 30.0 |
| Hamal | 327 51.0 | 23 34.9 |
| Kaus Aust. | 83 31.6 | -34 22.3 |
| Kochab | 137 19.0 | 74 3.2 |
| Markab | 13 29.4 | 15 20.5 |
| Menkar | 314 6.0 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 38.9 | -69 49.5 |
| Mirfak | 308 28.1 | 49 56.9 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.6 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.9 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.3 |
| Rigil Kent. | 139 39.4 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.7 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.3 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.3 |
| Vega | 80 32.5 | 38 48.4 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 24 Tue | SHA | MP |
|---|---|---|
| Venus | 313 15.8 | 08:57 |
| Mars | 203 56.1 | 16:13 |
| Jupiter | 266 29.8 | 12:03 |
| Saturn | 357 37.8 | 05:59 |

| 25 Wed | SHA | MP |
|---|---|---|
| Venus | 312 11.8 | 08:58 |
| Mars | 203 24.0 | 16:12 |
| Jupiter | 266 14.9 | 12:00 |
| Saturn | 357 36.0 | 05:55 |

| 26 Thu | SHA | MP |
|---|---|---|
| Venus | 311 7.5 | 08:58 |
| Mars | 202 51.8 | 16:10 |
| Jupiter | 266 0.0 | 11:57 |
| Saturn | 357 34.3 | 05:51 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **24 Tuesday** | 0 | 179 24.0 | 23 24.6 | 201 32.9 | 2.4 | 27 16.2 | 5.2 | 60.3 |
| | 1 | 194 23.8 | 23 24.5 | 215 54.3 | 2.4 | 27 21.4 | 5.0 | 60.3 |
| | 2 | 209 23.7 | 23 24.5 | 230 15.6 | 2.3 | 27 26.4 | 4.8 | 60.3 |
| | 3 | 224 23.6 | 23 24.4 | 244 37.0 | 2.3 | 27 31.2 | 4.6 | 60.3 |
| | 4 | 239 23.4 | 23 24.4 | 258 58.2 | 2.2 | 27 35.8 | 4.4 | 60.3 |
| | 5 | 254 23.3 | 23 24.3 | 273 19.4 | 2.2 | 27 40.2 | 4.2 | 60.3 |
| | 6 | 269 23.1 | 23 24.3 | 287 40.6 | 2.1 | 27 44.4 | 4.0 | 60.2 |
| | 7 | 284 23.0 | 23 24.2 | 302 1.7 | 2.1 | 27 48.4 | 3.8 | 60.2 |
| | 8 | 299 22.9 | 23 24.2 | 316 22.8 | 2.1 | 27 52.2 | 3.6 | 60.2 |
| | 9 | 314 22.7 | 23 24.1 | 330 43.9 | 2.0 | 27 55.8 | 3.4 | 60.2 |
| | 10 | 329 22.6 | 23 24.0 | 345 4.9 | 2.0 | 27 59.1 | 3.2 | 60.2 |
| | 11 | 344 22.5 | 23 24.0 | 359 25.9 | 2.0 | 28 2.3 | 3.0 | 60.2 |
| | 12 | 359 22.3 | 23 23.9 | 13 46.9 | 2.0 | 28 5.2 | 2.7 | 60.2 |
| | 13 | 14 22.2 | 23 23.9 | 28 7.9 | 1.9 | 28 8.0 | 2.5 | 60.2 |
| | 14 | 29 22.1 | 23 23.8 | 42 28.8 | 1.9 | 28 10.5 | 2.3 | 60.1 |
| | 15 | 44 21.9 | 23 23.8 | 56 49.7 | 1.9 | 28 12.8 | 2.1 | 60.1 |
| | 16 | 59 21.8 | 23 23.7 | 71 10.7 | 1.9 | 28 15.0 | 1.9 | 60.1 |
| | 17 | 74 21.7 | 23 23.6 | 85 31.6 | 1.9 | 28 16.9 | 1.7 | 60.1 |
| | 18 | 89 21.5 | 23 23.6 | 99 52.5 | 1.9 | 28 18.5 | 1.5 | 60.1 |
| | 19 | 104 21.4 | 23 23.5 | 114 13.4 | 1.9 | 28 20.0 | 1.3 | 60.1 |
| | 20 | 119 21.3 | 23 23.4 | 128 34.3 | 1.9 | 28 21.3 | 1.1 | 60.1 |
| | 21 | 134 21.1 | 23 23.4 | 142 55.2 | 1.9 | 28 22.3 | 0.8 | 60.0 |
| | 22 | 149 21.0 | 23 23.3 | 157 16.2 | 1.9 | 28 23.2 | 0.6 | 60.0 |
| | 23 | 164 20.9 | 23 23.2 | 171 37.1 | 2.0 | 28 23.8 | 0.4 | 60.0 |
| | | *v* -0.1 SD 15.7 *d* -0.1 | | SD 16.4 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **25 Wednesday** | 0 | 179 20.7 | 23 23.2 | 185 58.1 | 2.0 | 28 24.3 | 0.2 | 60.0 |
| | 1 | 194 20.6 | 23 23.1 | 200 19.0 | 2.0 | 28 24.5 | 0.0 | 60.0 |
| | 2 | 209 20.5 | 23 23.0 | 214 40.0 | 2.0 | 28 24.5 | -0.2 | 59.9 |
| | 3 | 224 20.3 | 23 23.0 | 229 1.1 | 2.1 | 28 24.3 | -0.4 | 59.9 |
| | 4 | 239 20.2 | 23 22.9 | 243 22.1 | 2.1 | 28 23.9 | -0.6 | 59.9 |
| | 5 | 254 20.0 | 23 22.8 | 257 43.2 | 2.1 | 28 23.2 | -0.8 | 59.9 |
| | 6 | 269 19.9 | 23 22.8 | 272 4.3 | 2.2 | 28 22.4 | -1.0 | 59.9 |
| | 7 | 284 19.8 | 23 22.7 | 286 25.5 | 2.2 | 28 21.4 | -1.2 | 59.9 |
| | 8 | 299 19.6 | 23 22.6 | 300 46.7 | 2.3 | 28 20.1 | -1.5 | 59.8 |
| | 9 | 314 19.5 | 23 22.5 | 315 8.0 | 2.3 | 28 18.7 | -1.7 | 59.8 |
| | 10 | 329 19.4 | 23 22.5 | 329 29.3 | 2.4 | 28 17.0 | -1.9 | 59.8 |
| | 11 | 344 19.2 | 23 22.4 | 343 50.6 | 2.4 | 28 15.2 | -2.1 | 59.8 |
| | 12 | 359 19.1 | 23 22.3 | 358 12.1 | 2.5 | 28 13.1 | -2.3 | 59.7 |
| | 13 | 14 19.0 | 23 22.2 | 12 33.5 | 2.5 | 28 10.8 | -2.5 | 59.7 |
| | 14 | 29 18.8 | 23 22.2 | 26 55.1 | 2.6 | 28 8.4 | -2.7 | 59.7 |
| | 15 | 44 18.7 | 23 22.1 | 41 16.7 | 2.7 | 28 5.7 | -2.9 | 59.7 |
| | 16 | 59 18.6 | 23 22.0 | 55 38.3 | 2.7 | 28 2.8 | -3.1 | 59.7 |
| | 17 | 74 18.4 | 23 21.9 | 70 0.0 | 2.8 | 27 59.7 | -3.3 | 59.6 |
| | 18 | 89 18.3 | 23 21.9 | 84 21.9 | 2.9 | 27 56.5 | -3.5 | 59.6 |
| | 19 | 104 18.2 | 23 21.8 | 98 43.7 | 3.0 | 27 53.0 | -3.7 | 59.6 |
| | 20 | 119 18.0 | 23 21.7 | 113 5.7 | 3.0 | 27 49.4 | -3.9 | 59.6 |
| | 21 | 134 17.9 | 23 21.6 | 127 27.7 | 3.1 | 27 45.5 | -4.0 | 59.5 |
| | 22 | 149 17.8 | 23 21.5 | 141 49.9 | 3.2 | 27 41.5 | -4.2 | 59.5 |
| | 23 | 164 17.6 | 23 21.4 | 156 12.1 | 3.3 | 27 37.2 | -4.4 | 59.5 |
| | | *v* -0.1 SD 15.7 *d* -0.1 | | SD 16.4 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **26 Thursday** | 0 | 179 17.5 | 23 21.4 | 170 34.4 | 3.4 | 27 32.8 | -4.6 | 59.5 |
| | 1 | 194 17.4 | 23 21.3 | 184 56.8 | 3.5 | 27 28.2 | -4.8 | 59.4 |
| | 2 | 209 17.2 | 23 21.2 | 199 19.2 | 3.6 | 27 23.4 | -5.0 | 59.4 |
| | 3 | 224 17.1 | 23 21.1 | 213 41.8 | 3.7 | 27 18.4 | -5.2 | 59.4 |
| | 4 | 239 17.0 | 23 21.0 | 228 4.5 | 3.8 | 27 13.2 | -5.4 | 59.3 |
| | 5 | 254 16.9 | 23 20.9 | 242 27.3 | 3.9 | 27 7.9 | -5.5 | 59.3 |
| | 6 | 269 16.7 | 23 20.8 | 256 50.2 | 4.0 | 27 2.4 | -5.7 | 59.3 |
| | 7 | 284 16.6 | 23 20.8 | 271 13.1 | 4.1 | 26 56.7 | -5.9 | 59.3 |
| | 8 | 299 16.5 | 23 20.7 | 285 36.2 | 4.2 | 26 50.8 | -6.1 | 59.2 |
| | 9 | 314 16.3 | 23 20.6 | 299 59.4 | 4.3 | 26 44.7 | -6.2 | 59.2 |
| | 10 | 329 16.2 | 23 20.5 | 314 22.7 | 4.4 | 26 38.5 | -6.4 | 59.2 |
| | 11 | 344 16.1 | 23 20.4 | 328 46.1 | 4.5 | 26 32.1 | -6.6 | 59.1 |
| | 12 | 359 15.9 | 23 20.3 | 343 9.7 | 4.6 | 26 25.5 | -6.7 | 59.1 |
| | 13 | 14 15.8 | 23 20.2 | 357 33.3 | 4.8 | 26 18.7 | -6.9 | 59.1 |
| | 14 | 29 15.7 | 23 20.1 | 11 57.1 | 4.9 | 26 11.8 | -7.1 | 59.1 |
| | 15 | 44 15.5 | 23 20.0 | 26 21.0 | 5.0 | 26 4.7 | -7.2 | 59.0 |
| | 16 | 59 15.4 | 23 19.9 | 40 45.0 | 5.1 | 25 57.5 | -7.4 | 59.0 |
| | 17 | 74 15.3 | 23 19.8 | 55 9.1 | 5.2 | 25 50.1 | -7.6 | 59.0 |
| | 18 | 89 15.1 | 23 19.7 | 69 33.3 | 5.4 | 25 42.5 | -7.7 | 58.9 |
| | 19 | 104 15.0 | 23 19.6 | 83 57.7 | 5.5 | 25 34.8 | -7.9 | 58.9 |
| | 20 | 119 14.9 | 23 19.5 | 98 22.2 | 5.6 | 25 26.9 | -8.0 | 58.9 |
| | 21 | 134 14.7 | 23 19.4 | 112 46.8 | 5.7 | 25 18.9 | -8.2 | 58.8 |
| | 22 | 149 14.6 | 23 19.3 | 127 11.6 | 5.9 | 25 10.7 | -8.3 | 58.8 |
| | 23 | 164 14.5 | 23 19.2 | 141 36.4 | 6.0 | 25 2.3 | -8.5 | 58.8 |
| | | *v* -0.1 SD 15.7 *d* -0.1 | | SD 16.2 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | //// | //// | 01:33 | 22:32 | //// | //// |
| 62 | //// | //// | 02:11 | 21:54 | //// | //// |
| 60 | //// | 00:51 | 02:37 | 21:28 | 23:13 | //// |
| 58 | //// | 01:42 | 02:57 | 21:07 | 22:23 | //// |
| 56 | //// | 02:12 | 03:14 | 20:51 | 21:53 | //// |
| 54 | 00:47 | 02:34 | 03:28 | 20:37 | 21:31 | 23:17 |
| 52 | 01:34 | 02:52 | 03:41 | 20:24 | 21:13 | 22:31 |
| 50 | 02:01 | 03:07 | 03:52 | 20:13 | 20:58 | 22:03 |
| 45 | 02:47 | 03:37 | 04:14 | 19:51 | 20:28 | 21:18 |
| 40 | 03:18 | 03:59 | 04:32 | 19:33 | 20:06 | 20:47 |
| 35 | 03:41 | 04:18 | 04:47 | 19:18 | 19:47 | 20:24 |
| 30 | 03:59 | 04:33 | 05:00 | 19:05 | 19:32 | 20:06 |
| 20 | 04:28 | 04:58 | 05:22 | 18:43 | 19:07 | 19:37 |
| 10 | 04:51 | 05:18 | 05:41 | 18:24 | 18:47 | 19:14 |
| 0 | 05:10 | 05:36 | 05:59 | 18:06 | 18:29 | 18:55 |
| -10 | 05:27 | 05:53 | 06:16 | 17:49 | 18:12 | 18:38 |
| -20 | 05:43 | 06:11 | 06:35 | 17:30 | 17:54 | 18:22 |
| -30 | 06:00 | 06:30 | 06:56 | 17:09 | 17:35 | 18:05 |
| -35 | 06:09 | 06:40 | 07:08 | 16:57 | 17:25 | 17:57 |
| -40 | 06:18 | 06:52 | 07:23 | 16:42 | 17:13 | 17:47 |
| -45 | 06:28 | 07:06 | 07:39 | 16:26 | 17:00 | 17:37 |
| -50 | 06:40 | 07:22 | 08:00 | 16:05 | 16:43 | 17:25 |
| -52 | 06:45 | 07:29 | 08:10 | 15:55 | 16:36 | 17:20 |
| -54 | 06:51 | 07:37 | 08:21 | 15:44 | 16:28 | 17:14 |
| -56 | 06:57 | 07:46 | 08:34 | 15:31 | 16:19 | 17:08 |
| -58 | 07:04 | 07:57 | 08:49 | 15:17 | 16:08 | 17:01 |
| -60 | 07:11 | 08:08 | 09:06 | 14:59 | 15:57 | 16:54 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **24** | **25** | **26** | **24** | **25** | **26** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | | | | |
| 62 | | –:– | 01:39 | | 23:46 | 23:37 |
| 60 | 00:24 | 01:05 | 02:33 | 22:05 | 22:52 | 23:08 |
| 58 | 00:55 | 01:43 | 03:05 | 21:26 | 22:19 | 22:45 |
| 56 | 01:19 | 02:11 | 03:29 | 20:59 | 21:55 | 22:27 |
| 54 | 01:38 | 02:32 | 03:48 | 20:38 | 21:35 | 22:11 |
| 52 | 01:54 | 02:50 | 04:05 | 20:20 | 21:19 | 21:58 |
| 50 | 02:08 | 03:05 | 04:19 | 20:05 | 21:04 | 21:46 |
| 45 | 02:36 | 03:36 | 04:47 | 19:34 | 20:35 | 21:21 |
| 40 | 02:59 | 04:00 | 05:10 | 19:10 | 20:12 | 21:02 |
| 35 | 03:18 | 04:19 | 05:28 | 18:50 | 19:53 | 20:45 |
| 30 | 03:34 | 04:36 | 05:44 | 18:34 | 19:37 | 20:31 |
| 20 | 04:01 | 05:05 | 06:11 | 18:05 | 19:09 | 20:06 |
| 10 | 04:25 | 05:29 | 06:34 | 17:41 | 18:45 | 19:45 |
| 0 | 04:47 | 05:52 | 06:56 | 17:18 | 18:23 | 19:24 |
| -10 | 05:09 | 06:15 | 07:17 | 16:55 | 18:00 | 19:04 |
| -20 | 05:33 | 06:40 | 07:40 | 16:31 | 17:36 | 18:43 |
| -30 | 06:01 | 07:08 | 08:07 | 16:02 | 17:08 | 18:17 |
| -35 | 06:18 | 07:25 | 08:22 | 15:45 | 16:51 | 18:02 |
| -40 | 06:37 | 07:45 | 08:40 | 15:26 | 16:32 | 17:45 |
| -45 | 07:00 | 08:09 | 09:02 | 15:02 | 16:08 | 17:24 |
| -50 | 07:31 | 08:40 | 09:30 | 14:31 | 15:37 | 16:57 |
| -52 | 07:46 | 08:55 | 09:43 | 14:16 | 15:22 | 16:44 |
| -54 | 08:03 | 09:13 | 09:59 | 13:58 | 15:04 | 16:29 |
| -56 | 08:24 | 09:35 | 10:17 | 13:37 | 14:43 | 16:11 |
| -58 | 08:51 | 10:03 | 10:39 | 13:10 | 14:15 | 15:50 |
| -60 | 09:29 | 10:42 | 11:07 | 12:32 | 13:36 | 15:22 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **24** | 02:24 | 02:31 | 12:03 | 11:02 | 23:35 | 28 | 3 |
| **25** | 02:37 | 02:44 | 12:03 | 12:08 | –:– | 29 | 0 |
| **26** | 02:50 | 02:56 | 12:03 | 13:10 | 00:39 | 30 | 0 |

## 2025 June 27, 28, 29 (Fri, Sat, Sun)

| | | Aries | Venus -4.2 | | Mars 1.5 | | Jupiter -1.9 | | Saturn 1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 27 Friday | 0 | 275 21.6 | 225 24.4 | 15 35.7 | 117 41.2 | 10 30.1 | 181 6.6 | 23 14.7 | 272 54.2 | -1 21.2 |
| | 1 | 290 24.1 | 240 24.2 | 15 36.4 | 132 42.3 | 10 29.6 | 196 8.5 | 23 14.7 | 287 56.6 | -1 21.2 |
| | 2 | 305 26.5 | 255 23.9 | 15 37.1 | 147 43.4 | 10 29.0 | 211 10.3 | 23 14.7 | 302 59.0 | -1 21.1 |
| | 3 | 320 29.0 | 270 23.7 | 15 37.8 | 162 44.5 | 10 28.4 | 226 12.2 | 23 14.7 | 318 1.4 | -1 21.1 |
| | 4 | 335 31.4 | 285 23.4 | 15 38.5 | 177 45.7 | 10 27.9 | 241 14.0 | 23 14.7 | 333 3.8 | -1 21.1 |
| | 5 | 350 33.9 | 300 23.2 | 15 39.2 | 192 46.8 | 10 27.3 | 256 15.9 | 23 14.6 | 348 6.2 | -1 21.1 |
| | 6 | 5 36.4 | 315 23.0 | 15 39.9 | 207 47.9 | 10 26.8 | 271 17.7 | 23 14.6 | 3 8.6 | -1 21.1 |
| | 7 | 20 38.8 | 330 22.7 | 15 40.6 | 222 49.0 | 10 26.2 | 286 19.5 | 23 14.6 | 18 11.0 | -1 21.1 |
| | 8 | 35 41.3 | 345 22.5 | 15 41.3 | 237 50.2 | 10 25.6 | 301 21.4 | 23 14.6 | 33 13.4 | -1 21.0 |
| | 9 | 50 43.8 | 0 22.2 | 15 42.0 | 252 51.3 | 10 25.1 | 316 23.2 | 23 14.6 | 48 15.8 | -1 21.0 |
| | 10 | 65 46.2 | 15 22.0 | 15 42.8 | 267 52.4 | 10 24.5 | 331 25.1 | 23 14.6 | 63 18.2 | -1 21.0 |
| | 11 | 80 48.7 | 30 21.7 | 15 43.5 | 282 53.5 | 10 24.0 | 346 26.9 | 23 14.6 | 78 20.6 | -1 21.0 |
| | 12 | 95 51.2 | 45 21.5 | 15 44.2 | 297 54.6 | 10 23.4 | 1 28.8 | 23 14.5 | 93 23.0 | -1 21.0 |
| | 13 | 110 53.6 | 60 21.3 | 15 44.9 | 312 55.8 | 10 22.8 | 16 30.6 | 23 14.5 | 108 25.4 | -1 21.0 |
| | 14 | 125 56.1 | 75 21.0 | 15 45.6 | 327 56.9 | 10 22.3 | 31 32.4 | 23 14.5 | 123 27.8 | -1 20.9 |
| | 15 | 140 58.6 | 90 20.8 | 15 46.3 | 342 58.0 | 10 21.7 | 46 34.3 | 23 14.5 | 138 30.2 | -1 20.9 |
| | 16 | 156 1.0 | 105 20.5 | 15 47.0 | 357 59.1 | 10 21.2 | 61 36.1 | 23 14.5 | 153 32.6 | -1 20.9 |
| | 17 | 171 3.5 | 120 20.3 | 15 47.7 | 13 0.2 | 10 20.6 | 76 38.0 | 23 14.5 | 168 35.0 | -1 20.9 |
| | 18 | 186 5.9 | 135 20.0 | 15 48.4 | 28 1.4 | 10 20.0 | 91 39.8 | 23 14.5 | 183 37.4 | -1 20.9 |
| | 19 | 201 8.4 | 150 19.8 | 15 49.1 | 43 2.5 | 10 19.5 | 106 41.7 | 23 14.5 | 198 39.8 | -1 20.9 |
| | 20 | 216 10.9 | 165 19.5 | 15 49.8 | 58 3.6 | 10 18.9 | 121 43.5 | 23 14.4 | 213 42.2 | -1 20.9 |
| | 21 | 231 13.3 | 180 19.3 | 15 50.5 | 73 4.7 | 10 18.3 | 136 45.3 | 23 14.4 | 228 44.6 | -1 20.8 |
| | 22 | 246 15.8 | 195 19.0 | 15 51.2 | 88 5.8 | 10 17.8 | 151 47.2 | 23 14.4 | 243 47.0 | -1 20.8 |
| | 23 | 261 18.3 | 210 18.8 | 15 51.9 | 103 7.0 | 10 17.2 | 166 49.0 | 23 14.4 | 258 49.4 | -1 20.8 |
| | | MP 05:39 | *v* -0.2 | *d* 0.7 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 28 Saturday | 0 | 276 20.7 | 225 18.5 | 15 52.6 | 118 8.1 | 10 16.7 | 181 50.9 | 23 14.4 | 273 51.8 | -1 20.8 |
| | 1 | 291 23.2 | 240 18.3 | 15 53.3 | 133 9.2 | 10 16.1 | 196 52.7 | 23 14.4 | 288 54.2 | -1 20.8 |
| | 2 | 306 25.7 | 255 18.0 | 15 54.0 | 148 10.3 | 10 15.5 | 211 54.6 | 23 14.4 | 303 56.6 | -1 20.8 |
| | 3 | 321 28.1 | 270 17.7 | 15 54.7 | 163 11.4 | 10 15.0 | 226 56.4 | 23 14.3 | 318 59.0 | -1 20.8 |
| | 4 | 336 30.6 | 285 17.5 | 15 55.4 | 178 12.6 | 10 14.4 | 241 58.2 | 23 14.3 | 334 1.4 | -1 20.7 |
| | 5 | 351 33.1 | 300 17.2 | 15 56.1 | 193 13.7 | 10 13.8 | 257 0.1 | 23 14.3 | 349 3.8 | -1 20.7 |
| | 6 | 6 35.5 | 315 17.0 | 15 56.8 | 208 14.8 | 10 13.3 | 272 1.9 | 23 14.3 | 4 6.2 | -1 20.7 |
| | 7 | 21 38.0 | 330 16.7 | 15 57.5 | 223 15.9 | 10 12.7 | 287 3.8 | 23 14.3 | 19 8.6 | -1 20.7 |
| | 8 | 36 40.4 | 345 16.5 | 15 58.2 | 238 17.0 | 10 12.1 | 302 5.6 | 23 14.3 | 34 11.0 | -1 20.7 |
| | 9 | 51 42.9 | 0 16.2 | 15 58.9 | 253 18.2 | 10 11.6 | 317 7.5 | 23 14.3 | 49 13.4 | -1 20.7 |
| | 10 | 66 45.4 | 15 15.9 | 15 59.6 | 268 19.3 | 10 11.0 | 332 9.3 | 23 14.2 | 64 15.9 | -1 20.7 |
| | 11 | 81 47.8 | 30 15.7 | 16 0.3 | 283 20.4 | 10 10.5 | 347 11.2 | 23 14.2 | 79 18.3 | -1 20.6 |
| | 12 | 96 50.3 | 45 15.4 | 16 1.0 | 298 21.5 | 10 9.9 | 2 13.0 | 23 14.2 | 94 20.7 | -1 20.6 |
| | 13 | 111 52.8 | 60 15.2 | 16 1.7 | 313 22.6 | 10 9.3 | 17 14.8 | 23 14.2 | 109 23.1 | -1 20.6 |
| | 14 | 126 55.2 | 75 14.9 | 16 2.4 | 328 23.7 | 10 8.8 | 32 16.7 | 23 14.2 | 124 25.5 | -1 20.6 |
| | 15 | 141 57.7 | 90 14.6 | 16 3.1 | 343 24.9 | 10 8.2 | 47 18.5 | 23 14.2 | 139 27.9 | -1 20.6 |
| | 16 | 157 0.2 | 105 14.4 | 16 3.8 | 358 26.0 | 10 7.6 | 62 20.4 | 23 14.2 | 154 30.3 | -1 20.6 |
| | 17 | 172 2.6 | 120 14.1 | 16 4.5 | 13 27.1 | 10 7.1 | 77 22.2 | 23 14.1 | 169 32.7 | -1 20.6 |
| | 18 | 187 5.1 | 135 13.9 | 16 5.2 | 28 28.2 | 10 6.5 | 92 24.1 | 23 14.1 | 184 35.1 | -1 20.5 |
| | 19 | 202 7.6 | 150 13.6 | 16 5.9 | 43 29.3 | 10 5.9 | 107 25.9 | 23 14.1 | 199 37.5 | -1 20.5 |
| | 20 | 217 10.0 | 165 13.3 | 16 6.6 | 58 30.5 | 10 5.4 | 122 27.7 | 23 14.1 | 214 39.9 | -1 20.5 |
| | 21 | 232 12.5 | 180 13.1 | 16 7.3 | 73 31.6 | 10 4.8 | 137 29.6 | 23 14.1 | 229 42.3 | -1 20.5 |
| | 22 | 247 14.9 | 195 12.8 | 16 8.0 | 88 32.7 | 10 4.2 | 152 31.4 | 23 14.1 | 244 44.7 | -1 20.5 |
| | 23 | 262 17.4 | 210 12.5 | 16 8.7 | 103 33.8 | 10 3.7 | 167 33.3 | 23 14.1 | 259 47.1 | -1 20.5 |
| | | MP 05:35 | *v* -0.3 | *d* 0.7 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 Sunday | 0 | 277 19.9 | 225 12.3 | 16 9.3 | 118 34.9 | 10 3.1 | 182 35.1 | 23 14.0 | 274 49.5 | -1 20.5 |
| | 1 | 292 22.3 | 240 12.0 | 16 10.0 | 133 36.1 | 10 2.5 | 197 37.0 | 23 14.0 | 289 51.9 | -1 20.4 |
| | 2 | 307 24.8 | 255 11.7 | 16 10.7 | 148 37.2 | 10 2.0 | 212 38.8 | 23 14.0 | 304 54.3 | -1 20.4 |
| | 3 | 322 27.3 | 270 11.5 | 16 11.4 | 163 38.3 | 10 1.4 | 227 40.7 | 23 14.0 | 319 56.7 | -1 20.4 |
| | 4 | 337 29.7 | 285 11.2 | 16 12.1 | 178 39.4 | 10 0.8 | 242 42.5 | 23 14.0 | 334 59.1 | -1 20.4 |
| | 5 | 352 32.2 | 300 10.9 | 16 12.8 | 193 40.5 | 10 0.3 | 257 44.3 | 23 14.0 | 350 1.5 | -1 20.4 |
| | 6 | 7 34.7 | 315 10.6 | 16 13.5 | 208 41.6 | 9 59.7 | 272 46.2 | 23 14.0 | 5 3.9 | -1 20.4 |
| | 7 | 22 37.1 | 330 10.4 | 16 14.2 | 223 42.8 | 9 59.1 | 287 48.0 | 23 13.9 | 20 6.4 | -1 20.4 |
| | 8 | 37 39.6 | 345 10.1 | 16 14.9 | 238 43.9 | 9 58.6 | 302 49.9 | 23 13.9 | 35 8.8 | -1 20.4 |
| | 9 | 52 42.0 | 0 9.8 | 16 15.6 | 253 45.0 | 9 58.0 | 317 51.7 | 23 13.9 | 50 11.2 | -1 20.3 |
| | 10 | 67 44.5 | 15 9.6 | 16 16.2 | 268 46.1 | 9 57.4 | 332 53.6 | 23 13.9 | 65 13.6 | -1 20.3 |
| | 11 | 82 47.0 | 30 9.3 | 16 16.9 | 283 47.2 | 9 56.9 | 347 55.4 | 23 13.9 | 80 16.0 | -1 20.3 |
| | 12 | 97 49.4 | 45 9.0 | 16 17.6 | 298 48.4 | 9 56.3 | 2 57.2 | 23 13.9 | 95 18.4 | -1 20.3 |
| | 13 | 112 51.9 | 60 8.7 | 16 18.3 | 313 49.5 | 9 55.7 | 17 59.1 | 23 13.8 | 110 20.8 | -1 20.3 |
| | 14 | 127 54.4 | 75 8.5 | 16 19.0 | 328 50.6 | 9 55.2 | 33 0.9 | 23 13.8 | 125 23.2 | -1 20.3 |
| | 15 | 142 56.8 | 90 8.2 | 16 19.7 | 343 51.7 | 9 54.6 | 48 2.8 | 23 13.8 | 140 25.6 | -1 20.3 |
| | 16 | 157 59.3 | 105 7.9 | 16 20.4 | 358 52.8 | 9 54.0 | 63 4.6 | 23 13.8 | 155 28.0 | -1 20.3 |
| | 17 | 173 1.8 | 120 7.6 | 16 21.0 | 13 53.9 | 9 53.5 | 78 6.5 | 23 13.8 | 170 30.4 | -1 20.2 |
| | 18 | 188 4.2 | 135 7.4 | 16 21.7 | 28 55.1 | 9 52.9 | 93 8.3 | 23 13.8 | 185 32.8 | -1 20.2 |
| | 19 | 203 6.7 | 150 7.1 | 16 22.4 | 43 56.2 | 9 52.3 | 108 10.2 | 23 13.8 | 200 35.2 | -1 20.2 |
| | 20 | 218 9.2 | 165 6.8 | 16 23.1 | 58 57.3 | 9 51.8 | 123 12.0 | 23 13.7 | 215 37.6 | -1 20.2 |
| | 21 | 233 11.6 | 180 6.5 | 16 23.8 | 73 58.4 | 9 51.2 | 138 13.8 | 23 13.7 | 230 40.1 | -1 20.2 |
| | 22 | 248 14.1 | 195 6.2 | 16 24.5 | 88 59.5 | 9 50.6 | 153 15.7 | 23 13.7 | 245 42.5 | -1 20.2 |
| | 23 | 263 16.5 | 210 6.0 | 16 25.1 | 104 0.6 | 9 50.1 | 168 17.5 | 23 13.7 | 260 44.9 | -1 20.2 |
| | | MP 05:31 | *v* -0.3 | *d* 0.7 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.8 | -40 11.9 |
| Achernar | 335 20.1 | -57 6.1 |
| Acrux | 172 59.7 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.4 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.5 | 55 49.5 |
| Alkaid | 152 51.5 | 49 11.4 |
| Alnair | 27 32.1 | -46 50.0 |
| Alnilam | 275 37.7 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.8 |
| Alpheratz | 357 34.4 | 29 13.7 |
| Altair | 61 59.3 | 8 56.1 |
| Ankaa | 353 6.8 | -42 9.8 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.1 |
| Atria | 107 8.4 | -69 4.5 |
| Avior | 234 15.2 | -59 35.6 |
| Bellatrix | 278 22.8 | 6 22.4 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.5 |
| Capella | 280 21.8 | 46 1.3 |
| Deneb | 49 25.2 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.9 |
| Diphda | 348 46.9 | -17 50.7 |
| Dubhe | 193 40.7 | 61 37.1 |
| Elnath | 278 1.8 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.1 |
| Enif | 33 38.2 | 9 59.5 |
| Fomalhaut | 15 13.9 | -29 29.0 |
| Gacrux | 171 51.2 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.2 | -60 30.0 |
| Hamal | 327 50.9 | 23 34.9 |
| Kaus Aust. | 83 31.6 | -34 22.3 |
| Kochab | 137 19.0 | 74 3.2 |
| Markab | 13 29.4 | 15 20.5 |
| Menkar | 314 6.0 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 38.9 | -69 49.5 |
| Mirfak | 308 28.1 | 49 56.9 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.6 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.8 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.3 |
| Rigil Kent. | 139 39.4 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.7 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.3 |
| Vega | 80 32.5 | 38 48.4 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 27 Fri | SHA | MP |
|---|---|---|
| Venus | 310 2.8 | 08:59 |
| Mars | 202 19.6 | 16:08 |
| Jupiter | 265 45.0 | 11:54 |
| Saturn | 357 32.6 | 05:47 |

| 28 Sat | SHA | MP |
|---|---|---|
| Venus | 308 57.8 | 08:59 |
| Mars | 201 47.3 | 16:06 |
| Jupiter | 265 30.1 | 11:51 |
| Saturn | 357 31.1 | 05:44 |

| 29 Sun | SHA | MP |
|---|---|---|
| Venus | 307 52.4 | 08:59 |
| Mars | 201 15.1 | 16:04 |
| Jupiter | 265 15.2 | 11:48 |
| Saturn | 357 29.6 | 05:40 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **27 Friday** | 0 | 179 14.3 | 23 19.1 | 156 1.4 | 6.1 | 24 53.9 | -8.6 | 58.7 |
| | 1 | 194 14.2 | 23 19.0 | 170 26.6 | 6.3 | 24 45.2 | -8.8 | 58.7 |
| | 2 | 209 14.1 | 23 18.9 | 184 51.8 | 6.4 | 24 36.5 | -8.9 | 58.7 |
| | 3 | 224 14.0 | 23 18.8 | 199 17.2 | 6.5 | 24 27.5 | -9.1 | 58.7 |
| | 4 | 239 13.8 | 23 18.7 | 213 42.7 | 6.7 | 24 18.5 | -9.2 | 58.6 |
| | 5 | 254 13.7 | 23 18.6 | 228 8.4 | 6.8 | 24 9.3 | -9.3 | 58.6 |
| | 6 | 269 13.6 | 23 18.5 | 242 34.2 | 6.9 | 24 0.0 | -9.5 | 58.6 |
| | 7 | 284 13.4 | 23 18.4 | 257 0.1 | 7.0 | 23 50.5 | -9.6 | 58.5 |
| | 8 | 299 13.3 | 23 18.3 | 271 26.1 | 7.2 | 23 40.9 | -9.7 | 58.5 |
| | 9 | 314 13.2 | 23 18.2 | 285 52.3 | 7.3 | 23 31.2 | -9.9 | 58.5 |
| | 10 | 329 13.0 | 23 18.1 | 300 18.6 | 7.4 | 23 21.3 | -10.0 | 58.4 |
| | 11 | 344 12.9 | 23 18.0 | 314 45.1 | 7.6 | 23 11.3 | -10.1 | 58.4 |
| | 12 | 359 12.8 | 23 17.9 | 329 11.6 | 7.7 | 23 1.2 | -10.2 | 58.4 |
| | 13 | 14 12.6 | 23 17.8 | 343 38.4 | 7.8 | 22 51.0 | -10.3 | 58.3 |
| | 14 | 29 12.5 | 23 17.7 | 358 5.2 | 8.0 | 22 40.7 | -10.5 | 58.3 |
| | 15 | 44 12.4 | 23 17.5 | 12 32.2 | 8.1 | 22 30.2 | -10.6 | 58.3 |
| | 16 | 59 12.3 | 23 17.4 | 26 59.3 | 8.3 | 22 19.6 | -10.7 | 58.2 |
| | 17 | 74 12.1 | 23 17.3 | 41 26.6 | 8.4 | 22 8.9 | -10.8 | 58.2 |
| | 18 | 89 12.0 | 23 17.2 | 55 53.9 | 8.5 | 21 58.1 | -10.9 | 58.1 |
| | 19 | 104 11.9 | 23 17.1 | 70 21.5 | 8.6 | 21 47.2 | -11.0 | 58.1 |
| | 20 | 119 11.7 | 23 17.0 | 84 49.1 | 8.8 | 21 36.2 | -11.1 | 58.1 |
| | 21 | 134 11.6 | 23 16.9 | 99 16.9 | 8.9 | 21 25.0 | -11.2 | 58.0 |
| | 22 | 149 11.5 | 23 16.7 | 113 44.8 | 9.0 | 21 13.8 | -11.3 | 58.0 |
| | 23 | 164 11.4 | 23 16.6 | 128 12.8 | 9.2 | 21 2.4 | -11.4 | 58.0 |
| | | *v* -0.1 | SD 15.7 | *d* -0.1 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **28 Saturday** | 0 | 179 11.2 | 23 16.5 | 142 41.0 | 9.3 | 20 51.0 | -11.5 | 57.9 |
| | 1 | 194 11.1 | 23 16.4 | 157 9.3 | 9.4 | 20 39.5 | -11.6 | 57.9 |
| | 2 | 209 11.0 | 23 16.3 | 171 37.8 | 9.6 | 20 27.8 | -11.7 | 57.9 |
| | 3 | 224 10.8 | 23 16.2 | 186 6.3 | 9.7 | 20 16.1 | -11.8 | 57.8 |
| | 4 | 239 10.7 | 23 16.0 | 200 35.0 | 9.8 | 20 4.3 | -11.9 | 57.8 |
| | 5 | 254 10.6 | 23 15.9 | 215 3.9 | 10.0 | 19 52.3 | -12.0 | 57.8 |
| | 6 | 269 10.4 | 23 15.8 | 229 32.8 | 10.1 | 19 40.3 | -12.1 | 57.7 |
| | 7 | 284 10.3 | 23 15.7 | 244 1.9 | 10.2 | 19 28.2 | -12.2 | 57.7 |
| | 8 | 299 10.2 | 23 15.5 | 258 31.1 | 10.3 | 19 16.1 | -12.3 | 57.7 |
| | 9 | 314 10.1 | 23 15.4 | 273 0.4 | 10.5 | 19 3.8 | -12.4 | 57.6 |
| | 10 | 329 9.9 | 23 15.3 | 287 29.9 | 10.6 | 18 51.4 | -12.4 | 57.6 |
| | 11 | 344 9.8 | 23 15.2 | 301 59.5 | 10.7 | 18 39.0 | -12.5 | 57.6 |
| | 12 | 359 9.7 | 23 15.0 | 316 29.2 | 10.8 | 18 26.5 | -12.6 | 57.5 |
| | 13 | 14 9.6 | 23 14.9 | 330 59.0 | 10.9 | 18 13.9 | -12.7 | 57.5 |
| | 14 | 29 9.4 | 23 14.8 | 345 29.0 | 11.1 | 18 1.2 | -12.7 | 57.4 |
| | 15 | 44 9.3 | 23 14.7 | 359 59.0 | 11.2 | 17 48.5 | -12.8 | 57.4 |
| | 16 | 59 9.2 | 23 14.5 | 14 29.2 | 11.3 | 17 35.7 | -12.9 | 57.4 |
| | 17 | 74 9.0 | 23 14.4 | 28 59.5 | 11.4 | 17 22.8 | -12.9 | 57.3 |
| | 18 | 89 8.9 | 23 14.3 | 43 29.9 | 11.5 | 17 9.9 | -13.0 | 57.3 |
| | 19 | 104 8.8 | 23 14.1 | 58 0.5 | 11.7 | 16 56.8 | -13.1 | 57.3 |
| | 20 | 119 8.7 | 23 14.0 | 72 31.1 | 11.8 | 16 43.8 | -13.1 | 57.2 |
| | 21 | 134 8.5 | 23 13.9 | 87 1.9 | 11.9 | 16 30.6 | -13.2 | 57.2 |
| | 22 | 149 8.4 | 23 13.7 | 101 32.8 | 12.0 | 16 17.4 | -13.3 | 57.2 |
| | 23 | 164 8.3 | 23 13.6 | 116 3.8 | 12.1 | 16 4.1 | -13.3 | 57.1 |
| | | *v* -0.1 | SD 15.7 | *d* -0.1 | | SD 15.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **29 Sunday** | 0 | 179 8.1 | 23 13.5 | 130 34.9 | 12.2 | 15 50.8 | -13.4 | 57.1 |
| | 1 | 194 8.0 | 23 13.3 | 145 6.1 | 12.3 | 15 37.4 | -13.4 | 57.1 |
| | 2 | 209 7.9 | 23 13.2 | 159 37.4 | 12.4 | 15 24.0 | -13.5 | 57.0 |
| | 3 | 224 7.8 | 23 13.1 | 174 8.8 | 12.5 | 15 10.5 | -13.6 | 57.0 |
| | 4 | 239 7.6 | 23 12.9 | 188 40.4 | 12.6 | 14 56.9 | -13.6 | 57.0 |
| | 5 | 254 7.5 | 23 12.8 | 203 12.0 | 12.7 | 14 43.3 | -13.7 | 56.9 |
| | 6 | 269 7.4 | 23 12.6 | 217 43.8 | 12.8 | 14 29.7 | -13.7 | 56.9 |
| | 7 | 284 7.3 | 23 12.5 | 232 15.6 | 12.9 | 14 16.0 | -13.8 | 56.9 |
| | 8 | 299 7.1 | 23 12.4 | 246 47.6 | 13.1 | 14 2.2 | -13.8 | 56.8 |
| | 9 | 314 7.0 | 23 12.2 | 261 19.6 | 13.1 | 13 48.4 | -13.8 | 56.8 |
| | 10 | 329 6.9 | 23 12.1 | 275 51.8 | 13.2 | 13 34.6 | -13.9 | 56.8 |
| | 11 | 344 6.8 | 23 11.9 | 290 24.0 | 13.3 | 13 20.7 | -13.9 | 56.7 |
| | 12 | 359 6.6 | 23 11.8 | 304 56.4 | 13.4 | 13 6.8 | -14.0 | 56.7 |
| | 13 | 14 6.5 | 23 11.6 | 319 28.8 | 13.5 | 12 52.8 | -14.0 | 56.6 |
| | 14 | 29 6.4 | 23 11.5 | 334 1.3 | 13.6 | 12 38.8 | -14.0 | 56.6 |
| | 15 | 44 6.3 | 23 11.4 | 348 34.0 | 13.7 | 12 24.8 | -14.1 | 56.6 |
| | 16 | 59 6.1 | 23 11.2 | 3 6.7 | 13.8 | 12 10.7 | -14.1 | 56.5 |
| | 17 | 74 6.0 | 23 11.1 | 17 39.5 | 13.9 | 11 56.6 | -14.2 | 56.5 |
| | 18 | 89 5.9 | 23 10.9 | 32 12.4 | 14.0 | 11 42.4 | -14.2 | 56.5 |
| | 19 | 104 5.8 | 23 10.8 | 46 45.4 | 14.1 | 11 28.2 | -14.2 | 56.4 |
| | 20 | 119 5.6 | 23 10.6 | 61 18.4 | 14.2 | 11 14.0 | -14.2 | 56.4 |
| | 21 | 134 5.5 | 23 10.5 | 75 51.6 | 14.2 | 10 59.8 | -14.3 | 56.4 |
| | 22 | 149 5.4 | 23 10.3 | 90 24.8 | 14.3 | 10 45.5 | -14.3 | 56.4 |
| | 23 | 164 5.3 | 23 10.2 | 104 58.1 | 14.4 | 10 31.2 | -14.3 | 56.3 |
| | | *v* -0.1 | SD 15.7 | *d* -0.1 | | SD 15.6 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | //// | //// | 01:36 | 22:30 | //// | //// |
| 62 | //// | //// | 02:13 | 21:53 | //// | //// |
| 60 | //// | 00:55 | 02:39 | 21:27 | 23:09 | //// |
| 58 | //// | 01:44 | 02:59 | 21:07 | 22:22 | //// |
| 56 | //// | 02:13 | 03:16 | 20:50 | 21:52 | //// |
| 54 | 00:51 | 02:36 | 03:30 | 20:36 | 21:30 | 23:14 |
| 52 | 01:36 | 02:53 | 03:42 | 20:24 | 21:13 | 22:30 |
| 50 | 02:03 | 03:08 | 03:53 | 20:13 | 20:58 | 22:03 |
| 45 | 02:48 | 03:38 | 04:15 | 19:51 | 20:28 | 21:18 |
| 40 | 03:19 | 04:00 | 04:33 | 19:33 | 20:06 | 20:47 |
| 35 | 03:42 | 04:19 | 04:48 | 19:18 | 19:48 | 20:24 |
| 30 | 04:00 | 04:34 | 05:01 | 19:05 | 19:33 | 20:06 |
| 20 | 04:29 | 04:59 | 05:23 | 18:43 | 19:08 | 19:37 |
| 10 | 04:52 | 05:19 | 05:42 | 18:24 | 18:47 | 19:14 |
| 0 | 05:11 | 05:37 | 05:59 | 18:07 | 18:29 | 18:56 |
| -10 | 05:28 | 05:54 | 06:17 | 17:49 | 18:12 | 18:39 |
| -20 | 05:44 | 06:11 | 06:35 | 17:31 | 17:55 | 18:23 |
| -30 | 06:00 | 06:30 | 06:56 | 17:10 | 17:36 | 18:06 |
| -35 | 06:09 | 06:41 | 07:09 | 16:58 | 17:26 | 17:57 |
| -40 | 06:18 | 06:52 | 07:23 | 16:44 | 17:14 | 17:48 |
| -45 | 06:29 | 07:06 | 07:40 | 16:27 | 17:01 | 17:38 |
| -50 | 06:40 | 07:22 | 08:00 | 16:06 | 16:45 | 17:26 |
| -52 | 06:45 | 07:29 | 08:10 | 15:56 | 16:37 | 17:21 |
| -54 | 06:51 | 07:37 | 08:21 | 15:45 | 16:29 | 17:15 |
| -56 | 06:57 | 07:46 | 08:34 | 15:33 | 16:20 | 17:09 |
| -58 | 07:04 | 07:56 | 08:48 | 15:18 | 16:10 | 17:03 |
| -60 | 07:11 | 08:08 | 09:06 | 15:01 | 15:58 | 16:55 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **27** | **28** | **29** | **27** | **28** | **29** |
| 72 | | | 06:01 | | | 01:13 |
| 70 | | | 06:33 | | | 00:39 24:00 |
| 68 | | 04:25 | 06:56 | | 01:03 | 00:14 23:47 |
| 66 | | 05:05 | 07:14 | | 00:21 23:55 | 23:37 |
| 64 | 03:13 | 05:33 | 07:29 | 00:19 23:53 | 23:39 | 23:28 |
| 62 | 03:55 | 05:54 | 07:41 | 23:31 | 23:26 | 23:21 |
| 60 | 04:23 | 06:11 | 07:51 | 23:13 | 23:14 | 23:14 |
| 58 | 04:45 | 06:25 | 07:59 | 22:58 | 23:04 | 23:08 |
| 56 | 05:02 | 06:37 | 08:07 | 22:45 | 22:56 | 23:03 |
| 54 | 05:17 | 06:48 | 08:14 | 22:34 | 22:48 | 22:59 |
| 52 | 05:30 | 06:57 | 08:20 | 22:24 | 22:41 | 22:54 |
| 50 | 05:42 | 07:05 | 08:26 | 22:15 | 22:35 | 22:50 |
| 45 | 06:05 | 07:23 | 08:37 | 21:56 | 22:21 | 22:42 |
| 40 | 06:24 | 07:37 | 08:47 | 21:40 | 22:10 | 22:35 |
| 35 | 06:40 | 07:49 | 08:55 | 21:27 | 22:00 | 22:29 |
| 30 | 06:53 | 08:00 | 09:03 | 21:15 | 21:52 | 22:23 |
| 20 | 07:16 | 08:18 | 09:15 | 20:55 | 21:37 | 22:14 |
| 10 | 07:36 | 08:34 | 09:26 | 20:37 | 21:24 | 22:06 |
| 0 | 07:55 | 08:48 | 09:36 | 20:21 | 21:12 | 21:58 |
| -10 | 08:13 | 09:03 | 09:46 | 20:04 | 20:59 | 21:50 |
| -20 | 08:33 | 09:18 | 09:57 | 19:46 | 20:46 | 21:41 |
| -30 | 08:55 | 09:36 | 10:09 | 19:26 | 20:31 | 21:31 |
| -35 | 09:09 | 09:46 | 10:16 | 19:13 | 20:22 | 21:26 |
| -40 | 09:24 | 09:57 | 10:24 | 18:59 | 20:11 | 21:19 |
| -45 | 09:42 | 10:11 | 10:34 | 18:43 | 19:59 | 21:12 |
| -50 | 10:04 | 10:27 | 10:45 | 18:22 | 19:44 | 21:02 |
| -52 | 10:14 | 10:35 | 10:50 | 18:12 | 19:37 | 20:58 |
| -54 | 10:26 | 10:44 | 10:55 | 18:00 | 19:30 | 20:53 |
| -56 | 10:40 | 10:53 | 11:02 | 17:47 | 19:21 | 20:48 |
| -58 | 10:56 | 11:04 | 11:09 | 17:32 | 19:11 | 20:42 |
| -60 | 11:14 | 11:16 | 11:16 | 17:14 | 18:59 | 20:35 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **27** | 03:03 | 03:09 | 12:03 | 14:08 | 01:40 | 2 | 3 |
| **28** | 03:15 | 03:21 | 12:03 | 15:00 | 02:35 | 3 | 8 |
| **29** | 03:27 | 03:33 | 12:04 | 15:47 | 03:24 | 4 | 15 |

| | | Aries | Venus -4.1 | | Mars 1.5 | | Jupiter -1.9 | | Saturn 1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| **30 Monday** | 0 | 278 19.0 | 225 5.7 | 16 25.8 | 119 1.8 | 9 49.5 | 183 19.4 | 23 13.7 | 275 47.3 | -1 20.2 |
| | 1 | 293 21.5 | 240 5.4 | 16 26.5 | 134 2.9 | 9 48.9 | 198 21.2 | 23 13.7 | 290 49.7 | -1 20.2 |
| | 2 | 308 23.9 | 255 5.1 | 16 27.2 | 149 4.0 | 9 48.3 | 213 23.1 | 23 13.6 | 305 52.1 | -1 20.1 |
| | 3 | 323 26.4 | 270 4.8 | 16 27.9 | 164 5.1 | 9 47.8 | 228 24.9 | 23 13.6 | 320 54.5 | -1 20.1 |
| | 4 | 338 28.9 | 285 4.5 | 16 28.5 | 179 6.2 | 9 47.2 | 243 26.8 | 23 13.6 | 335 56.9 | -1 20.1 |
| | 5 | 353 31.3 | 300 4.3 | 16 29.2 | 194 7.3 | 9 46.6 | 258 28.6 | 23 13.6 | 350 59.3 | -1 20.1 |
| | 6 | 8 33.8 | 315 4.0 | 16 29.9 | 209 8.5 | 9 46.1 | 273 30.4 | 23 13.6 | 6 1.7 | -1 20.1 |
| | 7 | 23 36.3 | 330 3.7 | 16 30.6 | 224 9.6 | 9 45.5 | 288 32.3 | 23 13.6 | 21 4.2 | -1 20.1 |
| | 8 | 38 38.7 | 345 3.4 | 16 31.3 | 239 10.7 | 9 44.9 | 303 34.1 | 23 13.5 | 36 6.6 | -1 20.1 |
| | 9 | 53 41.2 | 0 3.1 | 16 31.9 | 254 11.8 | 9 44.4 | 318 36.0 | 23 13.5 | 51 9.0 | -1 20.1 |
| | 10 | 68 43.7 | 15 2.8 | 16 32.6 | 269 12.9 | 9 43.8 | 333 37.8 | 23 13.5 | 66 11.4 | -1 20.1 |
| | 11 | 83 46.1 | 30 2.5 | 16 33.3 | 284 14.0 | 9 43.2 | 348 39.7 | 23 13.5 | 81 13.8 | -1 20.0 |
| | 12 | 98 48.6 | 45 2.2 | 16 34.0 | 299 15.2 | 9 42.7 | 3 41.5 | 23 13.5 | 96 16.2 | -1 20.0 |
| | 13 | 113 51.0 | 60 2.0 | 16 34.6 | 314 16.3 | 9 42.1 | 18 43.3 | 23 13.5 | 111 18.6 | -1 20.0 |
| | 14 | 128 53.5 | 75 1.7 | 16 35.3 | 329 17.4 | 9 41.5 | 33 45.2 | 23 13.4 | 126 21.0 | -1 20.0 |
| | 15 | 143 56.0 | 90 1.4 | 16 36.0 | 344 18.5 | 9 40.9 | 48 47.0 | 23 13.4 | 141 23.4 | -1 20.0 |
| | 16 | 158 58.4 | 105 1.1 | 16 36.7 | 359 19.6 | 9 40.4 | 63 48.9 | 23 13.4 | 156 25.9 | -1 20.0 |
| | 17 | 174 0.9 | 120 0.8 | 16 37.3 | 14 20.7 | 9 39.8 | 78 50.7 | 23 13.4 | 171 28.3 | -1 20.0 |
| | 18 | 189 3.4 | 135 0.5 | 16 38.0 | 29 21.9 | 9 39.2 | 93 52.6 | 23 13.4 | 186 30.7 | -1 20.0 |
| | 19 | 204 5.8 | 150 0.2 | 16 38.7 | 44 23.0 | 9 38.7 | 108 54.4 | 23 13.4 | 201 33.1 | -1 20.0 |
| | 20 | 219 8.3 | 164 59.9 | 16 39.4 | 59 24.1 | 9 38.1 | 123 56.3 | 23 13.4 | 216 35.5 | -1 20.0 |
| | 21 | 234 10.8 | 179 59.6 | 16 40.0 | 74 25.2 | 9 37.5 | 138 58.1 | 23 13.3 | 231 37.9 | -1 19.9 |
| | 22 | 249 13.2 | 194 59.3 | 16 40.7 | 89 26.3 | 9 36.9 | 154 0.0 | 23 13.3 | 246 40.3 | -1 19.9 |
| | 23 | 264 15.7 | 209 59.0 | 16 41.4 | 104 27.4 | 9 36.4 | 169 1.8 | 23 13.3 | 261 42.7 | -1 19.9 |
| | | MP 05:27 | *v* -0.3 | *d* 0.7 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **01 Tuesday** | 0 | 279 18.1 | 224 58.7 | 16 42.1 | 119 28.5 | 9 35.8 | 184 3.6 | 23 13.3 | 276 45.1 | -1 19.9 |
| | 1 | 294 20.6 | 239 58.4 | 16 42.7 | 134 29.7 | 9 35.2 | 199 5.5 | 23 13.3 | 291 47.6 | -1 19.9 |
| | 2 | 309 23.1 | 254 58.1 | 16 43.4 | 149 30.8 | 9 34.7 | 214 7.3 | 23 13.3 | 306 50.0 | -1 19.9 |
| | 3 | 324 25.5 | 269 57.8 | 16 44.1 | 164 31.9 | 9 34.1 | 229 9.2 | 23 13.2 | 321 52.4 | -1 19.9 |
| | 4 | 339 28.0 | 284 57.5 | 16 44.7 | 179 33.0 | 9 33.5 | 244 11.0 | 23 13.2 | 336 54.8 | -1 19.9 |
| | 5 | 354 30.5 | 299 57.2 | 16 45.4 | 194 34.1 | 9 32.9 | 259 12.9 | 23 13.2 | 351 57.2 | -1 19.9 |
| | 6 | 9 32.9 | 314 56.9 | 16 46.1 | 209 35.2 | 9 32.4 | 274 14.7 | 23 13.2 | 6 59.6 | -1 19.9 |
| | 7 | 24 35.4 | 329 56.6 | 16 46.7 | 224 36.4 | 9 31.8 | 289 16.6 | 23 13.2 | 22 2.0 | -1 19.8 |
| | 8 | 39 37.9 | 344 56.3 | 16 47.4 | 239 37.5 | 9 31.2 | 304 18.4 | 23 13.1 | 37 4.5 | -1 19.8 |
| | 9 | 54 40.3 | 359 56.0 | 16 48.1 | 254 38.6 | 9 30.6 | 319 20.2 | 23 13.1 | 52 6.9 | -1 19.8 |
| | 10 | 69 42.8 | 14 55.7 | 16 48.7 | 269 39.7 | 9 30.1 | 334 22.1 | 23 13.1 | 67 9.3 | -1 19.8 |
| | 11 | 84 45.3 | 29 55.4 | 16 49.4 | 284 40.8 | 9 29.5 | 349 23.9 | 23 13.1 | 82 11.7 | -1 19.8 |
| | 12 | 99 47.7 | 44 55.1 | 16 50.1 | 299 41.9 | 9 28.9 | 4 25.8 | 23 13.1 | 97 14.1 | -1 19.8 |
| | 13 | 114 50.2 | 59 54.8 | 16 50.7 | 314 43.0 | 9 28.4 | 19 27.6 | 23 13.1 | 112 16.5 | -1 19.8 |
| | 14 | 129 52.6 | 74 54.5 | 16 51.4 | 329 44.2 | 9 27.8 | 34 29.5 | 23 13.0 | 127 18.9 | -1 19.8 |
| | 15 | 144 55.1 | 89 54.2 | 16 52.1 | 344 45.3 | 9 27.2 | 49 31.3 | 23 13.0 | 142 21.4 | -1 19.8 |
| | 16 | 159 57.6 | 104 53.9 | 16 52.7 | 359 46.4 | 9 26.6 | 64 33.2 | 23 13.0 | 157 23.8 | -1 19.8 |
| | 17 | 175 0.0 | 119 53.6 | 16 53.4 | 14 47.5 | 9 26.1 | 79 35.0 | 23 13.0 | 172 26.2 | -1 19.8 |
| | 18 | 190 2.5 | 134 53.3 | 16 54.0 | 29 48.6 | 9 25.5 | 94 36.8 | 23 13.0 | 187 28.6 | -1 19.7 |
| | 19 | 205 5.0 | 149 53.0 | 16 54.7 | 44 49.7 | 9 24.9 | 109 38.7 | 23 13.0 | 202 31.0 | -1 19.7 |
| | 20 | 220 7.4 | 164 52.7 | 16 55.4 | 59 50.8 | 9 24.3 | 124 40.5 | 23 12.9 | 217 33.4 | -1 19.7 |
| | 21 | 235 9.9 | 179 52.4 | 16 56.0 | 74 52.0 | 9 23.8 | 139 42.4 | 23 12.9 | 232 35.9 | -1 19.7 |
| | 22 | 250 12.4 | 194 52.1 | 16 56.7 | 89 53.1 | 9 23.2 | 154 44.2 | 23 12.9 | 247 38.3 | -1 19.7 |
| | 23 | 265 14.8 | 209 51.8 | 16 57.4 | 104 54.2 | 9 22.6 | 169 46.1 | 23 12.9 | 262 40.7 | -1 19.7 |
| | | MP 05:23 | *v* -0.3 | *d* 0.7 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **02 Wednesday** | 0 | 280 17.3 | 224 51.5 | 16 58.0 | 119 55.3 | 9 22.0 | 184 47.9 | 23 12.9 | 277 43.1 | -1 19.7 |
| | 1 | 295 19.8 | 239 51.1 | 16 58.7 | 134 56.4 | 9 21.5 | 199 49.8 | 23 12.9 | 292 45.5 | -1 19.7 |
| | 2 | 310 22.2 | 254 50.8 | 16 59.3 | 149 57.5 | 9 20.9 | 214 51.6 | 23 12.8 | 307 47.9 | -1 19.7 |
| | 3 | 325 24.7 | 269 50.5 | 17 0.0 | 164 58.6 | 9 20.3 | 229 53.5 | 23 12.8 | 322 50.4 | -1 19.7 |
| | 4 | 340 27.1 | 284 50.2 | 17 0.6 | 179 59.8 | 9 19.7 | 244 55.3 | 23 12.8 | 337 52.8 | -1 19.7 |
| | 5 | 355 29.6 | 299 49.9 | 17 1.3 | 195 0.9 | 9 19.2 | 259 57.1 | 23 12.8 | 352 55.2 | -1 19.7 |
| | 6 | 10 32.1 | 314 49.6 | 17 2.0 | 210 2.0 | 9 18.6 | 274 59.0 | 23 12.8 | 7 57.6 | -1 19.7 |
| | 7 | 25 34.5 | 329 49.3 | 17 2.6 | 225 3.1 | 9 18.0 | 290 0.8 | 23 12.7 | 23 0.0 | -1 19.6 |
| | 8 | 40 37.0 | 344 48.9 | 17 3.3 | 240 4.2 | 9 17.4 | 305 2.7 | 23 12.7 | 38 2.4 | -1 19.6 |
| | 9 | 55 39.5 | 359 48.6 | 17 3.9 | 255 5.3 | 9 16.9 | 320 4.5 | 23 12.7 | 53 4.9 | -1 19.6 |
| | 10 | 70 41.9 | 14 48.3 | 17 4.6 | 270 6.4 | 9 16.3 | 335 6.4 | 23 12.7 | 68 7.3 | -1 19.6 |
| | 11 | 85 44.4 | 29 48.0 | 17 5.2 | 285 7.6 | 9 15.7 | 350 8.2 | 23 12.7 | 83 9.7 | -1 19.6 |
| | 12 | 100 46.9 | 44 47.7 | 17 5.9 | 300 8.7 | 9 15.1 | 5 10.1 | 23 12.7 | 98 12.1 | -1 19.6 |
| | 13 | 115 49.3 | 59 47.4 | 17 6.5 | 315 9.8 | 9 14.6 | 20 11.9 | 23 12.6 | 113 14.5 | -1 19.6 |
| | 14 | 130 51.8 | 74 47.0 | 17 7.2 | 330 10.9 | 9 14.0 | 35 13.8 | 23 12.6 | 128 17.0 | -1 19.6 |
| | 15 | 145 54.2 | 89 46.7 | 17 7.8 | 345 12.0 | 9 13.4 | 50 15.6 | 23 12.6 | 143 19.4 | -1 19.6 |
| | 16 | 160 56.7 | 104 46.4 | 17 8.5 | 0 13.1 | 9 12.8 | 65 17.4 | 23 12.6 | 158 21.8 | -1 19.6 |
| | 17 | 175 59.2 | 119 46.1 | 17 9.1 | 15 14.2 | 9 12.2 | 80 19.3 | 23 12.6 | 173 24.2 | -1 19.6 |
| | 18 | 191 1.6 | 134 45.8 | 17 9.8 | 30 15.3 | 9 11.7 | 95 21.1 | 23 12.5 | 188 26.6 | -1 19.6 |
| | 19 | 206 4.1 | 149 45.4 | 17 10.4 | 45 16.5 | 9 11.1 | 110 23.0 | 23 12.5 | 203 29.1 | -1 19.6 |
| | 20 | 221 6.6 | 164 45.1 | 17 11.1 | 60 17.6 | 9 10.5 | 125 24.8 | 23 12.5 | 218 31.5 | -1 19.5 |
| | 21 | 236 9.0 | 179 44.8 | 17 11.7 | 75 18.7 | 9 9.9 | 140 26.7 | 23 12.5 | 233 33.9 | -1 19.5 |
| | 22 | 251 11.5 | 194 44.5 | 17 12.4 | 90 19.8 | 9 9.4 | 155 28.5 | 23 12.5 | 248 36.3 | -1 19.5 |
| | 23 | 266 14.0 | 209 44.2 | 17 13.0 | 105 20.9 | 9 8.8 | 170 30.4 | 23 12.5 | 263 38.7 | -1 19.5 |
| | | MP 05:19 | *v* -0.3 | *d* 0.7 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

## Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 11.9 |
| Achernar | 335 20.1 | -57 6.1 |
| Acrux | 172 59.7 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.4 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.5 | 55 49.5 |
| Alkaid | 152 51.5 | 49 11.4 |
| Alnair | 27 32.1 | -46 50.0 |
| Alnilam | 275 37.7 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.8 |
| Alpheratz | 357 34.3 | 29 13.7 |
| Altair | 61 59.2 | 8 56.1 |
| Ankaa | 353 6.7 | -42 9.8 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.1 |
| Atria | 107 8.4 | -69 4.5 |
| Avior | 234 15.2 | -59 35.5 |
| Bellatrix | 278 22.8 | 6 22.4 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.5 |
| Capella | 280 21.8 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.1 |
| Denebola | 182 24.6 | 14 25.9 |
| Diphda | 348 46.9 | -17 50.7 |
| Dubhe | 193 40.8 | 61 37.1 |
| Elnath | 278 1.7 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.1 |
| Enif | 33 38.2 | 9 59.5 |
| Fomalhaut | 15 13.9 | -29 29.0 |
| Gacrux | 171 51.2 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.2 | -60 30.0 |
| Hamal | 327 50.9 | 23 34.9 |
| Kaus Aust. | 83 31.6 | -34 22.3 |
| Kochab | 137 19.1 | 74 3.2 |
| Markab | 13 29.4 | 15 20.5 |
| Menkar | 314 5.9 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 39.0 | -69 49.5 |
| Mirfak | 308 28.1 | 49 56.9 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.6 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.3 |
| Rigil Kent. | 139 39.4 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.6 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.2 |
| Vega | 80 32.5 | 38 48.4 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| **30 Mon** | SHA | MP |
|---|---|---|
| Venus | 306 46.7 | 09:00 |
| Mars | 200 42.7 | 16:03 |
| Jupiter | 265 0.4 | 11:45 |
| Saturn | 357 28.3 | 05:36 |

| **01 Tue** | SHA | MP |
|---|---|---|
| Venus | 305 40.6 | 09:00 |
| Mars | 200 10.4 | 16:01 |
| Jupiter | 264 45.5 | 11:42 |
| Saturn | 357 27.0 | 05:32 |

| **02 Wed** | SHA | MP |
|---|---|---|
| Venus | 304 34.2 | 09:01 |
| Mars | 199 38.0 | 15:59 |
| Jupiter | 264 30.6 | 11:39 |
| Saturn | 357 25.8 | 05:28 |

| | | Sun | | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **30 Monday** | 0 | 179 5.1 | 23 10.0 | 119 31.5 | 14.5 | 10 16.9 | -14.4 | 56.3 |
| | 1 | 194 5.0 | 23 9.9 | 134 5.0 | 14.6 | 10 2.5 | -14.4 | 56.3 |
| | 2 | 209 4.9 | 23 9.7 | 148 38.5 | 14.6 | 9 48.1 | -14.4 | 56.2 |
| | 3 | 224 4.8 | 23 9.6 | 163 12.2 | 14.7 | 9 33.7 | -14.4 | 56.2 |
| | 4 | 239 4.6 | 23 9.4 | 177 45.9 | 14.8 | 9 19.3 | -14.4 | 56.2 |
| | 5 | 254 4.5 | 23 9.2 | 192 19.7 | 14.9 | 9 4.8 | -14.5 | 56.1 |
| | 6 | 269 4.4 | 23 9.1 | 206 53.5 | 14.9 | 8 50.4 | -14.5 | 56.1 |
| | 7 | 284 4.3 | 23 8.9 | 221 27.4 | 15.0 | 8 35.9 | -14.5 | 56.1 |
| | 8 | 299 4.1 | 23 8.8 | 236 1.4 | 15.1 | 8 21.4 | -14.5 | 56.0 |
| | 9 | 314 4.0 | 23 8.6 | 250 35.5 | 15.1 | 8 6.8 | -14.5 | 56.0 |
| | 10 | 329 3.9 | 23 8.5 | 265 9.6 | 15.2 | 7 52.3 | -14.6 | 56.0 |
| | 11 | 344 3.8 | 23 8.3 | 279 43.8 | 15.3 | 7 37.7 | -14.6 | 55.9 |
| | 12 | 359 3.7 | 23 8.1 | 294 18.1 | 15.3 | 7 23.2 | -14.6 | 55.9 |
| | 13 | 14 3.5 | 23 8.0 | 308 52.4 | 15.4 | 7 8.6 | -14.6 | 55.9 |
| | 14 | 29 3.4 | 23 7.8 | 323 26.8 | 15.4 | 6 54.0 | -14.6 | 55.9 |
| | 15 | 44 3.3 | 23 7.7 | 338 1.2 | 15.5 | 6 39.4 | -14.6 | 55.8 |
| | 16 | 59 3.2 | 23 7.5 | 352 35.7 | 15.6 | 6 24.8 | -14.6 | 55.8 |
| | 17 | 74 3.0 | 23 7.3 | 7 10.3 | 15.6 | 6 10.2 | -14.6 | 55.8 |
| | 18 | 89 2.9 | 23 7.2 | 21 44.9 | 15.7 | 5 55.5 | -14.6 | 55.7 |
| | 19 | 104 2.8 | 23 7.0 | 36 19.6 | 15.7 | 5 40.9 | -14.6 | 55.7 |
| | 20 | 119 2.7 | 23 6.8 | 50 54.3 | 15.8 | 5 26.2 | -14.7 | 55.7 |
| | 21 | 134 2.5 | 23 6.7 | 65 29.1 | 15.8 | 5 11.6 | -14.7 | 55.7 |
| | 22 | 149 2.4 | 23 6.5 | 80 3.9 | 15.9 | 4 56.9 | -14.7 | 55.6 |
| | 23 | 164 2.3 | 23 6.3 | 94 38.8 | 15.9 | 4 42.3 | -14.7 | 55.6 |
| | | *v* -0.1 SD 15.7 *d* -0.2 | | SD 15.4 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **01 Tuesday** | 0 | 179 2.2 | 23 6.2 | 109 13.7 | 16.0 | 4 27.6 | -14.7 | 55.6 |
| | 1 | 194 2.1 | 23 6.0 | 123 48.7 | 16.0 | 4 12.9 | -14.7 | 55.5 |
| | 2 | 209 1.9 | 23 5.8 | 138 23.7 | 16.1 | 3 58.3 | -14.7 | 55.5 |
| | 3 | 224 1.8 | 23 5.7 | 152 58.8 | 16.1 | 3 43.6 | -14.7 | 55.5 |
| | 4 | 239 1.7 | 23 5.5 | 167 33.9 | 16.1 | 3 29.0 | -14.7 | 55.5 |
| | 5 | 254 1.6 | 23 5.3 | 182 9.0 | 16.2 | 3 14.3 | -14.7 | 55.4 |
| | 6 | 269 1.5 | 23 5.1 | 196 44.2 | 16.2 | 2 59.6 | -14.7 | 55.4 |
| | 7 | 284 1.3 | 23 5.0 | 211 19.5 | 16.3 | 2 45.0 | -14.7 | 55.4 |
| | 8 | 299 1.2 | 23 4.8 | 225 54.7 | 16.3 | 2 30.3 | -14.6 | 55.4 |
| | 9 | 314 1.1 | 23 4.6 | 240 30.0 | 16.3 | 2 15.7 | -14.6 | 55.3 |
| | 10 | 329 1.0 | 23 4.4 | 255 5.4 | 16.4 | 2 1.0 | -14.6 | 55.3 |
| | 11 | 344 0.9 | 23 4.3 | 269 40.7 | 16.4 | 1 46.4 | -14.6 | 55.3 |
| | 12 | 359 0.7 | 23 4.1 | 284 16.2 | 16.4 | 1 31.7 | -14.6 | 55.3 |
| | 13 | 14 0.6 | 23 3.9 | 298 51.6 | 16.5 | 1 17.1 | -14.6 | 55.2 |
| | 14 | 29 0.5 | 23 3.7 | 313 27.1 | 16.5 | 1 2.5 | -14.6 | 55.2 |
| | 15 | 44 0.4 | 23 3.5 | 328 2.5 | 16.5 | 0 47.9 | -14.6 | 55.2 |
| | 16 | 59 0.3 | 23 3.4 | 342 38.1 | 16.5 | 0 33.3 | -14.6 | 55.2 |
| | 17 | 74 0.1 | 23 3.2 | 357 13.6 | 16.6 | 0 18.7 | -14.6 | 55.1 |
| | 18 | 89 0.0 | 23 3.0 | 11 49.2 | 16.6 | 0 4.2 | -14.6 | 55.1 |
| | 19 | 103 59.9 | 23 2.8 | 26 24.8 | 16.6 | -0 10.4 | 14.5 | 55.1 |
| | 20 | 118 59.8 | 23 2.6 | 41 0.4 | 16.6 | -0 25.0 | 14.5 | 55.1 |
| | 21 | 133 59.7 | 23 2.5 | 55 36.1 | 16.7 | -0 39.5 | 14.5 | 55.0 |
| | 22 | 148 59.5 | 23 2.3 | 70 11.7 | 16.7 | -0 54.0 | 14.5 | 55.0 |
| | 23 | 163 59.4 | 23 2.1 | 84 47.4 | 16.7 | -1 8.5 | 14.5 | 55.0 |
| | | *v* -0.1 SD 15.7 *d* -0.2 | | SD 15.2 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **02 Wednesday** | 0 | 178 59.3 | 23 1.9 | 99 23.1 | 16.7 | -1 23.0 | 14.5 | 55.0 |
| | 1 | 193 59.2 | 23 1.7 | 113 58.8 | 16.7 | -1 37.5 | 14.5 | 55.0 |
| | 2 | 208 59.1 | 23 1.5 | 128 34.5 | 16.7 | -1 51.9 | 14.4 | 54.9 |
| | 3 | 223 58.9 | 23 1.3 | 143 10.3 | 16.8 | -2 6.4 | 14.4 | 54.9 |
| | 4 | 238 58.8 | 23 1.2 | 157 46.0 | 16.8 | -2 20.8 | 14.4 | 54.9 |
| | 5 | 253 58.7 | 23 1.0 | 172 21.8 | 16.8 | -2 35.2 | 14.4 | 54.9 |
| | 6 | 268 58.6 | 23 0.8 | 186 57.6 | 16.8 | -2 49.6 | 14.4 | 54.9 |
| | 7 | 283 58.5 | 23 0.6 | 201 33.3 | 16.8 | -3 3.9 | 14.3 | 54.8 |
| | 8 | 298 58.4 | 23 0.4 | 216 9.1 | 16.8 | -3 18.2 | 14.3 | 54.8 |
| | 9 | 313 58.2 | 23 0.2 | 230 44.9 | 16.8 | -3 32.6 | 14.3 | 54.8 |
| | 10 | 328 58.1 | 23 0.0 | 245 20.7 | 16.8 | -3 46.9 | 14.3 | 54.8 |
| | 11 | 343 58.0 | 22 59.8 | 259 56.5 | 16.8 | -4 1.1 | 14.2 | 54.8 |
| | 12 | 358 57.9 | 22 59.6 | 274 32.4 | 16.8 | -4 15.4 | 14.2 | 54.7 |
| | 13 | 13 57.8 | 22 59.4 | 289 8.2 | 16.8 | -4 29.6 | 14.2 | 54.7 |
| | 14 | 28 57.7 | 22 59.2 | 303 44.0 | 16.8 | -4 43.8 | 14.2 | 54.7 |
| | 15 | 43 57.5 | 22 59.0 | 318 19.8 | 16.8 | -4 57.9 | 14.1 | 54.7 |
| | 16 | 58 57.4 | 22 58.8 | 332 55.6 | 16.8 | -5 12.1 | 14.1 | 54.7 |
| | 17 | 73 57.3 | 22 58.6 | 347 31.4 | 16.8 | -5 26.2 | 14.1 | 54.7 |
| | 18 | 88 57.2 | 22 58.4 | 2 7.2 | 16.8 | -5 40.3 | 14.1 | 54.6 |
| | 19 | 103 57.1 | 22 58.2 | 16 43.0 | 16.8 | -5 54.3 | 14.0 | 54.6 |
| | 20 | 118 57.0 | 22 58.0 | 31 18.8 | 16.8 | -6 8.4 | 14.0 | 54.6 |
| | 21 | 133 56.8 | 22 57.8 | 45 54.6 | 16.8 | -6 22.4 | 14.0 | 54.6 |
| | 22 | 148 56.7 | 22 57.6 | 60 30.3 | 16.8 | -6 36.3 | 13.9 | 54.6 |
| | 23 | 163 56.6 | 22 57.4 | 75 6.1 | 16.7 | -6 50.3 | 13.9 | 54.6 |
| | | *v* -0.1 SD 15.7 *d* -0.2 | | SD 15.0 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | 23:46 | | |
| 64 | //// | //// | 01:40 | 22:26 | //// | //// |
| 62 | //// | //// | 02:16 | 21:51 | //// | //// |
| 60 | //// | 01:01 | 02:41 | 21:25 | 23:04 | //// |
| 58 | //// | 01:47 | 03:01 | 21:06 | 22:19 | //// |
| 56 | //// | 02:16 | 03:18 | 20:49 | 21:51 | //// |
| 54 | 00:56 | 02:38 | 03:32 | 20:35 | 21:29 | 23:09 |
| 52 | 01:39 | 02:55 | 03:44 | 20:23 | 21:12 | 22:28 |
| 50 | 02:06 | 03:10 | 03:55 | 20:13 | 20:57 | 22:01 |
| 45 | 02:50 | 03:39 | 04:17 | 19:51 | 20:28 | 21:17 |
| 40 | 03:20 | 04:02 | 04:35 | 19:33 | 20:06 | 20:47 |
| 35 | 03:43 | 04:20 | 04:49 | 19:18 | 19:48 | 20:24 |
| 30 | 04:02 | 04:35 | 05:02 | 19:05 | 19:33 | 20:06 |
| 20 | 04:30 | 04:59 | 05:24 | 18:43 | 19:08 | 19:37 |
| 10 | 04:53 | 05:20 | 05:43 | 18:25 | 18:48 | 19:15 |
| 0 | 05:11 | 05:38 | 06:00 | 18:07 | 18:30 | 18:56 |
| -10 | 05:28 | 05:55 | 06:17 | 17:50 | 18:13 | 18:39 |
| -20 | 05:44 | 06:12 | 06:36 | 17:32 | 17:56 | 18:23 |
| -30 | 06:00 | 06:30 | 06:57 | 17:11 | 17:37 | 18:07 |
| -35 | 06:09 | 06:41 | 07:09 | 16:59 | 17:27 | 17:59 |
| -40 | 06:18 | 06:52 | 07:23 | 16:45 | 17:15 | 17:49 |
| -45 | 06:28 | 07:06 | 07:39 | 16:28 | 17:02 | 17:39 |
| -50 | 06:40 | 07:21 | 08:00 | 16:08 | 16:46 | 17:28 |
| -52 | 06:45 | 07:29 | 08:09 | 15:58 | 16:39 | 17:22 |
| -54 | 06:51 | 07:37 | 08:20 | 15:47 | 16:31 | 17:17 |
| -56 | 06:57 | 07:46 | 08:33 | 15:35 | 16:22 | 17:11 |
| -58 | 07:03 | 07:56 | 08:47 | 15:21 | 16:12 | 17:04 |
| -60 | 07:11 | 08:07 | 09:04 | 15:03 | 16:00 | 16:57 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **30** | **01** | **02** | **30** | **01** | **02** |
| 72 | 08:33 | 10:39 | 12:39 | 00:15<br>23:38 | 23:05 | 22:32 |
| 70 | 08:46 | 10:42 | 12:32 | 23:32 | 23:07 | 22:42 |
| 68 | 08:56 | 10:44 | 12:27 | 23:27 | 23:08 | 22:50 |
| 66 | 09:04 | 10:45 | 12:23 | 23:23 | 23:10 | 22:56 |
| 64 | 09:11 | 10:47 | 12:19 | 23:19 | 23:11 | 23:02 |
| 62 | 09:17 | 10:48 | 12:16 | 23:16 | 23:11 | 23:07 |
| 60 | 09:23 | 10:49 | 12:13 | 23:13 | 23:12 | 23:11 |
| 58 | 09:27 | 10:50 | 12:10 | 23:11 | 23:13 | 23:15 |
| 56 | 09:31 | 10:51 | 12:08 | 23:09 | 23:13 | 23:18 |
| 54 | 09:35 | 10:52 | 12:06 | 23:07 | 23:14 | 23:21 |
| 52 | 09:38 | 10:52 | 12:05 | 23:05 | 23:14 | 23:24 |
| 50 | 09:41 | 10:53 | 12:03 | 23:03 | 23:15 | 23:26 |
| 45 | 09:48 | 10:55 | 11:59 | 23:00 | 23:16 | 23:32 |
| 40 | 09:53 | 10:56 | 11:57 | 22:57 | 23:17 | 23:37 |
| 35 | 09:58 | 10:57 | 11:54 | 22:54 | 23:17 | 23:41 |
| 30 | 10:02 | 10:58 | 11:52 | 22:52 | 23:18 | 23:44 |
| 20 | 10:09 | 10:59 | 11:48 | 22:48 | 23:19 | 23:50 |
| 10 | 10:15 | 11:00 | 11:45 | 22:44 | 23:20 | 23:56 |
| 0 | 10:20 | 11:02 | 11:42 | 22:40 | 23:21 | –:– |
| -10 | 10:26 | 11:03 | 11:39 | 22:37 | 23:22 | –:– |
| -20 | 10:32 | 11:04 | 11:36 | 22:33 | 23:23 | –:– |
| -30 | 10:39 | 11:06 | 11:32 | 22:29 | 23:24 | –:– |
| -35 | 10:43 | 11:07 | 11:30 | 22:26 | 23:25 | –:– |
| -40 | 10:47 | 11:08 | 11:28 | 22:24 | 23:25 | –:– |
| -45 | 10:52 | 11:09 | 11:25 | 22:20 | 23:26 | –:– |
| -50 | 10:58 | 11:10 | 11:22 | 22:16 | 23:27 | –:– |
| -52 | 11:01 | 11:11 | 11:20 | 22:14 | 23:27 | –:– |
| -54 | 11:04 | 11:12 | 11:19 | 22:12 | 23:28 | –:– |
| -56 | 11:08 | 11:13 | 11:17 | 22:10 | 23:28 | –:– |
| -58 | 11:11 | 11:13 | 11:15 | 22:08 | 23:29 | –:– |
| -60 | 11:16 | 11:14 | 11:13 | 22:05 | 23:30 | –:– |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **30** | 03:39 | 03:45 | 12:04 | 16:30 | 04:09 | 5 | 24 |
| **01** | 03:51 | 03:57 | 12:04 | 17:11 | 04:51 | 6 | 33 |
| **02** | 04:03 | 04:08 | 12:04 | 17:51 | 05:31 | 7 | 42 |

## 2025 July 03, 04, 05 (Thu, Fri, Sat)

| | | Aries | Venus -4.1 | | Mars 1.5 | | Jupiter -1.9 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 03 Thursday | 0 | 281 16.4 | 224 43.8 | 17 13.7 | 120 22.0 | 9 8.2 | 185 32.2 | 23 12.4 | 278 41.2 | -1 19.5 |
| | 1 | 296 18.9 | 239 43.5 | 17 14.3 | 135 23.1 | 9 7.6 | 200 34.1 | 23 12.4 | 293 43.6 | -1 19.5 |
| | 2 | 311 21.4 | 254 43.2 | 17 15.0 | 150 24.2 | 9 7.0 | 215 35.9 | 23 12.4 | 308 46.0 | -1 19.5 |
| | 3 | 326 23.8 | 269 42.8 | 17 15.6 | 165 25.4 | 9 6.5 | 230 37.7 | 23 12.4 | 323 48.4 | -1 19.5 |
| | 4 | 341 26.3 | 284 42.5 | 17 16.3 | 180 26.5 | 9 5.9 | 245 39.6 | 23 12.4 | 338 50.8 | -1 19.5 |
| | 5 | 356 28.7 | 299 42.2 | 17 16.9 | 195 27.6 | 9 5.3 | 260 41.4 | 23 12.3 | 353 53.3 | -1 19.5 |
| | 6 | 11 31.2 | 314 41.9 | 17 17.6 | 210 28.7 | 9 4.7 | 275 43.3 | 23 12.3 | 8 55.7 | -1 19.5 |
| | 7 | 26 33.7 | 329 41.5 | 17 18.2 | 225 29.8 | 9 4.2 | 290 45.1 | 23 12.3 | 23 58.1 | -1 19.5 |
| | 8 | 41 36.1 | 344 41.2 | 17 18.8 | 240 30.9 | 9 3.6 | 305 47.0 | 23 12.3 | 39 0.5 | -1 19.5 |
| | 9 | 56 38.6 | 359 40.9 | 17 19.5 | 255 32.0 | 9 3.0 | 320 48.8 | 23 12.3 | 54 2.9 | -1 19.5 |
| | 10 | 71 41.1 | 14 40.5 | 17 20.1 | 270 33.1 | 9 2.4 | 335 50.7 | 23 12.2 | 69 5.4 | -1 19.5 |
| | 11 | 86 43.5 | 29 40.2 | 17 20.8 | 285 34.3 | 9 1.8 | 350 52.5 | 23 12.2 | 84 7.8 | -1 19.5 |
| | 12 | 101 46.0 | 44 39.9 | 17 21.4 | 300 35.4 | 9 1.3 | 5 54.4 | 23 12.2 | 99 10.2 | -1 19.5 |
| | 13 | 116 48.5 | 59 39.6 | 17 22.1 | 315 36.5 | 9 0.7 | 20 56.2 | 23 12.2 | 114 12.6 | -1 19.4 |
| | 14 | 131 50.9 | 74 39.2 | 17 22.7 | 330 37.6 | 9 0.1 | 35 58.0 | 23 12.2 | 129 15.1 | -1 19.4 |
| | 15 | 146 53.4 | 89 38.9 | 17 23.3 | 345 38.7 | 8 59.5 | 50 59.9 | 23 12.1 | 144 17.5 | -1 19.4 |
| | 16 | 161 55.9 | 104 38.6 | 17 24.0 | 0 39.8 | 8 58.9 | 66 1.7 | 23 12.1 | 159 19.9 | -1 19.4 |
| | 17 | 176 58.3 | 119 38.2 | 17 24.6 | 15 40.9 | 8 58.4 | 81 3.6 | 23 12.1 | 174 22.3 | -1 19.4 |
| | 18 | 192 0.8 | 134 37.9 | 17 25.3 | 30 42.0 | 8 57.8 | 96 5.4 | 23 12.1 | 189 24.7 | -1 19.4 |
| | 19 | 207 3.2 | 149 37.5 | 17 25.9 | 45 43.2 | 8 57.2 | 111 7.3 | 23 12.1 | 204 27.2 | -1 19.4 |
| | 20 | 222 5.7 | 164 37.2 | 17 26.5 | 60 44.3 | 8 56.6 | 126 9.1 | 23 12.1 | 219 29.6 | -1 19.4 |
| | 21 | 237 8.2 | 179 36.9 | 17 27.2 | 75 45.4 | 8 56.0 | 141 11.0 | 23 12.0 | 234 32.0 | -1 19.4 |
| | 22 | 252 10.6 | 194 36.5 | 17 27.8 | 90 46.5 | 8 55.5 | 156 12.8 | 23 12.0 | 249 34.4 | -1 19.4 |
| | 23 | 267 13.1 | 209 36.2 | 17 28.4 | 105 47.6 | 8 54.9 | 171 14.7 | 23 12.0 | 264 36.9 | -1 19.4 |
| | | MP 05:15 | *v* -0.3 | *d* 0.6 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 04 Friday | 0 | 282 15.6 | 224 35.9 | 17 29.1 | 120 48.7 | 8 54.3 | 186 16.5 | 23 12.0 | 279 39.3 | -1 19.4 |
| | 1 | 297 18.0 | 239 35.5 | 17 29.7 | 135 49.8 | 8 53.7 | 201 18.4 | 23 12.0 | 294 41.7 | -1 19.4 |
| | 2 | 312 20.5 | 254 35.2 | 17 30.3 | 150 50.9 | 8 53.1 | 216 20.2 | 23 11.9 | 309 44.1 | -1 19.4 |
| | 3 | 327 23.0 | 269 34.8 | 17 31.0 | 165 52.0 | 8 52.6 | 231 22.1 | 23 11.9 | 324 46.6 | -1 19.4 |
| | 4 | 342 25.4 | 284 34.5 | 17 31.6 | 180 53.2 | 8 52.0 | 246 23.9 | 23 11.9 | 339 49.0 | -1 19.4 |
| | 5 | 357 27.9 | 299 34.2 | 17 32.2 | 195 54.3 | 8 51.4 | 261 25.7 | 23 11.9 | 354 51.4 | -1 19.4 |
| | 6 | 12 30.3 | 314 33.8 | 17 32.9 | 210 55.4 | 8 50.8 | 276 27.6 | 23 11.9 | 9 53.8 | -1 19.4 |
| | 7 | 27 32.8 | 329 33.5 | 17 33.5 | 225 56.5 | 8 50.2 | 291 29.4 | 23 11.8 | 24 56.3 | -1 19.4 |
| | 8 | 42 35.3 | 344 33.1 | 17 34.1 | 240 57.6 | 8 49.7 | 306 31.3 | 23 11.8 | 39 58.7 | -1 19.4 |
| | 9 | 57 37.7 | 359 32.8 | 17 34.8 | 255 58.7 | 8 49.1 | 321 33.1 | 23 11.8 | 55 1.1 | -1 19.3 |
| | 10 | 72 40.2 | 14 32.4 | 17 35.4 | 270 59.8 | 8 48.5 | 336 35.0 | 23 11.8 | 70 3.5 | -1 19.3 |
| | 11 | 87 42.7 | 29 32.1 | 17 36.0 | 286 0.9 | 8 47.9 | 351 36.8 | 23 11.8 | 85 6.0 | -1 19.3 |
| | 12 | 102 45.1 | 44 31.7 | 17 36.6 | 301 2.0 | 8 47.3 | 6 38.7 | 23 11.7 | 100 8.4 | -1 19.3 |
| | 13 | 117 47.6 | 59 31.4 | 17 37.3 | 316 3.2 | 8 46.7 | 21 40.5 | 23 11.7 | 115 10.8 | -1 19.3 |
| | 14 | 132 50.1 | 74 31.1 | 17 37.9 | 331 4.3 | 8 46.2 | 36 42.4 | 23 11.7 | 130 13.2 | -1 19.3 |
| | 15 | 147 52.5 | 89 30.7 | 17 38.5 | 346 5.4 | 8 45.6 | 51 44.2 | 23 11.7 | 145 15.7 | -1 19.3 |
| | 16 | 162 55.0 | 104 30.4 | 17 39.2 | 1 6.5 | 8 45.0 | 66 46.1 | 23 11.7 | 160 18.1 | -1 19.3 |
| | 17 | 177 57.5 | 119 30.0 | 17 39.8 | 16 7.6 | 8 44.4 | 81 47.9 | 23 11.6 | 175 20.5 | -1 19.3 |
| | 18 | 192 59.9 | 134 29.7 | 17 40.4 | 31 8.7 | 8 43.8 | 96 49.8 | 23 11.6 | 190 23.0 | -1 19.3 |
| | 19 | 208 2.4 | 149 29.3 | 17 41.0 | 46 9.8 | 8 43.3 | 111 51.6 | 23 11.6 | 205 25.4 | -1 19.3 |
| | 20 | 223 4.8 | 164 29.0 | 17 41.7 | 61 10.9 | 8 42.7 | 126 53.4 | 23 11.6 | 220 27.8 | -1 19.3 |
| | 21 | 238 7.3 | 179 28.6 | 17 42.3 | 76 12.0 | 8 42.1 | 141 55.3 | 23 11.5 | 235 30.2 | -1 19.3 |
| | 22 | 253 9.8 | 194 28.3 | 17 42.9 | 91 13.1 | 8 41.5 | 156 57.1 | 23 11.5 | 250 32.7 | -1 19.3 |
| | 23 | 268 12.2 | 209 27.9 | 17 43.5 | 106 14.3 | 8 40.9 | 171 59.0 | 23 11.5 | 265 35.1 | -1 19.3 |
| | | MP 05:11 | *v* -0.3 | *d* 0.6 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Saturday | 0 | 283 14.7 | 224 27.6 | 17 44.1 | 121 15.4 | 8 40.3 | 187 0.8 | 23 11.5 | 280 37.5 | -1 19.3 |
| | 1 | 298 17.2 | 239 27.2 | 17 44.8 | 136 16.5 | 8 39.8 | 202 2.7 | 23 11.5 | 295 39.9 | -1 19.3 |
| | 2 | 313 19.6 | 254 26.8 | 17 45.4 | 151 17.6 | 8 39.2 | 217 4.5 | 23 11.4 | 310 42.4 | -1 19.3 |
| | 3 | 328 22.1 | 269 26.5 | 17 46.0 | 166 18.7 | 8 38.6 | 232 6.4 | 23 11.4 | 325 44.8 | -1 19.3 |
| | 4 | 343 24.6 | 284 26.1 | 17 46.6 | 181 19.8 | 8 38.0 | 247 8.2 | 23 11.4 | 340 47.2 | -1 19.3 |
| | 5 | 358 27.0 | 299 25.8 | 17 47.2 | 196 20.9 | 8 37.4 | 262 10.1 | 23 11.4 | 355 49.7 | -1 19.3 |
| | 6 | 13 29.5 | 314 25.4 | 17 47.9 | 211 22.0 | 8 36.8 | 277 11.9 | 23 11.4 | 10 52.1 | -1 19.3 |
| | 7 | 28 32.0 | 329 25.1 | 17 48.5 | 226 23.1 | 8 36.2 | 292 13.8 | 23 11.3 | 25 54.5 | -1 19.3 |
| | 8 | 43 34.4 | 344 24.7 | 17 49.1 | 241 24.2 | 8 35.7 | 307 15.6 | 23 11.3 | 40 57.0 | -1 19.3 |
| | 9 | 58 36.9 | 359 24.3 | 17 49.7 | 256 25.4 | 8 35.1 | 322 17.5 | 23 11.3 | 55 59.4 | -1 19.3 |
| | 10 | 73 39.3 | 14 24.0 | 17 50.3 | 271 26.5 | 8 34.5 | 337 19.3 | 23 11.3 | 71 1.8 | -1 19.3 |
| | 11 | 88 41.8 | 29 23.6 | 17 51.0 | 286 27.6 | 8 33.9 | 352 21.2 | 23 11.3 | 86 4.2 | -1 19.3 |
| | 12 | 103 44.3 | 44 23.3 | 17 51.6 | 301 28.7 | 8 33.3 | 7 23.0 | 23 11.2 | 101 6.7 | -1 19.3 |
| | 13 | 118 46.7 | 59 22.9 | 17 52.2 | 316 29.8 | 8 32.7 | 22 24.8 | 23 11.2 | 116 9.1 | -1 19.3 |
| | 14 | 133 49.2 | 74 22.5 | 17 52.8 | 331 30.9 | 8 32.2 | 37 26.7 | 23 11.2 | 131 11.5 | -1 19.3 |
| | 15 | 148 51.7 | 89 22.2 | 17 53.4 | 346 32.0 | 8 31.6 | 52 28.5 | 23 11.2 | 146 14.0 | -1 19.3 |
| | 16 | 163 54.1 | 104 21.8 | 17 54.0 | 1 33.1 | 8 31.0 | 67 30.4 | 23 11.2 | 161 16.4 | -1 19.3 |
| | 17 | 178 56.6 | 119 21.5 | 17 54.6 | 16 34.2 | 8 30.4 | 82 32.2 | 23 11.1 | 176 18.8 | -1 19.3 |
| | 18 | 193 59.1 | 134 21.1 | 17 55.2 | 31 35.3 | 8 29.8 | 97 34.1 | 23 11.1 | 191 21.3 | -1 19.2 |
| | 19 | 209 1.5 | 149 20.7 | 17 55.9 | 46 36.4 | 8 29.2 | 112 35.9 | 23 11.1 | 206 23.7 | -1 19.2 |
| | 20 | 224 4.0 | 164 20.4 | 17 56.5 | 61 37.6 | 8 28.6 | 127 37.8 | 23 11.1 | 221 26.1 | -1 19.2 |
| | 21 | 239 6.4 | 179 20.0 | 17 57.1 | 76 38.7 | 8 28.1 | 142 39.6 | 23 11.0 | 236 28.5 | -1 19.2 |
| | 22 | 254 8.9 | 194 19.6 | 17 57.7 | 91 39.8 | 8 27.5 | 157 41.5 | 23 11.0 | 251 31.0 | -1 19.2 |
| | 23 | 269 11.4 | 209 19.3 | 17 58.3 | 106 40.9 | 8 26.9 | 172 43.3 | 23 11.0 | 266 33.4 | -1 19.2 |
| | | MP 05:08 | *v* -0.4 | *d* 0.6 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 11.9 |
| Achernar | 335 20.0 | -57 6.1 |
| Acrux | 172 59.7 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.4 |
| Aldebaran | 290 39.5 | 16 33.6 |
| Alioth | 166 12.6 | 55 49.5 |
| Alkaid | 152 51.5 | 49 11.4 |
| Alnair | 27 32.1 | -46 50.0 |
| Alnilam | 275 37.6 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.2 |
| Alphecca | 126 3.1 | 26 37.8 |
| Alpheratz | 357 34.3 | 29 13.8 |
| Altair | 61 59.2 | 8 56.1 |
| Ankaa | 353 6.7 | -42 9.8 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.1 |
| Atria | 107 8.4 | -69 4.5 |
| Avior | 234 15.2 | -59 35.5 |
| Bellatrix | 278 22.8 | 6 22.4 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.5 |
| Capella | 280 21.8 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.2 |
| Denebola | 182 24.6 | 14 25.9 |
| Diphda | 348 46.9 | -17 50.6 |
| Dubhe | 193 40.8 | 61 37.1 |
| Elnath | 278 1.7 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.1 |
| Enif | 33 38.2 | 9 59.5 |
| Fomalhaut | 15 13.9 | -29 29.0 |
| Gacrux | 171 51.3 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.2 | -60 30.0 |
| Hamal | 327 50.9 | 23 34.9 |
| Kaus Aust. | 83 31.6 | -34 22.3 |
| Kochab | 137 19.1 | 74 3.2 |
| Markab | 13 29.4 | 15 20.5 |
| Menkar | 314 5.9 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 39.0 | -69 49.5 |
| Mirfak | 308 28.0 | 49 56.9 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.5 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.3 |
| Rigil Kent. | 139 39.4 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.6 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.2 |
| Vega | 80 32.5 | 38 48.4 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 03 Thu | SHA | MP |
|---|---|---|
| Venus | 303 27.4 | 09:01 |
| Mars | 199 5.6 | 15:57 |
| Jupiter | 264 15.8 | 11:36 |
| Saturn | 357 24.7 | 05:24 |

| 04 Fri | SHA | MP |
|---|---|---|
| Venus | 302 20.3 | 09:02 |
| Mars | 198 33.1 | 15:56 |
| Jupiter | 264 0.9 | 11:33 |
| Saturn | 357 23.7 | 05:21 |

| 05 Sat | SHA | MP |
|---|---|---|
| Venus | 301 12.9 | 09:02 |
| Mars | 198 0.7 | 15:54 |
| Jupiter | 263 46.1 | 11:31 |
| Saturn | 357 22.8 | 05:17 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **03 Thursday** | 0 | 178 56.5 | 22 57.2 | 89 41.8 | 16.7 | -7 4.2 | 13.9 | 54.5 |
| | 1 | 193 56.4 | 22 57.0 | 104 17.6 | 16.7 | -7 18.0 | 13.8 | 54.5 |
| | 2 | 208 56.3 | 22 56.8 | 118 53.3 | 16.7 | -7 31.9 | 13.8 | 54.5 |
| | 3 | 223 56.2 | 22 56.6 | 133 29.0 | 16.7 | -7 45.7 | 13.8 | 54.5 |
| | 4 | 238 56.0 | 22 56.4 | 148 4.7 | 16.7 | -7 59.4 | 13.7 | 54.5 |
| | 5 | 253 55.9 | 22 56.2 | 162 40.4 | 16.7 | -8 13.2 | 13.7 | 54.5 |
| | 6 | 268 55.8 | 22 56.0 | 177 16.0 | 16.6 | -8 26.9 | 13.7 | 54.5 |
| | 7 | 283 55.7 | 22 55.8 | 191 51.7 | 16.6 | -8 40.5 | 13.6 | 54.5 |
| | 8 | 298 55.6 | 22 55.6 | 206 27.3 | 16.6 | -8 54.1 | 13.6 | 54.4 |
| | 9 | 313 55.5 | 22 55.4 | 221 2.9 | 16.6 | -9 7.7 | 13.5 | 54.4 |
| | 10 | 328 55.4 | 22 55.2 | 235 38.4 | 16.5 | -9 21.3 | 13.5 | 54.4 |
| | 11 | 343 55.2 | 22 55.0 | 250 14.0 | 16.5 | -9 34.8 | 13.5 | 54.4 |
| | 12 | 358 55.1 | 22 54.8 | 264 49.5 | 16.5 | -9 48.2 | 13.4 | 54.4 |
| | 13 | 13 55.0 | 22 54.5 | 279 25.0 | 16.5 | -10 1.7 | 13.4 | 54.4 |
| | 14 | 28 54.9 | 22 54.3 | 294 0.5 | 16.4 | -10 15.0 | 13.3 | 54.4 |
| | 15 | 43 54.8 | 22 54.1 | 308 35.9 | 16.4 | -10 28.4 | 13.3 | 54.4 |
| | 16 | 58 54.7 | 22 53.9 | 323 11.3 | 16.4 | -10 41.7 | 13.3 | 54.3 |
| | 17 | 73 54.6 | 22 53.7 | 337 46.7 | 16.3 | -10 54.9 | 13.2 | 54.3 |
| | 18 | 88 54.4 | 22 53.5 | 352 22.1 | 16.3 | -11 8.1 | 13.2 | 54.3 |
| | 19 | 103 54.3 | 22 53.3 | 6 57.4 | 16.3 | -11 21.3 | 13.1 | 54.3 |
| | 20 | 118 54.2 | 22 53.0 | 21 32.7 | 16.2 | -11 34.4 | 13.1 | 54.3 |
| | 21 | 133 54.1 | 22 52.8 | 36 7.9 | 16.2 | -11 47.5 | 13.0 | 54.3 |
| | 22 | 148 54.0 | 22 52.6 | 50 43.1 | 16.2 | -12 0.5 | 13.0 | 54.3 |
| | 23 | 163 53.9 | 22 52.4 | 65 18.3 | 16.1 | -12 13.5 | 12.9 | 54.3 |
| | | *v* -0.1 | SD 15.7 *d* -0.2 | | SD 14.9 | | | |
| **04 Friday** | 0 | 178 53.8 | 22 52.2 | 79 53.4 | 16.1 | -12 26.5 | 12.9 | 54.3 |
| | 1 | 193 53.7 | 22 52.0 | 94 28.5 | 16.1 | -12 39.3 | 12.8 | 54.3 |
| | 2 | 208 53.5 | 22 51.7 | 109 3.6 | 16.0 | -12 52.2 | 12.8 | 54.3 |
| | 3 | 223 53.4 | 22 51.5 | 123 38.6 | 16.0 | -13 5.0 | 12.7 | 54.3 |
| | 4 | 238 53.3 | 22 51.3 | 138 13.6 | 15.9 | -13 17.7 | 12.7 | 54.3 |
| | 5 | 253 53.2 | 22 51.1 | 152 48.5 | 15.9 | -13 30.4 | 12.6 | 54.2 |
| | 6 | 268 53.1 | 22 50.8 | 167 23.4 | 15.8 | -13 43.0 | 12.6 | 54.2 |
| | 7 | 283 53.0 | 22 50.6 | 181 58.3 | 15.8 | -13 55.6 | 12.5 | 54.2 |
| | 8 | 298 52.9 | 22 50.4 | 196 33.1 | 15.8 | -14 8.1 | 12.5 | 54.2 |
| | 9 | 313 52.8 | 22 50.2 | 211 7.8 | 15.7 | -14 20.6 | 12.4 | 54.2 |
| | 10 | 328 52.7 | 22 50.0 | 225 42.5 | 15.7 | -14 33.0 | 12.4 | 54.2 |
| | 11 | 343 52.5 | 22 49.7 | 240 17.2 | 15.6 | -14 45.3 | 12.3 | 54.2 |
| | 12 | 358 52.4 | 22 49.5 | 254 51.8 | 15.6 | -14 57.6 | 12.2 | 54.2 |
| | 13 | 13 52.3 | 22 49.3 | 269 26.3 | 15.5 | -15 9.9 | 12.2 | 54.2 |
| | 14 | 28 52.2 | 22 49.0 | 284 0.9 | 15.5 | -15 22.0 | 12.1 | 54.2 |
| | 15 | 43 52.1 | 22 48.8 | 298 35.3 | 15.4 | -15 34.2 | 12.1 | 54.2 |
| | 16 | 58 52.0 | 22 48.6 | 313 9.7 | 15.3 | -15 46.2 | 12.0 | 54.2 |
| | 17 | 73 51.9 | 22 48.4 | 327 44.1 | 15.3 | -15 58.2 | 11.9 | 54.2 |
| | 18 | 88 51.8 | 22 48.1 | 342 18.3 | 15.2 | -16 10.2 | 11.9 | 54.2 |
| | 19 | 103 51.7 | 22 47.9 | 356 52.6 | 15.2 | -16 22.0 | 11.8 | 54.2 |
| | 20 | 118 51.6 | 22 47.7 | 11 26.8 | 15.1 | -16 33.8 | 11.7 | 54.2 |
| | 21 | 133 51.5 | 22 47.4 | 26 0.9 | 15.1 | -16 45.6 | 11.7 | 54.2 |
| | 22 | 148 51.3 | 22 47.2 | 40 34.9 | 15.0 | -16 57.3 | 11.6 | 54.2 |
| | 23 | 163 51.2 | 22 47.0 | 55 8.9 | 14.9 | -17 8.9 | 11.6 | 54.2 |
| | | *v* -0.1 | SD 15.7 *d* -0.2 | | SD 14.8 | | | |
| **05 Saturday** | 0 | 178 51.1 | 22 46.7 | 69 42.9 | 14.9 | -17 20.4 | 11.5 | 54.2 |
| | 1 | 193 51.0 | 22 46.5 | 84 16.8 | 14.8 | -17 31.9 | 11.4 | 54.2 |
| | 2 | 208 50.9 | 22 46.2 | 98 50.6 | 14.8 | -17 43.4 | 11.3 | 54.2 |
| | 3 | 223 50.8 | 22 46.0 | 113 24.4 | 14.7 | -17 54.7 | 11.3 | 54.2 |
| | 4 | 238 50.7 | 22 45.8 | 127 58.1 | 14.6 | -18 6.0 | 11.2 | 54.2 |
| | 5 | 253 50.6 | 22 45.5 | 142 31.7 | 14.6 | -18 17.2 | 11.1 | 54.2 |
| | 6 | 268 50.5 | 22 45.3 | 157 5.3 | 14.5 | -18 28.3 | 11.1 | 54.2 |
| | 7 | 283 50.4 | 22 45.1 | 171 38.8 | 14.4 | -18 39.4 | 11.0 | 54.2 |
| | 8 | 298 50.3 | 22 44.8 | 186 12.2 | 14.4 | -18 50.4 | 10.9 | 54.2 |
| | 9 | 313 50.2 | 22 44.6 | 200 45.6 | 14.3 | -19 1.3 | 10.8 | 54.2 |
| | 10 | 328 50.1 | 22 44.3 | 215 18.9 | 14.2 | -19 12.1 | 10.8 | 54.2 |
| | 11 | 343 49.9 | 22 44.1 | 229 52.1 | 14.2 | -19 22.9 | 10.7 | 54.2 |
| | 12 | 358 49.8 | 22 43.8 | 244 25.3 | 14.1 | -19 33.6 | 10.6 | 54.2 |
| | 13 | 13 49.7 | 22 43.6 | 258 58.3 | 14.0 | -19 44.2 | 10.5 | 54.2 |
| | 14 | 28 49.6 | 22 43.4 | 273 31.4 | 14.0 | -19 54.8 | 10.5 | 54.2 |
| | 15 | 43 49.5 | 22 43.1 | 288 4.3 | 13.9 | -20 5.2 | 10.4 | 54.2 |
| | 16 | 58 49.4 | 22 42.9 | 302 37.2 | 13.8 | -20 15.6 | 10.3 | 54.2 |
| | 17 | 73 49.3 | 22 42.6 | 317 10.0 | 13.7 | -20 25.9 | 10.2 | 54.2 |
| | 18 | 88 49.2 | 22 42.4 | 331 42.8 | 13.7 | -20 36.1 | 10.1 | 54.2 |
| | 19 | 103 49.1 | 22 42.1 | 346 15.4 | 13.6 | -20 46.2 | 10.0 | 54.2 |
| | 20 | 118 49.0 | 22 41.9 | 0 48.0 | 13.5 | -20 56.3 | 10.0 | 54.2 |
| | 21 | 133 48.9 | 22 41.6 | 15 20.5 | 13.4 | -21 6.2 | 9.9 | 54.2 |
| | 22 | 148 48.8 | 22 41.4 | 29 53.0 | 13.4 | -21 16.1 | 9.8 | 54.2 |
| | 23 | 163 48.7 | 22 41.1 | 44 25.3 | 13.3 | -21 25.9 | 9.7 | 54.2 |
| | | *v* -0.1 | SD 15.7 *d* -0.2 | | SD 14.8 | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | //// | //// | 00:37 | 23:26 | //// | //// |
| 64 | //// | //// | 01:45 | 22:22 | //// | //// |
| 62 | //// | //// | 02:20 | 21:48 | //// | //// |
| 60 | //// | 01:09 | 02:45 | 21:23 | 22:57 | //// |
| 58 | //// | 01:52 | 03:04 | 21:04 | 22:15 | //// |
| 56 | //// | 02:20 | 03:20 | 20:48 | 21:48 | //// |
| 54 | 01:03 | 02:41 | 03:34 | 20:34 | 21:27 | 23:03 |
| 52 | 01:43 | 02:58 | 03:46 | 20:22 | 21:10 | 22:25 |
| 50 | 02:09 | 03:13 | 03:57 | 20:12 | 20:56 | 21:59 |
| 45 | 02:52 | 03:41 | 04:18 | 19:50 | 20:27 | 21:16 |
| 40 | 03:22 | 04:03 | 04:36 | 19:32 | 20:05 | 20:46 |
| 35 | 03:45 | 04:21 | 04:51 | 19:18 | 19:47 | 20:24 |
| 30 | 04:03 | 04:36 | 05:03 | 19:05 | 19:32 | 20:05 |
| 20 | 04:31 | 05:00 | 05:25 | 18:44 | 19:08 | 19:37 |
| 10 | 04:54 | 05:21 | 05:43 | 18:25 | 18:48 | 19:15 |
| 0 | 05:12 | 05:38 | 06:01 | 18:08 | 18:30 | 18:57 |
| -10 | 05:29 | 05:55 | 06:18 | 17:51 | 18:14 | 18:40 |
| -20 | 05:45 | 06:12 | 06:36 | 17:33 | 17:57 | 18:24 |
| -30 | 06:01 | 06:30 | 06:57 | 17:12 | 17:38 | 18:08 |
| -35 | 06:09 | 06:41 | 07:09 | 17:00 | 17:28 | 18:00 |
| -40 | 06:18 | 06:52 | 07:22 | 16:46 | 17:17 | 17:51 |
| -45 | 06:28 | 07:05 | 07:39 | 16:30 | 17:04 | 17:41 |
| -50 | 06:39 | 07:21 | 07:59 | 16:10 | 16:48 | 17:29 |
| -52 | 06:45 | 07:28 | 08:09 | 16:00 | 16:41 | 17:24 |
| -54 | 06:50 | 07:36 | 08:19 | 15:50 | 16:33 | 17:19 |
| -56 | 06:56 | 07:45 | 08:31 | 15:37 | 16:24 | 17:13 |
| -58 | 07:02 | 07:55 | 08:46 | 15:23 | 16:14 | 17:06 |
| -60 | 07:10 | 08:06 | 09:02 | 15:07 | 16:03 | 16:59 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **03** | **04** | **05** | **03** | **04** | **05** |
| 72 | 14:44 | 17:21 | ▬ | 21:52 | 20:43 | ▬ |
| 70 | 14:26 | 16:36 | ▬ | 22:12 | 21:29 | ▬ |
| 68 | 14:12 | 16:07 | 18:34 | 22:28 | 22:00 | 21:04 |
| 66 | 14:01 | 15:45 | 17:44 | 22:41 | 22:23 | 21:55 |
| 64 | 13:51 | 15:28 | 17:13 | 22:52 | 22:41 | 22:27 |
| 62 | 13:43 | 15:14 | 16:50 | 23:02 | 22:57 | 22:51 |
| 60 | 13:36 | 15:02 | 16:31 | 23:10 | 23:09 | 23:10 |
| 58 | 13:30 | 14:52 | 16:16 | 23:17 | 23:20 | 23:26 |
| 56 | 13:25 | 14:43 | 16:03 | 23:23 | 23:30 | 23:39 |
| 54 | 13:20 | 14:35 | 15:52 | 23:29 | 23:38 | 23:51 |
| 52 | 13:16 | 14:28 | 15:42 | 23:34 | 23:46 | –:– |
| 50 | 13:12 | 14:22 | 15:33 | 23:39 | 23:53 | –:– |
| 45 | 13:04 | 14:09 | 15:15 | 23:49 | –:– | 00:08 |
| 40 | 12:57 | 13:58 | 15:00 | 23:57 | –:– | 00:20 |
| 35 | 12:51 | 13:48 | 14:47 | –:– | 00:05 | 00:31 |
| 30 | 12:46 | 13:40 | 14:36 | –:– | 00:11 | 00:40 |
| 20 | 12:37 | 13:26 | 14:17 | –:– | 00:22 | 00:56 |
| 10 | 12:29 | 13:14 | 14:01 | –:– | 00:32 | 01:10 |
| 0 | 12:22 | 13:03 | 13:46 | 00:01 | 00:41 | 01:23 |
| -10 | 12:14 | 12:51 | 13:31 | 00:06 | 00:51 | 01:36 |
| -20 | 12:07 | 12:40 | 13:15 | 00:12 | 01:00 | 01:51 |
| -30 | 11:58 | 12:26 | 12:57 | 00:18 | 01:12 | 02:07 |
| -35 | 11:53 | 12:18 | 12:46 | 00:22 | 01:19 | 02:17 |
| -40 | 11:48 | 12:09 | 12:34 | 00:26 | 01:26 | 02:27 |
| -45 | 11:41 | 11:59 | 12:20 | 00:30 | 01:35 | 02:40 |
| -50 | 11:34 | 11:47 | 12:03 | 00:36 | 01:46 | 02:56 |
| -52 | 11:30 | 11:41 | 11:55 | 00:39 | 01:51 | 03:04 |
| -54 | 11:26 | 11:35 | 11:46 | 00:42 | 01:56 | 03:12 |
| -56 | 11:22 | 11:28 | 11:36 | 00:45 | 02:02 | 03:21 |
| -58 | 11:17 | 11:20 | 11:24 | 00:49 | 02:09 | 03:32 |
| -60 | 11:12 | 11:11 | 11:11 | 00:53 | 02:17 | 03:44 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **03** | 04:14 | 04:20 | 12:04 | 18:31 | 06:11 | 8 | 52 |
| **04** | 04:25 | 04:30 | 12:04 | 19:13 | 06:52 | 9 | 61 |
| **05** | 04:35 | 04:41 | 12:05 | 19:57 | 07:34 | 10 | 70 |

## 2025 July 06, 07, 08 (Sun, Mon, Tue)

| d | h | Aries GHA | Venus -4.1 GHA | Venus -4.1 Dec | Mars 1.5 GHA | Mars 1.5 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 0.9 GHA | Saturn 0.9 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 06 Sunday | 0 | 284 13.8 | 224 18.9 | 17 58.9 | 121 42.0 | 8 26.3 | 187 45.2 | 23 11.0 | 281 35.8 | -1 19.2 |
| | 1 | 299 16.3 | 239 18.5 | 17 59.5 | 136 43.1 | 8 25.7 | 202 47.0 | 23 11.0 | 296 38.3 | -1 19.2 |
| | 2 | 314 18.8 | 254 18.2 | 18 0.1 | 151 44.2 | 8 25.1 | 217 48.9 | 23 10.9 | 311 40.7 | -1 19.2 |
| | 3 | 329 21.2 | 269 17.8 | 18 0.7 | 166 45.3 | 8 24.5 | 232 50.7 | 23 10.9 | 326 43.1 | -1 19.2 |
| | 4 | 344 23.7 | 284 17.4 | 18 1.3 | 181 46.4 | 8 24.0 | 247 52.6 | 23 10.9 | 341 45.6 | -1 19.2 |
| | 5 | 359 26.2 | 299 17.1 | 18 1.9 | 196 47.5 | 8 23.4 | 262 54.4 | 23 10.9 | 356 48.0 | -1 19.2 |
| | 6 | 14 28.6 | 314 16.7 | 18 2.5 | 211 48.6 | 8 22.8 | 277 56.3 | 23 10.9 | 11 50.4 | -1 19.2 |
| | 7 | 29 31.1 | 329 16.3 | 18 3.2 | 226 49.7 | 8 22.2 | 292 58.1 | 23 10.8 | 26 52.9 | -1 19.2 |
| | 8 | 44 33.6 | 344 15.9 | 18 3.8 | 241 50.9 | 8 21.6 | 308 0.0 | 23 10.8 | 41 55.3 | -1 19.2 |
| | 9 | 59 36.0 | 359 15.6 | 18 4.4 | 256 52.0 | 8 21.0 | 323 1.8 | 23 10.8 | 56 57.7 | -1 19.2 |
| | 10 | 74 38.5 | 14 15.2 | 18 5.0 | 271 53.1 | 8 20.4 | 338 3.6 | 23 10.8 | 72 0.2 | -1 19.2 |
| | 11 | 89 40.9 | 29 14.8 | 18 5.6 | 286 54.2 | 8 19.9 | 353 5.5 | 23 10.7 | 87 2.6 | -1 19.2 |
| | 12 | 104 43.4 | 44 14.5 | 18 6.2 | 301 55.3 | 8 19.3 | 8 7.3 | 23 10.7 | 102 5.0 | -1 19.2 |
| | 13 | 119 45.9 | 59 14.1 | 18 6.8 | 316 56.4 | 8 18.7 | 23 9.2 | 23 10.7 | 117 7.5 | -1 19.2 |
| | 14 | 134 48.3 | 74 13.7 | 18 7.4 | 331 57.5 | 8 18.1 | 38 11.0 | 23 10.7 | 132 9.9 | -1 19.2 |
| | 15 | 149 50.8 | 89 13.3 | 18 8.0 | 346 58.6 | 8 17.5 | 53 12.9 | 23 10.7 | 147 12.3 | -1 19.2 |
| | 16 | 164 53.3 | 104 13.0 | 18 8.6 | 1 59.7 | 8 16.9 | 68 14.7 | 23 10.6 | 162 14.8 | -1 19.2 |
| | 17 | 179 55.7 | 119 12.6 | 18 9.2 | 17 0.8 | 8 16.3 | 83 16.6 | 23 10.6 | 177 17.2 | -1 19.2 |
| | 18 | 194 58.2 | 134 12.2 | 18 9.8 | 32 1.9 | 8 15.7 | 98 18.4 | 23 10.6 | 192 19.6 | -1 19.2 |
| | 19 | 210 0.7 | 149 11.8 | 18 10.4 | 47 3.0 | 8 15.1 | 113 20.3 | 23 10.6 | 207 22.1 | -1 19.2 |
| | 20 | 225 3.1 | 164 11.4 | 18 11.0 | 62 4.1 | 8 14.6 | 128 22.1 | 23 10.5 | 222 24.5 | -1 19.2 |
| | 21 | 240 5.6 | 179 11.1 | 18 11.6 | 77 5.3 | 8 14.0 | 143 24.0 | 23 10.5 | 237 26.9 | -1 19.2 |
| | 22 | 255 8.1 | 194 10.7 | 18 12.1 | 92 6.4 | 8 13.4 | 158 25.8 | 23 10.5 | 252 29.4 | -1 19.2 |
| | 23 | 270 10.5 | 209 10.3 | 18 12.7 | 107 7.5 | 8 12.8 | 173 27.7 | 23 10.5 | 267 31.8 | -1 19.2 |
| | | MP 05:04 | *v* -0.4 | *d* 0.6 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 07 Monday | 0 | 285 13.0 | 224 9.9 | 18 13.3 | 122 8.6 | 8 12.2 | 188 29.5 | 23 10.5 | 282 34.3 | -1 19.2 |
| | 1 | 300 15.4 | 239 9.5 | 18 13.9 | 137 9.7 | 8 11.6 | 203 31.4 | 23 10.4 | 297 36.7 | -1 19.2 |
| | 2 | 315 17.9 | 254 9.2 | 18 14.5 | 152 10.8 | 8 11.0 | 218 33.2 | 23 10.4 | 312 39.1 | -1 19.2 |
| | 3 | 330 20.4 | 269 8.8 | 18 15.1 | 167 11.9 | 8 10.4 | 233 35.1 | 23 10.4 | 327 41.6 | -1 19.2 |
| | 4 | 345 22.8 | 284 8.4 | 18 15.7 | 182 13.0 | 8 9.9 | 248 36.9 | 23 10.4 | 342 44.0 | -1 19.2 |
| | 5 | 0 25.3 | 299 8.0 | 18 16.3 | 197 14.1 | 8 9.3 | 263 38.8 | 23 10.3 | 357 46.4 | -1 19.2 |
| | 6 | 15 27.8 | 314 7.6 | 18 16.9 | 212 15.2 | 8 8.7 | 278 40.6 | 23 10.3 | 12 48.9 | -1 19.2 |
| | 7 | 30 30.2 | 329 7.2 | 18 17.5 | 227 16.3 | 8 8.1 | 293 42.5 | 23 10.3 | 27 51.3 | -1 19.2 |
| | 8 | 45 32.7 | 344 6.9 | 18 18.1 | 242 17.4 | 8 7.5 | 308 44.3 | 23 10.3 | 42 53.7 | -1 19.2 |
| | 9 | 60 35.2 | 359 6.5 | 18 18.7 | 257 18.5 | 8 6.9 | 323 46.2 | 23 10.2 | 57 56.2 | -1 19.2 |
| | 10 | 75 37.6 | 14 6.1 | 18 19.3 | 272 19.6 | 8 6.3 | 338 48.0 | 23 10.2 | 72 58.6 | -1 19.2 |
| | 11 | 90 40.1 | 29 5.7 | 18 19.8 | 287 20.8 | 8 5.7 | 353 49.9 | 23 10.2 | 88 1.1 | -1 19.2 |
| | 12 | 105 42.6 | 44 5.3 | 18 20.4 | 302 21.9 | 8 5.1 | 8 51.7 | 23 10.2 | 103 3.5 | -1 19.2 |
| | 13 | 120 45.0 | 59 4.9 | 18 21.0 | 317 23.0 | 8 4.5 | 23 53.6 | 23 10.2 | 118 5.9 | -1 19.2 |
| | 14 | 135 47.5 | 74 4.5 | 18 21.6 | 332 24.1 | 8 4.0 | 38 55.4 | 23 10.1 | 133 8.4 | -1 19.2 |
| | 15 | 150 49.9 | 89 4.1 | 18 22.2 | 347 25.2 | 8 3.4 | 53 57.3 | 23 10.1 | 148 10.8 | -1 19.2 |
| | 16 | 165 52.4 | 104 3.7 | 18 22.8 | 2 26.3 | 8 2.8 | 68 59.1 | 23 10.1 | 163 13.3 | -1 19.2 |
| | 17 | 180 54.9 | 119 3.4 | 18 23.4 | 17 27.4 | 8 2.2 | 84 1.0 | 23 10.1 | 178 15.7 | -1 19.2 |
| | 18 | 195 57.3 | 134 3.0 | 18 23.9 | 32 28.5 | 8 1.6 | 99 2.8 | 23 10.0 | 193 18.1 | -1 19.2 |
| | 19 | 210 59.8 | 149 2.6 | 18 24.5 | 47 29.6 | 8 1.0 | 114 4.7 | 23 10.0 | 208 20.6 | -1 19.2 |
| | 20 | 226 2.3 | 164 2.2 | 18 25.1 | 62 30.7 | 8 0.4 | 129 6.5 | 23 10.0 | 223 23.0 | -1 19.2 |
| | 21 | 241 4.7 | 179 1.8 | 18 25.7 | 77 31.8 | 7 59.8 | 144 8.4 | 23 10.0 | 238 25.4 | -1 19.2 |
| | 22 | 256 7.2 | 194 1.4 | 18 26.3 | 92 32.9 | 7 59.2 | 159 10.2 | 23 9.9 | 253 27.9 | -1 19.2 |
| | 23 | 271 9.7 | 209 1.0 | 18 26.8 | 107 34.0 | 7 58.6 | 174 12.1 | 23 9.9 | 268 30.3 | -1 19.2 |
| | | MP 05:00 | *v* -0.4 | *d* 0.6 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Tuesday | 0 | 286 12.1 | 224 0.6 | 18 27.4 | 122 35.1 | 7 58.0 | 189 13.9 | 23 9.9 | 283 32.8 | -1 19.2 |
| | 1 | 301 14.6 | 239 0.2 | 18 28.0 | 137 36.2 | 7 57.5 | 204 15.8 | 23 9.9 | 298 35.2 | -1 19.2 |
| | 2 | 316 17.0 | 253 59.8 | 18 28.6 | 152 37.3 | 7 56.9 | 219 17.6 | 23 9.9 | 313 37.6 | -1 19.3 |
| | 3 | 331 19.5 | 268 59.4 | 18 29.2 | 167 38.5 | 7 56.3 | 234 19.5 | 23 9.8 | 328 40.1 | -1 19.3 |
| | 4 | 346 22.0 | 283 59.0 | 18 29.7 | 182 39.6 | 7 55.7 | 249 21.3 | 23 9.8 | 343 42.5 | -1 19.3 |
| | 5 | 1 24.4 | 298 58.6 | 18 30.3 | 197 40.7 | 7 55.1 | 264 23.1 | 23 9.8 | 358 45.0 | -1 19.3 |
| | 6 | 16 26.9 | 313 58.2 | 18 30.9 | 212 41.8 | 7 54.5 | 279 25.0 | 23 9.8 | 13 47.4 | -1 19.3 |
| | 7 | 31 29.4 | 328 57.8 | 18 31.5 | 227 42.9 | 7 53.9 | 294 26.8 | 23 9.7 | 28 49.8 | -1 19.3 |
| | 8 | 46 31.8 | 343 57.4 | 18 32.0 | 242 44.0 | 7 53.3 | 309 28.7 | 23 9.7 | 43 52.3 | -1 19.3 |
| | 9 | 61 34.3 | 358 57.0 | 18 32.6 | 257 45.1 | 7 52.7 | 324 30.5 | 23 9.7 | 58 54.7 | -1 19.3 |
| | 10 | 76 36.8 | 13 56.6 | 18 33.2 | 272 46.2 | 7 52.1 | 339 32.4 | 23 9.7 | 73 57.2 | -1 19.3 |
| | 11 | 91 39.2 | 28 56.2 | 18 33.8 | 287 47.3 | 7 51.5 | 354 34.2 | 23 9.6 | 88 59.6 | -1 19.3 |
| | 12 | 106 41.7 | 43 55.8 | 18 34.3 | 302 48.4 | 7 50.9 | 9 36.1 | 23 9.6 | 104 2.1 | -1 19.3 |
| | 13 | 121 44.2 | 58 55.4 | 18 34.9 | 317 49.5 | 7 50.4 | 24 37.9 | 23 9.6 | 119 4.5 | -1 19.3 |
| | 14 | 136 46.6 | 73 55.0 | 18 35.5 | 332 50.6 | 7 49.8 | 39 39.8 | 23 9.6 | 134 6.9 | -1 19.3 |
| | 15 | 151 49.1 | 88 54.6 | 18 36.1 | 347 51.7 | 7 49.2 | 54 41.6 | 23 9.5 | 149 9.4 | -1 19.3 |
| | 16 | 166 51.5 | 103 54.2 | 18 36.6 | 2 52.8 | 7 48.6 | 69 43.5 | 23 9.5 | 164 11.8 | -1 19.3 |
| | 17 | 181 54.0 | 118 53.8 | 18 37.2 | 17 53.9 | 7 48.0 | 84 45.3 | 23 9.5 | 179 14.3 | -1 19.3 |
| | 18 | 196 56.5 | 133 53.4 | 18 37.8 | 32 55.0 | 7 47.4 | 99 47.2 | 23 9.5 | 194 16.7 | -1 19.3 |
| | 19 | 211 58.9 | 148 53.0 | 18 38.3 | 47 56.1 | 7 46.8 | 114 49.0 | 23 9.4 | 209 19.1 | -1 19.3 |
| | 20 | 227 1.4 | 163 52.6 | 18 38.9 | 62 57.2 | 7 46.2 | 129 50.9 | 23 9.4 | 224 21.6 | -1 19.3 |
| | 21 | 242 3.9 | 178 52.2 | 18 39.5 | 77 58.3 | 7 45.6 | 144 52.7 | 23 9.4 | 239 24.0 | -1 19.3 |
| | 22 | 257 6.3 | 193 51.8 | 18 40.0 | 92 59.4 | 7 45.0 | 159 54.6 | 23 9.4 | 254 26.5 | -1 19.3 |
| | 23 | 272 8.8 | 208 51.4 | 18 40.6 | 108 0.6 | 7 44.4 | 174 56.4 | 23 9.4 | 269 28.9 | -1 19.3 |
| | | MP 04:56 | *v* -0.4 | *d* 0.6 | *v* 1.1 | *d* -0.6 | *v* 1.8 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 11.9 |
| Achernar | 335 20.0 | -57 6.1 |
| Acrux | 172 59.8 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.3 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.6 | 55 49.5 |
| Alkaid | 152 51.5 | 49 11.4 |
| Alnair | 27 32.1 | -46 50.0 |
| Alnilam | 275 37.6 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.1 | 26 37.8 |
| Alpheratz | 357 34.3 | 29 13.8 |
| Altair | 61 59.2 | 8 56.1 |
| Ankaa | 353 6.7 | -42 9.8 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.1 |
| Atria | 107 8.4 | -69 4.5 |
| Avior | 234 15.2 | -59 35.5 |
| Bellatrix | 278 22.8 | 6 22.4 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.4 |
| Capella | 280 21.7 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.2 |
| Denebola | 182 24.6 | 14 25.9 |
| Diphda | 348 46.9 | -17 50.6 |
| Dubhe | 193 40.8 | 61 37.1 |
| Elnath | 278 1.7 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.2 |
| Enif | 33 38.1 | 9 59.5 |
| Fomalhaut | 15 13.9 | -29 29.0 |
| Gacrux | 171 51.3 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.2 | -60 30.0 |
| Hamal | 327 50.9 | 23 34.9 |
| Kaus Aust. | 83 31.6 | -34 22.3 |
| Kochab | 137 19.2 | 74 3.2 |
| Markab | 13 29.3 | 15 20.5 |
| Menkar | 314 5.9 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 39.0 | -69 49.4 |
| Mirfak | 308 28.0 | 49 56.9 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.5 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.2 |
| Rigil Kent. | 139 39.5 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.6 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.2 |
| Vega | 80 32.5 | 38 48.4 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 06 Sun | SHA | MP |
|---|---|---|
| Venus | 300 5.1 | 09:03 |
| Mars | 197 28.1 | 15:52 |
| Jupiter | 263 31.3 | 11:28 |
| Saturn | 357 22.0 | 05:13 |

| 07 Mon | SHA | MP |
|---|---|---|
| Venus | 298 56.9 | 09:04 |
| Mars | 196 55.6 | 15:50 |
| Jupiter | 263 16.5 | 11:25 |
| Saturn | 357 21.3 | 05:09 |

| 08 Tue | SHA | MP |
|---|---|---|
| Venus | 297 48.5 | 09:04 |
| Mars | 196 23.0 | 15:49 |
| Jupiter | 263 1.8 | 11:22 |
| Saturn | 357 20.6 | 05:05 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **06 Sunday** | 0 | 178 48.6 | 22 40.9 | 58 57.6 | 13.2 | -21 35.6 | 9.6 | 54.2 |
| | 1 | 193 48.5 | 22 40.6 | 73 29.8 | 13.1 | -21 45.2 | 9.5 | 54.2 |
| | 2 | 208 48.4 | 22 40.4 | 88 2.0 | 13.1 | -21 54.7 | 9.4 | 54.3 |
| | 3 | 223 48.3 | 22 40.1 | 102 34.0 | 13.0 | -22 4.2 | 9.3 | 54.3 |
| | 4 | 238 48.2 | 22 39.8 | 117 6.0 | 12.9 | -22 13.5 | 9.3 | 54.3 |
| | 5 | 253 48.1 | 22 39.6 | 131 37.9 | 12.8 | -22 22.8 | 9.2 | 54.3 |
| | 6 | 268 48.0 | 22 39.3 | 146 9.8 | 12.8 | -22 31.9 | 9.1 | 54.3 |
| | 7 | 283 47.9 | 22 39.1 | 160 41.5 | 12.7 | -22 41.0 | 9.0 | 54.3 |
| | 8 | 298 47.7 | 22 38.8 | 175 13.2 | 12.6 | -22 50.0 | 8.9 | 54.3 |
| | 9 | 313 47.6 | 22 38.6 | 189 44.8 | 12.5 | -22 58.9 | 8.8 | 54.3 |
| | 10 | 328 47.5 | 22 38.3 | 204 16.3 | 12.4 | -23 7.6 | 8.7 | 54.3 |
| | 11 | 343 47.4 | 22 38.0 | 218 47.7 | 12.4 | -23 16.3 | 8.6 | 54.3 |
| | 12 | 358 47.3 | 22 37.8 | 233 19.1 | 12.3 | -23 24.9 | 8.5 | 54.3 |
| | 13 | 13 47.2 | 22 37.5 | 247 50.4 | 12.2 | -23 33.4 | 8.4 | 54.3 |
| | 14 | 28 47.1 | 22 37.3 | 262 21.6 | 12.1 | -23 41.8 | 8.3 | 54.3 |
| | 15 | 43 47.0 | 22 37.0 | 276 52.7 | 12.0 | -23 50.0 | 8.2 | 54.4 |
| | 16 | 58 46.9 | 22 36.7 | 291 23.7 | 12.0 | -23 58.2 | 8.1 | 54.4 |
| | 17 | 73 46.8 | 22 36.5 | 305 54.7 | 11.9 | -24 6.3 | 8.0 | 54.4 |
| | 18 | 88 46.7 | 22 36.2 | 320 25.6 | 11.8 | -24 14.2 | 7.9 | 54.4 |
| | 19 | 103 46.6 | 22 35.9 | 334 56.4 | 11.7 | -24 22.1 | 7.8 | 54.4 |
| | 20 | 118 46.5 | 22 35.7 | 349 27.1 | 11.6 | -24 29.9 | 7.6 | 54.4 |
| | 21 | 133 46.4 | 22 35.4 | 3 57.7 | 11.6 | -24 37.5 | 7.5 | 54.4 |
| | 22 | 148 46.3 | 22 35.2 | 18 28.3 | 11.5 | -24 45.1 | 7.4 | 54.4 |
| | 23 | 163 46.2 | 22 34.9 | 32 58.8 | 11.4 | -24 52.5 | 7.3 | 54.4 |
| | | *v* -0.1 SD 15.7 *d* -0.3 | | SD 14.8 | | | | |
| **07 Monday** | 0 | 178 46.1 | 22 34.6 | 47 29.2 | 11.3 | -24 59.8 | 7.2 | 54.4 |
| | 1 | 193 46.0 | 22 34.3 | 61 59.5 | 11.2 | -25 7.0 | 7.1 | 54.5 |
| | 2 | 208 45.9 | 22 34.1 | 76 29.7 | 11.2 | -25 14.1 | 7.0 | 54.5 |
| | 3 | 223 45.8 | 22 33.8 | 90 59.9 | 11.1 | -25 21.1 | 6.9 | 54.5 |
| | 4 | 238 45.7 | 22 33.5 | 105 30.0 | 11.0 | -25 28.0 | 6.8 | 54.5 |
| | 5 | 253 45.6 | 22 33.3 | 120 0.0 | 10.9 | -25 34.7 | 6.6 | 54.5 |
| | 6 | 268 45.5 | 22 33.0 | 134 29.9 | 10.9 | -25 41.3 | 6.5 | 54.5 |
| | 7 | 283 45.4 | 22 32.7 | 148 59.8 | 10.8 | -25 47.9 | 6.4 | 54.5 |
| | 8 | 298 45.3 | 22 32.4 | 163 29.6 | 10.7 | -25 54.3 | 6.3 | 54.5 |
| | 9 | 313 45.2 | 22 32.2 | 177 59.3 | 10.6 | -26 0.5 | 6.2 | 54.6 |
| | 10 | 328 45.1 | 22 31.9 | 192 28.9 | 10.5 | -26 6.7 | 6.0 | 54.6 |
| | 11 | 343 45.0 | 22 31.6 | 206 58.4 | 10.5 | -26 12.7 | 5.9 | 54.6 |
| | 12 | 358 44.9 | 22 31.3 | 221 27.9 | 10.4 | -26 18.7 | 5.8 | 54.6 |
| | 13 | 13 44.8 | 22 31.1 | 235 57.3 | 10.3 | -26 24.5 | 5.7 | 54.6 |
| | 14 | 28 44.7 | 22 30.8 | 250 26.6 | 10.3 | -26 30.1 | 5.5 | 54.6 |
| | 15 | 43 44.6 | 22 30.5 | 264 55.9 | 10.2 | -26 35.7 | 5.4 | 54.6 |
| | 16 | 58 44.5 | 22 30.2 | 279 25.1 | 10.1 | -26 41.1 | 5.3 | 54.7 |
| | 17 | 73 44.4 | 22 30.0 | 293 54.2 | 10.0 | -26 46.4 | 5.2 | 54.7 |
| | 18 | 88 44.3 | 22 29.7 | 308 23.2 | 10.0 | -26 51.6 | 5.0 | 54.7 |
| | 19 | 103 44.2 | 22 29.4 | 322 52.2 | 9.9 | -26 56.6 | 4.9 | 54.7 |
| | 20 | 118 44.1 | 22 29.1 | 337 21.0 | 9.8 | -27 1.5 | 4.8 | 54.7 |
| | 21 | 133 44.1 | 22 28.8 | 351 49.9 | 9.8 | -27 6.3 | 4.6 | 54.7 |
| | 22 | 148 44.0 | 22 28.5 | 6 18.6 | 9.7 | -27 10.9 | 4.5 | 54.7 |
| | 23 | 163 43.9 | 22 28.3 | 20 47.3 | 9.6 | -27 15.4 | 4.4 | 54.8 |
| | | *v* -0.1 SD 15.7 *d* -0.3 | | SD 14.9 | | | | |
| **08 Tuesday** | 0 | 178 43.8 | 22 28.0 | 35 15.9 | 9.6 | -27 19.8 | 4.2 | 54.8 |
| | 1 | 193 43.7 | 22 27.7 | 49 44.5 | 9.5 | -27 24.1 | 4.1 | 54.8 |
| | 2 | 208 43.6 | 22 27.4 | 64 13.0 | 9.4 | -27 28.2 | 4.0 | 54.8 |
| | 3 | 223 43.5 | 22 27.1 | 78 41.4 | 9.4 | -27 32.2 | 3.8 | 54.8 |
| | 4 | 238 43.4 | 22 26.8 | 93 9.8 | 9.3 | -27 36.0 | 3.7 | 54.8 |
| | 5 | 253 43.3 | 22 26.5 | 107 38.1 | 9.2 | -27 39.7 | 3.6 | 54.9 |
| | 6 | 268 43.2 | 22 26.3 | 122 6.3 | 9.2 | -27 43.3 | 3.4 | 54.9 |
| | 7 | 283 43.1 | 22 26.0 | 136 34.5 | 9.1 | -27 46.7 | 3.3 | 54.9 |
| | 8 | 298 43.0 | 22 25.7 | 151 2.6 | 9.1 | -27 50.0 | 3.1 | 54.9 |
| | 9 | 313 42.9 | 22 25.4 | 165 30.7 | 9.0 | -27 53.1 | 3.0 | 54.9 |
| | 10 | 328 42.8 | 22 25.1 | 179 58.7 | 9.0 | -27 56.1 | 2.9 | 54.9 |
| | 11 | 343 42.7 | 22 24.8 | 194 26.6 | 8.9 | -27 59.0 | 2.7 | 55.0 |
| | 12 | 358 42.6 | 22 24.5 | 208 54.5 | 8.8 | -28 1.7 | 2.6 | 55.0 |
| | 13 | 13 42.5 | 22 24.2 | 223 22.4 | 8.8 | -28 4.3 | 2.4 | 55.0 |
| | 14 | 28 42.4 | 22 23.9 | 237 50.2 | 8.7 | -28 6.8 | 2.3 | 55.0 |
| | 15 | 43 42.3 | 22 23.6 | 252 17.9 | 8.7 | -28 9.0 | 2.1 | 55.0 |
| | 16 | 58 42.2 | 22 23.3 | 266 45.6 | 8.6 | -28 11.2 | 2.0 | 55.0 |
| | 17 | 73 42.2 | 22 23.0 | 281 13.3 | 8.6 | -28 13.2 | 1.9 | 55.1 |
| | 18 | 88 42.1 | 22 22.7 | 295 40.9 | 8.6 | -28 15.1 | 1.7 | 55.1 |
| | 19 | 103 42.0 | 22 22.4 | 310 8.4 | 8.5 | -28 16.8 | 1.6 | 55.1 |
| | 20 | 118 41.9 | 22 22.2 | 324 35.9 | 8.5 | -28 18.3 | 1.4 | 55.1 |
| | 21 | 133 41.8 | 22 21.9 | 339 3.4 | 8.4 | -28 19.7 | 1.3 | 55.1 |
| | 22 | 148 41.7 | 22 21.6 | 353 30.8 | 8.4 | -28 21.0 | 1.1 | 55.2 |
| | 23 | 163 41.6 | 22 21.3 | 7 58.2 | 8.4 | -28 22.1 | 1.0 | 55.2 |
| | | *v* -0.1 SD 15.7 *d* -0.3 | | SD 14.9 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | //// | //// | 00:54 | 23:11 | //// | //// |
| 64 | //// | //// | 01:52 | 22:16 | //// | //// |
| 62 | //// | //// | 02:25 | 21:44 | //// | //// |
| 60 | //// | 01:17 | 02:49 | 21:20 | 22:50 | //// |
| 58 | //// | 01:57 | 03:08 | 21:01 | 22:11 | //// |
| 56 | //// | 02:24 | 03:23 | 20:46 | 21:45 | //// |
| 54 | 01:11 | 02:44 | 03:37 | 20:32 | 21:25 | 22:56 |
| 52 | 01:48 | 03:01 | 03:49 | 20:21 | 21:08 | 22:21 |
| 50 | 02:13 | 03:15 | 03:59 | 20:10 | 20:54 | 21:56 |
| 45 | 02:55 | 03:44 | 04:20 | 19:49 | 20:26 | 21:14 |
| 40 | 03:24 | 04:05 | 04:38 | 19:32 | 20:04 | 20:45 |
| 35 | 03:47 | 04:23 | 04:52 | 19:17 | 19:47 | 20:23 |
| 30 | 04:04 | 04:37 | 05:05 | 19:05 | 19:32 | 20:05 |
| 20 | 04:33 | 05:02 | 05:26 | 18:44 | 19:08 | 19:37 |
| 10 | 04:54 | 05:21 | 05:44 | 18:25 | 18:48 | 19:15 |
| 0 | 05:13 | 05:39 | 06:01 | 18:08 | 18:31 | 18:57 |
| -10 | 05:29 | 05:55 | 06:18 | 17:52 | 18:14 | 18:41 |
| -20 | 05:45 | 06:12 | 06:36 | 17:34 | 17:58 | 18:25 |
| -30 | 06:00 | 06:30 | 06:56 | 17:14 | 17:40 | 18:09 |
| -35 | 06:09 | 06:40 | 07:08 | 17:02 | 17:30 | 18:01 |
| -40 | 06:18 | 06:52 | 07:22 | 16:48 | 17:18 | 17:52 |
| -45 | 06:27 | 07:04 | 07:38 | 16:32 | 17:05 | 17:42 |
| -50 | 06:39 | 07:20 | 07:58 | 16:12 | 16:50 | 17:31 |
| -52 | 06:44 | 07:27 | 08:07 | 16:03 | 16:43 | 17:26 |
| -54 | 06:49 | 07:35 | 08:18 | 15:52 | 16:35 | 17:21 |
| -56 | 06:55 | 07:43 | 08:30 | 15:40 | 16:27 | 17:15 |
| -58 | 07:01 | 07:53 | 08:43 | 15:27 | 16:17 | 17:09 |
| -60 | 07:08 | 08:04 | 09:00 | 15:10 | 16:06 | 17:02 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **06** | **07** | **08** | **06** | **07** | **08** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 68 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 66 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 64 | 19:17 | ▬ | ▬ | 21:59 | ▬ | ▬ |
| 62 | 18:34 | 20:31 | ▬ | 22:44 | 22:31 | ▬ |
| 60 | 18:05 | 19:39 | 21:03 | 23:13 | 23:22 | 23:50 |
| 58 | 17:43 | 19:08 | 20:22 | 23:36 | 23:54 | –:– |
| 56 | 17:25 | 18:45 | 19:55 | 23:54 | –:– | 00:18 |
| 54 | 17:10 | 18:25 | 19:33 | –:– | 00:10 | 00:37 |
| 52 | 16:57 | 18:09 | 19:15 | 00:02 | 00:23 | 00:54 |
| 50 | 16:45 | 17:56 | 19:00 | 00:11 | 00:35 | 01:08 |
| 45 | 16:22 | 17:27 | 18:29 | 00:31 | 01:00 | 01:36 |
| 40 | 16:03 | 17:05 | 18:05 | 00:47 | 01:19 | 01:59 |
| 35 | 15:47 | 16:47 | 17:46 | 01:01 | 01:36 | 02:18 |
| 30 | 15:33 | 16:32 | 17:29 | 01:13 | 01:50 | 02:34 |
| 20 | 15:10 | 16:05 | 17:01 | 01:33 | 02:14 | 03:01 |
| 10 | 14:50 | 15:42 | 16:36 | 01:51 | 02:36 | 03:25 |
| 0 | 14:32 | 15:21 | 16:14 | 02:08 | 02:55 | 03:46 |
| -10 | 14:14 | 15:00 | 15:51 | 02:25 | 03:15 | 04:08 |
| -20 | 13:54 | 14:38 | 15:27 | 02:43 | 03:37 | 04:32 |
| -30 | 13:32 | 14:12 | 14:59 | 03:04 | 04:01 | 04:59 |
| -35 | 13:19 | 13:57 | 14:43 | 03:16 | 04:16 | 05:16 |
| -40 | 13:03 | 13:39 | 14:24 | 03:30 | 04:33 | 05:35 |
| -45 | 12:46 | 13:18 | 14:00 | 03:47 | 04:53 | 05:58 |
| -50 | 12:24 | 12:52 | 13:30 | 04:08 | 05:19 | 06:27 |
| -52 | 12:13 | 12:39 | 13:16 | 04:18 | 05:32 | 06:41 |
| -54 | 12:01 | 12:24 | 12:59 | 04:29 | 05:46 | 06:58 |
| -56 | 11:48 | 12:07 | 12:38 | 04:42 | 06:03 | 07:19 |
| -58 | 11:32 | 11:46 | 12:13 | 04:57 | 06:23 | 07:44 |
| -60 | 11:13 | 11:20 | 11:37 | 05:15 | 06:49 | 08:19 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **06** | 04:46 | 04:51 | 12:05 | 20:44 | 08:20 | 11 | 79 |
| **07** | 04:56 | 05:00 | 12:05 | 21:34 | 09:08 | 12 | 86 |
| **08** | 05:05 | 05:10 | 12:05 | 22:27 | 10:00 | 13 | 92 |

## 2025 July 09, 10, 11 (Wed, Thu, Fri)

| d | h | Aries GHA | Venus -4.1 GHA | Venus -4.1 Dec | Mars 1.5 GHA | Mars 1.5 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 0.9 GHA | Saturn 0.9 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Wednesday | 0 | 287 11.3 | 223 50.9 | 18 41.2 | 123 1.7 | 7 43.8 | 189 58.3 | 23 9.3 | 284 31.4 | -1 19.3 |
| | 1 | 302 13.7 | 238 50.5 | 18 41.7 | 138 2.8 | 7 43.2 | 205 0.1 | 23 9.3 | 299 33.8 | -1 19.3 |
| | 2 | 317 16.2 | 253 50.1 | 18 42.3 | 153 3.9 | 7 42.6 | 220 2.0 | 23 9.3 | 314 36.2 | -1 19.3 |
| | 3 | 332 18.7 | 268 49.7 | 18 42.9 | 168 5.0 | 7 42.0 | 235 3.8 | 23 9.3 | 329 38.7 | -1 19.3 |
| | 4 | 347 21.1 | 283 49.3 | 18 43.4 | 183 6.1 | 7 41.4 | 250 5.7 | 23 9.2 | 344 41.1 | -1 19.3 |
| | 5 | 2 23.6 | 298 48.9 | 18 44.0 | 198 7.2 | 7 40.9 | 265 7.5 | 23 9.2 | 359 43.6 | -1 19.3 |
| | 6 | 17 26.0 | 313 48.5 | 18 44.5 | 213 8.3 | 7 40.3 | 280 9.4 | 23 9.2 | 14 46.0 | -1 19.3 |
| | 7 | 32 28.5 | 328 48.1 | 18 45.1 | 228 9.4 | 7 39.7 | 295 11.3 | 23 9.2 | 29 48.5 | -1 19.3 |
| | 8 | 47 31.0 | 343 47.7 | 18 45.7 | 243 10.5 | 7 39.1 | 310 13.1 | 23 9.1 | 44 50.9 | -1 19.3 |
| | 9 | 62 33.4 | 358 47.2 | 18 46.2 | 258 11.6 | 7 38.5 | 325 15.0 | 23 9.1 | 59 53.4 | -1 19.3 |
| | 10 | 77 35.9 | 13 46.8 | 18 46.8 | 273 12.7 | 7 37.9 | 340 16.8 | 23 9.1 | 74 55.8 | -1 19.3 |
| | 11 | 92 38.4 | 28 46.4 | 18 47.3 | 288 13.8 | 7 37.3 | 355 18.7 | 23 9.1 | 89 58.3 | -1 19.4 |
| | 12 | 107 40.8 | 43 46.0 | 18 47.9 | 303 14.9 | 7 36.7 | 10 20.5 | 23 9.0 | 105 0.7 | -1 19.4 |
| | 13 | 122 43.3 | 58 45.6 | 18 48.5 | 318 16.0 | 7 36.1 | 25 22.4 | 23 9.0 | 120 3.1 | -1 19.4 |
| | 14 | 137 45.8 | 73 45.2 | 18 49.0 | 333 17.1 | 7 35.5 | 40 24.2 | 23 9.0 | 135 5.6 | -1 19.4 |
| | 15 | 152 48.2 | 88 44.7 | 18 49.6 | 348 18.2 | 7 34.9 | 55 26.1 | 23 9.0 | 150 8.0 | -1 19.4 |
| | 16 | 167 50.7 | 103 44.3 | 18 50.1 | 3 19.3 | 7 34.3 | 70 27.9 | 23 8.9 | 165 10.5 | -1 19.4 |
| | 17 | 182 53.2 | 118 43.9 | 18 50.7 | 18 20.4 | 7 33.7 | 85 29.8 | 23 8.9 | 180 12.9 | -1 19.4 |
| | 18 | 197 55.6 | 133 43.5 | 18 51.2 | 33 21.5 | 7 33.1 | 100 31.6 | 23 8.9 | 195 15.4 | -1 19.4 |
| | 19 | 212 58.1 | 148 43.1 | 18 51.8 | 48 22.6 | 7 32.5 | 115 33.5 | 23 8.9 | 210 17.8 | -1 19.4 |
| | 20 | 228 0.5 | 163 42.7 | 18 52.3 | 63 23.7 | 7 31.9 | 130 35.3 | 23 8.8 | 225 20.3 | -1 19.4 |
| | 21 | 243 3.0 | 178 42.2 | 18 52.9 | 78 24.8 | 7 31.3 | 145 37.2 | 23 8.8 | 240 22.7 | -1 19.4 |
| | 22 | 258 5.5 | 193 41.8 | 18 53.4 | 93 25.9 | 7 30.7 | 160 39.0 | 23 8.8 | 255 25.2 | -1 19.4 |
| | 23 | 273 7.9 | 208 41.4 | 18 54.0 | 108 27.0 | 7 30.1 | 175 40.9 | 23 8.8 | 270 27.6 | -1 19.4 |
| | | MP 04:52 | *v* -0.4 | *d* 0.6 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 Thursday | 0 | 288 10.4 | 223 41.0 | 18 54.5 | 123 28.1 | 7 29.5 | 190 42.7 | 23 8.7 | 285 30.1 | -1 19.4 |
| | 1 | 303 12.9 | 238 40.5 | 18 55.1 | 138 29.2 | 7 28.9 | 205 44.6 | 23 8.7 | 300 32.5 | -1 19.4 |
| | 2 | 318 15.3 | 253 40.1 | 18 55.6 | 153 30.3 | 7 28.3 | 220 46.4 | 23 8.7 | 315 34.9 | -1 19.4 |
| | 3 | 333 17.8 | 268 39.7 | 18 56.2 | 168 31.5 | 7 27.8 | 235 48.3 | 23 8.7 | 330 37.4 | -1 19.4 |
| | 4 | 348 20.3 | 283 39.3 | 18 56.7 | 183 32.6 | 7 27.2 | 250 50.1 | 23 8.6 | 345 39.8 | -1 19.4 |
| | 5 | 3 22.7 | 298 38.8 | 18 57.3 | 198 33.7 | 7 26.6 | 265 52.0 | 23 8.6 | 0 42.3 | -1 19.4 |
| | 6 | 18 25.2 | 313 38.4 | 18 57.8 | 213 34.8 | 7 26.0 | 280 53.8 | 23 8.6 | 15 44.7 | -1 19.4 |
| | 7 | 33 27.7 | 328 38.0 | 18 58.4 | 228 35.9 | 7 25.4 | 295 55.7 | 23 8.6 | 30 47.2 | -1 19.5 |
| | 8 | 48 30.1 | 343 37.6 | 18 58.9 | 243 37.0 | 7 24.8 | 310 57.5 | 23 8.5 | 45 49.6 | -1 19.5 |
| | 9 | 63 32.6 | 358 37.1 | 18 59.5 | 258 38.1 | 7 24.2 | 325 59.4 | 23 8.5 | 60 52.1 | -1 19.5 |
| | 10 | 78 35.0 | 13 36.7 | 19 0.0 | 273 39.2 | 7 23.6 | 341 1.2 | 23 8.5 | 75 54.5 | -1 19.5 |
| | 11 | 93 37.5 | 28 36.3 | 19 0.5 | 288 40.3 | 7 23.0 | 356 3.1 | 23 8.5 | 90 57.0 | -1 19.5 |
| | 12 | 108 40.0 | 43 35.9 | 19 1.1 | 303 41.4 | 7 22.4 | 11 4.9 | 23 8.4 | 105 59.4 | -1 19.5 |
| | 13 | 123 42.4 | 58 35.4 | 19 1.6 | 318 42.5 | 7 21.8 | 26 6.8 | 23 8.4 | 121 1.9 | -1 19.5 |
| | 14 | 138 44.9 | 73 35.0 | 19 2.2 | 333 43.6 | 7 21.2 | 41 8.6 | 23 8.4 | 136 4.3 | -1 19.5 |
| | 15 | 153 47.4 | 88 34.6 | 19 2.7 | 348 44.7 | 7 20.6 | 56 10.5 | 23 8.3 | 151 6.8 | -1 19.5 |
| | 16 | 168 49.8 | 103 34.1 | 19 3.2 | 3 45.8 | 7 20.0 | 71 12.3 | 23 8.3 | 166 9.2 | -1 19.5 |
| | 17 | 183 52.3 | 118 33.7 | 19 3.8 | 18 46.9 | 7 19.4 | 86 14.2 | 23 8.3 | 181 11.7 | -1 19.5 |
| | 18 | 198 54.8 | 133 33.3 | 19 4.3 | 33 48.0 | 7 18.8 | 101 16.0 | 23 8.3 | 196 14.1 | -1 19.5 |
| | 19 | 213 57.2 | 148 32.8 | 19 4.9 | 48 49.1 | 7 18.2 | 116 17.9 | 23 8.2 | 211 16.6 | -1 19.5 |
| | 20 | 228 59.7 | 163 32.4 | 19 5.4 | 63 50.2 | 7 17.6 | 131 19.7 | 23 8.2 | 226 19.0 | -1 19.5 |
| | 21 | 244 2.2 | 178 32.0 | 19 5.9 | 78 51.3 | 7 17.0 | 146 21.6 | 23 8.2 | 241 21.5 | -1 19.5 |
| | 22 | 259 4.6 | 193 31.5 | 19 6.5 | 93 52.4 | 7 16.4 | 161 23.5 | 23 8.2 | 256 23.9 | -1 19.5 |
| | 23 | 274 7.1 | 208 31.1 | 19 7.0 | 108 53.5 | 7 15.8 | 176 25.3 | 23 8.1 | 271 26.4 | -1 19.6 |
| | | MP 04:48 | *v* -0.4 | *d* 0.5 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 Friday | 0 | 289 9.5 | 223 30.7 | 19 7.5 | 123 54.6 | 7 15.2 | 191 27.2 | 23 8.1 | 286 28.8 | -1 19.6 |
| | 1 | 304 12.0 | 238 30.2 | 19 8.1 | 138 55.7 | 7 14.6 | 206 29.0 | 23 8.1 | 301 31.3 | -1 19.6 |
| | 2 | 319 14.5 | 253 29.8 | 19 8.6 | 153 56.8 | 7 14.0 | 221 30.9 | 23 8.1 | 316 33.7 | -1 19.6 |
| | 3 | 334 16.9 | 268 29.3 | 19 9.1 | 168 57.9 | 7 13.4 | 236 32.7 | 23 8.0 | 331 36.2 | -1 19.6 |
| | 4 | 349 19.4 | 283 28.9 | 19 9.7 | 183 59.0 | 7 12.8 | 251 34.6 | 23 8.0 | 346 38.6 | -1 19.6 |
| | 5 | 4 21.9 | 298 28.5 | 19 10.2 | 199 0.1 | 7 12.2 | 266 36.4 | 23 8.0 | 1 41.1 | -1 19.6 |
| | 6 | 19 24.3 | 313 28.0 | 19 10.7 | 214 1.2 | 7 11.6 | 281 38.3 | 23 8.0 | 16 43.5 | -1 19.6 |
| | 7 | 34 26.8 | 328 27.6 | 19 11.3 | 229 2.3 | 7 11.0 | 296 40.1 | 23 7.9 | 31 46.0 | -1 19.6 |
| | 8 | 49 29.3 | 343 27.1 | 19 11.8 | 244 3.4 | 7 10.4 | 311 42.0 | 23 7.9 | 46 48.5 | -1 19.6 |
| | 9 | 64 31.7 | 358 26.7 | 19 12.3 | 259 4.5 | 7 9.8 | 326 43.8 | 23 7.9 | 61 50.9 | -1 19.6 |
| | 10 | 79 34.2 | 13 26.3 | 19 12.8 | 274 5.6 | 7 9.2 | 341 45.7 | 23 7.9 | 76 53.4 | -1 19.6 |
| | 11 | 94 36.7 | 28 25.8 | 19 13.4 | 289 6.7 | 7 8.6 | 356 47.5 | 23 7.8 | 91 55.8 | -1 19.6 |
| | 12 | 109 39.1 | 43 25.4 | 19 13.9 | 304 7.8 | 7 8.0 | 11 49.4 | 23 7.8 | 106 58.3 | -1 19.6 |
| | 13 | 124 41.6 | 58 24.9 | 19 14.4 | 319 8.9 | 7 7.4 | 26 51.2 | 23 7.8 | 122 0.7 | -1 19.7 |
| | 14 | 139 44.0 | 73 24.5 | 19 14.9 | 334 10.0 | 7 6.8 | 41 53.1 | 23 7.7 | 137 3.2 | -1 19.7 |
| | 15 | 154 46.5 | 88 24.0 | 19 15.5 | 349 11.1 | 7 6.2 | 56 54.9 | 23 7.7 | 152 5.6 | -1 19.7 |
| | 16 | 169 49.0 | 103 23.6 | 19 16.0 | 4 12.2 | 7 5.6 | 71 56.8 | 23 7.7 | 167 8.1 | -1 19.7 |
| | 17 | 184 51.4 | 118 23.2 | 19 16.5 | 19 13.3 | 7 5.0 | 86 58.6 | 23 7.7 | 182 10.5 | -1 19.7 |
| | 18 | 199 53.9 | 133 22.7 | 19 17.0 | 34 14.4 | 7 4.4 | 102 0.5 | 23 7.6 | 197 13.0 | -1 19.7 |
| | 19 | 214 56.4 | 148 22.3 | 19 17.6 | 49 15.5 | 7 3.8 | 117 2.4 | 23 7.6 | 212 15.4 | -1 19.7 |
| | 20 | 229 58.8 | 163 21.8 | 19 18.1 | 64 16.6 | 7 3.2 | 132 4.2 | 23 7.6 | 227 17.9 | -1 19.7 |
| | 21 | 245 1.3 | 178 21.4 | 19 18.6 | 79 17.7 | 7 2.6 | 147 6.1 | 23 7.6 | 242 20.3 | -1 19.7 |
| | 22 | 260 3.8 | 193 20.9 | 19 19.1 | 94 18.8 | 7 2.0 | 162 7.9 | 23 7.5 | 257 22.8 | -1 19.7 |
| | 23 | 275 6.2 | 208 20.5 | 19 19.6 | 109 19.9 | 7 1.4 | 177 9.8 | 23 7.5 | 272 25.3 | -1 19.7 |
| | | MP 04:44 | *v* -0.4 | *d* 0.5 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.7 | -40 11.9 |
| Achernar | 335 20.0 | -57 6.1 |
| Acrux | 172 59.8 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.3 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.6 | 55 49.5 |
| Alkaid | 152 51.6 | 49 11.4 |
| Alnair | 27 32.0 | -46 50.0 |
| Alnilam | 275 37.6 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.8 |
| Alpheratz | 357 34.3 | 29 13.8 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.7 | -42 9.8 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.1 |
| Atria | 107 8.4 | -69 4.5 |
| Avior | 234 15.2 | -59 35.5 |
| Bellatrix | 278 22.7 | 6 22.4 |
| Betelgeuse | 270 52.0 | 7 24.7 |
| Canopus | 263 52.8 | -52 42.4 |
| Capella | 280 21.7 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.2 |
| Denebola | 182 24.6 | 14 25.9 |
| Diphda | 348 46.8 | -17 50.6 |
| Dubhe | 193 40.8 | 61 37.1 |
| Elnath | 278 1.7 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.2 |
| Enif | 33 38.1 | 9 59.5 |
| Fomalhaut | 15 13.8 | -29 29.0 |
| Gacrux | 171 51.3 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.2 | -60 30.0 |
| Hamal | 327 50.8 | 23 34.9 |
| Kaus Aust. | 83 31.6 | -34 22.3 |
| Kochab | 137 19.2 | 74 3.3 |
| Markab | 13 29.3 | 15 20.5 |
| Menkar | 314 5.9 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 39.0 | -69 49.4 |
| Mirfak | 308 28.0 | 49 56.9 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.5 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.8 | -8 10.2 |
| Rigil Kent. | 139 39.5 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.5 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.2 |
| Vega | 80 32.5 | 38 48.4 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 09 Wed | SHA | MP |
|---|---|---|
| Venus | 296 39.7 | 09:05 |
| Mars | 195 50.4 | 15:47 |
| Jupiter | 262 47.0 | 11:19 |
| Saturn | 357 20.1 | 05:01 |

| 10 Thu | SHA | MP |
|---|---|---|
| Venus | 295 30.6 | 09:06 |
| Mars | 195 17.7 | 15:45 |
| Jupiter | 262 32.3 | 11:16 |
| Saturn | 357 19.7 | 04:57 |

| 11 Fri | SHA | MP |
|---|---|---|
| Venus | 294 21.1 | 09:06 |
| Mars | 194 45.1 | 15:43 |
| Jupiter | 262 17.6 | 11:13 |
| Saturn | 357 19.3 | 04:53 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **09 Wednesday** | 0 | 178 41.5 | 22 21.0 | 22 25.6 | 8.3 | -28 23.1 | 0.8 | 55.2 |
| | 1 | 193 41.4 | 22 20.7 | 36 52.9 | 8.3 | -28 23.9 | 0.7 | 55.2 |
| | 2 | 208 41.3 | 22 20.4 | 51 20.2 | 8.3 | -28 24.6 | 0.5 | 55.2 |
| | 3 | 223 41.2 | 22 20.0 | 65 47.4 | 8.2 | -28 25.1 | 0.4 | 55.2 |
| | 4 | 238 41.1 | 22 19.7 | 80 14.7 | 8.2 | -28 25.5 | 0.2 | 55.3 |
| | 5 | 253 41.0 | 22 19.4 | 94 41.8 | 8.2 | -28 25.7 | 0.1 | 55.3 |
| | 6 | 268 41.0 | 22 19.1 | 109 9.0 | 8.1 | -28 25.8 | -0.1 | 55.3 |
| | 7 | 283 40.9 | 22 18.8 | 123 36.1 | 8.1 | -28 25.7 | -0.2 | 55.3 |
| | 8 | 298 40.8 | 22 18.5 | 138 3.3 | 8.1 | -28 25.4 | -0.4 | 55.3 |
| | 9 | 313 40.7 | 22 18.2 | 152 30.3 | 8.1 | -28 25.0 | -0.5 | 55.4 |
| | 10 | 328 40.6 | 22 17.9 | 166 57.4 | 8.0 | -28 24.5 | -0.7 | 55.4 |
| | 11 | 343 40.5 | 22 17.6 | 181 24.5 | 8.0 | -28 23.8 | -0.9 | 55.4 |
| | 12 | 358 40.4 | 22 17.3 | 195 51.5 | 8.0 | -28 22.9 | -1.0 | 55.4 |
| | 13 | 13 40.3 | 22 17.0 | 210 18.5 | 8.0 | -28 21.9 | -1.2 | 55.4 |
| | 14 | 28 40.2 | 22 16.7 | 224 45.5 | 8.0 | -28 20.8 | -1.3 | 55.5 |
| | 15 | 43 40.1 | 22 16.4 | 239 12.5 | 8.0 | -28 19.4 | -1.5 | 55.5 |
| | 16 | 58 40.1 | 22 16.1 | 253 39.5 | 8.0 | -28 18.0 | -1.6 | 55.5 |
| | 17 | 73 40.0 | 22 15.7 | 268 6.4 | 8.0 | -28 16.4 | -1.8 | 55.5 |
| | 18 | 88 39.9 | 22 15.4 | 282 33.4 | 7.9 | -28 14.6 | -1.9 | 55.5 |
| | 19 | 103 39.8 | 22 15.1 | 297 0.3 | 7.9 | -28 12.6 | -2.1 | 55.6 |
| | 20 | 118 39.7 | 22 14.8 | 311 27.3 | 7.9 | -28 10.5 | -2.2 | 55.6 |
| | 21 | 133 39.6 | 22 14.5 | 325 54.2 | 7.9 | -28 8.3 | -2.4 | 55.6 |
| | 22 | 148 39.5 | 22 14.2 | 340 21.1 | 7.9 | -28 5.9 | -2.6 | 55.6 |
| | 23 | 163 39.4 | 22 13.9 | 354 48.1 | 7.9 | -28 3.3 | -2.7 | 55.6 |
| | | *v* -0.1 SD 15.7 *d* -0.3 | | SD 15.1 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **10 Thursday** | 0 | 178 39.4 | 22 13.5 | 9 15.0 | 7.9 | -28 0.6 | -2.9 | 55.7 |
| | 1 | 193 39.3 | 22 13.2 | 23 41.9 | 7.9 | -27 57.8 | -3.0 | 55.7 |
| | 2 | 208 39.2 | 22 12.9 | 38 8.9 | 7.9 | -27 54.8 | -3.2 | 55.7 |
| | 3 | 223 39.1 | 22 12.6 | 52 35.8 | 8.0 | -27 51.6 | -3.3 | 55.7 |
| | 4 | 238 39.0 | 22 12.3 | 67 2.8 | 8.0 | -27 48.3 | -3.5 | 55.8 |
| | 5 | 253 38.9 | 22 12.0 | 81 29.8 | 8.0 | -27 44.8 | -3.6 | 55.8 |
| | 6 | 268 38.8 | 22 11.6 | 95 56.7 | 8.0 | -27 41.1 | -3.8 | 55.8 |
| | 7 | 283 38.7 | 22 11.3 | 110 23.7 | 8.0 | -27 37.3 | -3.9 | 55.8 |
| | 8 | 298 38.7 | 22 11.0 | 124 50.7 | 8.0 | -27 33.4 | -4.1 | 55.8 |
| | 9 | 313 38.6 | 22 10.7 | 139 17.7 | 8.0 | -27 29.3 | -4.3 | 55.9 |
| | 10 | 328 38.5 | 22 10.3 | 153 44.8 | 8.1 | -27 25.1 | -4.4 | 55.9 |
| | 11 | 343 38.4 | 22 10.0 | 168 11.8 | 8.1 | -27 20.7 | -4.6 | 55.9 |
| | 12 | 358 38.3 | 22 9.7 | 182 38.9 | 8.1 | -27 16.1 | -4.7 | 55.9 |
| | 13 | 13 38.2 | 22 9.4 | 197 6.0 | 8.1 | -27 11.4 | -4.9 | 55.9 |
| | 14 | 28 38.1 | 22 9.0 | 211 33.1 | 8.1 | -27 6.5 | -5.0 | 56.0 |
| | 15 | 43 38.1 | 22 8.7 | 226 0.3 | 8.2 | -27 1.5 | -5.2 | 56.0 |
| | 16 | 58 38.0 | 22 8.4 | 240 27.4 | 8.2 | -26 56.4 | -5.3 | 56.0 |
| | 17 | 73 37.9 | 22 8.1 | 254 54.6 | 8.2 | -26 51.0 | -5.5 | 56.0 |
| | 18 | 88 37.8 | 22 7.7 | 269 21.9 | 8.3 | -26 45.6 | -5.6 | 56.1 |
| | 19 | 103 37.7 | 22 7.4 | 283 49.1 | 8.3 | -26 40.0 | -5.8 | 56.1 |
| | 20 | 118 37.6 | 22 7.1 | 298 16.4 | 8.3 | -26 34.2 | -5.9 | 56.1 |
| | 21 | 133 37.6 | 22 6.8 | 312 43.7 | 8.4 | -26 28.3 | -6.1 | 56.1 |
| | 22 | 148 37.5 | 22 6.4 | 327 11.1 | 8.4 | -26 22.2 | -6.2 | 56.1 |
| | 23 | 163 37.4 | 22 6.1 | 341 38.5 | 8.4 | -26 16.0 | -6.4 | 56.2 |
| | | *v* -0.1 SD 15.7 *d* -0.3 | | SD 15.2 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **11 Friday** | 0 | 178 37.3 | 22 5.8 | 356 5.9 | 8.5 | -26 9.7 | -6.5 | 56.2 |
| | 1 | 193 37.2 | 22 5.4 | 10 33.4 | 8.5 | -26 3.2 | -6.6 | 56.2 |
| | 2 | 208 37.1 | 22 5.1 | 25 0.9 | 8.5 | -25 56.5 | -6.8 | 56.2 |
| | 3 | 223 37.1 | 22 4.8 | 39 28.4 | 8.6 | -25 49.7 | -6.9 | 56.3 |
| | 4 | 238 37.0 | 22 4.4 | 53 56.0 | 8.6 | -25 42.8 | -7.1 | 56.3 |
| | 5 | 253 36.9 | 22 4.1 | 68 23.6 | 8.7 | -25 35.7 | -7.2 | 56.3 |
| | 6 | 268 36.8 | 22 3.7 | 82 51.3 | 8.7 | -25 28.5 | -7.4 | 56.3 |
| | 7 | 283 36.7 | 22 3.4 | 97 19.0 | 8.8 | -25 21.1 | -7.5 | 56.3 |
| | 8 | 298 36.7 | 22 3.1 | 111 46.7 | 8.8 | -25 13.6 | -7.6 | 56.4 |
| | 9 | 313 36.6 | 22 2.7 | 126 14.5 | 8.8 | -25 6.0 | -7.8 | 56.4 |
| | 10 | 328 36.5 | 22 2.4 | 140 42.4 | 8.9 | -24 58.2 | -7.9 | 56.4 |
| | 11 | 343 36.4 | 22 2.1 | 155 10.3 | 8.9 | -24 50.2 | -8.1 | 56.4 |
| | 12 | 358 36.3 | 22 1.7 | 169 38.2 | 9.0 | -24 42.2 | -8.2 | 56.4 |
| | 13 | 13 36.2 | 22 1.4 | 184 6.2 | 9.0 | -24 34.0 | -8.3 | 56.5 |
| | 14 | 28 36.2 | 22 1.0 | 198 34.3 | 9.1 | -24 25.6 | -8.5 | 56.5 |
| | 15 | 43 36.1 | 22 0.7 | 213 2.4 | 9.1 | -24 17.1 | -8.6 | 56.5 |
| | 16 | 58 36.0 | 22 0.4 | 227 30.5 | 9.2 | -24 8.5 | -8.7 | 56.5 |
| | 17 | 73 35.9 | 22 0.0 | 241 58.7 | 9.2 | -23 59.8 | -8.9 | 56.6 |
| | 18 | 88 35.8 | 21 59.7 | 256 26.9 | 9.3 | -23 50.9 | -9.0 | 56.6 |
| | 19 | 103 35.8 | 21 59.3 | 270 55.3 | 9.4 | -23 41.9 | -9.1 | 56.6 |
| | 20 | 118 35.7 | 21 59.0 | 285 23.6 | 9.4 | -23 32.7 | -9.3 | 56.6 |
| | 21 | 133 35.6 | 21 58.6 | 299 52.0 | 9.5 | -23 23.5 | -9.4 | 56.6 |
| | 22 | 148 35.5 | 21 58.3 | 314 20.5 | 9.5 | -23 14.0 | -9.5 | 56.7 |
| | 23 | 163 35.5 | 21 57.9 | 328 49.0 | 9.6 | -23 4.5 | -9.7 | 56.7 |
| | | *v* -0.1 SD 15.7 *d* -0.3 | | SD 15.3 | | | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | //// | //// | 01:09 | 22:58 | //// | //// |
| 64 | //// | //// | 02:00 | 22:09 | //// | //// |
| 62 | //// | //// | 02:30 | 21:39 | //// | //// |
| 60 | //// | 01:27 | 02:53 | 21:16 | 22:41 | //// |
| 58 | //// | 02:03 | 03:12 | 20:58 | 22:06 | //// |
| 56 | //// | 02:28 | 03:27 | 20:43 | 21:41 | //// |
| 54 | 01:19 | 02:48 | 03:40 | 20:30 | 21:21 | 22:49 |
| 52 | 01:53 | 03:05 | 03:51 | 20:19 | 21:05 | 22:16 |
| 50 | 02:17 | 03:18 | 04:02 | 20:08 | 20:51 | 21:53 |
| 45 | 02:58 | 03:46 | 04:23 | 19:48 | 20:24 | 21:12 |
| 40 | 03:27 | 04:07 | 04:40 | 19:31 | 20:03 | 20:43 |
| 35 | 03:49 | 04:25 | 04:54 | 19:17 | 19:46 | 20:22 |
| 30 | 04:06 | 04:39 | 05:06 | 19:04 | 19:31 | 20:04 |
| 20 | 04:34 | 05:03 | 05:27 | 18:43 | 19:08 | 19:37 |
| 10 | 04:55 | 05:22 | 05:45 | 18:26 | 18:48 | 19:15 |
| 0 | 05:13 | 05:39 | 06:02 | 18:09 | 18:31 | 18:57 |
| -10 | 05:29 | 05:56 | 06:18 | 17:52 | 18:15 | 18:41 |
| -20 | 05:45 | 06:12 | 06:36 | 17:35 | 17:59 | 18:26 |
| -30 | 06:00 | 06:30 | 06:56 | 17:15 | 17:41 | 18:11 |
| -35 | 06:08 | 06:40 | 07:08 | 17:03 | 17:31 | 18:03 |
| -40 | 06:17 | 06:51 | 07:21 | 16:50 | 17:20 | 17:54 |
| -45 | 06:27 | 07:03 | 07:37 | 16:34 | 17:08 | 17:44 |
| -50 | 06:37 | 07:18 | 07:56 | 16:15 | 16:53 | 17:34 |
| -52 | 06:42 | 07:25 | 08:05 | 16:06 | 16:46 | 17:29 |
| -54 | 06:47 | 07:33 | 08:15 | 15:55 | 16:38 | 17:24 |
| -56 | 06:53 | 07:41 | 08:27 | 15:44 | 16:30 | 17:18 |
| -58 | 06:59 | 07:51 | 08:41 | 15:30 | 16:20 | 17:12 |
| -60 | 07:06 | 08:01 | 08:56 | 15:15 | 16:10 | 17:05 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **09** | **10** | **11** | **09** | **10** | **11** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 68 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 66 | ▬ | ▬ | 23:58 | ▬ | ▬ | –:– |
| 64 | ▬ | ▬ | 23:10 | ▬ | ▬ | –:– |
| 62 | ▬ | 22:49 | 22:40 | ▬ | –:– | 01:52 |
| 60 | 21:52 | 22:10 | 22:16 | –:– | 00:55 | 02:30 |
| 58 | 21:14 | 21:43 | 21:58 | 00:30 | 01:32 | 02:57 |
| 56 | 20:47 | 21:21 | 21:42 | 00:58 | 01:59 | 03:18 |
| 54 | 20:26 | 21:03 | 21:28 | 01:20 | 02:20 | 03:36 |
| 52 | 20:09 | 20:48 | 21:16 | 01:38 | 02:37 | 03:51 |
| 50 | 19:54 | 20:35 | 21:06 | 01:53 | 02:52 | 04:03 |
| 45 | 19:23 | 20:08 | 20:44 | 02:24 | 03:22 | 04:30 |
| 40 | 19:00 | 19:46 | 20:26 | 02:48 | 03:45 | 04:50 |
| 35 | 18:40 | 19:29 | 20:10 | 03:07 | 04:05 | 05:08 |
| 30 | 18:23 | 19:13 | 19:57 | 03:24 | 04:21 | 05:23 |
| 20 | 17:55 | 18:47 | 19:35 | 03:53 | 04:49 | 05:48 |
| 10 | 17:31 | 18:24 | 19:15 | 04:17 | 05:13 | 06:09 |
| 0 | 17:08 | 18:03 | 18:57 | 04:40 | 05:35 | 06:29 |
| -10 | 16:46 | 17:42 | 18:38 | 05:03 | 05:57 | 06:49 |
| -20 | 16:22 | 17:19 | 18:18 | 05:27 | 06:20 | 07:10 |
| -30 | 15:53 | 16:53 | 17:56 | 05:56 | 06:48 | 07:35 |
| -35 | 15:37 | 16:37 | 17:42 | 06:12 | 07:04 | 07:49 |
| -40 | 15:17 | 16:19 | 17:26 | 06:32 | 07:23 | 08:05 |
| -45 | 14:53 | 15:57 | 17:08 | 06:56 | 07:45 | 08:25 |
| -50 | 14:23 | 15:29 | 16:44 | 07:26 | 08:14 | 08:50 |
| -52 | 14:08 | 15:15 | 16:33 | 07:41 | 08:28 | 09:01 |
| -54 | 13:50 | 14:59 | 16:20 | 07:59 | 08:44 | 09:15 |
| -56 | 13:29 | 14:40 | 16:05 | 08:21 | 09:03 | 09:30 |
| -58 | 13:02 | 14:16 | 15:47 | 08:48 | 09:27 | 09:48 |
| -60 | 12:23 | 13:45 | 15:26 | 09:27 | 09:59 | 10:11 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **09** | 05:14 | 05:18 | 12:05 | 23:22 | 10:54 | 14 | 96 |
| **10** | 05:23 | 05:27 | 12:05 | –:– | 11:49 | 15 | 99 |
| **11** | 05:31 | 05:35 | 12:06 | 00:16 | 12:43 | 16 | 100 |

| | | Aries | Venus -4.1 | | Mars 1.5 | | Jupiter -1.9 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 12 Saturday | 0 | 290 8.7 | 223 20.0 | 19 20.1 | 124 21.0 | 7 0.8 | 192 11.6 | 23 7.5 | 287 27.7 | -1 19.7 |
| | 1 | 305 11.1 | 238 19.6 | 19 20.7 | 139 22.1 | 7 0.2 | 207 13.5 | 23 7.4 | 302 30.2 | -1 19.7 |
| | 2 | 320 13.6 | 253 19.1 | 19 21.2 | 154 23.2 | 6 59.6 | 222 15.3 | 23 7.4 | 317 32.6 | -1 19.8 |
| | 3 | 335 16.1 | 268 18.7 | 19 21.7 | 169 24.3 | 6 59.0 | 237 17.2 | 23 7.4 | 332 35.1 | -1 19.8 |
| | 4 | 350 18.5 | 283 18.2 | 19 22.2 | 184 25.4 | 6 58.4 | 252 19.0 | 23 7.4 | 347 37.5 | -1 19.8 |
| | 5 | 5 21.0 | 298 17.8 | 19 22.7 | 199 26.5 | 6 57.8 | 267 20.9 | 23 7.3 | 2 40.0 | -1 19.8 |
| | 6 | 20 23.5 | 313 17.3 | 19 23.2 | 214 27.6 | 6 57.2 | 282 22.7 | 23 7.3 | 17 42.4 | -1 19.8 |
| | 7 | 35 25.9 | 328 16.9 | 19 23.8 | 229 28.7 | 6 56.6 | 297 24.6 | 23 7.3 | 32 44.9 | -1 19.8 |
| | 8 | 50 28.4 | 343 16.4 | 19 24.3 | 244 29.8 | 6 56.0 | 312 26.4 | 23 7.3 | 47 47.4 | -1 19.8 |
| | 9 | 65 30.9 | 358 15.9 | 19 24.8 | 259 30.9 | 6 55.4 | 327 28.3 | 23 7.2 | 62 49.8 | -1 19.8 |
| | 10 | 80 33.3 | 13 15.5 | 19 25.3 | 274 32.0 | 6 54.8 | 342 30.2 | 23 7.2 | 77 52.3 | -1 19.8 |
| | 11 | 95 35.8 | 28 15.0 | 19 25.8 | 289 33.1 | 6 54.2 | 357 32.0 | 23 7.2 | 92 54.7 | -1 19.8 |
| | 12 | 110 38.3 | 43 14.6 | 19 26.3 | 304 34.2 | 6 53.6 | 12 33.9 | 23 7.1 | 107 57.2 | -1 19.8 |
| | 13 | 125 40.7 | 58 14.1 | 19 26.8 | 319 35.3 | 6 53.0 | 27 35.7 | 23 7.1 | 122 59.6 | -1 19.9 |
| | 14 | 140 43.2 | 73 13.7 | 19 27.3 | 334 36.4 | 6 52.4 | 42 37.6 | 23 7.1 | 138 2.1 | -1 19.9 |
| | 15 | 155 45.6 | 88 13.2 | 19 27.8 | 349 37.5 | 6 51.8 | 57 39.4 | 23 7.1 | 153 4.6 | -1 19.9 |
| | 16 | 170 48.1 | 103 12.8 | 19 28.3 | 4 38.6 | 6 51.2 | 72 41.3 | 23 7.0 | 168 7.0 | -1 19.9 |
| | 17 | 185 50.6 | 118 12.3 | 19 28.8 | 19 39.7 | 6 50.6 | 87 43.1 | 23 7.0 | 183 9.5 | -1 19.9 |
| | 18 | 200 53.0 | 133 11.8 | 19 29.3 | 34 40.8 | 6 50.0 | 102 45.0 | 23 7.0 | 198 11.9 | -1 19.9 |
| | 19 | 215 55.5 | 148 11.4 | 19 29.9 | 49 41.9 | 6 49.4 | 117 46.8 | 23 7.0 | 213 14.4 | -1 19.9 |
| | 20 | 230 58.0 | 163 10.9 | 19 30.4 | 64 43.0 | 6 48.8 | 132 48.7 | 23 6.9 | 228 16.8 | -1 19.9 |
| | 21 | 246 0.4 | 178 10.5 | 19 30.9 | 79 44.1 | 6 48.2 | 147 50.5 | 23 6.9 | 243 19.3 | -1 19.9 |
| | 22 | 261 2.9 | 193 10.0 | 19 31.4 | 94 45.2 | 6 47.5 | 162 52.4 | 23 6.9 | 258 21.8 | -1 19.9 |
| | 23 | 276 5.4 | 208 9.5 | 19 31.9 | 109 46.3 | 6 46.9 | 177 54.3 | 23 6.8 | 273 24.2 | -1 20.0 |
| | | MP 04:40 | *v* -0.5 | *d* 0.5 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 Sunday | 0 | 291 7.8 | 223 9.1 | 19 32.4 | 124 47.4 | 6 46.3 | 192 56.1 | 23 6.8 | 288 26.7 | -1 20.0 |
| | 1 | 306 10.3 | 238 8.6 | 19 32.9 | 139 48.5 | 6 45.7 | 207 58.0 | 23 6.8 | 303 29.1 | -1 20.0 |
| | 2 | 321 12.8 | 253 8.1 | 19 33.4 | 154 49.6 | 6 45.1 | 222 59.8 | 23 6.8 | 318 31.6 | -1 20.0 |
| | 3 | 336 15.2 | 268 7.7 | 19 33.9 | 169 50.7 | 6 44.5 | 238 1.7 | 23 6.7 | 333 34.1 | -1 20.0 |
| | 4 | 351 17.7 | 283 7.2 | 19 34.4 | 184 51.8 | 6 43.9 | 253 3.5 | 23 6.7 | 348 36.5 | -1 20.0 |
| | 5 | 6 20.1 | 298 6.7 | 19 34.9 | 199 52.9 | 6 43.3 | 268 5.4 | 23 6.7 | 3 39.0 | -1 20.0 |
| | 6 | 21 22.6 | 313 6.3 | 19 35.4 | 214 54.0 | 6 42.7 | 283 7.2 | 23 6.6 | 18 41.4 | -1 20.0 |
| | 7 | 36 25.1 | 328 5.8 | 19 35.8 | 229 55.1 | 6 42.1 | 298 9.1 | 23 6.6 | 33 43.9 | -1 20.0 |
| | 8 | 51 27.5 | 343 5.3 | 19 36.3 | 244 56.2 | 6 41.5 | 313 10.9 | 23 6.6 | 48 46.4 | -1 20.0 |
| | 9 | 66 30.0 | 358 4.9 | 19 36.8 | 259 57.3 | 6 40.9 | 328 12.8 | 23 6.6 | 63 48.8 | -1 20.1 |
| | 10 | 81 32.5 | 13 4.4 | 19 37.3 | 274 58.4 | 6 40.3 | 343 14.7 | 23 6.5 | 78 51.3 | -1 20.1 |
| | 11 | 96 34.9 | 28 3.9 | 19 37.8 | 289 59.5 | 6 39.7 | 358 16.5 | 23 6.5 | 93 53.7 | -1 20.1 |
| | 12 | 111 37.4 | 43 3.5 | 19 38.3 | 305 0.6 | 6 39.1 | 13 18.4 | 23 6.5 | 108 56.2 | -1 20.1 |
| | 13 | 126 39.9 | 58 3.0 | 19 38.8 | 320 1.7 | 6 38.5 | 28 20.2 | 23 6.5 | 123 58.7 | -1 20.1 |
| | 14 | 141 42.3 | 73 2.5 | 19 39.3 | 335 2.8 | 6 37.9 | 43 22.1 | 23 6.4 | 139 1.1 | -1 20.1 |
| | 15 | 156 44.8 | 88 2.1 | 19 39.8 | 350 3.9 | 6 37.3 | 58 23.9 | 23 6.4 | 154 3.6 | -1 20.1 |
| | 16 | 171 47.3 | 103 1.6 | 19 40.3 | 5 5.0 | 6 36.7 | 73 25.8 | 23 6.4 | 169 6.0 | -1 20.1 |
| | 17 | 186 49.7 | 118 1.1 | 19 40.8 | 20 6.1 | 6 36.1 | 88 27.6 | 23 6.3 | 184 8.5 | -1 20.1 |
| | 18 | 201 52.2 | 133 0.6 | 19 41.3 | 35 7.2 | 6 35.5 | 103 29.5 | 23 6.3 | 199 11.0 | -1 20.2 |
| | 19 | 216 54.6 | 148 0.2 | 19 41.7 | 50 8.3 | 6 34.9 | 118 31.4 | 23 6.3 | 214 13.4 | -1 20.2 |
| | 20 | 231 57.1 | 162 59.7 | 19 42.2 | 65 9.4 | 6 34.2 | 133 33.2 | 23 6.3 | 229 15.9 | -1 20.2 |
| | 21 | 246 59.6 | 177 59.2 | 19 42.7 | 80 10.4 | 6 33.6 | 148 35.1 | 23 6.2 | 244 18.4 | -1 20.2 |
| | 22 | 262 2.0 | 192 58.7 | 19 43.2 | 95 11.5 | 6 33.0 | 163 36.9 | 23 6.2 | 259 20.8 | -1 20.2 |
| | 23 | 277 4.5 | 207 58.3 | 19 43.7 | 110 12.6 | 6 32.4 | 178 38.8 | 23 6.2 | 274 23.3 | -1 20.2 |
| | | MP 04:36 | *v* -0.5 | *d* 0.5 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 Monday | 0 | 292 7.0 | 222 57.8 | 19 44.2 | 125 13.7 | 6 31.8 | 193 40.6 | 23 6.1 | 289 25.7 | -1 20.2 |
| | 1 | 307 9.4 | 237 57.3 | 19 44.6 | 140 14.8 | 6 31.2 | 208 42.5 | 23 6.1 | 304 28.2 | -1 20.2 |
| | 2 | 322 11.9 | 252 56.8 | 19 45.1 | 155 15.9 | 6 30.6 | 223 44.3 | 23 6.1 | 319 30.7 | -1 20.3 |
| | 3 | 337 14.4 | 267 56.4 | 19 45.6 | 170 17.0 | 6 30.0 | 238 46.2 | 23 6.0 | 334 33.1 | -1 20.3 |
| | 4 | 352 16.8 | 282 55.9 | 19 46.1 | 185 18.1 | 6 29.4 | 253 48.1 | 23 6.0 | 349 35.6 | -1 20.3 |
| | 5 | 7 19.3 | 297 55.4 | 19 46.6 | 200 19.2 | 6 28.8 | 268 49.9 | 23 6.0 | 4 38.1 | -1 20.3 |
| | 6 | 22 21.7 | 312 54.9 | 19 47.0 | 215 20.3 | 6 28.2 | 283 51.8 | 23 6.0 | 19 40.5 | -1 20.3 |
| | 7 | 37 24.2 | 327 54.4 | 19 47.5 | 230 21.4 | 6 27.6 | 298 53.6 | 23 5.9 | 34 43.0 | -1 20.3 |
| | 8 | 52 26.7 | 342 54.0 | 19 48.0 | 245 22.5 | 6 27.0 | 313 55.5 | 23 5.9 | 49 45.5 | -1 20.3 |
| | 9 | 67 29.1 | 357 53.5 | 19 48.5 | 260 23.6 | 6 26.4 | 328 57.3 | 23 5.9 | 64 47.9 | -1 20.3 |
| | 10 | 82 31.6 | 12 53.0 | 19 49.0 | 275 24.7 | 6 25.8 | 343 59.2 | 23 5.8 | 79 50.4 | -1 20.3 |
| | 11 | 97 34.1 | 27 52.5 | 19 49.4 | 290 25.8 | 6 25.2 | 359 1.0 | 23 5.8 | 94 52.8 | -1 20.4 |
| | 12 | 112 36.5 | 42 52.0 | 19 49.9 | 305 26.9 | 6 24.5 | 14 2.9 | 23 5.8 | 109 55.3 | -1 20.4 |
| | 13 | 127 39.0 | 57 51.6 | 19 50.4 | 320 28.0 | 6 23.9 | 29 4.8 | 23 5.8 | 124 57.8 | -1 20.4 |
| | 14 | 142 41.5 | 72 51.1 | 19 50.9 | 335 29.1 | 6 23.3 | 44 6.6 | 23 5.7 | 140 0.2 | -1 20.4 |
| | 15 | 157 43.9 | 87 50.6 | 19 51.3 | 350 30.2 | 6 22.7 | 59 8.5 | 23 5.7 | 155 2.7 | -1 20.4 |
| | 16 | 172 46.4 | 102 50.1 | 19 51.8 | 5 31.3 | 6 22.1 | 74 10.3 | 23 5.7 | 170 5.2 | -1 20.4 |
| | 17 | 187 48.9 | 117 49.6 | 19 52.3 | 20 32.4 | 6 21.5 | 89 12.2 | 23 5.6 | 185 7.6 | -1 20.4 |
| | 18 | 202 51.3 | 132 49.1 | 19 52.7 | 35 33.5 | 6 20.9 | 104 14.0 | 23 5.6 | 200 10.1 | -1 20.5 |
| | 19 | 217 53.8 | 147 48.7 | 19 53.2 | 50 34.6 | 6 20.3 | 119 15.9 | 23 5.6 | 215 12.6 | -1 20.5 |
| | 20 | 232 56.2 | 162 48.2 | 19 53.7 | 65 35.7 | 6 19.7 | 134 17.7 | 23 5.6 | 230 15.0 | -1 20.5 |
| | 21 | 247 58.7 | 177 47.7 | 19 54.1 | 80 36.8 | 6 19.1 | 149 19.6 | 23 5.5 | 245 17.5 | -1 20.5 |
| | 22 | 263 1.2 | 192 47.2 | 19 54.6 | 95 37.9 | 6 18.5 | 164 21.5 | 23 5.5 | 260 20.0 | -1 20.5 |
| | 23 | 278 3.6 | 207 46.7 | 19 55.1 | 110 38.9 | 6 17.9 | 179 23.3 | 23 5.5 | 275 22.4 | -1 20.5 |
| | | MP 04:32 | *v* -0.5 | *d* 0.5 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

## Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 11.9 |
| Achernar | 335 19.9 | -57 6.1 |
| Acrux | 172 59.8 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.3 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.6 | 55 49.5 |
| Alkaid | 152 51.6 | 49 11.4 |
| Alnair | 27 32.0 | -46 50.0 |
| Alnilam | 275 37.6 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.8 |
| Alpheratz | 357 34.2 | 29 13.8 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.6 | -42 9.7 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.1 |
| Atria | 107 8.4 | -69 4.5 |
| Avior | 234 15.2 | -59 35.5 |
| Bellatrix | 278 22.7 | 6 22.4 |
| Betelgeuse | 270 51.9 | 7 24.8 |
| Canopus | 263 52.7 | -52 42.4 |
| Capella | 280 21.7 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.2 |
| Denebola | 182 24.6 | 14 25.9 |
| Diphda | 348 46.8 | -17 50.6 |
| Dubhe | 193 40.8 | 61 37.1 |
| Elnath | 278 1.7 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.2 |
| Enif | 33 38.1 | 9 59.5 |
| Fomalhaut | 15 13.8 | -29 29.0 |
| Gacrux | 171 51.3 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.3 | -60 30.0 |
| Hamal | 327 50.8 | 23 34.9 |
| Kaus Aust. | 83 31.5 | -34 22.3 |
| Kochab | 137 19.3 | 74 3.3 |
| Markab | 13 29.3 | 15 20.5 |
| Menkar | 314 5.9 | 4 11.4 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.4 |
| Mirfak | 308 27.9 | 49 56.9 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.5 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.7 | -8 10.2 |
| Rigil Kent. | 139 39.5 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.5 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.2 |
| Vega | 80 32.5 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 12 Sat | SHA | MP |
|---|---|---|
| Venus | 293 11.3 | 09:07 |
| Mars | 194 12.3 | 15:41 |
| Jupiter | 262 2.9 | 11:10 |
| Saturn | 357 19.0 | 04:49 |

| 13 Sun | SHA | MP |
|---|---|---|
| Venus | 292 1.2 | 09:08 |
| Mars | 193 39.6 | 15:40 |
| Jupiter | 261 48.3 | 11:07 |
| Saturn | 357 18.9 | 04:45 |

| 14 Mon | SHA | MP |
|---|---|---|
| Venus | 290 50.8 | 09:08 |
| Mars | 193 6.8 | 15:38 |
| Jupiter | 261 33.7 | 11:04 |
| Saturn | 357 18.8 | 04:42 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **12 Saturday** | 0 | 178 35.4 | 21 57.6 | 343 17.6 | 9.6 | -22 54.8 | -9.8 | 56.7 |
| | 1 | 193 35.3 | 21 57.2 | 357 46.2 | 9.7 | -22 45.0 | -9.9 | 56.7 |
| | 2 | 208 35.2 | 21 56.9 | 12 14.9 | 9.7 | -22 35.1 | -10.0 | 56.8 |
| | 3 | 223 35.1 | 21 56.5 | 26 43.7 | 9.8 | -22 25.1 | -10.2 | 56.8 |
| | 4 | 238 35.1 | 21 56.2 | 41 12.5 | 9.9 | -22 14.9 | -10.3 | 56.8 |
| | 5 | 253 35.0 | 21 55.8 | 55 41.3 | 9.9 | -22 4.6 | -10.4 | 56.8 |
| | 6 | 268 34.9 | 21 55.5 | 70 10.3 | 10.0 | -21 54.2 | -10.5 | 56.8 |
| | 7 | 283 34.8 | 21 55.1 | 84 39.2 | 10.0 | -21 43.7 | -10.7 | 56.9 |
| | 8 | 298 34.8 | 21 54.8 | 99 8.3 | 10.1 | -21 33.0 | -10.8 | 56.9 |
| | 9 | 313 34.7 | 21 54.4 | 113 37.4 | 10.2 | -21 22.3 | -10.9 | 56.9 |
| | 10 | 328 34.6 | 21 54.1 | 128 6.5 | 10.2 | -21 11.4 | -11.0 | 56.9 |
| | 11 | 343 34.5 | 21 53.7 | 142 35.7 | 10.3 | -21 0.4 | -11.1 | 56.9 |
| | 12 | 358 34.5 | 21 53.4 | 157 5.0 | 10.3 | -20 49.2 | -11.2 | 57.0 |
| | 13 | 13 34.4 | 21 53.0 | 171 34.3 | 10.4 | -20 38.0 | -11.3 | 57.0 |
| | 14 | 28 34.3 | 21 52.6 | 186 3.7 | 10.5 | -20 26.7 | -11.5 | 57.0 |
| | 15 | 43 34.2 | 21 52.3 | 200 33.2 | 10.5 | -20 15.2 | -11.6 | 57.0 |
| | 16 | 58 34.2 | 21 51.9 | 215 2.7 | 10.6 | -20 3.6 | -11.7 | 57.1 |
| | 17 | 73 34.1 | 21 51.6 | 229 32.3 | 10.6 | -19 51.9 | -11.8 | 57.1 |
| | 18 | 88 34.0 | 21 51.2 | 244 1.9 | 10.7 | -19 40.1 | -11.9 | 57.1 |
| | 19 | 103 33.9 | 21 50.9 | 258 31.6 | 10.7 | -19 28.2 | -12.0 | 57.1 |
| | 20 | 118 33.9 | 21 50.5 | 273 1.3 | 10.8 | -19 16.2 | -12.1 | 57.1 |
| | 21 | 133 33.8 | 21 50.1 | 287 31.1 | 10.9 | -19 4.1 | -12.2 | 57.2 |
| | 22 | 148 33.7 | 21 49.8 | 302 1.0 | 10.9 | -18 51.9 | -12.3 | 57.2 |
| | 23 | 163 33.6 | 21 49.4 | 316 30.9 | 11.0 | -18 39.6 | -12.4 | 57.2 |
| | | *v* -0.1 | SD 15.7 | *d* -0.3 | | SD 15.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **13 Sunday** | 0 | 178 33.6 | 21 49.0 | 331 0.9 | 11.0 | -18 27.2 | -12.5 | 57.2 |
| | 1 | 193 33.5 | 21 48.7 | 345 30.9 | 11.1 | -18 14.6 | -12.6 | 57.2 |
| | 2 | 208 33.4 | 21 48.3 | 0 1.0 | 11.1 | -18 2.0 | -12.7 | 57.3 |
| | 3 | 223 33.3 | 21 47.9 | 14 31.1 | 11.2 | -17 49.3 | -12.8 | 57.3 |
| | 4 | 238 33.3 | 21 47.6 | 29 1.3 | 11.3 | -17 36.5 | -12.9 | 57.3 |
| | 5 | 253 33.2 | 21 47.2 | 43 31.6 | 11.3 | -17 23.6 | -13.0 | 57.3 |
| | 6 | 268 33.1 | 21 46.8 | 58 1.9 | 11.4 | -17 10.6 | -13.1 | 57.3 |
| | 7 | 283 33.0 | 21 46.5 | 72 32.3 | 11.4 | -16 57.5 | -13.2 | 57.4 |
| | 8 | 298 33.0 | 21 46.1 | 87 2.7 | 11.5 | -16 44.3 | -13.3 | 57.4 |
| | 9 | 313 32.9 | 21 45.7 | 101 33.2 | 11.5 | -16 31.0 | -13.4 | 57.4 |
| | 10 | 328 32.8 | 21 45.4 | 116 3.7 | 11.6 | -16 17.6 | -13.5 | 57.4 |
| | 11 | 343 32.8 | 21 45.0 | 130 34.3 | 11.6 | -16 4.2 | -13.5 | 57.4 |
| | 12 | 358 32.7 | 21 44.6 | 145 4.9 | 11.7 | -15 50.6 | -13.6 | 57.5 |
| | 13 | 13 32.6 | 21 44.3 | 159 35.6 | 11.7 | -15 37.0 | -13.7 | 57.5 |
| | 14 | 28 32.6 | 21 43.9 | 174 6.3 | 11.8 | -15 23.3 | -13.8 | 57.5 |
| | 15 | 43 32.5 | 21 43.5 | 188 37.1 | 11.8 | -15 9.5 | -13.9 | 57.5 |
| | 16 | 58 32.4 | 21 43.1 | 203 7.9 | 11.9 | -14 55.6 | -14.0 | 57.5 |
| | 17 | 73 32.3 | 21 42.8 | 217 38.8 | 11.9 | -14 41.6 | -14.0 | 57.6 |
| | 18 | 88 32.3 | 21 42.4 | 232 9.8 | 12.0 | -14 27.5 | -14.1 | 57.6 |
| | 19 | 103 32.2 | 21 42.0 | 246 40.7 | 12.0 | -14 13.4 | -14.2 | 57.6 |
| | 20 | 118 32.1 | 21 41.6 | 261 11.8 | 12.1 | -13 59.2 | -14.3 | 57.6 |
| | 21 | 133 32.1 | 21 41.3 | 275 42.8 | 12.1 | -13 44.9 | -14.4 | 57.6 |
| | 22 | 148 32.0 | 21 40.9 | 290 13.9 | 12.2 | -13 30.6 | -14.4 | 57.7 |
| | 23 | 163 31.9 | 21 40.5 | 304 45.1 | 12.2 | -13 16.2 | -14.5 | 57.7 |
| | | *v* -0.1 | SD 15.7 | *d* -0.4 | | SD 15.6 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **14 Monday** | 0 | 178 31.9 | 21 40.1 | 319 16.3 | 12.2 | -13 1.6 | -14.6 | 57.7 |
| | 1 | 193 31.8 | 21 39.7 | 333 47.5 | 12.3 | -12 47.1 | -14.6 | 57.7 |
| | 2 | 208 31.7 | 21 39.4 | 348 18.8 | 12.3 | -12 32.4 | -14.7 | 57.7 |
| | 3 | 223 31.7 | 21 39.0 | 2 50.2 | 12.4 | -12 17.7 | -14.8 | 57.8 |
| | 4 | 238 31.6 | 21 38.6 | 17 21.5 | 12.4 | -12 2.9 | -14.8 | 57.8 |
| | 5 | 253 31.5 | 21 38.2 | 31 52.9 | 12.4 | -11 48.1 | -14.9 | 57.8 |
| | 6 | 268 31.5 | 21 37.8 | 46 24.4 | 12.5 | -11 33.2 | -15.0 | 57.8 |
| | 7 | 283 31.4 | 21 37.5 | 60 55.9 | 12.5 | -11 18.2 | -15.0 | 57.8 |
| | 8 | 298 31.3 | 21 37.1 | 75 27.4 | 12.6 | -11 3.2 | -15.1 | 57.9 |
| | 9 | 313 31.3 | 21 36.7 | 89 58.9 | 12.6 | -10 48.1 | -15.2 | 57.9 |
| | 10 | 328 31.2 | 21 36.3 | 104 30.5 | 12.6 | -10 32.9 | -15.2 | 57.9 |
| | 11 | 343 31.1 | 21 35.9 | 119 2.1 | 12.7 | -10 17.7 | -15.3 | 57.9 |
| | 12 | 358 31.1 | 21 35.5 | 133 33.8 | 12.7 | -10 2.4 | -15.3 | 57.9 |
| | 13 | 13 31.0 | 21 35.1 | 148 5.5 | 12.7 | -9 47.1 | -15.4 | 58.0 |
| | 14 | 28 30.9 | 21 34.8 | 162 37.2 | 12.7 | -9 31.7 | -15.4 | 58.0 |
| | 15 | 43 30.9 | 21 34.4 | 177 8.9 | 12.8 | -9 16.3 | -15.5 | 58.0 |
| | 16 | 58 30.8 | 21 34.0 | 191 40.7 | 12.8 | -9 0.8 | -15.5 | 58.0 |
| | 17 | 73 30.7 | 21 33.6 | 206 12.5 | 12.8 | -8 45.2 | -15.6 | 58.0 |
| | 18 | 88 30.7 | 21 33.2 | 220 44.3 | 12.8 | -8 29.6 | -15.6 | 58.0 |
| | 19 | 103 30.6 | 21 32.8 | 235 16.2 | 12.9 | -8 14.0 | -15.7 | 58.1 |
| | 20 | 118 30.5 | 21 32.4 | 249 48.0 | 12.9 | -7 58.3 | -15.7 | 58.1 |
| | 21 | 133 30.5 | 21 32.0 | 264 19.9 | 12.9 | -7 42.6 | -15.8 | 58.1 |
| | 22 | 148 30.4 | 21 31.6 | 278 51.8 | 12.9 | -7 26.8 | -15.8 | 58.1 |
| | 23 | 163 30.3 | 21 31.2 | 293 23.8 | 13.0 | -7 10.9 | -15.9 | 58.1 |
| | | *v* -0.1 | SD 15.7 | *d* -0.4 | | SD 15.7 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | //// | //// | 01:23 | 22:45 | //// | //// |
| 64 | //// | //// | 02:08 | 22:02 | //// | //// |
| 62 | //// | 00:19 | 02:37 | 21:33 | 23:38 | //// |
| 60 | //// | 01:36 | 02:58 | 21:12 | 22:33 | //// |
| 58 | //// | 02:10 | 03:16 | 20:54 | 22:00 | //// |
| 56 | 00:18 | 02:34 | 03:31 | 20:40 | 21:36 | 23:41 |
| 54 | 01:28 | 02:53 | 03:44 | 20:27 | 21:18 | 22:41 |
| 52 | 01:59 | 03:08 | 03:55 | 20:16 | 21:02 | 22:11 |
| 50 | 02:22 | 03:22 | 04:05 | 20:06 | 20:49 | 21:48 |
| 45 | 03:02 | 03:49 | 04:25 | 19:46 | 20:22 | 21:09 |
| 40 | 03:29 | 04:10 | 04:42 | 19:29 | 20:01 | 20:42 |
| 35 | 03:51 | 04:26 | 04:56 | 19:16 | 19:45 | 20:20 |
| 30 | 04:08 | 04:41 | 05:08 | 19:04 | 19:30 | 20:03 |
| 20 | 04:35 | 05:04 | 05:28 | 18:43 | 19:07 | 19:36 |
| 10 | 04:56 | 05:23 | 05:46 | 18:26 | 18:48 | 19:15 |
| 0 | 05:14 | 05:40 | 06:02 | 18:09 | 18:32 | 18:57 |
| -10 | 05:30 | 05:56 | 06:18 | 17:53 | 18:16 | 18:42 |
| -20 | 05:45 | 06:12 | 06:36 | 17:36 | 18:00 | 18:27 |
| -30 | 06:00 | 06:29 | 06:55 | 17:16 | 17:42 | 18:12 |
| -35 | 06:08 | 06:39 | 07:07 | 17:05 | 17:33 | 18:04 |
| -40 | 06:16 | 06:50 | 07:20 | 16:52 | 17:22 | 17:56 |
| -45 | 06:25 | 07:02 | 07:35 | 16:37 | 17:10 | 17:46 |
| -50 | 06:36 | 07:17 | 07:54 | 16:18 | 16:55 | 17:36 |
| -52 | 06:40 | 07:23 | 08:03 | 16:09 | 16:49 | 17:31 |
| -54 | 06:45 | 07:31 | 08:13 | 15:59 | 16:41 | 17:26 |
| -56 | 06:51 | 07:39 | 08:24 | 15:48 | 16:33 | 17:21 |
| -58 | 06:57 | 07:48 | 08:37 | 15:35 | 16:24 | 17:15 |
| -60 | 07:03 | 07:58 | 08:53 | 15:19 | 16:14 | 17:09 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **12** | **13** | **14** | **12** | **13** | **14** |
| 72 | ▬ | 23:48 | 23:00 | ▬ | –:– | 06:18 |
| 70 | ▬ | 00:24<br>23:24 | 22:49 | ▬ | 03:58 | 06:39 |
| 68 | 23:42 | 23:05 | 22:41 | –:– | 04:38 | 06:56 |
| 66 | 23:13 | 22:51 | 22:34 | 02:35 | 05:06 | 07:09 |
| 64 | 22:51 | 22:38 | 22:28 | 03:22 | 05:26 | 07:20 |
| 62 | 22:33 | 22:28 | 22:23 | 03:52 | 05:43 | 07:29 |
| 60 | 22:18 | 22:19 | 22:18 | 04:14 | 05:57 | 07:36 |
| 58 | 22:06 | 22:11 | 22:14 | 04:32 | 06:09 | 07:43 |
| 56 | 21:55 | 22:04 | 22:10 | 04:47 | 06:19 | 07:49 |
| 54 | 21:45 | 21:57 | 22:07 | 05:00 | 06:28 | 07:55 |
| 52 | 21:36 | 21:52 | 22:04 | 05:12 | 06:36 | 07:59 |
| 50 | 21:29 | 21:46 | 22:01 | 05:22 | 06:43 | 08:04 |
| 45 | 21:12 | 21:35 | 21:55 | 05:43 | 06:58 | 08:13 |
| 40 | 20:58 | 21:26 | 21:50 | 06:00 | 07:10 | 08:21 |
| 35 | 20:46 | 21:18 | 21:46 | 06:14 | 07:21 | 08:27 |
| 30 | 20:36 | 21:11 | 21:42 | 06:26 | 07:30 | 08:33 |
| 20 | 20:18 | 20:58 | 21:35 | 06:47 | 07:46 | 08:43 |
| 10 | 20:03 | 20:47 | 21:30 | 07:05 | 07:59 | 08:51 |
| 0 | 19:48 | 20:37 | 21:24 | 07:22 | 08:12 | 09:00 |
| -10 | 19:33 | 20:27 | 21:18 | 07:38 | 08:24 | 09:07 |
| -20 | 19:18 | 20:16 | 21:12 | 07:56 | 08:37 | 09:16 |
| -30 | 18:59 | 20:03 | 21:06 | 08:16 | 08:52 | 09:25 |
| -35 | 18:49 | 19:56 | 21:02 | 08:28 | 09:01 | 09:31 |
| -40 | 18:37 | 19:47 | 20:57 | 08:41 | 09:11 | 09:37 |
| -45 | 18:22 | 19:37 | 20:52 | 08:57 | 09:22 | 09:44 |
| -50 | 18:04 | 19:25 | 20:46 | 09:16 | 09:36 | 09:52 |
| -52 | 17:56 | 19:20 | 20:43 | 09:25 | 09:43 | 09:56 |
| -54 | 17:46 | 19:13 | 20:40 | 09:35 | 09:50 | 10:00 |
| -56 | 17:36 | 19:06 | 20:36 | 09:47 | 09:57 | 10:05 |
| -58 | 17:23 | 18:59 | 20:32 | 10:00 | 10:06 | 10:10 |
| -60 | 17:09 | 18:50 | 20:28 | 10:15 | 10:16 | 10:16 |

| | Sun | | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph | |
| **12** | 05:38 | 05:42 | 12:06 | 01:09 | 13:35 | 17 | 99 | |
| **13** | 05:46 | 05:49 | 12:06 | 02:00 | 14:24 | 18 | 95 | |
| **14** | 05:53 | 05:56 | 12:06 | 02:48 | 15:12 | 19 | 89 | |

## 2025 July 15, 16, 17 (Tue, Wed, Thu)

| | | Aries | Venus -4.1 | | Mars 1.6 | | Jupiter -1.9 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 15 Tuesday | 0 | 293 6.1 | 222 46.2 | 19 55.5 | 125 40.0 | 6 17.3 | 194 25.2 | 23 5.4 | 290 24.9 | -1 20.5 |
| | 1 | 308 8.6 | 237 45.7 | 19 56.0 | 140 41.1 | 6 16.6 | 209 27.0 | 23 5.4 | 305 27.4 | -1 20.5 |
| | 2 | 323 11.0 | 252 45.2 | 19 56.5 | 155 42.2 | 6 16.0 | 224 28.9 | 23 5.4 | 320 29.8 | -1 20.6 |
| | 3 | 338 13.5 | 267 44.7 | 19 56.9 | 170 43.3 | 6 15.4 | 239 30.7 | 23 5.3 | 335 32.3 | -1 20.6 |
| | 4 | 353 16.0 | 282 44.3 | 19 57.4 | 185 44.4 | 6 14.8 | 254 32.6 | 23 5.3 | 350 34.8 | -1 20.6 |
| | 5 | 8 18.4 | 297 43.8 | 19 57.9 | 200 45.5 | 6 14.2 | 269 34.5 | 23 5.3 | 5 37.2 | -1 20.6 |
| | 6 | 23 20.9 | 312 43.3 | 19 58.3 | 215 46.6 | 6 13.6 | 284 36.3 | 23 5.3 | 20 39.7 | -1 20.6 |
| | 7 | 38 23.4 | 327 42.8 | 19 58.8 | 230 47.7 | 6 13.0 | 299 38.2 | 23 5.2 | 35 42.2 | -1 20.6 |
| | 8 | 53 25.8 | 342 42.3 | 19 59.2 | 245 48.8 | 6 12.4 | 314 40.0 | 23 5.2 | 50 44.6 | -1 20.6 |
| | 9 | 68 28.3 | 357 41.8 | 19 59.7 | 260 49.9 | 6 11.8 | 329 41.9 | 23 5.2 | 65 47.1 | -1 20.7 |
| | 10 | 83 30.7 | 12 41.3 | 20 0.2 | 275 51.0 | 6 11.2 | 344 43.7 | 23 5.1 | 80 49.6 | -1 20.7 |
| | 11 | 98 33.2 | 27 40.8 | 20 0.6 | 290 52.1 | 6 10.6 | 359 45.6 | 23 5.1 | 95 52.0 | -1 20.7 |
| | 12 | 113 35.7 | 42 40.3 | 20 1.1 | 305 53.2 | 6 10.0 | 14 47.5 | 23 5.1 | 110 54.5 | -1 20.7 |
| | 13 | 128 38.1 | 57 39.8 | 20 1.5 | 320 54.3 | 6 9.3 | 29 49.3 | 23 5.0 | 125 57.0 | -1 20.7 |
| | 14 | 143 40.6 | 72 39.3 | 20 2.0 | 335 55.4 | 6 8.7 | 44 51.2 | 23 5.0 | 140 59.4 | -1 20.7 |
| | 15 | 158 43.1 | 87 38.8 | 20 2.4 | 350 56.5 | 6 8.1 | 59 53.0 | 23 5.0 | 156 1.9 | -1 20.7 |
| | 16 | 173 45.5 | 102 38.3 | 20 2.9 | 5 57.6 | 6 7.5 | 74 54.9 | 23 5.0 | 171 4.4 | -1 20.8 |
| | 17 | 188 48.0 | 117 37.8 | 20 3.3 | 20 58.7 | 6 6.9 | 89 56.7 | 23 4.9 | 186 6.9 | -1 20.8 |
| | 18 | 203 50.5 | 132 37.3 | 20 3.8 | 35 59.7 | 6 6.3 | 104 58.6 | 23 4.9 | 201 9.3 | -1 20.8 |
| | 19 | 218 52.9 | 147 36.8 | 20 4.3 | 51 0.8 | 6 5.7 | 120 0.5 | 23 4.9 | 216 11.8 | -1 20.8 |
| | 20 | 233 55.4 | 162 36.3 | 20 4.7 | 66 1.9 | 6 5.1 | 135 2.3 | 23 4.8 | 231 14.3 | -1 20.8 |
| | 21 | 248 57.8 | 177 35.8 | 20 5.2 | 81 3.0 | 6 4.5 | 150 4.2 | 23 4.8 | 246 16.7 | -1 20.8 |
| | 22 | 264 0.3 | 192 35.3 | 20 5.6 | 96 4.1 | 6 3.9 | 165 6.0 | 23 4.8 | 261 19.2 | -1 20.8 |
| | 23 | 279 2.8 | 207 34.8 | 20 6.0 | 111 5.2 | 6 3.2 | 180 7.9 | 23 4.7 | 276 21.7 | -1 20.9 |
| | | MP 04:28 | *v* -0.5 | *d* 0.5 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 Wednesday | 0 | 294 5.2 | 222 34.3 | 20 6.5 | 126 6.3 | 6 2.6 | 195 9.7 | 23 4.7 | 291 24.1 | -1 20.9 |
| | 1 | 309 7.7 | 237 33.8 | 20 6.9 | 141 7.4 | 6 2.0 | 210 11.6 | 23 4.7 | 306 26.6 | -1 20.9 |
| | 2 | 324 10.2 | 252 33.3 | 20 7.4 | 156 8.5 | 6 1.4 | 225 13.5 | 23 4.6 | 321 29.1 | -1 20.9 |
| | 3 | 339 12.6 | 267 32.8 | 20 7.8 | 171 9.6 | 6 0.8 | 240 15.3 | 23 4.6 | 336 31.6 | -1 20.9 |
| | 4 | 354 15.1 | 282 32.3 | 20 8.3 | 186 10.7 | 6 0.2 | 255 17.2 | 23 4.6 | 351 34.0 | -1 20.9 |
| | 5 | 9 17.6 | 297 31.8 | 20 8.7 | 201 11.8 | 5 59.6 | 270 19.0 | 23 4.6 | 6 36.5 | -1 20.9 |
| | 6 | 24 20.0 | 312 31.3 | 20 9.2 | 216 12.9 | 5 59.0 | 285 20.9 | 23 4.5 | 21 39.0 | -1 21.0 |
| | 7 | 39 22.5 | 327 30.8 | 20 9.6 | 231 14.0 | 5 58.4 | 300 22.8 | 23 4.5 | 36 41.4 | -1 21.0 |
| | 8 | 54 25.0 | 342 30.3 | 20 10.0 | 246 15.1 | 5 57.7 | 315 24.6 | 23 4.5 | 51 43.9 | -1 21.0 |
| | 9 | 69 27.4 | 357 29.8 | 20 10.5 | 261 16.2 | 5 57.1 | 330 26.5 | 23 4.4 | 66 46.4 | -1 21.0 |
| | 10 | 84 29.9 | 12 29.3 | 20 10.9 | 276 17.2 | 5 56.5 | 345 28.3 | 23 4.4 | 81 48.9 | -1 21.0 |
| | 11 | 99 32.3 | 27 28.8 | 20 11.4 | 291 18.3 | 5 55.9 | 0 30.2 | 23 4.4 | 96 51.3 | -1 21.0 |
| | 12 | 114 34.8 | 42 28.3 | 20 11.8 | 306 19.4 | 5 55.3 | 15 32.0 | 23 4.3 | 111 53.8 | -1 21.1 |
| | 13 | 129 37.3 | 57 27.8 | 20 12.2 | 321 20.5 | 5 54.7 | 30 33.9 | 23 4.3 | 126 56.3 | -1 21.1 |
| | 14 | 144 39.7 | 72 27.3 | 20 12.7 | 336 21.6 | 5 54.1 | 45 35.8 | 23 4.3 | 141 58.7 | -1 21.1 |
| | 15 | 159 42.2 | 87 26.7 | 20 13.1 | 351 22.7 | 5 53.5 | 60 37.6 | 23 4.2 | 157 1.2 | -1 21.1 |
| | 16 | 174 44.7 | 102 26.2 | 20 13.5 | 6 23.8 | 5 52.9 | 75 39.5 | 23 4.2 | 172 3.7 | -1 21.1 |
| | 17 | 189 47.1 | 117 25.7 | 20 14.0 | 21 24.9 | 5 52.2 | 90 41.3 | 23 4.2 | 187 6.2 | -1 21.1 |
| | 18 | 204 49.6 | 132 25.2 | 20 14.4 | 36 26.0 | 5 51.6 | 105 43.2 | 23 4.2 | 202 8.6 | -1 21.2 |
| | 19 | 219 52.1 | 147 24.7 | 20 14.8 | 51 27.1 | 5 51.0 | 120 45.1 | 23 4.1 | 217 11.1 | -1 21.2 |
| | 20 | 234 54.5 | 162 24.2 | 20 15.3 | 66 28.2 | 5 50.4 | 135 46.9 | 23 4.1 | 232 13.6 | -1 21.2 |
| | 21 | 249 57.0 | 177 23.7 | 20 15.7 | 81 29.3 | 5 49.8 | 150 48.8 | 23 4.1 | 247 16.1 | -1 21.2 |
| | 22 | 264 59.4 | 192 23.2 | 20 16.1 | 96 30.4 | 5 49.2 | 165 50.6 | 23 4.0 | 262 18.5 | -1 21.2 |
| | 23 | 280 1.9 | 207 22.6 | 20 16.6 | 111 31.4 | 5 48.6 | 180 52.5 | 23 4.0 | 277 21.0 | -1 21.2 |
| | | MP 04:24 | *v* -0.5 | *d* 0.4 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 Thursday | 0 | 295 4.4 | 222 22.1 | 20 17.0 | 126 32.5 | 5 48.0 | 195 54.3 | 23 4.0 | 292 23.5 | -1 21.3 |
| | 1 | 310 6.8 | 237 21.6 | 20 17.4 | 141 33.6 | 5 47.3 | 210 56.2 | 23 3.9 | 307 26.0 | -1 21.3 |
| | 2 | 325 9.3 | 252 21.1 | 20 17.9 | 156 34.7 | 5 46.7 | 225 58.1 | 23 3.9 | 322 28.4 | -1 21.3 |
| | 3 | 340 11.8 | 267 20.6 | 20 18.3 | 171 35.8 | 5 46.1 | 240 59.9 | 23 3.9 | 337 30.9 | -1 21.3 |
| | 4 | 355 14.2 | 282 20.1 | 20 18.7 | 186 36.9 | 5 45.5 | 256 1.8 | 23 3.8 | 352 33.4 | -1 21.3 |
| | 5 | 10 16.7 | 297 19.6 | 20 19.1 | 201 38.0 | 5 44.9 | 271 3.6 | 23 3.8 | 7 35.9 | -1 21.3 |
| | 6 | 25 19.2 | 312 19.0 | 20 19.6 | 216 39.1 | 5 44.3 | 286 5.5 | 23 3.8 | 22 38.3 | -1 21.4 |
| | 7 | 40 21.6 | 327 18.5 | 20 20.0 | 231 40.2 | 5 43.7 | 301 7.4 | 23 3.7 | 37 40.8 | -1 21.4 |
| | 8 | 55 24.1 | 342 18.0 | 20 20.4 | 246 41.3 | 5 43.0 | 316 9.2 | 23 3.7 | 52 43.3 | -1 21.4 |
| | 9 | 70 26.6 | 357 17.5 | 20 20.8 | 261 42.4 | 5 42.4 | 331 11.1 | 23 3.7 | 67 45.8 | -1 21.4 |
| | 10 | 85 29.0 | 12 17.0 | 20 21.2 | 276 43.5 | 5 41.8 | 346 12.9 | 23 3.6 | 82 48.2 | -1 21.4 |
| | 11 | 100 31.5 | 27 16.5 | 20 21.7 | 291 44.5 | 5 41.2 | 1 14.8 | 23 3.6 | 97 50.7 | -1 21.4 |
| | 12 | 115 33.9 | 42 15.9 | 20 22.1 | 306 45.6 | 5 40.6 | 16 16.7 | 23 3.6 | 112 53.2 | -1 21.5 |
| | 13 | 130 36.4 | 57 15.4 | 20 22.5 | 321 46.7 | 5 40.0 | 31 18.5 | 23 3.6 | 127 55.7 | -1 21.5 |
| | 14 | 145 38.9 | 72 14.9 | 20 22.9 | 336 47.8 | 5 39.4 | 46 20.4 | 23 3.5 | 142 58.1 | -1 21.5 |
| | 15 | 160 41.3 | 87 14.4 | 20 23.3 | 351 48.9 | 5 38.8 | 61 22.2 | 23 3.5 | 158 0.6 | -1 21.5 |
| | 16 | 175 43.8 | 102 13.8 | 20 23.8 | 6 50.0 | 5 38.1 | 76 24.1 | 23 3.5 | 173 3.1 | -1 21.5 |
| | 17 | 190 46.3 | 117 13.3 | 20 24.2 | 21 51.1 | 5 37.5 | 91 26.0 | 23 3.4 | 188 5.6 | -1 21.5 |
| | 18 | 205 48.7 | 132 12.8 | 20 24.6 | 36 52.2 | 5 36.9 | 106 27.8 | 23 3.4 | 203 8.0 | -1 21.6 |
| | 19 | 220 51.2 | 147 12.3 | 20 25.0 | 51 53.3 | 5 36.3 | 121 29.7 | 23 3.4 | 218 10.5 | -1 21.6 |
| | 20 | 235 53.7 | 162 11.8 | 20 25.4 | 66 54.4 | 5 35.7 | 136 31.5 | 23 3.3 | 233 13.0 | -1 21.6 |
| | 21 | 250 56.1 | 177 11.2 | 20 25.8 | 81 55.5 | 5 35.1 | 151 33.4 | 23 3.3 | 248 15.5 | -1 21.6 |
| | 22 | 265 58.6 | 192 10.7 | 20 26.2 | 96 56.5 | 5 34.5 | 166 35.3 | 23 3.3 | 263 18.0 | -1 21.6 |
| | 23 | 281 1.1 | 207 10.2 | 20 26.6 | 111 57.6 | 5 33.8 | 181 37.1 | 23 3.2 | 278 20.4 | -1 21.7 |
| | | MP 04:20 | *v* -0.5 | *d* 0.4 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 11.9 |
| Achernar | 335 19.9 | -57 6.1 |
| Acrux | 172 59.8 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.3 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.6 | 55 49.5 |
| Alkaid | 152 51.6 | 49 11.4 |
| Alnair | 27 32.0 | -46 50.0 |
| Alnilam | 275 37.6 | -1 11.1 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.8 |
| Alpheratz | 357 34.2 | 29 13.8 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.6 | -42 9.7 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.1 |
| Atria | 107 8.4 | -69 4.6 |
| Avior | 234 15.2 | -59 35.5 |
| Bellatrix | 278 22.7 | 6 22.4 |
| Betelgeuse | 270 51.9 | 7 24.8 |
| Canopus | 263 52.7 | -52 42.4 |
| Capella | 280 21.7 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.2 |
| Denebola | 182 24.6 | 14 25.9 |
| Diphda | 348 46.8 | -17 50.6 |
| Dubhe | 193 40.9 | 61 37.0 |
| Elnath | 278 1.6 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.2 |
| Enif | 33 38.1 | 9 59.5 |
| Fomalhaut | 15 13.8 | -29 29.0 |
| Gacrux | 171 51.3 | -57 15.6 |
| Gienah | 175 43.2 | -17 41.1 |
| Hadar | 148 35.3 | -60 30.0 |
| Hamal | 327 50.8 | 23 34.9 |
| Kaus Aust. | 83 31.5 | -34 22.3 |
| Kochab | 137 19.3 | 74 3.3 |
| Markab | 13 29.3 | 15 20.6 |
| Menkar | 314 5.8 | 4 11.5 |
| Menkent | 147 57.0 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.4 |
| Mirfak | 308 27.9 | 49 56.9 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.0 |
| Pollux | 243 17.2 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.7 | -8 10.2 |
| Rigil Kent. | 139 39.5 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.4 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.2 |
| Vega | 80 32.5 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 15 Tue | SHA | MP |
|---|---|---|
| Venus | 289 40.1 | 09:09 |
| Mars | 192 33.9 | 15:36 |
| Jupiter | 261 19.1 | 11:01 |
| Saturn | 357 18.8 | 04:38 |

| 16 Wed | SHA | MP |
|---|---|---|
| Venus | 288 29.1 | 09:10 |
| Mars | 192 1.1 | 15:34 |
| Jupiter | 261 4.5 | 10:58 |
| Saturn | 357 18.9 | 04:34 |

| 17 Thu | SHA | MP |
|---|---|---|
| Venus | 287 17.8 | 09:11 |
| Mars | 191 28.2 | 15:33 |
| Jupiter | 260 50.0 | 10:55 |
| Saturn | 357 19.1 | 04:30 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **15 Tuesday** | 0 | 178 30.3 | 21 30.8 | 307 55.7 | 13.0 | -6 55.1 | -15.9 | 58.2 |
| | 1 | 193 30.2 | 21 30.4 | 322 27.7 | 13.0 | -6 39.2 | -15.9 | 58.2 |
| | 2 | 208 30.2 | 21 30.0 | 336 59.7 | 13.0 | -6 23.2 | -16.0 | 58.2 |
| | 3 | 223 30.1 | 21 29.7 | 351 31.7 | 13.0 | -6 7.2 | -16.0 | 58.2 |
| | 4 | 238 30.0 | 21 29.3 | 6 3.7 | 13.0 | -5 51.2 | -16.1 | 58.2 |
| | 5 | 253 30.0 | 21 28.9 | 20 35.8 | 13.0 | -5 35.1 | -16.1 | 58.2 |
| | 6 | 268 29.9 | 21 28.5 | 35 7.8 | 13.1 | -5 19.0 | -16.1 | 58.3 |
| | 7 | 283 29.8 | 21 28.1 | 49 39.9 | 13.1 | -5 2.9 | -16.2 | 58.3 |
| | 8 | 298 29.8 | 21 27.7 | 64 11.9 | 13.1 | -4 46.8 | -16.2 | 58.3 |
| | 9 | 313 29.7 | 21 27.3 | 78 44.0 | 13.1 | -4 30.6 | -16.2 | 58.3 |
| | 10 | 328 29.7 | 21 26.9 | 93 16.1 | 13.1 | -4 14.3 | -16.2 | 58.3 |
| | 11 | 343 29.6 | 21 26.5 | 107 48.2 | 13.1 | -3 58.1 | -16.3 | 58.3 |
| | 12 | 358 29.5 | 21 26.1 | 122 20.3 | 13.1 | -3 41.8 | -16.3 | 58.4 |
| | 13 | 13 29.5 | 21 25.7 | 136 52.3 | 13.1 | -3 25.5 | -16.3 | 58.4 |
| | 14 | 28 29.4 | 21 25.3 | 151 24.4 | 13.1 | -3 9.2 | -16.3 | 58.4 |
| | 15 | 43 29.4 | 21 24.8 | 165 56.5 | 13.1 | -2 52.8 | -16.4 | 58.4 |
| | 16 | 58 29.3 | 21 24.4 | 180 28.6 | 13.1 | -2 36.5 | -16.4 | 58.4 |
| | 17 | 73 29.2 | 21 24.0 | 195 0.7 | 13.1 | -2 20.1 | -16.4 | 58.4 |
| | 18 | 88 29.2 | 21 23.6 | 209 32.8 | 13.1 | -2 3.7 | -16.4 | 58.5 |
| | 19 | 103 29.1 | 21 23.2 | 224 4.9 | 13.1 | -1 47.2 | -16.4 | 58.5 |
| | 20 | 118 29.1 | 21 22.8 | 238 37.0 | 13.1 | -1 30.8 | -16.5 | 58.5 |
| | 21 | 133 29.0 | 21 22.4 | 253 9.1 | 13.1 | -1 14.3 | -16.5 | 58.5 |
| | 22 | 148 28.9 | 21 22.0 | 267 41.1 | 13.1 | -0 57.9 | -16.5 | 58.5 |
| | 23 | 163 28.9 | 21 21.6 | 282 13.2 | 13.0 | -0 41.4 | -16.5 | 58.5 |
| | | *v* -0.1 SD 15.7 *d* -0.4 | | SD 15.9 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **16 Wednesday** | 0 | 178 28.8 | 21 21.2 | 296 45.2 | 13.0 | -0 24.9 | -16.5 | 58.6 |
| | 1 | 193 28.8 | 21 20.8 | 311 17.3 | 13.0 | -0 8.4 | 16.5 | 58.6 |
| | 2 | 208 28.7 | 21 20.4 | 325 49.3 | 13.0 | 0 8.2 | 16.5 | 58.6 |
| | 3 | 223 28.6 | 21 20.0 | 340 21.3 | 13.0 | 0 24.7 | 16.5 | 58.6 |
| | 4 | 238 28.6 | 21 19.5 | 354 53.3 | 13.0 | 0 41.2 | 16.5 | 58.6 |
| | 5 | 253 28.5 | 21 19.1 | 9 25.2 | 12.9 | 0 57.8 | 16.5 | 58.6 |
| | 6 | 268 28.5 | 21 18.7 | 23 57.2 | 12.9 | 1 14.3 | 16.5 | 58.6 |
| | 7 | 283 28.4 | 21 18.3 | 38 29.1 | 12.9 | 1 30.8 | 16.5 | 58.7 |
| | 8 | 298 28.4 | 21 17.9 | 53 1.0 | 12.9 | 1 47.4 | 16.5 | 58.7 |
| | 9 | 313 28.3 | 21 17.5 | 67 32.9 | 12.9 | 2 3.9 | 16.5 | 58.7 |
| | 10 | 328 28.2 | 21 17.1 | 82 4.8 | 12.8 | 2 20.5 | 16.5 | 58.7 |
| | 11 | 343 28.2 | 21 16.6 | 96 36.6 | 12.8 | 2 37.0 | 16.5 | 58.7 |
| | 12 | 358 28.1 | 21 16.2 | 111 8.4 | 12.8 | 2 53.5 | 16.5 | 58.7 |
| | 13 | 13 28.1 | 21 15.8 | 125 40.2 | 12.7 | 3 10.1 | 16.5 | 58.8 |
| | 14 | 28 28.0 | 21 15.4 | 140 11.9 | 12.7 | 3 26.6 | 16.5 | 58.8 |
| | 15 | 43 28.0 | 21 15.0 | 154 43.6 | 12.7 | 3 43.1 | 16.5 | 58.8 |
| | 16 | 58 27.9 | 21 14.5 | 169 15.3 | 12.6 | 3 59.6 | 16.5 | 58.8 |
| | 17 | 73 27.9 | 21 14.1 | 183 47.0 | 12.6 | 4 16.1 | 16.5 | 58.8 |
| | 18 | 88 27.8 | 21 13.7 | 198 18.6 | 12.6 | 4 32.5 | 16.5 | 58.8 |
| | 19 | 103 27.8 | 21 13.3 | 212 50.2 | 12.5 | 4 49.0 | 16.4 | 58.8 |
| | 20 | 118 27.7 | 21 12.9 | 227 21.7 | 12.5 | 5 5.4 | 16.4 | 58.9 |
| | 21 | 133 27.6 | 21 12.4 | 241 53.2 | 12.5 | 5 21.9 | 16.4 | 58.9 |
| | 22 | 148 27.6 | 21 12.0 | 256 24.6 | 12.4 | 5 38.3 | 16.4 | 58.9 |
| | 23 | 163 27.5 | 21 11.6 | 270 56.0 | 12.4 | 5 54.7 | 16.4 | 58.9 |
| | | *v* -0.1 SD 15.7 *d* -0.4 | | SD 16.0 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **17 Thursday** | 0 | 178 27.5 | 21 11.2 | 285 27.4 | 12.3 | 6 11.0 | 16.3 | 58.9 |
| | 1 | 193 27.4 | 21 10.7 | 299 58.7 | 12.3 | 6 27.4 | 16.3 | 58.9 |
| | 2 | 208 27.4 | 21 10.3 | 314 30.0 | 12.2 | 6 43.7 | 16.3 | 58.9 |
| | 3 | 223 27.3 | 21 9.9 | 329 1.2 | 12.2 | 7 0.0 | 16.3 | 59.0 |
| | 4 | 238 27.3 | 21 9.5 | 343 32.4 | 12.1 | 7 16.2 | 16.2 | 59.0 |
| | 5 | 253 27.2 | 21 9.0 | 358 3.5 | 12.1 | 7 32.5 | 16.2 | 59.0 |
| | 6 | 268 27.2 | 21 8.6 | 12 34.6 | 12.0 | 7 48.7 | 16.2 | 59.0 |
| | 7 | 283 27.1 | 21 8.2 | 27 5.6 | 12.0 | 8 4.9 | 16.1 | 59.0 |
| | 8 | 298 27.1 | 21 7.7 | 41 36.6 | 11.9 | 8 21.0 | 16.1 | 59.0 |
| | 9 | 313 27.0 | 21 7.3 | 56 7.5 | 11.9 | 8 37.1 | 16.1 | 59.0 |
| | 10 | 328 27.0 | 21 6.9 | 70 38.4 | 11.8 | 8 53.2 | 16.0 | 59.0 |
| | 11 | 343 26.9 | 21 6.5 | 85 9.2 | 11.7 | 9 9.2 | 16.0 | 59.1 |
| | 12 | 358 26.9 | 21 6.0 | 99 39.9 | 11.7 | 9 25.2 | 16.0 | 59.1 |
| | 13 | 13 26.8 | 21 5.6 | 114 10.6 | 11.6 | 9 41.2 | 15.9 | 59.1 |
| | 14 | 28 26.8 | 21 5.2 | 128 41.2 | 11.5 | 9 57.1 | 15.9 | 59.1 |
| | 15 | 43 26.7 | 21 4.7 | 143 11.7 | 11.5 | 10 12.9 | 15.8 | 59.1 |
| | 16 | 58 26.7 | 21 4.3 | 157 42.2 | 11.4 | 10 28.7 | 15.8 | 59.1 |
| | 17 | 73 26.6 | 21 3.9 | 172 12.6 | 11.3 | 10 44.5 | 15.7 | 59.1 |
| | 18 | 88 26.6 | 21 3.4 | 186 43.0 | 11.3 | 11 0.2 | 15.7 | 59.1 |
| | 19 | 103 26.5 | 21 3.0 | 201 13.2 | 11.2 | 11 15.9 | 15.6 | 59.1 |
| | 20 | 118 26.5 | 21 2.5 | 215 43.4 | 11.1 | 11 31.5 | 15.6 | 59.2 |
| | 21 | 133 26.4 | 21 2.1 | 230 13.6 | 11.1 | 11 47.1 | 15.5 | 59.2 |
| | 22 | 148 26.4 | 21 1.7 | 244 43.6 | 11.0 | 12 2.6 | 15.5 | 59.2 |
| | 23 | 163 26.3 | 21 1.2 | 259 13.6 | 10.9 | 12 18.1 | 15.4 | 59.2 |
| | | *v* -0.1 SD 15.7 *d* -0.4 | | SD 16.1 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | //// | //// | 01:36 | 22:32 | //// | //// |
| 64 | //// | //// | 02:16 | 21:54 | //// | //// |
| 62 | //// | 00:51 | 02:43 | 21:27 | 23:14 | //// |
| 60 | //// | 01:46 | 03:04 | 21:07 | 22:24 | //// |
| 58 | //// | 02:16 | 03:21 | 20:50 | 21:54 | //// |
| 56 | 00:47 | 02:39 | 03:35 | 20:36 | 21:31 | 23:19 |
| 54 | 01:37 | 02:57 | 03:47 | 20:24 | 21:13 | 22:33 |
| 52 | 02:06 | 03:13 | 03:58 | 20:13 | 20:58 | 22:05 |
| 50 | 02:27 | 03:26 | 04:08 | 20:04 | 20:46 | 21:44 |
| 45 | 03:05 | 03:52 | 04:28 | 19:44 | 20:20 | 21:06 |
| 40 | 03:32 | 04:12 | 04:44 | 19:28 | 20:00 | 20:39 |
| 35 | 03:53 | 04:28 | 04:57 | 19:14 | 19:43 | 20:19 |
| 30 | 04:10 | 04:42 | 05:09 | 19:03 | 19:29 | 20:02 |
| 20 | 04:36 | 05:05 | 05:29 | 18:43 | 19:07 | 19:35 |
| 10 | 04:57 | 05:24 | 05:46 | 18:26 | 18:48 | 19:15 |
| 0 | 05:14 | 05:40 | 06:02 | 18:10 | 18:32 | 18:58 |
| -10 | 05:30 | 05:56 | 06:18 | 17:54 | 18:16 | 18:42 |
| -20 | 05:44 | 06:11 | 06:35 | 17:37 | 18:01 | 18:28 |
| -30 | 05:59 | 06:28 | 06:54 | 17:18 | 17:44 | 18:13 |
| -35 | 06:07 | 06:38 | 07:05 | 17:07 | 17:34 | 18:06 |
| -40 | 06:15 | 06:48 | 07:18 | 16:54 | 17:24 | 17:57 |
| -45 | 06:24 | 07:00 | 07:33 | 16:39 | 17:12 | 17:49 |
| -50 | 06:34 | 07:14 | 07:52 | 16:21 | 16:58 | 17:39 |
| -52 | 06:38 | 07:21 | 08:00 | 16:12 | 16:52 | 17:34 |
| -54 | 06:43 | 07:28 | 08:10 | 16:03 | 16:44 | 17:29 |
| -56 | 06:48 | 07:36 | 08:21 | 15:52 | 16:37 | 17:24 |
| -58 | 06:54 | 07:45 | 08:33 | 15:39 | 16:28 | 17:19 |
| -60 | 07:00 | 07:55 | 08:48 | 15:24 | 16:18 | 17:12 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **15** | **16** | **17** | **15** | **16** | **17** |
| 72 | 22:22 | 21:46 | 21:02 | 08:46 | 11:04 | 13:31 |
| 70 | 22:21 | 21:53 | 21:21 | 08:53 | 11:01 | 13:14 |
| 68 | 22:20 | 21:59 | 21:36 | 08:58 | 10:58 | 13:02 |
| 66 | 22:19 | 22:05 | 21:48 | 09:03 | 10:55 | 12:51 |
| 64 | 22:18 | 22:09 | 21:59 | 09:07 | 10:53 | 12:43 |
| 62 | 22:18 | 22:13 | 22:08 | 09:10 | 10:51 | 12:35 |
| 60 | 22:17 | 22:16 | 22:16 | 09:13 | 10:50 | 12:29 |
| 58 | 22:17 | 22:19 | 22:23 | 09:16 | 10:49 | 12:23 |
| 56 | 22:16 | 22:22 | 22:29 | 09:18 | 10:47 | 12:18 |
| 54 | 22:16 | 22:24 | 22:34 | 09:20 | 10:46 | 12:14 |
| 52 | 22:15 | 22:26 | 22:39 | 09:22 | 10:45 | 12:10 |
| 50 | 22:15 | 22:29 | 22:44 | 09:24 | 10:44 | 12:06 |
| 45 | 22:14 | 22:33 | 22:53 | 09:28 | 10:42 | 11:59 |
| 40 | 22:13 | 22:37 | 23:02 | 09:31 | 10:41 | 11:52 |
| 35 | 22:13 | 22:40 | 23:09 | 09:33 | 10:39 | 11:47 |
| 30 | 22:12 | 22:43 | 23:15 | 09:35 | 10:38 | 11:42 |
| 20 | 22:12 | 22:48 | 23:26 | 09:39 | 10:36 | 11:34 |
| 10 | 22:11 | 22:52 | 23:36 | 09:43 | 10:34 | 11:26 |
| 0 | 22:10 | 22:57 | 23:45 | 09:46 | 10:32 | 11:19 |
| -10 | 22:09 | 23:01 | 23:55 | 09:49 | 10:30 | 11:13 |
| -20 | 22:09 | 23:06 | –:– | 09:52 | 10:28 | 11:05 |
| -30 | 22:08 | 23:11 | –:– | 09:56 | 10:26 | 10:57 |
| -35 | 22:08 | 23:14 | –:– | 09:58 | 10:25 | 10:53 |
| -40 | 22:07 | 23:18 | –:– | 10:00 | 10:23 | 10:47 |
| -45 | 22:07 | 23:22 | –:– | 10:03 | 10:22 | 10:41 |
| -50 | 22:06 | 23:27 | –:– | 10:06 | 10:20 | 10:34 |
| -52 | 22:06 | 23:29 | –:– | 10:08 | 10:19 | 10:31 |
| -54 | 22:05 | 23:32 | –:– | 10:09 | 10:18 | 10:27 |
| -56 | 22:05 | 23:35 | –:– | 10:11 | 10:17 | 10:23 |
| -58 | 22:04 | 23:38 | –:– | 10:13 | 10:16 | 10:18 |
| -60 | 22:04 | 23:41 | –:– | 10:15 | 10:14 | 10:13 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **15** | 05:59 | 06:02 | 12:06 | 03:35 | 15:58 | 20 | 82 |
| **16** | 06:05 | 06:07 | 12:06 | 04:21 | 16:44 | 21 | 72 |
| **17** | 06:10 | 06:13 | 12:06 | 05:08 | 17:32 | 22 | 62 |

| | | Aries | Venus -4.1 | | Mars 1.6 | | Jupiter -1.9 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| **18 Friday** | 0 | 296 3.5 | 222 9.7 | 20 27.1 | 126 58.7 | 5 33.2 | 196 39.0 | 23 3.2 | 293 22.9 | -1 21.7 |
| | 1 | 311 6.0 | 237 9.1 | 20 27.5 | 141 59.8 | 5 32.6 | 211 40.8 | 23 3.2 | 308 25.4 | -1 21.7 |
| | 2 | 326 8.4 | 252 8.6 | 20 27.9 | 157 0.9 | 5 32.0 | 226 42.7 | 23 3.1 | 323 27.9 | -1 21.7 |
| | 3 | 341 10.9 | 267 8.1 | 20 28.3 | 172 2.0 | 5 31.4 | 241 44.6 | 23 3.1 | 338 30.4 | -1 21.7 |
| | 4 | 356 13.4 | 282 7.5 | 20 28.7 | 187 3.1 | 5 30.8 | 256 46.4 | 23 3.1 | 353 32.8 | -1 21.8 |
| | 5 | 11 15.8 | 297 7.0 | 20 29.1 | 202 4.2 | 5 30.1 | 271 48.3 | 23 3.0 | 8 35.3 | -1 21.8 |
| | 6 | 26 18.3 | 312 6.5 | 20 29.5 | 217 5.3 | 5 29.5 | 286 50.1 | 23 3.0 | 23 37.8 | -1 21.8 |
| | 7 | 41 20.8 | 327 6.0 | 20 29.9 | 232 6.4 | 5 28.9 | 301 52.0 | 23 3.0 | 38 40.3 | -1 21.8 |
| | 8 | 56 23.2 | 342 5.4 | 20 30.3 | 247 7.4 | 5 28.3 | 316 53.9 | 23 2.9 | 53 42.7 | -1 21.8 |
| | 9 | 71 25.7 | 357 4.9 | 20 30.7 | 262 8.5 | 5 27.7 | 331 55.7 | 23 2.9 | 68 45.2 | -1 21.8 |
| | 10 | 86 28.2 | 12 4.4 | 20 31.1 | 277 9.6 | 5 27.1 | 346 57.6 | 23 2.9 | 83 47.7 | -1 21.9 |
| | 11 | 101 30.6 | 27 3.8 | 20 31.5 | 292 10.7 | 5 26.5 | 1 59.4 | 23 2.8 | 98 50.2 | -1 21.9 |
| | 12 | 116 33.1 | 42 3.3 | 20 31.9 | 307 11.8 | 5 25.8 | 17 1.3 | 23 2.8 | 113 52.7 | -1 21.9 |
| | 13 | 131 35.5 | 57 2.8 | 20 32.3 | 322 12.9 | 5 25.2 | 32 3.2 | 23 2.8 | 128 55.1 | -1 21.9 |
| | 14 | 146 38.0 | 72 2.2 | 20 32.7 | 337 14.0 | 5 24.6 | 47 5.0 | 23 2.7 | 143 57.6 | -1 21.9 |
| | 15 | 161 40.5 | 87 1.7 | 20 33.1 | 352 15.1 | 5 24.0 | 62 6.9 | 23 2.7 | 159 0.1 | -1 22.0 |
| | 16 | 176 42.9 | 102 1.2 | 20 33.5 | 7 16.2 | 5 23.4 | 77 8.8 | 23 2.7 | 174 2.6 | -1 22.0 |
| | 17 | 191 45.4 | 117 0.6 | 20 33.9 | 22 17.2 | 5 22.8 | 92 10.6 | 23 2.6 | 189 5.1 | -1 22.0 |
| | 18 | 206 47.9 | 132 0.1 | 20 34.3 | 37 18.3 | 5 22.1 | 107 12.5 | 23 2.6 | 204 7.6 | -1 22.0 |
| | 19 | 221 50.3 | 146 59.6 | 20 34.7 | 52 19.4 | 5 21.5 | 122 14.3 | 23 2.6 | 219 10.0 | -1 22.0 |
| | 20 | 236 52.8 | 161 59.0 | 20 35.1 | 67 20.5 | 5 20.9 | 137 16.2 | 23 2.5 | 234 12.5 | -1 22.1 |
| | 21 | 251 55.3 | 176 58.5 | 20 35.5 | 82 21.6 | 5 20.3 | 152 18.1 | 23 2.5 | 249 15.0 | -1 22.1 |
| | 22 | 266 57.7 | 191 58.0 | 20 35.9 | 97 22.7 | 5 19.7 | 167 19.9 | 23 2.5 | 264 17.5 | -1 22.1 |
| | 23 | 282 0.2 | 206 57.4 | 20 36.3 | 112 23.8 | 5 19.1 | 182 21.8 | 23 2.4 | 279 20.0 | -1 22.1 |
| | | MP 04:16 | *v* -0.5 | *d* 0.4 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **19 Saturday** | 0 | 297 2.7 | 221 56.9 | 20 36.6 | 127 24.9 | 5 18.4 | 197 23.6 | 23 2.4 | 294 22.4 | -1 22.1 |
| | 1 | 312 5.1 | 236 56.3 | 20 37.0 | 142 26.0 | 5 17.8 | 212 25.5 | 23 2.4 | 309 24.9 | -1 22.2 |
| | 2 | 327 7.6 | 251 55.8 | 20 37.4 | 157 27.0 | 5 17.2 | 227 27.4 | 23 2.3 | 324 27.4 | -1 22.2 |
| | 3 | 342 10.0 | 266 55.3 | 20 37.8 | 172 28.1 | 5 16.6 | 242 29.2 | 23 2.3 | 339 29.9 | -1 22.2 |
| | 4 | 357 12.5 | 281 54.7 | 20 38.2 | 187 29.2 | 5 16.0 | 257 31.1 | 23 2.3 | 354 32.4 | -1 22.2 |
| | 5 | 12 15.0 | 296 54.2 | 20 38.6 | 202 30.3 | 5 15.4 | 272 33.0 | 23 2.2 | 9 34.9 | -1 22.2 |
| | 6 | 27 17.4 | 311 53.7 | 20 39.0 | 217 31.4 | 5 14.7 | 287 34.8 | 23 2.2 | 24 37.3 | -1 22.3 |
| | 7 | 42 19.9 | 326 53.1 | 20 39.4 | 232 32.5 | 5 14.1 | 302 36.7 | 23 2.2 | 39 39.8 | -1 22.3 |
| | 8 | 57 22.4 | 341 52.6 | 20 39.7 | 247 33.6 | 5 13.5 | 317 38.5 | 23 2.1 | 54 42.3 | -1 22.3 |
| | 9 | 72 24.8 | 356 52.0 | 20 40.1 | 262 34.7 | 5 12.9 | 332 40.4 | 23 2.1 | 69 44.8 | -1 22.3 |
| | 10 | 87 27.3 | 11 51.5 | 20 40.5 | 277 35.7 | 5 12.3 | 347 42.3 | 23 2.1 | 84 47.3 | -1 22.3 |
| | 11 | 102 29.8 | 26 50.9 | 20 40.9 | 292 36.8 | 5 11.6 | 2 44.1 | 23 2.0 | 99 49.8 | -1 22.4 |
| | 12 | 117 32.2 | 41 50.4 | 20 41.3 | 307 37.9 | 5 11.0 | 17 46.0 | 23 2.0 | 114 52.2 | -1 22.4 |
| | 13 | 132 34.7 | 56 49.9 | 20 41.6 | 322 39.0 | 5 10.4 | 32 47.9 | 23 2.0 | 129 54.7 | -1 22.4 |
| | 14 | 147 37.2 | 71 49.3 | 20 42.0 | 337 40.1 | 5 9.8 | 47 49.7 | 23 1.9 | 144 57.2 | -1 22.4 |
| | 15 | 162 39.6 | 86 48.8 | 20 42.4 | 352 41.2 | 5 9.2 | 62 51.6 | 23 1.9 | 159 59.7 | -1 22.4 |
| | 16 | 177 42.1 | 101 48.2 | 20 42.8 | 7 42.3 | 5 8.6 | 77 53.4 | 23 1.9 | 175 2.2 | -1 22.5 |
| | 17 | 192 44.5 | 116 47.7 | 20 43.2 | 22 43.4 | 5 7.9 | 92 55.3 | 23 1.8 | 190 4.7 | -1 22.5 |
| | 18 | 207 47.0 | 131 47.1 | 20 43.5 | 37 44.4 | 5 7.3 | 107 57.2 | 23 1.8 | 205 7.1 | -1 22.5 |
| | 19 | 222 49.5 | 146 46.6 | 20 43.9 | 52 45.5 | 5 6.7 | 122 59.0 | 23 1.8 | 220 9.6 | -1 22.5 |
| | 20 | 237 51.9 | 161 46.0 | 20 44.3 | 67 46.6 | 5 6.1 | 138 0.9 | 23 1.7 | 235 12.1 | -1 22.6 |
| | 21 | 252 54.4 | 176 45.5 | 20 44.6 | 82 47.7 | 5 5.5 | 153 2.8 | 23 1.7 | 250 14.6 | -1 22.6 |
| | 22 | 267 56.9 | 191 44.9 | 20 45.0 | 97 48.8 | 5 4.8 | 168 4.6 | 23 1.7 | 265 17.1 | -1 22.6 |
| | 23 | 282 59.3 | 206 44.4 | 20 45.4 | 112 49.9 | 5 4.2 | 183 6.5 | 23 1.6 | 280 19.6 | -1 22.6 |
| | | MP 04:12 | *v* -0.5 | *d* 0.4 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **20 Sunday** | 0 | 298 1.8 | 221 43.8 | 20 45.8 | 127 51.0 | 5 3.6 | 198 8.3 | 23 1.6 | 295 22.1 | -1 22.6 |
| | 1 | 313 4.3 | 236 43.3 | 20 46.1 | 142 52.1 | 5 3.0 | 213 10.2 | 23 1.6 | 310 24.5 | -1 22.7 |
| | 2 | 328 6.7 | 251 42.7 | 20 46.5 | 157 53.1 | 5 2.4 | 228 12.1 | 23 1.5 | 325 27.0 | -1 22.7 |
| | 3 | 343 9.2 | 266 42.2 | 20 46.9 | 172 54.2 | 5 1.7 | 243 13.9 | 23 1.5 | 340 29.5 | -1 22.7 |
| | 4 | 358 11.7 | 281 41.6 | 20 47.2 | 187 55.3 | 5 1.1 | 258 15.8 | 23 1.5 | 355 32.0 | -1 22.7 |
| | 5 | 13 14.1 | 296 41.1 | 20 47.6 | 202 56.4 | 5 0.5 | 273 17.7 | 23 1.4 | 10 34.5 | -1 22.7 |
| | 6 | 28 16.6 | 311 40.5 | 20 48.0 | 217 57.5 | 4 59.9 | 288 19.5 | 23 1.4 | 25 37.0 | -1 22.8 |
| | 7 | 43 19.0 | 326 40.0 | 20 48.3 | 232 58.6 | 4 59.3 | 303 21.4 | 23 1.4 | 40 39.5 | -1 22.8 |
| | 8 | 58 21.5 | 341 39.4 | 20 48.7 | 247 59.7 | 4 58.6 | 318 23.3 | 23 1.3 | 55 42.0 | -1 22.8 |
| | 9 | 73 24.0 | 356 38.9 | 20 49.1 | 263 0.7 | 4 58.0 | 333 25.1 | 23 1.3 | 70 44.4 | -1 22.8 |
| | 10 | 88 26.4 | 11 38.3 | 20 49.4 | 278 1.8 | 4 57.4 | 348 27.0 | 23 1.3 | 85 46.9 | -1 22.9 |
| | 11 | 103 28.9 | 26 37.8 | 20 49.8 | 293 2.9 | 4 56.8 | 3 28.8 | 23 1.2 | 100 49.4 | -1 22.9 |
| | 12 | 118 31.4 | 41 37.2 | 20 50.1 | 308 4.0 | 4 56.2 | 18 30.7 | 23 1.2 | 115 51.9 | -1 22.9 |
| | 13 | 133 33.8 | 56 36.7 | 20 50.5 | 323 5.1 | 4 55.5 | 33 32.6 | 23 1.2 | 130 54.4 | -1 22.9 |
| | 14 | 148 36.3 | 71 36.1 | 20 50.9 | 338 6.2 | 4 54.9 | 48 34.4 | 23 1.1 | 145 56.9 | -1 22.9 |
| | 15 | 163 38.8 | 86 35.6 | 20 51.2 | 353 7.3 | 4 54.3 | 63 36.3 | 23 1.1 | 160 59.4 | -1 23.0 |
| | 16 | 178 41.2 | 101 35.0 | 20 51.6 | 8 8.3 | 4 53.7 | 78 38.2 | 23 1.1 | 176 1.9 | -1 23.0 |
| | 17 | 193 43.7 | 116 34.4 | 20 51.9 | 23 9.4 | 4 53.1 | 93 40.0 | 23 1.0 | 191 4.3 | -1 23.0 |
| | 18 | 208 46.1 | 131 33.9 | 20 52.3 | 38 10.5 | 4 52.4 | 108 41.9 | 23 1.0 | 206 6.8 | -1 23.0 |
| | 19 | 223 48.6 | 146 33.3 | 20 52.6 | 53 11.6 | 4 51.8 | 123 43.8 | 23 1.0 | 221 9.3 | -1 23.1 |
| | 20 | 238 51.1 | 161 32.8 | 20 53.0 | 68 12.7 | 4 51.2 | 138 45.6 | 23 0.9 | 236 11.8 | -1 23.1 |
| | 21 | 253 53.5 | 176 32.2 | 20 53.3 | 83 13.8 | 4 50.6 | 153 47.5 | 23 0.9 | 251 14.3 | -1 23.1 |
| | 22 | 268 56.0 | 191 31.6 | 20 53.7 | 98 14.9 | 4 50.0 | 168 49.4 | 23 0.8 | 266 16.8 | -1 23.1 |
| | 23 | 283 58.5 | 206 31.1 | 20 54.0 | 113 15.9 | 4 49.3 | 183 51.2 | 23 0.8 | 281 19.3 | -1 23.2 |
| | | MP 04:09 | *v* -0.5 | *d* 0.4 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

## Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 11.8 |
| Achernar | 335 19.8 | -57 6.1 |
| Acrux | 172 59.9 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.3 |
| Aldebaran | 290 39.4 | 16 33.6 |
| Alioth | 166 12.7 | 55 49.5 |
| Alkaid | 152 51.6 | 49 11.4 |
| Alnair | 27 32.0 | -46 50.0 |
| Alnilam | 275 37.6 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.9 |
| Alpheratz | 357 34.2 | 29 13.8 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.6 | -42 9.7 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.4 | 19 3.1 |
| Atria | 107 8.4 | -69 4.6 |
| Avior | 234 15.2 | -59 35.5 |
| Bellatrix | 278 22.7 | 6 22.4 |
| Betelgeuse | 270 51.9 | 7 24.8 |
| Canopus | 263 52.7 | -52 42.4 |
| Capella | 280 21.6 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.2 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.8 | -17 50.6 |
| Dubhe | 193 40.9 | 61 37.0 |
| Elnath | 278 1.6 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.2 |
| Enif | 33 38.1 | 9 59.6 |
| Fomalhaut | 15 13.8 | -29 29.0 |
| Gacrux | 171 51.4 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.1 |
| Hadar | 148 35.3 | -60 30.0 |
| Hamal | 327 50.8 | 23 34.9 |
| Kaus Aust. | 83 31.5 | -34 22.4 |
| Kochab | 137 19.4 | 74 3.3 |
| Markab | 13 29.3 | 15 20.6 |
| Menkar | 314 5.8 | 4 11.5 |
| Menkent | 147 57.1 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.4 |
| Mirfak | 308 27.9 | 49 56.9 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.1 |
| Pollux | 243 17.1 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.5 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.7 | -8 10.2 |
| Rigil Kent. | 139 39.5 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.4 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 45.0 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.2 |
| Vega | 80 32.5 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| **18 Fri** | SHA | MP |
|---|---|---|
| Venus | 286 6.1 | 09:12 |
| Mars | 190 55.2 | 15:31 |
| Jupiter | 260 35.5 | 10:52 |
| Saturn | 357 19.4 | 04:26 |

| **19 Sat** | SHA | MP |
|---|---|---|
| Venus | 284 54.2 | 09:13 |
| Mars | 190 22.2 | 15:29 |
| Jupiter | 260 21.0 | 10:49 |
| Saturn | 357 19.8 | 04:22 |

| **20 Sun** | SHA | MP |
|---|---|---|
| Venus | 283 42.0 | 09:13 |
| Mars | 189 49.2 | 15:27 |
| Jupiter | 260 6.6 | 10:46 |
| Saturn | 357 20.3 | 04:18 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **18 Friday** | 0 | 178 26.3 | 21 0.8 | 273 43.5 | 10.8 | 12 33.5 | 15.3 | 59.2 |
| | 1 | 193 26.2 | 21 0.3 | 288 13.4 | 10.8 | 12 48.8 | 15.3 | 59.2 |
| | 2 | 208 26.2 | 20 59.9 | 302 43.1 | 10.7 | 13 4.1 | 15.2 | 59.2 |
| | 3 | 223 26.1 | 20 59.5 | 317 12.8 | 10.6 | 13 19.3 | 15.1 | 59.2 |
| | 4 | 238 26.1 | 20 59.0 | 331 42.4 | 10.5 | 13 34.4 | 15.1 | 59.2 |
| | 5 | 253 26.0 | 20 58.6 | 346 11.9 | 10.4 | 13 49.5 | 15.0 | 59.3 |
| | 6 | 268 26.0 | 20 58.1 | 0 41.3 | 10.3 | 14 4.5 | 14.9 | 59.3 |
| | 7 | 283 25.9 | 20 57.7 | 15 10.7 | 10.3 | 14 19.5 | 14.9 | 59.3 |
| | 8 | 298 25.9 | 20 57.3 | 29 39.9 | 10.2 | 14 34.3 | 14.8 | 59.3 |
| | 9 | 313 25.9 | 20 56.8 | 44 9.1 | 10.1 | 14 49.1 | 14.7 | 59.3 |
| | 10 | 328 25.8 | 20 56.4 | 58 38.2 | 10.0 | 15 3.9 | 14.6 | 59.3 |
| | 11 | 343 25.8 | 20 55.9 | 73 7.2 | 9.9 | 15 18.5 | 14.6 | 59.3 |
| | 12 | 358 25.7 | 20 55.5 | 87 36.1 | 9.8 | 15 33.1 | 14.5 | 59.3 |
| | 13 | 13 25.7 | 20 55.0 | 102 4.9 | 9.7 | 15 47.6 | 14.4 | 59.3 |
| | 14 | 28 25.6 | 20 54.6 | 116 33.6 | 9.6 | 16 2.0 | 14.3 | 59.3 |
| | 15 | 43 25.6 | 20 54.1 | 131 2.3 | 9.5 | 16 16.3 | 14.2 | 59.4 |
| | 16 | 58 25.5 | 20 53.7 | 145 30.8 | 9.5 | 16 30.5 | 14.2 | 59.4 |
| | 17 | 73 25.5 | 20 53.2 | 159 59.3 | 9.4 | 16 44.7 | 14.1 | 59.4 |
| | 18 | 88 25.5 | 20 52.8 | 174 27.6 | 9.3 | 16 58.7 | 14.0 | 59.4 |
| | 19 | 103 25.4 | 20 52.3 | 188 55.9 | 9.2 | 17 12.7 | 13.9 | 59.4 |
| | 20 | 118 25.4 | 20 51.9 | 203 24.0 | 9.1 | 17 26.6 | 13.8 | 59.4 |
| | 21 | 133 25.3 | 20 51.4 | 217 52.1 | 9.0 | 17 40.4 | 13.7 | 59.4 |
| | 22 | 148 25.3 | 20 51.0 | 232 20.1 | 8.9 | 17 54.1 | 13.6 | 59.4 |
| | 23 | 163 25.2 | 20 50.5 | 246 48.0 | 8.8 | 18 7.7 | 13.5 | 59.4 |
| | *v* | 0.0 | SD 15.7 *d* -0.4 | | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **19 Saturday** | 0 | 178 25.2 | 20 50.1 | 261 15.7 | 8.7 | 18 21.1 | 13.4 | 59.4 |
| | 1 | 193 25.2 | 20 49.6 | 275 43.4 | 8.6 | 18 34.5 | 13.3 | 59.4 |
| | 2 | 208 25.1 | 20 49.1 | 290 11.0 | 8.5 | 18 47.8 | 13.2 | 59.4 |
| | 3 | 223 25.1 | 20 48.7 | 304 38.4 | 8.4 | 19 1.0 | 13.1 | 59.4 |
| | 4 | 238 25.0 | 20 48.2 | 319 5.8 | 8.3 | 19 14.1 | 13.0 | 59.5 |
| | 5 | 253 25.0 | 20 47.8 | 333 33.1 | 8.2 | 19 27.1 | 12.9 | 59.5 |
| | 6 | 268 25.0 | 20 47.3 | 348 0.2 | 8.1 | 19 39.9 | 12.7 | 59.5 |
| | 7 | 283 24.9 | 20 46.9 | 2 27.3 | 8.0 | 19 52.7 | 12.6 | 59.5 |
| | 8 | 298 24.9 | 20 46.4 | 16 54.2 | 7.9 | 20 5.3 | 12.5 | 59.5 |
| | 9 | 313 24.8 | 20 45.9 | 31 21.1 | 7.7 | 20 17.8 | 12.4 | 59.5 |
| | 10 | 328 24.8 | 20 45.5 | 45 47.8 | 7.6 | 20 30.2 | 12.3 | 59.5 |
| | 11 | 343 24.8 | 20 45.0 | 60 14.5 | 7.5 | 20 42.5 | 12.2 | 59.5 |
| | 12 | 358 24.7 | 20 44.6 | 74 41.0 | 7.4 | 20 54.6 | 12.0 | 59.5 |
| | 13 | 13 24.7 | 20 44.1 | 89 7.5 | 7.3 | 21 6.7 | 11.9 | 59.5 |
| | 14 | 28 24.6 | 20 43.6 | 103 33.8 | 7.2 | 21 18.6 | 11.8 | 59.5 |
| | 15 | 43 24.6 | 20 43.2 | 118 0.0 | 7.1 | 21 30.4 | 11.7 | 59.5 |
| | 16 | 58 24.6 | 20 42.7 | 132 26.1 | 7.0 | 21 42.0 | 11.5 | 59.5 |
| | 17 | 73 24.5 | 20 42.2 | 146 52.1 | 6.9 | 21 53.5 | 11.4 | 59.5 |
| | 18 | 88 24.5 | 20 41.8 | 161 18.0 | 6.8 | 22 4.9 | 11.3 | 59.5 |
| | 19 | 103 24.4 | 20 41.3 | 175 43.8 | 6.7 | 22 16.2 | 11.1 | 59.5 |
| | 20 | 118 24.4 | 20 40.8 | 190 9.5 | 6.6 | 22 27.3 | 11.0 | 59.5 |
| | 21 | 133 24.4 | 20 40.4 | 204 35.1 | 6.5 | 22 38.3 | 10.8 | 59.5 |
| | 22 | 148 24.3 | 20 39.9 | 219 0.6 | 6.4 | 22 49.2 | 10.7 | 59.5 |
| | 23 | 163 24.3 | 20 39.4 | 233 26.0 | 6.3 | 22 59.9 | 10.6 | 59.6 |
| | *v* | 0.0 | SD 15.7 *d* -0.5 | | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Sunday** | 0 | 178 24.3 | 20 39.0 | 247 51.3 | 6.2 | 23 10.4 | 10.4 | 59.6 |
| | 1 | 193 24.2 | 20 38.5 | 262 16.5 | 6.1 | 23 20.8 | 10.3 | 59.6 |
| | 2 | 208 24.2 | 20 38.0 | 276 41.5 | 6.0 | 23 31.1 | 10.1 | 59.6 |
| | 3 | 223 24.1 | 20 37.6 | 291 6.5 | 5.9 | 23 41.2 | 10.0 | 59.6 |
| | 4 | 238 24.1 | 20 37.1 | 305 31.4 | 5.8 | 23 51.2 | 9.8 | 59.6 |
| | 5 | 253 24.1 | 20 36.6 | 319 56.2 | 5.7 | 24 1.0 | 9.7 | 59.6 |
| | 6 | 268 24.0 | 20 36.1 | 334 20.8 | 5.6 | 24 10.7 | 9.5 | 59.6 |
| | 7 | 283 24.0 | 20 35.7 | 348 45.4 | 5.5 | 24 20.2 | 9.4 | 59.6 |
| | 8 | 298 24.0 | 20 35.2 | 3 9.9 | 5.4 | 24 29.6 | 9.2 | 59.6 |
| | 9 | 313 23.9 | 20 34.7 | 17 34.3 | 5.3 | 24 38.8 | 9.0 | 59.6 |
| | 10 | 328 23.9 | 20 34.2 | 31 58.5 | 5.2 | 24 47.8 | 8.9 | 59.6 |
| | 11 | 343 23.9 | 20 33.8 | 46 22.7 | 5.1 | 24 56.7 | 8.7 | 59.6 |
| | 12 | 358 23.8 | 20 33.3 | 60 46.8 | 5.0 | 25 5.4 | 8.6 | 59.6 |
| | 13 | 13 23.8 | 20 32.8 | 75 10.8 | 4.9 | 25 14.0 | 8.4 | 59.6 |
| | 14 | 28 23.8 | 20 32.3 | 89 34.7 | 4.8 | 25 22.4 | 8.2 | 59.6 |
| | 15 | 43 23.7 | 20 31.9 | 103 58.5 | 4.7 | 25 30.6 | 8.1 | 59.6 |
| | 16 | 58 23.7 | 20 31.4 | 118 22.2 | 4.6 | 25 38.7 | 7.9 | 59.6 |
| | 17 | 73 23.7 | 20 30.9 | 132 45.9 | 4.5 | 25 46.5 | 7.7 | 59.6 |
| | 18 | 88 23.6 | 20 30.4 | 147 9.4 | 4.5 | 25 54.3 | 7.5 | 59.6 |
| | 19 | 103 23.6 | 20 29.9 | 161 32.9 | 4.4 | 26 1.8 | 7.4 | 59.6 |
| | 20 | 118 23.6 | 20 29.5 | 175 56.3 | 4.3 | 26 9.2 | 7.2 | 59.6 |
| | 21 | 133 23.5 | 20 29.0 | 190 19.5 | 4.2 | 26 16.3 | 7.0 | 59.6 |
| | 22 | 148 23.5 | 20 28.5 | 204 42.8 | 4.1 | 26 23.3 | 6.8 | 59.6 |
| | 23 | 163 23.5 | 20 28.0 | 219 5.9 | 4.1 | 26 30.2 | 6.6 | 59.6 |
| | *v* | 0.0 | SD 15.7 *d* -0.5 | | | SD 16.2 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | //// | //// | 00:35 | 23:25 | //// | //// |
| 66 | //// | //// | 01:49 | 22:20 | //// | //// |
| 64 | //// | //// | 02:25 | 21:45 | //// | //// |
| 62 | //// | 01:11 | 02:50 | 21:20 | 22:57 | //// |
| 60 | //// | 01:55 | 03:10 | 21:01 | 22:14 | //// |
| 58 | //// | 02:24 | 03:26 | 20:45 | 21:47 | //// |
| 56 | 01:05 | 02:45 | 03:40 | 20:32 | 21:26 | 23:03 |
| 54 | 01:46 | 03:03 | 03:52 | 20:20 | 21:09 | 22:24 |
| 52 | 02:12 | 03:17 | 04:02 | 20:10 | 20:54 | 21:59 |
| 50 | 02:32 | 03:30 | 04:11 | 20:01 | 20:42 | 21:39 |
| 45 | 03:09 | 03:55 | 04:31 | 19:41 | 20:17 | 21:03 |
| 40 | 03:35 | 04:15 | 04:46 | 19:26 | 19:57 | 20:37 |
| 35 | 03:55 | 04:31 | 04:59 | 19:13 | 19:41 | 20:17 |
| 30 | 04:12 | 04:44 | 05:11 | 19:01 | 19:28 | 20:00 |
| 20 | 04:38 | 05:06 | 05:30 | 18:42 | 19:06 | 19:35 |
| 10 | 04:58 | 05:24 | 05:47 | 18:25 | 18:48 | 19:14 |
| 0 | 05:15 | 05:41 | 06:03 | 18:10 | 18:32 | 18:58 |
| -10 | 05:30 | 05:56 | 06:18 | 17:55 | 18:17 | 18:43 |
| -20 | 05:44 | 06:11 | 06:35 | 17:38 | 18:02 | 18:29 |
| -30 | 05:58 | 06:27 | 06:53 | 17:20 | 17:45 | 18:15 |
| -35 | 06:05 | 06:37 | 07:04 | 17:09 | 17:36 | 18:07 |
| -40 | 06:13 | 06:47 | 07:16 | 16:56 | 17:26 | 18:00 |
| -45 | 06:22 | 06:58 | 07:31 | 16:42 | 17:15 | 17:51 |
| -50 | 06:32 | 07:12 | 07:49 | 16:24 | 17:01 | 17:41 |
| -52 | 06:36 | 07:18 | 07:57 | 16:16 | 16:55 | 17:37 |
| -54 | 06:40 | 07:25 | 08:06 | 16:07 | 16:48 | 17:33 |
| -56 | 06:45 | 07:33 | 08:17 | 15:56 | 16:40 | 17:28 |
| -58 | 06:51 | 07:41 | 08:29 | 15:44 | 16:32 | 17:22 |
| -60 | 06:57 | 07:51 | 08:43 | 15:30 | 16:23 | 17:16 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **18** | **19** | **20** | **18** | **19** | **20** |
| 72 | 19:36 | ▭ | ▭ | 16:43 | ▭ | ▭ |
| 70 | 20:30 | ▭ | ▭ | 15:52 | ▭ | ▭ |
| 68 | 21:03 | ▭ | ▭ | 15:20 | ▭ | ▭ |
| 66 | 21:27 | 20:49 | ▭ | 14:57 | 17:30 | ▭ |
| 64 | 21:47 | 21:29 | ▭ | 14:39 | 16:51 | ▭ |
| 62 | 22:03 | 21:57 | 21:49 | 14:25 | 16:24 | 18:35 |
| 60 | 22:16 | 22:19 | 22:27 | 14:13 | 16:03 | 17:58 |
| 58 | 22:28 | 22:37 | 22:54 | 14:02 | 15:46 | 17:31 |
| 56 | 22:38 | 22:52 | 23:15 | 13:53 | 15:32 | 17:11 |
| 54 | 22:47 | 23:05 | 23:33 | 13:45 | 15:19 | 16:54 |
| 52 | 22:55 | 23:16 | 23:48 | 13:38 | 15:08 | 16:39 |
| 50 | 23:02 | 23:26 | –:– | 13:31 | 14:59 | 16:26 |
| 45 | 23:18 | 23:48 | –:– | 13:17 | 14:39 | 16:00 |
| 40 | 23:31 | –:– | 00:05 | 13:06 | 14:22 | 15:40 |
| 35 | 23:42 | –:– | 00:20 | 12:56 | 14:09 | 15:22 |
| 30 | 23:51 | –:– | 00:33 | 12:48 | 13:57 | 15:08 |
| 20 | –:– | 00:08 | 00:55 | 12:34 | 13:37 | 14:43 |
| 10 | –:– | 00:23 | 01:15 | 12:21 | 13:19 | 14:21 |
| 0 | –:– | 00:37 | 01:33 | 12:09 | 13:03 | 14:01 |
| -10 | –:– | 00:51 | 01:51 | 11:58 | 12:47 | 13:41 |
| -20 | 00:05 | 01:06 | 02:11 | 11:45 | 12:30 | 13:20 |
| -30 | 00:16 | 01:24 | 02:34 | 11:31 | 12:10 | 12:55 |
| -35 | 00:23 | 01:34 | 02:47 | 11:23 | 11:58 | 12:41 |
| -40 | 00:31 | 01:46 | 03:03 | 11:14 | 11:45 | 12:24 |
| -45 | 00:40 | 02:00 | 03:22 | 11:03 | 11:30 | 12:04 |
| -50 | 00:50 | 02:17 | 03:46 | 10:50 | 11:11 | 11:39 |
| -52 | 00:56 | 02:25 | 03:57 | 10:44 | 11:02 | 11:28 |
| -54 | 01:01 | 02:34 | 04:10 | 10:38 | 10:52 | 11:14 |
| -56 | 01:08 | 02:45 | 04:25 | 10:30 | 10:41 | 10:58 |
| -58 | 01:15 | 02:57 | 04:43 | 10:22 | 10:28 | 10:40 |
| -60 | 01:23 | 03:10 | 05:05 | 10:13 | 10:14 | 10:17 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **18** | 06:15 | 06:17 | 12:06 | 05:57 | 18:23 | 23 | 50 |
| **19** | 06:19 | 06:21 | 12:06 | 06:50 | 19:18 | 24 | 39 |
| **20** | 06:23 | 06:25 | 12:06 | 07:47 | 20:17 | 25 | 28 |

## 2025 July 21, 22, 23 (Mon, Tue, Wed)

| d | h | Aries GHA | Venus -4.0 GHA | Venus -4.0 Dec | Mars 1.6 GHA | Mars 1.6 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 0.9 GHA | Saturn 0.9 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 Monday | 0 | 299 0.9 | 221 30.5 | 20 54.4 | 128 17.0 | 4 48.7 | 198 53.1 | 23 0.8 | 296 21.8 | -1 23.2 |
| | 1 | 314 3.4 | 236 30.0 | 20 54.7 | 143 18.1 | 4 48.1 | 213 54.9 | 23 0.7 | 311 24.3 | -1 23.2 |
| | 2 | 329 5.9 | 251 29.4 | 20 55.1 | 158 19.2 | 4 47.5 | 228 56.8 | 23 0.7 | 326 26.7 | -1 23.2 |
| | 3 | 344 8.3 | 266 28.8 | 20 55.4 | 173 20.3 | 4 46.9 | 243 58.7 | 23 0.7 | 341 29.2 | -1 23.2 |
| | 4 | 359 10.8 | 281 28.3 | 20 55.8 | 188 21.4 | 4 46.2 | 259 0.5 | 23 0.6 | 356 31.7 | -1 23.3 |
| | 5 | 14 13.3 | 296 27.7 | 20 56.1 | 203 22.4 | 4 45.6 | 274 2.4 | 23 0.6 | 11 34.2 | -1 23.3 |
| | 6 | 29 15.7 | 311 27.2 | 20 56.5 | 218 23.5 | 4 45.0 | 289 4.3 | 23 0.6 | 26 36.7 | -1 23.3 |
| | 7 | 44 18.2 | 326 26.6 | 20 56.8 | 233 24.6 | 4 44.4 | 304 6.1 | 23 0.5 | 41 39.2 | -1 23.3 |
| | 8 | 59 20.6 | 341 26.0 | 20 57.2 | 248 25.7 | 4 43.7 | 319 8.0 | 23 0.5 | 56 41.7 | -1 23.4 |
| | 9 | 74 23.1 | 356 25.5 | 20 57.5 | 263 26.8 | 4 43.1 | 334 9.9 | 23 0.5 | 71 44.2 | -1 23.4 |
| | 10 | 89 25.6 | 11 24.9 | 20 57.8 | 278 27.9 | 4 42.5 | 349 11.7 | 23 0.4 | 86 46.7 | -1 23.4 |
| | 11 | 104 28.0 | 26 24.3 | 20 58.2 | 293 29.0 | 4 41.9 | 4 13.6 | 23 0.4 | 101 49.2 | -1 23.4 |
| | 12 | 119 30.5 | 41 23.8 | 20 58.5 | 308 30.0 | 4 41.3 | 19 15.5 | 23 0.4 | 116 51.7 | -1 23.5 |
| | 13 | 134 33.0 | 56 23.2 | 20 58.9 | 323 31.1 | 4 40.6 | 34 17.3 | 23 0.3 | 131 54.2 | -1 23.5 |
| | 14 | 149 35.4 | 71 22.6 | 20 59.2 | 338 32.2 | 4 40.0 | 49 19.2 | 23 0.3 | 146 56.6 | -1 23.5 |
| | 15 | 164 37.9 | 86 22.1 | 20 59.5 | 353 33.3 | 4 39.4 | 64 21.1 | 23 0.2 | 161 59.1 | -1 23.5 |
| | 16 | 179 40.4 | 101 21.5 | 20 59.9 | 8 34.4 | 4 38.8 | 79 22.9 | 23 0.2 | 177 1.6 | -1 23.6 |
| | 17 | 194 42.8 | 116 20.9 | 21 0.2 | 23 35.5 | 4 38.1 | 94 24.8 | 23 0.2 | 192 4.1 | -1 23.6 |
| | 18 | 209 45.3 | 131 20.4 | 21 0.5 | 38 36.5 | 4 37.5 | 109 26.7 | 23 0.1 | 207 6.6 | -1 23.6 |
| | 19 | 224 47.8 | 146 19.8 | 21 0.9 | 53 37.6 | 4 36.9 | 124 28.5 | 23 0.1 | 222 9.1 | -1 23.6 |
| | 20 | 239 50.2 | 161 19.2 | 21 1.2 | 68 38.7 | 4 36.3 | 139 30.4 | 23 0.1 | 237 11.6 | -1 23.7 |
| | 21 | 254 52.7 | 176 18.7 | 21 1.5 | 83 39.8 | 4 35.7 | 154 32.3 | 23 0.0 | 252 14.1 | -1 23.7 |
| | 22 | 269 55.1 | 191 18.1 | 21 1.9 | 98 40.9 | 4 35.0 | 169 34.1 | 23 0.0 | 267 16.6 | -1 23.7 |
| | 23 | 284 57.6 | 206 17.5 | 21 2.2 | 113 42.0 | 4 34.4 | 184 36.0 | 23 0.0 | 282 19.1 | -1 23.7 |
| | | MP 04:05 | *v* -0.6 | *d* 0.3 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 Tuesday | 0 | 300 0.1 | 221 16.9 | 21 2.5 | 128 43.0 | 4 33.8 | 199 37.9 | 22 59.9 | 297 21.6 | -1 23.8 |
| | 1 | 315 2.5 | 236 16.4 | 21 2.9 | 143 44.1 | 4 33.2 | 214 39.7 | 22 59.9 | 312 24.1 | -1 23.8 |
| | 2 | 330 5.0 | 251 15.8 | 21 3.2 | 158 45.2 | 4 32.5 | 229 41.6 | 22 59.9 | 327 26.6 | -1 23.8 |
| | 3 | 345 7.5 | 266 15.2 | 21 3.5 | 173 46.3 | 4 31.9 | 244 43.5 | 22 59.8 | 342 29.1 | -1 23.8 |
| | 4 | 0 9.9 | 281 14.7 | 21 3.8 | 188 47.4 | 4 31.3 | 259 45.3 | 22 59.8 | 357 31.5 | -1 23.9 |
| | 5 | 15 12.4 | 296 14.1 | 21 4.2 | 203 48.4 | 4 30.7 | 274 47.2 | 22 59.8 | 12 34.0 | -1 23.9 |
| | 6 | 30 14.9 | 311 13.5 | 21 4.5 | 218 49.5 | 4 30.0 | 289 49.1 | 22 59.7 | 27 36.5 | -1 23.9 |
| | 7 | 45 17.3 | 326 12.9 | 21 4.8 | 233 50.6 | 4 29.4 | 304 50.9 | 22 59.7 | 42 39.0 | -1 23.9 |
| | 8 | 60 19.8 | 341 12.4 | 21 5.1 | 248 51.7 | 4 28.8 | 319 52.8 | 22 59.6 | 57 41.5 | -1 24.0 |
| | 9 | 75 22.3 | 356 11.8 | 21 5.5 | 263 52.8 | 4 28.2 | 334 54.7 | 22 59.6 | 72 44.0 | -1 24.0 |
| | 10 | 90 24.7 | 11 11.2 | 21 5.8 | 278 53.9 | 4 27.6 | 349 56.5 | 22 59.6 | 87 46.5 | -1 24.0 |
| | 11 | 105 27.2 | 26 10.6 | 21 6.1 | 293 54.9 | 4 26.9 | 4 58.4 | 22 59.5 | 102 49.0 | -1 24.0 |
| | 12 | 120 29.6 | 41 10.1 | 21 6.4 | 308 56.0 | 4 26.3 | 20 0.3 | 22 59.5 | 117 51.5 | -1 24.1 |
| | 13 | 135 32.1 | 56 9.5 | 21 6.7 | 323 57.1 | 4 25.7 | 35 2.1 | 22 59.5 | 132 54.0 | -1 24.1 |
| | 14 | 150 34.6 | 71 8.9 | 21 7.1 | 338 58.2 | 4 25.1 | 50 4.0 | 22 59.4 | 147 56.5 | -1 24.1 |
| | 15 | 165 37.0 | 86 8.3 | 21 7.4 | 353 59.3 | 4 24.4 | 65 5.9 | 22 59.4 | 162 59.0 | -1 24.1 |
| | 16 | 180 39.5 | 101 7.8 | 21 7.7 | 9 0.3 | 4 23.8 | 80 7.7 | 22 59.4 | 178 1.5 | -1 24.2 |
| | 17 | 195 42.0 | 116 7.2 | 21 8.0 | 24 1.4 | 4 23.2 | 95 9.6 | 22 59.3 | 193 4.0 | -1 24.2 |
| | 18 | 210 44.4 | 131 6.6 | 21 8.3 | 39 2.5 | 4 22.6 | 110 11.5 | 22 59.3 | 208 6.5 | -1 24.2 |
| | 19 | 225 46.9 | 146 6.0 | 21 8.6 | 54 3.6 | 4 21.9 | 125 13.3 | 22 59.2 | 223 9.0 | -1 24.2 |
| | 20 | 240 49.4 | 161 5.4 | 21 8.9 | 69 4.7 | 4 21.3 | 140 15.2 | 22 59.2 | 238 11.5 | -1 24.3 |
| | 21 | 255 51.8 | 176 4.9 | 21 9.3 | 84 5.8 | 4 20.7 | 155 17.1 | 22 59.2 | 253 14.0 | -1 24.3 |
| | 22 | 270 54.3 | 191 4.3 | 21 9.6 | 99 6.8 | 4 20.1 | 170 18.9 | 22 59.1 | 268 16.5 | -1 24.3 |
| | 23 | 285 56.8 | 206 3.7 | 21 9.9 | 114 7.9 | 4 19.4 | 185 20.8 | 22 59.1 | 283 19.0 | -1 24.3 |
| | | MP 04:01 | *v* -0.6 | *d* 0.3 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Wednesday | 0 | 300 59.2 | 221 3.1 | 21 10.2 | 129 9.0 | 4 18.8 | 200 22.7 | 22 59.1 | 298 21.5 | -1 24.4 |
| | 1 | 316 1.7 | 236 2.5 | 21 10.5 | 144 10.1 | 4 18.2 | 215 24.5 | 22 59.0 | 313 24.0 | -1 24.4 |
| | 2 | 331 4.1 | 251 2.0 | 21 10.8 | 159 11.2 | 4 17.6 | 230 26.4 | 22 59.0 | 328 26.5 | -1 24.4 |
| | 3 | 346 6.6 | 266 1.4 | 21 11.1 | 174 12.2 | 4 16.9 | 245 28.3 | 22 59.0 | 343 29.0 | -1 24.4 |
| | 4 | 1 9.1 | 281 0.8 | 21 11.4 | 189 13.3 | 4 16.3 | 260 30.1 | 22 58.9 | 358 31.5 | -1 24.5 |
| | 5 | 16 11.5 | 296 0.2 | 21 11.7 | 204 14.4 | 4 15.7 | 275 32.0 | 22 58.9 | 13 34.0 | -1 24.5 |
| | 6 | 31 14.0 | 310 59.6 | 21 12.0 | 219 15.5 | 4 15.1 | 290 33.9 | 22 58.8 | 28 36.5 | -1 24.5 |
| | 7 | 46 16.5 | 325 59.0 | 21 12.3 | 234 16.6 | 4 14.4 | 305 35.7 | 22 58.8 | 43 39.0 | -1 24.6 |
| | 8 | 61 18.9 | 340 58.5 | 21 12.6 | 249 17.6 | 4 13.8 | 320 37.6 | 22 58.8 | 58 41.5 | -1 24.6 |
| | 9 | 76 21.4 | 355 57.9 | 21 12.9 | 264 18.7 | 4 13.2 | 335 39.5 | 22 58.7 | 73 44.0 | -1 24.6 |
| | 10 | 91 23.9 | 10 57.3 | 21 13.2 | 279 19.8 | 4 12.6 | 350 41.3 | 22 58.7 | 88 46.5 | -1 24.6 |
| | 11 | 106 26.3 | 25 56.7 | 21 13.5 | 294 20.9 | 4 11.9 | 5 43.2 | 22 58.7 | 103 48.9 | -1 24.7 |
| | 12 | 121 28.8 | 40 56.1 | 21 13.8 | 309 22.0 | 4 11.3 | 20 45.1 | 22 58.6 | 118 51.4 | -1 24.7 |
| | 13 | 136 31.3 | 55 55.5 | 21 14.1 | 324 23.0 | 4 10.7 | 35 47.0 | 22 58.6 | 133 53.9 | -1 24.7 |
| | 14 | 151 33.7 | 70 54.9 | 21 14.4 | 339 24.1 | 4 10.0 | 50 48.8 | 22 58.6 | 148 56.4 | -1 24.7 |
| | 15 | 166 36.2 | 85 54.4 | 21 14.7 | 354 25.2 | 4 9.4 | 65 50.7 | 22 58.5 | 163 58.9 | -1 24.8 |
| | 16 | 181 38.6 | 100 53.8 | 21 15.0 | 9 26.3 | 4 8.8 | 80 52.6 | 22 58.5 | 179 1.4 | -1 24.8 |
| | 17 | 196 41.1 | 115 53.2 | 21 15.3 | 24 27.4 | 4 8.2 | 95 54.4 | 22 58.4 | 194 3.9 | -1 24.8 |
| | 18 | 211 43.6 | 130 52.6 | 21 15.6 | 39 28.4 | 4 7.5 | 110 56.3 | 22 58.4 | 209 6.4 | -1 24.9 |
| | 19 | 226 46.0 | 145 52.0 | 21 15.9 | 54 29.5 | 4 6.9 | 125 58.2 | 22 58.4 | 224 8.9 | -1 24.9 |
| | 20 | 241 48.5 | 160 51.4 | 21 16.2 | 69 30.6 | 4 6.3 | 141 0.0 | 22 58.3 | 239 11.4 | -1 24.9 |
| | 21 | 256 51.0 | 175 50.8 | 21 16.4 | 84 31.7 | 4 5.7 | 156 1.9 | 22 58.3 | 254 14.0 | -1 24.9 |
| | 22 | 271 53.4 | 190 50.2 | 21 16.7 | 99 32.8 | 4 5.0 | 171 3.8 | 22 58.3 | 269 16.5 | -1 25.0 |
| | 23 | 286 55.9 | 205 49.6 | 21 17.0 | 114 33.8 | 4 4.4 | 186 5.6 | 22 58.2 | 284 19.0 | -1 25.0 |
| | | MP 03:57 | *v* -0.6 | *d* 0.3 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.6 | -40 11.8 |
| Achernar | 335 19.8 | -57 6.1 |
| Acrux | 172 59.9 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.3 |
| Aldebaran | 290 39.3 | 16 33.6 |
| Alioth | 166 12.7 | 55 49.5 |
| Alkaid | 152 51.6 | 49 11.4 |
| Alnair | 27 31.9 | -46 50.0 |
| Alnilam | 275 37.6 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.9 |
| Alpheratz | 357 34.2 | 29 13.8 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.5 | -42 9.7 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.4 | -69 4.6 |
| Avior | 234 15.2 | -59 35.4 |
| Bellatrix | 278 22.7 | 6 22.4 |
| Betelgeuse | 270 51.9 | 7 24.8 |
| Canopus | 263 52.7 | -52 42.4 |
| Capella | 280 21.6 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.3 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.7 | -17 50.6 |
| Dubhe | 193 40.9 | 61 37.0 |
| Elnath | 278 1.6 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.2 |
| Enif | 33 38.1 | 9 59.6 |
| Fomalhaut | 15 13.8 | -29 29.0 |
| Gacrux | 171 51.4 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.1 |
| Hadar | 148 35.3 | -60 30.0 |
| Hamal | 327 50.7 | 23 34.9 |
| Kaus Aust. | 83 31.5 | -34 22.4 |
| Kochab | 137 19.4 | 74 3.3 |
| Markab | 13 29.2 | 15 20.6 |
| Menkar | 314 5.8 | 4 11.5 |
| Menkent | 147 57.1 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.4 |
| Mirfak | 308 27.8 | 49 56.9 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.1 |
| Pollux | 243 17.1 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.7 | -8 10.2 |
| Rigil Kent. | 139 39.6 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.4 | 56 40.4 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 45.0 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.2 |
| Vega | 80 32.5 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 21 Mon | SHA | MP |
|---|---|---|
| Venus | 282 29.6 | 09:14 |
| Mars | 189 16.1 | 15:26 |
| Jupiter | 259 52.1 | 10:43 |
| Saturn | 357 20.8 | 04:14 |

| 22 Tue | SHA | MP |
|---|---|---|
| Venus | 281 16.9 | 09:15 |
| Mars | 188 43.0 | 15:24 |
| Jupiter | 259 37.8 | 10:40 |
| Saturn | 357 21.5 | 04:10 |

| 23 Wed | SHA | MP |
|---|---|---|
| Venus | 280 3.9 | 09:16 |
| Mars | 188 9.8 | 15:22 |
| Jupiter | 259 23.4 | 10:37 |
| Saturn | 357 22.2 | 04:06 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **21 Monday** | 0 | 178 23.4 | 20 27.5 | 233 29.0 | 4.0 | 26 36.8 | 6.5 | 59.6 |
| | 1 | 193 23.4 | 20 27.0 | 247 51.9 | 3.9 | 26 43.3 | 6.3 | 59.6 |
| | 2 | 208 23.4 | 20 26.6 | 262 14.9 | 3.8 | 26 49.6 | 6.1 | 59.6 |
| | 3 | 223 23.4 | 20 26.1 | 276 37.7 | 3.8 | 26 55.7 | 5.9 | 59.6 |
| | 4 | 238 23.3 | 20 25.6 | 291 0.5 | 3.7 | 27 1.6 | 5.7 | 59.6 |
| | 5 | 253 23.3 | 20 25.1 | 305 23.2 | 3.6 | 27 7.3 | 5.5 | 59.5 |
| | 6 | 268 23.3 | 20 24.6 | 319 45.8 | 3.6 | 27 12.9 | 5.4 | 59.5 |
| | 7 | 283 23.2 | 20 24.1 | 334 8.4 | 3.5 | 27 18.2 | 5.2 | 59.5 |
| | 8 | 298 23.2 | 20 23.6 | 348 30.9 | 3.5 | 27 23.4 | 5.0 | 59.5 |
| | 9 | 313 23.2 | 20 23.2 | 2 53.4 | 3.4 | 27 28.3 | 4.8 | 59.5 |
| | 10 | 328 23.1 | 20 22.7 | 17 15.8 | 3.3 | 27 33.1 | 4.6 | 59.5 |
| | 11 | 343 23.1 | 20 22.2 | 31 38.1 | 3.3 | 27 37.7 | 4.4 | 59.5 |
| | 12 | 358 23.1 | 20 21.7 | 46 0.4 | 3.3 | 27 42.1 | 4.2 | 59.5 |
| | 13 | 13 23.1 | 20 21.2 | 60 22.7 | 3.2 | 27 46.3 | 4.0 | 59.5 |
| | 14 | 28 23.0 | 20 20.7 | 74 44.9 | 3.2 | 27 50.3 | 3.8 | 59.5 |
| | 15 | 43 23.0 | 20 20.2 | 89 7.0 | 3.1 | 27 54.1 | 3.6 | 59.5 |
| | 16 | 58 23.0 | 20 19.7 | 103 29.2 | 3.1 | 27 57.7 | 3.4 | 59.5 |
| | 17 | 73 23.0 | 20 19.2 | 117 51.2 | 3.0 | 28 1.2 | 3.2 | 59.5 |
| | 18 | 88 22.9 | 20 18.7 | 132 13.3 | 3.0 | 28 4.4 | 3.0 | 59.5 |
| | 19 | 103 22.9 | 20 18.2 | 146 35.3 | 3.0 | 28 7.4 | 2.8 | 59.5 |
| | 20 | 118 22.9 | 20 17.7 | 160 57.3 | 3.0 | 28 10.2 | 2.6 | 59.5 |
| | 21 | 133 22.8 | 20 17.2 | 175 19.2 | 2.9 | 28 12.8 | 2.4 | 59.5 |
| | 22 | 148 22.8 | 20 16.7 | 189 41.2 | 2.9 | 28 15.3 | 2.2 | 59.4 |
| | 23 | 163 22.8 | 20 16.2 | 204 3.1 | 2.9 | 28 17.5 | 2.0 | 59.4 |
| | | *v* 0.0 | SD 15.7 | *d* -0.5 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **22 Tuesday** | 0 | 178 22.8 | 20 15.8 | 218 25.0 | 2.9 | 28 19.5 | 1.8 | 59.4 |
| | 1 | 193 22.7 | 20 15.3 | 232 46.9 | 2.9 | 28 21.3 | 1.6 | 59.4 |
| | 2 | 208 22.7 | 20 14.8 | 247 8.7 | 2.9 | 28 23.0 | 1.4 | 59.4 |
| | 3 | 223 22.7 | 20 14.3 | 261 30.6 | 2.9 | 28 24.4 | 1.2 | 59.4 |
| | 4 | 238 22.7 | 20 13.8 | 275 52.4 | 2.8 | 28 25.6 | 1.0 | 59.4 |
| | 5 | 253 22.6 | 20 13.3 | 290 14.3 | 2.8 | 28 26.6 | 0.8 | 59.4 |
| | 6 | 268 22.6 | 20 12.8 | 304 36.1 | 2.8 | 28 27.4 | 0.6 | 59.4 |
| | 7 | 283 22.6 | 20 12.3 | 318 58.0 | 2.9 | 28 28.0 | 0.4 | 59.4 |
| | 8 | 298 22.6 | 20 11.7 | 333 19.8 | 2.9 | 28 28.5 | 0.2 | 59.4 |
| | 9 | 313 22.6 | 20 11.2 | 347 41.7 | 2.9 | 28 28.7 | 0.0 | 59.3 |
| | 10 | 328 22.5 | 20 10.7 | 2 3.6 | 2.9 | 28 28.7 | -0.2 | 59.3 |
| | 11 | 343 22.5 | 20 10.2 | 16 25.5 | 2.9 | 28 28.5 | -0.4 | 59.3 |
| | 12 | 358 22.5 | 20 9.7 | 30 47.4 | 2.9 | 28 28.1 | -0.6 | 59.3 |
| | 13 | 13 22.5 | 20 9.2 | 45 9.3 | 2.9 | 28 27.5 | -0.8 | 59.3 |
| | 14 | 28 22.4 | 20 8.7 | 59 31.2 | 3.0 | 28 26.7 | -1.0 | 59.3 |
| | 15 | 43 22.4 | 20 8.2 | 73 53.2 | 3.0 | 28 25.7 | -1.2 | 59.3 |
| | 16 | 58 22.4 | 20 7.7 | 88 15.2 | 3.0 | 28 24.5 | -1.4 | 59.3 |
| | 17 | 73 22.4 | 20 7.2 | 102 37.3 | 3.1 | 28 23.1 | -1.6 | 59.2 |
| | 18 | 88 22.4 | 20 6.7 | 116 59.3 | 3.1 | 28 21.5 | -1.8 | 59.2 |
| | 19 | 103 22.3 | 20 6.2 | 131 21.4 | 3.1 | 28 19.8 | -2.0 | 59.2 |
| | 20 | 118 22.3 | 20 5.7 | 145 43.6 | 3.2 | 28 17.8 | -2.2 | 59.2 |
| | 21 | 133 22.3 | 20 5.2 | 160 5.8 | 3.2 | 28 15.6 | -2.4 | 59.2 |
| | 22 | 148 22.3 | 20 4.7 | 174 28.0 | 3.3 | 28 13.2 | -2.6 | 59.2 |
| | 23 | 163 22.3 | 20 4.1 | 188 50.3 | 3.3 | 28 10.6 | -2.8 | 59.2 |
| | | *v* 0.0 | SD 15.7 | *d* -0.5 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Wednesday** | 0 | 178 22.2 | 20 3.6 | 203 12.6 | 3.4 | 28 7.9 | -3.0 | 59.1 |
| | 1 | 193 22.2 | 20 3.1 | 217 35.0 | 3.4 | 28 4.9 | -3.2 | 59.1 |
| | 2 | 208 22.2 | 20 2.6 | 231 57.5 | 3.5 | 28 1.8 | -3.3 | 59.1 |
| | 3 | 223 22.2 | 20 2.1 | 246 20.0 | 3.6 | 27 58.4 | -3.5 | 59.1 |
| | 4 | 238 22.2 | 20 1.6 | 260 42.5 | 3.6 | 27 54.9 | -3.7 | 59.1 |
| | 5 | 253 22.1 | 20 1.1 | 275 5.2 | 3.7 | 27 51.2 | -3.9 | 59.1 |
| | 6 | 268 22.1 | 20 0.5 | 289 27.9 | 3.8 | 27 47.2 | -4.1 | 59.1 |
| | 7 | 283 22.1 | 20 0.0 | 303 50.6 | 3.8 | 27 43.1 | -4.3 | 59.0 |
| | 8 | 298 22.1 | 19 59.5 | 318 13.5 | 3.9 | 27 38.9 | -4.5 | 59.0 |
| | 9 | 313 22.1 | 19 59.0 | 332 36.4 | 4.0 | 27 34.4 | -4.7 | 59.0 |
| | 10 | 328 22.1 | 19 58.5 | 346 59.4 | 4.1 | 27 29.7 | -4.8 | 59.0 |
| | 11 | 343 22.0 | 19 58.0 | 1 22.5 | 4.2 | 27 24.9 | -5.0 | 59.0 |
| | 12 | 358 22.0 | 19 57.4 | 15 45.6 | 4.2 | 27 19.9 | -5.2 | 58.9 |
| | 13 | 13 22.0 | 19 56.9 | 30 8.8 | 4.3 | 27 14.7 | -5.4 | 58.9 |
| | 14 | 28 22.0 | 19 56.4 | 44 32.2 | 4.4 | 27 9.3 | -5.6 | 58.9 |
| | 15 | 43 22.0 | 19 55.9 | 58 55.6 | 4.5 | 27 3.7 | -5.7 | 58.9 |
| | 16 | 58 22.0 | 19 55.4 | 73 19.1 | 4.6 | 26 58.0 | -5.9 | 58.9 |
| | 17 | 73 21.9 | 19 54.8 | 87 42.6 | 4.7 | 26 52.1 | -6.1 | 58.9 |
| | 18 | 88 21.9 | 19 54.3 | 102 6.3 | 4.8 | 26 46.0 | -6.3 | 58.8 |
| | 19 | 103 21.9 | 19 53.8 | 116 30.1 | 4.9 | 26 39.7 | -6.4 | 58.8 |
| | 20 | 118 21.9 | 19 53.3 | 130 54.0 | 5.0 | 26 33.3 | -6.6 | 58.8 |
| | 21 | 133 21.9 | 19 52.7 | 145 17.9 | 5.1 | 26 26.7 | -6.8 | 58.8 |
| | 22 | 148 21.9 | 19 52.2 | 159 42.0 | 5.2 | 26 20.0 | -6.9 | 58.8 |
| | 23 | 163 21.9 | 19 51.7 | 174 6.2 | 5.3 | 26 13.0 | -7.1 | 58.7 |
| | | *v* 0.0 | SD 15.7 | *d* -0.5 | | SD 16.1 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | //// | //// | 01:08 | 22:58 | //// | //// |
| 66 | //// | //// | 02:02 | 22:07 | //// | //// |
| 64 | //// | //// | 02:34 | 21:36 | //// | //// |
| 62 | //// | 01:27 | 02:58 | 21:13 | 22:41 | //// |
| 60 | //// | 02:05 | 03:16 | 20:55 | 22:05 | //// |
| 58 | //// | 02:31 | 03:32 | 20:40 | 21:40 | //// |
| 56 | 01:20 | 02:51 | 03:45 | 20:27 | 21:20 | 22:49 |
| 54 | 01:55 | 03:08 | 03:56 | 20:16 | 21:04 | 22:16 |
| 52 | 02:19 | 03:22 | 04:06 | 20:06 | 20:50 | 21:52 |
| 50 | 02:38 | 03:34 | 04:15 | 19:57 | 20:38 | 21:33 |
| 45 | 03:13 | 03:58 | 04:34 | 19:39 | 20:14 | 20:59 |
| 40 | 03:38 | 04:17 | 04:49 | 19:24 | 19:55 | 20:34 |
| 35 | 03:58 | 04:33 | 05:02 | 19:11 | 19:40 | 20:14 |
| 30 | 04:14 | 04:46 | 05:13 | 19:00 | 19:27 | 19:58 |
| 20 | 04:39 | 05:08 | 05:32 | 18:41 | 19:05 | 19:33 |
| 10 | 04:59 | 05:25 | 05:48 | 18:25 | 18:48 | 19:14 |
| 0 | 05:15 | 05:41 | 06:03 | 18:10 | 18:32 | 18:58 |
| -10 | 05:30 | 05:56 | 06:18 | 17:55 | 18:17 | 18:43 |
| -20 | 05:43 | 06:10 | 06:34 | 17:39 | 18:03 | 18:30 |
| -30 | 05:57 | 06:26 | 06:52 | 17:21 | 17:47 | 18:16 |
| -35 | 06:04 | 06:35 | 07:02 | 17:11 | 17:38 | 18:09 |
| -40 | 06:12 | 06:45 | 07:14 | 16:59 | 17:28 | 18:02 |
| -45 | 06:20 | 06:56 | 07:28 | 16:45 | 17:17 | 17:53 |
| -50 | 06:29 | 07:09 | 07:46 | 16:28 | 17:04 | 17:44 |
| -52 | 06:33 | 07:15 | 07:54 | 16:20 | 16:58 | 17:40 |
| -54 | 06:37 | 07:22 | 08:03 | 16:11 | 16:52 | 17:36 |
| -56 | 06:42 | 07:29 | 08:13 | 16:01 | 16:45 | 17:31 |
| -58 | 06:47 | 07:37 | 08:24 | 15:49 | 16:37 | 17:26 |
| -60 | 06:53 | 07:46 | 08:38 | 15:36 | 16:27 | 17:21 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **21** | **22** | **23** | **21** | **22** | **23** |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 66 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 64 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 62 | ▭ | ▭ | –:– | ▭ | ▭ | 21:52 |
| 60 | 22:52 | 23:59 | –:– | 19:44 | 20:50 | 21:14 |
| 58 | 23:29 | –:– | 00:36 | 19:07 | 20:13 | 20:48 |
| 56 | 23:56 | –:– | 01:03 | 18:40 | 19:46 | 20:27 |
| 54 | –:– | 00:17 | 01:24 | 18:19 | 19:25 | 20:09 |
| 52 | –:– | 00:35 | 01:41 | 18:02 | 19:08 | 19:54 |
| 50 | 00:01 | 00:50 | 01:56 | 17:47 | 18:53 | 19:41 |
| 45 | 00:28 | 01:20 | 02:26 | 17:17 | 18:22 | 19:14 |
| 40 | 00:49 | 01:44 | 02:49 | 16:53 | 17:59 | 18:53 |
| 35 | 01:07 | 02:04 | 03:09 | 16:34 | 17:39 | 18:35 |
| 30 | 01:23 | 02:20 | 03:25 | 16:17 | 17:22 | 18:19 |
| 20 | 01:49 | 02:49 | 03:53 | 15:49 | 16:54 | 17:53 |
| 10 | 02:12 | 03:13 | 04:17 | 15:25 | 16:29 | 17:30 |
| 0 | 02:33 | 03:36 | 04:39 | 15:03 | 16:07 | 17:09 |
| -10 | 02:55 | 03:59 | 05:02 | 14:41 | 15:44 | 16:47 |
| -20 | 03:18 | 04:24 | 05:26 | 14:17 | 15:19 | 16:24 |
| -30 | 03:45 | 04:52 | 05:54 | 13:49 | 14:50 | 15:58 |
| -35 | 04:01 | 05:10 | 06:10 | 13:32 | 14:33 | 15:42 |
| -40 | 04:19 | 05:29 | 06:29 | 13:13 | 14:13 | 15:23 |
| -45 | 04:42 | 05:54 | 06:52 | 12:50 | 13:49 | 15:00 |
| -50 | 05:11 | 06:25 | 07:22 | 12:20 | 13:18 | 14:32 |
| -52 | 05:25 | 06:41 | 07:36 | 12:06 | 13:02 | 14:17 |
| -54 | 05:42 | 06:59 | 07:53 | 11:49 | 12:44 | 14:01 |
| -56 | 06:02 | 07:21 | 08:13 | 11:29 | 12:22 | 13:41 |
| -58 | 06:26 | 07:50 | 08:38 | 11:04 | 11:53 | 13:16 |
| -60 | 07:00 | 08:32 | 09:12 | 10:30 | 11:11 | 12:43 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **21** | 06:26 | 06:28 | 12:06 | 08:48 | 21:20 | 26 | 18 |
| **22** | 06:29 | 06:30 | 12:06 | 09:51 | 22:23 | 27 | 10 |
| **23** | 06:31 | 06:32 | 12:07 | 10:54 | 23:25 | 28 | 4 |

## 2025 July 24, 25, 26 (Thu, Fri, Sat)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -1.9 | | Saturn 0.8 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 24 Thursday | 0 | 301 58.4 | 220 49.1 | 21 17.3 | 129 34.9 | 4 3.8 | 201 7.5 | 22 58.2 | 299 21.5 | -1 25.0 |
| | 1 | 317 0.8 | 235 48.5 | 21 17.6 | 144 36.0 | 4 3.2 | 216 9.4 | 22 58.1 | 314 24.0 | -1 25.0 |
| | 2 | 332 3.3 | 250 47.9 | 21 17.9 | 159 37.1 | 4 2.5 | 231 11.3 | 22 58.1 | 329 26.5 | -1 25.1 |
| | 3 | 347 5.8 | 265 47.3 | 21 18.2 | 174 38.1 | 4 1.9 | 246 13.1 | 22 58.1 | 344 29.0 | -1 25.1 |
| | 4 | 2 8.2 | 280 46.7 | 21 18.5 | 189 39.2 | 4 1.3 | 261 15.0 | 22 58.0 | 359 31.5 | -1 25.1 |
| | 5 | 17 10.7 | 295 46.1 | 21 18.7 | 204 40.3 | 4 0.6 | 276 16.9 | 22 58.0 | 14 34.0 | -1 25.2 |
| | 6 | 32 13.1 | 310 45.5 | 21 19.0 | 219 41.4 | 4 0.0 | 291 18.7 | 22 58.0 | 29 36.5 | -1 25.2 |
| | 7 | 47 15.6 | 325 44.9 | 21 19.3 | 234 42.5 | 3 59.4 | 306 20.6 | 22 57.9 | 44 39.0 | -1 25.2 |
| | 8 | 62 18.1 | 340 44.3 | 21 19.6 | 249 43.5 | 3 58.8 | 321 22.5 | 22 57.9 | 59 41.5 | -1 25.2 |
| | 9 | 77 20.5 | 355 43.7 | 21 19.9 | 264 44.6 | 3 58.1 | 336 24.3 | 22 57.8 | 74 44.0 | -1 25.3 |
| | 10 | 92 23.0 | 10 43.1 | 21 20.1 | 279 45.7 | 3 57.5 | 351 26.2 | 22 57.8 | 89 46.5 | -1 25.3 |
| | 11 | 107 25.5 | 25 42.5 | 21 20.4 | 294 46.8 | 3 56.9 | 6 28.1 | 22 57.8 | 104 49.0 | -1 25.3 |
| | 12 | 122 27.9 | 40 41.9 | 21 20.7 | 309 47.9 | 3 56.3 | 21 30.0 | 22 57.7 | 119 51.5 | -1 25.4 |
| | 13 | 137 30.4 | 55 41.3 | 21 21.0 | 324 48.9 | 3 55.6 | 36 31.8 | 22 57.7 | 134 54.0 | -1 25.4 |
| | 14 | 152 32.9 | 70 40.7 | 21 21.2 | 339 50.0 | 3 55.0 | 51 33.7 | 22 57.7 | 149 56.5 | -1 25.4 |
| | 15 | 167 35.3 | 85 40.1 | 21 21.5 | 354 51.1 | 3 54.4 | 66 35.6 | 22 57.6 | 164 59.0 | -1 25.4 |
| | 16 | 182 37.8 | 100 39.5 | 21 21.8 | 9 52.2 | 3 53.7 | 81 37.4 | 22 57.6 | 180 1.5 | -1 25.5 |
| | 17 | 197 40.3 | 115 38.9 | 21 22.1 | 24 53.2 | 3 53.1 | 96 39.3 | 22 57.5 | 195 4.0 | -1 25.5 |
| | 18 | 212 42.7 | 130 38.3 | 21 22.3 | 39 54.3 | 3 52.5 | 111 41.2 | 22 57.5 | 210 6.5 | -1 25.5 |
| | 19 | 227 45.2 | 145 37.7 | 21 22.6 | 54 55.4 | 3 51.9 | 126 43.1 | 22 57.5 | 225 9.0 | -1 25.6 |
| | 20 | 242 47.6 | 160 37.1 | 21 22.9 | 69 56.5 | 3 51.2 | 141 44.9 | 22 57.4 | 240 11.5 | -1 25.6 |
| | 21 | 257 50.1 | 175 36.6 | 21 23.1 | 84 57.5 | 3 50.6 | 156 46.8 | 22 57.4 | 255 14.0 | -1 25.6 |
| | 22 | 272 52.6 | 190 36.0 | 21 23.4 | 99 58.6 | 3 50.0 | 171 48.7 | 22 57.4 | 270 16.5 | -1 25.7 |
| | 23 | 287 55.0 | 205 35.4 | 21 23.7 | 114 59.7 | 3 49.3 | 186 50.5 | 22 57.3 | 285 19.0 | -1 25.7 |
| | | MP 03:53 | *v* -0.6 | *d* 0.3 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Friday | 0 | 302 57.5 | 220 34.8 | 21 23.9 | 130 0.8 | 3 48.7 | 201 52.4 | 22 57.3 | 300 21.5 | -1 25.7 |
| | 1 | 318 0.0 | 235 34.1 | 21 24.2 | 145 1.9 | 3 48.1 | 216 54.3 | 22 57.2 | 315 24.0 | -1 25.7 |
| | 2 | 333 2.4 | 250 33.5 | 21 24.5 | 160 2.9 | 3 47.5 | 231 56.1 | 22 57.2 | 330 26.5 | -1 25.8 |
| | 3 | 348 4.9 | 265 32.9 | 21 24.7 | 175 4.0 | 3 46.8 | 246 58.0 | 22 57.2 | 345 29.0 | -1 25.8 |
| | 4 | 3 7.4 | 280 32.3 | 21 25.0 | 190 5.1 | 3 46.2 | 261 59.9 | 22 57.1 | 0 31.6 | -1 25.8 |
| | 5 | 18 9.8 | 295 31.7 | 21 25.2 | 205 6.2 | 3 45.6 | 277 1.8 | 22 57.1 | 15 34.1 | -1 25.9 |
| | 6 | 33 12.3 | 310 31.1 | 21 25.5 | 220 7.2 | 3 44.9 | 292 3.6 | 22 57.0 | 30 36.6 | -1 25.9 |
| | 7 | 48 14.7 | 325 30.5 | 21 25.8 | 235 8.3 | 3 44.3 | 307 5.5 | 22 57.0 | 45 39.1 | -1 25.9 |
| | 8 | 63 17.2 | 340 29.9 | 21 26.0 | 250 9.4 | 3 43.7 | 322 7.4 | 22 57.0 | 60 41.6 | -1 26.0 |
| | 9 | 78 19.7 | 355 29.3 | 21 26.3 | 265 10.5 | 3 43.0 | 337 9.3 | 22 56.9 | 75 44.1 | -1 26.0 |
| | 10 | 93 22.1 | 10 28.7 | 21 26.5 | 280 11.5 | 3 42.4 | 352 11.1 | 22 56.9 | 90 46.6 | -1 26.0 |
| | 11 | 108 24.6 | 25 28.1 | 21 26.8 | 295 12.6 | 3 41.8 | 7 13.0 | 22 56.9 | 105 49.1 | -1 26.0 |
| | 12 | 123 27.1 | 40 27.5 | 21 27.0 | 310 13.7 | 3 41.2 | 22 14.9 | 22 56.8 | 120 51.6 | -1 26.1 |
| | 13 | 138 29.5 | 55 26.9 | 21 27.3 | 325 14.8 | 3 40.5 | 37 16.7 | 22 56.8 | 135 54.1 | -1 26.1 |
| | 14 | 153 32.0 | 70 26.3 | 21 27.5 | 340 15.8 | 3 39.9 | 52 18.6 | 22 56.7 | 150 56.6 | -1 26.1 |
| | 15 | 168 34.5 | 85 25.7 | 21 27.8 | 355 16.9 | 3 39.3 | 67 20.5 | 22 56.7 | 165 59.1 | -1 26.2 |
| | 16 | 183 36.9 | 100 25.1 | 21 28.0 | 10 18.0 | 3 38.6 | 82 22.4 | 22 56.7 | 181 1.6 | -1 26.2 |
| | 17 | 198 39.4 | 115 24.5 | 21 28.3 | 25 19.1 | 3 38.0 | 97 24.2 | 22 56.6 | 196 4.1 | -1 26.2 |
| | 18 | 213 41.9 | 130 23.9 | 21 28.5 | 40 20.2 | 3 37.4 | 112 26.1 | 22 56.6 | 211 6.7 | -1 26.3 |
| | 19 | 228 44.3 | 145 23.3 | 21 28.8 | 55 21.2 | 3 36.7 | 127 28.0 | 22 56.6 | 226 9.2 | -1 26.3 |
| | 20 | 243 46.8 | 160 22.7 | 21 29.0 | 70 22.3 | 3 36.1 | 142 29.8 | 22 56.5 | 241 11.7 | -1 26.3 |
| | 21 | 258 49.2 | 175 22.1 | 21 29.3 | 85 23.4 | 3 35.5 | 157 31.7 | 22 56.5 | 256 14.2 | -1 26.3 |
| | 22 | 273 51.7 | 190 21.4 | 21 29.5 | 100 24.5 | 3 34.9 | 172 33.6 | 22 56.4 | 271 16.7 | -1 26.4 |
| | 23 | 288 54.2 | 205 20.8 | 21 29.8 | 115 25.5 | 3 34.2 | 187 35.5 | 22 56.4 | 286 19.2 | -1 26.4 |
| | | MP 03:49 | *v* -0.6 | *d* 0.3 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 Saturday | 0 | 303 56.6 | 220 20.2 | 21 30.0 | 130 26.6 | 3 33.6 | 202 37.3 | 22 56.4 | 301 21.7 | -1 26.4 |
| | 1 | 318 59.1 | 235 19.6 | 21 30.3 | 145 27.7 | 3 33.0 | 217 39.2 | 22 56.3 | 316 24.2 | -1 26.5 |
| | 2 | 334 1.6 | 250 19.0 | 21 30.5 | 160 28.8 | 3 32.3 | 232 41.1 | 22 56.3 | 331 26.7 | -1 26.5 |
| | 3 | 349 4.0 | 265 18.4 | 21 30.7 | 175 29.8 | 3 31.7 | 247 43.0 | 22 56.2 | 346 29.2 | -1 26.5 |
| | 4 | 4 6.5 | 280 17.8 | 21 31.0 | 190 30.9 | 3 31.1 | 262 44.8 | 22 56.2 | 1 31.7 | -1 26.6 |
| | 5 | 19 9.0 | 295 17.2 | 21 31.2 | 205 32.0 | 3 30.4 | 277 46.7 | 22 56.2 | 16 34.2 | -1 26.6 |
| | 6 | 34 11.4 | 310 16.6 | 21 31.5 | 220 33.0 | 3 29.8 | 292 48.6 | 22 56.1 | 31 36.8 | -1 26.6 |
| | 7 | 49 13.9 | 325 16.0 | 21 31.7 | 235 34.1 | 3 29.2 | 307 50.5 | 22 56.1 | 46 39.3 | -1 26.7 |
| | 8 | 64 16.4 | 340 15.3 | 21 31.9 | 250 35.2 | 3 28.6 | 322 52.3 | 22 56.0 | 61 41.8 | -1 26.7 |
| | 9 | 79 18.8 | 355 14.7 | 21 32.2 | 265 36.3 | 3 27.9 | 337 54.2 | 22 56.0 | 76 44.3 | -1 26.7 |
| | 10 | 94 21.3 | 10 14.1 | 21 32.4 | 280 37.3 | 3 27.3 | 352 56.1 | 22 56.0 | 91 46.8 | -1 26.8 |
| | 11 | 109 23.7 | 25 13.5 | 21 32.6 | 295 38.4 | 3 26.7 | 7 58.0 | 22 55.9 | 106 49.3 | -1 26.8 |
| | 12 | 124 26.2 | 40 12.9 | 21 32.9 | 310 39.5 | 3 26.0 | 22 59.8 | 22 55.9 | 121 51.8 | -1 26.8 |
| | 13 | 139 28.7 | 55 12.3 | 21 33.1 | 325 40.6 | 3 25.4 | 38 1.7 | 22 55.9 | 136 54.3 | -1 26.9 |
| | 14 | 154 31.1 | 70 11.7 | 21 33.3 | 340 41.6 | 3 24.8 | 53 3.6 | 22 55.8 | 151 56.8 | -1 26.9 |
| | 15 | 169 33.6 | 85 11.0 | 21 33.6 | 355 42.7 | 3 24.1 | 68 5.4 | 22 55.8 | 166 59.4 | -1 26.9 |
| | 16 | 184 36.1 | 100 10.4 | 21 33.8 | 10 43.8 | 3 23.5 | 83 7.3 | 22 55.7 | 182 1.9 | -1 27.0 |
| | 17 | 199 38.5 | 115 9.8 | 21 34.0 | 25 44.9 | 3 22.9 | 98 9.2 | 22 55.7 | 197 4.4 | -1 27.0 |
| | 18 | 214 41.0 | 130 9.2 | 21 34.2 | 40 45.9 | 3 22.2 | 113 11.1 | 22 55.7 | 212 6.9 | -1 27.0 |
| | 19 | 229 43.5 | 145 8.6 | 21 34.5 | 55 47.0 | 3 21.6 | 128 12.9 | 22 55.6 | 227 9.4 | -1 27.0 |
| | 20 | 244 45.9 | 160 8.0 | 21 34.7 | 70 48.1 | 3 21.0 | 143 14.8 | 22 55.6 | 242 11.9 | -1 27.1 |
| | 21 | 259 48.4 | 175 7.3 | 21 34.9 | 85 49.2 | 3 20.3 | 158 16.7 | 22 55.5 | 257 14.4 | -1 27.1 |
| | 22 | 274 50.8 | 190 6.7 | 21 35.1 | 100 50.2 | 3 19.7 | 173 18.6 | 22 55.5 | 272 16.9 | -1 27.1 |
| | 23 | 289 53.3 | 205 6.1 | 21 35.4 | 115 51.3 | 3 19.1 | 188 20.4 | 22 55.5 | 287 19.4 | -1 27.2 |
| | | MP 03:45 | *v* -0.6 | *d* 0.2 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.5 | -40 11.8 |
| Achernar | 335 19.8 | -57 6.1 |
| Acrux | 172 59.9 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.3 |
| Aldebaran | 290 39.3 | 16 33.7 |
| Alioth | 166 12.7 | 55 49.5 |
| Alkaid | 152 51.6 | 49 11.4 |
| Alnair | 27 31.9 | -46 50.0 |
| Alnilam | 275 37.5 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.9 |
| Alpheratz | 357 34.1 | 29 13.8 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.5 | -42 9.7 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.4 | -69 4.6 |
| Avior | 234 15.2 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.4 |
| Betelgeuse | 270 51.9 | 7 24.8 |
| Canopus | 263 52.7 | -52 42.3 |
| Capella | 280 21.6 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.3 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.7 | -17 50.6 |
| Dubhe | 193 40.9 | 61 37.0 |
| Elnath | 278 1.6 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.2 |
| Enif | 33 38.0 | 9 59.6 |
| Fomalhaut | 15 13.7 | -29 29.0 |
| Gacrux | 171 51.4 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.1 |
| Hadar | 148 35.3 | -60 30.0 |
| Hamal | 327 50.7 | 23 35.0 |
| Kaus Aust. | 83 31.5 | -34 22.4 |
| Kochab | 137 19.5 | 74 3.3 |
| Markab | 13 29.2 | 15 20.6 |
| Menkar | 314 5.8 | 4 11.5 |
| Menkent | 147 57.1 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.4 |
| Mirfak | 308 27.8 | 49 56.9 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.1 |
| Pollux | 243 17.1 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.7 | -8 10.2 |
| Rigil Kent. | 139 39.6 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.3 | 56 40.5 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.2 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.1 |
| Vega | 80 32.5 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 24 Thu | SHA | MP |
|---|---|---|
| Venus | 278 50.7 | 09:17 |
| Mars | 187 36.6 | 15:21 |
| Jupiter | 259 9.2 | 10:34 |
| Saturn | 357 23.1 | 04:02 |

| 25 Fri | SHA | MP |
|---|---|---|
| Venus | 277 37.3 | 09:18 |
| Mars | 187 3.3 | 15:19 |
| Jupiter | 258 54.9 | 10:31 |
| Saturn | 357 24.0 | 03:58 |

| 26 Sat | SHA | MP |
|---|---|---|
| Venus | 276 23.6 | 09:19 |
| Mars | 186 30.0 | 15:17 |
| Jupiter | 258 40.7 | 10:28 |
| Saturn | 357 25.1 | 03:54 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **24 Thursday** | 0 | 178 21.9 | 19 51.2 | 188 30.5 | 5.4 | 26 5.9 | -7.3 | 58.7 |
| | 1 | 193 21.8 | 19 50.6 | 202 54.8 | 5.5 | 25 58.7 | -7.4 | 58.7 |
| | 2 | 208 21.8 | 19 50.1 | 217 19.3 | 5.6 | 25 51.3 | -7.6 | 58.7 |
| | 3 | 223 21.8 | 19 49.6 | 231 43.9 | 5.7 | 25 43.7 | -7.7 | 58.6 |
| | 4 | 238 21.8 | 19 49.1 | 246 8.6 | 5.8 | 25 36.0 | -7.9 | 58.6 |
| | 5 | 253 21.8 | 19 48.5 | 260 33.4 | 5.9 | 25 28.1 | -8.0 | 58.6 |
| | 6 | 268 21.8 | 19 48.0 | 274 58.3 | 6.0 | 25 20.0 | -8.2 | 58.6 |
| | 7 | 283 21.8 | 19 47.5 | 289 23.4 | 6.1 | 25 11.8 | -8.3 | 58.6 |
| | 8 | 298 21.8 | 19 46.9 | 303 48.5 | 6.3 | 25 3.5 | -8.5 | 58.5 |
| | 9 | 313 21.7 | 19 46.4 | 318 13.8 | 6.4 | 24 55.0 | -8.6 | 58.5 |
| | 10 | 328 21.7 | 19 45.9 | 332 39.1 | 6.5 | 24 46.4 | -8.8 | 58.5 |
| | 11 | 343 21.7 | 19 45.4 | 347 4.6 | 6.6 | 24 37.6 | -8.9 | 58.5 |
| | 12 | 358 21.7 | 19 44.8 | 1 30.2 | 6.7 | 24 28.7 | -9.1 | 58.4 |
| | 13 | 13 21.7 | 19 44.3 | 15 56.0 | 6.8 | 24 19.6 | -9.2 | 58.4 |
| | 14 | 28 21.7 | 19 43.8 | 30 21.8 | 7.0 | 24 10.4 | -9.3 | 58.4 |
| | 15 | 43 21.7 | 19 43.2 | 44 47.8 | 7.1 | 24 1.0 | -9.5 | 58.4 |
| | 16 | 58 21.7 | 19 42.7 | 59 13.8 | 7.2 | 23 51.5 | -9.6 | 58.3 |
| | 17 | 73 21.7 | 19 42.2 | 73 40.0 | 7.3 | 23 41.9 | -9.8 | 58.3 |
| | 18 | 88 21.7 | 19 41.6 | 88 6.3 | 7.4 | 23 32.2 | -9.9 | 58.3 |
| | 19 | 103 21.6 | 19 41.1 | 102 32.8 | 7.6 | 23 22.3 | -10.0 | 58.3 |
| | 20 | 118 21.6 | 19 40.5 | 116 59.3 | 7.7 | 23 12.3 | -10.1 | 58.2 |
| | 21 | 133 21.6 | 19 40.0 | 131 26.0 | 7.8 | 23 2.1 | -10.3 | 58.2 |
| | 22 | 148 21.6 | 19 39.5 | 145 52.8 | 7.9 | 22 51.9 | -10.4 | 58.2 |
| | 23 | 163 21.6 | 19 38.9 | 160 19.7 | 8.0 | 22 41.5 | -10.5 | 58.2 |
| | *v* | 0.0 | SD 15.7 | *d* -0.5 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **25 Friday** | 0 | 178 21.6 | 19 38.4 | 174 46.8 | 8.2 | 22 31.0 | -10.6 | 58.1 |
| | 1 | 193 21.6 | 19 37.8 | 189 14.0 | 8.3 | 22 20.3 | -10.7 | 58.1 |
| | 2 | 208 21.6 | 19 37.3 | 203 41.2 | 8.4 | 22 9.6 | -10.9 | 58.1 |
| | 3 | 223 21.6 | 19 36.8 | 218 8.6 | 8.5 | 21 58.7 | -11.0 | 58.1 |
| | 4 | 238 21.6 | 19 36.2 | 232 36.2 | 8.7 | 21 47.8 | -11.1 | 58.0 |
| | 5 | 253 21.6 | 19 35.7 | 247 3.8 | 8.8 | 21 36.7 | -11.2 | 58.0 |
| | 6 | 268 21.6 | 19 35.1 | 261 31.6 | 8.9 | 21 25.5 | -11.3 | 58.0 |
| | 7 | 283 21.6 | 19 34.6 | 275 59.5 | 9.0 | 21 14.2 | -11.4 | 58.0 |
| | 8 | 298 21.6 | 19 34.1 | 290 27.5 | 9.1 | 21 2.8 | -11.5 | 57.9 |
| | 9 | 313 21.6 | 19 33.5 | 304 55.7 | 9.3 | 20 51.2 | -11.6 | 57.9 |
| | 10 | 328 21.6 | 19 33.0 | 319 23.9 | 9.4 | 20 39.6 | -11.7 | 57.9 |
| | 11 | 343 21.5 | 19 32.4 | 333 52.3 | 9.5 | 20 27.9 | -11.8 | 57.9 |
| | 12 | 358 21.5 | 19 31.9 | 348 20.8 | 9.6 | 20 16.1 | -11.9 | 57.8 |
| | 13 | 13 21.5 | 19 31.3 | 2 49.4 | 9.7 | 20 4.2 | -12.0 | 57.8 |
| | 14 | 28 21.5 | 19 30.8 | 17 18.2 | 9.9 | 19 52.2 | -12.1 | 57.8 |
| | 15 | 43 21.5 | 19 30.2 | 31 47.0 | 10.0 | 19 40.0 | -12.2 | 57.7 |
| | 16 | 58 21.5 | 19 29.7 | 46 16.0 | 10.1 | 19 27.8 | -12.3 | 57.7 |
| | 17 | 73 21.5 | 19 29.1 | 60 45.1 | 10.2 | 19 15.6 | -12.4 | 57.7 |
| | 18 | 88 21.5 | 19 28.6 | 75 14.3 | 10.3 | 19 3.2 | -12.5 | 57.7 |
| | 19 | 103 21.5 | 19 28.0 | 89 43.6 | 10.4 | 18 50.7 | -12.5 | 57.6 |
| | 20 | 118 21.5 | 19 27.5 | 104 13.1 | 10.6 | 18 38.2 | -12.6 | 57.6 |
| | 21 | 133 21.5 | 19 26.9 | 118 42.6 | 10.7 | 18 25.5 | -12.7 | 57.6 |
| | 22 | 148 21.5 | 19 26.4 | 133 12.3 | 10.8 | 18 12.8 | -12.8 | 57.5 |
| | 23 | 163 21.5 | 19 25.8 | 147 42.1 | 10.9 | 18 0.0 | -12.9 | 57.5 |
| | *v* | 0.0 | SD 15.7 | *d* -0.5 | | SD 15.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **26 Saturday** | 0 | 178 21.5 | 19 25.3 | 162 12.0 | 11.0 | 17 47.1 | -12.9 | 57.5 |
| | 1 | 193 21.5 | 19 24.7 | 176 42.0 | 11.1 | 17 34.2 | -13.0 | 57.5 |
| | 2 | 208 21.5 | 19 24.2 | 191 12.1 | 11.2 | 17 21.2 | -13.1 | 57.4 |
| | 3 | 223 21.5 | 19 23.6 | 205 42.3 | 11.3 | 17 8.1 | -13.2 | 57.4 |
| | 4 | 238 21.5 | 19 23.1 | 220 12.7 | 11.4 | 16 54.9 | -13.2 | 57.4 |
| | 5 | 253 21.5 | 19 22.5 | 234 43.1 | 11.6 | 16 41.7 | -13.3 | 57.3 |
| | 6 | 268 21.5 | 19 21.9 | 249 13.7 | 11.7 | 16 28.4 | -13.4 | 57.3 |
| | 7 | 283 21.5 | 19 21.4 | 263 44.3 | 11.8 | 16 15.0 | -13.4 | 57.3 |
| | 8 | 298 21.5 | 19 20.8 | 278 15.1 | 11.9 | 16 1.6 | -13.5 | 57.3 |
| | 9 | 313 21.5 | 19 20.3 | 292 46.0 | 12.0 | 15 48.1 | -13.6 | 57.2 |
| | 10 | 328 21.5 | 19 19.7 | 307 17.0 | 12.1 | 15 34.5 | -13.6 | 57.2 |
| | 11 | 343 21.5 | 19 19.2 | 321 48.0 | 12.2 | 15 20.9 | -13.7 | 57.2 |
| | 12 | 358 21.5 | 19 18.6 | 336 19.2 | 12.3 | 15 7.2 | -13.7 | 57.1 |
| | 13 | 13 21.5 | 19 18.0 | 350 50.5 | 12.4 | 14 53.5 | -13.8 | 57.1 |
| | 14 | 28 21.5 | 19 17.5 | 5 21.9 | 12.5 | 14 39.7 | -13.8 | 57.1 |
| | 15 | 43 21.5 | 19 16.9 | 19 53.4 | 12.6 | 14 25.8 | -13.9 | 57.0 |
| | 16 | 58 21.5 | 19 16.4 | 34 25.0 | 12.7 | 14 11.9 | -13.9 | 57.0 |
| | 17 | 73 21.5 | 19 15.8 | 48 56.6 | 12.8 | 13 58.0 | -14.0 | 57.0 |
| | 18 | 88 21.5 | 19 15.2 | 63 28.4 | 12.9 | 13 44.0 | -14.0 | 57.0 |
| | 19 | 103 21.6 | 19 14.7 | 78 0.3 | 13.0 | 13 29.9 | -14.1 | 56.9 |
| | 20 | 118 21.6 | 19 14.1 | 92 32.3 | 13.1 | 13 15.8 | -14.1 | 56.9 |
| | 21 | 133 21.6 | 19 13.5 | 107 4.3 | 13.1 | 13 1.7 | -14.2 | 56.9 |
| | 22 | 148 21.6 | 19 13.0 | 121 36.5 | 13.2 | 12 47.5 | -14.2 | 56.8 |
| | 23 | 163 21.6 | 19 12.4 | 136 8.7 | 13.3 | 12 33.3 | -14.3 | 56.8 |
| | *v* | 0.0 | SD 15.7 | *d* -0.6 | | SD 15.7 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | //// | //// | 01:30 | 22:37 | //// | //// |
| 66 | //// | //// | 02:15 | 21:55 | //// | //// |
| 64 | //// | 00:33 | 02:44 | 21:27 | 23:27 | //// |
| 62 | //// | 01:42 | 03:05 | 21:06 | 22:27 | //// |
| 60 | //// | 02:15 | 03:23 | 20:49 | 21:55 | //// |
| 58 | 00:30 | 02:39 | 03:37 | 20:34 | 21:32 | 23:31 |
| 56 | 01:33 | 02:58 | 03:50 | 20:22 | 21:14 | 22:37 |
| 54 | 02:04 | 03:14 | 04:01 | 20:11 | 20:58 | 22:07 |
| 52 | 02:26 | 03:27 | 04:10 | 20:02 | 20:45 | 21:45 |
| 50 | 02:44 | 03:38 | 04:19 | 19:54 | 20:34 | 21:28 |
| 45 | 03:17 | 04:02 | 04:37 | 19:36 | 20:10 | 20:55 |
| 40 | 03:42 | 04:20 | 04:51 | 19:21 | 19:52 | 20:31 |
| 35 | 04:01 | 04:35 | 05:04 | 19:09 | 19:37 | 20:12 |
| 30 | 04:16 | 04:48 | 05:14 | 18:58 | 19:25 | 19:56 |
| 20 | 04:41 | 05:09 | 05:33 | 18:40 | 19:04 | 19:32 |
| 10 | 05:00 | 05:26 | 05:48 | 18:25 | 18:47 | 19:13 |
| 0 | 05:15 | 05:41 | 06:03 | 18:10 | 18:32 | 18:58 |
| -10 | 05:30 | 05:55 | 06:18 | 17:56 | 18:18 | 18:44 |
| -20 | 05:43 | 06:09 | 06:33 | 17:40 | 18:04 | 18:31 |
| -30 | 05:56 | 06:25 | 06:50 | 17:23 | 17:49 | 18:18 |
| -35 | 06:03 | 06:33 | 07:00 | 17:13 | 17:40 | 18:11 |
| -40 | 06:10 | 06:43 | 07:12 | 17:01 | 17:31 | 18:04 |
| -45 | 06:17 | 06:53 | 07:26 | 16:48 | 17:20 | 17:56 |
| -50 | 06:26 | 07:06 | 07:42 | 16:32 | 17:08 | 17:47 |
| -52 | 06:30 | 07:12 | 07:50 | 16:24 | 17:02 | 17:44 |
| -54 | 06:34 | 07:18 | 07:58 | 16:15 | 16:56 | 17:40 |
| -56 | 06:38 | 07:25 | 08:08 | 16:06 | 16:49 | 17:35 |
| -58 | 06:43 | 07:32 | 08:19 | 15:55 | 16:41 | 17:31 |
| -60 | 06:48 | 07:41 | 08:32 | 15:42 | 16:33 | 17:25 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **24** | **25** | **26** | **24** | **25** | **26** |
| 72 | | | 02:31 | | | 00:21<br>22:47 |
| 70 | | –:– | 03:32 | | 23:18 | 22:25 |
| 68 | | –:– | 04:07 | | 22:42 | 22:09 |
| 66 | –:– | 02:05 | 04:31 | 22:55 | 22:16 | 21:55 |
| 64 | –:– | 02:45 | 04:50 | 22:13 | 21:55 | 21:43 |
| 62 | 01:07 | 03:13 | 05:06 | 21:44 | 21:39 | 21:34 |
| 60 | 01:44 | 03:34 | 05:18 | 21:22 | 21:25 | 21:25 |
| 58 | 02:10 | 03:51 | 05:29 | 21:04 | 21:13 | 21:18 |
| 56 | 02:30 | 04:06 | 05:39 | 20:49 | 21:02 | 21:11 |
| 54 | 02:48 | 04:18 | 05:47 | 20:36 | 20:53 | 21:05 |
| 52 | 03:02 | 04:29 | 05:55 | 20:24 | 20:45 | 21:00 |
| 50 | 03:15 | 04:39 | 06:02 | 20:14 | 20:38 | 20:55 |
| 45 | 03:41 | 04:59 | 06:16 | 19:52 | 20:22 | 20:44 |
| 40 | 04:02 | 05:16 | 06:28 | 19:35 | 20:08 | 20:35 |
| 35 | 04:19 | 05:29 | 06:38 | 19:20 | 19:57 | 20:28 |
| 30 | 04:33 | 05:41 | 06:46 | 19:07 | 19:47 | 20:21 |
| 20 | 04:58 | 06:02 | 07:01 | 18:45 | 19:30 | 20:09 |
| 10 | 05:20 | 06:19 | 07:14 | 18:25 | 19:15 | 19:59 |
| 0 | 05:40 | 06:36 | 07:26 | 18:07 | 19:01 | 19:49 |
| -10 | 06:00 | 06:52 | 07:39 | 17:49 | 18:46 | 19:39 |
| -20 | 06:21 | 07:09 | 07:51 | 17:29 | 18:31 | 19:28 |
| -30 | 06:46 | 07:29 | 08:06 | 17:06 | 18:13 | 19:16 |
| -35 | 07:00 | 07:41 | 08:14 | 16:53 | 18:03 | 19:09 |
| -40 | 07:17 | 07:54 | 08:24 | 16:37 | 17:50 | 19:01 |
| -45 | 07:37 | 08:10 | 08:35 | 16:18 | 17:36 | 18:51 |
| -50 | 08:01 | 08:29 | 08:48 | 15:54 | 17:19 | 18:40 |
| -52 | 08:13 | 08:38 | 08:55 | 15:43 | 17:10 | 18:34 |
| -54 | 08:27 | 08:48 | 09:02 | 15:30 | 17:01 | 18:28 |
| -56 | 08:42 | 08:59 | 09:09 | 15:15 | 16:50 | 18:21 |
| -58 | 09:01 | 09:12 | 09:18 | 14:57 | 16:38 | 18:14 |
| -60 | 09:24 | 09:27 | 09:28 | 14:35 | 16:24 | 18:05 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **24** | 06:33 | 06:33 | 12:07 | 11:54 | –:– | 29 | 1 |
| **25** | 06:34 | 06:34 | 12:07 | 12:48 | 00:22 | 30 | 0 |
| **26** | 06:34 | 06:34 | 12:07 | 13:38 | 01:14 | 1 | 2 |

## 2025 July 27, 28, 29 (Sun, Mon, Tue)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -1.9 | | Saturn 0.8 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 27 Sunday | 0 | 304 55.8 | 220 5.5 | 21 35.6 | 130 52.4 | 3 18.4 | 203 22.3 | 22 55.4 | 302 22.0 | -1 27.2 |
| | 1 | 319 58.2 | 235 4.9 | 21 35.8 | 145 53.4 | 3 17.8 | 218 24.2 | 22 55.4 | 317 24.5 | -1 27.2 |
| | 2 | 335 0.7 | 250 4.3 | 21 36.0 | 160 54.5 | 3 17.2 | 233 26.1 | 22 55.3 | 332 27.0 | -1 27.3 |
| | 3 | 350 3.2 | 265 3.6 | 21 36.2 | 175 55.6 | 3 16.5 | 248 27.9 | 22 55.3 | 347 29.5 | -1 27.3 |
| | 4 | 5 5.6 | 280 3.0 | 21 36.5 | 190 56.7 | 3 15.9 | 263 29.8 | 22 55.3 | 2 32.0 | -1 27.3 |
| | 5 | 20 8.1 | 295 2.4 | 21 36.7 | 205 57.7 | 3 15.3 | 278 31.7 | 22 55.2 | 17 34.5 | -1 27.4 |
| | 6 | 35 10.6 | 310 1.8 | 21 36.9 | 220 58.8 | 3 14.6 | 293 33.6 | 22 55.2 | 32 37.0 | -1 27.4 |
| | 7 | 50 13.0 | 325 1.2 | 21 37.1 | 235 59.9 | 3 14.0 | 308 35.5 | 22 55.1 | 47 39.6 | -1 27.4 |
| | 8 | 65 15.5 | 340 0.5 | 21 37.3 | 251 1.0 | 3 13.4 | 323 37.3 | 22 55.1 | 62 42.1 | -1 27.5 |
| | 9 | 80 18.0 | 354 59.9 | 21 37.5 | 266 2.0 | 3 12.8 | 338 39.2 | 22 55.1 | 77 44.6 | -1 27.5 |
| | 10 | 95 20.4 | 9 59.3 | 21 37.7 | 281 3.1 | 3 12.1 | 353 41.1 | 22 55.0 | 92 47.1 | -1 27.5 |
| | 11 | 110 22.9 | 24 58.7 | 21 37.9 | 296 4.2 | 3 11.5 | 8 43.0 | 22 55.0 | 107 49.6 | -1 27.6 |
| | 12 | 125 25.3 | 39 58.0 | 21 38.2 | 311 5.2 | 3 10.9 | 23 44.8 | 22 54.9 | 122 52.1 | -1 27.6 |
| | 13 | 140 27.8 | 54 57.4 | 21 38.4 | 326 6.3 | 3 10.2 | 38 46.7 | 22 54.9 | 137 54.6 | -1 27.6 |
| | 14 | 155 30.3 | 69 56.8 | 21 38.6 | 341 7.4 | 3 9.6 | 53 48.6 | 22 54.9 | 152 57.2 | -1 27.7 |
| | 15 | 170 32.7 | 84 56.2 | 21 38.8 | 356 8.5 | 3 9.0 | 68 50.5 | 22 54.8 | 167 59.7 | -1 27.7 |
| | 16 | 185 35.2 | 99 55.6 | 21 39.0 | 11 9.5 | 3 8.3 | 83 52.3 | 22 54.8 | 183 2.2 | -1 27.7 |
| | 17 | 200 37.7 | 114 54.9 | 21 39.2 | 26 10.6 | 3 7.7 | 98 54.2 | 22 54.7 | 198 4.7 | -1 27.8 |
| | 18 | 215 40.1 | 129 54.3 | 21 39.4 | 41 11.7 | 3 7.1 | 113 56.1 | 22 54.7 | 213 7.2 | -1 27.8 |
| | 19 | 230 42.6 | 144 53.7 | 21 39.6 | 56 12.7 | 3 6.4 | 128 58.0 | 22 54.7 | 228 9.7 | -1 27.8 |
| | 20 | 245 45.1 | 159 53.1 | 21 39.8 | 71 13.8 | 3 5.8 | 143 59.8 | 22 54.6 | 243 12.2 | -1 27.9 |
| | 21 | 260 47.5 | 174 52.4 | 21 40.0 | 86 14.9 | 3 5.2 | 159 1.7 | 22 54.6 | 258 14.8 | -1 27.9 |
| | 22 | 275 50.0 | 189 51.8 | 21 40.2 | 101 16.0 | 3 4.5 | 174 3.6 | 22 54.5 | 273 17.3 | -1 27.9 |
| | 23 | 290 52.5 | 204 51.2 | 21 40.4 | 116 17.0 | 3 3.9 | 189 5.5 | 22 54.5 | 288 19.8 | -1 28.0 |
| | | MP 03:41 | *v* -0.6 | *d* 0.2 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 28 Monday | 0 | 305 54.9 | 219 50.6 | 21 40.6 | 131 18.1 | 3 3.3 | 204 7.3 | 22 54.5 | 303 22.3 | -1 28.0 |
| | 1 | 320 57.4 | 234 49.9 | 21 40.8 | 146 19.2 | 3 2.6 | 219 9.2 | 22 54.4 | 318 24.8 | -1 28.1 |
| | 2 | 335 59.8 | 249 49.3 | 21 41.0 | 161 20.2 | 3 2.0 | 234 11.1 | 22 54.4 | 333 27.3 | -1 28.1 |
| | 3 | 351 2.3 | 264 48.7 | 21 41.2 | 176 21.3 | 3 1.3 | 249 13.0 | 22 54.3 | 348 29.9 | -1 28.1 |
| | 4 | 6 4.8 | 279 48.0 | 21 41.4 | 191 22.4 | 3 0.7 | 264 14.9 | 22 54.3 | 3 32.4 | -1 28.2 |
| | 5 | 21 7.2 | 294 47.4 | 21 41.6 | 206 23.4 | 3 0.1 | 279 16.7 | 22 54.3 | 18 34.9 | -1 28.2 |
| | 6 | 36 9.7 | 309 46.8 | 21 41.8 | 221 24.5 | 2 59.4 | 294 18.6 | 22 54.2 | 33 37.4 | -1 28.2 |
| | 7 | 51 12.2 | 324 46.2 | 21 42.0 | 236 25.6 | 2 58.8 | 309 20.5 | 22 54.2 | 48 39.9 | -1 28.3 |
| | 8 | 66 14.6 | 339 45.5 | 21 42.1 | 251 26.7 | 2 58.2 | 324 22.4 | 22 54.1 | 63 42.4 | -1 28.3 |
| | 9 | 81 17.1 | 354 44.9 | 21 42.3 | 266 27.7 | 2 57.5 | 339 24.2 | 22 54.1 | 78 45.0 | -1 28.3 |
| | 10 | 96 19.6 | 9 44.3 | 21 42.5 | 281 28.8 | 2 56.9 | 354 26.1 | 22 54.1 | 93 47.5 | -1 28.4 |
| | 11 | 111 22.0 | 24 43.6 | 21 42.7 | 296 29.9 | 2 56.3 | 9 28.0 | 22 54.0 | 108 50.0 | -1 28.4 |
| | 12 | 126 24.5 | 39 43.0 | 21 42.9 | 311 30.9 | 2 55.6 | 24 29.9 | 22 54.0 | 123 52.5 | -1 28.4 |
| | 13 | 141 26.9 | 54 42.4 | 21 43.1 | 326 32.0 | 2 55.0 | 39 31.8 | 22 53.9 | 138 55.0 | -1 28.5 |
| | 14 | 156 29.4 | 69 41.8 | 21 43.3 | 341 33.1 | 2 54.4 | 54 33.6 | 22 53.9 | 153 57.6 | -1 28.5 |
| | 15 | 171 31.9 | 84 41.1 | 21 43.5 | 356 34.1 | 2 53.7 | 69 35.5 | 22 53.9 | 169 0.1 | -1 28.5 |
| | 16 | 186 34.3 | 99 40.5 | 21 43.6 | 11 35.2 | 2 53.1 | 84 37.4 | 22 53.8 | 184 2.6 | -1 28.6 |
| | 17 | 201 36.8 | 114 39.9 | 21 43.8 | 26 36.3 | 2 52.5 | 99 39.3 | 22 53.8 | 199 5.1 | -1 28.6 |
| | 18 | 216 39.3 | 129 39.2 | 21 44.0 | 41 37.4 | 2 51.8 | 114 41.2 | 22 53.7 | 214 7.6 | -1 28.6 |
| | 19 | 231 41.7 | 144 38.6 | 21 44.2 | 56 38.4 | 2 51.2 | 129 43.0 | 22 53.7 | 229 10.2 | -1 28.7 |
| | 20 | 246 44.2 | 159 38.0 | 21 44.4 | 71 39.5 | 2 50.6 | 144 44.9 | 22 53.7 | 244 12.7 | -1 28.7 |
| | 21 | 261 46.7 | 174 37.3 | 21 44.5 | 86 40.6 | 2 49.9 | 159 46.8 | 22 53.6 | 259 15.2 | -1 28.8 |
| | 22 | 276 49.1 | 189 36.7 | 21 44.7 | 101 41.6 | 2 49.3 | 174 48.7 | 22 53.6 | 274 17.7 | -1 28.8 |
| | 23 | 291 51.6 | 204 36.1 | 21 44.9 | 116 42.7 | 2 48.7 | 189 50.5 | 22 53.5 | 289 20.2 | -1 28.8 |
| | | MP 03:37 | *v* -0.6 | *d* 0.2 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 Tuesday | 0 | 306 54.1 | 219 35.4 | 21 45.1 | 131 43.8 | 2 48.0 | 204 52.4 | 22 53.5 | 304 22.7 | -1 28.9 |
| | 1 | 321 56.5 | 234 34.8 | 21 45.2 | 146 44.8 | 2 47.4 | 219 54.3 | 22 53.4 | 319 25.3 | -1 28.9 |
| | 2 | 336 59.0 | 249 34.2 | 21 45.4 | 161 45.9 | 2 46.7 | 234 56.2 | 22 53.4 | 334 27.8 | -1 28.9 |
| | 3 | 352 1.4 | 264 33.5 | 21 45.6 | 176 47.0 | 2 46.1 | 249 58.1 | 22 53.4 | 349 30.3 | -1 29.0 |
| | 4 | 7 3.9 | 279 32.9 | 21 45.8 | 191 48.0 | 2 45.5 | 264 59.9 | 22 53.3 | 4 32.8 | -1 29.0 |
| | 5 | 22 6.4 | 294 32.2 | 21 45.9 | 206 49.1 | 2 44.8 | 280 1.8 | 22 53.3 | 19 35.4 | -1 29.0 |
| | 6 | 37 8.8 | 309 31.6 | 21 46.1 | 221 50.2 | 2 44.2 | 295 3.7 | 22 53.2 | 34 37.9 | -1 29.1 |
| | 7 | 52 11.3 | 324 31.0 | 21 46.3 | 236 51.2 | 2 43.6 | 310 5.6 | 22 53.2 | 49 40.4 | -1 29.1 |
| | 8 | 67 13.8 | 339 30.3 | 21 46.4 | 251 52.3 | 2 42.9 | 325 7.5 | 22 53.2 | 64 42.9 | -1 29.2 |
| | 9 | 82 16.2 | 354 29.7 | 21 46.6 | 266 53.4 | 2 42.3 | 340 9.3 | 22 53.1 | 79 45.4 | -1 29.2 |
| | 10 | 97 18.7 | 9 29.1 | 21 46.8 | 281 54.5 | 2 41.7 | 355 11.2 | 22 53.1 | 94 48.0 | -1 29.2 |
| | 11 | 112 21.2 | 24 28.4 | 21 46.9 | 296 55.5 | 2 41.0 | 10 13.1 | 22 53.0 | 109 50.5 | -1 29.3 |
| | 12 | 127 23.6 | 39 27.8 | 21 47.1 | 311 56.6 | 2 40.4 | 25 15.0 | 22 53.0 | 124 53.0 | -1 29.3 |
| | 13 | 142 26.1 | 54 27.2 | 21 47.3 | 326 57.7 | 2 39.8 | 40 16.9 | 22 53.0 | 139 55.5 | -1 29.3 |
| | 14 | 157 28.5 | 69 26.5 | 21 47.4 | 341 58.7 | 2 39.1 | 55 18.7 | 22 52.9 | 154 58.0 | -1 29.4 |
| | 15 | 172 31.0 | 84 25.9 | 21 47.6 | 356 59.8 | 2 38.5 | 70 20.6 | 22 52.9 | 170 0.6 | -1 29.4 |
| | 16 | 187 33.5 | 99 25.2 | 21 47.7 | 12 0.9 | 2 37.8 | 85 22.5 | 22 52.8 | 185 3.1 | -1 29.4 |
| | 17 | 202 35.9 | 114 24.6 | 21 47.9 | 27 1.9 | 2 37.2 | 100 24.4 | 22 52.8 | 200 5.6 | -1 29.5 |
| | 18 | 217 38.4 | 129 24.0 | 21 48.1 | 42 3.0 | 2 36.6 | 115 26.3 | 22 52.7 | 215 8.1 | -1 29.5 |
| | 19 | 232 40.9 | 144 23.3 | 21 48.2 | 57 4.1 | 2 35.9 | 130 28.1 | 22 52.7 | 230 10.7 | -1 29.6 |
| | 20 | 247 43.3 | 159 22.7 | 21 48.4 | 72 5.1 | 2 35.3 | 145 30.0 | 22 52.7 | 245 13.2 | -1 29.6 |
| | 21 | 262 45.8 | 174 22.0 | 21 48.5 | 87 6.2 | 2 34.7 | 160 31.9 | 22 52.6 | 260 15.7 | -1 29.6 |
| | 22 | 277 48.3 | 189 21.4 | 21 48.7 | 102 7.3 | 2 34.0 | 175 33.8 | 22 52.6 | 275 18.2 | -1 29.7 |
| | 23 | 292 50.7 | 204 20.8 | 21 48.8 | 117 8.3 | 2 33.4 | 190 35.7 | 22 52.5 | 290 20.8 | -1 29.7 |
| | | MP 03:33 | *v* -0.6 | *d* 0.2 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.5 | -40 11.8 |
| Achernar | 335 19.7 | -57 6.1 |
| Acrux | 172 59.9 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.3 |
| Aldebaran | 290 39.3 | 16 33.7 |
| Alioth | 166 12.7 | 55 49.5 |
| Alkaid | 152 51.7 | 49 11.4 |
| Alnair | 27 31.9 | -46 50.0 |
| Alnilam | 275 37.5 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.9 |
| Alpheratz | 357 34.1 | 29 13.9 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.5 | -42 9.7 |
| Antares | 112 15.0 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.5 | -69 4.6 |
| Avior | 234 15.2 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.4 |
| Betelgeuse | 270 51.9 | 7 24.8 |
| Canopus | 263 52.7 | -52 42.3 |
| Capella | 280 21.5 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.3 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.7 | -17 50.6 |
| Dubhe | 193 40.9 | 61 37.0 |
| Elnath | 278 1.6 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.2 |
| Enif | 33 38.0 | 9 59.6 |
| Fomalhaut | 15 13.7 | -29 29.0 |
| Gacrux | 171 51.4 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.1 |
| Hadar | 148 35.4 | -60 30.0 |
| Hamal | 327 50.7 | 23 35.0 |
| Kaus Aust. | 83 31.5 | -34 22.4 |
| Kochab | 137 19.5 | 74 3.3 |
| Markab | 13 29.2 | 15 20.6 |
| Menkar | 314 5.7 | 4 11.5 |
| Menkent | 147 57.1 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.3 |
| Mirfak | 308 27.8 | 49 56.9 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.1 |
| Pollux | 243 17.1 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.6 |
| Rasalhague | 95 57.8 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.7 | -8 10.2 |
| Rigil Kent. | 139 39.6 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.3 | 56 40.5 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.1 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.1 |
| Vega | 80 32.5 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 27 Sun | SHA | MP |
|---|---|---|
| Venus | 275 9.7 | 09:20 |
| Mars | 185 56.6 | 15:15 |
| Jupiter | 258 26.5 | 10:25 |
| Saturn | 357 26.2 | 03:50 |

| 28 Mon | SHA | MP |
|---|---|---|
| Venus | 273 55.6 | 09:21 |
| Mars | 185 23.2 | 15:14 |
| Jupiter | 258 12.4 | 10:22 |
| Saturn | 357 27.4 | 03:46 |

| 29 Tue | SHA | MP |
|---|---|---|
| Venus | 272 41.4 | 09:22 |
| Mars | 184 49.7 | 15:12 |
| Jupiter | 257 58.4 | 10:19 |
| Saturn | 357 28.7 | 03:42 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **27 Sunday** | 0 | 178 21.6 | 19 11.8 | 150 41.0 | 13.4 | 12 19.0 | -14.3 | 56.8 |
| | 1 | 193 21.6 | 19 11.3 | 165 13.4 | 13.5 | 12 4.7 | -14.3 | 56.8 |
| | 2 | 208 21.6 | 19 10.7 | 179 45.9 | 13.6 | 11 50.4 | -14.4 | 56.7 |
| | 3 | 223 21.6 | 19 10.1 | 194 18.5 | 13.7 | 11 36.0 | -14.4 | 56.7 |
| | 4 | 238 21.6 | 19 9.6 | 208 51.2 | 13.8 | 11 21.6 | -14.4 | 56.7 |
| | 5 | 253 21.6 | 19 9.0 | 223 23.9 | 13.8 | 11 7.1 | -14.5 | 56.6 |
| | 6 | 268 21.6 | 19 8.4 | 237 56.8 | 13.9 | 10 52.7 | -14.5 | 56.6 |
| | 7 | 283 21.6 | 19 7.9 | 252 29.7 | 14.0 | 10 38.1 | -14.5 | 56.6 |
| | 8 | 298 21.6 | 19 7.3 | 267 2.7 | 14.1 | 10 23.6 | -14.6 | 56.5 |
| | 9 | 313 21.6 | 19 6.7 | 281 35.8 | 14.1 | 10 9.0 | -14.6 | 56.5 |
| | 10 | 328 21.6 | 19 6.1 | 296 8.9 | 14.2 | 9 54.4 | -14.6 | 56.5 |
| | 11 | 343 21.7 | 19 5.6 | 310 42.1 | 14.3 | 9 39.8 | -14.7 | 56.5 |
| | 12 | 358 21.7 | 19 5.0 | 325 15.4 | 14.4 | 9 25.1 | -14.7 | 56.4 |
| | 13 | 13 21.7 | 19 4.4 | 339 48.8 | 14.4 | 9 10.5 | -14.7 | 56.4 |
| | 14 | 28 21.7 | 19 3.9 | 354 22.3 | 14.5 | 8 55.8 | -14.7 | 56.4 |
| | 15 | 43 21.7 | 19 3.3 | 8 55.8 | 14.6 | 8 41.0 | -14.7 | 56.3 |
| | 16 | 58 21.7 | 19 2.7 | 23 29.4 | 14.7 | 8 26.3 | -14.8 | 56.3 |
| | 17 | 73 21.7 | 19 2.1 | 38 3.0 | 14.7 | 8 11.5 | -14.8 | 56.3 |
| | 18 | 88 21.7 | 19 1.6 | 52 36.7 | 14.8 | 7 56.8 | -14.8 | 56.3 |
| | 19 | 103 21.7 | 19 1.0 | 67 10.5 | 14.9 | 7 42.0 | -14.8 | 56.2 |
| | 20 | 118 21.7 | 19 0.4 | 81 44.4 | 14.9 | 7 27.2 | -14.8 | 56.2 |
| | 21 | 133 21.8 | 18 59.8 | 96 18.3 | 15.0 | 7 12.3 | -14.8 | 56.2 |
| | 22 | 148 21.8 | 18 59.2 | 110 52.3 | 15.0 | 6 57.5 | -14.9 | 56.1 |
| | 23 | 163 21.8 | 18 58.7 | 125 26.3 | 15.1 | 6 42.6 | -14.9 | 56.1 |
| | *v* | 0.0 | SD 15.7 *d* -0.6 | | | SD 15.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **28 Monday** | 0 | 178 21.8 | 18 58.1 | 140 0.4 | 15.2 | 6 27.8 | -14.9 | 56.1 |
| | 1 | 193 21.8 | 18 57.5 | 154 34.5 | 15.2 | 6 12.9 | -14.9 | 56.1 |
| | 2 | 208 21.8 | 18 56.9 | 169 8.8 | 15.3 | 5 58.0 | -14.9 | 56.0 |
| | 3 | 223 21.8 | 18 56.3 | 183 43.0 | 15.3 | 5 43.1 | -14.9 | 56.0 |
| | 4 | 238 21.8 | 18 55.8 | 198 17.4 | 15.4 | 5 28.2 | -14.9 | 56.0 |
| | 5 | 253 21.9 | 18 55.2 | 212 51.7 | 15.4 | 5 13.3 | -14.9 | 56.0 |
| | 6 | 268 21.9 | 18 54.6 | 227 26.2 | 15.5 | 4 58.4 | -14.9 | 55.9 |
| | 7 | 283 21.9 | 18 54.0 | 242 0.6 | 15.5 | 4 43.5 | -14.9 | 55.9 |
| | 8 | 298 21.9 | 18 53.4 | 256 35.2 | 15.6 | 4 28.6 | -14.9 | 55.9 |
| | 9 | 313 21.9 | 18 52.8 | 271 9.7 | 15.6 | 4 13.7 | -14.9 | 55.8 |
| | 10 | 328 21.9 | 18 52.3 | 285 44.4 | 15.7 | 3 58.7 | -14.9 | 55.8 |
| | 11 | 343 21.9 | 18 51.7 | 300 19.0 | 15.7 | 3 43.8 | -14.9 | 55.8 |
| | 12 | 358 22.0 | 18 51.1 | 314 53.7 | 15.8 | 3 28.9 | -14.9 | 55.8 |
| | 13 | 13 22.0 | 18 50.5 | 329 28.5 | 15.8 | 3 14.0 | -14.9 | 55.7 |
| | 14 | 28 22.0 | 18 49.9 | 344 3.3 | 15.8 | 2 59.1 | -14.9 | 55.7 |
| | 15 | 43 22.0 | 18 49.3 | 358 38.1 | 15.9 | 2 44.1 | -14.9 | 55.7 |
| | 16 | 58 22.0 | 18 48.7 | 13 13.0 | 15.9 | 2 29.2 | -14.9 | 55.7 |
| | 17 | 73 22.0 | 18 48.2 | 27 47.9 | 16.0 | 2 14.3 | -14.9 | 55.6 |
| | 18 | 88 22.0 | 18 47.6 | 42 22.9 | 16.0 | 1 59.4 | -14.9 | 55.6 |
| | 19 | 103 22.1 | 18 47.0 | 56 57.9 | 16.0 | 1 44.5 | -14.9 | 55.6 |
| | 20 | 118 22.1 | 18 46.4 | 71 32.9 | 16.1 | 1 29.7 | -14.9 | 55.6 |
| | 21 | 133 22.1 | 18 45.8 | 86 7.9 | 16.1 | 1 14.8 | -14.9 | 55.5 |
| | 22 | 148 22.1 | 18 45.2 | 100 43.0 | 16.1 | 0 59.9 | -14.9 | 55.5 |
| | 23 | 163 22.1 | 18 44.6 | 115 18.2 | 16.1 | 0 45.1 | -14.8 | 55.5 |
| | *v* | 0.0 | SD 15.8 *d* -0.6 | | | SD 15.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **29 Tuesday** | 0 | 178 22.2 | 18 44.0 | 129 53.3 | 16.2 | 0 30.2 | -14.8 | 55.5 |
| | 1 | 193 22.2 | 18 43.4 | 144 28.5 | 16.2 | 0 15.4 | -14.8 | 55.4 |
| | 2 | 208 22.2 | 18 42.8 | 159 3.7 | 16.2 | 0 0.6 | -14.8 | 55.4 |
| | 3 | 223 22.2 | 18 42.2 | 173 38.9 | 16.3 | -0 14.2 | 14.8 | 55.4 |
| | 4 | 238 22.2 | 18 41.6 | 188 14.2 | 16.3 | -0 29.0 | 14.8 | 55.4 |
| | 5 | 253 22.2 | 18 41.1 | 202 49.5 | 16.3 | -0 43.8 | 14.8 | 55.3 |
| | 6 | 268 22.3 | 18 40.5 | 217 24.8 | 16.3 | -0 58.6 | 14.7 | 55.3 |
| | 7 | 283 22.3 | 18 39.9 | 232 0.1 | 16.3 | -1 13.3 | 14.7 | 55.3 |
| | 8 | 298 22.3 | 18 39.3 | 246 35.4 | 16.4 | -1 28.0 | 14.7 | 55.3 |
| | 9 | 313 22.3 | 18 38.7 | 261 10.8 | 16.4 | -1 42.7 | 14.7 | 55.2 |
| | 10 | 328 22.4 | 18 38.1 | 275 46.2 | 16.4 | -1 57.4 | 14.7 | 55.2 |
| | 11 | 343 22.4 | 18 37.5 | 290 21.6 | 16.4 | -2 12.1 | 14.6 | 55.2 |
| | 12 | 358 22.4 | 18 36.9 | 304 57.0 | 16.4 | -2 26.7 | 14.6 | 55.2 |
| | 13 | 13 22.4 | 18 36.3 | 319 32.4 | 16.4 | -2 41.3 | 14.6 | 55.2 |
| | 14 | 28 22.4 | 18 35.7 | 334 7.8 | 16.4 | -2 55.9 | 14.6 | 55.1 |
| | 15 | 43 22.5 | 18 35.1 | 348 43.3 | 16.5 | -3 10.5 | 14.6 | 55.1 |
| | 16 | 58 22.5 | 18 34.5 | 3 18.7 | 16.5 | -3 25.1 | 14.5 | 55.1 |
| | 17 | 73 22.5 | 18 33.9 | 17 54.2 | 16.5 | -3 39.6 | 14.5 | 55.1 |
| | 18 | 88 22.5 | 18 33.3 | 32 29.7 | 16.5 | -3 54.1 | 14.5 | 55.1 |
| | 19 | 103 22.6 | 18 32.7 | 47 5.2 | 16.5 | -4 8.6 | 14.4 | 55.0 |
| | 20 | 118 22.6 | 18 32.1 | 61 40.6 | 16.5 | -4 23.0 | 14.4 | 55.0 |
| | 21 | 133 22.6 | 18 31.5 | 76 16.1 | 16.5 | -4 37.4 | 14.4 | 55.0 |
| | 22 | 148 22.6 | 18 30.9 | 90 51.6 | 16.5 | -4 51.8 | 14.4 | 55.0 |
| | 23 | 163 22.6 | 18 30.3 | 105 27.1 | 16.5 | -5 6.2 | 14.3 | 55.0 |
| | *v* | 0.0 | SD 15.8 *d* -0.6 | | | SD 15.1 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | | | | 23:33 | | |
| 68 | //// | //// | 01:49 | 22:19 | //// | //// |
| 66 | //// | //// | 02:27 | 21:43 | //// | //// |
| 64 | //// | 01:07 | 02:53 | 21:18 | 22:59 | //// |
| 62 | //// | 01:55 | 03:13 | 20:58 | 22:14 | //// |
| 60 | //// | 02:25 | 03:30 | 20:42 | 21:46 | //// |
| 58 | 01:01 | 02:47 | 03:43 | 20:28 | 21:24 | 23:06 |
| 56 | 01:45 | 03:05 | 03:55 | 20:17 | 21:07 | 22:25 |
| 54 | 02:12 | 03:19 | 04:05 | 20:07 | 20:52 | 21:58 |
| 52 | 02:33 | 03:32 | 04:15 | 19:58 | 20:40 | 21:38 |
| 50 | 02:50 | 03:43 | 04:23 | 19:50 | 20:29 | 21:22 |
| 45 | 03:22 | 04:06 | 04:40 | 19:32 | 20:07 | 20:50 |
| 40 | 03:45 | 04:23 | 04:54 | 19:19 | 19:49 | 20:27 |
| 35 | 04:03 | 04:38 | 05:06 | 19:07 | 19:35 | 20:09 |
| 30 | 04:18 | 04:50 | 05:16 | 18:57 | 19:23 | 19:54 |
| 20 | 04:42 | 05:10 | 05:34 | 18:39 | 19:03 | 19:31 |
| 10 | 05:00 | 05:27 | 05:49 | 18:24 | 18:46 | 19:13 |
| 0 | 05:16 | 05:41 | 06:03 | 18:10 | 18:32 | 18:57 |
| -10 | 05:29 | 05:55 | 06:17 | 17:56 | 18:18 | 18:44 |
| -20 | 05:42 | 06:09 | 06:32 | 17:41 | 18:05 | 18:31 |
| -30 | 05:54 | 06:23 | 06:49 | 17:25 | 17:50 | 18:19 |
| -35 | 06:01 | 06:31 | 06:58 | 17:15 | 17:42 | 18:13 |
| -40 | 06:07 | 06:40 | 07:09 | 17:04 | 17:33 | 18:06 |
| -45 | 06:15 | 06:50 | 07:22 | 16:51 | 17:23 | 17:59 |
| -50 | 06:23 | 07:02 | 07:38 | 16:35 | 17:11 | 17:51 |
| -52 | 06:26 | 07:08 | 07:46 | 16:28 | 17:06 | 17:47 |
| -54 | 06:30 | 07:14 | 07:54 | 16:20 | 17:00 | 17:43 |
| -56 | 06:34 | 07:20 | 08:03 | 16:11 | 16:53 | 17:39 |
| -58 | 06:39 | 07:28 | 08:13 | 16:00 | 16:46 | 17:35 |
| -60 | 06:44 | 07:36 | 08:25 | 15:48 | 16:38 | 17:30 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **27** | **28** | **29** | **27** | **28** | **29** |
| 72 | 05:44 | 07:59 | 10:03 | 22:03 | 21:29 | 20:56 |
| 70 | 06:03 | 08:06 | 10:00 | 21:54 | 21:27 | 21:02 |
| 68 | 06:17 | 08:11 | 09:57 | 21:46 | 21:26 | 21:08 |
| 66 | 06:29 | 08:15 | 09:55 | 21:39 | 21:25 | 21:12 |
| 64 | 06:39 | 08:19 | 09:54 | 21:34 | 21:25 | 21:16 |
| 62 | 06:48 | 08:22 | 09:52 | 21:29 | 21:24 | 21:19 |
| 60 | 06:55 | 08:25 | 09:51 | 21:24 | 21:23 | 21:22 |
| 58 | 07:01 | 08:27 | 09:50 | 21:21 | 21:23 | 21:24 |
| 56 | 07:07 | 08:29 | 09:49 | 21:17 | 21:22 | 21:27 |
| 54 | 07:12 | 08:31 | 09:48 | 21:14 | 21:22 | 21:29 |
| 52 | 07:16 | 08:33 | 09:47 | 21:11 | 21:21 | 21:31 |
| 50 | 07:20 | 08:35 | 09:46 | 21:09 | 21:21 | 21:32 |
| 45 | 07:29 | 08:38 | 09:45 | 21:03 | 21:20 | 21:36 |
| 40 | 07:36 | 08:41 | 09:43 | 20:59 | 21:19 | 21:39 |
| 35 | 07:42 | 08:43 | 09:42 | 20:54 | 21:19 | 21:42 |
| 30 | 07:48 | 08:46 | 09:41 | 20:51 | 21:18 | 21:45 |
| 20 | 07:57 | 08:49 | 09:40 | 20:45 | 21:17 | 21:49 |
| 10 | 08:05 | 08:53 | 09:38 | 20:39 | 21:16 | 21:53 |
| 0 | 08:13 | 08:56 | 09:37 | 20:34 | 21:15 | 21:56 |
| -10 | 08:20 | 08:59 | 09:35 | 20:28 | 21:15 | 22:00 |
| -20 | 08:28 | 09:02 | 09:34 | 20:22 | 21:14 | 22:03 |
| -30 | 08:37 | 09:06 | 09:32 | 20:16 | 21:13 | 22:08 |
| -35 | 08:43 | 09:08 | 09:31 | 20:12 | 21:12 | 22:10 |
| -40 | 08:49 | 09:10 | 09:30 | 20:08 | 21:11 | 22:13 |
| -45 | 08:55 | 09:13 | 09:29 | 20:02 | 21:10 | 22:16 |
| -50 | 09:04 | 09:16 | 09:28 | 19:56 | 21:09 | 22:20 |
| -52 | 09:07 | 09:18 | 09:27 | 19:53 | 21:09 | 22:22 |
| -54 | 09:12 | 09:20 | 09:27 | 19:50 | 21:08 | 22:24 |
| -56 | 09:16 | 09:21 | 09:26 | 19:47 | 21:08 | 22:26 |
| -58 | 09:21 | 09:23 | 09:25 | 19:43 | 21:07 | 22:29 |
| -60 | 09:27 | 09:26 | 09:24 | 19:38 | 21:06 | 22:31 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **27** | 06:34 | 06:33 | 12:07 | 14:23 | 02:01 | 2 | 6 |
| **28** | 06:33 | 06:32 | 12:07 | 15:06 | 02:45 | 3 | 11 |
| **29** | 06:31 | 06:30 | 12:06 | 15:46 | 03:26 | 4 | 18 |

| d | h | Aries GHA | Venus -4.0 GHA | Venus -4.0 Dec | Mars 1.6 GHA | Mars 1.6 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 0.8 GHA | Saturn 0.8 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Wednesday | 0 | 307 53.2 | 219 20.1 | 21 49.0 | 132 9.4 | 2 32.8 | 205 37.5 | 22 52.5 | 305 23.3 | -1 29.7 |
| | 1 | 322 55.7 | 234 19.5 | 21 49.1 | 147 10.5 | 2 32.1 | 220 39.4 | 22 52.5 | 320 25.8 | -1 29.8 |
| | 2 | 337 58.1 | 249 18.8 | 21 49.3 | 162 11.5 | 2 31.5 | 235 41.3 | 22 52.4 | 335 28.3 | -1 29.8 |
| | 3 | 353 0.6 | 264 18.2 | 21 49.4 | 177 12.6 | 2 30.8 | 250 43.2 | 22 52.4 | 350 30.8 | -1 29.9 |
| | 4 | 8 3.0 | 279 17.5 | 21 49.6 | 192 13.7 | 2 30.2 | 265 45.1 | 22 52.3 | 5 33.4 | -1 29.9 |
| | 5 | 23 5.5 | 294 16.9 | 21 49.7 | 207 14.7 | 2 29.6 | 280 47.0 | 22 52.3 | 20 35.9 | -1 29.9 |
| | 6 | 38 8.0 | 309 16.3 | 21 49.9 | 222 15.8 | 2 28.9 | 295 48.8 | 22 52.2 | 35 38.4 | -1 30.0 |
| | 7 | 53 10.4 | 324 15.6 | 21 50.0 | 237 16.9 | 2 28.3 | 310 50.7 | 22 52.2 | 50 40.9 | -1 30.0 |
| | 8 | 68 12.9 | 339 15.0 | 21 50.2 | 252 17.9 | 2 27.7 | 325 52.6 | 22 52.2 | 65 43.5 | -1 30.0 |
| | 9 | 83 15.4 | 354 14.3 | 21 50.3 | 267 19.0 | 2 27.0 | 340 54.5 | 22 52.1 | 80 46.0 | -1 30.1 |
| | 10 | 98 17.8 | 9 13.7 | 21 50.5 | 282 20.1 | 2 26.4 | 355 56.4 | 22 52.1 | 95 48.5 | -1 30.1 |
| | 11 | 113 20.3 | 24 13.0 | 21 50.6 | 297 21.1 | 2 25.7 | 10 58.2 | 22 52.0 | 110 51.0 | -1 30.2 |
| | 12 | 128 22.8 | 39 12.4 | 21 50.7 | 312 22.2 | 2 25.1 | 26 0.1 | 22 52.0 | 125 53.6 | -1 30.2 |
| | 13 | 143 25.2 | 54 11.7 | 21 50.9 | 327 23.3 | 2 24.5 | 41 2.0 | 22 52.0 | 140 56.1 | -1 30.2 |
| | 14 | 158 27.7 | 69 11.1 | 21 51.0 | 342 24.3 | 2 23.8 | 56 3.9 | 22 51.9 | 155 58.6 | -1 30.3 |
| | 15 | 173 30.2 | 84 10.5 | 21 51.2 | 357 25.4 | 2 23.2 | 71 5.8 | 22 51.9 | 171 1.2 | -1 30.3 |
| | 16 | 188 32.6 | 99 9.8 | 21 51.3 | 12 26.4 | 2 22.6 | 86 7.7 | 22 51.8 | 186 3.7 | -1 30.3 |
| | 17 | 203 35.1 | 114 9.2 | 21 51.4 | 27 27.5 | 2 21.9 | 101 9.5 | 22 51.8 | 201 6.2 | -1 30.4 |
| | 18 | 218 37.5 | 129 8.5 | 21 51.6 | 42 28.6 | 2 21.3 | 116 11.4 | 22 51.7 | 216 8.7 | -1 30.4 |
| | 19 | 233 40.0 | 144 7.9 | 21 51.7 | 57 29.6 | 2 20.6 | 131 13.3 | 22 51.7 | 231 11.3 | -1 30.5 |
| | 20 | 248 42.5 | 159 7.2 | 21 51.8 | 72 30.7 | 2 20.0 | 146 15.2 | 22 51.7 | 246 13.8 | -1 30.5 |
| | 21 | 263 44.9 | 174 6.6 | 21 52.0 | 87 31.8 | 2 19.4 | 161 17.1 | 22 51.6 | 261 16.3 | -1 30.5 |
| | 22 | 278 47.4 | 189 5.9 | 21 52.1 | 102 32.8 | 2 18.7 | 176 19.0 | 22 51.6 | 276 18.8 | -1 30.6 |
| | 23 | 293 49.9 | 204 5.3 | 21 52.2 | 117 33.9 | 2 18.1 | 191 20.8 | 22 51.5 | 291 21.4 | -1 30.6 |
| | | MP 03:29 | *v* -0.6 | *d* 0.2 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 Thursday | 0 | 308 52.3 | 219 4.6 | 21 52.3 | 132 35.0 | 2 17.4 | 206 22.7 | 22 51.5 | 306 23.9 | -1 30.7 |
| | 1 | 323 54.8 | 234 4.0 | 21 52.5 | 147 36.0 | 2 16.8 | 221 24.6 | 22 51.4 | 321 26.4 | -1 30.7 |
| | 2 | 338 57.3 | 249 3.3 | 21 52.6 | 162 37.1 | 2 16.2 | 236 26.5 | 22 51.4 | 336 28.9 | -1 30.7 |
| | 3 | 353 59.7 | 264 2.7 | 21 52.7 | 177 38.2 | 2 15.5 | 251 28.4 | 22 51.4 | 351 31.5 | -1 30.8 |
| | 4 | 9 2.2 | 279 2.0 | 21 52.8 | 192 39.2 | 2 14.9 | 266 30.3 | 22 51.3 | 6 34.0 | -1 30.8 |
| | 5 | 24 4.6 | 294 1.4 | 21 53.0 | 207 40.3 | 2 14.3 | 281 32.1 | 22 51.3 | 21 36.5 | -1 30.9 |
| | 6 | 39 7.1 | 309 0.7 | 21 53.1 | 222 41.4 | 2 13.6 | 296 34.0 | 22 51.2 | 36 39.1 | -1 30.9 |
| | 7 | 54 9.6 | 324 0.1 | 21 53.2 | 237 42.4 | 2 13.0 | 311 35.9 | 22 51.2 | 51 41.6 | -1 30.9 |
| | 8 | 69 12.0 | 338 59.4 | 21 53.3 | 252 43.5 | 2 12.3 | 326 37.8 | 22 51.1 | 66 44.1 | -1 31.0 |
| | 9 | 84 14.5 | 353 58.8 | 21 53.5 | 267 44.5 | 2 11.7 | 341 39.7 | 22 51.1 | 81 46.6 | -1 31.0 |
| | 10 | 99 17.0 | 8 58.1 | 21 53.6 | 282 45.6 | 2 11.1 | 356 41.6 | 22 51.1 | 96 49.2 | -1 31.0 |
| | 11 | 114 19.4 | 23 57.5 | 21 53.7 | 297 46.7 | 2 10.4 | 11 43.4 | 22 51.0 | 111 51.7 | -1 31.1 |
| | 12 | 129 21.9 | 38 56.8 | 21 53.8 | 312 47.7 | 2 9.8 | 26 45.3 | 22 51.0 | 126 54.2 | -1 31.1 |
| | 13 | 144 24.4 | 53 56.2 | 21 53.9 | 327 48.8 | 2 9.1 | 41 47.2 | 22 50.9 | 141 56.8 | -1 31.2 |
| | 14 | 159 26.8 | 68 55.5 | 21 54.0 | 342 49.9 | 2 8.5 | 56 49.1 | 22 50.9 | 156 59.3 | -1 31.2 |
| | 15 | 174 29.3 | 83 54.9 | 21 54.2 | 357 50.9 | 2 7.9 | 71 51.0 | 22 50.8 | 172 1.8 | -1 31.2 |
| | 16 | 189 31.8 | 98 54.2 | 21 54.3 | 12 52.0 | 2 7.2 | 86 52.9 | 22 50.8 | 187 4.4 | -1 31.3 |
| | 17 | 204 34.2 | 113 53.6 | 21 54.4 | 27 53.0 | 2 6.6 | 101 54.8 | 22 50.8 | 202 6.9 | -1 31.3 |
| | 18 | 219 36.7 | 128 52.9 | 21 54.5 | 42 54.1 | 2 6.0 | 116 56.6 | 22 50.7 | 217 9.4 | -1 31.4 |
| | 19 | 234 39.1 | 143 52.3 | 21 54.6 | 57 55.2 | 2 5.3 | 131 58.5 | 22 50.7 | 232 11.9 | -1 31.4 |
| | 20 | 249 41.6 | 158 51.6 | 21 54.7 | 72 56.2 | 2 4.7 | 147 0.4 | 22 50.6 | 247 14.5 | -1 31.4 |
| | 21 | 264 44.1 | 173 51.0 | 21 54.8 | 87 57.3 | 2 4.0 | 162 2.3 | 22 50.6 | 262 17.0 | -1 31.5 |
| | 22 | 279 46.5 | 188 50.3 | 21 54.9 | 102 58.4 | 2 3.4 | 177 4.2 | 22 50.5 | 277 19.5 | -1 31.5 |
| | 23 | 294 49.0 | 203 49.6 | 21 55.0 | 117 59.4 | 2 2.8 | 192 6.1 | 22 50.5 | 292 22.1 | -1 31.6 |
| | | MP 03:25 | *v* -0.6 | *d* 0.1 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 Friday | 0 | 309 51.5 | 218 49.0 | 21 55.1 | 133 0.5 | 2 2.1 | 207 8.0 | 22 50.5 | 307 24.6 | -1 31.6 |
| | 1 | 324 53.9 | 233 48.3 | 21 55.2 | 148 1.5 | 2 1.5 | 222 9.8 | 22 50.4 | 322 27.1 | -1 31.6 |
| | 2 | 339 56.4 | 248 47.7 | 21 55.3 | 163 2.6 | 2 0.8 | 237 11.7 | 22 50.4 | 337 29.7 | -1 31.7 |
| | 3 | 354 58.9 | 263 47.0 | 21 55.4 | 178 3.7 | 2 0.2 | 252 13.6 | 22 50.3 | 352 32.2 | -1 31.7 |
| | 4 | 10 1.3 | 278 46.4 | 21 55.5 | 193 4.7 | 1 59.6 | 267 15.5 | 22 50.3 | 7 34.7 | -1 31.8 |
| | 5 | 25 3.8 | 293 45.7 | 21 55.7 | 208 5.8 | 1 58.9 | 282 17.4 | 22 50.2 | 22 37.3 | -1 31.8 |
| | 6 | 40 6.3 | 308 45.1 | 21 55.7 | 223 6.9 | 1 58.3 | 297 19.3 | 22 50.2 | 37 39.8 | -1 31.9 |
| | 7 | 55 8.7 | 323 44.4 | 21 55.8 | 238 7.9 | 1 57.6 | 312 21.2 | 22 50.2 | 52 42.3 | -1 31.9 |
| | 8 | 70 11.2 | 338 43.7 | 21 55.9 | 253 9.0 | 1 57.0 | 327 23.0 | 22 50.1 | 67 44.8 | -1 31.9 |
| | 9 | 85 13.6 | 353 43.1 | 21 56.0 | 268 10.0 | 1 56.4 | 342 24.9 | 22 50.1 | 82 47.4 | -1 32.0 |
| | 10 | 100 16.1 | 8 42.4 | 21 56.1 | 283 11.1 | 1 55.7 | 357 26.8 | 22 50.0 | 97 49.9 | -1 32.0 |
| | 11 | 115 18.6 | 23 41.8 | 21 56.2 | 298 12.2 | 1 55.1 | 12 28.7 | 22 50.0 | 112 52.4 | -1 32.1 |
| | 12 | 130 21.0 | 38 41.1 | 21 56.3 | 313 13.2 | 1 54.4 | 27 30.6 | 22 49.9 | 127 55.0 | -1 32.1 |
| | 13 | 145 23.5 | 53 40.5 | 21 56.4 | 328 14.3 | 1 53.8 | 42 32.5 | 22 49.9 | 142 57.5 | -1 32.1 |
| | 14 | 160 26.0 | 68 39.8 | 21 56.5 | 343 15.3 | 1 53.2 | 57 34.4 | 22 49.9 | 158 0.0 | -1 32.2 |
| | 15 | 175 28.4 | 83 39.1 | 21 56.6 | 358 16.4 | 1 52.5 | 72 36.2 | 22 49.8 | 173 2.6 | -1 32.2 |
| | 16 | 190 30.9 | 98 38.5 | 21 56.7 | 13 17.5 | 1 51.9 | 87 38.1 | 22 49.8 | 188 5.1 | -1 32.3 |
| | 17 | 205 33.4 | 113 37.8 | 21 56.8 | 28 18.5 | 1 51.2 | 102 40.0 | 22 49.7 | 203 7.6 | -1 32.3 |
| | 18 | 220 35.8 | 128 37.2 | 21 56.9 | 43 19.6 | 1 50.6 | 117 41.9 | 22 49.7 | 218 10.2 | -1 32.3 |
| | 19 | 235 38.3 | 143 36.5 | 21 56.9 | 58 20.7 | 1 49.9 | 132 43.8 | 22 49.6 | 233 12.7 | -1 32.4 |
| | 20 | 250 40.7 | 158 35.8 | 21 57.0 | 73 21.7 | 1 49.3 | 147 45.7 | 22 49.6 | 248 15.2 | -1 32.4 |
| | 21 | 265 43.2 | 173 35.2 | 21 57.1 | 88 22.8 | 1 48.7 | 162 47.6 | 22 49.6 | 263 17.8 | -1 32.5 |
| | 22 | 280 45.7 | 188 34.5 | 21 57.2 | 103 23.8 | 1 48.0 | 177 49.5 | 22 49.5 | 278 20.3 | -1 32.5 |
| | 23 | 295 48.1 | 203 33.9 | 21 57.3 | 118 24.9 | 1 47.4 | 192 51.3 | 22 49.5 | 293 22.8 | -1 32.6 |
| | | MP 03:21 | *v* -0.7 | *d* 0.1 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

## Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.5 | -40 11.8 |
| Achernar | 335 19.7 | -57 6.1 |
| Acrux | 173 0.0 | -63 14.7 |
| Adhara | 255 5.9 | -29 0.2 |
| Aldebaran | 290 39.3 | 16 33.7 |
| Alioth | 166 12.7 | 55 49.5 |
| Alkaid | 152 51.7 | 49 11.4 |
| Alnair | 27 31.9 | -46 50.0 |
| Alnilam | 275 37.5 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.9 |
| Alpheratz | 357 34.1 | 29 13.9 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.4 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.5 | -69 4.6 |
| Avior | 234 15.2 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.5 |
| Betelgeuse | 270 51.8 | 7 24.8 |
| Canopus | 263 52.7 | -52 42.3 |
| Capella | 280 21.5 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.3 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.7 | -17 50.6 |
| Dubhe | 193 40.9 | 61 37.0 |
| Elnath | 278 1.5 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.3 |
| Enif | 33 38.0 | 9 59.6 |
| Fomalhaut | 15 13.7 | -29 29.0 |
| Gacrux | 171 51.4 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.1 |
| Hadar | 148 35.4 | -60 30.0 |
| Hamal | 327 50.6 | 23 35.0 |
| Kaus Aust. | 83 31.5 | -34 22.4 |
| Kochab | 137 19.6 | 74 3.3 |
| Markab | 13 29.2 | 15 20.6 |
| Menkar | 314 5.7 | 4 11.5 |
| Menkent | 147 57.1 | -36 29.9 |
| Miaplacidus | 221 39.2 | -69 49.3 |
| Mirfak | 308 27.7 | 49 56.9 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.1 |
| Pollux | 243 17.1 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.2 |
| Rigil Kent. | 139 39.6 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.3 | 56 40.5 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.1 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.1 |
| Vega | 80 32.5 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 30 Wed | SHA | MP |
|---|---|---|
| Venus | 271 26.9 | 09:23 |
| Mars | 184 16.2 | 15:10 |
| Jupiter | 257 44.4 | 10:16 |
| Saturn | 357 30.1 | 03:38 |

| 31 Thu | SHA | MP |
|---|---|---|
| Venus | 270 12.3 | 09:24 |
| Mars | 183 42.6 | 15:09 |
| Jupiter | 257 30.4 | 10:13 |
| Saturn | 357 31.6 | 03:34 |

| 01 Fri | SHA | MP |
|---|---|---|
| Venus | 268 57.5 | 09:25 |
| Mars | 183 9.0 | 15:07 |
| Jupiter | 257 16.5 | 10:10 |
| Saturn | 357 33.1 | 03:30 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **30 Wednesday** | 0 | 178 22.7 | 18 29.7 | 120 2.6 | 16.5 | -5 20.5 | 14.3 | 54.9 |
| | 1 | 193 22.7 | 18 29.0 | 134 38.1 | 16.5 | -5 34.8 | 14.3 | 54.9 |
| | 2 | 208 22.7 | 18 28.4 | 149 13.6 | 16.5 | -5 49.1 | 14.2 | 54.9 |
| | 3 | 223 22.8 | 18 27.8 | 163 49.1 | 16.5 | -6 3.4 | 14.2 | 54.9 |
| | 4 | 238 22.8 | 18 27.2 | 178 24.6 | 16.5 | -6 17.6 | 14.2 | 54.9 |
| | 5 | 253 22.8 | 18 26.6 | 193 0.1 | 16.5 | -6 31.7 | 14.1 | 54.8 |
| | 6 | 268 22.8 | 18 26.0 | 207 35.6 | 16.5 | -6 45.9 | 14.1 | 54.8 |
| | 7 | 283 22.9 | 18 25.4 | 222 11.1 | 16.5 | -7 0.0 | 14.1 | 54.8 |
| | 8 | 298 22.9 | 18 24.8 | 236 46.5 | 16.5 | -7 14.0 | 14.0 | 54.8 |
| | 9 | 313 22.9 | 18 24.2 | 251 22.0 | 16.4 | -7 28.1 | 14.0 | 54.8 |
| | 10 | 328 22.9 | 18 23.6 | 265 57.4 | 16.4 | -7 42.1 | 14.0 | 54.7 |
| | 11 | 343 23.0 | 18 23.0 | 280 32.9 | 16.4 | -7 56.0 | 13.9 | 54.7 |
| | 12 | 358 23.0 | 18 22.4 | 295 8.3 | 16.4 | -8 10.0 | 13.9 | 54.7 |
| | 13 | 13 23.0 | 18 21.7 | 309 43.7 | 16.4 | -8 23.8 | 13.8 | 54.7 |
| | 14 | 28 23.1 | 18 21.1 | 324 19.1 | 16.4 | -8 37.7 | 13.8 | 54.7 |
| | 15 | 43 23.1 | 18 20.5 | 338 54.5 | 16.4 | -8 51.5 | 13.8 | 54.7 |
| | 16 | 58 23.1 | 18 19.9 | 353 29.8 | 16.3 | -9 5.2 | 13.7 | 54.7 |
| | 17 | 73 23.1 | 18 19.3 | 8 5.2 | 16.3 | -9 19.0 | 13.7 | 54.6 |
| | 18 | 88 23.2 | 18 18.7 | 22 40.5 | 16.3 | -9 32.6 | 13.6 | 54.6 |
| | 19 | 103 23.2 | 18 18.1 | 37 15.8 | 16.3 | -9 46.3 | 13.6 | 54.6 |
| | 20 | 118 23.2 | 18 17.4 | 51 51.1 | 16.3 | -9 59.9 | 13.5 | 54.6 |
| | 21 | 133 23.3 | 18 16.8 | 66 26.3 | 16.2 | -10 13.4 | 13.5 | 54.6 |
| | 22 | 148 23.3 | 18 16.2 | 81 1.6 | 16.2 | -10 26.9 | 13.5 | 54.6 |
| | 23 | 163 23.3 | 18 15.6 | 95 36.8 | 16.2 | -10 40.4 | 13.4 | 54.6 |
| | | *v* 0.0 | SD 15.8 | *d* -0.6 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **31 Thursday** | 0 | 178 23.4 | 18 15.0 | 110 12.0 | 16.2 | -10 53.8 | 13.4 | 54.5 |
| | 1 | 193 23.4 | 18 14.4 | 124 47.1 | 16.1 | -11 7.1 | 13.3 | 54.5 |
| | 2 | 208 23.4 | 18 13.7 | 139 22.3 | 16.1 | -11 20.5 | 13.3 | 54.5 |
| | 3 | 223 23.4 | 18 13.1 | 153 57.4 | 16.1 | -11 33.7 | 13.2 | 54.5 |
| | 4 | 238 23.5 | 18 12.5 | 168 32.5 | 16.0 | -11 46.9 | 13.2 | 54.5 |
| | 5 | 253 23.5 | 18 11.9 | 183 7.5 | 16.0 | -12 0.1 | 13.1 | 54.5 |
| | 6 | 268 23.5 | 18 11.3 | 197 42.5 | 16.0 | -12 13.2 | 13.1 | 54.5 |
| | 7 | 283 23.6 | 18 10.6 | 212 17.5 | 15.9 | -12 26.3 | 13.0 | 54.5 |
| | 8 | 298 23.6 | 18 10.0 | 226 52.4 | 15.9 | -12 39.3 | 13.0 | 54.4 |
| | 9 | 313 23.6 | 18 9.4 | 241 27.4 | 15.9 | -12 52.3 | 12.9 | 54.4 |
| | 10 | 328 23.7 | 18 8.8 | 256 2.2 | 15.8 | -13 5.2 | 12.9 | 54.4 |
| | 11 | 343 23.7 | 18 8.2 | 270 37.1 | 15.8 | -13 18.0 | 12.8 | 54.4 |
| | 12 | 358 23.8 | 18 7.5 | 285 11.9 | 15.8 | -13 30.8 | 12.7 | 54.4 |
| | 13 | 13 23.8 | 18 6.9 | 299 46.6 | 15.7 | -13 43.5 | 12.7 | 54.4 |
| | 14 | 28 23.8 | 18 6.3 | 314 21.4 | 15.7 | -13 56.2 | 12.6 | 54.4 |
| | 15 | 43 23.9 | 18 5.7 | 328 56.1 | 15.6 | -14 8.9 | 12.6 | 54.4 |
| | 16 | 58 23.9 | 18 5.0 | 343 30.7 | 15.6 | -14 21.4 | 12.5 | 54.4 |
| | 17 | 73 23.9 | 18 4.4 | 358 5.3 | 15.6 | -14 33.9 | 12.5 | 54.4 |
| | 18 | 88 24.0 | 18 3.8 | 12 39.9 | 15.5 | -14 46.4 | 12.4 | 54.3 |
| | 19 | 103 24.0 | 18 3.2 | 27 14.4 | 15.5 | -14 58.8 | 12.3 | 54.3 |
| | 20 | 118 24.0 | 18 2.5 | 41 48.8 | 15.4 | -15 11.1 | 12.3 | 54.3 |
| | 21 | 133 24.1 | 18 1.9 | 56 23.3 | 15.4 | -15 23.4 | 12.2 | 54.3 |
| | 22 | 148 24.1 | 18 1.3 | 70 57.6 | 15.3 | -15 35.6 | 12.1 | 54.3 |
| | 23 | 163 24.1 | 18 0.6 | 85 31.9 | 15.3 | -15 47.7 | 12.1 | 54.3 |
| | | *v* 0.0 | SD 15.8 | *d* -0.6 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **01 Friday** | 0 | 178 24.2 | 18 0.0 | 100 6.2 | 15.2 | -15 59.8 | 12.0 | 54.3 |
| | 1 | 193 24.2 | 17 59.4 | 114 40.5 | 15.2 | -16 11.8 | 12.0 | 54.3 |
| | 2 | 208 24.3 | 17 58.7 | 129 14.6 | 15.1 | -16 23.8 | 11.9 | 54.3 |
| | 3 | 223 24.3 | 17 58.1 | 143 48.8 | 15.1 | -16 35.7 | 11.8 | 54.3 |
| | 4 | 238 24.3 | 17 57.5 | 158 22.8 | 15.0 | -16 47.5 | 11.8 | 54.3 |
| | 5 | 253 24.4 | 17 56.9 | 172 56.8 | 15.0 | -16 59.3 | 11.7 | 54.3 |
| | 6 | 268 24.4 | 17 56.2 | 187 30.8 | 14.9 | -17 10.9 | 11.6 | 54.3 |
| | 7 | 283 24.5 | 17 55.6 | 202 4.7 | 14.9 | -17 22.6 | 11.5 | 54.3 |
| | 8 | 298 24.5 | 17 55.0 | 216 38.6 | 14.8 | -17 34.1 | 11.5 | 54.3 |
| | 9 | 313 24.5 | 17 54.3 | 231 12.4 | 14.7 | -17 45.6 | 11.4 | 54.3 |
| | 10 | 328 24.6 | 17 53.7 | 245 46.1 | 14.7 | -17 57.0 | 11.3 | 54.3 |
| | 11 | 343 24.6 | 17 53.0 | 260 19.8 | 14.6 | -18 8.3 | 11.3 | 54.3 |
| | 12 | 358 24.7 | 17 52.4 | 274 53.4 | 14.6 | -18 19.6 | 11.2 | 54.3 |
| | 13 | 13 24.7 | 17 51.8 | 289 27.0 | 14.5 | -18 30.8 | 11.1 | 54.3 |
| | 14 | 28 24.7 | 17 51.1 | 304 0.5 | 14.4 | -18 41.9 | 11.0 | 54.2 |
| | 15 | 43 24.8 | 17 50.5 | 318 33.9 | 14.4 | -18 52.9 | 11.0 | 54.2 |
| | 16 | 58 24.8 | 17 49.9 | 333 7.3 | 14.3 | -19 3.9 | 10.9 | 54.2 |
| | 17 | 73 24.9 | 17 49.2 | 347 40.6 | 14.3 | -19 14.8 | 10.8 | 54.2 |
| | 18 | 88 24.9 | 17 48.6 | 2 13.9 | 14.2 | -19 25.6 | 10.7 | 54.2 |
| | 19 | 103 25.0 | 17 47.9 | 16 47.1 | 14.1 | -19 36.3 | 10.7 | 54.2 |
| | 20 | 118 25.0 | 17 47.3 | 31 20.2 | 14.1 | -19 47.0 | 10.6 | 54.2 |
| | 21 | 133 25.0 | 17 46.7 | 45 53.3 | 14.0 | -19 57.5 | 10.5 | 54.2 |
| | 22 | 148 25.1 | 17 46.0 | 60 26.2 | 13.9 | -20 8.0 | 10.4 | 54.2 |
| | 23 | 163 25.1 | 17 45.4 | 74 59.2 | 13.9 | -20 18.4 | 10.3 | 54.2 |
| | | *v* 0.0 | SD 15.8 | *d* -0.6 | | SD 14.8 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | //// | //// | 01:09 | 22:55 | //// | //// |
| 68 | //// | //// | 02:06 | 22:03 | //// | //// |
| 66 | //// | //// | 02:39 | 21:31 | //// | //// |
| 64 | //// | 01:29 | 03:02 | 21:08 | 22:39 | //// |
| 62 | //// | 02:08 | 03:21 | 20:50 | 22:02 | //// |
| 60 | //// | 02:34 | 03:37 | 20:35 | 21:36 | //// |
| 58 | 01:20 | 02:55 | 03:49 | 20:22 | 21:16 | 22:47 |
| 56 | 01:56 | 03:11 | 04:01 | 20:11 | 21:00 | 22:13 |
| 54 | 02:21 | 03:25 | 04:10 | 20:01 | 20:46 | 21:50 |
| 52 | 02:40 | 03:37 | 04:19 | 19:53 | 20:34 | 21:31 |
| 50 | 02:56 | 03:48 | 04:27 | 19:45 | 20:24 | 21:15 |
| 45 | 03:26 | 04:09 | 04:43 | 19:29 | 20:03 | 20:46 |
| 40 | 03:49 | 04:26 | 04:57 | 19:16 | 19:46 | 20:24 |
| 35 | 04:06 | 04:40 | 05:08 | 19:04 | 19:32 | 20:06 |
| 30 | 04:21 | 04:52 | 05:18 | 18:55 | 19:21 | 19:52 |
| 20 | 04:43 | 05:11 | 05:35 | 18:38 | 19:01 | 19:29 |
| 10 | 05:01 | 05:27 | 05:49 | 18:23 | 18:46 | 19:12 |
| 0 | 05:16 | 05:41 | 06:03 | 18:10 | 18:32 | 18:57 |
| -10 | 05:29 | 05:54 | 06:16 | 17:57 | 18:19 | 18:44 |
| -20 | 05:41 | 06:07 | 06:31 | 17:43 | 18:06 | 18:32 |
| -30 | 05:53 | 06:21 | 06:47 | 17:26 | 17:52 | 18:21 |
| -35 | 05:59 | 06:29 | 06:56 | 17:17 | 17:44 | 18:15 |
| -40 | 06:05 | 06:38 | 07:07 | 17:07 | 17:36 | 18:08 |
| -45 | 06:12 | 06:47 | 07:19 | 16:54 | 17:26 | 18:02 |
| -50 | 06:19 | 06:59 | 07:34 | 16:39 | 17:15 | 17:54 |
| -52 | 06:23 | 07:04 | 07:41 | 16:32 | 17:10 | 17:51 |
| -54 | 06:26 | 07:09 | 07:49 | 16:25 | 17:04 | 17:47 |
| -56 | 06:30 | 07:16 | 07:58 | 16:16 | 16:58 | 17:44 |
| -58 | 06:34 | 07:22 | 08:08 | 16:06 | 16:51 | 17:40 |
| -60 | 06:38 | 07:30 | 08:19 | 15:55 | 16:44 | 17:35 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **30** | **31** | **01** | **30** | **31** | **01** |
| 72 | 12:06 | 14:26 | | 20:19 | 19:26 | |
| 70 | 11:53 | 13:56 | 16:45 | 20:35 | 19:58 | 18:38 |
| 68 | 11:43 | 13:33 | 15:43 | 20:47 | 20:22 | 19:42 |
| 66 | 11:34 | 13:16 | 15:09 | 20:58 | 20:41 | 20:17 |
| 64 | 11:27 | 13:02 | 14:44 | 21:06 | 20:56 | 20:43 |
| 62 | 11:21 | 12:51 | 14:25 | 21:14 | 21:09 | 21:03 |
| 60 | 11:15 | 12:41 | 14:09 | 21:21 | 21:20 | 21:20 |
| 58 | 11:11 | 12:32 | 13:56 | 21:26 | 21:29 | 21:34 |
| 56 | 11:07 | 12:25 | 13:44 | 21:32 | 21:38 | 21:46 |
| 54 | 11:03 | 12:18 | 13:34 | 21:36 | 21:45 | 21:56 |
| 52 | 11:00 | 12:12 | 13:26 | 21:41 | 21:52 | 22:06 |
| 50 | 10:56 | 12:07 | 13:18 | 21:44 | 21:58 | 22:14 |
| 45 | 10:50 | 11:55 | 13:01 | 21:53 | 22:11 | 22:32 |
| 40 | 10:45 | 11:46 | 12:47 | 22:00 | 22:22 | 22:47 |
| 35 | 10:40 | 11:38 | 12:36 | 22:06 | 22:31 | 22:59 |
| 30 | 10:36 | 11:30 | 12:26 | 22:11 | 22:39 | 23:10 |
| 20 | 10:29 | 11:18 | 12:09 | 22:21 | 22:54 | 23:29 |
| 10 | 10:23 | 11:08 | 11:54 | 22:29 | 23:06 | 23:46 |
| 0 | 10:17 | 10:58 | 11:40 | 22:37 | 23:18 | –:– |
| -10 | 10:11 | 10:48 | 11:27 | 22:44 | 23:30 | –:– |
| -20 | 10:05 | 10:38 | 11:12 | 22:53 | 23:43 | –:– |
| -30 | 09:59 | 10:26 | 10:55 | 23:02 | 23:57 | –:– |
| -35 | 09:55 | 10:19 | 10:46 | 23:08 | –:– | 00:06 |
| -40 | 09:50 | 10:12 | 10:35 | 23:14 | –:– | 00:15 |
| -45 | 09:45 | 10:03 | 10:22 | 23:21 | –:– | 00:27 |
| -50 | 09:40 | 09:52 | 10:07 | 23:30 | –:– | 00:41 |
| -52 | 09:37 | 09:47 | 10:00 | 23:34 | –:– | 00:47 |
| -54 | 09:34 | 09:42 | 09:52 | 23:39 | –:– | 00:55 |
| -56 | 09:30 | 09:36 | 09:43 | 23:44 | –:– | 01:03 |
| -58 | 09:27 | 09:29 | 09:33 | 23:50 | –:– | 01:12 |
| -60 | 09:23 | 09:22 | 09:21 | 23:56 | –:– | 01:23 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **30** | 06:29 | 06:28 | 12:06 | 16:27 | 04:07 | 5 | 27 |
| **31** | 06:27 | 06:25 | 12:06 | 17:08 | 04:47 | 6 | 36 |
| **01** | 06:23 | 06:21 | 12:06 | 17:51 | 05:29 | 7 | 45 |

## 2025 August 02, 03, 04 (Sat, Sun, Monday)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -1.9 | | Saturn 0.8 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 02 Saturday | 0 | 310 50.6 | 218 33.2 | 21 57.4 | 133 26.0 | 1 46.7 | 207 53.2 | 22 49.4 | 308 25.4 | -1 32.6 |
| | 1 | 325 53.1 | 233 32.5 | 21 57.4 | 148 27.0 | 1 46.1 | 222 55.1 | 22 49.4 | 323 27.9 | -1 32.6 |
| | 2 | 340 55.5 | 248 31.9 | 21 57.5 | 163 28.1 | 1 45.5 | 237 57.0 | 22 49.3 | 338 30.5 | -1 32.7 |
| | 3 | 355 58.0 | 263 31.2 | 21 57.6 | 178 29.1 | 1 44.8 | 252 58.9 | 22 49.3 | 353 33.0 | -1 32.7 |
| | 4 | 11 0.5 | 278 30.6 | 21 57.7 | 193 30.2 | 1 44.2 | 268 0.8 | 22 49.2 | 8 35.5 | -1 32.8 |
| | 5 | 26 2.9 | 293 29.9 | 21 57.8 | 208 31.3 | 1 43.5 | 283 2.7 | 22 49.2 | 23 38.1 | -1 32.8 |
| | 6 | 41 5.4 | 308 29.2 | 21 57.8 | 223 32.3 | 1 42.9 | 298 4.6 | 22 49.2 | 38 40.6 | -1 32.8 |
| | 7 | 56 7.9 | 323 28.6 | 21 57.9 | 238 33.4 | 1 42.3 | 313 6.4 | 22 49.1 | 53 43.1 | -1 32.9 |
| | 8 | 71 10.3 | 338 27.9 | 21 58.0 | 253 34.4 | 1 41.6 | 328 8.3 | 22 49.1 | 68 45.7 | -1 32.9 |
| | 9 | 86 12.8 | 353 27.2 | 21 58.1 | 268 35.5 | 1 41.0 | 343 10.2 | 22 49.0 | 83 48.2 | -1 33.0 |
| | 10 | 101 15.2 | 8 26.6 | 21 58.1 | 283 36.6 | 1 40.3 | 358 12.1 | 22 49.0 | 98 50.7 | -1 33.0 |
| | 11 | 116 17.7 | 23 25.9 | 21 58.2 | 298 37.6 | 1 39.7 | 13 14.0 | 22 48.9 | 113 53.3 | -1 33.1 |
| | 12 | 131 20.2 | 38 25.2 | 21 58.3 | 313 38.7 | 1 39.0 | 28 15.9 | 22 48.9 | 128 55.8 | -1 33.1 |
| | 13 | 146 22.6 | 53 24.6 | 21 58.3 | 328 39.7 | 1 38.4 | 43 17.8 | 22 48.8 | 143 58.3 | -1 33.1 |
| | 14 | 161 25.1 | 68 23.9 | 21 58.4 | 343 40.8 | 1 37.8 | 58 19.7 | 22 48.8 | 159 0.9 | -1 33.2 |
| | 15 | 176 27.6 | 83 23.3 | 21 58.5 | 358 41.8 | 1 37.1 | 73 21.6 | 22 48.8 | 174 3.4 | -1 33.2 |
| | 16 | 191 30.0 | 98 22.6 | 21 58.5 | 13 42.9 | 1 36.5 | 88 23.4 | 22 48.7 | 189 6.0 | -1 33.3 |
| | 17 | 206 32.5 | 113 21.9 | 21 58.6 | 28 44.0 | 1 35.8 | 103 25.3 | 22 48.7 | 204 8.5 | -1 33.3 |
| | 18 | 221 35.0 | 128 21.3 | 21 58.7 | 43 45.0 | 1 35.2 | 118 27.2 | 22 48.6 | 219 11.0 | -1 33.4 |
| | 19 | 236 37.4 | 143 20.6 | 21 58.7 | 58 46.1 | 1 34.6 | 133 29.1 | 22 48.6 | 234 13.6 | -1 33.4 |
| | 20 | 251 39.9 | 158 19.9 | 21 58.8 | 73 47.1 | 1 33.9 | 148 31.0 | 22 48.5 | 249 16.1 | -1 33.4 |
| | 21 | 266 42.4 | 173 19.3 | 21 58.8 | 88 48.2 | 1 33.3 | 163 32.9 | 22 48.5 | 264 18.6 | -1 33.5 |
| | 22 | 281 44.8 | 188 18.6 | 21 58.9 | 103 49.3 | 1 32.6 | 178 34.8 | 22 48.5 | 279 21.2 | -1 33.5 |
| | 23 | 296 47.3 | 203 17.9 | 21 59.0 | 118 50.3 | 1 32.0 | 193 36.7 | 22 48.4 | 294 23.7 | -1 33.6 |
| | | MP 03:17 | *v* -0.7 | *d* 0.1 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 03 Sunday | 0 | 311 49.7 | 218 17.3 | 21 59.0 | 133 51.4 | 1 31.3 | 208 38.6 | 22 48.4 | 309 26.3 | -1 33.6 |
| | 1 | 326 52.2 | 233 16.6 | 21 59.1 | 148 52.4 | 1 30.7 | 223 40.5 | 22 48.3 | 324 28.8 | -1 33.7 |
| | 2 | 341 54.7 | 248 15.9 | 21 59.1 | 163 53.5 | 1 30.1 | 238 42.3 | 22 48.3 | 339 31.3 | -1 33.7 |
| | 3 | 356 57.1 | 263 15.3 | 21 59.2 | 178 54.5 | 1 29.4 | 253 44.2 | 22 48.2 | 354 33.9 | -1 33.7 |
| | 4 | 11 59.6 | 278 14.6 | 21 59.2 | 193 55.6 | 1 28.8 | 268 46.1 | 22 48.2 | 9 36.4 | -1 33.8 |
| | 5 | 27 2.1 | 293 13.9 | 21 59.3 | 208 56.7 | 1 28.1 | 283 48.0 | 22 48.1 | 24 39.0 | -1 33.8 |
| | 6 | 42 4.5 | 308 13.3 | 21 59.3 | 223 57.7 | 1 27.5 | 298 49.9 | 22 48.1 | 39 41.5 | -1 33.9 |
| | 7 | 57 7.0 | 323 12.6 | 21 59.4 | 238 58.8 | 1 26.8 | 313 51.8 | 22 48.1 | 54 44.0 | -1 33.9 |
| | 8 | 72 9.5 | 338 11.9 | 21 59.4 | 253 59.8 | 1 26.2 | 328 53.7 | 22 48.0 | 69 46.6 | -1 34.0 |
| | 9 | 87 11.9 | 353 11.3 | 21 59.5 | 269 0.9 | 1 25.6 | 343 55.6 | 22 48.0 | 84 49.1 | -1 34.0 |
| | 10 | 102 14.4 | 8 10.6 | 21 59.5 | 284 1.9 | 1 24.9 | 358 57.5 | 22 47.9 | 99 51.6 | -1 34.0 |
| | 11 | 117 16.8 | 23 9.9 | 21 59.6 | 299 3.0 | 1 24.3 | 13 59.4 | 22 47.9 | 114 54.2 | -1 34.1 |
| | 12 | 132 19.3 | 38 9.3 | 21 59.6 | 314 4.1 | 1 23.6 | 29 1.3 | 22 47.8 | 129 56.7 | -1 34.1 |
| | 13 | 147 21.8 | 53 8.6 | 21 59.7 | 329 5.1 | 1 23.0 | 44 3.1 | 22 47.8 | 144 59.3 | -1 34.2 |
| | 14 | 162 24.2 | 68 7.9 | 21 59.7 | 344 6.2 | 1 22.4 | 59 5.0 | 22 47.7 | 160 1.8 | -1 34.2 |
| | 15 | 177 26.7 | 83 7.2 | 21 59.8 | 359 7.2 | 1 21.7 | 74 6.9 | 22 47.7 | 175 4.3 | -1 34.3 |
| | 16 | 192 29.2 | 98 6.6 | 21 59.8 | 14 8.3 | 1 21.1 | 89 8.8 | 22 47.6 | 190 6.9 | -1 34.3 |
| | 17 | 207 31.6 | 113 5.9 | 21 59.8 | 29 9.3 | 1 20.4 | 104 10.7 | 22 47.6 | 205 9.4 | -1 34.4 |
| | 18 | 222 34.1 | 128 5.2 | 21 59.9 | 44 10.4 | 1 19.8 | 119 12.6 | 22 47.6 | 220 12.0 | -1 34.4 |
| | 19 | 237 36.6 | 143 4.6 | 21 59.9 | 59 11.5 | 1 19.1 | 134 14.5 | 22 47.5 | 235 14.5 | -1 34.4 |
| | 20 | 252 39.0 | 158 3.9 | 22 0.0 | 74 12.5 | 1 18.5 | 149 16.4 | 22 47.5 | 250 17.1 | -1 34.5 |
| | 21 | 267 41.5 | 173 3.2 | 22 0.0 | 89 13.6 | 1 17.8 | 164 18.3 | 22 47.4 | 265 19.6 | -1 34.5 |
| | 22 | 282 44.0 | 188 2.5 | 22 0.0 | 104 14.6 | 1 17.2 | 179 20.2 | 22 47.4 | 280 22.1 | -1 34.6 |
| | 23 | 297 46.4 | 203 1.9 | 22 0.1 | 119 15.7 | 1 16.6 | 194 22.1 | 22 47.3 | 295 24.7 | -1 34.6 |
| | | MP 03:13 | *v* -0.7 | *d* 0.1 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 04 Monday | 0 | 312 48.9 | 218 1.2 | 22 0.1 | 134 16.7 | 1 15.9 | 209 24.0 | 22 47.3 | 310 27.2 | -1 34.7 |
| | 1 | 327 51.3 | 233 0.5 | 22 0.1 | 149 17.8 | 1 15.3 | 224 25.8 | 22 47.2 | 325 29.8 | -1 34.7 |
| | 2 | 342 53.8 | 247 59.9 | 22 0.2 | 164 18.8 | 1 14.6 | 239 27.7 | 22 47.2 | 340 32.3 | -1 34.8 |
| | 3 | 357 56.3 | 262 59.2 | 22 0.2 | 179 19.9 | 1 14.0 | 254 29.6 | 22 47.2 | 355 34.8 | -1 34.8 |
| | 4 | 12 58.7 | 277 58.5 | 22 0.2 | 194 21.0 | 1 13.3 | 269 31.5 | 22 47.1 | 10 37.4 | -1 34.8 |
| | 5 | 28 1.2 | 292 57.8 | 22 0.2 | 209 22.0 | 1 12.7 | 284 33.4 | 22 47.1 | 25 39.9 | -1 34.9 |
| | 6 | 43 3.7 | 307 57.2 | 22 0.3 | 224 23.1 | 1 12.1 | 299 35.3 | 22 47.0 | 40 42.5 | -1 34.9 |
| | 7 | 58 6.1 | 322 56.5 | 22 0.3 | 239 24.1 | 1 11.4 | 314 37.2 | 22 47.0 | 55 45.0 | -1 35.0 |
| | 8 | 73 8.6 | 337 55.8 | 22 0.3 | 254 25.2 | 1 10.8 | 329 39.1 | 22 46.9 | 70 47.6 | -1 35.0 |
| | 9 | 88 11.1 | 352 55.2 | 22 0.3 | 269 26.2 | 1 10.1 | 344 41.0 | 22 46.9 | 85 50.1 | -1 35.1 |
| | 10 | 103 13.5 | 7 54.5 | 22 0.4 | 284 27.3 | 1 9.5 | 359 42.9 | 22 46.8 | 100 52.6 | -1 35.1 |
| | 11 | 118 16.0 | 22 53.8 | 22 0.4 | 299 28.3 | 1 8.8 | 14 44.8 | 22 46.8 | 115 55.2 | -1 35.2 |
| | 12 | 133 18.5 | 37 53.1 | 22 0.4 | 314 29.4 | 1 8.2 | 29 46.7 | 22 46.7 | 130 57.7 | -1 35.2 |
| | 13 | 148 20.9 | 52 52.5 | 22 0.4 | 329 30.4 | 1 7.6 | 44 48.6 | 22 46.7 | 146 0.3 | -1 35.3 |
| | 14 | 163 23.4 | 67 51.8 | 22 0.4 | 344 31.5 | 1 6.9 | 59 50.5 | 22 46.7 | 161 2.8 | -1 35.3 |
| | 15 | 178 25.8 | 82 51.1 | 22 0.5 | 359 32.6 | 1 6.3 | 74 52.4 | 22 46.6 | 176 5.4 | -1 35.3 |
| | 16 | 193 28.3 | 97 50.4 | 22 0.5 | 14 33.6 | 1 5.6 | 89 54.2 | 22 46.6 | 191 7.9 | -1 35.4 |
| | 17 | 208 30.8 | 112 49.8 | 22 0.5 | 29 34.7 | 1 5.0 | 104 56.1 | 22 46.5 | 206 10.4 | -1 35.4 |
| | 18 | 223 33.2 | 127 49.1 | 22 0.5 | 44 35.7 | 1 4.3 | 119 58.0 | 22 46.5 | 221 13.0 | -1 35.5 |
| | 19 | 238 35.7 | 142 48.4 | 22 0.5 | 59 36.8 | 1 3.7 | 134 59.9 | 22 46.4 | 236 15.5 | -1 35.5 |
| | 20 | 253 38.2 | 157 47.7 | 22 0.5 | 74 37.8 | 1 3.0 | 150 1.8 | 22 46.4 | 251 18.1 | -1 35.6 |
| | 21 | 268 40.6 | 172 47.1 | 22 0.6 | 89 38.9 | 1 2.4 | 165 3.7 | 22 46.3 | 266 20.6 | -1 35.6 |
| | 22 | 283 43.1 | 187 46.4 | 22 0.6 | 104 39.9 | 1 1.8 | 180 5.6 | 22 46.3 | 281 23.2 | -1 35.7 |
| | 23 | 298 45.6 | 202 45.7 | 22 0.6 | 119 41.0 | 1 1.1 | 195 7.5 | 22 46.2 | 296 25.7 | -1 35.7 |
| | | MP 03:10 | *v* -0.7 | *d* 0.0 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.4 | -40 11.8 |
| Achernar | 335 19.7 | -57 6.1 |
| Acrux | 173 0.0 | -63 14.7 |
| Adhara | 255 5.8 | -29 0.2 |
| Aldebaran | 290 39.2 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.5 |
| Alkaid | 152 51.7 | 49 11.4 |
| Alnair | 27 31.9 | -46 50.0 |
| Alnilam | 275 37.5 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.9 |
| Alpheratz | 357 34.1 | 29 13.9 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.4 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.5 | -69 4.6 |
| Avior | 234 15.2 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.5 |
| Betelgeuse | 270 51.8 | 7 24.8 |
| Canopus | 263 52.6 | -52 42.3 |
| Capella | 280 21.5 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.3 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.7 | -17 50.6 |
| Dubhe | 193 40.9 | 61 37.0 |
| Elnath | 278 1.5 | 28 37.7 |
| Eltanin | 90 41.5 | 51 29.3 |
| Enif | 33 38.0 | 9 59.6 |
| Fomalhaut | 15 13.7 | -29 29.0 |
| Gacrux | 171 51.4 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.1 |
| Hadar | 148 35.4 | -60 30.0 |
| Hamal | 327 50.6 | 23 35.0 |
| Kaus Aust. | 83 31.5 | -34 22.4 |
| Kochab | 137 19.7 | 74 3.3 |
| Markab | 13 29.2 | 15 20.6 |
| Menkar | 314 5.7 | 4 11.5 |
| Menkent | 147 57.1 | -36 29.9 |
| Miaplacidus | 221 39.2 | -69 49.3 |
| Mirfak | 308 27.7 | 49 56.9 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.1 |
| Pollux | 243 17.1 | 27 57.9 |
| Procyon | 244 50.7 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.2 |
| Rigil Kent. | 139 39.7 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.2 | 56 40.5 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.1 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.1 |
| Vega | 80 32.5 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 02 Sat | SHA | MP |
|---|---|---|
| Venus | 267 42.6 | 09:26 |
| Mars | 182 35.4 | 15:05 |
| Jupiter | 257 2.6 | 10:07 |
| Saturn | 357 34.8 | 03:26 |

| 03 Sun | SHA | MP |
|---|---|---|
| Venus | 266 27.5 | 09:27 |
| Mars | 182 1.6 | 15:04 |
| Jupiter | 256 48.8 | 10:04 |
| Saturn | 357 36.5 | 03:22 |

| 04 Mon | SHA | MP |
|---|---|---|
| Venus | 265 12.3 | 09:28 |
| Mars | 181 27.9 | 15:02 |
| Jupiter | 256 35.1 | 10:01 |
| Saturn | 357 38.3 | 03:18 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **02 Saturday** | 0 | 178 25.2 | 17 44.7 | 89 32.0 | 13.8 | -20 28.8 | 10.2 | 54.2 |
| | 1 | 193 25.2 | 17 44.1 | 104 4.8 | 13.7 | -20 39.0 | 10.2 | 54.2 |
| | 2 | 208 25.3 | 17 43.5 | 118 37.6 | 13.7 | -20 49.2 | 10.1 | 54.2 |
| | 3 | 223 25.3 | 17 42.8 | 133 10.2 | 13.6 | -20 59.2 | 10.0 | 54.2 |
| | 4 | 238 25.4 | 17 42.2 | 147 42.8 | 13.5 | -21 9.2 | 9.9 | 54.3 |
| | 5 | 253 25.4 | 17 41.5 | 162 15.3 | 13.4 | -21 19.1 | 9.8 | 54.3 |
| | 6 | 268 25.4 | 17 40.9 | 176 47.8 | 13.4 | -21 29.0 | 9.7 | 54.3 |
| | 7 | 283 25.5 | 17 40.2 | 191 20.1 | 13.3 | -21 38.7 | 9.6 | 54.3 |
| | 8 | 298 25.5 | 17 39.6 | 205 52.4 | 13.2 | -21 48.3 | 9.5 | 54.3 |
| | 9 | 313 25.6 | 17 38.9 | 220 24.7 | 13.2 | -21 57.9 | 9.5 | 54.3 |
| | 10 | 328 25.6 | 17 38.3 | 234 56.8 | 13.1 | -22 7.3 | 9.4 | 54.3 |
| | 11 | 343 25.7 | 17 37.7 | 249 28.9 | 13.0 | -22 16.7 | 9.3 | 54.3 |
| | 12 | 358 25.7 | 17 37.0 | 264 0.9 | 12.9 | -22 26.0 | 9.2 | 54.3 |
| | 13 | 13 25.8 | 17 36.4 | 278 32.9 | 12.9 | -22 35.1 | 9.1 | 54.3 |
| | 14 | 28 25.8 | 17 35.7 | 293 4.7 | 12.8 | -22 44.2 | 9.0 | 54.3 |
| | 15 | 43 25.9 | 17 35.1 | 307 36.5 | 12.7 | -22 53.2 | 8.9 | 54.3 |
| | 16 | 58 25.9 | 17 34.4 | 322 8.2 | 12.6 | -23 2.1 | 8.8 | 54.3 |
| | 17 | 73 26.0 | 17 33.8 | 336 39.9 | 12.6 | -23 10.9 | 8.7 | 54.3 |
| | 18 | 88 26.0 | 17 33.1 | 351 11.4 | 12.5 | -23 19.6 | 8.6 | 54.3 |
| | 19 | 103 26.1 | 17 32.5 | 5 42.9 | 12.4 | -23 28.2 | 8.5 | 54.3 |
| | 20 | 118 26.1 | 17 31.8 | 20 14.3 | 12.3 | -23 36.7 | 8.4 | 54.3 |
| | 21 | 133 26.2 | 17 31.2 | 34 45.7 | 12.3 | -23 45.1 | 8.3 | 54.3 |
| | 22 | 148 26.2 | 17 30.5 | 49 16.9 | 12.2 | -23 53.4 | 8.2 | 54.3 |
| | 23 | 163 26.3 | 17 29.8 | 63 48.1 | 12.1 | -24 1.6 | 8.1 | 54.3 |
| | *v* | 0.0 | SD 15.8 *d* -0.6 | | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **03 Sunday** | 0 | 178 26.3 | 17 29.2 | 78 19.2 | 12.0 | -24 9.7 | 8.0 | 54.4 |
| | 1 | 193 26.4 | 17 28.5 | 92 50.3 | 12.0 | -24 17.6 | 7.9 | 54.4 |
| | 2 | 208 26.4 | 17 27.9 | 107 21.2 | 11.9 | -24 25.5 | 7.8 | 54.4 |
| | 3 | 223 26.5 | 17 27.2 | 121 52.1 | 11.8 | -24 33.3 | 7.7 | 54.4 |
| | 4 | 238 26.5 | 17 26.6 | 136 22.9 | 11.7 | -24 41.0 | 7.6 | 54.4 |
| | 5 | 253 26.6 | 17 25.9 | 150 53.6 | 11.6 | -24 48.5 | 7.4 | 54.4 |
| | 6 | 268 26.6 | 17 25.3 | 165 24.3 | 11.6 | -24 56.0 | 7.3 | 54.4 |
| | 7 | 283 26.7 | 17 24.6 | 179 54.8 | 11.5 | -25 3.3 | 7.2 | 54.4 |
| | 8 | 298 26.7 | 17 23.9 | 194 25.3 | 11.4 | -25 10.5 | 7.1 | 54.4 |
| | 9 | 313 26.8 | 17 23.3 | 208 55.8 | 11.3 | -25 17.7 | 7.0 | 54.4 |
| | 10 | 328 26.8 | 17 22.6 | 223 26.1 | 11.3 | -25 24.7 | 6.9 | 54.4 |
| | 11 | 343 26.9 | 17 22.0 | 237 56.4 | 11.2 | -25 31.6 | 6.8 | 54.5 |
| | 12 | 358 27.0 | 17 21.3 | 252 26.5 | 11.1 | -25 38.3 | 6.7 | 54.5 |
| | 13 | 13 27.0 | 17 20.7 | 266 56.7 | 11.0 | -25 45.0 | 6.5 | 54.5 |
| | 14 | 28 27.1 | 17 20.0 | 281 26.7 | 11.0 | -25 51.5 | 6.4 | 54.5 |
| | 15 | 43 27.1 | 17 19.3 | 295 56.7 | 10.9 | -25 58.0 | 6.3 | 54.5 |
| | 16 | 58 27.2 | 17 18.7 | 310 26.5 | 10.8 | -26 4.3 | 6.2 | 54.5 |
| | 17 | 73 27.2 | 17 18.0 | 324 56.4 | 10.7 | -26 10.5 | 6.1 | 54.5 |
| | 18 | 88 27.3 | 17 17.3 | 339 26.1 | 10.7 | -26 16.5 | 5.9 | 54.5 |
| | 19 | 103 27.3 | 17 16.7 | 353 55.8 | 10.6 | -26 22.5 | 5.8 | 54.6 |
| | 20 | 118 27.4 | 17 16.0 | 8 25.3 | 10.5 | -26 28.3 | 5.7 | 54.6 |
| | 21 | 133 27.5 | 17 15.4 | 22 54.9 | 10.4 | -26 34.0 | 5.6 | 54.6 |
| | 22 | 148 27.5 | 17 14.7 | 37 24.3 | 10.4 | -26 39.6 | 5.5 | 54.6 |
| | 23 | 163 27.6 | 17 14.0 | 51 53.7 | 10.3 | -26 45.1 | 5.3 | 54.6 |
| | *v* | 0.1 | SD 15.8 *d* -0.7 | | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **04 Monday** | 0 | 178 27.6 | 17 13.4 | 66 23.0 | 10.2 | -26 50.4 | 5.2 | 54.6 |
| | 1 | 193 27.7 | 17 12.7 | 80 52.2 | 10.2 | -26 55.6 | 5.1 | 54.6 |
| | 2 | 208 27.7 | 17 12.0 | 95 21.3 | 10.1 | -27 0.7 | 5.0 | 54.7 |
| | 3 | 223 27.8 | 17 11.4 | 109 50.4 | 10.0 | -27 5.6 | 4.8 | 54.7 |
| | 4 | 238 27.9 | 17 10.7 | 124 19.4 | 9.9 | -27 10.4 | 4.7 | 54.7 |
| | 5 | 253 27.9 | 17 10.0 | 138 48.4 | 9.9 | -27 15.1 | 4.6 | 54.7 |
| | 6 | 268 28.0 | 17 9.4 | 153 17.3 | 9.8 | -27 19.7 | 4.4 | 54.7 |
| | 7 | 283 28.0 | 17 8.7 | 167 46.1 | 9.7 | -27 24.1 | 4.3 | 54.7 |
| | 8 | 298 28.1 | 17 8.0 | 182 14.8 | 9.7 | -27 28.4 | 4.2 | 54.8 |
| | 9 | 313 28.2 | 17 7.4 | 196 43.5 | 9.6 | -27 32.6 | 4.0 | 54.8 |
| | 10 | 328 28.2 | 17 6.7 | 211 12.1 | 9.5 | -27 36.6 | 3.9 | 54.8 |
| | 11 | 343 28.3 | 17 6.0 | 225 40.7 | 9.5 | -27 40.5 | 3.8 | 54.8 |
| | 12 | 358 28.3 | 17 5.3 | 240 9.1 | 9.4 | -27 44.3 | 3.6 | 54.8 |
| | 13 | 13 28.4 | 17 4.7 | 254 37.6 | 9.4 | -27 47.9 | 3.5 | 54.8 |
| | 14 | 28 28.5 | 17 4.0 | 269 5.9 | 9.3 | -27 51.4 | 3.4 | 54.9 |
| | 15 | 43 28.5 | 17 3.3 | 283 34.2 | 9.2 | -27 54.8 | 3.2 | 54.9 |
| | 16 | 58 28.6 | 17 2.7 | 298 2.5 | 9.2 | -27 58.0 | 3.1 | 54.9 |
| | 17 | 73 28.6 | 17 2.0 | 312 30.6 | 9.1 | -28 1.0 | 2.9 | 54.9 |
| | 18 | 88 28.7 | 17 1.3 | 326 58.8 | 9.1 | -28 4.0 | 2.8 | 54.9 |
| | 19 | 103 28.8 | 17 0.6 | 341 26.8 | 9.0 | -28 6.8 | 2.7 | 54.9 |
| | 20 | 118 28.8 | 17 0.0 | 355 54.8 | 9.0 | -28 9.4 | 2.5 | 55.0 |
| | 21 | 133 28.9 | 16 59.3 | 10 22.8 | 8.9 | -28 11.9 | 2.4 | 55.0 |
| | 22 | 148 29.0 | 16 58.6 | 24 50.7 | 8.8 | -28 14.3 | 2.2 | 55.0 |
| | 23 | 163 29.0 | 16 57.9 | 39 18.6 | 8.8 | -28 16.5 | 2.1 | 55.0 |
| | *v* | 0.1 | SD 15.8 *d* -0.7 | | | SD 14.9 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | | | | | | |
| 70 | //// | //// | 01:37 | 22:29 | //// | //// |
| 68 | //// | //// | 02:21 | 21:47 | //// | //// |
| 66 | //// | 00:42 | 02:50 | 21:19 | 23:17 | //// |
| 64 | //// | 01:47 | 03:12 | 20:58 | 22:21 | //// |
| 62 | //// | 02:20 | 03:29 | 20:41 | 21:49 | //// |
| 60 | 00:38 | 02:44 | 03:44 | 20:27 | 21:26 | 23:22 |
| 58 | 01:37 | 03:03 | 03:56 | 20:15 | 21:08 | 22:32 |
| 56 | 02:07 | 03:18 | 04:06 | 20:05 | 20:53 | 22:02 |
| 54 | 02:30 | 03:31 | 04:15 | 19:56 | 20:40 | 21:41 |
| 52 | 02:47 | 03:43 | 04:24 | 19:48 | 20:29 | 21:23 |
| 50 | 03:02 | 03:53 | 04:31 | 19:41 | 20:19 | 21:09 |
| 45 | 03:31 | 04:13 | 04:47 | 19:25 | 19:59 | 20:41 |
| 40 | 03:52 | 04:29 | 04:59 | 19:12 | 19:43 | 20:20 |
| 35 | 04:09 | 04:43 | 05:10 | 19:02 | 19:29 | 20:03 |
| 30 | 04:23 | 04:54 | 05:20 | 18:52 | 19:18 | 19:49 |
| 20 | 04:45 | 05:12 | 05:36 | 18:36 | 19:00 | 19:27 |
| 10 | 05:02 | 05:28 | 05:50 | 18:23 | 18:45 | 19:11 |
| 0 | 05:16 | 05:41 | 06:03 | 18:10 | 18:31 | 18:57 |
| -10 | 05:28 | 05:54 | 06:16 | 17:57 | 18:19 | 18:44 |
| -20 | 05:40 | 06:06 | 06:29 | 17:44 | 18:07 | 18:33 |
| -30 | 05:51 | 06:19 | 06:45 | 17:28 | 17:53 | 18:22 |
| -35 | 05:56 | 06:27 | 06:54 | 17:19 | 17:46 | 18:17 |
| -40 | 06:02 | 06:35 | 07:04 | 17:09 | 17:38 | 18:11 |
| -45 | 06:09 | 06:44 | 07:15 | 16:58 | 17:29 | 18:04 |
| -50 | 06:16 | 06:55 | 07:30 | 16:43 | 17:19 | 17:58 |
| -52 | 06:19 | 06:59 | 07:36 | 16:37 | 17:14 | 17:55 |
| -54 | 06:22 | 07:05 | 07:44 | 16:29 | 17:09 | 17:51 |
| -56 | 06:25 | 07:10 | 07:52 | 16:21 | 17:03 | 17:48 |
| -58 | 06:29 | 07:17 | 08:01 | 16:12 | 16:56 | 17:45 |
| -60 | 06:33 | 07:24 | 08:12 | 16:01 | 16:49 | 17:41 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **02** | **03** | **04** | **02** | **03** | **04** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | 17:39 | | | 19:22 | | |
| 64 | 16:39 | | | 20:22 | | |
| 62 | 16:06 | 17:57 | | 20:56 | 20:45 | |
| 60 | 15:41 | 17:16 | 18:47 | 21:21 | 21:27 | 21:44 |
| 58 | 15:22 | 16:48 | 18:08 | 21:41 | 21:55 | 22:22 |
| 56 | 15:06 | 16:27 | 17:41 | 21:58 | 22:17 | 22:50 |
| 54 | 14:52 | 16:09 | 17:20 | 22:12 | 22:35 | 23:11 |
| 52 | 14:40 | 15:54 | 17:03 | 22:24 | 22:51 | 23:29 |
| 50 | 14:30 | 15:41 | 16:48 | 22:35 | 23:04 | 23:44 |
| 45 | 14:08 | 15:14 | 16:18 | 22:58 | 23:31 | –:– |
| 40 | 13:50 | 14:53 | 15:54 | 23:17 | 23:53 | –:– |
| 35 | 13:35 | 14:36 | 15:35 | 23:32 | –:– | 00:11 |
| 30 | 13:23 | 14:21 | 15:18 | 23:46 | –:– | 00:27 |
| 20 | 13:01 | 13:55 | 14:50 | –:– | 00:09 | 00:53 |
| 10 | 12:42 | 13:33 | 14:26 | –:– | 00:29 | 01:16 |
| 0 | 12:25 | 13:13 | 14:04 | 00:02 | 00:48 | 01:37 |
| -10 | 12:08 | 12:53 | 13:42 | 00:17 | 01:07 | 01:59 |
| -20 | 11:50 | 12:31 | 13:18 | 00:34 | 01:27 | 02:22 |
| -30 | 11:28 | 12:07 | 12:51 | 00:53 | 01:51 | 02:48 |
| -35 | 11:16 | 11:52 | 12:35 | 01:05 | 02:04 | 03:04 |
| -40 | 11:02 | 11:35 | 12:16 | 01:18 | 02:20 | 03:23 |
| -45 | 10:46 | 11:15 | 11:53 | 01:33 | 02:40 | 03:45 |
| -50 | 10:25 | 10:50 | 11:24 | 01:52 | 03:04 | 04:13 |
| -52 | 10:16 | 10:38 | 11:10 | 02:01 | 03:16 | 04:27 |
| -54 | 10:05 | 10:24 | 10:53 | 02:12 | 03:29 | 04:44 |
| -56 | 09:53 | 10:08 | 10:34 | 02:23 | 03:44 | 05:03 |
| -58 | 09:39 | 09:49 | 10:10 | 02:37 | 04:03 | 05:27 |
| -60 | 09:22 | 09:26 | 09:37 | 02:52 | 04:26 | 05:59 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **02** | 06:19 | 06:17 | 12:06 | 18:36 | 06:13 | 8 | 54 |
| **03** | 06:15 | 06:12 | 12:06 | 19:25 | 07:00 | 9 | 64 |
| **04** | 06:09 | 06:07 | 12:06 | 20:17 | 07:51 | 10 | 73 |

## 2025 August 05, 06, 07 (Tue, Wed, Thu)

| d | h | Aries GHA | Venus -4.0 GHA | Venus -4.0 Dec | Mars 1.6 GHA | Mars 1.6 Dec | Jupiter -1.9 GHA | Jupiter -1.9 Dec | Saturn 0.8 GHA | Saturn 0.8 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Tuesday | 0 | 313 48.0 | 217 45.0 | 22 0.6 | 134 42.0 | 1 0.5 | 210 9.4 | 22 46.2 | 311 28.3 | -1 35.8 |
| | 1 | 328 50.5 | 232 44.4 | 22 0.6 | 149 43.1 | 0 59.8 | 225 11.3 | 22 46.2 | 326 30.8 | -1 35.8 |
| | 2 | 343 53.0 | 247 43.7 | 22 0.6 | 164 44.1 | 0 59.2 | 240 13.2 | 22 46.1 | 341 33.4 | -1 35.8 |
| | 3 | 358 55.4 | 262 43.0 | 22 0.6 | 179 45.2 | 0 58.5 | 255 15.1 | 22 46.1 | 356 35.9 | -1 35.9 |
| | 4 | 13 57.9 | 277 42.3 | 22 0.6 | 194 46.3 | 0 57.9 | 270 17.0 | 22 46.0 | 11 38.4 | -1 35.9 |
| | 5 | 29 0.3 | 292 41.6 | 22 0.6 | 209 47.3 | 0 57.2 | 285 18.9 | 22 46.0 | 26 41.0 | -1 36.0 |
| | 6 | 44 2.8 | 307 41.0 | 22 0.6 | 224 48.4 | 0 56.6 | 300 20.8 | 22 45.9 | 41 43.5 | -1 36.0 |
| | 7 | 59 5.3 | 322 40.3 | 22 0.6 | 239 49.4 | 0 56.0 | 315 22.7 | 22 45.9 | 56 46.1 | -1 36.1 |
| | 8 | 74 7.7 | 337 39.6 | 22 0.6 | 254 50.5 | 0 55.3 | 330 24.6 | 22 45.8 | 71 48.6 | -1 36.1 |
| | 9 | 89 10.2 | 352 38.9 | 22 0.6 | 269 51.5 | 0 54.7 | 345 26.5 | 22 45.8 | 86 51.2 | -1 36.2 |
| | 10 | 104 12.7 | 7 38.3 | 22 0.6 | 284 52.6 | 0 54.0 | 0 28.4 | 22 45.7 | 101 53.7 | -1 36.2 |
| | 11 | 119 15.1 | 22 37.6 | 22 0.6 | 299 53.6 | 0 53.4 | 15 30.3 | 22 45.7 | 116 56.3 | -1 36.3 |
| | 12 | 134 17.6 | 37 36.9 | 22 0.6 | 314 54.7 | 0 52.7 | 30 32.2 | 22 45.7 | 131 58.8 | -1 36.3 |
| | 13 | 149 20.1 | 52 36.2 | 22 0.6 | 329 55.7 | 0 52.1 | 45 34.0 | 22 45.6 | 147 1.4 | -1 36.4 |
| | 14 | 164 22.5 | 67 35.5 | 22 0.6 | 344 56.8 | 0 51.4 | 60 35.9 | 22 45.6 | 162 3.9 | -1 36.4 |
| | 15 | 179 25.0 | 82 34.9 | 22 0.6 | 359 57.8 | 0 50.8 | 75 37.8 | 22 45.5 | 177 6.5 | -1 36.5 |
| | 16 | 194 27.5 | 97 34.2 | 22 0.6 | 14 58.9 | 0 50.1 | 90 39.7 | 22 45.5 | 192 9.0 | -1 36.5 |
| | 17 | 209 29.9 | 112 33.5 | 22 0.6 | 29 59.9 | 0 49.5 | 105 41.6 | 22 45.4 | 207 11.5 | -1 36.5 |
| | 18 | 224 32.4 | 127 32.8 | 22 0.6 | 45 1.0 | 0 48.9 | 120 43.5 | 22 45.4 | 222 14.1 | -1 36.6 |
| | 19 | 239 34.8 | 142 32.1 | 22 0.6 | 60 2.0 | 0 48.2 | 135 45.4 | 22 45.3 | 237 16.6 | -1 36.6 |
| | 20 | 254 37.3 | 157 31.5 | 22 0.5 | 75 3.1 | 0 47.6 | 150 47.3 | 22 45.3 | 252 19.2 | -1 36.7 |
| | 21 | 269 39.8 | 172 30.8 | 22 0.5 | 90 4.1 | 0 46.9 | 165 49.2 | 22 45.2 | 267 21.7 | -1 36.7 |
| | 22 | 284 42.2 | 187 30.1 | 22 0.5 | 105 5.2 | 0 46.3 | 180 51.1 | 22 45.2 | 282 24.3 | -1 36.8 |
| | 23 | 299 44.7 | 202 29.4 | 22 0.5 | 120 6.2 | 0 45.6 | 195 53.0 | 22 45.1 | 297 26.8 | -1 36.8 |
| | | MP 03:06 | *v* -0.7 | *d* 0.0 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 06 Wednesday | 0 | 314 47.2 | 217 28.7 | 22 0.5 | 135 7.3 | 0 45.0 | 210 54.9 | 22 45.1 | 312 29.4 | -1 36.9 |
| | 1 | 329 49.6 | 232 28.1 | 22 0.5 | 150 8.3 | 0 44.3 | 225 56.8 | 22 45.1 | 327 31.9 | -1 36.9 |
| | 2 | 344 52.1 | 247 27.4 | 22 0.5 | 165 9.4 | 0 43.7 | 240 58.7 | 22 45.0 | 342 34.5 | -1 37.0 |
| | 3 | 359 54.6 | 262 26.7 | 22 0.4 | 180 10.4 | 0 43.0 | 256 0.6 | 22 45.0 | 357 37.0 | -1 37.0 |
| | 4 | 14 57.0 | 277 26.0 | 22 0.4 | 195 11.5 | 0 42.4 | 271 2.5 | 22 44.9 | 12 39.6 | -1 37.1 |
| | 5 | 29 59.5 | 292 25.3 | 22 0.4 | 210 12.5 | 0 41.8 | 286 4.4 | 22 44.9 | 27 42.1 | -1 37.1 |
| | 6 | 45 1.9 | 307 24.7 | 22 0.4 | 225 13.6 | 0 41.1 | 301 6.3 | 22 44.8 | 42 44.7 | -1 37.2 |
| | 7 | 60 4.4 | 322 24.0 | 22 0.3 | 240 14.6 | 0 40.5 | 316 8.2 | 22 44.8 | 57 47.2 | -1 37.2 |
| | 8 | 75 6.9 | 337 23.3 | 22 0.3 | 255 15.7 | 0 39.8 | 331 10.1 | 22 44.7 | 72 49.8 | -1 37.3 |
| | 9 | 90 9.3 | 352 22.6 | 22 0.3 | 270 16.7 | 0 39.2 | 346 12.0 | 22 44.7 | 87 52.3 | -1 37.3 |
| | 10 | 105 11.8 | 7 21.9 | 22 0.3 | 285 17.8 | 0 38.5 | 1 13.9 | 22 44.6 | 102 54.9 | -1 37.4 |
| | 11 | 120 14.3 | 22 21.3 | 22 0.2 | 300 18.8 | 0 37.9 | 16 15.8 | 22 44.6 | 117 57.4 | -1 37.4 |
| | 12 | 135 16.7 | 37 20.6 | 22 0.2 | 315 19.9 | 0 37.2 | 31 17.7 | 22 44.5 | 133 0.0 | -1 37.4 |
| | 13 | 150 19.2 | 52 19.9 | 22 0.2 | 330 20.9 | 0 36.6 | 46 19.6 | 22 44.5 | 148 2.5 | -1 37.5 |
| | 14 | 165 21.7 | 67 19.2 | 22 0.2 | 345 22.0 | 0 35.9 | 61 21.5 | 22 44.5 | 163 5.1 | -1 37.5 |
| | 15 | 180 24.1 | 82 18.5 | 22 0.1 | 0 23.0 | 0 35.3 | 76 23.4 | 22 44.4 | 178 7.6 | -1 37.6 |
| | 16 | 195 26.6 | 97 17.8 | 22 0.1 | 15 24.1 | 0 34.6 | 91 25.3 | 22 44.4 | 193 10.2 | -1 37.6 |
| | 17 | 210 29.1 | 112 17.2 | 22 0.1 | 30 25.1 | 0 34.0 | 106 27.2 | 22 44.3 | 208 12.7 | -1 37.7 |
| | 18 | 225 31.5 | 127 16.5 | 22 0.0 | 45 26.2 | 0 33.4 | 121 29.1 | 22 44.3 | 223 15.3 | -1 37.7 |
| | 19 | 240 34.0 | 142 15.8 | 22 0.0 | 60 27.2 | 0 32.7 | 136 31.0 | 22 44.2 | 238 17.8 | -1 37.8 |
| | 20 | 255 36.4 | 157 15.1 | 22 0.0 | 75 28.3 | 0 32.1 | 151 32.9 | 22 44.2 | 253 20.4 | -1 37.8 |
| | 21 | 270 38.9 | 172 14.4 | 21 59.9 | 90 29.3 | 0 31.4 | 166 34.8 | 22 44.1 | 268 22.9 | -1 37.9 |
| | 22 | 285 41.4 | 187 13.7 | 21 59.9 | 105 30.4 | 0 30.8 | 181 36.7 | 22 44.1 | 283 25.5 | -1 37.9 |
| | 23 | 300 43.8 | 202 13.1 | 21 59.8 | 120 31.4 | 0 30.1 | 196 38.6 | 22 44.0 | 298 28.0 | -1 38.0 |
| | | MP 03:02 | *v* -0.7 | *d* 0.0 | *v* 1.1 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 07 Thursday | 0 | 315 46.3 | 217 12.4 | 21 59.8 | 135 32.5 | 0 29.5 | 211 40.5 | 22 44.0 | 313 30.6 | -1 38.0 |
| | 1 | 330 48.8 | 232 11.7 | 21 59.8 | 150 33.5 | 0 28.8 | 226 42.4 | 22 43.9 | 328 33.1 | -1 38.1 |
| | 2 | 345 51.2 | 247 11.0 | 21 59.7 | 165 34.6 | 0 28.2 | 241 44.3 | 22 43.9 | 343 35.7 | -1 38.1 |
| | 3 | 0 53.7 | 262 10.3 | 21 59.7 | 180 35.6 | 0 27.5 | 256 46.2 | 22 43.8 | 358 38.3 | -1 38.2 |
| | 4 | 15 56.2 | 277 9.6 | 21 59.6 | 195 36.7 | 0 26.9 | 271 48.1 | 22 43.8 | 13 40.8 | -1 38.2 |
| | 5 | 30 58.6 | 292 8.9 | 21 59.6 | 210 37.7 | 0 26.2 | 286 50.0 | 22 43.8 | 28 43.4 | -1 38.3 |
| | 6 | 46 1.1 | 307 8.3 | 21 59.5 | 225 38.8 | 0 25.6 | 301 51.9 | 22 43.7 | 43 45.9 | -1 38.3 |
| | 7 | 61 3.6 | 322 7.6 | 21 59.5 | 240 39.8 | 0 25.0 | 316 53.8 | 22 43.7 | 58 48.5 | -1 38.4 |
| | 8 | 76 6.0 | 337 6.9 | 21 59.4 | 255 40.9 | 0 24.3 | 331 55.7 | 22 43.6 | 73 51.0 | -1 38.4 |
| | 9 | 91 8.5 | 352 6.2 | 21 59.4 | 270 41.9 | 0 23.7 | 346 57.6 | 22 43.6 | 88 53.6 | -1 38.5 |
| | 10 | 106 10.9 | 7 5.5 | 21 59.3 | 285 43.0 | 0 23.0 | 1 59.5 | 22 43.5 | 103 56.1 | -1 38.5 |
| | 11 | 121 13.4 | 22 4.8 | 21 59.3 | 300 44.0 | 0 22.4 | 17 1.4 | 22 43.5 | 118 58.7 | -1 38.6 |
| | 12 | 136 15.9 | 37 4.1 | 21 59.2 | 315 45.1 | 0 21.7 | 32 3.3 | 22 43.4 | 134 1.2 | -1 38.6 |
| | 13 | 151 18.3 | 52 3.5 | 21 59.2 | 330 46.1 | 0 21.1 | 47 5.2 | 22 43.4 | 149 3.8 | -1 38.7 |
| | 14 | 166 20.8 | 67 2.8 | 21 59.1 | 345 47.2 | 0 20.4 | 62 7.1 | 22 43.3 | 164 6.3 | -1 38.7 |
| | 15 | 181 23.3 | 82 2.1 | 21 59.1 | 0 48.2 | 0 19.8 | 77 9.0 | 22 43.3 | 179 8.9 | -1 38.8 |
| | 16 | 196 25.7 | 97 1.4 | 21 59.0 | 15 49.3 | 0 19.1 | 92 10.9 | 22 43.2 | 194 11.4 | -1 38.8 |
| | 17 | 211 28.2 | 112 0.7 | 21 59.0 | 30 50.3 | 0 18.5 | 107 12.8 | 22 43.2 | 209 14.0 | -1 38.9 |
| | 18 | 226 30.7 | 127 0.0 | 21 58.9 | 45 51.3 | 0 17.8 | 122 14.7 | 22 43.1 | 224 16.6 | -1 38.9 |
| | 19 | 241 33.1 | 141 59.3 | 21 58.8 | 60 52.4 | 0 17.2 | 137 16.6 | 22 43.1 | 239 19.1 | -1 39.0 |
| | 20 | 256 35.6 | 156 58.7 | 21 58.8 | 75 53.4 | 0 16.5 | 152 18.5 | 22 43.0 | 254 21.7 | -1 39.0 |
| | 21 | 271 38.1 | 171 58.0 | 21 58.7 | 90 54.5 | 0 15.9 | 167 20.4 | 22 43.0 | 269 24.2 | -1 39.1 |
| | 22 | 286 40.5 | 186 57.3 | 21 58.7 | 105 55.5 | 0 15.2 | 182 22.3 | 22 43.0 | 284 26.8 | -1 39.1 |
| | 23 | 301 43.0 | 201 56.6 | 21 58.6 | 120 56.6 | 0 14.6 | 197 24.2 | 22 42.9 | 299 29.3 | -1 39.2 |
| | | MP 02:58 | *v* -0.7 | *d* 0.0 | *v* 1.0 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.4 | -40 11.8 |
| Achernar | 335 19.6 | -57 6.1 |
| Acrux | 173 0.0 | -63 14.7 |
| Adhara | 255 5.8 | -29 0.2 |
| Aldebaran | 290 39.2 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.5 |
| Alkaid | 152 51.7 | 49 11.4 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.5 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.2 | 26 37.9 |
| Alpheratz | 357 34.0 | 29 13.9 |
| Altair | 61 59.2 | 8 56.2 |
| Ankaa | 353 6.4 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.5 | -69 4.6 |
| Avior | 234 15.2 | -59 35.4 |
| Bellatrix | 278 22.6 | 6 22.5 |
| Betelgeuse | 270 51.8 | 7 24.8 |
| Canopus | 263 52.6 | -52 42.3 |
| Capella | 280 21.5 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.3 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.6 | -17 50.6 |
| Dubhe | 193 40.9 | 61 37.0 |
| Elnath | 278 1.5 | 28 37.7 |
| Eltanin | 90 41.6 | 51 29.3 |
| Enif | 33 38.0 | 9 59.6 |
| Fomalhaut | 15 13.7 | -29 29.0 |
| Gacrux | 171 51.5 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.1 |
| Hadar | 148 35.4 | -60 30.0 |
| Hamal | 327 50.6 | 23 35.0 |
| Kaus Aust. | 83 31.5 | -34 22.4 |
| Kochab | 137 19.7 | 74 3.3 |
| Markab | 13 29.1 | 15 20.6 |
| Menkar | 314 5.7 | 4 11.5 |
| Menkent | 147 57.1 | -36 29.9 |
| Miaplacidus | 221 39.2 | -69 49.3 |
| Mirfak | 308 27.7 | 49 56.9 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.1 |
| Pollux | 243 17.1 | 27 57.9 |
| Procyon | 244 50.6 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.2 |
| Rigil Kent. | 139 39.7 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.2 | 56 40.5 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.1 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.1 |
| Vega | 80 32.5 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 05 Tue | SHA | MP |
|---|---|---|
| Venus | 263 57.0 | 09:29 |
| Mars | 180 54.0 | 15:00 |
| Jupiter | 256 21.4 | 09:58 |
| Saturn | 357 40.2 | 03:14 |

| 06 Wed | SHA | MP |
|---|---|---|
| Venus | 262 41.6 | 09:31 |
| Mars | 180 20.1 | 14:58 |
| Jupiter | 256 7.7 | 09:55 |
| Saturn | 357 42.2 | 03:09 |

| 07 Thu | SHA | MP |
|---|---|---|
| Venus | 261 26.1 | 09:32 |
| Mars | 179 46.2 | 14:57 |
| Jupiter | 255 54.2 | 09:52 |
| Saturn | 357 44.3 | 03:05 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **05 Tuesday** | 0 | 178 29.1 | 16 57.3 | 53 46.4 | 8.7 | -28 18.6 | 1.9 | 55.0 |
| | 1 | 193 29.1 | 16 56.6 | 68 14.1 | 8.7 | -28 20.5 | 1.8 | 55.1 |
| | 2 | 208 29.2 | 16 55.9 | 82 41.8 | 8.7 | -28 22.3 | 1.6 | 55.1 |
| | 3 | 223 29.3 | 16 55.2 | 97 9.5 | 8.6 | -28 24.0 | 1.5 | 55.1 |
| | 4 | 238 29.3 | 16 54.5 | 111 37.1 | 8.6 | -28 25.5 | 1.4 | 55.1 |
| | 5 | 253 29.4 | 16 53.9 | 126 4.6 | 8.5 | -28 26.8 | 1.2 | 55.1 |
| | 6 | 268 29.5 | 16 53.2 | 140 32.1 | 8.5 | -28 28.0 | 1.1 | 55.2 |
| | 7 | 283 29.5 | 16 52.5 | 154 59.6 | 8.4 | -28 29.1 | 0.9 | 55.2 |
| | 8 | 298 29.6 | 16 51.8 | 169 27.1 | 8.4 | -28 30.0 | 0.8 | 55.2 |
| | 9 | 313 29.7 | 16 51.1 | 183 54.4 | 8.4 | -28 30.7 | 0.6 | 55.2 |
| | 10 | 328 29.7 | 16 50.5 | 198 21.8 | 8.3 | -28 31.3 | 0.5 | 55.3 |
| | 11 | 343 29.8 | 16 49.8 | 212 49.1 | 8.3 | -28 31.8 | 0.3 | 55.3 |
| | 12 | 358 29.9 | 16 49.1 | 227 16.4 | 8.3 | -28 32.1 | 0.2 | 55.3 |
| | 13 | 13 29.9 | 16 48.4 | 241 43.7 | 8.2 | -28 32.3 | 0.0 | 55.3 |
| | 14 | 28 30.0 | 16 47.7 | 256 10.9 | 8.2 | -28 32.3 | -0.1 | 55.3 |
| | 15 | 43 30.1 | 16 47.0 | 270 38.1 | 8.2 | -28 32.1 | -0.3 | 55.4 |
| | 16 | 58 30.1 | 16 46.4 | 285 5.2 | 8.1 | -28 31.8 | -0.5 | 55.4 |
| | 17 | 73 30.2 | 16 45.7 | 299 32.4 | 8.1 | -28 31.4 | -0.6 | 55.4 |
| | 18 | 88 30.3 | 16 45.0 | 313 59.5 | 8.1 | -28 30.8 | -0.8 | 55.4 |
| | 19 | 103 30.3 | 16 44.3 | 328 26.6 | 8.1 | -28 30.0 | -0.9 | 55.5 |
| | 20 | 118 30.4 | 16 43.6 | 342 53.6 | 8.0 | -28 29.1 | -1.1 | 55.5 |
| | 21 | 133 30.5 | 16 42.9 | 357 20.6 | 8.0 | -28 28.0 | -1.2 | 55.5 |
| | 22 | 148 30.6 | 16 42.2 | 11 47.7 | 8.0 | -28 26.8 | -1.4 | 55.5 |
| | 23 | 163 30.6 | 16 41.6 | 26 14.7 | 8.0 | -28 25.4 | -1.5 | 55.6 |
| | | *v* 0.1 | SD 15.8 | *d* -0.7 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **06 Wednesday** | 0 | 178 30.7 | 16 40.9 | 40 41.6 | 8.0 | -28 23.9 | -1.7 | 55.6 |
| | 1 | 193 30.8 | 16 40.2 | 55 8.6 | 7.9 | -28 22.2 | -1.8 | 55.6 |
| | 2 | 208 30.8 | 16 39.5 | 69 35.5 | 7.9 | -28 20.3 | -2.0 | 55.6 |
| | 3 | 223 30.9 | 16 38.8 | 84 2.5 | 7.9 | -28 18.3 | -2.2 | 55.7 |
| | 4 | 238 31.0 | 16 38.1 | 98 29.4 | 7.9 | -28 16.2 | -2.3 | 55.7 |
| | 5 | 253 31.0 | 16 37.4 | 112 56.3 | 7.9 | -28 13.9 | -2.5 | 55.7 |
| | 6 | 268 31.1 | 16 36.7 | 127 23.2 | 7.9 | -28 11.4 | -2.6 | 55.7 |
| | 7 | 283 31.2 | 16 36.0 | 141 50.1 | 7.9 | -28 8.8 | -2.8 | 55.8 |
| | 8 | 298 31.3 | 16 35.4 | 156 17.0 | 7.9 | -28 6.0 | -2.9 | 55.8 |
| | 9 | 313 31.3 | 16 34.7 | 170 43.9 | 7.9 | -28 3.1 | -3.1 | 55.8 |
| | 10 | 328 31.4 | 16 34.0 | 185 10.8 | 7.9 | -28 0.0 | -3.2 | 55.8 |
| | 11 | 343 31.5 | 16 33.3 | 199 37.7 | 7.9 | -27 56.7 | -3.4 | 55.9 |
| | 12 | 358 31.6 | 16 32.6 | 214 4.6 | 7.9 | -27 53.3 | -3.6 | 55.9 |
| | 13 | 13 31.6 | 16 31.9 | 228 31.5 | 7.9 | -27 49.8 | -3.7 | 55.9 |
| | 14 | 28 31.7 | 16 31.2 | 242 58.4 | 7.9 | -27 46.1 | -3.9 | 55.9 |
| | 15 | 43 31.8 | 16 30.5 | 257 25.3 | 7.9 | -27 42.2 | -4.0 | 56.0 |
| | 16 | 58 31.9 | 16 29.8 | 271 52.2 | 7.9 | -27 38.2 | -4.2 | 56.0 |
| | 17 | 73 31.9 | 16 29.1 | 286 19.1 | 7.9 | -27 34.0 | -4.3 | 56.0 |
| | 18 | 88 32.0 | 16 28.4 | 300 46.1 | 7.9 | -27 29.7 | -4.5 | 56.0 |
| | 19 | 103 32.1 | 16 27.7 | 315 13.0 | 8.0 | -27 25.2 | -4.6 | 56.1 |
| | 20 | 118 32.2 | 16 27.0 | 329 40.0 | 8.0 | -27 20.5 | -4.8 | 56.1 |
| | 21 | 133 32.2 | 16 26.3 | 344 6.9 | 8.0 | -27 15.7 | -5.0 | 56.1 |
| | 22 | 148 32.3 | 16 25.6 | 358 33.9 | 8.0 | -27 10.8 | -5.1 | 56.1 |
| | 23 | 163 32.4 | 16 24.9 | 13 0.9 | 8.0 | -27 5.7 | -5.3 | 56.2 |
| | | *v* 0.1 | SD 15.8 | *d* -0.7 | | SD 15.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **07 Thursday** | 0 | 178 32.5 | 16 24.2 | 27 27.9 | 8.0 | -27 0.4 | -5.4 | 56.2 |
| | 1 | 193 32.5 | 16 23.5 | 41 55.0 | 8.1 | -26 55.0 | -5.6 | 56.2 |
| | 2 | 208 32.6 | 16 22.8 | 56 22.0 | 8.1 | -26 49.4 | -5.7 | 56.2 |
| | 3 | 223 32.7 | 16 22.1 | 70 49.1 | 8.1 | -26 43.7 | -5.9 | 56.3 |
| | 4 | 238 32.8 | 16 21.4 | 85 16.2 | 8.1 | -26 37.8 | -6.0 | 56.3 |
| | 5 | 253 32.8 | 16 20.7 | 99 43.4 | 8.2 | -26 31.8 | -6.2 | 56.3 |
| | 6 | 268 32.9 | 16 20.0 | 114 10.5 | 8.2 | -26 25.6 | -6.3 | 56.4 |
| | 7 | 283 33.0 | 16 19.3 | 128 37.7 | 8.2 | -26 19.3 | -6.5 | 56.4 |
| | 8 | 298 33.1 | 16 18.6 | 143 5.0 | 8.3 | -26 12.8 | -6.6 | 56.4 |
| | 9 | 313 33.2 | 16 17.9 | 157 32.2 | 8.3 | -26 6.2 | -6.8 | 56.4 |
| | 10 | 328 33.2 | 16 17.2 | 171 59.5 | 8.3 | -25 59.4 | -6.9 | 56.5 |
| | 11 | 343 33.3 | 16 16.5 | 186 26.8 | 8.3 | -25 52.5 | -7.1 | 56.5 |
| | 12 | 358 33.4 | 16 15.8 | 200 54.2 | 8.4 | -25 45.4 | -7.2 | 56.5 |
| | 13 | 13 33.5 | 16 15.1 | 215 21.5 | 8.4 | -25 38.2 | -7.4 | 56.5 |
| | 14 | 28 33.6 | 16 14.4 | 229 49.0 | 8.5 | -25 30.9 | -7.5 | 56.6 |
| | 15 | 43 33.6 | 16 13.7 | 244 16.4 | 8.5 | -25 23.3 | -7.7 | 56.6 |
| | 16 | 58 33.7 | 16 13.0 | 258 43.9 | 8.5 | -25 15.7 | -7.8 | 56.6 |
| | 17 | 73 33.8 | 16 12.3 | 273 11.4 | 8.6 | -25 7.9 | -8.0 | 56.7 |
| | 18 | 88 33.9 | 16 11.6 | 287 39.0 | 8.6 | -24 59.9 | -8.1 | 56.7 |
| | 19 | 103 34.0 | 16 10.9 | 302 6.6 | 8.7 | -24 51.8 | -8.2 | 56.7 |
| | 20 | 118 34.0 | 16 10.1 | 316 34.3 | 8.7 | -24 43.6 | -8.4 | 56.7 |
| | 21 | 133 34.1 | 16 9.4 | 331 2.0 | 8.7 | -24 35.2 | -8.5 | 56.8 |
| | 22 | 148 34.2 | 16 8.7 | 345 29.7 | 8.8 | -24 26.7 | -8.7 | 56.8 |
| | 23 | 163 34.3 | 16 8.0 | 359 57.5 | 8.8 | -24 18.0 | -8.8 | 56.8 |
| | | *v* 0.1 | SD 15.8 | *d* -0.7 | | SD 15.3 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 00:43 | 23:11 | //// | //// |
| 70 | //// | //// | 01:59 | 22:07 | //// | //// |
| 68 | //// | //// | 02:36 | 21:32 | //// | //// |
| 66 | //// | 01:17 | 03:02 | 21:07 | 22:47 | //// |
| 64 | //// | 02:03 | 03:21 | 20:48 | 22:05 | //// |
| 62 | //// | 02:32 | 03:37 | 20:33 | 21:37 | //// |
| 60 | 01:09 | 02:53 | 03:51 | 20:20 | 21:16 | 22:56 |
| 58 | 01:51 | 03:11 | 04:02 | 20:08 | 20:59 | 22:17 |
| 56 | 02:18 | 03:25 | 04:12 | 19:59 | 20:45 | 21:52 |
| 54 | 02:38 | 03:37 | 04:21 | 19:50 | 20:33 | 21:32 |
| 52 | 02:54 | 03:48 | 04:28 | 19:43 | 20:23 | 21:16 |
| 50 | 03:08 | 03:57 | 04:35 | 19:36 | 20:13 | 21:02 |
| 45 | 03:35 | 04:17 | 04:50 | 19:21 | 19:54 | 20:36 |
| 40 | 03:56 | 04:32 | 05:02 | 19:09 | 19:39 | 20:15 |
| 35 | 04:12 | 04:45 | 05:13 | 18:59 | 19:26 | 20:00 |
| 30 | 04:25 | 04:56 | 05:22 | 18:50 | 19:16 | 19:46 |
| 20 | 04:46 | 05:14 | 05:37 | 18:35 | 18:58 | 19:26 |
| 10 | 05:02 | 05:28 | 05:50 | 18:22 | 18:44 | 19:09 |
| 0 | 05:16 | 05:41 | 06:03 | 18:09 | 18:31 | 18:56 |
| -10 | 05:28 | 05:53 | 06:15 | 17:57 | 18:19 | 18:45 |
| -20 | 05:38 | 06:05 | 06:28 | 17:45 | 18:07 | 18:34 |
| -30 | 05:49 | 06:17 | 06:42 | 17:30 | 17:55 | 18:24 |
| -35 | 05:54 | 06:24 | 06:51 | 17:22 | 17:48 | 18:18 |
| -40 | 05:59 | 06:32 | 07:00 | 17:12 | 17:41 | 18:13 |
| -45 | 06:05 | 06:40 | 07:12 | 17:01 | 17:32 | 18:07 |
| -50 | 06:11 | 06:50 | 07:25 | 16:48 | 17:22 | 18:01 |
| -52 | 06:14 | 06:55 | 07:31 | 16:41 | 17:18 | 17:59 |
| -54 | 06:17 | 07:00 | 07:38 | 16:34 | 17:13 | 17:56 |
| -56 | 06:20 | 07:05 | 07:46 | 16:27 | 17:08 | 17:53 |
| -58 | 06:23 | 07:11 | 07:55 | 16:18 | 17:02 | 17:49 |
| -60 | 06:27 | 07:18 | 08:05 | 16:08 | 16:55 | 17:46 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **05** | **06** | **07** | **05** | **06** | **07** |
| 72 | ■ | ■ | ■ | ■ | ■ | ■ |
| 70 | ■ | ■ | ■ | ■ | ■ | ■ |
| 68 | ■ | ■ | ■ | ■ | ■ | ■ |
| 66 | ■ | ■ | ■ | ■ | ■ | ■ |
| 64 | ■ | ■ | 21:37 | ■ | ■ | –:– |
| 62 | ■ | 21:11 | 20:56 | ■ | 23:08 | –:– |
| 60 | 19:51 | 20:18 | 20:27 | 22:32 | 00:00 | 00:00 |
| 58 | 19:10 | 19:46 | 20:05 | 23:14 | –:– | 00:32 |
| 56 | 18:41 | 19:22 | 19:47 | 23:42 | –:– | 00:55 |
| 54 | 18:19 | 19:03 | 19:32 | –:– | 00:04 | 01:15 |
| 52 | 18:01 | 18:46 | 19:19 | –:– | 00:22 | 01:31 |
| 50 | 17:46 | 18:32 | 19:07 | –:– | 00:37 | 01:45 |
| 45 | 17:15 | 18:03 | 18:42 | 00:14 | 01:08 | 02:13 |
| 40 | 16:51 | 17:41 | 18:23 | 00:38 | 01:32 | 02:35 |
| 35 | 16:31 | 17:22 | 18:07 | 00:58 | 01:52 | 02:53 |
| 30 | 16:14 | 17:06 | 17:52 | 01:14 | 02:09 | 03:09 |
| 20 | 15:45 | 16:38 | 17:28 | 01:43 | 02:37 | 03:35 |
| 10 | 15:21 | 16:15 | 17:07 | 02:07 | 03:02 | 03:58 |
| 0 | 14:58 | 15:53 | 16:47 | 02:30 | 03:24 | 04:19 |
| -10 | 14:35 | 15:31 | 16:28 | 02:53 | 03:47 | 04:40 |
| -20 | 14:11 | 15:07 | 16:06 | 03:17 | 04:11 | 05:03 |
| -30 | 13:42 | 14:40 | 15:42 | 03:45 | 04:39 | 05:28 |
| -35 | 13:25 | 14:23 | 15:27 | 04:02 | 04:56 | 05:44 |
| -40 | 13:05 | 14:04 | 15:10 | 04:22 | 05:15 | 06:01 |
| -45 | 12:41 | 13:41 | 14:50 | 04:46 | 05:39 | 06:22 |
| -50 | 12:11 | 13:11 | 14:24 | 05:16 | 06:09 | 06:49 |
| -52 | 11:55 | 12:57 | 14:12 | 05:32 | 06:23 | 07:02 |
| -54 | 11:37 | 12:40 | 13:58 | 05:49 | 06:41 | 07:16 |
| -56 | 11:16 | 12:19 | 13:41 | 06:11 | 07:01 | 07:33 |
| -58 | 10:48 | 11:54 | 13:21 | 06:38 | 07:27 | 07:54 |
| -60 | 10:08 | 11:18 | 12:55 | 07:18 | 08:03 | 08:20 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **05** | 06:04 | 06:01 | 12:06 | 21:11 | 08:44 | 11 | 81 |
| **06** | 05:57 | 05:54 | 12:06 | 22:06 | 09:38 | 12 | 88 |
| **07** | 05:50 | 05:46 | 12:06 | 23:00 | 10:33 | 13 | 94 |

## 2025 August 08, 09, 10 (Fri, Saturday, Sunday)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -1.9 | | Saturn 0.8 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 08 Friday | 0 | 316 45.4 | 216 55.9 | 21 58.5 | 135 57.6 | 0 14.0 | 212 26.1 | 22 42.9 | 314 31.9 | -1 39.2 |
| | 1 | 331 47.9 | 231 55.2 | 21 58.5 | 150 58.7 | 0 13.3 | 227 28.0 | 22 42.8 | 329 34.4 | -1 39.3 |
| | 2 | 346 50.4 | 246 54.5 | 21 58.4 | 165 59.7 | 0 12.7 | 242 29.9 | 22 42.8 | 344 37.0 | -1 39.3 |
| | 3 | 1 52.8 | 261 53.8 | 21 58.3 | 181 0.8 | 0 12.0 | 257 31.8 | 22 42.7 | 359 39.6 | -1 39.4 |
| | 4 | 16 55.3 | 276 53.2 | 21 58.3 | 196 1.8 | 0 11.4 | 272 33.7 | 22 42.7 | 14 42.1 | -1 39.4 |
| | 5 | 31 57.8 | 291 52.5 | 21 58.2 | 211 2.9 | 0 10.7 | 287 35.6 | 22 42.6 | 29 44.7 | -1 39.5 |
| | 6 | 47 0.2 | 306 51.8 | 21 58.1 | 226 3.9 | 0 10.1 | 302 37.5 | 22 42.6 | 44 47.2 | -1 39.5 |
| | 7 | 62 2.7 | 321 51.1 | 21 58.0 | 241 4.9 | 0 9.4 | 317 39.4 | 22 42.5 | 59 49.8 | -1 39.6 |
| | 8 | 77 5.2 | 336 50.4 | 21 58.0 | 256 6.0 | 0 8.8 | 332 41.3 | 22 42.5 | 74 52.3 | -1 39.6 |
| | 9 | 92 7.6 | 351 49.7 | 21 57.9 | 271 7.0 | 0 8.1 | 347 43.2 | 22 42.4 | 89 54.9 | -1 39.7 |
| | 10 | 107 10.1 | 6 49.0 | 21 57.8 | 286 8.1 | 0 7.5 | 2 45.1 | 22 42.4 | 104 57.4 | -1 39.7 |
| | 11 | 122 12.6 | 21 48.3 | 21 57.7 | 301 9.1 | 0 6.8 | 17 47.0 | 22 42.3 | 120 0.0 | -1 39.8 |
| | 12 | 137 15.0 | 36 47.6 | 21 57.7 | 316 10.2 | 0 6.2 | 32 48.9 | 22 42.3 | 135 2.6 | -1 39.8 |
| | 13 | 152 17.5 | 51 47.0 | 21 57.6 | 331 11.2 | 0 5.5 | 47 50.8 | 22 42.2 | 150 5.1 | -1 39.9 |
| | 14 | 167 19.9 | 66 46.3 | 21 57.5 | 346 12.3 | 0 4.9 | 62 52.7 | 22 42.2 | 165 7.7 | -1 39.9 |
| | 15 | 182 22.4 | 81 45.6 | 21 57.4 | 1 13.3 | 0 4.2 | 77 54.7 | 22 42.1 | 180 10.2 | -1 40.0 |
| | 16 | 197 24.9 | 96 44.9 | 21 57.3 | 16 14.4 | 0 3.6 | 92 56.6 | 22 42.1 | 195 12.8 | -1 40.0 |
| | 17 | 212 27.3 | 111 44.2 | 21 57.3 | 31 15.4 | 0 2.9 | 107 58.5 | 22 42.1 | 210 15.3 | -1 40.1 |
| | 18 | 227 29.8 | 126 43.5 | 21 57.2 | 46 16.4 | 0 2.3 | 123 0.4 | 22 42.0 | 225 17.9 | -1 40.1 |
| | 19 | 242 32.3 | 141 42.8 | 21 57.1 | 61 17.5 | 0 1.6 | 138 2.3 | 22 42.0 | 240 20.5 | -1 40.2 |
| | 20 | 257 34.7 | 156 42.1 | 21 57.0 | 76 18.5 | 0 1.0 | 153 4.2 | 22 41.9 | 255 23.0 | -1 40.2 |
| | 21 | 272 37.2 | 171 41.4 | 21 56.9 | 91 19.6 | 0 0.3 | 168 6.1 | 22 41.9 | 270 25.6 | -1 40.3 |
| | 22 | 287 39.7 | 186 40.8 | 21 56.8 | 106 20.6 | -0 0.3 | 183 8.0 | 22 41.8 | 285 28.1 | -1 40.3 |
| | 23 | 302 42.1 | 201 40.1 | 21 56.7 | 121 21.7 | -0 0.9 | 198 9.9 | 22 41.8 | 300 30.7 | -1 40.4 |
| | | MP 02:54 | *v* -0.7 | *d* -0.1 | *v* 1.0 | *d* -0.6 | *v* 1.9 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Saturday | 0 | 317 44.6 | 216 39.4 | 21 56.7 | 136 22.7 | -0 1.6 | 213 11.8 | 22 41.7 | 315 33.3 | -1 40.4 |
| | 1 | 332 47.0 | 231 38.7 | 21 56.6 | 151 23.7 | -0 2.2 | 228 13.7 | 22 41.7 | 330 35.8 | -1 40.5 |
| | 2 | 347 49.5 | 246 38.0 | 21 56.5 | 166 24.8 | -0 2.9 | 243 15.6 | 22 41.6 | 345 38.4 | -1 40.5 |
| | 3 | 2 52.0 | 261 37.3 | 21 56.4 | 181 25.8 | -0 3.5 | 258 17.5 | 22 41.6 | 0 40.9 | -1 40.6 |
| | 4 | 17 54.4 | 276 36.6 | 21 56.3 | 196 26.9 | -0 4.2 | 273 19.4 | 22 41.5 | 15 43.5 | -1 40.6 |
| | 5 | 32 56.9 | 291 35.9 | 21 56.2 | 211 27.9 | -0 4.8 | 288 21.3 | 22 41.5 | 30 46.0 | -1 40.7 |
| | 6 | 47 59.4 | 306 35.2 | 21 56.1 | 226 29.0 | -0 5.5 | 303 23.2 | 22 41.4 | 45 48.6 | -1 40.7 |
| | 7 | 63 1.8 | 321 34.5 | 21 56.0 | 241 30.0 | -0 6.1 | 318 25.1 | 22 41.4 | 60 51.2 | -1 40.8 |
| | 8 | 78 4.3 | 336 33.8 | 21 55.9 | 256 31.0 | -0 6.8 | 333 27.0 | 22 41.3 | 75 53.7 | -1 40.8 |
| | 9 | 93 6.8 | 351 33.2 | 21 55.8 | 271 32.1 | -0 7.4 | 348 28.9 | 22 41.3 | 90 56.3 | -1 40.9 |
| | 10 | 108 9.2 | 6 32.5 | 21 55.7 | 286 33.1 | -0 8.1 | 3 30.8 | 22 41.2 | 105 58.8 | -1 40.9 |
| | 11 | 123 11.7 | 21 31.8 | 21 55.6 | 301 34.2 | -0 8.7 | 18 32.8 | 22 41.2 | 121 1.4 | -1 41.0 |
| | 12 | 138 14.2 | 36 31.1 | 21 55.5 | 316 35.2 | -0 9.4 | 33 34.7 | 22 41.1 | 136 4.0 | -1 41.1 |
| | 13 | 153 16.6 | 51 30.4 | 21 55.4 | 331 36.3 | -0 10.0 | 48 36.6 | 22 41.1 | 151 6.5 | -1 41.1 |
| | 14 | 168 19.1 | 66 29.7 | 21 55.3 | 346 37.3 | -0 10.7 | 63 38.5 | 22 41.0 | 166 9.1 | -1 41.2 |
| | 15 | 183 21.5 | 81 29.0 | 21 55.2 | 1 38.3 | -0 11.3 | 78 40.4 | 22 41.0 | 181 11.7 | -1 41.2 |
| | 16 | 198 24.0 | 96 28.3 | 21 55.1 | 16 39.4 | -0 12.0 | 93 42.3 | 22 40.9 | 196 14.2 | -1 41.3 |
| | 17 | 213 26.5 | 111 27.6 | 21 55.0 | 31 40.4 | -0 12.6 | 108 44.2 | 22 40.9 | 211 16.8 | -1 41.3 |
| | 18 | 228 28.9 | 126 26.9 | 21 54.9 | 46 41.5 | -0 13.3 | 123 46.1 | 22 40.9 | 226 19.3 | -1 41.4 |
| | 19 | 243 31.4 | 141 26.2 | 21 54.7 | 61 42.5 | -0 13.9 | 138 48.0 | 22 40.8 | 241 21.9 | -1 41.4 |
| | 20 | 258 33.9 | 156 25.5 | 21 54.6 | 76 43.6 | -0 14.6 | 153 49.9 | 22 40.8 | 256 24.5 | -1 41.5 |
| | 21 | 273 36.3 | 171 24.9 | 21 54.5 | 91 44.6 | -0 15.2 | 168 51.8 | 22 40.7 | 271 27.0 | -1 41.5 |
| | 22 | 288 38.8 | 186 24.2 | 21 54.4 | 106 45.6 | -0 15.9 | 183 53.7 | 22 40.7 | 286 29.6 | -1 41.6 |
| | 23 | 303 41.3 | 201 23.5 | 21 54.3 | 121 46.7 | -0 16.5 | 198 55.6 | 22 40.6 | 301 32.1 | -1 41.6 |
| | | MP 02:50 | *v* -0.7 | *d* -0.1 | *v* 1.0 | *d* 0.6 | *v* 1.9 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 Sunday | 0 | 318 43.7 | 216 22.8 | 21 54.2 | 136 47.7 | -0 17.2 | 213 57.5 | 22 40.6 | 316 34.7 | -1 41.7 |
| | 1 | 333 46.2 | 231 22.1 | 21 54.1 | 151 48.8 | -0 17.8 | 228 59.5 | 22 40.5 | 331 37.3 | -1 41.7 |
| | 2 | 348 48.7 | 246 21.4 | 21 54.0 | 166 49.8 | -0 18.5 | 244 1.4 | 22 40.5 | 346 39.8 | -1 41.8 |
| | 3 | 3 51.1 | 261 20.7 | 21 53.8 | 181 50.8 | -0 19.1 | 259 3.3 | 22 40.4 | 1 42.4 | -1 41.8 |
| | 4 | 18 53.6 | 276 20.0 | 21 53.7 | 196 51.9 | -0 19.8 | 274 5.2 | 22 40.4 | 16 45.0 | -1 41.9 |
| | 5 | 33 56.0 | 291 19.3 | 21 53.6 | 211 52.9 | -0 20.4 | 289 7.1 | 22 40.3 | 31 47.5 | -1 41.9 |
| | 6 | 48 58.5 | 306 18.6 | 21 53.5 | 226 54.0 | -0 21.1 | 304 9.0 | 22 40.3 | 46 50.1 | -1 42.0 |
| | 7 | 64 1.0 | 321 17.9 | 21 53.4 | 241 55.0 | -0 21.7 | 319 10.9 | 22 40.2 | 61 52.6 | -1 42.1 |
| | 8 | 79 3.4 | 336 17.2 | 21 53.2 | 256 56.0 | -0 22.4 | 334 12.8 | 22 40.2 | 76 55.2 | -1 42.1 |
| | 9 | 94 5.9 | 351 16.5 | 21 53.1 | 271 57.1 | -0 23.0 | 349 14.7 | 22 40.1 | 91 57.8 | -1 42.2 |
| | 10 | 109 8.4 | 6 15.8 | 21 53.0 | 286 58.1 | -0 23.7 | 4 16.6 | 22 40.1 | 107 0.3 | -1 42.2 |
| | 11 | 124 10.8 | 21 15.1 | 21 52.9 | 301 59.2 | -0 24.3 | 19 18.5 | 22 40.0 | 122 2.9 | -1 42.3 |
| | 12 | 139 13.3 | 36 14.5 | 21 52.7 | 317 0.2 | -0 25.0 | 34 20.4 | 22 40.0 | 137 5.5 | -1 42.3 |
| | 13 | 154 15.8 | 51 13.8 | 21 52.6 | 332 1.2 | -0 25.6 | 49 22.4 | 22 39.9 | 152 8.0 | -1 42.4 |
| | 14 | 169 18.2 | 66 13.1 | 21 52.5 | 347 2.3 | -0 26.3 | 64 24.3 | 22 39.9 | 167 10.6 | -1 42.4 |
| | 15 | 184 20.7 | 81 12.4 | 21 52.3 | 2 3.3 | -0 26.9 | 79 26.2 | 22 39.8 | 182 13.1 | -1 42.5 |
| | 16 | 199 23.1 | 96 11.7 | 21 52.2 | 17 4.4 | -0 27.6 | 94 28.1 | 22 39.8 | 197 15.7 | -1 42.5 |
| | 17 | 214 25.6 | 111 11.0 | 21 52.1 | 32 5.4 | -0 28.2 | 109 30.0 | 22 39.7 | 212 18.3 | -1 42.6 |
| | 18 | 229 28.1 | 126 10.3 | 21 51.9 | 47 6.4 | -0 28.9 | 124 31.9 | 22 39.7 | 227 20.8 | -1 42.6 |
| | 19 | 244 30.5 | 141 9.6 | 21 51.8 | 62 7.5 | -0 29.5 | 139 33.8 | 22 39.6 | 242 23.4 | -1 42.7 |
| | 20 | 259 33.0 | 156 8.9 | 21 51.7 | 77 8.5 | -0 30.2 | 154 35.7 | 22 39.6 | 257 26.0 | -1 42.7 |
| | 21 | 274 35.5 | 171 8.2 | 21 51.5 | 92 9.6 | -0 30.8 | 169 37.6 | 22 39.5 | 272 28.5 | -1 42.8 |
| | 22 | 289 37.9 | 186 7.5 | 21 51.4 | 107 10.6 | -0 31.5 | 184 39.5 | 22 39.5 | 287 31.1 | -1 42.9 |
| | 23 | 304 40.4 | 201 6.8 | 21 51.3 | 122 11.6 | -0 32.1 | 199 41.5 | 22 39.4 | 302 33.7 | -1 42.9 |
| | | MP 02:46 | *v* -0.7 | *d* -0.1 | *v* 1.0 | *d* 0.6 | *v* 1.9 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.4 | -40 11.8 |
| Achernar | 335 19.6 | -57 6.0 |
| Acrux | 173 0.0 | -63 14.7 |
| Adhara | 255 5.8 | -29 0.2 |
| Aldebaran | 290 39.2 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.5 |
| Alkaid | 152 51.7 | 49 11.4 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.4 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.3 | 26 37.9 |
| Alpheratz | 357 34.0 | 29 13.9 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.4 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.6 | -69 4.6 |
| Avior | 234 15.2 | -59 35.4 |
| Bellatrix | 278 22.5 | 6 22.5 |
| Betelgeuse | 270 51.8 | 7 24.8 |
| Canopus | 263 52.6 | -52 42.3 |
| Capella | 280 21.4 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.4 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.6 | -17 50.6 |
| Dubhe | 193 40.9 | 61 37.0 |
| Elnath | 278 1.5 | 28 37.7 |
| Eltanin | 90 41.6 | 51 29.3 |
| Enif | 33 38.0 | 9 59.6 |
| Fomalhaut | 15 13.6 | -29 29.0 |
| Gacrux | 171 51.5 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.1 |
| Hadar | 148 35.5 | -60 30.0 |
| Hamal | 327 50.6 | 23 35.0 |
| Kaus Aust. | 83 31.5 | -34 22.4 |
| Kochab | 137 19.8 | 74 3.3 |
| Markab | 13 29.1 | 15 20.6 |
| Menkar | 314 5.6 | 4 11.5 |
| Menkent | 147 57.1 | -36 29.9 |
| Miaplacidus | 221 39.2 | -69 49.3 |
| Mirfak | 308 27.6 | 49 57.0 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.3 | -56 39.1 |
| Pollux | 243 17.1 | 27 57.9 |
| Procyon | 244 50.6 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.2 |
| Rigil Kent. | 139 39.7 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.2 | 56 40.5 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.1 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.1 |
| Vega | 80 32.5 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 08 Fri | SHA | MP |
|---|---|---|
| Venus | 260 10.5 | 09:33 |
| Mars | 179 12.2 | 14:55 |
| Jupiter | 255 40.7 | 09:49 |
| Saturn | 357 46.4 | 03:01 |

| 09 Sat | SHA | MP |
|---|---|---|
| Venus | 258 54.8 | 09:34 |
| Mars | 178 38.1 | 14:53 |
| Jupiter | 255 27.2 | 09:46 |
| Saturn | 357 48.7 | 02:57 |

| 10 Sun | SHA | MP |
|---|---|---|
| Venus | 257 39.0 | 09:35 |
| Mars | 178 4.0 | 14:52 |
| Jupiter | 255 13.8 | 09:43 |
| Saturn | 357 51.0 | 02:53 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **08 Friday** | 0 | 178 34.4 | 16 7.3 | 14 25.3 | 8.9 | -24 9.2 | -8.9 | 56.8 |
| | 1 | 193 34.5 | 16 6.6 | 28 53.2 | 8.9 | -24 0.3 | -9.1 | 56.9 |
| | 2 | 208 34.5 | 16 5.9 | 43 21.1 | 9.0 | -23 51.2 | -9.2 | 56.9 |
| | 3 | 223 34.6 | 16 5.2 | 57 49.1 | 9.0 | -23 42.0 | -9.4 | 56.9 |
| | 4 | 238 34.7 | 16 4.5 | 72 17.1 | 9.1 | -23 32.6 | -9.5 | 57.0 |
| | 5 | 253 34.8 | 16 3.8 | 86 45.2 | 9.1 | -23 23.2 | -9.6 | 57.0 |
| | 6 | 268 34.9 | 16 3.0 | 101 13.3 | 9.2 | -23 13.5 | -9.8 | 57.0 |
| | 7 | 283 35.0 | 16 2.3 | 115 41.5 | 9.2 | -23 3.8 | -9.9 | 57.0 |
| | 8 | 298 35.0 | 16 1.6 | 130 9.7 | 9.3 | -22 53.9 | -10.0 | 57.1 |
| | 9 | 313 35.1 | 16 0.9 | 144 37.9 | 9.3 | -22 43.9 | -10.2 | 57.1 |
| | 10 | 328 35.2 | 16 0.2 | 159 6.3 | 9.4 | -22 33.7 | -10.3 | 57.1 |
| | 11 | 343 35.3 | 15 59.5 | 173 34.6 | 9.4 | -22 23.4 | -10.4 | 57.1 |
| | 12 | 358 35.4 | 15 58.8 | 188 3.0 | 9.5 | -22 13.0 | -10.5 | 57.2 |
| | 13 | 13 35.5 | 15 58.0 | 202 31.5 | 9.5 | -22 2.5 | -10.7 | 57.2 |
| | 14 | 28 35.6 | 15 57.3 | 217 0.0 | 9.6 | -21 51.8 | -10.8 | 57.2 |
| | 15 | 43 35.6 | 15 56.6 | 231 28.6 | 9.6 | -21 41.0 | -10.9 | 57.3 |
| | 16 | 58 35.7 | 15 55.9 | 245 57.2 | 9.7 | -21 30.1 | -11.0 | 57.3 |
| | 17 | 73 35.8 | 15 55.2 | 260 25.9 | 9.7 | -21 19.0 | -11.2 | 57.3 |
| | 18 | 88 35.9 | 15 54.5 | 274 54.6 | 9.8 | -21 7.9 | -11.3 | 57.3 |
| | 19 | 103 36.0 | 15 53.7 | 289 23.4 | 9.8 | -20 56.6 | -11.4 | 57.4 |
| | 20 | 118 36.1 | 15 53.0 | 303 52.3 | 9.9 | -20 45.2 | -11.5 | 57.4 |
| | 21 | 133 36.2 | 15 52.3 | 318 21.2 | 9.9 | -20 33.6 | -11.6 | 57.4 |
| | 22 | 148 36.2 | 15 51.6 | 332 50.1 | 10.0 | -20 22.0 | -11.8 | 57.4 |
| | 23 | 163 36.3 | 15 50.9 | 347 19.1 | 10.1 | -20 10.2 | -11.9 | 57.5 |
| | | *v* 0.1 | SD 15.8 | *d* -0.7 | | SD 15.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **09 Saturday** | 0 | 178 36.4 | 15 50.1 | 1 48.2 | 10.1 | -19 58.3 | -12.0 | 57.5 |
| | 1 | 193 36.5 | 15 49.4 | 16 17.3 | 10.2 | -19 46.3 | -12.1 | 57.5 |
| | 2 | 208 36.6 | 15 48.7 | 30 46.4 | 10.2 | -19 34.2 | -12.2 | 57.5 |
| | 3 | 223 36.7 | 15 48.0 | 45 15.7 | 10.3 | -19 22.0 | -12.3 | 57.6 |
| | 4 | 238 36.8 | 15 47.3 | 59 44.9 | 10.3 | -19 9.7 | -12.4 | 57.6 |
| | 5 | 253 36.9 | 15 46.5 | 74 14.3 | 10.4 | -18 57.2 | -12.6 | 57.6 |
| | 6 | 268 37.0 | 15 45.8 | 88 43.6 | 10.4 | -18 44.7 | -12.7 | 57.6 |
| | 7 | 283 37.1 | 15 45.1 | 103 13.1 | 10.5 | -18 32.0 | -12.8 | 57.7 |
| | 8 | 298 37.1 | 15 44.4 | 117 42.6 | 10.5 | -18 19.2 | -12.9 | 57.7 |
| | 9 | 313 37.2 | 15 43.6 | 132 12.1 | 10.6 | -18 6.4 | -13.0 | 57.7 |
| | 10 | 328 37.3 | 15 42.9 | 146 41.7 | 10.6 | -17 53.4 | -13.1 | 57.7 |
| | 11 | 343 37.4 | 15 42.2 | 161 11.3 | 10.7 | -17 40.3 | -13.2 | 57.8 |
| | 12 | 358 37.5 | 15 41.5 | 175 41.0 | 10.7 | -17 27.1 | -13.3 | 57.8 |
| | 13 | 13 37.6 | 15 40.7 | 190 10.8 | 10.8 | -17 13.8 | -13.4 | 57.8 |
| | 14 | 28 37.7 | 15 40.0 | 204 40.6 | 10.8 | -17 0.4 | -13.5 | 57.8 |
| | 15 | 43 37.8 | 15 39.3 | 219 10.4 | 10.9 | -16 47.0 | -13.6 | 57.9 |
| | 16 | 58 37.9 | 15 38.6 | 233 40.3 | 11.0 | -16 33.4 | -13.7 | 57.9 |
| | 17 | 73 38.0 | 15 37.8 | 248 10.3 | 11.0 | -16 19.7 | -13.8 | 57.9 |
| | 18 | 88 38.1 | 15 37.1 | 262 40.3 | 11.0 | -16 5.9 | -13.9 | 57.9 |
| | 19 | 103 38.2 | 15 36.4 | 277 10.3 | 11.1 | -15 52.1 | -14.0 | 58.0 |
| | 20 | 118 38.3 | 15 35.6 | 291 40.4 | 11.1 | -15 38.1 | -14.0 | 58.0 |
| | 21 | 133 38.3 | 15 34.9 | 306 10.6 | 11.2 | -15 24.1 | -14.1 | 58.0 |
| | 22 | 148 38.4 | 15 34.2 | 320 40.8 | 11.2 | -15 9.9 | -14.2 | 58.0 |
| | 23 | 163 38.5 | 15 33.5 | 335 11.0 | 11.3 | -14 55.7 | -14.3 | 58.1 |
| | | *v* 0.1 | SD 15.8 | *d* -0.7 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **10 Sunday** | 0 | 178 38.6 | 15 32.7 | 349 41.3 | 11.3 | -14 41.4 | -14.4 | 58.1 |
| | 1 | 193 38.7 | 15 32.0 | 4 11.6 | 11.4 | -14 27.0 | -14.5 | 58.1 |
| | 2 | 208 38.8 | 15 31.3 | 18 42.0 | 11.4 | -14 12.5 | -14.6 | 58.1 |
| | 3 | 223 38.9 | 15 30.5 | 33 12.4 | 11.5 | -13 58.0 | -14.6 | 58.1 |
| | 4 | 238 39.0 | 15 29.8 | 47 42.9 | 11.5 | -13 43.3 | -14.7 | 58.2 |
| | 5 | 253 39.1 | 15 29.1 | 62 13.4 | 11.6 | -13 28.6 | -14.8 | 58.2 |
| | 6 | 268 39.2 | 15 28.3 | 76 44.0 | 11.6 | -13 13.8 | -14.9 | 58.2 |
| | 7 | 283 39.3 | 15 27.6 | 91 14.5 | 11.6 | -12 59.0 | -14.9 | 58.2 |
| | 8 | 298 39.4 | 15 26.9 | 105 45.2 | 11.7 | -12 44.0 | -15.0 | 58.3 |
| | 9 | 313 39.5 | 15 26.1 | 120 15.9 | 11.7 | -12 29.0 | -15.1 | 58.3 |
| | 10 | 328 39.6 | 15 25.4 | 134 46.6 | 11.8 | -12 13.9 | -15.2 | 58.3 |
| | 11 | 343 39.7 | 15 24.7 | 149 17.3 | 11.8 | -11 58.7 | -15.2 | 58.3 |
| | 12 | 358 39.8 | 15 23.9 | 163 48.1 | 11.8 | -11 43.5 | -15.3 | 58.3 |
| | 13 | 13 39.9 | 15 23.2 | 178 19.0 | 11.9 | -11 28.2 | -15.4 | 58.4 |
| | 14 | 28 40.0 | 15 22.4 | 192 49.8 | 11.9 | -11 12.8 | -15.4 | 58.4 |
| | 15 | 43 40.1 | 15 21.7 | 207 20.7 | 11.9 | -10 57.4 | -15.5 | 58.4 |
| | 16 | 58 40.2 | 15 21.0 | 221 51.7 | 12.0 | -10 41.9 | -15.6 | 58.4 |
| | 17 | 73 40.3 | 15 20.2 | 236 22.6 | 12.0 | -10 26.3 | -15.6 | 58.4 |
| | 18 | 88 40.4 | 15 19.5 | 250 53.6 | 12.0 | -10 10.7 | -15.7 | 58.5 |
| | 19 | 103 40.5 | 15 18.8 | 265 24.7 | 12.1 | -9 55.0 | -15.7 | 58.5 |
| | 20 | 118 40.6 | 15 18.0 | 279 55.7 | 12.1 | -9 39.3 | -15.8 | 58.5 |
| | 21 | 133 40.7 | 15 17.3 | 294 26.8 | 12.1 | -9 23.5 | -15.9 | 58.5 |
| | 22 | 148 40.8 | 15 16.5 | 308 58.0 | 12.2 | -9 7.6 | -15.9 | 58.5 |
| | 23 | 163 40.9 | 15 15.8 | 323 29.1 | 12.2 | -8 51.7 | -16.0 | 58.6 |
| | | *v* 0.1 | SD 15.8 | *d* -0.7 | | SD 15.8 | | |

| | Twilight | | | Twilight | |
|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 01:27 | 22:35 | //// | //// |
| 70 | //// | //// | 02:18 | 21:48 | //// | //// |
| 68 | //// | //// | 02:50 | 21:18 | 23:37 | //// |
| 66 | //// | 01:40 | 03:13 | 20:56 | 22:25 | //// |
| 64 | //// | 02:17 | 03:31 | 20:38 | 21:50 | //// |
| 62 | //// | 02:43 | 03:46 | 20:24 | 21:26 | 23:40 |
| 60 | 01:30 | 03:02 | 03:58 | 20:12 | 21:06 | 22:36 |
| 58 | 02:04 | 03:18 | 04:08 | 20:01 | 20:51 | 22:04 |
| 56 | 02:28 | 03:32 | 04:18 | 19:52 | 20:38 | 21:41 |
| 54 | 02:46 | 03:43 | 04:26 | 19:44 | 20:26 | 21:23 |
| 52 | 03:01 | 03:53 | 04:33 | 19:37 | 20:16 | 21:08 |
| 50 | 03:14 | 04:02 | 04:40 | 19:31 | 20:08 | 20:55 |
| 45 | 03:40 | 04:21 | 04:54 | 19:17 | 19:50 | 20:30 |
| 40 | 03:59 | 04:35 | 05:05 | 19:06 | 19:35 | 20:11 |
| 35 | 04:15 | 04:48 | 05:15 | 18:56 | 19:23 | 19:56 |
| 30 | 04:27 | 04:58 | 05:23 | 18:48 | 19:13 | 19:43 |
| 20 | 04:47 | 05:15 | 05:38 | 18:33 | 18:56 | 19:24 |
| 10 | 05:03 | 05:29 | 05:51 | 18:21 | 18:43 | 19:08 |
| 0 | 05:16 | 05:41 | 06:02 | 18:09 | 18:31 | 18:56 |
| -10 | 05:27 | 05:52 | 06:14 | 17:58 | 18:19 | 18:45 |
| -20 | 05:37 | 06:03 | 06:26 | 17:45 | 18:08 | 18:35 |
| -30 | 05:46 | 06:15 | 06:40 | 17:32 | 17:57 | 18:25 |
| -35 | 05:51 | 06:21 | 06:48 | 17:24 | 17:50 | 18:20 |
| -40 | 05:56 | 06:28 | 06:57 | 17:15 | 17:43 | 18:15 |
| -45 | 06:02 | 06:36 | 07:07 | 17:04 | 17:35 | 18:10 |
| -50 | 06:07 | 06:46 | 07:20 | 16:52 | 17:26 | 18:05 |
| -52 | 06:10 | 06:50 | 07:26 | 16:46 | 17:22 | 18:02 |
| -54 | 06:12 | 06:54 | 07:32 | 16:39 | 17:18 | 18:00 |
| -56 | 06:15 | 06:59 | 07:40 | 16:32 | 17:13 | 17:57 |
| -58 | 06:18 | 07:05 | 07:48 | 16:24 | 17:07 | 17:55 |
| -60 | 06:21 | 07:11 | 07:57 | 16:15 | 17:01 | 17:52 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **08** | **09** | **10** | **08** | **09** | **10** |
| 72 | ▬ | 22:25 | 21:26 | ▬ | –:– | 03:28 |
| 70 | ▬ | 21:53 | 21:12 | ▬ | –:– | 03:58 |
| 68 | 22:18 | 21:29 | 21:01 | –:– | 01:46 | 04:20 |
| 66 | 21:38 | 21:10 | 20:51 | –:– | 02:25 | 04:37 |
| 64 | 21:10 | 20:54 | 20:43 | 00:35 | 02:52 | 04:51 |
| 62 | 20:48 | 20:42 | 20:36 | 01:16 | 03:13 | 05:03 |
| 60 | 20:30 | 20:31 | 20:30 | 01:44 | 03:30 | 05:13 |
| 58 | 20:15 | 20:21 | 20:25 | 02:05 | 03:44 | 05:21 |
| 56 | 20:02 | 20:13 | 20:20 | 02:23 | 03:56 | 05:28 |
| 54 | 19:51 | 20:05 | 20:16 | 02:38 | 04:06 | 05:35 |
| 52 | 19:41 | 19:58 | 20:12 | 02:50 | 04:15 | 05:41 |
| 50 | 19:32 | 19:52 | 20:08 | 03:02 | 04:23 | 05:46 |
| 45 | 19:14 | 19:39 | 20:00 | 03:25 | 04:41 | 05:58 |
| 40 | 18:58 | 19:28 | 19:54 | 03:44 | 04:55 | 06:07 |
| 35 | 18:45 | 19:18 | 19:48 | 03:59 | 05:07 | 06:15 |
| 30 | 18:33 | 19:10 | 19:43 | 04:12 | 05:17 | 06:22 |
| 20 | 18:14 | 18:56 | 19:34 | 04:35 | 05:35 | 06:34 |
| 10 | 17:56 | 18:43 | 19:27 | 04:55 | 05:50 | 06:45 |
| 0 | 17:40 | 18:31 | 19:20 | 05:13 | 06:05 | 06:54 |
| -10 | 17:24 | 18:19 | 19:12 | 05:31 | 06:19 | 07:04 |
| -20 | 17:06 | 18:06 | 19:05 | 05:50 | 06:34 | 07:14 |
| -30 | 16:46 | 17:51 | 18:56 | 06:12 | 06:51 | 07:26 |
| -35 | 16:34 | 17:43 | 18:51 | 06:25 | 07:01 | 07:32 |
| -40 | 16:21 | 17:33 | 18:45 | 06:40 | 07:12 | 07:40 |
| -45 | 16:04 | 17:21 | 18:38 | 06:57 | 07:25 | 07:48 |
| -50 | 15:44 | 17:07 | 18:30 | 07:19 | 07:41 | 07:59 |
| -52 | 15:35 | 17:00 | 18:26 | 07:29 | 07:48 | 08:03 |
| -54 | 15:24 | 16:53 | 18:21 | 07:40 | 07:57 | 08:09 |
| -56 | 15:12 | 16:45 | 18:17 | 07:53 | 08:06 | 08:14 |
| -58 | 14:57 | 16:35 | 18:11 | 08:08 | 08:16 | 08:21 |
| -60 | 14:40 | 16:24 | 18:06 | 08:26 | 08:28 | 08:28 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **08** | 05:43 | 05:38 | 12:06 | 23:53 | 11:27 | 14 | 98 |
| **09** | 05:34 | 05:30 | 12:06 | –:– | 12:18 | 15 | 100 |
| **10** | 05:25 | 05:21 | 12:05 | 00:43 | 13:07 | 16 | 99 |

## 2025 August 11, 12, 13 (Mon, Tue, Wed)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -1.9 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 11 Monday | 0 | 319 42.9 | 216 6.1 | 21 51.1 | 137 12.7 | -0 32.8 | 214 43.4 | 22 39.4 | 317 36.2 | -1 43.0 |
| | 1 | 334 45.3 | 231 5.4 | 21 51.0 | 152 13.7 | -0 33.4 | 229 45.3 | 22 39.3 | 332 38.8 | -1 43.0 |
| | 2 | 349 47.8 | 246 4.7 | 21 50.8 | 167 14.8 | -0 34.1 | 244 47.2 | 22 39.3 | 347 41.4 | -1 43.1 |
| | 3 | 4 50.3 | 261 4.0 | 21 50.7 | 182 15.8 | -0 34.7 | 259 49.1 | 22 39.3 | 2 43.9 | -1 43.1 |
| | 4 | 19 52.7 | 276 3.3 | 21 50.5 | 197 16.8 | -0 35.4 | 274 51.0 | 22 39.2 | 17 46.5 | -1 43.2 |
| | 5 | 34 55.2 | 291 2.7 | 21 50.4 | 212 17.9 | -0 36.0 | 289 52.9 | 22 39.2 | 32 49.1 | -1 43.2 |
| | 6 | 49 57.6 | 306 2.0 | 21 50.3 | 227 18.9 | -0 36.7 | 304 54.8 | 22 39.1 | 47 51.6 | -1 43.3 |
| | 7 | 65 0.1 | 321 1.3 | 21 50.1 | 242 19.9 | -0 37.3 | 319 56.7 | 22 39.1 | 62 54.2 | -1 43.3 |
| | 8 | 80 2.6 | 336 0.6 | 21 50.0 | 257 21.0 | -0 38.0 | 334 58.7 | 22 39.0 | 77 56.8 | -1 43.4 |
| | 9 | 95 5.0 | 350 59.9 | 21 49.8 | 272 22.0 | -0 38.6 | 350 0.6 | 22 39.0 | 92 59.3 | -1 43.5 |
| | 10 | 110 7.5 | 5 59.2 | 21 49.7 | 287 23.1 | -0 39.3 | 5 2.5 | 22 38.9 | 108 1.9 | -1 43.5 |
| | 11 | 125 10.0 | 20 58.5 | 21 49.5 | 302 24.1 | -0 39.9 | 20 4.4 | 22 38.9 | 123 4.5 | -1 43.6 |
| | 12 | 140 12.4 | 35 57.8 | 21 49.4 | 317 25.1 | -0 40.6 | 35 6.3 | 22 38.8 | 138 7.0 | -1 43.6 |
| | 13 | 155 14.9 | 50 57.1 | 21 49.2 | 332 26.2 | -0 41.2 | 50 8.2 | 22 38.8 | 153 9.6 | -1 43.7 |
| | 14 | 170 17.4 | 65 56.4 | 21 49.1 | 347 27.2 | -0 41.9 | 65 10.1 | 22 38.7 | 168 12.2 | -1 43.7 |
| | 15 | 185 19.8 | 80 55.7 | 21 48.9 | 2 28.2 | -0 42.5 | 80 12.0 | 22 38.7 | 183 14.7 | -1 43.8 |
| | 16 | 200 22.3 | 95 55.0 | 21 48.7 | 17 29.3 | -0 43.2 | 95 13.9 | 22 38.6 | 198 17.3 | -1 43.8 |
| | 17 | 215 24.8 | 110 54.3 | 21 48.6 | 32 30.3 | -0 43.8 | 110 15.9 | 22 38.6 | 213 19.9 | -1 43.9 |
| | 18 | 230 27.2 | 125 53.6 | 21 48.4 | 47 31.3 | -0 44.5 | 125 17.8 | 22 38.5 | 228 22.4 | -1 43.9 |
| | 19 | 245 29.7 | 140 52.9 | 21 48.3 | 62 32.4 | -0 45.1 | 140 19.7 | 22 38.5 | 243 25.0 | -1 44.0 |
| | 20 | 260 32.1 | 155 52.2 | 21 48.1 | 77 33.4 | -0 45.8 | 155 21.6 | 22 38.4 | 258 27.6 | -1 44.1 |
| | 21 | 275 34.6 | 170 51.5 | 21 47.9 | 92 34.5 | -0 46.4 | 170 23.5 | 22 38.4 | 273 30.1 | -1 44.1 |
| | 22 | 290 37.1 | 185 50.8 | 21 47.8 | 107 35.5 | -0 47.1 | 185 25.4 | 22 38.3 | 288 32.7 | -1 44.2 |
| | 23 | 305 39.5 | 200 50.1 | 21 47.6 | 122 36.5 | -0 47.7 | 200 27.3 | 22 38.3 | 303 35.3 | -1 44.2 |
| | | MP 02:42 | *v* -0.7 | *d* -0.1 | *v* 1.0 | *d* 0.6 | *v* 1.9 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 Tuesday | 0 | 320 42.0 | 215 49.4 | 21 47.5 | 137 37.6 | -0 48.4 | 215 29.2 | 22 38.2 | 318 37.8 | -1 44.3 |
| | 1 | 335 44.5 | 230 48.7 | 21 47.3 | 152 38.6 | -0 49.0 | 230 31.2 | 22 38.2 | 333 40.4 | -1 44.3 |
| | 2 | 350 46.9 | 245 48.0 | 21 47.1 | 167 39.6 | -0 49.7 | 245 33.1 | 22 38.1 | 348 43.0 | -1 44.4 |
| | 3 | 5 49.4 | 260 47.4 | 21 46.9 | 182 40.7 | -0 50.3 | 260 35.0 | 22 38.1 | 3 45.5 | -1 44.4 |
| | 4 | 20 51.9 | 275 46.7 | 21 46.8 | 197 41.7 | -0 51.0 | 275 36.9 | 22 38.0 | 18 48.1 | -1 44.5 |
| | 5 | 35 54.3 | 290 46.0 | 21 46.6 | 212 42.7 | -0 51.6 | 290 38.8 | 22 38.0 | 33 50.7 | -1 44.6 |
| | 6 | 50 56.8 | 305 45.3 | 21 46.4 | 227 43.8 | -0 52.3 | 305 40.7 | 22 37.9 | 48 53.2 | -1 44.6 |
| | 7 | 65 59.2 | 320 44.6 | 21 46.3 | 242 44.8 | -0 52.9 | 320 42.6 | 22 37.9 | 63 55.8 | -1 44.7 |
| | 8 | 81 1.7 | 335 43.9 | 21 46.1 | 257 45.8 | -0 53.6 | 335 44.6 | 22 37.8 | 78 58.4 | -1 44.7 |
| | 9 | 96 4.2 | 350 43.2 | 21 45.9 | 272 46.9 | -0 54.2 | 350 46.5 | 22 37.8 | 94 1.0 | -1 44.8 |
| | 10 | 111 6.6 | 5 42.5 | 21 45.7 | 287 47.9 | -0 54.9 | 5 48.4 | 22 37.7 | 109 3.5 | -1 44.8 |
| | 11 | 126 9.1 | 20 41.8 | 21 45.6 | 302 49.0 | -0 55.5 | 20 50.3 | 22 37.7 | 124 6.1 | -1 44.9 |
| | 12 | 141 11.6 | 35 41.1 | 21 45.4 | 317 50.0 | -0 56.2 | 35 52.2 | 22 37.6 | 139 8.7 | -1 44.9 |
| | 13 | 156 14.0 | 50 40.4 | 21 45.2 | 332 51.0 | -0 56.8 | 50 54.1 | 22 37.6 | 154 11.2 | -1 45.0 |
| | 14 | 171 16.5 | 65 39.7 | 21 45.0 | 347 52.1 | -0 57.5 | 65 56.0 | 22 37.5 | 169 13.8 | -1 45.1 |
| | 15 | 186 19.0 | 80 39.0 | 21 44.9 | 2 53.1 | -0 58.1 | 80 58.0 | 22 37.5 | 184 16.4 | -1 45.1 |
| | 16 | 201 21.4 | 95 38.3 | 21 44.7 | 17 54.1 | -0 58.8 | 95 59.9 | 22 37.4 | 199 18.9 | -1 45.2 |
| | 17 | 216 23.9 | 110 37.6 | 21 44.5 | 32 55.2 | -0 59.4 | 111 1.8 | 22 37.4 | 214 21.5 | -1 45.2 |
| | 18 | 231 26.4 | 125 36.9 | 21 44.3 | 47 56.2 | -1 0.1 | 126 3.7 | 22 37.3 | 229 24.1 | -1 45.3 |
| | 19 | 246 28.8 | 140 36.2 | 21 44.1 | 62 57.2 | -1 0.7 | 141 5.6 | 22 37.3 | 244 26.7 | -1 45.3 |
| | 20 | 261 31.3 | 155 35.5 | 21 43.9 | 77 58.3 | -1 1.4 | 156 7.5 | 22 37.2 | 259 29.2 | -1 45.4 |
| | 21 | 276 33.7 | 170 34.8 | 21 43.7 | 92 59.3 | -1 2.0 | 171 9.5 | 22 37.2 | 274 31.8 | -1 45.4 |
| | 22 | 291 36.2 | 185 34.1 | 21 43.6 | 108 0.3 | -1 2.7 | 186 11.4 | 22 37.1 | 289 34.4 | -1 45.5 |
| | 23 | 306 38.7 | 200 33.4 | 21 43.4 | 123 1.4 | -1 3.3 | 201 13.3 | 22 37.1 | 304 36.9 | -1 45.6 |
| | | MP 02:38 | *v* -0.7 | *d* -0.2 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 Wednesday | 0 | 321 41.1 | 215 32.7 | 21 43.2 | 138 2.4 | -1 4.0 | 216 15.2 | 22 37.0 | 319 39.5 | -1 45.6 |
| | 1 | 336 43.6 | 230 32.0 | 21 43.0 | 153 3.4 | -1 4.6 | 231 17.1 | 22 37.0 | 334 42.1 | -1 45.7 |
| | 2 | 351 46.1 | 245 31.3 | 21 42.8 | 168 4.5 | -1 5.3 | 246 19.0 | 22 36.9 | 349 44.7 | -1 45.7 |
| | 3 | 6 48.5 | 260 30.6 | 21 42.6 | 183 5.5 | -1 5.9 | 261 20.9 | 22 36.9 | 4 47.2 | -1 45.8 |
| | 4 | 21 51.0 | 275 29.9 | 21 42.4 | 198 6.5 | -1 6.6 | 276 22.9 | 22 36.8 | 19 49.8 | -1 45.8 |
| | 5 | 36 53.5 | 290 29.2 | 21 42.2 | 213 7.6 | -1 7.2 | 291 24.8 | 22 36.8 | 34 52.4 | -1 45.9 |
| | 6 | 51 55.9 | 305 28.5 | 21 42.0 | 228 8.6 | -1 7.9 | 306 26.7 | 22 36.7 | 49 54.9 | -1 46.0 |
| | 7 | 66 58.4 | 320 27.8 | 21 41.8 | 243 9.6 | -1 8.5 | 321 28.6 | 22 36.7 | 64 57.5 | -1 46.0 |
| | 8 | 82 0.8 | 335 27.1 | 21 41.6 | 258 10.6 | -1 9.2 | 336 30.5 | 22 36.6 | 80 0.1 | -1 46.1 |
| | 9 | 97 3.3 | 350 26.5 | 21 41.4 | 273 11.7 | -1 9.8 | 351 32.4 | 22 36.6 | 95 2.7 | -1 46.1 |
| | 10 | 112 5.8 | 5 25.8 | 21 41.2 | 288 12.7 | -1 10.5 | 6 34.4 | 22 36.5 | 110 5.2 | -1 46.2 |
| | 11 | 127 8.2 | 20 25.1 | 21 41.0 | 303 13.7 | -1 11.1 | 21 36.3 | 22 36.5 | 125 7.8 | -1 46.2 |
| | 12 | 142 10.7 | 35 24.4 | 21 40.8 | 318 14.8 | -1 11.8 | 36 38.2 | 22 36.4 | 140 10.4 | -1 46.3 |
| | 13 | 157 13.2 | 50 23.7 | 21 40.6 | 333 15.8 | -1 12.4 | 51 40.1 | 22 36.4 | 155 13.0 | -1 46.4 |
| | 14 | 172 15.6 | 65 23.0 | 21 40.4 | 348 16.8 | -1 13.1 | 66 42.0 | 22 36.3 | 170 15.5 | -1 46.4 |
| | 15 | 187 18.1 | 80 22.3 | 21 40.2 | 3 17.9 | -1 13.7 | 81 44.0 | 22 36.3 | 185 18.1 | -1 46.5 |
| | 16 | 202 20.6 | 95 21.6 | 21 40.0 | 18 18.9 | -1 14.4 | 96 45.9 | 22 36.2 | 200 20.7 | -1 46.5 |
| | 17 | 217 23.0 | 110 20.9 | 21 39.8 | 33 19.9 | -1 15.0 | 111 47.8 | 22 36.2 | 215 23.3 | -1 46.6 |
| | 18 | 232 25.5 | 125 20.2 | 21 39.6 | 48 21.0 | -1 15.7 | 126 49.7 | 22 36.1 | 230 25.8 | -1 46.6 |
| | 19 | 247 28.0 | 140 19.5 | 21 39.4 | 63 22.0 | -1 16.4 | 141 51.6 | 22 36.1 | 245 28.4 | -1 46.7 |
| | 20 | 262 30.4 | 155 18.8 | 21 39.2 | 78 23.0 | -1 17.0 | 156 53.5 | 22 36.0 | 260 31.0 | -1 46.8 |
| | 21 | 277 32.9 | 170 18.1 | 21 39.0 | 93 24.1 | -1 17.7 | 171 55.5 | 22 36.0 | 275 33.6 | -1 46.8 |
| | 22 | 292 35.3 | 185 17.4 | 21 38.7 | 108 25.1 | -1 18.3 | 186 57.4 | 22 35.9 | 290 36.1 | -1 46.9 |
| | 23 | 307 37.8 | 200 16.7 | 21 38.5 | 123 26.1 | -1 19.0 | 201 59.3 | 22 35.9 | 305 38.7 | -1 46.9 |
| | | MP 02:34 | *v* -0.7 | *d* -0.2 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.4 | -40 11.8 |
| Achernar | 335 19.6 | -57 6.0 |
| Acrux | 173 0.0 | -63 14.7 |
| Adhara | 255 5.8 | -29 0.2 |
| Aldebaran | 290 39.2 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.5 |
| Alkaid | 152 51.7 | 49 11.4 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.4 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.3 | 26 37.9 |
| Alpheratz | 357 34.0 | 29 13.9 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.3 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.6 | -69 4.6 |
| Avior | 234 15.2 | -59 35.3 |
| Bellatrix | 278 22.5 | 6 22.5 |
| Betelgeuse | 270 51.8 | 7 24.8 |
| Canopus | 263 52.6 | -52 42.3 |
| Capella | 280 21.4 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.4 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.6 | -17 50.6 |
| Dubhe | 193 40.9 | 61 36.9 |
| Elnath | 278 1.4 | 28 37.7 |
| Eltanin | 90 41.6 | 51 29.3 |
| Enif | 33 38.0 | 9 59.6 |
| Fomalhaut | 15 13.6 | -29 29.0 |
| Gacrux | 171 51.5 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.1 |
| Hadar | 148 35.5 | -60 30.0 |
| Hamal | 327 50.5 | 23 35.0 |
| Kaus Aust. | 83 31.5 | -34 22.4 |
| Kochab | 137 19.8 | 74 3.3 |
| Markab | 13 29.1 | 15 20.7 |
| Menkar | 314 5.6 | 4 11.5 |
| Menkent | 147 57.1 | -36 29.9 |
| Miaplacidus | 221 39.2 | -69 49.3 |
| Mirfak | 308 27.6 | 49 57.0 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.3 | -56 39.1 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.6 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.6 | -8 10.1 |
| Rigil Kent. | 139 39.7 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.1 | 56 40.5 |
| Shaula | 96 9.4 | -37 7.4 |
| Sirius | 258 26.1 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.1 |
| Vega | 80 32.6 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 11 Mon | SHA | MP |
|---|---|---|
| Venus | 256 23.3 | 09:36 |
| Mars | 177 29.8 | 14:50 |
| Jupiter | 255 0.5 | 09:40 |
| Saturn | 357 53.4 | 02:49 |

| 12 Tue | SHA | MP |
|---|---|---|
| Venus | 255 7.4 | 09:37 |
| Mars | 176 55.6 | 14:48 |
| Jupiter | 254 47.2 | 09:37 |
| Saturn | 357 55.8 | 02:45 |

| 13 Wed | SHA | MP |
|---|---|---|
| Venus | 253 51.6 | 09:38 |
| Mars | 176 21.3 | 14:47 |
| Jupiter | 254 34.1 | 09:34 |
| Saturn | 357 58.4 | 02:41 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **11 Monday** | 0 | 178 41.0 | 15 15.1 | 338 0.3 | 12.2 | -8 35.7 | -16.0 | 58.6 |
| | 1 | 193 41.1 | 15 14.3 | 352 31.5 | 12.2 | -8 19.7 | -16.1 | 58.6 |
| | 2 | 208 41.2 | 15 13.6 | 7 2.7 | 12.3 | -8 3.6 | -16.1 | 58.6 |
| | 3 | 223 41.3 | 15 12.8 | 21 34.0 | 12.3 | -7 47.5 | -16.2 | 58.6 |
| | 4 | 238 41.4 | 15 12.1 | 36 5.3 | 12.3 | -7 31.4 | -16.2 | 58.6 |
| | 5 | 253 41.5 | 15 11.3 | 50 36.5 | 12.3 | -7 15.1 | -16.3 | 58.7 |
| | 6 | 268 41.6 | 15 10.6 | 65 7.9 | 12.3 | -6 58.9 | -16.3 | 58.7 |
| | 7 | 283 41.7 | 15 9.9 | 79 39.2 | 12.4 | -6 42.6 | -16.3 | 58.7 |
| | 8 | 298 41.8 | 15 9.1 | 94 10.6 | 12.4 | -6 26.3 | -16.4 | 58.7 |
| | 9 | 313 41.9 | 15 8.4 | 108 41.9 | 12.4 | -6 9.9 | -16.4 | 58.7 |
| | 10 | 328 42.0 | 15 7.6 | 123 13.3 | 12.4 | -5 53.5 | -16.5 | 58.7 |
| | 11 | 343 42.1 | 15 6.9 | 137 44.7 | 12.4 | -5 37.0 | -16.5 | 58.8 |
| | 12 | 358 42.2 | 15 6.1 | 152 16.2 | 12.4 | -5 20.5 | -16.5 | 58.8 |
| | 13 | 13 42.3 | 15 5.4 | 166 47.6 | 12.4 | -5 4.0 | -16.6 | 58.8 |
| | 14 | 28 42.4 | 15 4.6 | 181 19.0 | 12.5 | -4 47.5 | -16.6 | 58.8 |
| | 15 | 43 42.5 | 15 3.9 | 195 50.5 | 12.5 | -4 30.9 | -16.6 | 58.8 |
| | 16 | 58 42.6 | 15 3.1 | 210 22.0 | 12.5 | -4 14.3 | -16.6 | 58.8 |
| | 17 | 73 42.7 | 15 2.4 | 224 53.4 | 12.5 | -3 57.6 | -16.7 | 58.9 |
| | 18 | 88 42.8 | 15 1.6 | 239 24.9 | 12.5 | -3 40.9 | -16.7 | 58.9 |
| | 19 | 103 42.9 | 15 0.9 | 253 56.4 | 12.5 | -3 24.2 | -16.7 | 58.9 |
| | 20 | 118 43.0 | 15 0.1 | 268 27.9 | 12.5 | -3 7.5 | -16.7 | 58.9 |
| | 21 | 133 43.1 | 14 59.4 | 282 59.4 | 12.5 | -2 50.8 | -16.8 | 58.9 |
| | 22 | 148 43.3 | 14 58.6 | 297 30.9 | 12.5 | -2 34.0 | -16.8 | 58.9 |
| | 23 | 163 43.4 | 14 57.9 | 312 2.4 | 12.5 | -2 17.2 | -16.8 | 58.9 |
| | *v* | 0.1 | SD 15.8 | *d* -0.7 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **12 Tuesday** | 0 | 178 43.5 | 14 57.1 | 326 33.9 | 12.5 | -2 0.4 | -16.8 | 59.0 |
| | 1 | 193 43.6 | 14 56.4 | 341 5.4 | 12.5 | -1 43.6 | -16.8 | 59.0 |
| | 2 | 208 43.7 | 14 55.6 | 355 36.9 | 12.5 | -1 26.8 | -16.8 | 59.0 |
| | 3 | 223 43.8 | 14 54.9 | 10 8.4 | 12.5 | -1 9.9 | -16.9 | 59.0 |
| | 4 | 238 43.9 | 14 54.1 | 24 39.9 | 12.5 | -0 53.1 | -16.9 | 59.0 |
| | 5 | 253 44.0 | 14 53.4 | 39 11.4 | 12.5 | -0 36.2 | -16.9 | 59.0 |
| | 6 | 268 44.1 | 14 52.6 | 53 42.8 | 12.5 | -0 19.3 | -16.9 | 59.0 |
| | 7 | 283 44.2 | 14 51.9 | 68 14.3 | 12.5 | -0 2.5 | 16.9 | 59.0 |
| | 8 | 298 44.3 | 14 51.1 | 82 45.8 | 12.4 | 0 14.4 | 16.9 | 59.1 |
| | 9 | 313 44.4 | 14 50.4 | 97 17.2 | 12.4 | 0 31.3 | 16.9 | 59.1 |
| | 10 | 328 44.5 | 14 49.6 | 111 48.6 | 12.4 | 0 48.2 | 16.9 | 59.1 |
| | 11 | 343 44.7 | 14 48.8 | 126 20.0 | 12.4 | 1 5.1 | 16.9 | 59.1 |
| | 12 | 358 44.8 | 14 48.1 | 140 51.5 | 12.4 | 1 22.0 | 16.9 | 59.1 |
| | 13 | 13 44.9 | 14 47.3 | 155 22.8 | 12.4 | 1 38.9 | 16.9 | 59.1 |
| | 14 | 28 45.0 | 14 46.6 | 169 54.2 | 12.4 | 1 55.8 | 16.9 | 59.1 |
| | 15 | 43 45.1 | 14 45.8 | 184 25.6 | 12.3 | 2 12.7 | 16.9 | 59.1 |
| | 16 | 58 45.2 | 14 45.1 | 198 56.9 | 12.3 | 2 29.6 | 16.9 | 59.1 |
| | 17 | 73 45.3 | 14 44.3 | 213 28.2 | 12.3 | 2 46.4 | 16.9 | 59.1 |
| | 18 | 88 45.4 | 14 43.5 | 227 59.5 | 12.3 | 3 3.3 | 16.9 | 59.2 |
| | 19 | 103 45.5 | 14 42.8 | 242 30.8 | 12.2 | 3 20.2 | 16.8 | 59.2 |
| | 20 | 118 45.6 | 14 42.0 | 257 2.0 | 12.2 | 3 37.0 | 16.8 | 59.2 |
| | 21 | 133 45.8 | 14 41.3 | 271 33.2 | 12.2 | 3 53.8 | 16.8 | 59.2 |
| | 22 | 148 45.9 | 14 40.5 | 286 4.4 | 12.2 | 4 10.6 | 16.8 | 59.2 |
| | 23 | 163 46.0 | 14 39.7 | 300 35.5 | 12.1 | 4 27.4 | 16.8 | 59.2 |
| | *v* | 0.1 | SD 15.8 | *d* -0.8 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **13 Wednesday** | 0 | 178 46.1 | 14 39.0 | 315 6.7 | 12.1 | 4 44.2 | 16.8 | 59.2 |
| | 1 | 193 46.2 | 14 38.2 | 329 37.8 | 12.1 | 5 1.0 | 16.7 | 59.2 |
| | 2 | 208 46.3 | 14 37.5 | 344 8.8 | 12.0 | 5 17.7 | 16.7 | 59.2 |
| | 3 | 223 46.4 | 14 36.7 | 358 39.8 | 12.0 | 5 34.4 | 16.7 | 59.2 |
| | 4 | 238 46.5 | 14 35.9 | 13 10.8 | 12.0 | 5 51.1 | 16.7 | 59.2 |
| | 5 | 253 46.7 | 14 35.2 | 27 41.8 | 11.9 | 6 7.8 | 16.6 | 59.2 |
| | 6 | 268 46.8 | 14 34.4 | 42 12.7 | 11.9 | 6 24.4 | 16.6 | 59.3 |
| | 7 | 283 46.9 | 14 33.6 | 56 43.6 | 11.8 | 6 41.0 | 16.6 | 59.3 |
| | 8 | 298 47.0 | 14 32.9 | 71 14.4 | 11.8 | 6 57.6 | 16.5 | 59.3 |
| | 9 | 313 47.1 | 14 32.1 | 85 45.2 | 11.8 | 7 14.1 | 16.5 | 59.3 |
| | 10 | 328 47.2 | 14 31.4 | 100 16.0 | 11.7 | 7 30.6 | 16.5 | 59.3 |
| | 11 | 343 47.3 | 14 30.6 | 114 46.7 | 11.7 | 7 47.1 | 16.4 | 59.3 |
| | 12 | 358 47.5 | 14 29.8 | 129 17.3 | 11.6 | 8 3.5 | 16.4 | 59.3 |
| | 13 | 13 47.6 | 14 29.1 | 143 47.9 | 11.6 | 8 19.9 | 16.4 | 59.3 |
| | 14 | 28 47.7 | 14 28.3 | 158 18.5 | 11.5 | 8 36.3 | 16.3 | 59.3 |
| | 15 | 43 47.8 | 14 27.5 | 172 49.0 | 11.5 | 8 52.6 | 16.3 | 59.3 |
| | 16 | 58 47.9 | 14 26.8 | 187 19.5 | 11.4 | 9 8.9 | 16.2 | 59.3 |
| | 17 | 73 48.0 | 14 26.0 | 201 49.9 | 11.4 | 9 25.1 | 16.2 | 59.3 |
| | 18 | 88 48.1 | 14 25.2 | 216 20.3 | 11.3 | 9 41.3 | 16.1 | 59.3 |
| | 19 | 103 48.3 | 14 24.4 | 230 50.6 | 11.3 | 9 57.4 | 16.1 | 59.3 |
| | 20 | 118 48.4 | 14 23.7 | 245 20.8 | 11.2 | 10 13.5 | 16.0 | 59.3 |
| | 21 | 133 48.5 | 14 22.9 | 259 51.0 | 11.1 | 10 29.5 | 16.0 | 59.3 |
| | 22 | 148 48.6 | 14 22.1 | 274 21.2 | 11.1 | 10 45.5 | 15.9 | 59.3 |
| | 23 | 163 48.7 | 14 21.4 | 288 51.2 | 11.0 | 11 1.4 | 15.9 | 59.3 |
| | *v* | 0.1 | SD 15.8 | *d* -0.8 | | SD 16.2 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 01:56 | 22:08 | //// | //// |
| 70 | //// | //// | 02:36 | 21:30 | //// | //// |
| 68 | //// | 01:08 | 03:03 | 21:04 | 22:53 | //// |
| 66 | //// | 02:00 | 03:24 | 20:44 | 22:05 | //// |
| 64 | //// | 02:31 | 03:40 | 20:28 | 21:36 | //// |
| 62 | 01:00 | 02:54 | 03:54 | 20:15 | 21:14 | 23:01 |
| 60 | 01:47 | 03:12 | 04:05 | 20:04 | 20:57 | 22:18 |
| 58 | 02:16 | 03:26 | 04:15 | 19:54 | 20:42 | 21:51 |
| 56 | 02:37 | 03:39 | 04:23 | 19:46 | 20:30 | 21:31 |
| 54 | 02:54 | 03:50 | 04:31 | 19:38 | 20:19 | 21:14 |
| 52 | 03:08 | 03:59 | 04:38 | 19:31 | 20:10 | 21:00 |
| 50 | 03:20 | 04:07 | 04:44 | 19:25 | 20:02 | 20:48 |
| 45 | 03:44 | 04:25 | 04:57 | 19:12 | 19:45 | 20:25 |
| 40 | 04:03 | 04:39 | 05:08 | 19:02 | 19:31 | 20:07 |
| 35 | 04:17 | 04:50 | 05:17 | 18:53 | 19:20 | 19:52 |
| 30 | 04:30 | 05:00 | 05:25 | 18:45 | 19:10 | 19:40 |
| 20 | 04:49 | 05:16 | 05:39 | 18:31 | 18:54 | 19:21 |
| 10 | 05:03 | 05:29 | 05:51 | 18:19 | 18:41 | 19:07 |
| 0 | 05:15 | 05:40 | 06:02 | 18:09 | 18:30 | 18:55 |
| -10 | 05:26 | 05:51 | 06:13 | 17:58 | 18:19 | 18:45 |
| -20 | 05:35 | 06:01 | 06:24 | 17:46 | 18:09 | 18:35 |
| -30 | 05:44 | 06:12 | 06:37 | 17:33 | 17:58 | 18:27 |
| -35 | 05:48 | 06:18 | 06:45 | 17:26 | 17:52 | 18:22 |
| -40 | 05:53 | 06:25 | 06:53 | 17:18 | 17:46 | 18:18 |
| -45 | 05:58 | 06:32 | 07:03 | 17:08 | 17:39 | 18:13 |
| -50 | 06:03 | 06:41 | 07:15 | 16:56 | 17:30 | 18:09 |
| -52 | 06:05 | 06:45 | 07:20 | 16:51 | 17:26 | 18:07 |
| -54 | 06:07 | 06:49 | 07:27 | 16:45 | 17:22 | 18:04 |
| -56 | 06:09 | 06:53 | 07:33 | 16:38 | 17:18 | 18:02 |
| -58 | 06:12 | 06:58 | 07:41 | 16:30 | 17:13 | 18:00 |
| -60 | 06:14 | 07:04 | 07:49 | 16:22 | 17:07 | 17:57 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **11** | **12** | **13** | **11** | **12** | **13** |
| 72 | 20:46 | 20:09 | 19:27 | 06:10 | 08:33 | 10:58 |
| 70 | 20:42 | 20:13 | 19:42 | 06:21 | 08:33 | 10:46 |
| 68 | 20:38 | 20:17 | 19:54 | 06:30 | 08:32 | 10:36 |
| 66 | 20:35 | 20:20 | 20:05 | 06:37 | 08:32 | 10:28 |
| 64 | 20:33 | 20:23 | 20:13 | 06:43 | 08:32 | 10:22 |
| 62 | 20:31 | 20:26 | 20:21 | 06:48 | 08:32 | 10:16 |
| 60 | 20:29 | 20:28 | 20:27 | 06:53 | 08:31 | 10:11 |
| 58 | 20:27 | 20:30 | 20:33 | 06:57 | 08:31 | 10:07 |
| 56 | 20:26 | 20:32 | 20:38 | 07:00 | 08:31 | 10:03 |
| 54 | 20:25 | 20:33 | 20:42 | 07:03 | 08:31 | 10:00 |
| 52 | 20:23 | 20:35 | 20:47 | 07:06 | 08:31 | 09:57 |
| 50 | 20:22 | 20:36 | 20:50 | 07:09 | 08:31 | 09:54 |
| 45 | 20:20 | 20:39 | 20:59 | 07:14 | 08:31 | 09:48 |
| 40 | 20:18 | 20:41 | 21:06 | 07:19 | 08:30 | 09:43 |
| 35 | 20:16 | 20:43 | 21:12 | 07:23 | 08:30 | 09:38 |
| 30 | 20:14 | 20:45 | 21:17 | 07:26 | 08:30 | 09:35 |
| 20 | 20:12 | 20:48 | 21:26 | 07:32 | 08:30 | 09:28 |
| 10 | 20:09 | 20:51 | 21:35 | 07:37 | 08:30 | 09:22 |
| 0 | 20:07 | 20:54 | 21:43 | 07:42 | 08:29 | 09:17 |
| -10 | 20:05 | 20:57 | 21:51 | 07:47 | 08:29 | 09:12 |
| -20 | 20:02 | 21:00 | 21:59 | 07:52 | 08:29 | 09:06 |
| -30 | 20:00 | 21:04 | 22:09 | 07:58 | 08:28 | 08:59 |
| -35 | 19:58 | 21:06 | 22:15 | 08:01 | 08:28 | 08:56 |
| -40 | 19:56 | 21:08 | 22:21 | 08:04 | 08:28 | 08:52 |
| -45 | 19:54 | 21:11 | 22:29 | 08:09 | 08:28 | 08:47 |
| -50 | 19:52 | 21:14 | 22:38 | 08:13 | 08:27 | 08:41 |
| -52 | 19:51 | 21:16 | 22:42 | 08:16 | 08:27 | 08:38 |
| -54 | 19:49 | 21:17 | 22:47 | 08:18 | 08:27 | 08:36 |
| -56 | 19:48 | 21:19 | 22:52 | 08:21 | 08:27 | 08:32 |
| -58 | 19:46 | 21:21 | 22:58 | 08:24 | 08:26 | 08:29 |
| -60 | 19:45 | 21:24 | 23:05 | 08:27 | 08:26 | 08:25 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **11** | 05:16 | 05:11 | 12:05 | 01:31 | 13:55 | 17 | 97 |
| **12** | 05:06 | 05:01 | 12:05 | 02:18 | 14:42 | 18 | 91 |
| **13** | 04:56 | 04:50 | 12:05 | 03:06 | 15:30 | 19 | 84 |

## 2025 August 14, 15, 16 (Thu, Fri, Sat)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -1.9 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 14 Thursday | 0 | 322 40.3 | 215 16.0 | 21 38.3 | 138 27.1 | -1 19.6 | 217 1.2 | 22 35.8 | 320 41.3 | -1 47.0 |
| | 1 | 337 42.7 | 230 15.3 | 21 38.1 | 153 28.2 | -1 20.3 | 232 3.1 | 22 35.8 | 335 43.8 | -1 47.0 |
| | 2 | 352 45.2 | 245 14.6 | 21 37.9 | 168 29.2 | -1 20.9 | 247 5.1 | 22 35.7 | 350 46.4 | -1 47.1 |
| | 3 | 7 47.7 | 260 13.9 | 21 37.7 | 183 30.2 | -1 21.6 | 262 7.0 | 22 35.7 | 5 49.0 | -1 47.2 |
| | 4 | 22 50.1 | 275 13.2 | 21 37.4 | 198 31.3 | -1 22.2 | 277 8.9 | 22 35.6 | 20 51.6 | -1 47.2 |
| | 5 | 37 52.6 | 290 12.5 | 21 37.2 | 213 32.3 | -1 22.9 | 292 10.8 | 22 35.6 | 35 54.1 | -1 47.3 |
| | 6 | 52 55.1 | 305 11.8 | 21 37.0 | 228 33.3 | -1 23.5 | 307 12.7 | 22 35.5 | 50 56.7 | -1 47.3 |
| | 7 | 67 57.5 | 320 11.1 | 21 36.8 | 243 34.4 | -1 24.2 | 322 14.7 | 22 35.5 | 65 59.3 | -1 47.4 |
| | 8 | 83 0.0 | 335 10.4 | 21 36.6 | 258 35.4 | -1 24.8 | 337 16.6 | 22 35.4 | 81 1.9 | -1 47.5 |
| | 9 | 98 2.5 | 350 9.7 | 21 36.3 | 273 36.4 | -1 25.5 | 352 18.5 | 22 35.4 | 96 4.5 | -1 47.5 |
| | 10 | 113 4.9 | 5 9.0 | 21 36.1 | 288 37.4 | -1 26.1 | 7 20.4 | 22 35.3 | 111 7.0 | -1 47.6 |
| | 11 | 128 7.4 | 20 8.3 | 21 35.9 | 303 38.5 | -1 26.8 | 22 22.3 | 22 35.3 | 126 9.6 | -1 47.6 |
| | 12 | 143 9.8 | 35 7.6 | 21 35.6 | 318 39.5 | -1 27.4 | 37 24.3 | 22 35.2 | 141 12.2 | -1 47.7 |
| | 13 | 158 12.3 | 50 6.9 | 21 35.4 | 333 40.5 | -1 28.1 | 52 26.2 | 22 35.2 | 156 14.8 | -1 47.7 |
| | 14 | 173 14.8 | 65 6.2 | 21 35.2 | 348 41.6 | -1 28.7 | 67 28.1 | 22 35.1 | 171 17.3 | -1 47.8 |
| | 15 | 188 17.2 | 80 5.5 | 21 35.0 | 3 42.6 | -1 29.4 | 82 30.0 | 22 35.1 | 186 19.9 | -1 47.9 |
| | 16 | 203 19.7 | 95 4.8 | 21 34.7 | 18 43.6 | -1 30.0 | 97 31.9 | 22 35.0 | 201 22.5 | -1 47.9 |
| | 17 | 218 22.2 | 110 4.1 | 21 34.5 | 33 44.6 | -1 30.7 | 112 33.9 | 22 35.0 | 216 25.1 | -1 48.0 |
| | 18 | 233 24.6 | 125 3.4 | 21 34.3 | 48 45.7 | -1 31.3 | 127 35.8 | 22 34.9 | 231 27.6 | -1 48.0 |
| | 19 | 248 27.1 | 140 2.7 | 21 34.0 | 63 46.7 | -1 32.0 | 142 37.7 | 22 34.9 | 246 30.2 | -1 48.1 |
| | 20 | 263 29.6 | 155 2.0 | 21 33.8 | 78 47.7 | -1 32.6 | 157 39.6 | 22 34.8 | 261 32.8 | -1 48.2 |
| | 21 | 278 32.0 | 170 1.3 | 21 33.6 | 93 48.7 | -1 33.3 | 172 41.5 | 22 34.8 | 276 35.4 | -1 48.2 |
| | 22 | 293 34.5 | 185 0.7 | 21 33.3 | 108 49.8 | -1 34.0 | 187 43.5 | 22 34.7 | 291 38.0 | -1 48.3 |
| | 23 | 308 36.9 | 200 0.0 | 21 33.1 | 123 50.8 | -1 34.6 | 202 45.4 | 22 34.7 | 306 40.5 | -1 48.3 |
| | | MP 02:30 | *v* -0.7 | *d* -0.2 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 Friday | 0 | 323 39.4 | 214 59.3 | 21 32.8 | 138 51.8 | -1 35.3 | 217 47.3 | 22 34.6 | 321 43.1 | -1 48.4 |
| | 1 | 338 41.9 | 229 58.6 | 21 32.6 | 153 52.9 | -1 35.9 | 232 49.2 | 22 34.6 | 336 45.7 | -1 48.4 |
| | 2 | 353 44.3 | 244 57.9 | 21 32.4 | 168 53.9 | -1 36.6 | 247 51.2 | 22 34.5 | 351 48.3 | -1 48.5 |
| | 3 | 8 46.8 | 259 57.2 | 21 32.1 | 183 54.9 | -1 37.2 | 262 53.1 | 22 34.5 | 6 50.8 | -1 48.6 |
| | 4 | 23 49.3 | 274 56.5 | 21 31.9 | 198 55.9 | -1 37.9 | 277 55.0 | 22 34.4 | 21 53.4 | -1 48.6 |
| | 5 | 38 51.7 | 289 55.8 | 21 31.6 | 213 57.0 | -1 38.5 | 292 56.9 | 22 34.4 | 36 56.0 | -1 48.7 |
| | 6 | 53 54.2 | 304 55.1 | 21 31.4 | 228 58.0 | -1 39.2 | 307 58.8 | 22 34.3 | 51 58.6 | -1 48.7 |
| | 7 | 68 56.7 | 319 54.4 | 21 31.1 | 243 59.0 | -1 39.8 | 323 0.8 | 22 34.3 | 67 1.2 | -1 48.8 |
| | 8 | 83 59.1 | 334 53.7 | 21 30.9 | 259 0.0 | -1 40.5 | 338 2.7 | 22 34.2 | 82 3.7 | -1 48.9 |
| | 9 | 99 1.6 | 349 53.0 | 21 30.6 | 274 1.1 | -1 41.1 | 353 4.6 | 22 34.1 | 97 6.3 | -1 48.9 |
| | 10 | 114 4.1 | 4 52.3 | 21 30.4 | 289 2.1 | -1 41.8 | 8 6.5 | 22 34.1 | 112 8.9 | -1 49.0 |
| | 11 | 129 6.5 | 19 51.6 | 21 30.1 | 304 3.1 | -1 42.4 | 23 8.5 | 22 34.0 | 127 11.5 | -1 49.0 |
| | 12 | 144 9.0 | 34 50.9 | 21 29.9 | 319 4.1 | -1 43.1 | 38 10.4 | 22 34.0 | 142 14.0 | -1 49.1 |
| | 13 | 159 11.4 | 49 50.2 | 21 29.6 | 334 5.2 | -1 43.7 | 53 12.3 | 22 33.9 | 157 16.6 | -1 49.2 |
| | 14 | 174 13.9 | 64 49.5 | 21 29.4 | 349 6.2 | -1 44.4 | 68 14.2 | 22 33.9 | 172 19.2 | -1 49.2 |
| | 15 | 189 16.4 | 79 48.8 | 21 29.1 | 4 7.2 | -1 45.0 | 83 16.1 | 22 33.8 | 187 21.8 | -1 49.3 |
| | 16 | 204 18.8 | 94 48.1 | 21 28.9 | 19 8.2 | -1 45.7 | 98 18.1 | 22 33.8 | 202 24.4 | -1 49.3 |
| | 17 | 219 21.3 | 109 47.4 | 21 28.6 | 34 9.3 | -1 46.3 | 113 20.0 | 22 33.7 | 217 26.9 | -1 49.4 |
| | 18 | 234 23.8 | 124 46.7 | 21 28.3 | 49 10.3 | -1 47.0 | 128 21.9 | 22 33.7 | 232 29.5 | -1 49.5 |
| | 19 | 249 26.2 | 139 46.0 | 21 28.1 | 64 11.3 | -1 47.7 | 143 23.8 | 22 33.6 | 247 32.1 | -1 49.5 |
| | 20 | 264 28.7 | 154 45.3 | 21 27.8 | 79 12.3 | -1 48.3 | 158 25.8 | 22 33.6 | 262 34.7 | -1 49.6 |
| | 21 | 279 31.2 | 169 44.6 | 21 27.6 | 94 13.4 | -1 49.0 | 173 27.7 | 22 33.5 | 277 37.3 | -1 49.6 |
| | 22 | 294 33.6 | 184 43.9 | 21 27.3 | 109 14.4 | -1 49.6 | 188 29.6 | 22 33.5 | 292 39.8 | -1 49.7 |
| | 23 | 309 36.1 | 199 43.2 | 21 27.0 | 124 15.4 | -1 50.3 | 203 31.5 | 22 33.4 | 307 42.4 | -1 49.8 |
| | | MP 02:26 | *v* -0.7 | *d* -0.2 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 Saturday | 0 | 324 38.6 | 214 42.5 | 21 26.8 | 139 16.4 | -1 50.9 | 218 33.5 | 22 33.4 | 322 45.0 | -1 49.8 |
| | 1 | 339 41.0 | 229 41.8 | 21 26.5 | 154 17.5 | -1 51.6 | 233 35.4 | 22 33.3 | 337 47.6 | -1 49.9 |
| | 2 | 354 43.5 | 244 41.1 | 21 26.2 | 169 18.5 | -1 52.2 | 248 37.3 | 22 33.3 | 352 50.2 | -1 49.9 |
| | 3 | 9 45.9 | 259 40.4 | 21 26.0 | 184 19.5 | -1 52.9 | 263 39.2 | 22 33.2 | 7 52.8 | -1 50.0 |
| | 4 | 24 48.4 | 274 39.7 | 21 25.7 | 199 20.5 | -1 53.5 | 278 41.2 | 22 33.2 | 22 55.3 | -1 50.1 |
| | 5 | 39 50.9 | 289 39.0 | 21 25.4 | 214 21.6 | -1 54.2 | 293 43.1 | 22 33.1 | 37 57.9 | -1 50.1 |
| | 6 | 54 53.3 | 304 38.3 | 21 25.1 | 229 22.6 | -1 54.8 | 308 45.0 | 22 33.1 | 53 0.5 | -1 50.2 |
| | 7 | 69 55.8 | 319 37.7 | 21 24.9 | 244 23.6 | -1 55.5 | 323 46.9 | 22 33.0 | 68 3.1 | -1 50.2 |
| | 8 | 84 58.3 | 334 37.0 | 21 24.6 | 259 24.6 | -1 56.1 | 338 48.9 | 22 33.0 | 83 5.7 | -1 50.3 |
| | 9 | 100 0.7 | 349 36.3 | 21 24.3 | 274 25.7 | -1 56.8 | 353 50.8 | 22 32.9 | 98 8.2 | -1 50.4 |
| | 10 | 115 3.2 | 4 35.6 | 21 24.1 | 289 26.7 | -1 57.4 | 8 52.7 | 22 32.9 | 113 10.8 | -1 50.4 |
| | 11 | 130 5.7 | 19 34.9 | 21 23.8 | 304 27.7 | -1 58.1 | 23 54.6 | 22 32.8 | 128 13.4 | -1 50.5 |
| | 12 | 145 8.1 | 34 34.2 | 21 23.5 | 319 28.7 | -1 58.8 | 38 56.6 | 22 32.8 | 143 16.0 | -1 50.5 |
| | 13 | 160 10.6 | 49 33.5 | 21 23.2 | 334 29.7 | -1 59.4 | 53 58.5 | 22 32.7 | 158 18.6 | -1 50.6 |
| | 14 | 175 13.0 | 64 32.8 | 21 22.9 | 349 30.8 | -2 0.1 | 69 0.4 | 22 32.7 | 173 21.2 | -1 50.7 |
| | 15 | 190 15.5 | 79 32.1 | 21 22.7 | 4 31.8 | -2 0.7 | 84 2.4 | 22 32.6 | 188 23.7 | -1 50.7 |
| | 16 | 205 18.0 | 94 31.4 | 21 22.4 | 19 32.8 | -2 1.4 | 99 4.3 | 22 32.6 | 203 26.3 | -1 50.8 |
| | 17 | 220 20.4 | 109 30.7 | 21 22.1 | 34 33.8 | -2 2.0 | 114 6.2 | 22 32.5 | 218 28.9 | -1 50.8 |
| | 18 | 235 22.9 | 124 30.0 | 21 21.8 | 49 34.9 | -2 2.7 | 129 8.1 | 22 32.5 | 233 31.5 | -1 50.9 |
| | 19 | 250 25.4 | 139 29.3 | 21 21.5 | 64 35.9 | -2 3.3 | 144 10.1 | 22 32.4 | 248 34.1 | -1 51.0 |
| | 20 | 265 27.8 | 154 28.6 | 21 21.2 | 79 36.9 | -2 4.0 | 159 12.0 | 22 32.4 | 263 36.7 | -1 51.0 |
| | 21 | 280 30.3 | 169 27.9 | 21 21.0 | 94 37.9 | -2 4.6 | 174 13.9 | 22 32.3 | 278 39.2 | -1 51.1 |
| | 22 | 295 32.8 | 184 27.2 | 21 20.7 | 109 38.9 | -2 5.3 | 189 15.8 | 22 32.2 | 293 41.8 | -1 51.1 |
| | 23 | 310 35.2 | 199 26.5 | 21 20.4 | 124 40.0 | -2 5.9 | 204 17.8 | 22 32.2 | 308 44.4 | -1 51.2 |
| | | MP 02:22 | *v* -0.7 | *d* -0.3 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.3 | -40 11.8 |
| Achernar | 335 19.5 | -57 6.1 |
| Acrux | 173 0.1 | -63 14.7 |
| Adhara | 255 5.8 | -29 0.2 |
| Aldebaran | 290 39.2 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.5 |
| Alkaid | 152 51.8 | 49 11.4 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.4 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.3 | 26 37.9 |
| Alpheratz | 357 34.0 | 29 13.9 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.3 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.6 | -69 4.6 |
| Avior | 234 15.2 | -59 35.3 |
| Bellatrix | 278 22.5 | 6 22.5 |
| Betelgeuse | 270 51.7 | 7 24.8 |
| Canopus | 263 52.6 | -52 42.2 |
| Capella | 280 21.4 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.4 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.6 | -17 50.6 |
| Dubhe | 193 41.0 | 61 36.9 |
| Elnath | 278 1.4 | 28 37.7 |
| Eltanin | 90 41.6 | 51 29.3 |
| Enif | 33 38.0 | 9 59.6 |
| Fomalhaut | 15 13.6 | -29 29.0 |
| Gacrux | 171 51.5 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.5 | -60 30.0 |
| Hamal | 327 50.5 | 23 35.0 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 19.9 | 74 3.3 |
| Markab | 13 29.1 | 15 20.7 |
| Menkar | 314 5.6 | 4 11.5 |
| Menkent | 147 57.2 | -36 29.9 |
| Miaplacidus | 221 39.2 | -69 49.3 |
| Mirfak | 308 27.6 | 49 57.0 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.3 | -56 39.1 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.6 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.5 | -8 10.1 |
| Rigil Kent. | 139 39.8 | -60 56.7 |
| Sabik | 102 2.0 | -15 45.4 |
| Schedar | 349 30.1 | 56 40.5 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 26.1 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.0 |
| Vega | 80 32.6 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 14 Thu | SHA | MP |
|---|---|---|
| Venus | 252 35.7 | 09:39 |
| Mars | 175 46.9 | 14:45 |
| Jupiter | 254 20.9 | 09:31 |
| Saturn | 358 1.0 | 02:37 |

| 15 Fri | SHA | MP |
|---|---|---|
| Venus | 251 19.8 | 09:41 |
| Mars | 175 12.4 | 14:44 |
| Jupiter | 254 7.9 | 09:28 |
| Saturn | 358 3.7 | 02:33 |

| 16 Sat | SHA | MP |
|---|---|---|
| Venus | 250 4.0 | 09:42 |
| Mars | 174 37.9 | 14:42 |
| Jupiter | 253 54.9 | 09:25 |
| Saturn | 358 6.5 | 02:29 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **14 Thursday** | 0 | 178 48.9 | 14 20.6 | 303 21.3 | 11.0 | 11 17.3 | 15.8 | 59.3 |
| | 1 | 193 49.0 | 14 19.8 | 317 51.2 | 10.9 | 11 33.1 | 15.7 | 59.4 |
| | 2 | 208 49.1 | 14 19.1 | 332 21.1 | 10.8 | 11 48.8 | 15.7 | 59.4 |
| | 3 | 223 49.2 | 14 18.3 | 346 50.9 | 10.8 | 12 4.5 | 15.6 | 59.4 |
| | 4 | 238 49.3 | 14 17.5 | 1 20.7 | 10.7 | 12 20.1 | 15.6 | 59.4 |
| | 5 | 253 49.4 | 14 16.7 | 15 50.4 | 10.6 | 12 35.7 | 15.5 | 59.4 |
| | 6 | 268 49.6 | 14 16.0 | 30 20.0 | 10.6 | 12 51.2 | 15.4 | 59.4 |
| | 7 | 283 49.7 | 14 15.2 | 44 49.6 | 10.5 | 13 6.6 | 15.4 | 59.4 |
| | 8 | 298 49.8 | 14 14.4 | 59 19.1 | 10.4 | 13 21.9 | 15.3 | 59.4 |
| | 9 | 313 49.9 | 14 13.6 | 73 48.5 | 10.4 | 13 37.2 | 15.2 | 59.4 |
| | 10 | 328 50.0 | 14 12.9 | 88 17.9 | 10.3 | 13 52.4 | 15.1 | 59.4 |
| | 11 | 343 50.2 | 14 12.1 | 102 47.2 | 10.2 | 14 7.6 | 15.1 | 59.4 |
| | 12 | 358 50.3 | 14 11.3 | 117 16.4 | 10.1 | 14 22.6 | 15.0 | 59.4 |
| | 13 | 13 50.4 | 14 10.5 | 131 45.5 | 10.1 | 14 37.6 | 14.9 | 59.4 |
| | 14 | 28 50.5 | 14 9.8 | 146 14.6 | 10.0 | 14 52.5 | 14.8 | 59.4 |
| | 15 | 43 50.6 | 14 9.0 | 160 43.6 | 9.9 | 15 7.3 | 14.7 | 59.4 |
| | 16 | 58 50.8 | 14 8.2 | 175 12.5 | 9.8 | 15 22.1 | 14.7 | 59.4 |
| | 17 | 73 50.9 | 14 7.4 | 189 41.3 | 9.8 | 15 36.7 | 14.6 | 59.4 |
| | 18 | 88 51.0 | 14 6.7 | 204 10.1 | 9.7 | 15 51.3 | 14.5 | 59.4 |
| | 19 | 103 51.1 | 14 5.9 | 218 38.7 | 9.6 | 16 5.8 | 14.4 | 59.4 |
| | 20 | 118 51.2 | 14 5.1 | 233 7.3 | 9.5 | 16 20.2 | 14.3 | 59.4 |
| | 21 | 133 51.4 | 14 4.3 | 247 35.8 | 9.4 | 16 34.5 | 14.2 | 59.4 |
| | 22 | 148 51.5 | 14 3.5 | 262 4.3 | 9.3 | 16 48.7 | 14.1 | 59.4 |
| | 23 | 163 51.6 | 14 2.8 | 276 32.6 | 9.3 | 17 2.8 | 14.0 | 59.4 |
| | | *v* 0.1 | SD 15.8 | *d* -0.8 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **15 Friday** | 0 | 178 51.7 | 14 2.0 | 291 0.9 | 9.2 | 17 16.8 | 13.9 | 59.4 |
| | 1 | 193 51.9 | 14 1.2 | 305 29.1 | 9.1 | 17 30.7 | 13.8 | 59.4 |
| | 2 | 208 52.0 | 14 0.4 | 319 57.2 | 9.0 | 17 44.5 | 13.7 | 59.4 |
| | 3 | 223 52.1 | 13 59.6 | 334 25.2 | 8.9 | 17 58.3 | 13.6 | 59.4 |
| | 4 | 238 52.2 | 13 58.9 | 348 53.1 | 8.8 | 18 11.9 | 13.5 | 59.4 |
| | 5 | 253 52.4 | 13 58.1 | 3 20.9 | 8.8 | 18 25.4 | 13.4 | 59.4 |
| | 6 | 268 52.5 | 13 57.3 | 17 48.7 | 8.7 | 18 38.8 | 13.3 | 59.4 |
| | 7 | 283 52.6 | 13 56.5 | 32 16.3 | 8.6 | 18 52.1 | 13.2 | 59.4 |
| | 8 | 298 52.7 | 13 55.7 | 46 43.9 | 8.5 | 19 5.3 | 13.1 | 59.4 |
| | 9 | 313 52.9 | 13 54.9 | 61 11.4 | 8.4 | 19 18.4 | 13.0 | 59.4 |
| | 10 | 328 53.0 | 13 54.2 | 75 38.8 | 8.3 | 19 31.3 | 12.9 | 59.4 |
| | 11 | 343 53.1 | 13 53.4 | 90 6.1 | 8.2 | 19 44.2 | 12.7 | 59.4 |
| | 12 | 358 53.2 | 13 52.6 | 104 33.3 | 8.1 | 19 56.9 | 12.6 | 59.4 |
| | 13 | 13 53.4 | 13 51.8 | 119 0.5 | 8.0 | 20 9.5 | 12.5 | 59.3 |
| | 14 | 28 53.5 | 13 51.0 | 133 27.5 | 7.9 | 20 22.0 | 12.4 | 59.3 |
| | 15 | 43 53.6 | 13 50.2 | 147 54.4 | 7.9 | 20 34.4 | 12.3 | 59.3 |
| | 16 | 58 53.7 | 13 49.4 | 162 21.3 | 7.8 | 20 46.6 | 12.1 | 59.3 |
| | 17 | 73 53.9 | 13 48.7 | 176 48.1 | 7.7 | 20 58.8 | 12.0 | 59.3 |
| | 18 | 88 54.0 | 13 47.9 | 191 14.7 | 7.6 | 21 10.8 | 11.9 | 59.3 |
| | 19 | 103 54.1 | 13 47.1 | 205 41.3 | 7.5 | 21 22.7 | 11.7 | 59.3 |
| | 20 | 118 54.2 | 13 46.3 | 220 7.8 | 7.4 | 21 34.4 | 11.6 | 59.3 |
| | 21 | 133 54.4 | 13 45.5 | 234 34.2 | 7.3 | 21 46.0 | 11.5 | 59.3 |
| | 22 | 148 54.5 | 13 44.7 | 249 0.5 | 7.2 | 21 57.5 | 11.3 | 59.3 |
| | 23 | 163 54.6 | 13 43.9 | 263 26.7 | 7.1 | 22 8.9 | 11.2 | 59.3 |
| | | *v* 0.1 | SD 15.8 | *d* -0.8 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **16 Saturday** | 0 | 178 54.8 | 13 43.1 | 277 52.9 | 7.0 | 22 20.1 | 11.1 | 59.3 |
| | 1 | 193 54.9 | 13 42.3 | 292 18.9 | 6.9 | 22 31.1 | 10.9 | 59.3 |
| | 2 | 208 55.0 | 13 41.6 | 306 44.8 | 6.9 | 22 42.1 | 10.8 | 59.3 |
| | 3 | 223 55.1 | 13 40.8 | 321 10.7 | 6.8 | 22 52.9 | 10.7 | 59.3 |
| | 4 | 238 55.3 | 13 40.0 | 335 36.5 | 6.7 | 23 3.5 | 10.5 | 59.3 |
| | 5 | 253 55.4 | 13 39.2 | 350 2.1 | 6.6 | 23 14.0 | 10.4 | 59.3 |
| | 6 | 268 55.5 | 13 38.4 | 4 27.7 | 6.5 | 23 24.4 | 10.2 | 59.3 |
| | 7 | 283 55.7 | 13 37.6 | 18 53.2 | 6.4 | 23 34.6 | 10.1 | 59.3 |
| | 8 | 298 55.8 | 13 36.8 | 33 18.6 | 6.3 | 23 44.7 | 9.9 | 59.3 |
| | 9 | 313 55.9 | 13 36.0 | 47 43.9 | 6.2 | 23 54.6 | 9.8 | 59.3 |
| | 10 | 328 56.1 | 13 35.2 | 62 9.2 | 6.1 | 24 4.4 | 9.6 | 59.3 |
| | 11 | 343 56.2 | 13 34.4 | 76 34.3 | 6.1 | 24 14.0 | 9.5 | 59.2 |
| | 12 | 358 56.3 | 13 33.6 | 90 59.4 | 6.0 | 24 23.5 | 9.3 | 59.2 |
| | 13 | 13 56.4 | 13 32.8 | 105 24.3 | 5.9 | 24 32.8 | 9.2 | 59.2 |
| | 14 | 28 56.6 | 13 32.0 | 119 49.2 | 5.8 | 24 42.0 | 9.0 | 59.2 |
| | 15 | 43 56.7 | 13 31.2 | 134 14.0 | 5.7 | 24 51.0 | 8.8 | 59.2 |
| | 16 | 58 56.8 | 13 30.5 | 148 38.8 | 5.6 | 24 59.8 | 8.7 | 59.2 |
| | 17 | 73 57.0 | 13 29.7 | 163 3.4 | 5.6 | 25 8.5 | 8.5 | 59.2 |
| | 18 | 88 57.1 | 13 28.9 | 177 28.0 | 5.5 | 25 17.0 | 8.3 | 59.2 |
| | 19 | 103 57.2 | 13 28.1 | 191 52.4 | 5.4 | 25 25.3 | 8.2 | 59.2 |
| | 20 | 118 57.4 | 13 27.3 | 206 16.9 | 5.3 | 25 33.5 | 8.0 | 59.2 |
| | 21 | 133 57.5 | 13 26.5 | 220 41.2 | 5.3 | 25 41.5 | 7.9 | 59.2 |
| | 22 | 148 57.6 | 13 25.7 | 235 5.4 | 5.2 | 25 49.4 | 7.7 | 59.2 |
| | 23 | 163 57.8 | 13 24.9 | 249 29.6 | 5.1 | 25 57.1 | 7.5 | 59.2 |
| | | *v* 0.1 | SD 15.8 | *d* -0.8 | | SD 16.2 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 02:19 | 21:45 | //// | //// |
| 70 | //// | //// | 02:52 | 21:13 | //// | //// |
| 68 | //// | 01:37 | 03:16 | 20:50 | 22:25 | //// |
| 66 | //// | 02:17 | 03:35 | 20:32 | 21:48 | //// |
| 64 | //// | 02:44 | 03:49 | 20:18 | 21:22 | //// |
| 62 | 01:26 | 03:04 | 04:02 | 20:06 | 21:03 | 22:37 |
| 60 | 02:02 | 03:20 | 04:12 | 19:55 | 20:47 | 22:03 |
| 58 | 02:27 | 03:34 | 04:21 | 19:46 | 20:33 | 21:39 |
| 56 | 02:46 | 03:46 | 04:29 | 19:39 | 20:22 | 21:21 |
| 54 | 03:02 | 03:56 | 04:36 | 19:32 | 20:12 | 21:05 |
| 52 | 03:15 | 04:04 | 04:43 | 19:25 | 20:04 | 20:53 |
| 50 | 03:26 | 04:12 | 04:48 | 19:20 | 19:56 | 20:41 |
| 45 | 03:49 | 04:29 | 05:01 | 19:08 | 19:40 | 20:19 |
| 40 | 04:06 | 04:42 | 05:11 | 18:58 | 19:27 | 20:02 |
| 35 | 04:20 | 04:53 | 05:19 | 18:49 | 19:16 | 19:48 |
| 30 | 04:32 | 05:02 | 05:27 | 18:42 | 19:07 | 19:37 |
| 20 | 04:50 | 05:17 | 05:40 | 18:29 | 18:52 | 19:19 |
| 10 | 05:04 | 05:29 | 05:51 | 18:18 | 18:40 | 19:05 |
| 0 | 05:15 | 05:40 | 06:01 | 18:08 | 18:29 | 18:54 |
| -10 | 05:25 | 05:50 | 06:11 | 17:58 | 18:20 | 18:45 |
| -20 | 05:34 | 06:00 | 06:22 | 17:47 | 18:10 | 18:36 |
| -30 | 05:42 | 06:10 | 06:34 | 17:35 | 18:00 | 18:28 |
| -35 | 05:45 | 06:15 | 06:41 | 17:28 | 17:54 | 18:24 |
| -40 | 05:49 | 06:21 | 06:49 | 17:20 | 17:48 | 18:20 |
| -45 | 05:53 | 06:28 | 06:59 | 17:11 | 17:42 | 18:16 |
| -50 | 05:58 | 06:36 | 07:10 | 17:00 | 17:34 | 18:12 |
| -52 | 05:59 | 06:39 | 07:15 | 16:55 | 17:31 | 18:11 |
| -54 | 06:01 | 06:43 | 07:20 | 16:50 | 17:27 | 18:09 |
| -56 | 06:03 | 06:47 | 07:27 | 16:44 | 17:23 | 18:07 |
| -58 | 06:05 | 06:52 | 07:34 | 16:37 | 17:19 | 18:05 |
| -60 | 06:07 | 06:57 | 07:41 | 16:29 | 17:14 | 18:03 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **14** | **15** | **16** | **14** | **15** | **16** |
| 72 | 18:22 | | | 13:50 | | |
| 70 | 18:59 | | | 13:15 | | |
| 68 | 19:25 | 18:24 | | 12:51 | 15:43 | |
| 66 | 19:45 | 19:14 | | 12:32 | 14:55 | |
| 64 | 20:02 | 19:46 | 19:10 | 12:17 | 14:24 | 16:59 |
| 62 | 20:15 | 20:09 | 20:02 | 12:05 | 14:02 | 16:08 |
| 60 | 20:27 | 20:28 | 20:34 | 11:55 | 13:43 | 15:37 |
| 58 | 20:37 | 20:44 | 20:58 | 11:46 | 13:28 | 15:13 |
| 56 | 20:46 | 20:58 | 21:17 | 11:38 | 13:15 | 14:55 |
| 54 | 20:54 | 21:10 | 21:34 | 11:31 | 13:04 | 14:39 |
| 52 | 21:01 | 21:20 | 21:48 | 11:24 | 12:55 | 14:25 |
| 50 | 21:08 | 21:30 | 22:00 | 11:19 | 12:46 | 14:13 |
| 45 | 21:22 | 21:50 | 22:26 | 11:07 | 12:27 | 13:49 |
| 40 | 21:33 | 22:06 | 22:46 | 10:57 | 12:12 | 13:29 |
| 35 | 21:43 | 22:20 | 23:03 | 10:48 | 12:00 | 13:13 |
| 30 | 21:52 | 22:32 | 23:18 | 10:41 | 11:49 | 12:59 |
| 20 | 22:07 | 22:53 | 23:44 | 10:28 | 11:30 | 12:35 |
| 10 | 22:21 | 23:11 | –:– | 10:17 | 11:14 | 12:14 |
| 0 | 22:34 | 23:28 | –:– | 10:06 | 10:59 | 11:55 |
| -10 | 22:46 | 23:45 | –:– | 09:56 | 10:44 | 11:36 |
| -20 | 23:00 | –:– | 00:04 | 09:45 | 10:28 | 11:16 |
| -30 | 23:16 | –:– | 00:25 | 09:33 | 10:10 | 10:52 |
| -35 | 23:25 | –:– | 00:38 | 09:25 | 09:59 | 10:39 |
| -40 | 23:36 | –:– | 00:53 | 09:17 | 09:47 | 10:23 |
| -45 | 23:49 | –:– | 01:10 | 09:08 | 09:33 | 10:04 |
| -50 | –:– | 00:04 | 01:32 | 08:57 | 09:16 | 09:41 |
| -52 | –:– | 00:12 | 01:43 | 08:51 | 09:08 | 09:30 |
| -54 | –:– | 00:20 | 01:55 | 08:46 | 08:59 | 09:18 |
| -56 | –:– | 00:29 | 02:08 | 08:39 | 08:49 | 09:03 |
| -58 | –:– | 00:39 | 02:24 | 08:32 | 08:37 | 08:46 |
| -60 | –:– | 00:51 | 02:44 | 08:24 | 08:24 | 08:26 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **14** | 04:45 | 04:39 | 12:05 | 03:54 | 16:20 | 20 | 75 |
| **15** | 04:33 | 04:27 | 12:04 | 04:46 | 17:13 | 21 | 64 |
| **16** | 04:21 | 04:15 | 12:04 | 05:41 | 18:11 | 22 | 53 |

## 2025 August 17, 18, 19 (Sun, Monday, Tue)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -1.9 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 17 Sunday | 0 | 325 37.7 | 214 25.8 | 21 20.1 | 139 41.0 | -2 6.6 | 219 19.7 | 22 32.1 | 323 47.0 | -1 51.3 |
| | 1 | 340 40.2 | 229 25.1 | 21 19.8 | 154 42.0 | -2 7.2 | 234 21.6 | 22 32.1 | 338 49.6 | -1 51.3 |
| | 2 | 355 42.6 | 244 24.4 | 21 19.5 | 169 43.0 | -2 7.9 | 249 23.6 | 22 32.0 | 353 52.2 | -1 51.4 |
| | 3 | 10 45.1 | 259 23.7 | 21 19.2 | 184 44.1 | -2 8.5 | 264 25.5 | 22 32.0 | 8 54.7 | -1 51.5 |
| | 4 | 25 47.5 | 274 23.0 | 21 18.9 | 199 45.1 | -2 9.2 | 279 27.4 | 22 31.9 | 23 57.3 | -1 51.5 |
| | 5 | 40 50.0 | 289 22.3 | 21 18.6 | 214 46.1 | -2 9.9 | 294 29.3 | 22 31.9 | 38 59.9 | -1 51.6 |
| | 6 | 55 52.5 | 304 21.6 | 21 18.3 | 229 47.1 | -2 10.5 | 309 31.3 | 22 31.8 | 54 2.5 | -1 51.6 |
| | 7 | 70 54.9 | 319 21.0 | 21 18.0 | 244 48.1 | -2 11.2 | 324 33.2 | 22 31.8 | 69 5.1 | -1 51.7 |
| | 8 | 85 57.4 | 334 20.3 | 21 17.7 | 259 49.2 | -2 11.8 | 339 35.1 | 22 31.7 | 84 7.7 | -1 51.8 |
| | 9 | 100 59.9 | 349 19.6 | 21 17.4 | 274 50.2 | -2 12.5 | 354 37.1 | 22 31.7 | 99 10.2 | -1 51.8 |
| | 10 | 116 2.3 | 4 18.9 | 21 17.1 | 289 51.2 | -2 13.1 | 9 39.0 | 22 31.6 | 114 12.8 | -1 51.9 |
| | 11 | 131 4.8 | 19 18.2 | 21 16.8 | 304 52.2 | -2 13.8 | 24 40.9 | 22 31.6 | 129 15.4 | -1 51.9 |
| | 12 | 146 7.3 | 34 17.5 | 21 16.5 | 319 53.2 | -2 14.4 | 39 42.8 | 22 31.5 | 144 18.0 | -1 52.0 |
| | 13 | 161 9.7 | 49 16.8 | 21 16.2 | 334 54.3 | -2 15.1 | 54 44.8 | 22 31.5 | 159 20.6 | -1 52.1 |
| | 14 | 176 12.2 | 64 16.1 | 21 15.9 | 349 55.3 | -2 15.7 | 69 46.7 | 22 31.4 | 174 23.2 | -1 52.1 |
| | 15 | 191 14.7 | 79 15.4 | 21 15.6 | 4 56.3 | -2 16.4 | 84 48.6 | 22 31.4 | 189 25.8 | -1 52.2 |
| | 16 | 206 17.1 | 94 14.7 | 21 15.3 | 19 57.3 | -2 17.0 | 99 50.6 | 22 31.3 | 204 28.3 | -1 52.3 |
| | 17 | 221 19.6 | 109 14.0 | 21 15.0 | 34 58.3 | -2 17.7 | 114 52.5 | 22 31.3 | 219 30.9 | -1 52.3 |
| | 18 | 236 22.0 | 124 13.3 | 21 14.7 | 49 59.3 | -2 18.4 | 129 54.4 | 22 31.2 | 234 33.5 | -1 52.4 |
| | 19 | 251 24.5 | 139 12.6 | 21 14.4 | 65 0.4 | -2 19.0 | 144 56.4 | 22 31.2 | 249 36.1 | -1 52.4 |
| | 20 | 266 27.0 | 154 11.9 | 21 14.1 | 80 1.4 | -2 19.7 | 159 58.3 | 22 31.1 | 264 38.7 | -1 52.5 |
| | 21 | 281 29.4 | 169 11.2 | 21 13.8 | 95 2.4 | -2 20.3 | 175 0.2 | 22 31.1 | 279 41.3 | -1 52.6 |
| | 22 | 296 31.9 | 184 10.5 | 21 13.4 | 110 3.4 | -2 21.0 | 190 2.2 | 22 31.0 | 294 43.9 | -1 52.6 |
| | 23 | 311 34.4 | 199 9.8 | 21 13.1 | 125 4.4 | -2 21.6 | 205 4.1 | 22 31.0 | 309 46.4 | -1 52.7 |
| | | MP 02:18 | *v* -0.7 | *d* -0.3 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Monday | 0 | 326 36.8 | 214 9.1 | 21 12.8 | 140 5.5 | -2 22.3 | 220 6.0 | 22 30.9 | 324 49.0 | -1 52.7 |
| | 1 | 341 39.3 | 229 8.4 | 21 12.5 | 155 6.5 | -2 22.9 | 235 7.9 | 22 30.8 | 339 51.6 | -1 52.8 |
| | 2 | 356 41.8 | 244 7.8 | 21 12.2 | 170 7.5 | -2 23.6 | 250 9.9 | 22 30.8 | 354 54.2 | -1 52.9 |
| | 3 | 11 44.2 | 259 7.1 | 21 11.9 | 185 8.5 | -2 24.2 | 265 11.8 | 22 30.7 | 9 56.8 | -1 52.9 |
| | 4 | 26 46.7 | 274 6.4 | 21 11.5 | 200 9.5 | -2 24.9 | 280 13.7 | 22 30.7 | 24 59.4 | -1 53.0 |
| | 5 | 41 49.2 | 289 5.7 | 21 11.2 | 215 10.5 | -2 25.5 | 295 15.7 | 22 30.6 | 40 2.0 | -1 53.1 |
| | 6 | 56 51.6 | 304 5.0 | 21 10.9 | 230 11.6 | -2 26.2 | 310 17.6 | 22 30.6 | 55 4.6 | -1 53.1 |
| | 7 | 71 54.1 | 319 4.3 | 21 10.6 | 245 12.6 | -2 26.8 | 325 19.5 | 22 30.5 | 70 7.1 | -1 53.2 |
| | 8 | 86 56.5 | 334 3.6 | 21 10.3 | 260 13.6 | -2 27.5 | 340 21.5 | 22 30.5 | 85 9.7 | -1 53.2 |
| | 9 | 101 59.0 | 349 2.9 | 21 9.9 | 275 14.6 | -2 28.2 | 355 23.4 | 22 30.4 | 100 12.3 | -1 53.3 |
| | 10 | 117 1.5 | 4 2.2 | 21 9.6 | 290 15.6 | -2 28.8 | 10 25.3 | 22 30.4 | 115 14.9 | -1 53.4 |
| | 11 | 132 3.9 | 19 1.5 | 21 9.3 | 305 16.6 | -2 29.5 | 25 27.3 | 22 30.3 | 130 17.5 | -1 53.4 |
| | 12 | 147 6.4 | 34 0.8 | 21 9.0 | 320 17.7 | -2 30.1 | 40 29.2 | 22 30.3 | 145 20.1 | -1 53.5 |
| | 13 | 162 8.9 | 49 0.1 | 21 8.6 | 335 18.7 | -2 30.8 | 55 31.1 | 22 30.2 | 160 22.7 | -1 53.6 |
| | 14 | 177 11.3 | 63 59.4 | 21 8.3 | 350 19.7 | -2 31.4 | 70 33.1 | 22 30.2 | 175 25.3 | -1 53.6 |
| | 15 | 192 13.8 | 78 58.7 | 21 8.0 | 5 20.7 | -2 32.1 | 85 35.0 | 22 30.1 | 190 27.9 | -1 53.7 |
| | 16 | 207 16.3 | 93 58.0 | 21 7.6 | 20 21.7 | -2 32.7 | 100 36.9 | 22 30.1 | 205 30.4 | -1 53.8 |
| | 17 | 222 18.7 | 108 57.4 | 21 7.3 | 35 22.7 | -2 33.4 | 115 38.9 | 22 30.0 | 220 33.0 | -1 53.8 |
| | 18 | 237 21.2 | 123 56.7 | 21 7.0 | 50 23.8 | -2 34.0 | 130 40.8 | 22 30.0 | 235 35.6 | -1 53.9 |
| | 19 | 252 23.7 | 138 56.0 | 21 6.6 | 65 24.8 | -2 34.7 | 145 42.7 | 22 29.9 | 250 38.2 | -1 53.9 |
| | 20 | 267 26.1 | 153 55.3 | 21 6.3 | 80 25.8 | -2 35.3 | 160 44.7 | 22 29.9 | 265 40.8 | -1 54.0 |
| | 21 | 282 28.6 | 168 54.6 | 21 6.0 | 95 26.8 | -2 36.0 | 175 46.6 | 22 29.8 | 280 43.4 | -1 54.1 |
| | 22 | 297 31.0 | 183 53.9 | 21 5.6 | 110 27.8 | -2 36.7 | 190 48.5 | 22 29.8 | 295 46.0 | -1 54.1 |
| | 23 | 312 33.5 | 198 53.2 | 21 5.3 | 125 28.8 | -2 37.3 | 205 50.5 | 22 29.7 | 310 48.6 | -1 54.2 |
| | | MP 02:15 | *v* -0.7 | *d* -0.3 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 Tuesday | 0 | 327 36.0 | 213 52.5 | 21 4.9 | 140 29.8 | -2 38.0 | 220 52.4 | 22 29.6 | 325 51.2 | -1 54.3 |
| | 1 | 342 38.4 | 228 51.8 | 21 4.6 | 155 30.9 | -2 38.6 | 235 54.3 | 22 29.6 | 340 53.7 | -1 54.3 |
| | 2 | 357 40.9 | 243 51.1 | 21 4.3 | 170 31.9 | -2 39.3 | 250 56.3 | 22 29.5 | 355 56.3 | -1 54.4 |
| | 3 | 12 43.4 | 258 50.4 | 21 3.9 | 185 32.9 | -2 39.9 | 265 58.2 | 22 29.5 | 10 58.9 | -1 54.4 |
| | 4 | 27 45.8 | 273 49.7 | 21 3.6 | 200 33.9 | -2 40.6 | 281 0.1 | 22 29.4 | 26 1.5 | -1 54.5 |
| | 5 | 42 48.3 | 288 49.0 | 21 3.2 | 215 34.9 | -2 41.2 | 296 2.1 | 22 29.4 | 41 4.1 | -1 54.6 |
| | 6 | 57 50.8 | 303 48.4 | 21 2.9 | 230 35.9 | -2 41.9 | 311 4.0 | 22 29.3 | 56 6.7 | -1 54.6 |
| | 7 | 72 53.2 | 318 47.7 | 21 2.5 | 245 36.9 | -2 42.5 | 326 5.9 | 22 29.3 | 71 9.3 | -1 54.7 |
| | 8 | 87 55.7 | 333 47.0 | 21 2.2 | 260 38.0 | -2 43.2 | 341 7.9 | 22 29.2 | 86 11.9 | -1 54.8 |
| | 9 | 102 58.2 | 348 46.3 | 21 1.8 | 275 39.0 | -2 43.8 | 356 9.8 | 22 29.2 | 101 14.5 | -1 54.8 |
| | 10 | 118 0.6 | 3 45.6 | 21 1.5 | 290 40.0 | -2 44.5 | 11 11.7 | 22 29.1 | 116 17.1 | -1 54.9 |
| | 11 | 133 3.1 | 18 44.9 | 21 1.1 | 305 41.0 | -2 45.2 | 26 13.7 | 22 29.1 | 131 19.6 | -1 55.0 |
| | 12 | 148 5.5 | 33 44.2 | 21 0.8 | 320 42.0 | -2 45.8 | 41 15.6 | 22 29.0 | 146 22.2 | -1 55.0 |
| | 13 | 163 8.0 | 48 43.5 | 21 0.4 | 335 43.0 | -2 46.5 | 56 17.6 | 22 29.0 | 161 24.8 | -1 55.1 |
| | 14 | 178 10.5 | 63 42.8 | 21 0.1 | 350 44.0 | -2 47.1 | 71 19.5 | 22 28.9 | 176 27.4 | -1 55.1 |
| | 15 | 193 12.9 | 78 42.1 | 20 59.7 | 5 45.1 | -2 47.8 | 86 21.4 | 22 28.9 | 191 30.0 | -1 55.2 |
| | 16 | 208 15.4 | 93 41.4 | 20 59.4 | 20 46.1 | -2 48.4 | 101 23.4 | 22 28.8 | 206 32.6 | -1 55.3 |
| | 17 | 223 17.9 | 108 40.8 | 20 59.0 | 35 47.1 | -2 49.1 | 116 25.3 | 22 28.8 | 221 35.2 | -1 55.3 |
| | 18 | 238 20.3 | 123 40.1 | 20 58.6 | 50 48.1 | -2 49.7 | 131 27.2 | 22 28.7 | 236 37.8 | -1 55.4 |
| | 19 | 253 22.8 | 138 39.4 | 20 58.3 | 65 49.1 | -2 50.4 | 146 29.2 | 22 28.6 | 251 40.4 | -1 55.5 |
| | 20 | 268 25.3 | 153 38.7 | 20 57.9 | 80 50.1 | -2 51.0 | 161 31.1 | 22 28.6 | 266 43.0 | -1 55.5 |
| | 21 | 283 27.7 | 168 38.0 | 20 57.6 | 95 51.1 | -2 51.7 | 176 33.0 | 22 28.5 | 281 45.6 | -1 55.6 |
| | 22 | 298 30.2 | 183 37.3 | 20 57.2 | 110 52.1 | -2 52.3 | 191 35.0 | 22 28.5 | 296 48.2 | -1 55.7 |
| | 23 | 313 32.6 | 198 36.6 | 20 56.8 | 125 53.1 | -2 53.0 | 206 36.9 | 22 28.4 | 311 50.7 | -1 55.7 |
| | | MP 02:11 | *v* -0.7 | *d* -0.3 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.3 | -40 11.8 |
| Achernar | 335 19.5 | -57 6.1 |
| Acrux | 173 0.1 | -63 14.6 |
| Adhara | 255 5.8 | -29 0.2 |
| Aldebaran | 290 39.1 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.5 |
| Alkaid | 152 51.8 | 49 11.4 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.4 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.3 | 26 37.9 |
| Alpheratz | 357 34.0 | 29 13.9 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.3 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.5 | 19 3.1 |
| Atria | 107 8.7 | -69 4.6 |
| Avior | 234 15.2 | -59 35.3 |
| Bellatrix | 278 22.5 | 6 22.5 |
| Betelgeuse | 270 51.7 | 7 24.8 |
| Canopus | 263 52.5 | -52 42.2 |
| Capella | 280 21.3 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.4 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.6 | -17 50.5 |
| Dubhe | 193 41.0 | 61 36.9 |
| Elnath | 278 1.4 | 28 37.7 |
| Eltanin | 90 41.6 | 51 29.3 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.6 | -29 29.0 |
| Gacrux | 171 51.5 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.5 | -60 30.0 |
| Hamal | 327 50.5 | 23 35.0 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 20.0 | 74 3.3 |
| Markab | 13 29.1 | 15 20.7 |
| Menkar | 314 5.6 | 4 11.5 |
| Menkent | 147 57.2 | -36 29.9 |
| Miaplacidus | 221 39.2 | -69 49.2 |
| Mirfak | 308 27.5 | 49 57.0 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.3 | -56 39.1 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.6 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.5 | -8 10.1 |
| Rigil Kent. | 139 39.8 | -60 56.7 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 30.1 | 56 40.6 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 26.0 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.0 |
| Vega | 80 32.6 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 17 Sun | SHA | MP |
|---|---|---|
| Venus | 248 48.1 | 09:43 |
| Mars | 174 3.3 | 14:40 |
| Jupiter | 253 42.0 | 09:21 |
| Saturn | 358 9.3 | 02:24 |

| 18 Mon | SHA | MP |
|---|---|---|
| Venus | 247 32.3 | 09:44 |
| Mars | 173 28.6 | 14:39 |
| Jupiter | 253 29.2 | 09:18 |
| Saturn | 358 12.2 | 02:20 |

| 19 Tue | SHA | MP |
|---|---|---|
| Venus | 246 16.5 | 09:45 |
| Mars | 172 53.9 | 14:37 |
| Jupiter | 253 16.4 | 09:15 |
| Saturn | 358 15.2 | 02:16 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **17 Sunday** | 0 | 178 57.9 | 13 24.1 | 263 53.7 | 5.0 | 26 4.6 | 7.3 | 59.2 |
| | 1 | 193 58.0 | 13 23.3 | 278 17.7 | 5.0 | 26 11.9 | 7.2 | 59.1 |
| | 2 | 208 58.2 | 13 22.5 | 292 41.7 | 4.9 | 26 19.1 | 7.0 | 59.1 |
| | 3 | 223 58.3 | 13 21.7 | 307 5.6 | 4.8 | 26 26.1 | 6.8 | 59.1 |
| | 4 | 238 58.4 | 13 20.9 | 321 29.4 | 4.8 | 26 32.9 | 6.6 | 59.1 |
| | 5 | 253 58.6 | 13 20.1 | 335 53.2 | 4.7 | 26 39.5 | 6.5 | 59.1 |
| | 6 | 268 58.7 | 13 19.3 | 350 16.9 | 4.6 | 26 46.0 | 6.3 | 59.1 |
| | 7 | 283 58.8 | 13 18.5 | 4 40.5 | 4.6 | 26 52.3 | 6.1 | 59.1 |
| | 8 | 298 59.0 | 13 17.7 | 19 4.1 | 4.5 | 26 58.4 | 5.9 | 59.1 |
| | 9 | 313 59.1 | 13 16.9 | 33 27.6 | 4.5 | 27 4.3 | 5.8 | 59.1 |
| | 10 | 328 59.2 | 13 16.1 | 47 51.0 | 4.4 | 27 10.1 | 5.6 | 59.1 |
| | 11 | 343 59.4 | 13 15.3 | 62 14.4 | 4.3 | 27 15.7 | 5.4 | 59.1 |
| | 12 | 358 59.5 | 13 14.5 | 76 37.8 | 4.3 | 27 21.1 | 5.2 | 59.0 |
| | 13 | 13 59.7 | 13 13.7 | 91 1.1 | 4.2 | 27 26.3 | 5.0 | 59.0 |
| | 14 | 28 59.8 | 13 12.9 | 105 24.3 | 4.2 | 27 31.3 | 4.8 | 59.0 |
| | 15 | 43 59.9 | 13 12.1 | 119 47.5 | 4.2 | 27 36.1 | 4.6 | 59.0 |
| | 16 | 59 0.1 | 13 11.2 | 134 10.7 | 4.1 | 27 40.8 | 4.5 | 59.0 |
| | 17 | 74 0.2 | 13 10.4 | 148 33.8 | 4.1 | 27 45.2 | 4.3 | 59.0 |
| | 18 | 89 0.3 | 13 9.6 | 162 56.8 | 4.0 | 27 49.5 | 4.1 | 59.0 |
| | 19 | 104 0.5 | 13 8.8 | 177 19.9 | 4.0 | 27 53.6 | 3.9 | 59.0 |
| | 20 | 119 0.6 | 13 8.0 | 191 42.9 | 4.0 | 27 57.5 | 3.7 | 59.0 |
| | 21 | 134 0.8 | 13 7.2 | 206 5.8 | 3.9 | 28 1.2 | 3.5 | 59.0 |
| | 22 | 149 0.9 | 13 6.4 | 220 28.7 | 3.9 | 28 4.7 | 3.3 | 58.9 |
| | 23 | 164 1.0 | 13 5.6 | 234 51.6 | 3.9 | 28 8.0 | 3.1 | 58.9 |
| | | *v* 0.1 | SD 15.8 | *d* -0.8 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **18 Monday** | 0 | 179 1.2 | 13 4.8 | 249 14.5 | 3.8 | 28 11.2 | 2.9 | 58.9 |
| | 1 | 194 1.3 | 13 4.0 | 263 37.3 | 3.8 | 28 14.1 | 2.8 | 58.9 |
| | 2 | 209 1.4 | 13 3.2 | 278 0.2 | 3.8 | 28 16.9 | 2.6 | 58.9 |
| | 3 | 224 1.6 | 13 2.4 | 292 23.0 | 3.8 | 28 19.4 | 2.4 | 58.9 |
| | 4 | 239 1.7 | 13 1.6 | 306 45.7 | 3.8 | 28 21.8 | 2.2 | 58.9 |
| | 5 | 254 1.9 | 13 0.8 | 321 8.5 | 3.8 | 28 24.0 | 2.0 | 58.9 |
| | 6 | 269 2.0 | 12 59.9 | 335 31.3 | 3.7 | 28 26.0 | 1.8 | 58.9 |
| | 7 | 284 2.1 | 12 59.1 | 349 54.0 | 3.7 | 28 27.8 | 1.6 | 58.8 |
| | 8 | 299 2.3 | 12 58.3 | 4 16.7 | 3.7 | 28 29.4 | 1.4 | 58.8 |
| | 9 | 314 2.4 | 12 57.5 | 18 39.5 | 3.7 | 28 30.8 | 1.2 | 58.8 |
| | 10 | 329 2.6 | 12 56.7 | 33 2.2 | 3.7 | 28 32.0 | 1.0 | 58.8 |
| | 11 | 344 2.7 | 12 55.9 | 47 24.9 | 3.7 | 28 33.0 | 0.8 | 58.8 |
| | 12 | 359 2.8 | 12 55.1 | 61 47.7 | 3.7 | 28 33.9 | 0.6 | 58.8 |
| | 13 | 14 3.0 | 12 54.3 | 76 10.4 | 3.7 | 28 34.5 | 0.4 | 58.8 |
| | 14 | 29 3.1 | 12 53.5 | 90 33.1 | 3.8 | 28 34.9 | 0.2 | 58.8 |
| | 15 | 44 3.3 | 12 52.6 | 104 55.9 | 3.8 | 28 35.2 | 0.1 | 58.8 |
| | 16 | 59 3.4 | 12 51.8 | 119 18.6 | 3.8 | 28 35.2 | -0.1 | 58.7 |
| | 17 | 74 3.6 | 12 51.0 | 133 41.4 | 3.8 | 28 35.1 | -0.3 | 58.7 |
| | 18 | 89 3.7 | 12 50.2 | 148 4.2 | 3.8 | 28 34.8 | -0.5 | 58.7 |
| | 19 | 104 3.8 | 12 49.4 | 162 27.0 | 3.8 | 28 34.3 | -0.7 | 58.7 |
| | 20 | 119 4.0 | 12 48.6 | 176 49.9 | 3.9 | 28 33.5 | -0.9 | 58.7 |
| | 21 | 134 4.1 | 12 47.8 | 191 12.8 | 3.9 | 28 32.6 | -1.1 | 58.7 |
| | 22 | 149 4.3 | 12 46.9 | 205 35.6 | 3.9 | 28 31.5 | -1.3 | 58.7 |
| | 23 | 164 4.4 | 12 46.1 | 219 58.6 | 4.0 | 28 30.3 | -1.5 | 58.6 |
| | | *v* 0.1 | SD 15.8 | *d* -0.8 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **19 Tuesday** | 0 | 179 4.6 | 12 45.3 | 234 21.5 | 4.0 | 28 28.8 | -1.7 | 58.6 |
| | 1 | 194 4.7 | 12 44.5 | 248 44.5 | 4.0 | 28 27.1 | -1.9 | 58.6 |
| | 2 | 209 4.8 | 12 43.7 | 263 7.6 | 4.1 | 28 25.3 | -2.0 | 58.6 |
| | 3 | 224 5.0 | 12 42.9 | 277 30.6 | 4.1 | 28 23.2 | -2.2 | 58.6 |
| | 4 | 239 5.1 | 12 42.0 | 291 53.7 | 4.2 | 28 21.0 | -2.4 | 58.6 |
| | 5 | 254 5.3 | 12 41.2 | 306 16.9 | 4.2 | 28 18.6 | -2.6 | 58.6 |
| | 6 | 269 5.4 | 12 40.4 | 320 40.1 | 4.3 | 28 16.0 | -2.8 | 58.5 |
| | 7 | 284 5.6 | 12 39.6 | 335 3.4 | 4.3 | 28 13.2 | -3.0 | 58.5 |
| | 8 | 299 5.7 | 12 38.8 | 349 26.7 | 4.4 | 28 10.2 | -3.2 | 58.5 |
| | 9 | 314 5.9 | 12 37.9 | 3 50.0 | 4.4 | 28 7.0 | -3.3 | 58.5 |
| | 10 | 329 6.0 | 12 37.1 | 18 13.5 | 4.5 | 28 3.7 | -3.5 | 58.5 |
| | 11 | 344 6.1 | 12 36.3 | 32 36.9 | 4.5 | 28 0.2 | -3.7 | 58.5 |
| | 12 | 359 6.3 | 12 35.5 | 47 0.5 | 4.6 | 27 56.5 | -3.9 | 58.5 |
| | 13 | 14 6.4 | 12 34.7 | 61 24.1 | 4.7 | 27 52.6 | -4.1 | 58.4 |
| | 14 | 29 6.6 | 12 33.8 | 75 47.7 | 4.7 | 27 48.5 | -4.2 | 58.4 |
| | 15 | 44 6.7 | 12 33.0 | 90 11.5 | 4.8 | 27 44.3 | -4.4 | 58.4 |
| | 16 | 59 6.9 | 12 32.2 | 104 35.3 | 4.9 | 27 39.9 | -4.6 | 58.4 |
| | 17 | 74 7.0 | 12 31.4 | 118 59.1 | 4.9 | 27 35.3 | -4.8 | 58.4 |
| | 18 | 89 7.2 | 12 30.6 | 133 23.1 | 5.0 | 27 30.5 | -4.9 | 58.4 |
| | 19 | 104 7.3 | 12 29.7 | 147 47.1 | 5.1 | 27 25.5 | -5.1 | 58.3 |
| | 20 | 119 7.5 | 12 28.9 | 162 11.2 | 5.2 | 27 20.4 | -5.3 | 58.3 |
| | 21 | 134 7.6 | 12 28.1 | 176 35.4 | 5.3 | 27 15.1 | -5.5 | 58.3 |
| | 22 | 149 7.8 | 12 27.3 | 190 59.7 | 5.3 | 27 9.7 | -5.6 | 58.3 |
| | 23 | 164 7.9 | 12 26.4 | 205 24.0 | 5.4 | 27 4.0 | -5.8 | 58.3 |
| | | *v* 0.1 | SD 15.8 | *d* -0.8 | | SD 16.0 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 02:39 | 21:24 | //// | //// |
| 70 | //// | 01:02 | 03:08 | 20:57 | 22:53 | //// |
| 68 | //// | 02:00 | 03:29 | 20:36 | 22:02 | //// |
| 66 | //// | 02:32 | 03:45 | 20:20 | 21:32 | //// |
| 64 | 00:55 | 02:56 | 03:59 | 20:07 | 21:09 | 23:02 |
| 62 | 01:46 | 03:14 | 04:10 | 19:56 | 20:51 | 22:17 |
| 60 | 02:16 | 03:29 | 04:20 | 19:47 | 20:37 | 21:48 |
| 58 | 02:38 | 03:42 | 04:28 | 19:39 | 20:25 | 21:27 |
| 56 | 02:55 | 03:52 | 04:35 | 19:31 | 20:14 | 21:11 |
| 54 | 03:09 | 04:02 | 04:42 | 19:25 | 20:05 | 20:57 |
| 52 | 03:22 | 04:10 | 04:48 | 19:19 | 19:57 | 20:45 |
| 50 | 03:32 | 04:17 | 04:53 | 19:14 | 19:50 | 20:34 |
| 45 | 03:54 | 04:33 | 05:04 | 19:03 | 19:35 | 20:13 |
| 40 | 04:10 | 04:45 | 05:14 | 18:54 | 19:23 | 19:57 |
| 35 | 04:23 | 04:55 | 05:22 | 18:46 | 19:12 | 19:44 |
| 30 | 04:34 | 05:04 | 05:29 | 18:39 | 19:04 | 19:34 |
| 20 | 04:51 | 05:18 | 05:41 | 18:27 | 18:50 | 19:17 |
| 10 | 05:04 | 05:29 | 05:51 | 18:17 | 18:39 | 19:04 |
| 0 | 05:15 | 05:39 | 06:01 | 18:07 | 18:29 | 18:53 |
| -10 | 05:24 | 05:49 | 06:10 | 17:58 | 18:20 | 18:44 |
| -20 | 05:32 | 05:58 | 06:20 | 17:48 | 18:11 | 18:37 |
| -30 | 05:39 | 06:07 | 06:32 | 17:37 | 18:01 | 18:30 |
| -35 | 05:42 | 06:12 | 06:38 | 17:30 | 17:56 | 18:26 |
| -40 | 05:46 | 06:17 | 06:45 | 17:23 | 17:51 | 18:23 |
| -45 | 05:49 | 06:24 | 06:54 | 17:15 | 17:45 | 18:20 |
| -50 | 05:53 | 06:30 | 07:04 | 17:05 | 17:38 | 18:16 |
| -52 | 05:54 | 06:34 | 07:09 | 17:00 | 17:35 | 18:15 |
| -54 | 05:55 | 06:37 | 07:14 | 16:55 | 17:32 | 18:13 |
| -56 | 05:57 | 06:41 | 07:20 | 16:49 | 17:28 | 18:12 |
| -58 | 05:59 | 06:45 | 07:26 | 16:43 | 17:24 | 18:11 |
| -60 | 06:00 | 06:49 | 07:33 | 16:36 | 17:20 | 18:09 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **17** | **18** | **19** | **17** | **18** | **19** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | | | | |
| 62 | 19:43 | | 22:24 | 18:34 | | 20:12 |
| 60 | 20:50 | 21:39 | 23:13 | 17:27 | 18:48 | 19:22 |
| 58 | 21:25 | 22:19 | 23:44 | 16:52 | 18:08 | 18:51 |
| 56 | 21:51 | 22:47 | –:– | 16:27 | 17:40 | 18:28 |
| 54 | 22:11 | 23:09 | –:– | 16:07 | 17:19 | 18:08 |
| 52 | 22:28 | 23:27 | –:– | 15:50 | 17:01 | 17:52 |
| 50 | 22:43 | 23:42 | –:– | 15:36 | 16:45 | 17:38 |
| 45 | 23:13 | –:– | 00:13 | 15:06 | 16:14 | 17:09 |
| 40 | 23:36 | –:– | 00:37 | 14:43 | 15:50 | 16:47 |
| 35 | 23:56 | –:– | 00:57 | 14:24 | 15:30 | 16:28 |
| 30 | –:– | 00:12 | 01:13 | 14:08 | 15:13 | 16:12 |
| 20 | –:– | 00:40 | 01:42 | 13:41 | 14:45 | 15:44 |
| 10 | 00:06 | 01:05 | 02:07 | 13:17 | 14:20 | 15:21 |
| 0 | 00:26 | 01:27 | 02:29 | 12:55 | 13:57 | 14:59 |
| -10 | 00:47 | 01:50 | 02:52 | 12:33 | 13:34 | 14:36 |
| -20 | 01:09 | 02:15 | 03:17 | 12:10 | 13:09 | 14:12 |
| -30 | 01:35 | 02:43 | 03:45 | 11:43 | 12:40 | 13:44 |
| -35 | 01:51 | 03:00 | 04:02 | 11:26 | 12:23 | 13:28 |
| -40 | 02:09 | 03:20 | 04:22 | 11:08 | 12:03 | 13:08 |
| -45 | 02:30 | 03:44 | 04:46 | 10:45 | 11:39 | 12:45 |
| -50 | 02:58 | 04:15 | 05:17 | 10:17 | 11:08 | 12:15 |
| -52 | 03:12 | 04:31 | 05:32 | 10:03 | 10:52 | 12:00 |
| -54 | 03:27 | 04:49 | 05:50 | 09:47 | 10:34 | 11:42 |
| -56 | 03:46 | 05:11 | 06:11 | 09:28 | 10:11 | 11:21 |
| -58 | 04:09 | 05:40 | 06:38 | 09:05 | 09:43 | 10:54 |
| -60 | 04:39 | 06:22 | 07:17 | 08:34 | 09:01 | 10:15 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **17** | 04:08 | 04:02 | 12:04 | 06:41 | 19:11 | 23 | 41 |
| **18** | 03:55 | 03:49 | 12:04 | 07:42 | 20:13 | 24 | 30 |
| **19** | 03:42 | 03:35 | 12:04 | 08:44 | 21:14 | 25 | 20 |

## 2025 August 20, 21, 22 (Wed, Thu, Fri)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 20 Wednesday | 0 | 328 35.1 | 213 35.9 | 20 56.5 | 140 54.2 | -2 53.7 | 221 38.9 | 22 28.4 | 326 53.3 | -1 55.8 |
| | 1 | 343 37.6 | 228 35.2 | 20 56.1 | 155 55.2 | -2 54.3 | 236 40.8 | 22 28.3 | 341 55.9 | -1 55.9 |
| | 2 | 358 40.0 | 243 34.5 | 20 55.7 | 170 56.2 | -2 55.0 | 251 42.7 | 22 28.3 | 356 58.5 | -1 55.9 |
| | 3 | 13 42.5 | 258 33.9 | 20 55.4 | 185 57.2 | -2 55.6 | 266 44.7 | 22 28.2 | 12 1.1 | -1 56.0 |
| | 4 | 28 45.0 | 273 33.2 | 20 55.0 | 200 58.2 | -2 56.3 | 281 46.6 | 22 28.2 | 27 3.7 | -1 56.0 |
| | 5 | 43 47.4 | 288 32.5 | 20 54.6 | 215 59.2 | -2 56.9 | 296 48.6 | 22 28.1 | 42 6.3 | -1 56.1 |
| | 6 | 58 49.9 | 303 31.8 | 20 54.3 | 231 0.2 | -2 57.6 | 311 50.5 | 22 28.1 | 57 8.9 | -1 56.2 |
| | 7 | 73 52.4 | 318 31.1 | 20 53.9 | 246 1.2 | -2 58.2 | 326 52.4 | 22 28.0 | 72 11.5 | -1 56.2 |
| | 8 | 88 54.8 | 333 30.4 | 20 53.5 | 261 2.2 | -2 58.9 | 341 54.4 | 22 28.0 | 87 14.1 | -1 56.3 |
| | 9 | 103 57.3 | 348 29.7 | 20 53.2 | 276 3.3 | -2 59.5 | 356 56.3 | 22 27.9 | 102 16.7 | -1 56.4 |
| | 10 | 118 59.8 | 3 29.0 | 20 52.8 | 291 4.3 | -3 0.2 | 11 58.2 | 22 27.9 | 117 19.3 | -1 56.4 |
| | 11 | 134 2.2 | 18 28.3 | 20 52.4 | 306 5.3 | -3 0.9 | 27 0.2 | 22 27.8 | 132 21.9 | -1 56.5 |
| | 12 | 149 4.7 | 33 27.7 | 20 52.0 | 321 6.3 | -3 1.5 | 42 2.1 | 22 27.8 | 147 24.5 | -1 56.6 |
| | 13 | 164 7.1 | 48 27.0 | 20 51.6 | 336 7.3 | -3 2.2 | 57 4.1 | 22 27.7 | 162 27.0 | -1 56.6 |
| | 14 | 179 9.6 | 63 26.3 | 20 51.3 | 351 8.3 | -3 2.8 | 72 6.0 | 22 27.6 | 177 29.6 | -1 56.7 |
| | 15 | 194 12.1 | 78 25.6 | 20 50.9 | 6 9.3 | -3 3.5 | 87 7.9 | 22 27.6 | 192 32.2 | -1 56.8 |
| | 16 | 209 14.5 | 93 24.9 | 20 50.5 | 21 10.3 | -3 4.1 | 102 9.9 | 22 27.5 | 207 34.8 | -1 56.8 |
| | 17 | 224 17.0 | 108 24.2 | 20 50.1 | 36 11.3 | -3 4.8 | 117 11.8 | 22 27.5 | 222 37.4 | -1 56.9 |
| | 18 | 239 19.5 | 123 23.5 | 20 49.7 | 51 12.3 | -3 5.4 | 132 13.8 | 22 27.4 | 237 40.0 | -1 57.0 |
| | 19 | 254 21.9 | 138 22.8 | 20 49.4 | 66 13.4 | -3 6.1 | 147 15.7 | 22 27.4 | 252 42.6 | -1 57.0 |
| | 20 | 269 24.4 | 153 22.2 | 20 49.0 | 81 14.4 | -3 6.7 | 162 17.6 | 22 27.3 | 267 45.2 | -1 57.1 |
| | 21 | 284 26.9 | 168 21.5 | 20 48.6 | 96 15.4 | -3 7.4 | 177 19.6 | 22 27.3 | 282 47.8 | -1 57.1 |
| | 22 | 299 29.3 | 183 20.8 | 20 48.2 | 111 16.4 | -3 8.0 | 192 21.5 | 22 27.2 | 297 50.4 | -1 57.2 |
| | 23 | 314 31.8 | 198 20.1 | 20 47.8 | 126 17.4 | -3 8.7 | 207 23.5 | 22 27.2 | 312 53.0 | -1 57.3 |
| | | MP 02:07 | *v* -0.7 | *d* -0.4 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 Thursday | 0 | 329 34.3 | 213 19.4 | 20 47.4 | 141 18.4 | -3 9.4 | 222 25.4 | 22 27.1 | 327 55.6 | -1 57.3 |
| | 1 | 344 36.7 | 228 18.7 | 20 47.0 | 156 19.4 | -3 10.0 | 237 27.3 | 22 27.1 | 342 58.2 | -1 57.4 |
| | 2 | 359 39.2 | 243 18.0 | 20 46.6 | 171 20.4 | -3 10.7 | 252 29.3 | 22 27.0 | 358 0.8 | -1 57.5 |
| | 3 | 14 41.6 | 258 17.3 | 20 46.2 | 186 21.4 | -3 11.3 | 267 31.2 | 22 27.0 | 13 3.4 | -1 57.5 |
| | 4 | 29 44.1 | 273 16.7 | 20 45.9 | 201 22.4 | -3 12.0 | 282 33.2 | 22 26.9 | 28 6.0 | -1 57.6 |
| | 5 | 44 46.6 | 288 16.0 | 20 45.5 | 216 23.4 | -3 12.6 | 297 35.1 | 22 26.9 | 43 8.6 | -1 57.7 |
| | 6 | 59 49.0 | 303 15.3 | 20 45.1 | 231 24.4 | -3 13.3 | 312 37.1 | 22 26.8 | 58 11.2 | -1 57.7 |
| | 7 | 74 51.5 | 318 14.6 | 20 44.7 | 246 25.4 | -3 13.9 | 327 39.0 | 22 26.7 | 73 13.8 | -1 57.8 |
| | 8 | 89 54.0 | 333 13.9 | 20 44.3 | 261 26.5 | -3 14.6 | 342 40.9 | 22 26.7 | 88 16.4 | -1 57.9 |
| | 9 | 104 56.4 | 348 13.2 | 20 43.9 | 276 27.5 | -3 15.2 | 357 42.9 | 22 26.6 | 103 19.0 | -1 57.9 |
| | 10 | 119 58.9 | 3 12.5 | 20 43.5 | 291 28.5 | -3 15.9 | 12 44.8 | 22 26.6 | 118 21.5 | -1 58.0 |
| | 11 | 135 1.4 | 18 11.9 | 20 43.1 | 306 29.5 | -3 16.6 | 27 46.8 | 22 26.5 | 133 24.1 | -1 58.1 |
| | 12 | 150 3.8 | 33 11.2 | 20 42.7 | 321 30.5 | -3 17.2 | 42 48.7 | 22 26.5 | 148 26.7 | -1 58.1 |
| | 13 | 165 6.3 | 48 10.5 | 20 42.3 | 336 31.5 | -3 17.9 | 57 50.7 | 22 26.4 | 163 29.3 | -1 58.2 |
| | 14 | 180 8.8 | 63 9.8 | 20 41.9 | 351 32.5 | -3 18.5 | 72 52.6 | 22 26.4 | 178 31.9 | -1 58.3 |
| | 15 | 195 11.2 | 78 9.1 | 20 41.5 | 6 33.5 | -3 19.2 | 87 54.5 | 22 26.3 | 193 34.5 | -1 58.3 |
| | 16 | 210 13.7 | 93 8.4 | 20 41.1 | 21 34.5 | -3 19.8 | 102 56.5 | 22 26.3 | 208 37.1 | -1 58.4 |
| | 17 | 225 16.1 | 108 7.7 | 20 40.7 | 36 35.5 | -3 20.5 | 117 58.4 | 22 26.2 | 223 39.7 | -1 58.5 |
| | 18 | 240 18.6 | 123 7.1 | 20 40.2 | 51 36.5 | -3 21.1 | 133 0.4 | 22 26.2 | 238 42.3 | -1 58.5 |
| | 19 | 255 21.1 | 138 6.4 | 20 39.8 | 66 37.5 | -3 21.8 | 148 2.3 | 22 26.1 | 253 44.9 | -1 58.6 |
| | 20 | 270 23.5 | 153 5.7 | 20 39.4 | 81 38.5 | -3 22.4 | 163 4.3 | 22 26.1 | 268 47.5 | -1 58.7 |
| | 21 | 285 26.0 | 168 5.0 | 20 39.0 | 96 39.5 | -3 23.1 | 178 6.2 | 22 26.0 | 283 50.1 | -1 58.7 |
| | 22 | 300 28.5 | 183 4.3 | 20 38.6 | 111 40.5 | -3 23.8 | 193 8.1 | 22 25.9 | 298 52.7 | -1 58.8 |
| | 23 | 315 30.9 | 198 3.6 | 20 38.2 | 126 41.5 | -3 24.4 | 208 10.1 | 22 25.9 | 313 55.3 | -1 58.9 |
| | | MP 02:03 | *v* -0.7 | *d* -0.4 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 Friday | 0 | 330 33.4 | 213 3.0 | 20 37.8 | 141 42.5 | -3 25.1 | 223 12.0 | 22 25.8 | 328 57.9 | -1 58.9 |
| | 1 | 345 35.9 | 228 2.3 | 20 37.4 | 156 43.6 | -3 25.7 | 238 14.0 | 22 25.8 | 344 0.5 | -1 59.0 |
| | 2 | 0 38.3 | 243 1.6 | 20 37.0 | 171 44.6 | -3 26.4 | 253 15.9 | 22 25.7 | 359 3.1 | -1 59.1 |
| | 3 | 15 40.8 | 258 0.9 | 20 36.5 | 186 45.6 | -3 27.0 | 268 17.9 | 22 25.7 | 14 5.7 | -1 59.1 |
| | 4 | 30 43.2 | 273 0.2 | 20 36.1 | 201 46.6 | -3 27.7 | 283 19.8 | 22 25.6 | 29 8.3 | -1 59.2 |
| | 5 | 45 45.7 | 287 59.5 | 20 35.7 | 216 47.6 | -3 28.3 | 298 21.8 | 22 25.6 | 44 10.9 | -1 59.3 |
| | 6 | 60 48.2 | 302 58.9 | 20 35.3 | 231 48.6 | -3 29.0 | 313 23.7 | 22 25.5 | 59 13.5 | -1 59.3 |
| | 7 | 75 50.6 | 317 58.2 | 20 34.9 | 246 49.6 | -3 29.6 | 328 25.6 | 22 25.5 | 74 16.1 | -1 59.4 |
| | 8 | 90 53.1 | 332 57.5 | 20 34.4 | 261 50.6 | -3 30.3 | 343 27.6 | 22 25.4 | 89 18.7 | -1 59.5 |
| | 9 | 105 55.6 | 347 56.8 | 20 34.0 | 276 51.6 | -3 30.9 | 358 29.5 | 22 25.4 | 104 21.3 | -1 59.5 |
| | 10 | 120 58.0 | 2 56.1 | 20 33.6 | 291 52.6 | -3 31.6 | 13 31.5 | 22 25.3 | 119 23.9 | -1 59.6 |
| | 11 | 136 0.5 | 17 55.5 | 20 33.2 | 306 53.6 | -3 32.3 | 28 33.4 | 22 25.3 | 134 26.5 | -1 59.7 |
| | 12 | 151 3.0 | 32 54.8 | 20 32.7 | 321 54.6 | -3 32.9 | 43 35.4 | 22 25.2 | 149 29.1 | -1 59.7 |
| | 13 | 166 5.4 | 47 54.1 | 20 32.3 | 336 55.6 | -3 33.6 | 58 37.3 | 22 25.1 | 164 31.7 | -1 59.8 |
| | 14 | 181 7.9 | 62 53.4 | 20 31.9 | 351 56.6 | -3 34.2 | 73 39.3 | 22 25.1 | 179 34.3 | -1 59.9 |
| | 15 | 196 10.4 | 77 52.7 | 20 31.5 | 6 57.6 | -3 34.9 | 88 41.2 | 22 25.0 | 194 36.9 | -1 59.9 |
| | 16 | 211 12.8 | 92 52.0 | 20 31.0 | 21 58.6 | -3 35.5 | 103 43.2 | 22 25.0 | 209 39.5 | -2 0.0 |
| | 17 | 226 15.3 | 107 51.4 | 20 30.6 | 36 59.6 | -3 36.2 | 118 45.1 | 22 24.9 | 224 42.1 | -2 0.1 |
| | 18 | 241 17.7 | 122 50.7 | 20 30.2 | 52 0.6 | -3 36.8 | 133 47.1 | 22 24.9 | 239 44.7 | -2 0.1 |
| | 19 | 256 20.2 | 137 50.0 | 20 29.7 | 67 1.6 | -3 37.5 | 148 49.0 | 22 24.8 | 254 47.3 | -2 0.2 |
| | 20 | 271 22.7 | 152 49.3 | 20 29.3 | 82 2.6 | -3 38.1 | 163 51.0 | 22 24.8 | 269 49.9 | -2 0.3 |
| | 21 | 286 25.1 | 167 48.6 | 20 28.9 | 97 3.6 | -3 38.8 | 178 52.9 | 22 24.7 | 284 52.5 | -2 0.3 |
| | 22 | 301 27.6 | 182 48.0 | 20 28.4 | 112 4.6 | -3 39.5 | 193 54.8 | 22 24.7 | 299 55.1 | -2 0.4 |
| | 23 | 316 30.1 | 197 47.3 | 20 28.0 | 127 5.6 | -3 40.1 | 208 56.8 | 22 24.6 | 314 57.7 | -2 0.5 |
| | | MP 01:59 | *v* -0.7 | *d* -0.4 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.3 | -40 11.8 |
| Achernar | 335 19.5 | -57 6.1 |
| Acrux | 173 0.1 | -63 14.6 |
| Adhara | 255 5.7 | -29 0.2 |
| Aldebaran | 290 39.1 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.5 |
| Alkaid | 152 51.8 | 49 11.4 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.4 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.3 | 26 37.9 |
| Alpheratz | 357 33.9 | 29 14.0 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.3 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 8.7 | -69 4.6 |
| Avior | 234 15.1 | -59 35.3 |
| Bellatrix | 278 22.5 | 6 22.5 |
| Betelgeuse | 270 51.7 | 7 24.8 |
| Canopus | 263 52.5 | -52 42.2 |
| Capella | 280 21.3 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.4 |
| Denebola | 182 24.7 | 14 25.9 |
| Diphda | 348 46.5 | -17 50.5 |
| Dubhe | 193 41.0 | 61 36.9 |
| Elnath | 278 1.4 | 28 37.7 |
| Eltanin | 90 41.6 | 51 29.3 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.6 | -29 29.0 |
| Gacrux | 171 51.5 | -57 15.6 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.6 | -60 30.0 |
| Hamal | 327 50.5 | 23 35.0 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 20.0 | 74 3.2 |
| Markab | 13 29.1 | 15 20.7 |
| Menkar | 314 5.5 | 4 11.5 |
| Menkent | 147 57.2 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.2 |
| Mirfak | 308 27.5 | 49 57.0 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.3 | -56 39.2 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.6 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.5 | -8 10.1 |
| Rigil Kent. | 139 39.8 | -60 56.7 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 30.1 | 56 40.6 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 26.0 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.0 |
| Vega | 80 32.6 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 20 Wed | SHA | MP |
|---|---|---|
| Venus | 245 0.8 | 09:46 |
| Mars | 172 19.0 | 14:35 |
| Jupiter | 253 3.7 | 09:12 |
| Saturn | 358 18.2 | 02:12 |

| 21 Thu | SHA | MP |
|---|---|---|
| Venus | 243 45.2 | 09:47 |
| Mars | 171 44.1 | 14:34 |
| Jupiter | 252 51.2 | 09:09 |
| Saturn | 358 21.3 | 02:08 |

| 22 Fri | SHA | MP |
|---|---|---|
| Venus | 242 29.6 | 09:48 |
| Mars | 171 9.2 | 14:32 |
| Jupiter | 252 38.6 | 09:06 |
| Saturn | 358 24.5 | 02:04 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | v | Dec | d | HP |
| **20 Wednesday** | 0 | 179 8.1 | 12 25.6 | 219 48.4 | 5.5 | 26 58.2 | -6.0 | 58.3 |
| | 1 | 194 8.2 | 12 24.8 | 234 12.9 | 5.6 | 26 52.2 | -6.1 | 58.2 |
| | 2 | 209 8.4 | 12 24.0 | 248 37.5 | 5.7 | 26 46.1 | -6.3 | 58.2 |
| | 3 | 224 8.5 | 12 23.1 | 263 2.2 | 5.8 | 26 39.8 | -6.5 | 58.2 |
| | 4 | 239 8.7 | 12 22.3 | 277 27.0 | 5.9 | 26 33.4 | -6.6 | 58.2 |
| | 5 | 254 8.8 | 12 21.5 | 291 51.8 | 6.0 | 26 26.7 | -6.8 | 58.2 |
| | 6 | 269 9.0 | 12 20.7 | 306 16.8 | 6.1 | 26 19.9 | -6.9 | 58.2 |
| | 7 | 284 9.1 | 12 19.8 | 320 41.9 | 6.1 | 26 13.0 | -7.1 | 58.1 |
| | 8 | 299 9.3 | 12 19.0 | 335 7.0 | 6.2 | 26 5.9 | -7.3 | 58.1 |
| | 9 | 314 9.4 | 12 18.2 | 349 32.2 | 6.3 | 25 58.7 | -7.4 | 58.1 |
| | 10 | 329 9.6 | 12 17.4 | 3 57.6 | 6.4 | 25 51.2 | -7.6 | 58.1 |
| | 11 | 344 9.7 | 12 16.5 | 18 23.0 | 6.5 | 25 43.7 | -7.7 | 58.1 |
| | 12 | 359 9.9 | 12 15.7 | 32 48.6 | 6.6 | 25 36.0 | -7.9 | 58.1 |
| | 13 | 14 10.0 | 12 14.9 | 47 14.2 | 6.7 | 25 28.1 | -8.0 | 58.0 |
| | 14 | 29 10.2 | 12 14.0 | 61 39.9 | 6.8 | 25 20.1 | -8.2 | 58.0 |
| | 15 | 44 10.3 | 12 13.2 | 76 5.8 | 6.9 | 25 11.9 | -8.3 | 58.0 |
| | 16 | 59 10.5 | 12 12.4 | 90 31.7 | 7.0 | 25 3.6 | -8.4 | 58.0 |
| | 17 | 74 10.6 | 12 11.6 | 104 57.8 | 7.2 | 24 55.2 | -8.6 | 58.0 |
| | 18 | 89 10.8 | 12 10.7 | 119 23.9 | 7.3 | 24 46.6 | -8.7 | 57.9 |
| | 19 | 104 10.9 | 12 9.9 | 133 50.2 | 7.4 | 24 37.9 | -8.9 | 57.9 |
| | 20 | 119 11.1 | 12 9.1 | 148 16.6 | 7.5 | 24 29.0 | -9.0 | 57.9 |
| | 21 | 134 11.2 | 12 8.2 | 162 43.0 | 7.6 | 24 20.0 | -9.1 | 57.9 |
| | 22 | 149 11.4 | 12 7.4 | 177 9.6 | 7.7 | 24 10.8 | -9.3 | 57.9 |
| | 23 | 164 11.5 | 12 6.6 | 191 36.3 | 7.8 | 24 1.6 | -9.4 | 57.8 |
| | | v 0.1 | SD 15.8 | d -0.8 | | SD 15.9 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **21 Thursday** | 0 | 179 11.7 | 12 5.7 | 206 3.1 | 7.9 | 23 52.1 | -9.5 | 57.8 |
| | 1 | 194 11.8 | 12 4.9 | 220 30.0 | 8.0 | 23 42.6 | -9.7 | 57.8 |
| | 2 | 209 12.0 | 12 4.1 | 234 57.0 | 8.1 | 23 32.9 | -9.8 | 57.8 |
| | 3 | 224 12.1 | 12 3.2 | 249 24.1 | 8.2 | 23 23.1 | -9.9 | 57.8 |
| | 4 | 239 12.3 | 12 2.4 | 263 51.4 | 8.3 | 23 13.2 | -10.0 | 57.7 |
| | 5 | 254 12.4 | 12 1.6 | 278 18.7 | 8.5 | 23 3.2 | -10.2 | 57.7 |
| | 6 | 269 12.6 | 12 0.7 | 292 46.2 | 8.6 | 22 53.0 | -10.3 | 57.7 |
| | 7 | 284 12.8 | 11 59.9 | 307 13.7 | 8.7 | 22 42.7 | -10.4 | 57.7 |
| | 8 | 299 12.9 | 11 59.1 | 321 41.4 | 8.8 | 22 32.3 | -10.5 | 57.7 |
| | 9 | 314 13.1 | 11 58.2 | 336 9.2 | 8.9 | 22 21.8 | -10.6 | 57.6 |
| | 10 | 329 13.2 | 11 57.4 | 350 37.1 | 9.0 | 22 11.1 | -10.8 | 57.6 |
| | 11 | 344 13.4 | 11 56.6 | 5 5.1 | 9.1 | 22 0.4 | -10.9 | 57.6 |
| | 12 | 359 13.5 | 11 55.7 | 19 33.2 | 9.2 | 21 49.5 | -11.0 | 57.6 |
| | 13 | 14 13.7 | 11 54.9 | 34 1.4 | 9.3 | 21 38.5 | -11.1 | 57.6 |
| | 14 | 29 13.8 | 11 54.0 | 48 29.8 | 9.4 | 21 27.4 | -11.2 | 57.5 |
| | 15 | 44 14.0 | 11 53.2 | 62 58.2 | 9.6 | 21 16.2 | -11.3 | 57.5 |
| | 16 | 59 14.2 | 11 52.4 | 77 26.8 | 9.7 | 21 4.9 | -11.4 | 57.5 |
| | 17 | 74 14.3 | 11 51.5 | 91 55.4 | 9.8 | 20 53.5 | -11.5 | 57.5 |
| | 18 | 89 14.5 | 11 50.7 | 106 24.2 | 9.9 | 20 42.0 | -11.6 | 57.5 |
| | 19 | 104 14.6 | 11 49.9 | 120 53.1 | 10.0 | 20 30.4 | -11.7 | 57.4 |
| | 20 | 119 14.8 | 11 49.0 | 135 22.1 | 10.1 | 20 18.7 | -11.8 | 57.4 |
| | 21 | 134 14.9 | 11 48.2 | 149 51.2 | 10.2 | 20 6.8 | -11.9 | 57.4 |
| | 22 | 149 15.1 | 11 47.3 | 164 20.4 | 10.3 | 19 54.9 | -12.0 | 57.4 |
| | 23 | 164 15.3 | 11 46.5 | 178 49.7 | 10.4 | 19 42.9 | -12.1 | 57.4 |
| | | v 0.2 | SD 15.8 | d -0.8 | | SD 15.8 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **22 Friday** | 0 | 179 15.4 | 11 45.7 | 193 19.1 | 10.5 | 19 30.8 | -12.2 | 57.3 |
| | 1 | 194 15.6 | 11 44.8 | 207 48.6 | 10.6 | 19 18.7 | -12.3 | 57.3 |
| | 2 | 209 15.7 | 11 44.0 | 222 18.3 | 10.7 | 19 6.4 | -12.4 | 57.3 |
| | 3 | 224 15.9 | 11 43.1 | 236 48.0 | 10.8 | 18 54.0 | -12.4 | 57.3 |
| | 4 | 239 16.0 | 11 42.3 | 251 17.8 | 10.9 | 18 41.6 | -12.5 | 57.2 |
| | 5 | 254 16.2 | 11 41.4 | 265 47.8 | 11.1 | 18 29.0 | -12.6 | 57.2 |
| | 6 | 269 16.4 | 11 40.6 | 280 17.8 | 11.2 | 18 16.4 | -12.7 | 57.2 |
| | 7 | 284 16.5 | 11 39.8 | 294 48.0 | 11.3 | 18 3.7 | -12.8 | 57.2 |
| | 8 | 299 16.7 | 11 38.9 | 309 18.2 | 11.4 | 17 51.0 | -12.9 | 57.2 |
| | 9 | 314 16.8 | 11 38.1 | 323 48.6 | 11.5 | 17 38.1 | -12.9 | 57.1 |
| | 10 | 329 17.0 | 11 37.2 | 338 19.1 | 11.6 | 17 25.2 | -13.0 | 57.1 |
| | 11 | 344 17.2 | 11 36.4 | 352 49.6 | 11.7 | 17 12.2 | -13.1 | 57.1 |
| | 12 | 359 17.3 | 11 35.5 | 7 20.3 | 11.8 | 16 59.1 | -13.2 | 57.1 |
| | 13 | 14 17.5 | 11 34.7 | 21 51.0 | 11.9 | 16 45.9 | -13.2 | 57.0 |
| | 14 | 29 17.6 | 11 33.9 | 36 21.9 | 11.9 | 16 32.7 | -13.3 | 57.0 |
| | 15 | 44 17.8 | 11 33.0 | 50 52.8 | 12.0 | 16 19.4 | -13.4 | 57.0 |
| | 16 | 59 18.0 | 11 32.2 | 65 23.9 | 12.1 | 16 6.1 | -13.4 | 57.0 |
| | 17 | 74 18.1 | 11 31.3 | 79 55.0 | 12.2 | 15 52.6 | -13.5 | 57.0 |
| | 18 | 89 18.3 | 11 30.5 | 94 26.2 | 12.3 | 15 39.1 | -13.6 | 56.9 |
| | 19 | 104 18.5 | 11 29.6 | 108 57.6 | 12.4 | 15 25.6 | -13.6 | 56.9 |
| | 20 | 119 18.6 | 11 28.8 | 123 29.0 | 12.5 | 15 12.0 | -13.7 | 56.9 |
| | 21 | 134 18.8 | 11 27.9 | 138 0.5 | 12.6 | 14 58.3 | -13.7 | 56.9 |
| | 22 | 149 18.9 | 11 27.1 | 152 32.1 | 12.7 | 14 44.6 | -13.8 | 56.8 |
| | 23 | 164 19.1 | 11 26.2 | 167 3.8 | 12.8 | 14 30.8 | -13.8 | 56.8 |
| | | v 0.2 | SD 15.8 | d -0.8 | | SD 15.6 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | //// | 02:58 | 21:04 | //// | //// |
| 70 | //// | 01:37 | 03:22 | 20:41 | 22:21 | //// |
| 68 | //// | 02:19 | 03:41 | 20:23 | 21:42 | //// |
| 66 | //// | 02:47 | 03:56 | 20:09 | 21:16 | //// |
| 64 | 01:26 | 03:08 | 04:08 | 19:57 | 20:56 | 22:34 |
| 62 | 02:03 | 03:24 | 04:18 | 19:47 | 20:40 | 21:59 |
| 60 | 02:29 | 03:38 | 04:27 | 19:38 | 20:27 | 21:35 |
| 58 | 02:48 | 03:49 | 04:34 | 19:31 | 20:16 | 21:16 |
| 56 | 03:04 | 03:59 | 04:41 | 19:24 | 20:06 | 21:01 |
| 54 | 03:17 | 04:08 | 04:47 | 19:18 | 19:58 | 20:48 |
| 52 | 03:28 | 04:15 | 04:52 | 19:13 | 19:50 | 20:37 |
| 50 | 03:38 | 04:22 | 04:57 | 19:08 | 19:43 | 20:27 |
| 45 | 03:58 | 04:36 | 05:08 | 18:58 | 19:29 | 20:08 |
| 40 | 04:13 | 04:48 | 05:17 | 18:49 | 19:18 | 19:52 |
| 35 | 04:26 | 04:57 | 05:24 | 18:42 | 19:09 | 19:40 |
| 30 | 04:36 | 05:06 | 05:30 | 18:36 | 19:01 | 19:30 |
| 20 | 04:52 | 05:19 | 05:41 | 18:25 | 18:48 | 19:14 |
| 10 | 05:04 | 05:30 | 05:51 | 18:15 | 18:37 | 19:02 |
| 0 | 05:14 | 05:39 | 06:00 | 18:07 | 18:28 | 18:52 |
| -10 | 05:23 | 05:47 | 06:09 | 17:58 | 18:19 | 18:44 |
| -20 | 05:30 | 05:56 | 06:18 | 17:49 | 18:11 | 18:37 |
| -30 | 05:36 | 06:04 | 06:28 | 17:39 | 18:03 | 18:31 |
| -35 | 05:39 | 06:09 | 06:34 | 17:33 | 17:59 | 18:28 |
| -40 | 05:42 | 06:13 | 06:41 | 17:26 | 17:54 | 18:25 |
| -45 | 05:45 | 06:19 | 06:49 | 17:18 | 17:48 | 18:23 |
| -50 | 05:47 | 06:25 | 06:58 | 17:09 | 17:42 | 18:20 |
| -52 | 05:48 | 06:28 | 07:03 | 17:05 | 17:40 | 18:19 |
| -54 | 05:49 | 06:31 | 07:07 | 17:00 | 17:37 | 18:18 |
| -56 | 05:51 | 06:34 | 07:13 | 16:55 | 17:34 | 18:17 |
| -58 | 05:52 | 06:37 | 07:18 | 16:49 | 17:30 | 18:16 |
| -60 | 05:53 | 06:41 | 07:25 | 16:43 | 17:26 | 18:15 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **20** | **21** | **22** | **20** | **21** | **22** |
| 72 | ▭ | ▭ | –:– | ▭ | ▭ | 21:25 |
| 70 | ▭ | –:– | 00:07 | ▭ | 22:23 | 20:55 |
| 68 | ▭ | –:– | 01:12 | ▭ | 21:17 | 20:33 |
| 66 | ▭ | –:– | 01:47 | ▭ | 20:40 | 20:15 |
| 64 | 23:58 | –:– | 02:12 | 20:38 | 20:14 | 20:00 |
| 62 | –:– | 00:35 | 02:32 | 20:00 | 19:53 | 19:48 |
| 60 | –:– | 01:02 | 02:48 | 19:33 | 19:37 | 19:37 |
| 58 | –:– | 01:22 | 03:01 | 19:12 | 19:22 | 19:28 |
| 56 | 00:07 | 01:39 | 03:13 | 18:54 | 19:10 | 19:20 |
| 54 | 00:26 | 01:54 | 03:23 | 18:40 | 18:59 | 19:13 |
| 52 | 00:42 | 02:06 | 03:32 | 18:27 | 18:50 | 19:06 |
| 50 | 00:56 | 02:17 | 03:39 | 18:15 | 18:41 | 19:00 |
| 45 | 01:24 | 02:40 | 03:56 | 17:51 | 18:23 | 18:47 |
| 40 | 01:46 | 02:58 | 04:10 | 17:32 | 18:08 | 18:37 |
| 35 | 02:04 | 03:13 | 04:22 | 17:16 | 17:55 | 18:27 |
| 30 | 02:19 | 03:26 | 04:32 | 17:02 | 17:44 | 18:19 |
| 20 | 02:46 | 03:49 | 04:49 | 16:38 | 17:24 | 18:05 |
| 10 | 03:09 | 04:08 | 05:04 | 16:17 | 17:07 | 17:53 |
| 0 | 03:30 | 04:26 | 05:18 | 15:57 | 16:51 | 17:41 |
| -10 | 03:51 | 04:44 | 05:32 | 15:37 | 16:35 | 17:29 |
| -20 | 04:13 | 05:03 | 05:47 | 15:16 | 16:18 | 17:17 |
| -30 | 04:39 | 05:25 | 06:03 | 14:51 | 15:58 | 17:02 |
| -35 | 04:55 | 05:38 | 06:13 | 14:37 | 15:46 | 16:53 |
| -40 | 05:12 | 05:53 | 06:24 | 14:20 | 15:33 | 16:44 |
| -45 | 05:34 | 06:10 | 06:37 | 13:59 | 15:16 | 16:32 |
| -50 | 06:01 | 06:31 | 06:53 | 13:33 | 14:56 | 16:18 |
| -52 | 06:14 | 06:41 | 07:00 | 13:21 | 14:47 | 16:11 |
| -54 | 06:29 | 06:53 | 07:09 | 13:06 | 14:36 | 16:04 |
| -56 | 06:46 | 07:06 | 07:18 | 12:49 | 14:24 | 15:56 |
| -58 | 07:07 | 07:21 | 07:28 | 12:29 | 14:09 | 15:46 |
| -60 | 07:34 | 07:39 | 07:40 | 12:02 | 13:52 | 15:36 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **20** | 03:28 | 03:21 | 12:03 | 09:44 | 22:12 | 26 | 12 |
| **21** | 03:13 | 03:06 | 12:03 | 10:39 | 23:05 | 27 | 6 |
| **22** | 02:58 | 02:51 | 12:03 | 11:30 | 23:53 | 28 | 2 |

## 2025 August 23, 24, 25 (Sat, Sun, Monday)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 23 Saturday | 0 | 331 32.5 | 212 46.6 | 20 27.6 | 142 6.6 | -3 40.8 | 223 58.7 | 22 24.6 | 330 0.3 | -2 0.5 |
| | 1 | 346 35.0 | 227 45.9 | 20 27.1 | 157 7.6 | -3 41.4 | 239 0.7 | 22 24.5 | 345 2.9 | -2 0.6 |
| | 2 | 1 37.5 | 242 45.2 | 20 26.7 | 172 8.6 | -3 42.1 | 254 2.6 | 22 24.4 | 0 5.5 | -2 0.7 |
| | 3 | 16 39.9 | 257 44.6 | 20 26.2 | 187 9.6 | -3 42.7 | 269 4.6 | 22 24.4 | 15 8.1 | -2 0.7 |
| | 4 | 31 42.4 | 272 43.9 | 20 25.8 | 202 10.6 | -3 43.4 | 284 6.5 | 22 24.3 | 30 10.7 | -2 0.8 |
| | 5 | 46 44.9 | 287 43.2 | 20 25.4 | 217 11.6 | -3 44.0 | 299 8.5 | 22 24.3 | 45 13.3 | -2 0.9 |
| | 6 | 61 47.3 | 302 42.5 | 20 24.9 | 232 12.6 | -3 44.7 | 314 10.4 | 22 24.2 | 60 15.9 | -2 0.9 |
| | 7 | 76 49.8 | 317 41.9 | 20 24.5 | 247 13.6 | -3 45.3 | 329 12.4 | 22 24.2 | 75 18.5 | -2 1.0 |
| | 8 | 91 52.2 | 332 41.2 | 20 24.0 | 262 14.6 | -3 46.0 | 344 14.3 | 22 24.1 | 90 21.1 | -2 1.1 |
| | 9 | 106 54.7 | 347 40.5 | 20 23.6 | 277 15.6 | -3 46.7 | 359 16.3 | 22 24.1 | 105 23.7 | -2 1.1 |
| | 10 | 121 57.2 | 2 39.8 | 20 23.1 | 292 16.6 | -3 47.3 | 14 18.2 | 22 24.0 | 120 26.3 | -2 1.2 |
| | 11 | 136 59.6 | 17 39.1 | 20 22.7 | 307 17.6 | -3 48.0 | 29 20.2 | 22 24.0 | 135 28.9 | -2 1.3 |
| | 12 | 152 2.1 | 32 38.5 | 20 22.2 | 322 18.6 | -3 48.6 | 44 22.1 | 22 23.9 | 150 31.5 | -2 1.3 |
| | 13 | 167 4.6 | 47 37.8 | 20 21.8 | 337 19.6 | -3 49.3 | 59 24.1 | 22 23.9 | 165 34.1 | -2 1.4 |
| | 14 | 182 7.0 | 62 37.1 | 20 21.3 | 352 20.6 | -3 49.9 | 74 26.0 | 22 23.8 | 180 36.7 | -2 1.5 |
| | 15 | 197 9.5 | 77 36.4 | 20 20.9 | 7 21.6 | -3 50.6 | 89 28.0 | 22 23.8 | 195 39.3 | -2 1.5 |
| | 16 | 212 12.0 | 92 35.8 | 20 20.4 | 22 22.6 | -3 51.2 | 104 29.9 | 22 23.7 | 210 41.9 | -2 1.6 |
| | 17 | 227 14.4 | 107 35.1 | 20 20.0 | 37 23.6 | -3 51.9 | 119 31.9 | 22 23.6 | 225 44.5 | -2 1.7 |
| | 18 | 242 16.9 | 122 34.4 | 20 19.5 | 52 24.6 | -3 52.5 | 134 33.8 | 22 23.6 | 240 47.1 | -2 1.8 |
| | 19 | 257 19.3 | 137 33.7 | 20 19.0 | 67 25.6 | -3 53.2 | 149 35.8 | 22 23.5 | 255 49.7 | -2 1.8 |
| | 20 | 272 21.8 | 152 33.0 | 20 18.6 | 82 26.6 | -3 53.8 | 164 37.7 | 22 23.5 | 270 52.3 | -2 1.9 |
| | 21 | 287 24.3 | 167 32.4 | 20 18.1 | 97 27.6 | -3 54.5 | 179 39.7 | 22 23.4 | 285 54.9 | -2 2.0 |
| | 22 | 302 26.7 | 182 31.7 | 20 17.7 | 112 28.6 | -3 55.2 | 194 41.6 | 22 23.4 | 300 57.5 | -2 2.0 |
| | 23 | 317 29.2 | 197 31.0 | 20 17.2 | 127 29.6 | -3 55.8 | 209 43.6 | 22 23.3 | 316 0.1 | -2 2.1 |
| | | MP 01:55 | *v* -0.7 | *d* -0.4 | *v* 1.0 | *d* 0.7 | *v* 1.9 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 Sunday | 0 | 332 31.7 | 212 30.3 | 20 16.8 | 142 30.6 | -3 56.5 | 224 45.5 | 22 23.3 | 331 2.7 | -2 2.2 |
| | 1 | 347 34.1 | 227 29.7 | 20 16.3 | 157 31.6 | -3 57.1 | 239 47.5 | 22 23.2 | 346 5.3 | -2 2.2 |
| | 2 | 2 36.6 | 242 29.0 | 20 15.8 | 172 32.6 | -3 57.8 | 254 49.4 | 22 23.2 | 1 7.9 | -2 2.3 |
| | 3 | 17 39.1 | 257 28.3 | 20 15.4 | 187 33.6 | -3 58.4 | 269 51.4 | 22 23.1 | 16 10.5 | -2 2.4 |
| | 4 | 32 41.5 | 272 27.6 | 20 14.9 | 202 34.6 | -3 59.1 | 284 53.3 | 22 23.1 | 31 13.1 | -2 2.4 |
| | 5 | 47 44.0 | 287 27.0 | 20 14.4 | 217 35.6 | -3 59.7 | 299 55.3 | 22 23.0 | 46 15.7 | -2 2.5 |
| | 6 | 62 46.5 | 302 26.3 | 20 14.0 | 232 36.6 | -4 0.4 | 314 57.3 | 22 22.9 | 61 18.4 | -2 2.6 |
| | 7 | 77 48.9 | 317 25.6 | 20 13.5 | 247 37.6 | -4 1.0 | 329 59.2 | 22 22.9 | 76 21.0 | -2 2.6 |
| | 8 | 92 51.4 | 332 25.0 | 20 13.0 | 262 38.6 | -4 1.7 | 345 1.2 | 22 22.8 | 91 23.6 | -2 2.7 |
| | 9 | 107 53.8 | 347 24.3 | 20 12.6 | 277 39.6 | -4 2.4 | 0 3.1 | 22 22.8 | 106 26.2 | -2 2.8 |
| | 10 | 122 56.3 | 2 23.6 | 20 12.1 | 292 40.6 | -4 3.0 | 15 5.1 | 22 22.7 | 121 28.8 | -2 2.8 |
| | 11 | 137 58.8 | 17 22.9 | 20 11.6 | 307 41.6 | -4 3.7 | 30 7.0 | 22 22.7 | 136 31.4 | -2 2.9 |
| | 12 | 153 1.2 | 32 22.3 | 20 11.1 | 322 42.6 | -4 4.3 | 45 9.0 | 22 22.6 | 151 34.0 | -2 3.0 |
| | 13 | 168 3.7 | 47 21.6 | 20 10.7 | 337 43.6 | -4 5.0 | 60 10.9 | 22 22.6 | 166 36.6 | -2 3.1 |
| | 14 | 183 6.2 | 62 20.9 | 20 10.2 | 352 44.6 | -4 5.6 | 75 12.9 | 22 22.5 | 181 39.2 | -2 3.1 |
| | 15 | 198 8.6 | 77 20.2 | 20 9.7 | 7 45.6 | -4 6.3 | 90 14.8 | 22 22.5 | 196 41.8 | -2 3.2 |
| | 16 | 213 11.1 | 92 19.6 | 20 9.2 | 22 46.6 | -4 6.9 | 105 16.8 | 22 22.4 | 211 44.4 | -2 3.3 |
| | 17 | 228 13.6 | 107 18.9 | 20 8.7 | 37 47.6 | -4 7.6 | 120 18.7 | 22 22.3 | 226 47.0 | -2 3.3 |
| | 18 | 243 16.0 | 122 18.2 | 20 8.3 | 52 48.5 | -4 8.2 | 135 20.7 | 22 22.3 | 241 49.6 | -2 3.4 |
| | 19 | 258 18.5 | 137 17.5 | 20 7.8 | 67 49.5 | -4 8.9 | 150 22.7 | 22 22.2 | 256 52.2 | -2 3.5 |
| | 20 | 273 20.9 | 152 16.9 | 20 7.3 | 82 50.5 | -4 9.5 | 165 24.6 | 22 22.2 | 271 54.8 | -2 3.5 |
| | 21 | 288 23.4 | 167 16.2 | 20 6.8 | 97 51.5 | -4 10.2 | 180 26.6 | 22 22.1 | 286 57.4 | -2 3.6 |
| | 22 | 303 25.9 | 182 15.5 | 20 6.3 | 112 52.5 | -4 10.9 | 195 28.5 | 22 22.1 | 302 0.0 | -2 3.7 |
| | 23 | 318 28.3 | 197 14.9 | 20 5.9 | 127 53.5 | -4 11.5 | 210 30.5 | 22 22.0 | 317 2.6 | -2 3.7 |
| | | MP 01:51 | *v* -0.7 | *d* -0.5 | *v* 1.0 | *d* 0.7 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Monday | 0 | 333 30.8 | 212 14.2 | 20 5.4 | 142 54.5 | -4 12.2 | 225 32.4 | 22 22.0 | 332 5.2 | -2 3.8 |
| | 1 | 348 33.3 | 227 13.5 | 20 4.9 | 157 55.5 | -4 12.8 | 240 34.4 | 22 21.9 | 347 7.8 | -2 3.9 |
| | 2 | 3 35.7 | 242 12.9 | 20 4.4 | 172 56.5 | -4 13.5 | 255 36.3 | 22 21.9 | 2 10.4 | -2 4.0 |
| | 3 | 18 38.2 | 257 12.2 | 20 3.9 | 187 57.5 | -4 14.1 | 270 38.3 | 22 21.8 | 17 13.1 | -2 4.0 |
| | 4 | 33 40.7 | 272 11.5 | 20 3.4 | 202 58.5 | -4 14.8 | 285 40.2 | 22 21.8 | 32 15.7 | -2 4.1 |
| | 5 | 48 43.1 | 287 10.8 | 20 2.9 | 217 59.5 | -4 15.4 | 300 42.2 | 22 21.7 | 47 18.3 | -2 4.2 |
| | 6 | 63 45.6 | 302 10.2 | 20 2.4 | 233 0.5 | -4 16.1 | 315 44.2 | 22 21.6 | 62 20.9 | -2 4.2 |
| | 7 | 78 48.1 | 317 9.5 | 20 1.9 | 248 1.5 | -4 16.7 | 330 46.1 | 22 21.6 | 77 23.5 | -2 4.3 |
| | 8 | 93 50.5 | 332 8.8 | 20 1.5 | 263 2.5 | -4 17.4 | 345 48.1 | 22 21.5 | 92 26.1 | -2 4.4 |
| | 9 | 108 53.0 | 347 8.2 | 20 1.0 | 278 3.5 | -4 18.0 | 0 50.0 | 22 21.5 | 107 28.7 | -2 4.4 |
| | 10 | 123 55.4 | 2 7.5 | 20 0.5 | 293 4.5 | -4 18.7 | 15 52.0 | 22 21.4 | 122 31.3 | -2 4.5 |
| | 11 | 138 57.9 | 17 6.8 | 20 0.0 | 308 5.4 | -4 19.4 | 30 53.9 | 22 21.4 | 137 33.9 | -2 4.6 |
| | 12 | 154 0.4 | 32 6.2 | 19 59.5 | 323 6.4 | -4 20.0 | 45 55.9 | 22 21.3 | 152 36.5 | -2 4.6 |
| | 13 | 169 2.8 | 47 5.5 | 19 59.0 | 338 7.4 | -4 20.7 | 60 57.9 | 22 21.3 | 167 39.1 | -2 4.7 |
| | 14 | 184 5.3 | 62 4.8 | 19 58.5 | 353 8.4 | -4 21.3 | 75 59.8 | 22 21.2 | 182 41.7 | -2 4.8 |
| | 15 | 199 7.8 | 77 4.2 | 19 58.0 | 8 9.4 | -4 22.0 | 91 1.8 | 22 21.2 | 197 44.3 | -2 4.9 |
| | 16 | 214 10.2 | 92 3.5 | 19 57.5 | 23 10.4 | -4 22.6 | 106 3.7 | 22 21.1 | 212 46.9 | -2 4.9 |
| | 17 | 229 12.7 | 107 2.8 | 19 57.0 | 38 11.4 | -4 23.3 | 121 5.7 | 22 21.0 | 227 49.5 | -2 5.0 |
| | 18 | 244 15.2 | 122 2.2 | 19 56.5 | 53 12.4 | -4 23.9 | 136 7.6 | 22 21.0 | 242 52.2 | -2 5.1 |
| | 19 | 259 17.6 | 137 1.5 | 19 56.0 | 68 13.4 | -4 24.6 | 151 9.6 | 22 20.9 | 257 54.8 | -2 5.1 |
| | 20 | 274 20.1 | 152 0.8 | 19 55.5 | 83 14.4 | -4 25.2 | 166 11.6 | 22 20.9 | 272 57.4 | -2 5.2 |
| | 21 | 289 22.5 | 167 0.2 | 19 54.9 | 98 15.4 | -4 25.9 | 181 13.5 | 22 20.8 | 288 0.0 | -2 5.3 |
| | 22 | 304 25.0 | 181 59.5 | 19 54.4 | 113 16.4 | -4 26.5 | 196 15.5 | 22 20.8 | 303 2.6 | -2 5.3 |
| | 23 | 319 27.5 | 196 58.8 | 19 53.9 | 128 17.3 | -4 27.2 | 211 17.4 | 22 20.7 | 318 5.2 | -2 5.4 |
| | | MP 01:47 | *v* -0.7 | *d* -0.5 | *v* 1.0 | *d* 0.7 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.3 | -40 11.8 |
| Achernar | 335 19.4 | -57 6.1 |
| Acrux | 173 0.1 | -63 14.6 |
| Adhara | 255 5.7 | -29 0.2 |
| Aldebaran | 290 39.1 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.4 |
| Alkaid | 152 51.8 | 49 11.3 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.3 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.3 | 26 37.9 |
| Alpheratz | 357 33.9 | 29 14.0 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.3 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 8.7 | -69 4.7 |
| Avior | 234 15.1 | -59 35.3 |
| Bellatrix | 278 22.4 | 6 22.5 |
| Betelgeuse | 270 51.7 | 7 24.8 |
| Canopus | 263 52.5 | -52 42.2 |
| Capella | 280 21.3 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.4 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.5 | -17 50.5 |
| Dubhe | 193 41.0 | 61 36.9 |
| Elnath | 278 1.3 | 28 37.7 |
| Eltanin | 90 41.7 | 51 29.3 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.6 | -29 29.0 |
| Gacrux | 171 51.5 | -57 15.5 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.6 | -60 30.0 |
| Hamal | 327 50.4 | 23 35.0 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 20.1 | 74 3.2 |
| Markab | 13 29.1 | 15 20.7 |
| Menkar | 314 5.5 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.2 |
| Mirfak | 308 27.4 | 49 57.0 |
| Nunki | 75 46.8 | -26 15.9 |
| Peacock | 53 4.3 | -56 39.2 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.5 | -8 10.1 |
| Rigil Kent. | 139 39.8 | -60 56.7 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 30.0 | 56 40.6 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 26.0 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.0 |
| Vega | 80 32.6 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 23 Sat | SHA | MP |
|---|---|---|
| Venus | 241 14.1 | 09:49 |
| Mars | 170 34.1 | 14:31 |
| Jupiter | 252 26.2 | 09:03 |
| Saturn | 358 27.8 | 02:00 |

| 24 Sun | SHA | MP |
|---|---|---|
| Venus | 239 58.7 | 09:50 |
| Mars | 169 58.9 | 14:29 |
| Jupiter | 252 13.9 | 09:00 |
| Saturn | 358 31.1 | 01:55 |

| 25 Mon | SHA | MP |
|---|---|---|
| Venus | 238 43.4 | 09:51 |
| Mars | 169 23.7 | 14:27 |
| Jupiter | 252 1.6 | 08:57 |
| Saturn | 358 34.4 | 01:51 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **23 Saturday** | 0 | 179 19.3 | 11 25.4 | 181 35.6 | 12.9 | 14 16.9 | -13.9 | 56.8 |
| | 1 | 194 19.4 | 11 24.5 | 196 7.5 | 13.0 | 14 3.0 | -14.0 | 56.8 |
| | 2 | 209 19.6 | 11 23.7 | 210 39.4 | 13.0 | 13 49.1 | -14.0 | 56.7 |
| | 3 | 224 19.8 | 11 22.8 | 225 11.5 | 13.1 | 13 35.1 | -14.1 | 56.7 |
| | 4 | 239 19.9 | 11 22.0 | 239 43.6 | 13.2 | 13 21.0 | -14.1 | 56.7 |
| | 5 | 254 20.1 | 11 21.1 | 254 15.8 | 13.3 | 13 6.9 | -14.1 | 56.7 |
| | 6 | 269 20.2 | 11 20.3 | 268 48.1 | 13.4 | 12 52.8 | -14.2 | 56.6 |
| | 7 | 284 20.4 | 11 19.4 | 283 20.5 | 13.5 | 12 38.6 | -14.2 | 56.6 |
| | 8 | 299 20.6 | 11 18.6 | 297 52.9 | 13.5 | 12 24.3 | -14.3 | 56.6 |
| | 9 | 314 20.7 | 11 17.7 | 312 25.4 | 13.6 | 12 10.1 | -14.3 | 56.6 |
| | 10 | 329 20.9 | 11 16.9 | 326 58.1 | 13.7 | 11 55.7 | -14.4 | 56.6 |
| | 11 | 344 21.1 | 11 16.0 | 341 30.7 | 13.8 | 11 41.4 | -14.4 | 56.5 |
| | 12 | 359 21.2 | 11 15.2 | 356 3.5 | 13.8 | 11 27.0 | -14.4 | 56.5 |
| | 13 | 14 21.4 | 11 14.3 | 10 36.4 | 13.9 | 11 12.5 | -14.5 | 56.5 |
| | 14 | 29 21.6 | 11 13.5 | 25 9.3 | 14.0 | 10 58.0 | -14.5 | 56.5 |
| | 15 | 44 21.7 | 11 12.6 | 39 42.3 | 14.1 | 10 43.5 | -14.5 | 56.4 |
| | 16 | 59 21.9 | 11 11.8 | 54 15.3 | 14.1 | 10 29.0 | -14.6 | 56.4 |
| | 17 | 74 22.1 | 11 10.9 | 68 48.5 | 14.2 | 10 14.4 | -14.6 | 56.4 |
| | 18 | 89 22.2 | 11 10.1 | 83 21.7 | 14.3 | 9 59.8 | -14.6 | 56.4 |
| | 19 | 104 22.4 | 11 9.2 | 97 54.9 | 14.3 | 9 45.1 | -14.7 | 56.3 |
| | 20 | 119 22.6 | 11 8.4 | 112 28.3 | 14.4 | 9 30.5 | -14.7 | 56.3 |
| | 21 | 134 22.7 | 11 7.5 | 127 1.7 | 14.5 | 9 15.8 | -14.7 | 56.3 |
| | 22 | 149 22.9 | 11 6.7 | 141 35.2 | 14.5 | 9 1.1 | -14.8 | 56.3 |
| | 23 | 164 23.1 | 11 5.8 | 156 8.7 | 14.6 | 8 46.3 | -14.8 | 56.2 |
| | | *v* 0.2 | SD 15.8 | *d* -0.8 | | SD 15.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **24 Sunday** | 0 | 179 23.2 | 11 4.9 | 170 42.3 | 14.7 | 8 31.5 | -14.8 | 56.2 |
| | 1 | 194 23.4 | 11 4.1 | 185 15.9 | 14.7 | 8 16.7 | -14.8 | 56.2 |
| | 2 | 209 23.6 | 11 3.2 | 199 49.7 | 14.8 | 8 1.9 | -14.8 | 56.2 |
| | 3 | 224 23.7 | 11 2.4 | 214 23.5 | 14.8 | 7 47.1 | -14.9 | 56.2 |
| | 4 | 239 23.9 | 11 1.5 | 228 57.3 | 14.9 | 7 32.2 | -14.9 | 56.1 |
| | 5 | 254 24.1 | 11 0.7 | 243 31.2 | 15.0 | 7 17.3 | -14.9 | 56.1 |
| | 6 | 269 24.2 | 10 59.8 | 258 5.1 | 15.0 | 7 2.4 | -14.9 | 56.1 |
| | 7 | 284 24.4 | 10 58.9 | 272 39.2 | 15.1 | 6 47.5 | -14.9 | 56.1 |
| | 8 | 299 24.6 | 10 58.1 | 287 13.2 | 15.1 | 6 32.6 | -14.9 | 56.0 |
| | 9 | 314 24.7 | 10 57.2 | 301 47.3 | 15.2 | 6 17.7 | -15.0 | 56.0 |
| | 10 | 329 24.9 | 10 56.4 | 316 21.5 | 15.2 | 6 2.7 | -15.0 | 56.0 |
| | 11 | 344 25.1 | 10 55.5 | 330 55.7 | 15.3 | 5 47.8 | -15.0 | 56.0 |
| | 12 | 359 25.2 | 10 54.7 | 345 30.0 | 15.3 | 5 32.8 | -15.0 | 55.9 |
| | 13 | 14 25.4 | 10 53.8 | 0 4.3 | 15.4 | 5 17.8 | -15.0 | 55.9 |
| | 14 | 29 25.6 | 10 52.9 | 14 38.7 | 15.4 | 5 2.8 | -15.0 | 55.9 |
| | 15 | 44 25.7 | 10 52.1 | 29 13.1 | 15.5 | 4 47.8 | -15.0 | 55.9 |
| | 16 | 59 25.9 | 10 51.2 | 43 47.5 | 15.5 | 4 32.8 | -15.0 | 55.9 |
| | 17 | 74 26.1 | 10 50.4 | 58 22.0 | 15.5 | 4 17.8 | -15.0 | 55.8 |
| | 18 | 89 26.3 | 10 49.5 | 72 56.6 | 15.6 | 4 2.8 | -15.0 | 55.8 |
| | 19 | 104 26.4 | 10 48.6 | 87 31.1 | 15.6 | 3 47.8 | -15.0 | 55.8 |
| | 20 | 119 26.6 | 10 47.8 | 102 5.8 | 15.7 | 3 32.7 | -15.0 | 55.8 |
| | 21 | 134 26.8 | 10 46.9 | 116 40.4 | 15.7 | 3 17.7 | -15.0 | 55.7 |
| | 22 | 149 26.9 | 10 46.0 | 131 15.1 | 15.7 | 3 2.7 | -15.0 | 55.7 |
| | 23 | 164 27.1 | 10 45.2 | 145 49.9 | 15.8 | 2 47.7 | -15.0 | 55.7 |
| | | *v* 0.2 | SD 15.8 | *d* -0.9 | | SD 15.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **25 Monday** | 0 | 179 27.3 | 10 44.3 | 160 24.6 | 15.8 | 2 32.7 | -15.0 | 55.7 |
| | 1 | 194 27.5 | 10 43.5 | 174 59.4 | 15.8 | 2 17.7 | -15.0 | 55.6 |
| | 2 | 209 27.6 | 10 42.6 | 189 34.3 | 15.9 | 2 2.6 | -15.0 | 55.6 |
| | 3 | 224 27.8 | 10 41.7 | 204 9.2 | 15.9 | 1 47.6 | -15.0 | 55.6 |
| | 4 | 239 28.0 | 10 40.9 | 218 44.1 | 15.9 | 1 32.6 | -15.0 | 55.6 |
| | 5 | 254 28.1 | 10 40.0 | 233 19.0 | 16.0 | 1 17.7 | -15.0 | 55.6 |
| | 6 | 269 28.3 | 10 39.1 | 247 54.0 | 16.0 | 1 2.7 | -15.0 | 55.5 |
| | 7 | 284 28.5 | 10 38.3 | 262 28.9 | 16.0 | 0 47.7 | -15.0 | 55.5 |
| | 8 | 299 28.7 | 10 37.4 | 277 4.0 | 16.0 | 0 32.7 | -15.0 | 55.5 |
| | 9 | 314 28.8 | 10 36.5 | 291 39.0 | 16.1 | 0 17.8 | -14.9 | 55.5 |
| | 10 | 329 29.0 | 10 35.7 | 306 14.1 | 16.1 | 0 2.8 | -14.9 | 55.5 |
| | 11 | 344 29.2 | 10 34.8 | 320 49.2 | 16.1 | -0 12.1 | 14.9 | 55.4 |
| | 12 | 359 29.4 | 10 33.9 | 335 24.3 | 16.1 | -0 27.0 | 14.9 | 55.4 |
| | 13 | 14 29.5 | 10 33.1 | 349 59.4 | 16.2 | -0 41.9 | 14.9 | 55.4 |
| | 14 | 29 29.7 | 10 32.2 | 4 34.6 | 16.2 | -0 56.8 | 14.9 | 55.4 |
| | 15 | 44 29.9 | 10 31.3 | 19 9.7 | 16.2 | -1 11.7 | 14.9 | 55.3 |
| | 16 | 59 30.0 | 10 30.5 | 33 44.9 | 16.2 | -1 26.6 | 14.8 | 55.3 |
| | 17 | 74 30.2 | 10 29.6 | 48 20.1 | 16.2 | -1 41.4 | 14.8 | 55.3 |
| | 18 | 89 30.4 | 10 28.7 | 62 55.3 | 16.2 | -1 56.2 | 14.8 | 55.3 |
| | 19 | 104 30.6 | 10 27.9 | 77 30.6 | 16.2 | -2 11.0 | 14.8 | 55.3 |
| | 20 | 119 30.7 | 10 27.0 | 92 5.8 | 16.3 | -2 25.8 | 14.8 | 55.2 |
| | 21 | 134 30.9 | 10 26.1 | 106 41.1 | 16.3 | -2 40.6 | 14.7 | 55.2 |
| | 22 | 149 31.1 | 10 25.3 | 121 16.4 | 16.3 | -2 55.3 | 14.7 | 55.2 |
| | 23 | 164 31.3 | 10 24.4 | 135 51.6 | 16.3 | -3 10.0 | 14.7 | 55.2 |
| | | *v* 0.2 | SD 15.8 | *d* -0.9 | | SD 15.2 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 01:03 | 03:15 | 20:46 | 22:48 | //// |
| 70 | //// | 02:03 | 03:36 | 20:25 | 21:56 | //// |
| 68 | //// | 02:37 | 03:53 | 20:10 | 21:24 | //// |
| 66 | 00:54 | 03:00 | 04:06 | 19:57 | 21:01 | 22:59 |
| 64 | 01:48 | 03:19 | 04:17 | 19:46 | 20:44 | 22:12 |
| 62 | 02:18 | 03:34 | 04:26 | 19:37 | 20:29 | 21:43 |
| 60 | 02:40 | 03:46 | 04:34 | 19:30 | 20:17 | 21:22 |
| 58 | 02:58 | 03:57 | 04:41 | 19:23 | 20:07 | 21:05 |
| 56 | 03:12 | 04:06 | 04:47 | 19:17 | 19:58 | 20:51 |
| 54 | 03:24 | 04:14 | 04:52 | 19:11 | 19:50 | 20:39 |
| 52 | 03:35 | 04:21 | 04:57 | 19:07 | 19:43 | 20:29 |
| 50 | 03:44 | 04:27 | 05:02 | 19:02 | 19:37 | 20:20 |
| 45 | 04:02 | 04:40 | 05:11 | 18:53 | 19:24 | 20:02 |
| 40 | 04:17 | 04:51 | 05:19 | 18:45 | 19:13 | 19:47 |
| 35 | 04:28 | 05:00 | 05:26 | 18:38 | 19:05 | 19:36 |
| 30 | 04:38 | 05:07 | 05:32 | 18:33 | 18:57 | 19:27 |
| 20 | 04:53 | 05:20 | 05:42 | 18:23 | 18:45 | 19:12 |
| 10 | 05:05 | 05:30 | 05:51 | 18:14 | 18:35 | 19:00 |
| 0 | 05:14 | 05:38 | 05:59 | 18:06 | 18:27 | 18:51 |
| -10 | 05:21 | 05:46 | 06:07 | 17:58 | 18:19 | 18:44 |
| -20 | 05:28 | 05:53 | 06:16 | 17:50 | 18:12 | 18:38 |
| -30 | 05:33 | 06:01 | 06:25 | 17:40 | 18:05 | 18:33 |
| -35 | 05:35 | 06:05 | 06:31 | 17:35 | 18:01 | 18:30 |
| -40 | 05:38 | 06:09 | 06:37 | 17:29 | 17:56 | 18:28 |
| -45 | 05:40 | 06:14 | 06:44 | 17:22 | 17:52 | 18:26 |
| -50 | 05:42 | 06:19 | 06:52 | 17:13 | 17:47 | 18:24 |
| -52 | 05:43 | 06:22 | 06:56 | 17:10 | 17:44 | 18:24 |
| -54 | 05:43 | 06:24 | 07:01 | 17:05 | 17:42 | 18:23 |
| -56 | 05:44 | 06:27 | 07:05 | 17:01 | 17:39 | 18:22 |
| -58 | 05:45 | 06:30 | 07:11 | 16:55 | 17:36 | 18:22 |
| -60 | 05:45 | 06:33 | 07:17 | 16:50 | 17:33 | 18:21 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **23** | **24** | **25** | **23** | **24** | **25** |
| 72 | 02:48 | 05:16 | 07:23 | 20:32 | 19:54 | 19:21 |
| 70 | 03:16 | 05:27 | 07:24 | 20:18 | 19:50 | 19:24 |
| 68 | 03:37 | 05:36 | 07:25 | 20:07 | 19:46 | 19:27 |
| 66 | 03:53 | 05:43 | 07:26 | 19:57 | 19:43 | 19:29 |
| 64 | 04:06 | 05:49 | 07:26 | 19:49 | 19:40 | 19:31 |
| 62 | 04:17 | 05:55 | 07:27 | 19:43 | 19:38 | 19:33 |
| 60 | 04:27 | 05:59 | 07:27 | 19:37 | 19:35 | 19:34 |
| 58 | 04:35 | 06:03 | 07:27 | 19:31 | 19:34 | 19:35 |
| 56 | 04:42 | 06:07 | 07:28 | 19:27 | 19:32 | 19:36 |
| 54 | 04:48 | 06:10 | 07:28 | 19:22 | 19:30 | 19:37 |
| 52 | 04:54 | 06:13 | 07:28 | 19:19 | 19:29 | 19:38 |
| 50 | 04:59 | 06:15 | 07:28 | 19:15 | 19:28 | 19:39 |
| 45 | 05:10 | 06:21 | 07:29 | 19:07 | 19:25 | 19:41 |
| 40 | 05:19 | 06:26 | 07:29 | 19:01 | 19:22 | 19:43 |
| 35 | 05:27 | 06:30 | 07:30 | 18:55 | 19:20 | 19:44 |
| 30 | 05:34 | 06:33 | 07:30 | 18:50 | 19:19 | 19:45 |
| 20 | 05:46 | 06:39 | 07:30 | 18:42 | 19:15 | 19:47 |
| 10 | 05:56 | 06:45 | 07:31 | 18:34 | 19:12 | 19:49 |
| 0 | 06:05 | 06:50 | 07:31 | 18:27 | 19:10 | 19:51 |
| -10 | 06:15 | 06:55 | 07:32 | 18:20 | 19:07 | 19:53 |
| -20 | 06:25 | 07:00 | 07:32 | 18:12 | 19:04 | 19:55 |
| -30 | 06:36 | 07:06 | 07:33 | 18:03 | 19:01 | 19:57 |
| -35 | 06:43 | 07:09 | 07:33 | 17:58 | 18:59 | 19:58 |
| -40 | 06:51 | 07:13 | 07:34 | 17:52 | 18:56 | 19:59 |
| -45 | 06:59 | 07:18 | 07:34 | 17:45 | 18:54 | 20:01 |
| -50 | 07:10 | 07:23 | 07:35 | 17:36 | 18:51 | 20:03 |
| -52 | 07:14 | 07:25 | 07:35 | 17:32 | 18:49 | 20:04 |
| -54 | 07:20 | 07:28 | 07:35 | 17:28 | 18:48 | 20:05 |
| -56 | 07:25 | 07:31 | 07:36 | 17:23 | 18:46 | 20:06 |
| -58 | 07:32 | 07:34 | 07:36 | 17:18 | 18:44 | 20:07 |
| -60 | 07:39 | 07:38 | 07:36 | 17:12 | 18:42 | 20:08 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **23** | 02:43 | 02:35 | 12:03 | 12:16 | –:– | 29 | 0 |
| **24** | 02:27 | 02:19 | 12:02 | 13:00 | 00:38 | 1 | 1 |
| **25** | 02:11 | 02:03 | 12:02 | 13:41 | 01:21 | 2 | 3 |

## 2025 August 26, 27, 28 (Tue, Wed, Thu)

| | | Aries | Venus -4.0 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 26 Tuesday | 0 | 334 29.9 | 211 58.2 | 19 53.4 | 143 18.3 | -4 27.9 | 226 19.4 | 22 20.7 | 333 7.8 | -2 5.5 |
| | 1 | 349 32.4 | 226 57.5 | 19 52.9 | 158 19.3 | -4 28.5 | 241 21.4 | 22 20.6 | 348 10.4 | -2 5.6 |
| | 2 | 4 34.9 | 241 56.8 | 19 52.4 | 173 20.3 | -4 29.2 | 256 23.3 | 22 20.6 | 3 13.0 | -2 5.6 |
| | 3 | 19 37.3 | 256 56.2 | 19 51.9 | 188 21.3 | -4 29.8 | 271 25.3 | 22 20.5 | 18 15.6 | -2 5.7 |
| | 4 | 34 39.8 | 271 55.5 | 19 51.4 | 203 22.3 | -4 30.5 | 286 27.2 | 22 20.5 | 33 18.2 | -2 5.8 |
| | 5 | 49 42.3 | 286 54.8 | 19 50.9 | 218 23.3 | -4 31.1 | 301 29.2 | 22 20.4 | 48 20.8 | -2 5.8 |
| | 6 | 64 44.7 | 301 54.2 | 19 50.3 | 233 24.3 | -4 31.8 | 316 31.2 | 22 20.3 | 63 23.4 | -2 5.9 |
| | 7 | 79 47.2 | 316 53.5 | 19 49.8 | 248 25.3 | -4 32.4 | 331 33.1 | 22 20.3 | 78 26.1 | -2 6.0 |
| | 8 | 94 49.7 | 331 52.8 | 19 49.3 | 263 26.3 | -4 33.1 | 346 35.1 | 22 20.2 | 93 28.7 | -2 6.0 |
| | 9 | 109 52.1 | 346 52.2 | 19 48.8 | 278 27.2 | -4 33.7 | 1 37.0 | 22 20.2 | 108 31.3 | -2 6.1 |
| | 10 | 124 54.6 | 1 51.5 | 19 48.3 | 293 28.2 | -4 34.4 | 16 39.0 | 22 20.1 | 123 33.9 | -2 6.2 |
| | 11 | 139 57.0 | 16 50.8 | 19 47.8 | 308 29.2 | -4 35.0 | 31 41.0 | 22 20.1 | 138 36.5 | -2 6.3 |
| | 12 | 154 59.5 | 31 50.2 | 19 47.2 | 323 30.2 | -4 35.7 | 46 42.9 | 22 20.0 | 153 39.1 | -2 6.3 |
| | 13 | 170 2.0 | 46 49.5 | 19 46.7 | 338 31.2 | -4 36.4 | 61 44.9 | 22 20.0 | 168 41.7 | -2 6.4 |
| | 14 | 185 4.4 | 61 48.9 | 19 46.2 | 353 32.2 | -4 37.0 | 76 46.8 | 22 19.9 | 183 44.3 | -2 6.5 |
| | 15 | 200 6.9 | 76 48.2 | 19 45.7 | 8 33.2 | -4 37.7 | 91 48.8 | 22 19.9 | 198 46.9 | -2 6.5 |
| | 16 | 215 9.4 | 91 47.5 | 19 45.1 | 23 34.2 | -4 38.3 | 106 50.8 | 22 19.8 | 213 49.5 | -2 6.6 |
| | 17 | 230 11.8 | 106 46.9 | 19 44.6 | 38 35.2 | -4 39.0 | 121 52.7 | 22 19.7 | 228 52.1 | -2 6.7 |
| | 18 | 245 14.3 | 121 46.2 | 19 44.1 | 53 36.1 | -4 39.6 | 136 54.7 | 22 19.7 | 243 54.8 | -2 6.8 |
| | 19 | 260 16.8 | 136 45.5 | 19 43.6 | 68 37.1 | -4 40.3 | 151 56.6 | 22 19.6 | 258 57.4 | -2 6.8 |
| | 20 | 275 19.2 | 151 44.9 | 19 43.0 | 83 38.1 | -4 40.9 | 166 58.6 | 22 19.6 | 274 0.0 | -2 6.9 |
| | 21 | 290 21.7 | 166 44.2 | 19 42.5 | 98 39.1 | -4 41.6 | 182 0.6 | 22 19.5 | 289 2.6 | -2 7.0 |
| | 22 | 305 24.2 | 181 43.6 | 19 42.0 | 113 40.1 | -4 42.2 | 197 2.5 | 22 19.5 | 304 5.2 | -2 7.0 |
| | 23 | 320 26.6 | 196 42.9 | 19 41.4 | 128 41.1 | -4 42.9 | 212 4.5 | 22 19.4 | 319 7.8 | -2 7.1 |
| | | MP 01:43 | *v* -0.7 | *d* -0.5 | *v* 1.0 | *d* 0.7 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 Wednesday | 0 | 335 29.1 | 211 42.2 | 19 40.9 | 143 42.1 | -4 43.5 | 227 6.5 | 22 19.4 | 334 10.4 | -2 7.2 |
| | 1 | 350 31.5 | 226 41.6 | 19 40.4 | 158 43.1 | -4 44.2 | 242 8.4 | 22 19.3 | 349 13.0 | -2 7.2 |
| | 2 | 5 34.0 | 241 40.9 | 19 39.8 | 173 44.0 | -4 44.8 | 257 10.4 | 22 19.3 | 4 15.6 | -2 7.3 |
| | 3 | 20 36.5 | 256 40.3 | 19 39.3 | 188 45.0 | -4 45.5 | 272 12.4 | 22 19.2 | 19 18.2 | -2 7.4 |
| | 4 | 35 38.9 | 271 39.6 | 19 38.8 | 203 46.0 | -4 46.2 | 287 14.3 | 22 19.1 | 34 20.9 | -2 7.5 |
| | 5 | 50 41.4 | 286 38.9 | 19 38.2 | 218 47.0 | -4 46.8 | 302 16.3 | 22 19.1 | 49 23.5 | -2 7.5 |
| | 6 | 65 43.9 | 301 38.3 | 19 37.7 | 233 48.0 | -4 47.5 | 317 18.2 | 22 19.0 | 64 26.1 | -2 7.6 |
| | 7 | 80 46.3 | 316 37.6 | 19 37.1 | 248 49.0 | -4 48.1 | 332 20.2 | 22 19.0 | 79 28.7 | -2 7.7 |
| | 8 | 95 48.8 | 331 37.0 | 19 36.6 | 263 50.0 | -4 48.8 | 347 22.2 | 22 18.9 | 94 31.3 | -2 7.7 |
| | 9 | 110 51.3 | 346 36.3 | 19 36.1 | 278 51.0 | -4 49.4 | 2 24.1 | 22 18.9 | 109 33.9 | -2 7.8 |
| | 10 | 125 53.7 | 1 35.6 | 19 35.5 | 293 51.9 | -4 50.1 | 17 26.1 | 22 18.8 | 124 36.5 | -2 7.9 |
| | 11 | 140 56.2 | 16 35.0 | 19 35.0 | 308 52.9 | -4 50.7 | 32 28.1 | 22 18.8 | 139 39.1 | -2 8.0 |
| | 12 | 155 58.6 | 31 34.3 | 19 34.4 | 323 53.9 | -4 51.4 | 47 30.0 | 22 18.7 | 154 41.7 | -2 8.0 |
| | 13 | 171 1.1 | 46 33.7 | 19 33.9 | 338 54.9 | -4 52.0 | 62 32.0 | 22 18.7 | 169 44.4 | -2 8.1 |
| | 14 | 186 3.6 | 61 33.0 | 19 33.3 | 353 55.9 | -4 52.7 | 77 34.0 | 22 18.6 | 184 47.0 | -2 8.2 |
| | 15 | 201 6.0 | 76 32.4 | 19 32.8 | 8 56.9 | -4 53.3 | 92 35.9 | 22 18.5 | 199 49.6 | -2 8.2 |
| | 16 | 216 8.5 | 91 31.7 | 19 32.3 | 23 57.8 | -4 54.0 | 107 37.9 | 22 18.5 | 214 52.2 | -2 8.3 |
| | 17 | 231 11.0 | 106 31.0 | 19 31.7 | 38 58.8 | -4 54.6 | 122 39.9 | 22 18.4 | 229 54.8 | -2 8.4 |
| | 18 | 246 13.4 | 121 30.4 | 19 31.2 | 53 59.8 | -4 55.3 | 137 41.8 | 22 18.4 | 244 57.4 | -2 8.5 |
| | 19 | 261 15.9 | 136 29.7 | 19 30.6 | 69 0.8 | -4 56.0 | 152 43.8 | 22 18.3 | 260 0.0 | -2 8.5 |
| | 20 | 276 18.4 | 151 29.1 | 19 30.0 | 84 1.8 | -4 56.6 | 167 45.8 | 22 18.3 | 275 2.6 | -2 8.6 |
| | 21 | 291 20.8 | 166 28.4 | 19 29.5 | 99 2.8 | -4 57.3 | 182 47.7 | 22 18.2 | 290 5.2 | -2 8.7 |
| | 22 | 306 23.3 | 181 27.8 | 19 28.9 | 114 3.8 | -4 57.9 | 197 49.7 | 22 18.2 | 305 7.9 | -2 8.7 |
| | 23 | 321 25.8 | 196 27.1 | 19 28.4 | 129 4.7 | -4 58.6 | 212 51.7 | 22 18.1 | 320 10.5 | -2 8.8 |
| | | MP 01:39 | *v* -0.7 | *d* -0.5 | *v* 1.0 | *d* 0.7 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 28 Thursday | 0 | 336 28.2 | 211 26.5 | 19 27.8 | 144 5.7 | -4 59.2 | 227 53.6 | 22 18.1 | 335 13.1 | -2 8.9 |
| | 1 | 351 30.7 | 226 25.8 | 19 27.3 | 159 6.7 | -4 59.9 | 242 55.6 | 22 18.0 | 350 15.7 | -2 9.0 |
| | 2 | 6 33.1 | 241 25.1 | 19 26.7 | 174 7.7 | -5 0.5 | 257 57.6 | 22 17.9 | 5 18.3 | -2 9.0 |
| | 3 | 21 35.6 | 256 24.5 | 19 26.2 | 189 8.7 | -5 1.2 | 272 59.5 | 22 17.9 | 20 20.9 | -2 9.1 |
| | 4 | 36 38.1 | 271 23.8 | 19 25.6 | 204 9.7 | -5 1.8 | 288 1.5 | 22 17.8 | 35 23.5 | -2 9.2 |
| | 5 | 51 40.5 | 286 23.2 | 19 25.0 | 219 10.6 | -5 2.5 | 303 3.5 | 22 17.8 | 50 26.2 | -2 9.2 |
| | 6 | 66 43.0 | 301 22.5 | 19 24.5 | 234 11.6 | -5 3.1 | 318 5.4 | 22 17.7 | 65 28.8 | -2 9.3 |
| | 7 | 81 45.5 | 316 21.9 | 19 23.9 | 249 12.6 | -5 3.8 | 333 7.4 | 22 17.7 | 80 31.4 | -2 9.4 |
| | 8 | 96 47.9 | 331 21.2 | 19 23.3 | 264 13.6 | -5 4.4 | 348 9.4 | 22 17.6 | 95 34.0 | -2 9.5 |
| | 9 | 111 50.4 | 346 20.6 | 19 22.8 | 279 14.6 | -5 5.1 | 3 11.3 | 22 17.6 | 110 36.6 | -2 9.5 |
| | 10 | 126 52.9 | 1 19.9 | 19 22.2 | 294 15.5 | -5 5.7 | 18 13.3 | 22 17.5 | 125 39.2 | -2 9.6 |
| | 11 | 141 55.3 | 16 19.3 | 19 21.7 | 309 16.5 | -5 6.4 | 33 15.3 | 22 17.5 | 140 41.8 | -2 9.7 |
| | 12 | 156 57.8 | 31 18.6 | 19 21.1 | 324 17.5 | -5 7.1 | 48 17.2 | 22 17.4 | 155 44.4 | -2 9.7 |
| | 13 | 172 0.2 | 46 18.0 | 19 20.5 | 339 18.5 | -5 7.7 | 63 19.2 | 22 17.3 | 170 47.1 | -2 9.8 |
| | 14 | 187 2.7 | 61 17.3 | 19 19.9 | 354 19.5 | -5 8.4 | 78 21.2 | 22 17.3 | 185 49.7 | -2 9.9 |
| | 15 | 202 5.2 | 76 16.7 | 19 19.4 | 9 20.5 | -5 9.0 | 93 23.1 | 22 17.2 | 200 52.3 | -2 10.0 |
| | 16 | 217 7.6 | 91 16.0 | 19 18.8 | 24 21.4 | -5 9.7 | 108 25.1 | 22 17.2 | 215 54.9 | -2 10.0 |
| | 17 | 232 10.1 | 106 15.4 | 19 18.2 | 39 22.4 | -5 10.3 | 123 27.1 | 22 17.1 | 230 57.5 | -2 10.1 |
| | 18 | 247 12.6 | 121 14.7 | 19 17.7 | 54 23.4 | -5 11.0 | 138 29.0 | 22 17.1 | 246 0.1 | -2 10.2 |
| | 19 | 262 15.0 | 136 14.1 | 19 17.1 | 69 24.4 | -5 11.6 | 153 31.0 | 22 17.0 | 261 2.7 | -2 10.3 |
| | 20 | 277 17.5 | 151 13.4 | 19 16.5 | 84 25.4 | -5 12.3 | 168 33.0 | 22 17.0 | 276 5.4 | -2 10.3 |
| | 21 | 292 20.0 | 166 12.8 | 19 15.9 | 99 26.3 | -5 12.9 | 183 35.0 | 22 16.9 | 291 8.0 | -2 10.4 |
| | 22 | 307 22.4 | 181 12.1 | 19 15.4 | 114 27.3 | -5 13.6 | 198 36.9 | 22 16.8 | 306 10.6 | -2 10.5 |
| | 23 | 322 24.9 | 196 11.5 | 19 14.8 | 129 28.3 | -5 14.2 | 213 38.9 | 22 16.8 | 321 13.2 | -2 10.5 |
| | | MP 01:35 | *v* -0.7 | *d* -0.6 | *v* 1.0 | *d* 0.7 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.2 | -40 11.8 |
| Achernar | 335 19.4 | -57 6.1 |
| Acrux | 173 0.1 | -63 14.6 |
| Adhara | 255 5.7 | -29 0.1 |
| Aldebaran | 290 39.1 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.4 |
| Alkaid | 152 51.8 | 49 11.3 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.3 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.3 | 26 37.9 |
| Alpheratz | 357 33.9 | 29 14.0 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.2 | -42 9.7 |
| Antares | 112 15.1 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 8.8 | -69 4.7 |
| Avior | 234 15.1 | -59 35.3 |
| Bellatrix | 278 22.4 | 6 22.5 |
| Betelgeuse | 270 51.7 | 7 24.8 |
| Canopus | 263 52.5 | -52 42.2 |
| Capella | 280 21.2 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.4 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.5 | -17 50.5 |
| Dubhe | 193 41.0 | 61 36.9 |
| Elnath | 278 1.3 | 28 37.7 |
| Eltanin | 90 41.7 | 51 29.3 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.6 | -29 29.0 |
| Gacrux | 171 51.6 | -57 15.5 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.6 | -60 30.0 |
| Hamal | 327 50.4 | 23 35.1 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 20.1 | 74 3.2 |
| Markab | 13 29.1 | 15 20.7 |
| Menkar | 314 5.5 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.2 |
| Mirfak | 308 27.4 | 49 57.0 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.3 | -56 39.2 |
| Pollux | 243 17.0 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.5 | -8 10.1 |
| Rigil Kent. | 139 39.9 | -60 56.7 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 30.0 | 56 40.6 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 26.0 | -16 44.9 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.0 |
| Vega | 80 32.6 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 26 Tue | SHA | MP |
|---|---|---|
| Venus | 237 28.2 | 09:53 |
| Mars | 168 48.4 | 14:26 |
| Jupiter | 251 49.5 | 08:54 |
| Saturn | 358 37.9 | 01:47 |

| 27 Wed | SHA | MP |
|---|---|---|
| Venus | 236 13.2 | 09:54 |
| Mars | 168 13.0 | 14:24 |
| Jupiter | 251 37.4 | 08:50 |
| Saturn | 358 41.3 | 01:43 |

| 28 Thu | SHA | MP |
|---|---|---|
| Venus | 234 58.2 | 09:55 |
| Mars | 167 37.5 | 14:23 |
| Jupiter | 251 25.4 | 08:47 |
| Saturn | 358 44.9 | 01:39 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **26 Tuesday** | 0 | 179 31.4 | 10 23.5 | 150 26.9 | 16.3 | -3 24.7 | 14.7 | 55.2 |
| | 1 | 194 31.6 | 10 22.7 | 165 2.2 | 16.3 | -3 39.4 | 14.6 | 55.1 |
| | 2 | 209 31.8 | 10 21.8 | 179 37.5 | 16.3 | -3 54.0 | 14.6 | 55.1 |
| | 3 | 224 32.0 | 10 20.9 | 194 12.8 | 16.3 | -4 8.7 | 14.6 | 55.1 |
| | 4 | 239 32.2 | 10 20.0 | 208 48.2 | 16.3 | -4 23.3 | 14.6 | 55.1 |
| | 5 | 254 32.3 | 10 19.2 | 223 23.5 | 16.3 | -4 37.8 | 14.5 | 55.1 |
| | 6 | 269 32.5 | 10 18.3 | 237 58.8 | 16.3 | -4 52.4 | 14.5 | 55.0 |
| | 7 | 284 32.7 | 10 17.4 | 252 34.1 | 16.3 | -5 6.9 | 14.5 | 55.0 |
| | 8 | 299 32.9 | 10 16.6 | 267 9.4 | 16.3 | -5 21.3 | 14.4 | 55.0 |
| | 9 | 314 33.0 | 10 15.7 | 281 44.8 | 16.3 | -5 35.8 | 14.4 | 55.0 |
| | 10 | 329 33.2 | 10 14.8 | 296 20.1 | 16.3 | -5 50.2 | 14.4 | 55.0 |
| | 11 | 344 33.4 | 10 13.9 | 310 55.4 | 16.3 | -6 4.6 | 14.3 | 55.0 |
| | 12 | 359 33.6 | 10 13.1 | 325 30.7 | 16.3 | -6 18.9 | 14.3 | 54.9 |
| | 13 | 14 33.7 | 10 12.2 | 340 6.0 | 16.3 | -6 33.2 | 14.3 | 54.9 |
| | 14 | 29 33.9 | 10 11.3 | 354 41.3 | 16.3 | -6 47.5 | 14.2 | 54.9 |
| | 15 | 44 34.1 | 10 10.4 | 9 16.6 | 16.3 | -7 1.8 | 14.2 | 54.9 |
| | 16 | 59 34.3 | 10 9.6 | 23 51.9 | 16.3 | -7 16.0 | 14.2 | 54.9 |
| | 17 | 74 34.5 | 10 8.7 | 38 27.2 | 16.3 | -7 30.1 | 14.1 | 54.8 |
| | 18 | 89 34.6 | 10 7.8 | 53 2.4 | 16.3 | -7 44.3 | 14.1 | 54.8 |
| | 19 | 104 34.8 | 10 6.9 | 67 37.7 | 16.2 | -7 58.4 | 14.1 | 54.8 |
| | 20 | 119 35.0 | 10 6.1 | 82 12.9 | 16.2 | -8 12.4 | 14.0 | 54.8 |
| | 21 | 134 35.2 | 10 5.2 | 96 48.2 | 16.2 | -8 26.4 | 14.0 | 54.8 |
| | 22 | 149 35.4 | 10 4.3 | 111 23.4 | 16.2 | -8 40.4 | 13.9 | 54.8 |
| | 23 | 164 35.5 | 10 3.4 | 125 58.6 | 16.2 | -8 54.4 | 13.9 | 54.7 |
| | *v* | 0.2 | SD 15.8 | *d* -0.9 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **27 Wednesday** | 0 | 179 35.7 | 10 2.6 | 140 33.8 | 16.2 | -9 8.2 | 13.8 | 54.7 |
| | 1 | 194 35.9 | 10 1.7 | 155 8.9 | 16.1 | -9 22.1 | 13.8 | 54.7 |
| | 2 | 209 36.1 | 10 0.8 | 169 44.1 | 16.1 | -9 35.9 | 13.8 | 54.7 |
| | 3 | 224 36.3 | 9 59.9 | 184 19.2 | 16.1 | -9 49.7 | 13.7 | 54.7 |
| | 4 | 239 36.4 | 9 59.1 | 198 54.3 | 16.1 | -10 3.4 | 13.7 | 54.7 |
| | 5 | 254 36.6 | 9 58.2 | 213 29.4 | 16.1 | -10 17.0 | 13.6 | 54.7 |
| | 6 | 269 36.8 | 9 57.3 | 228 4.5 | 16.0 | -10 30.7 | 13.6 | 54.6 |
| | 7 | 284 37.0 | 9 56.4 | 242 39.5 | 16.0 | -10 44.2 | 13.5 | 54.6 |
| | 8 | 299 37.2 | 9 55.6 | 257 14.5 | 16.0 | -10 57.8 | 13.5 | 54.6 |
| | 9 | 314 37.3 | 9 54.7 | 271 49.5 | 16.0 | -11 11.2 | 13.4 | 54.6 |
| | 10 | 329 37.5 | 9 53.8 | 286 24.5 | 15.9 | -11 24.7 | 13.4 | 54.6 |
| | 11 | 344 37.7 | 9 52.9 | 300 59.5 | 15.9 | -11 38.0 | 13.3 | 54.6 |
| | 12 | 359 37.9 | 9 52.0 | 315 34.4 | 15.9 | -11 51.4 | 13.3 | 54.6 |
| | 13 | 14 38.1 | 9 51.2 | 330 9.2 | 15.9 | -12 4.6 | 13.2 | 54.5 |
| | 14 | 29 38.3 | 9 50.3 | 344 44.1 | 15.8 | -12 17.9 | 13.2 | 54.5 |
| | 15 | 44 38.4 | 9 49.4 | 359 18.9 | 15.8 | -12 31.0 | 13.1 | 54.5 |
| | 16 | 59 38.6 | 9 48.5 | 13 53.7 | 15.8 | -12 44.1 | 13.1 | 54.5 |
| | 17 | 74 38.8 | 9 47.6 | 28 28.5 | 15.7 | -12 57.2 | 13.0 | 54.5 |
| | 18 | 89 39.0 | 9 46.8 | 43 3.2 | 15.7 | -13 10.2 | 12.9 | 54.5 |
| | 19 | 104 39.2 | 9 45.9 | 57 37.9 | 15.7 | -13 23.1 | 12.9 | 54.5 |
| | 20 | 119 39.3 | 9 45.0 | 72 12.5 | 15.6 | -13 36.0 | 12.8 | 54.5 |
| | 21 | 134 39.5 | 9 44.1 | 86 47.2 | 15.6 | -13 48.9 | 12.8 | 54.4 |
| | 22 | 149 39.7 | 9 43.2 | 101 21.8 | 15.5 | -14 1.6 | 12.7 | 54.4 |
| | 23 | 164 39.9 | 9 42.3 | 115 56.3 | 15.5 | -14 14.3 | 12.7 | 54.4 |
| | *v* | 0.2 | SD 15.8 | *d* -0.9 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **28 Thursday** | 0 | 179 40.1 | 9 41.5 | 130 30.8 | 15.5 | -14 27.0 | 12.6 | 54.4 |
| | 1 | 194 40.3 | 9 40.6 | 145 5.3 | 15.4 | -14 39.6 | 12.5 | 54.4 |
| | 2 | 209 40.5 | 9 39.7 | 159 39.7 | 15.4 | -14 52.1 | 12.5 | 54.4 |
| | 3 | 224 40.6 | 9 38.8 | 174 14.1 | 15.3 | -15 4.6 | 12.4 | 54.4 |
| | 4 | 239 40.8 | 9 37.9 | 188 48.4 | 15.3 | -15 17.0 | 12.3 | 54.4 |
| | 5 | 254 41.0 | 9 37.0 | 203 22.7 | 15.3 | -15 29.3 | 12.3 | 54.4 |
| | 6 | 269 41.2 | 9 36.2 | 217 57.0 | 15.2 | -15 41.6 | 12.2 | 54.3 |
| | 7 | 284 41.4 | 9 35.3 | 232 31.2 | 15.2 | -15 53.8 | 12.1 | 54.3 |
| | 8 | 299 41.6 | 9 34.4 | 247 5.3 | 15.1 | -16 5.9 | 12.1 | 54.3 |
| | 9 | 314 41.7 | 9 33.5 | 261 39.5 | 15.1 | -16 18.0 | 12.0 | 54.3 |
| | 10 | 329 41.9 | 9 32.6 | 276 13.5 | 15.0 | -16 30.0 | 11.9 | 54.3 |
| | 11 | 344 42.1 | 9 31.7 | 290 47.6 | 15.0 | -16 42.0 | 11.9 | 54.3 |
| | 12 | 359 42.3 | 9 30.8 | 305 21.5 | 14.9 | -16 53.8 | 11.8 | 54.3 |
| | 13 | 14 42.5 | 9 30.0 | 319 55.5 | 14.9 | -17 5.6 | 11.7 | 54.3 |
| | 14 | 29 42.7 | 9 29.1 | 334 29.3 | 14.8 | -17 17.4 | 11.7 | 54.3 |
| | 15 | 44 42.9 | 9 28.2 | 349 3.2 | 14.8 | -17 29.0 | 11.6 | 54.3 |
| | 16 | 59 43.0 | 9 27.3 | 3 36.9 | 14.7 | -17 40.6 | 11.5 | 54.3 |
| | 17 | 74 43.2 | 9 26.4 | 18 10.6 | 14.7 | -17 52.1 | 11.4 | 54.3 |
| | 18 | 89 43.4 | 9 25.5 | 32 44.3 | 14.6 | -18 3.6 | 11.4 | 54.3 |
| | 19 | 104 43.6 | 9 24.6 | 47 17.9 | 14.6 | -18 14.9 | 11.3 | 54.3 |
| | 20 | 119 43.8 | 9 23.7 | 61 51.5 | 14.5 | -18 26.2 | 11.2 | 54.2 |
| | 21 | 134 44.0 | 9 22.9 | 76 25.0 | 14.4 | -18 37.4 | 11.1 | 54.2 |
| | 22 | 149 44.2 | 9 22.0 | 90 58.4 | 14.4 | -18 48.6 | 11.1 | 54.2 |
| | 23 | 164 44.4 | 9 21.1 | 105 31.8 | 14.3 | -18 59.6 | 11.0 | 54.2 |
| | *v* | 0.2 | SD 15.8 | *d* -0.9 | | SD 14.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 01:42 | 03:32 | 20:28 | 22:13 | //// |
| 70 | //// | 02:24 | 03:50 | 20:10 | 21:34 | //// |
| 68 | //// | 02:52 | 04:04 | 19:56 | 21:07 | //// |
| 66 | 01:28 | 03:13 | 04:16 | 19:45 | 20:47 | 22:28 |
| 64 | 02:06 | 03:30 | 04:26 | 19:36 | 20:31 | 21:53 |
| 62 | 02:32 | 03:43 | 04:34 | 19:28 | 20:18 | 21:28 |
| 60 | 02:51 | 03:54 | 04:41 | 19:21 | 20:07 | 21:09 |
| 58 | 03:07 | 04:04 | 04:47 | 19:15 | 19:58 | 20:54 |
| 56 | 03:20 | 04:12 | 04:53 | 19:09 | 19:50 | 20:41 |
| 54 | 03:31 | 04:20 | 04:58 | 19:04 | 19:42 | 20:30 |
| 52 | 03:41 | 04:26 | 05:02 | 19:00 | 19:36 | 20:21 |
| 50 | 03:49 | 04:32 | 05:06 | 18:56 | 19:30 | 20:13 |
| 45 | 04:07 | 04:44 | 05:15 | 18:48 | 19:18 | 19:56 |
| 40 | 04:20 | 04:54 | 05:22 | 18:41 | 19:09 | 19:42 |
| 35 | 04:31 | 05:02 | 05:28 | 18:35 | 19:01 | 19:32 |
| 30 | 04:40 | 05:09 | 05:34 | 18:29 | 18:54 | 19:23 |
| 20 | 04:54 | 05:21 | 05:43 | 18:20 | 18:43 | 19:09 |
| 10 | 05:05 | 05:30 | 05:51 | 18:12 | 18:34 | 18:59 |
| 0 | 05:13 | 05:37 | 05:58 | 18:05 | 18:26 | 18:50 |
| -10 | 05:20 | 05:44 | 06:06 | 17:58 | 18:19 | 18:44 |
| -20 | 05:25 | 05:51 | 06:13 | 17:50 | 18:13 | 18:38 |
| -30 | 05:30 | 05:58 | 06:22 | 17:42 | 18:06 | 18:34 |
| -35 | 05:32 | 06:01 | 06:27 | 17:37 | 18:03 | 18:32 |
| -40 | 05:34 | 06:05 | 06:32 | 17:32 | 17:59 | 18:31 |
| -45 | 05:35 | 06:09 | 06:39 | 17:25 | 17:55 | 18:29 |
| -50 | 05:36 | 06:14 | 06:46 | 17:18 | 17:51 | 18:28 |
| -52 | 05:37 | 06:16 | 06:50 | 17:14 | 17:49 | 18:28 |
| -54 | 05:37 | 06:18 | 06:54 | 17:11 | 17:47 | 18:28 |
| -56 | 05:37 | 06:20 | 06:58 | 17:06 | 17:44 | 18:28 |
| -58 | 05:37 | 06:23 | 07:03 | 17:02 | 17:42 | 18:28 |
| -60 | 05:37 | 06:25 | 07:08 | 16:57 | 17:39 | 18:28 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **26** | **27** | **28** | **26** | **27** | **28** |
| 72 | 09:27 | 11:38 | 14:50 | 18:46 | 18:02 | 16:19 |
| 70 | 09:18 | 11:16 | 13:37 | 18:58 | 18:26 | 17:34 |
| 68 | 09:11 | 11:00 | 13:00 | 19:07 | 18:44 | 18:12 |
| 66 | 09:05 | 10:46 | 12:34 | 19:15 | 18:59 | 18:39 |
| 64 | 09:00 | 10:35 | 12:15 | 19:22 | 19:12 | 19:00 |
| 62 | 08:56 | 10:26 | 11:59 | 19:27 | 19:22 | 19:16 |
| 60 | 08:52 | 10:18 | 11:46 | 19:33 | 19:31 | 19:31 |
| 58 | 08:49 | 10:11 | 11:34 | 19:37 | 19:39 | 19:43 |
| 56 | 08:46 | 10:05 | 11:24 | 19:41 | 19:46 | 19:53 |
| 54 | 08:44 | 10:00 | 11:16 | 19:45 | 19:53 | 20:03 |
| 52 | 08:42 | 09:55 | 11:08 | 19:48 | 19:58 | 20:11 |
| 50 | 08:39 | 09:50 | 11:01 | 19:51 | 20:04 | 20:19 |
| 45 | 08:35 | 09:41 | 10:47 | 19:57 | 20:15 | 20:35 |
| 40 | 08:31 | 09:33 | 10:35 | 20:03 | 20:24 | 20:48 |
| 35 | 08:28 | 09:26 | 10:24 | 20:08 | 20:32 | 20:59 |
| 30 | 08:25 | 09:20 | 10:16 | 20:12 | 20:39 | 21:09 |
| 20 | 08:20 | 09:10 | 10:00 | 20:19 | 20:52 | 21:26 |
| 10 | 08:16 | 09:01 | 09:47 | 20:26 | 21:03 | 21:41 |
| 0 | 08:12 | 08:53 | 09:35 | 20:32 | 21:13 | 21:56 |
| -10 | 08:08 | 08:45 | 09:23 | 20:38 | 21:23 | 22:10 |
| -20 | 08:04 | 08:36 | 09:10 | 20:44 | 21:34 | 22:25 |
| -30 | 07:59 | 08:26 | 08:55 | 20:52 | 21:47 | 22:43 |
| -35 | 07:57 | 08:21 | 08:46 | 20:56 | 21:54 | 22:53 |
| -40 | 07:54 | 08:14 | 08:37 | 21:01 | 22:03 | 23:05 |
| -45 | 07:50 | 08:07 | 08:25 | 21:07 | 22:12 | 23:19 |
| -50 | 07:46 | 07:58 | 08:12 | 21:14 | 22:24 | 23:36 |
| -52 | 07:44 | 07:54 | 08:06 | 21:17 | 22:30 | 23:44 |
| -54 | 07:42 | 07:50 | 07:59 | 21:20 | 22:36 | 23:53 |
| -56 | 07:40 | 07:45 | 07:51 | 21:24 | 22:43 | –:– |
| -58 | 07:38 | 07:40 | 07:42 | 21:29 | 22:51 | –:– |
| -60 | 07:35 | 07:33 | 07:33 | 21:33 | 23:00 | –:– |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **26** | 01:54 | 01:46 | 12:02 | 14:22 | 02:02 | 3 | 8 |
| **27** | 01:37 | 01:28 | 12:01 | 15:03 | 02:42 | 4 | 14 |
| **28** | 01:20 | 01:11 | 12:01 | 15:45 | 03:24 | 5 | 21 |

## 2025 August 29, 30, 31 (Fri, Saturday, Sunday)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 29 Friday | 0 | 337 27.4 | 211 10.8 | 19 14.2 | 144 29.3 | -5 14.9 | 228 40.9 | 22 16.7 | 336 15.8 | -2 10.6 |
| | 1 | 352 29.8 | 226 10.2 | 19 13.6 | 159 30.3 | -5 15.5 | 243 42.8 | 22 16.7 | 351 18.4 | -2 10.7 |
| | 2 | 7 32.3 | 241 9.5 | 19 13.0 | 174 31.2 | -5 16.2 | 258 44.8 | 22 16.6 | 6 21.0 | -2 10.8 |
| | 3 | 22 34.7 | 256 8.9 | 19 12.5 | 189 32.2 | -5 16.8 | 273 46.8 | 22 16.6 | 21 23.7 | -2 10.8 |
| | 4 | 37 37.2 | 271 8.2 | 19 11.9 | 204 33.2 | -5 17.5 | 288 48.8 | 22 16.5 | 36 26.3 | -2 10.9 |
| | 5 | 52 39.7 | 286 7.6 | 19 11.3 | 219 34.2 | -5 18.1 | 303 50.7 | 22 16.5 | 51 28.9 | -2 11.0 |
| | 6 | 67 42.1 | 301 6.9 | 19 10.7 | 234 35.2 | -5 18.8 | 318 52.7 | 22 16.4 | 66 31.5 | -2 11.0 |
| | 7 | 82 44.6 | 316 6.3 | 19 10.1 | 249 36.1 | -5 19.5 | 333 54.7 | 22 16.4 | 81 34.1 | -2 11.1 |
| | 8 | 97 47.1 | 331 5.6 | 19 9.5 | 264 37.1 | -5 20.1 | 348 56.6 | 22 16.3 | 96 36.7 | -2 11.2 |
| | 9 | 112 49.5 | 346 5.0 | 19 9.0 | 279 38.1 | -5 20.8 | 3 58.6 | 22 16.2 | 111 39.3 | -2 11.3 |
| | 10 | 127 52.0 | 1 4.3 | 19 8.4 | 294 39.1 | -5 21.4 | 19 0.6 | 22 16.2 | 126 42.0 | -2 11.3 |
| | 11 | 142 54.5 | 16 3.7 | 19 7.8 | 309 40.0 | -5 22.1 | 34 2.6 | 22 16.1 | 141 44.6 | -2 11.4 |
| | 12 | 157 56.9 | 31 3.0 | 19 7.2 | 324 41.0 | -5 22.7 | 49 4.5 | 22 16.1 | 156 47.2 | -2 11.5 |
| | 13 | 172 59.4 | 46 2.4 | 19 6.6 | 339 42.0 | -5 23.4 | 64 6.5 | 22 16.0 | 171 49.8 | -2 11.6 |
| | 14 | 188 1.9 | 61 1.7 | 19 6.0 | 354 43.0 | -5 24.0 | 79 8.5 | 22 16.0 | 186 52.4 | -2 11.6 |
| | 15 | 203 4.3 | 76 1.1 | 19 5.4 | 9 44.0 | -5 24.7 | 94 10.4 | 22 15.9 | 201 55.0 | -2 11.7 |
| | 16 | 218 6.8 | 91 0.5 | 19 4.8 | 24 44.9 | -5 25.3 | 109 12.4 | 22 15.9 | 216 57.7 | -2 11.8 |
| | 17 | 233 9.2 | 105 59.8 | 19 4.2 | 39 45.9 | -5 26.0 | 124 14.4 | 22 15.8 | 232 0.3 | -2 11.8 |
| | 18 | 248 11.7 | 120 59.2 | 19 3.6 | 54 46.9 | -5 26.6 | 139 16.4 | 22 15.7 | 247 2.9 | -2 11.9 |
| | 19 | 263 14.2 | 135 58.5 | 19 3.0 | 69 47.9 | -5 27.3 | 154 18.3 | 22 15.7 | 262 5.5 | -2 12.0 |
| | 20 | 278 16.6 | 150 57.9 | 19 2.4 | 84 48.8 | -5 27.9 | 169 20.3 | 22 15.6 | 277 8.1 | -2 12.1 |
| | 21 | 293 19.1 | 165 57.2 | 19 1.8 | 99 49.8 | -5 28.6 | 184 22.3 | 22 15.6 | 292 10.7 | -2 12.1 |
| | 22 | 308 21.6 | 180 56.6 | 19 1.2 | 114 50.8 | -5 29.2 | 199 24.3 | 22 15.5 | 307 13.4 | -2 12.2 |
| | 23 | 323 24.0 | 195 55.9 | 19 0.6 | 129 51.8 | -5 29.9 | 214 26.2 | 22 15.5 | 322 16.0 | -2 12.3 |
| | | MP 01:31 | *v* -0.6 | *d* -0.6 | *v* 1.0 | *d* 0.7 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Saturday | 0 | 338 26.5 | 210 55.3 | 19 0.0 | 144 52.8 | -5 30.5 | 229 28.2 | 22 15.4 | 337 18.6 | -2 12.4 |
| | 1 | 353 29.0 | 225 54.7 | 18 59.4 | 159 53.7 | -5 31.2 | 244 30.2 | 22 15.4 | 352 21.2 | -2 12.4 |
| | 2 | 8 31.4 | 240 54.0 | 18 58.8 | 174 54.7 | -5 31.8 | 259 32.2 | 22 15.3 | 7 23.8 | -2 12.5 |
| | 3 | 23 33.9 | 255 53.4 | 18 58.2 | 189 55.7 | -5 32.5 | 274 34.1 | 22 15.3 | 22 26.4 | -2 12.6 |
| | 4 | 38 36.3 | 270 52.7 | 18 57.6 | 204 56.7 | -5 33.1 | 289 36.1 | 22 15.2 | 37 29.1 | -2 12.7 |
| | 5 | 53 38.8 | 285 52.1 | 18 57.0 | 219 57.6 | -5 33.8 | 304 38.1 | 22 15.1 | 52 31.7 | -2 12.7 |
| | 6 | 68 41.3 | 300 51.4 | 18 56.4 | 234 58.6 | -5 34.5 | 319 40.1 | 22 15.1 | 67 34.3 | -2 12.8 |
| | 7 | 83 43.7 | 315 50.8 | 18 55.8 | 249 59.6 | -5 35.1 | 334 42.0 | 22 15.0 | 82 36.9 | -2 12.9 |
| | 8 | 98 46.2 | 330 50.2 | 18 55.2 | 265 0.6 | -5 35.8 | 349 44.0 | 22 15.0 | 97 39.5 | -2 12.9 |
| | 9 | 113 48.7 | 345 49.5 | 18 54.6 | 280 1.5 | -5 36.4 | 4 46.0 | 22 14.9 | 112 42.1 | -2 13.0 |
| | 10 | 128 51.1 | 0 48.9 | 18 54.0 | 295 2.5 | -5 37.1 | 19 48.0 | 22 14.9 | 127 44.8 | -2 13.1 |
| | 11 | 143 53.6 | 15 48.2 | 18 53.4 | 310 3.5 | -5 37.7 | 34 49.9 | 22 14.8 | 142 47.4 | -2 13.2 |
| | 12 | 158 56.1 | 30 47.6 | 18 52.7 | 325 4.5 | -5 38.4 | 49 51.9 | 22 14.8 | 157 50.0 | -2 13.2 |
| | 13 | 173 58.5 | 45 47.0 | 18 52.1 | 340 5.4 | -5 39.0 | 64 53.9 | 22 14.7 | 172 52.6 | -2 13.3 |
| | 14 | 189 1.0 | 60 46.3 | 18 51.5 | 355 6.4 | -5 39.7 | 79 55.9 | 22 14.6 | 187 55.2 | -2 13.4 |
| | 15 | 204 3.5 | 75 45.7 | 18 50.9 | 10 7.4 | -5 40.3 | 94 57.9 | 22 14.6 | 202 57.9 | -2 13.5 |
| | 16 | 219 5.9 | 90 45.0 | 18 50.3 | 25 8.3 | -5 41.0 | 109 59.8 | 22 14.5 | 218 0.5 | -2 13.5 |
| | 17 | 234 8.4 | 105 44.4 | 18 49.7 | 40 9.3 | -5 41.6 | 125 1.8 | 22 14.5 | 233 3.1 | -2 13.6 |
| | 18 | 249 10.8 | 120 43.8 | 18 49.0 | 55 10.3 | -5 42.3 | 140 3.8 | 22 14.4 | 248 5.7 | -2 13.7 |
| | 19 | 264 13.3 | 135 43.1 | 18 48.4 | 70 11.3 | -5 42.9 | 155 5.8 | 22 14.4 | 263 8.3 | -2 13.8 |
| | 20 | 279 15.8 | 150 42.5 | 18 47.8 | 85 12.2 | -5 43.6 | 170 7.7 | 22 14.3 | 278 10.9 | -2 13.8 |
| | 21 | 294 18.2 | 165 41.9 | 18 47.2 | 100 13.2 | -5 44.2 | 185 9.7 | 22 14.3 | 293 13.6 | -2 13.9 |
| | 22 | 309 20.7 | 180 41.2 | 18 46.6 | 115 14.2 | -5 44.9 | 200 11.7 | 22 14.2 | 308 16.2 | -2 14.0 |
| | 23 | 324 23.2 | 195 40.6 | 18 45.9 | 130 15.2 | -5 45.5 | 215 13.7 | 22 14.2 | 323 18.8 | -2 14.0 |
| | | MP 01:27 | *v* -0.6 | *d* -0.6 | *v* 1.0 | *d* 0.7 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 Sunday | 0 | 339 25.6 | 210 39.9 | 18 45.3 | 145 16.1 | -5 46.2 | 230 15.7 | 22 14.1 | 338 21.4 | -2 14.1 |
| | 1 | 354 28.1 | 225 39.3 | 18 44.7 | 160 17.1 | -5 46.8 | 245 17.6 | 22 14.0 | 353 24.0 | -2 14.2 |
| | 2 | 9 30.6 | 240 38.7 | 18 44.1 | 175 18.1 | -5 47.5 | 260 19.6 | 22 14.0 | 8 26.7 | -2 14.3 |
| | 3 | 24 33.0 | 255 38.0 | 18 43.4 | 190 19.0 | -5 48.1 | 275 21.6 | 22 13.9 | 23 29.3 | -2 14.3 |
| | 4 | 39 35.5 | 270 37.4 | 18 42.8 | 205 20.0 | -5 48.8 | 290 23.6 | 22 13.9 | 38 31.9 | -2 14.4 |
| | 5 | 54 38.0 | 285 36.8 | 18 42.2 | 220 21.0 | -5 49.4 | 305 25.5 | 22 13.8 | 53 34.5 | -2 14.5 |
| | 6 | 69 40.4 | 300 36.1 | 18 41.6 | 235 22.0 | -5 50.1 | 320 27.5 | 22 13.8 | 68 37.1 | -2 14.6 |
| | 7 | 84 42.9 | 315 35.5 | 18 40.9 | 250 22.9 | -5 50.7 | 335 29.5 | 22 13.7 | 83 39.7 | -2 14.6 |
| | 8 | 99 45.3 | 330 34.9 | 18 40.3 | 265 23.9 | -5 51.4 | 350 31.5 | 22 13.7 | 98 42.4 | -2 14.7 |
| | 9 | 114 47.8 | 345 34.2 | 18 39.7 | 280 24.9 | -5 52.0 | 5 33.5 | 22 13.6 | 113 45.0 | -2 14.8 |
| | 10 | 129 50.3 | 0 33.6 | 18 39.0 | 295 25.8 | -5 52.7 | 20 35.4 | 22 13.5 | 128 47.6 | -2 14.9 |
| | 11 | 144 52.7 | 15 33.0 | 18 38.4 | 310 26.8 | -5 53.3 | 35 37.4 | 22 13.5 | 143 50.2 | -2 14.9 |
| | 12 | 159 55.2 | 30 32.3 | 18 37.8 | 325 27.8 | -5 54.0 | 50 39.4 | 22 13.4 | 158 52.8 | -2 15.0 |
| | 13 | 174 57.7 | 45 31.7 | 18 37.1 | 340 28.8 | -5 54.6 | 65 41.4 | 22 13.4 | 173 55.5 | -2 15.1 |
| | 14 | 190 0.1 | 60 31.1 | 18 36.5 | 355 29.7 | -5 55.3 | 80 43.4 | 22 13.3 | 188 58.1 | -2 15.2 |
| | 15 | 205 2.6 | 75 30.4 | 18 35.8 | 10 30.7 | -5 55.9 | 95 45.4 | 22 13.3 | 204 0.7 | -2 15.2 |
| | 16 | 220 5.1 | 90 29.8 | 18 35.2 | 25 31.7 | -5 56.6 | 110 47.3 | 22 13.2 | 219 3.3 | -2 15.3 |
| | 17 | 235 7.5 | 105 29.2 | 18 34.6 | 40 32.6 | -5 57.2 | 125 49.3 | 22 13.2 | 234 5.9 | -2 15.4 |
| | 18 | 250 10.0 | 120 28.5 | 18 33.9 | 55 33.6 | -5 57.9 | 140 51.3 | 22 13.1 | 249 8.6 | -2 15.5 |
| | 19 | 265 12.5 | 135 27.9 | 18 33.3 | 70 34.6 | -5 58.5 | 155 53.3 | 22 13.1 | 264 11.2 | -2 15.5 |
| | 20 | 280 14.9 | 150 27.3 | 18 32.6 | 85 35.5 | -5 59.2 | 170 55.3 | 22 13.0 | 279 13.8 | -2 15.6 |
| | 21 | 295 17.4 | 165 26.6 | 18 32.0 | 100 36.5 | -5 59.9 | 185 57.2 | 22 12.9 | 294 16.4 | -2 15.7 |
| | 22 | 310 19.8 | 180 26.0 | 18 31.4 | 115 37.5 | -6 0.5 | 200 59.2 | 22 12.9 | 309 19.0 | -2 15.7 |
| | 23 | 325 22.3 | 195 25.4 | 18 30.7 | 130 38.4 | -6 1.2 | 216 1.2 | 22 12.8 | 324 21.7 | -2 15.8 |
| | | MP 01:23 | *v* -0.6 | *d* -0.6 | *v* 1.0 | *d* 0.7 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.2 | -40 11.8 |
| Achernar | 335 19.4 | -57 6.1 |
| Acrux | 173 0.2 | -63 14.6 |
| Adhara | 255 5.7 | -29 0.1 |
| Aldebaran | 290 39.0 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.4 |
| Alkaid | 152 51.9 | 49 11.3 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.3 | -1 11.0 |
| Alphard | 217 47.6 | -8 46.1 |
| Alphecca | 126 3.3 | 26 37.9 |
| Alpheratz | 357 33.9 | 29 14.0 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.2 | -42 9.8 |
| Antares | 112 15.2 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 8.8 | -69 4.7 |
| Avior | 234 15.1 | -59 35.3 |
| Bellatrix | 278 22.4 | 6 22.5 |
| Betelgeuse | 270 51.6 | 7 24.8 |
| Canopus | 263 52.4 | -52 42.2 |
| Capella | 280 21.2 | 46 1.3 |
| Deneb | 49 25.0 | 45 22.5 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.5 | -17 50.5 |
| Dubhe | 193 41.0 | 61 36.9 |
| Elnath | 278 1.3 | 28 37.7 |
| Eltanin | 90 41.7 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.6 | -29 29.0 |
| Gacrux | 171 51.6 | -57 15.5 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.6 | -60 30.0 |
| Hamal | 327 50.4 | 23 35.1 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 20.2 | 74 3.2 |
| Markab | 13 29.1 | 15 20.7 |
| Menkar | 314 5.5 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.2 |
| Mirfak | 308 27.4 | 49 57.0 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.7 |
| Rasalhague | 95 57.9 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.4 | -8 10.1 |
| Rigil Kent. | 139 39.9 | -60 56.7 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 30.0 | 56 40.6 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 26.0 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.4 | -43 32.0 |
| Vega | 80 32.6 | 38 48.6 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 29 Fri | SHA | MP |
|---|---|---|
| Venus | 233 43.5 | 09:56 |
| Mars | 167 1.9 | 14:21 |
| Jupiter | 251 13.5 | 08:44 |
| Saturn | 358 48.5 | 01:35 |

| 30 Sat | SHA | MP |
|---|---|---|
| Venus | 232 28.8 | 09:57 |
| Mars | 166 26.3 | 14:20 |
| Jupiter | 251 1.7 | 08:41 |
| Saturn | 358 52.1 | 01:31 |

| 31 Sun | SHA | MP |
|---|---|---|
| Venus | 231 14.3 | 09:58 |
| Mars | 165 50.5 | 14:18 |
| Jupiter | 250 50.0 | 08:38 |
| Saturn | 358 55.8 | 01:26 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **29 Friday** | 0 | 179 44.5 | 9 20.2 | 120 5.2 | 14.3 | -19 10.6 | 10.9 | 54.2 |
| | 1 | 194 44.7 | 9 19.3 | 134 38.4 | 14.2 | -19 21.5 | 10.8 | 54.2 |
| | 2 | 209 44.9 | 9 18.4 | 149 11.6 | 14.2 | -19 32.4 | 10.7 | 54.2 |
| | 3 | 224 45.1 | 9 17.5 | 163 44.8 | 14.1 | -19 43.1 | 10.7 | 54.2 |
| | 4 | 239 45.3 | 9 16.6 | 178 17.9 | 14.0 | -19 53.8 | 10.6 | 54.2 |
| | 5 | 254 45.5 | 9 15.7 | 192 50.9 | 14.0 | -20 4.3 | 10.5 | 54.2 |
| | 6 | 269 45.7 | 9 14.9 | 207 23.9 | 13.9 | -20 14.8 | 10.4 | 54.2 |
| | 7 | 284 45.9 | 9 14.0 | 221 56.8 | 13.9 | -20 25.2 | 10.3 | 54.2 |
| | 8 | 299 46.0 | 9 13.1 | 236 29.7 | 13.8 | -20 35.6 | 10.2 | 54.2 |
| | 9 | 314 46.2 | 9 12.2 | 251 2.5 | 13.7 | -20 45.8 | 10.2 | 54.2 |
| | 10 | 329 46.4 | 9 11.3 | 265 35.2 | 13.7 | -20 56.0 | 10.1 | 54.2 |
| | 11 | 344 46.6 | 9 10.4 | 280 7.9 | 13.6 | -21 6.0 | 10.0 | 54.2 |
| | 12 | 359 46.8 | 9 9.5 | 294 40.5 | 13.5 | -21 16.0 | 9.9 | 54.2 |
| | 13 | 14 47.0 | 9 8.6 | 309 13.0 | 13.5 | -21 25.9 | 9.8 | 54.2 |
| | 14 | 29 47.2 | 9 7.7 | 323 45.5 | 13.4 | -21 35.7 | 9.7 | 54.2 |
| | 15 | 44 47.4 | 9 6.8 | 338 17.9 | 13.3 | -21 45.4 | 9.6 | 54.2 |
| | 16 | 59 47.6 | 9 5.9 | 352 50.2 | 13.3 | -21 55.0 | 9.5 | 54.2 |
| | 17 | 74 47.8 | 9 5.0 | 7 22.5 | 13.2 | -22 4.5 | 9.4 | 54.2 |
| | 18 | 89 47.9 | 9 4.1 | 21 54.7 | 13.1 | -22 14.0 | 9.3 | 54.2 |
| | 19 | 104 48.1 | 9 3.3 | 36 26.8 | 13.1 | -22 23.3 | 9.2 | 54.2 |
| | 20 | 119 48.3 | 9 2.4 | 50 58.9 | 13.0 | -22 32.6 | 9.2 | 54.2 |
| | 21 | 134 48.5 | 9 1.5 | 65 30.9 | 12.9 | -22 41.7 | 9.1 | 54.2 |
| | 22 | 149 48.7 | 9 0.6 | 80 2.8 | 12.9 | -22 50.8 | 9.0 | 54.2 |
| | 23 | 164 48.9 | 8 59.7 | 94 34.7 | 12.8 | -22 59.7 | 8.9 | 54.2 |
| | *v* | 0.2 | SD 15.8 *d* -0.9 | | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **30 Saturday** | 0 | 179 49.1 | 8 58.8 | 109 6.5 | 12.7 | -23 8.6 | 8.8 | 54.2 |
| | 1 | 194 49.3 | 8 57.9 | 123 38.2 | 12.7 | -23 17.3 | 8.7 | 54.2 |
| | 2 | 209 49.5 | 8 57.0 | 138 9.9 | 12.6 | -23 26.0 | 8.6 | 54.2 |
| | 3 | 224 49.7 | 8 56.1 | 152 41.5 | 12.5 | -23 34.6 | 8.5 | 54.2 |
| | 4 | 239 49.9 | 8 55.2 | 167 13.0 | 12.5 | -23 43.0 | 8.4 | 54.2 |
| | 5 | 254 50.1 | 8 54.3 | 181 44.5 | 12.4 | -23 51.4 | 8.3 | 54.2 |
| | 6 | 269 50.2 | 8 53.4 | 196 15.8 | 12.3 | -23 59.6 | 8.2 | 54.2 |
| | 7 | 284 50.4 | 8 52.5 | 210 47.2 | 12.2 | -24 7.8 | 8.0 | 54.2 |
| | 8 | 299 50.6 | 8 51.6 | 225 18.4 | 12.2 | -24 15.8 | 7.9 | 54.2 |
| | 9 | 314 50.8 | 8 50.7 | 239 49.6 | 12.1 | -24 23.8 | 7.8 | 54.2 |
| | 10 | 329 51.0 | 8 49.8 | 254 20.7 | 12.0 | -24 31.6 | 7.7 | 54.2 |
| | 11 | 344 51.2 | 8 48.9 | 268 51.7 | 12.0 | -24 39.3 | 7.6 | 54.2 |
| | 12 | 359 51.4 | 8 48.0 | 283 22.7 | 11.9 | -24 47.0 | 7.5 | 54.3 |
| | 13 | 14 51.6 | 8 47.1 | 297 53.6 | 11.8 | -24 54.5 | 7.4 | 54.3 |
| | 14 | 29 51.8 | 8 46.2 | 312 24.4 | 11.8 | -25 1.9 | 7.3 | 54.3 |
| | 15 | 44 52.0 | 8 45.3 | 326 55.1 | 11.7 | -25 9.2 | 7.2 | 54.3 |
| | 16 | 59 52.2 | 8 44.4 | 341 25.8 | 11.6 | -25 16.4 | 7.1 | 54.3 |
| | 17 | 74 52.4 | 8 43.5 | 355 56.4 | 11.5 | -25 23.4 | 7.0 | 54.3 |
| | 18 | 89 52.6 | 8 42.6 | 10 27.0 | 11.5 | -25 30.4 | 6.8 | 54.3 |
| | 19 | 104 52.8 | 8 41.7 | 24 57.4 | 11.4 | -25 37.2 | 6.7 | 54.3 |
| | 20 | 119 53.0 | 8 40.8 | 39 27.8 | 11.3 | -25 44.0 | 6.6 | 54.3 |
| | 21 | 134 53.1 | 8 39.9 | 53 58.2 | 11.3 | -25 50.6 | 6.5 | 54.3 |
| | 22 | 149 53.3 | 8 39.0 | 68 28.4 | 11.2 | -25 57.1 | 6.4 | 54.3 |
| | 23 | 164 53.5 | 8 38.1 | 82 58.6 | 11.1 | -26 3.5 | 6.3 | 54.3 |
| | *v* | 0.2 | SD 15.8 *d* -0.9 | | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **31 Sunday** | 0 | 179 53.7 | 8 37.2 | 97 28.8 | 11.1 | -26 9.7 | 6.1 | 54.3 |
| | 1 | 194 53.9 | 8 36.3 | 111 58.8 | 11.0 | -26 15.9 | 6.0 | 54.4 |
| | 2 | 209 54.1 | 8 35.4 | 126 28.8 | 10.9 | -26 21.9 | 5.9 | 54.4 |
| | 3 | 224 54.3 | 8 34.5 | 140 58.7 | 10.9 | -26 27.8 | 5.8 | 54.4 |
| | 4 | 239 54.5 | 8 33.6 | 155 28.6 | 10.8 | -26 33.6 | 5.7 | 54.4 |
| | 5 | 254 54.7 | 8 32.7 | 169 58.3 | 10.7 | -26 39.2 | 5.5 | 54.4 |
| | 6 | 269 54.9 | 8 31.8 | 184 28.1 | 10.7 | -26 44.8 | 5.4 | 54.4 |
| | 7 | 284 55.1 | 8 30.9 | 198 57.7 | 10.6 | -26 50.2 | 5.3 | 54.4 |
| | 8 | 299 55.3 | 8 30.0 | 213 27.3 | 10.5 | -26 55.5 | 5.2 | 54.4 |
| | 9 | 314 55.5 | 8 29.1 | 227 56.8 | 10.5 | -27 0.7 | 5.0 | 54.4 |
| | 10 | 329 55.7 | 8 28.2 | 242 26.3 | 10.4 | -27 5.7 | 4.9 | 54.5 |
| | 11 | 344 55.9 | 8 27.3 | 256 55.7 | 10.3 | -27 10.6 | 4.8 | 54.5 |
| | 12 | 359 56.1 | 8 26.4 | 271 25.0 | 10.3 | -27 15.4 | 4.7 | 54.5 |
| | 13 | 14 56.3 | 8 25.5 | 285 54.3 | 10.2 | -27 20.1 | 4.5 | 54.5 |
| | 14 | 29 56.5 | 8 24.6 | 300 23.5 | 10.1 | -27 24.6 | 4.4 | 54.5 |
| | 15 | 44 56.7 | 8 23.7 | 314 52.6 | 10.1 | -27 29.0 | 4.3 | 54.5 |
| | 16 | 59 56.9 | 8 22.8 | 329 21.7 | 10.0 | -27 33.3 | 4.1 | 54.5 |
| | 17 | 74 57.1 | 8 21.9 | 343 50.7 | 10.0 | -27 37.4 | 4.0 | 54.6 |
| | 18 | 89 57.3 | 8 21.0 | 358 19.6 | 9.9 | -27 41.4 | 3.9 | 54.6 |
| | 19 | 104 57.5 | 8 20.1 | 12 48.5 | 9.8 | -27 45.3 | 3.7 | 54.6 |
| | 20 | 119 57.7 | 8 19.2 | 27 17.4 | 9.8 | -27 49.1 | 3.6 | 54.6 |
| | 21 | 134 57.9 | 8 18.3 | 41 46.2 | 9.7 | -27 52.7 | 3.5 | 54.6 |
| | 22 | 149 58.1 | 8 17.3 | 56 14.9 | 9.7 | -27 56.1 | 3.3 | 54.6 |
| | 23 | 164 58.3 | 8 16.4 | 70 43.5 | 9.6 | -27 59.5 | 3.2 | 54.6 |
| | *v* | 0.2 | SD 15.8 *d* -0.9 | | | SD 14.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 02:09 | 03:47 | 20:11 | 21:45 | //// |
| 70 | //// | 02:43 | 04:03 | 19:56 | 21:14 | //// |
| 68 | 00:59 | 03:07 | 04:16 | 19:43 | 20:51 | 22:51 |
| 66 | 01:51 | 03:26 | 04:26 | 19:34 | 20:33 | 22:04 |
| 64 | 02:22 | 03:40 | 04:35 | 19:25 | 20:19 | 21:35 |
| 62 | 02:44 | 03:52 | 04:42 | 19:18 | 20:07 | 21:14 |
| 60 | 03:02 | 04:02 | 04:48 | 19:12 | 19:57 | 20:57 |
| 58 | 03:16 | 04:11 | 04:54 | 19:06 | 19:49 | 20:43 |
| 56 | 03:28 | 04:19 | 04:59 | 19:02 | 19:41 | 20:32 |
| 54 | 03:38 | 04:25 | 05:03 | 18:57 | 19:35 | 20:22 |
| 52 | 03:47 | 04:31 | 05:07 | 18:53 | 19:29 | 20:13 |
| 50 | 03:55 | 04:37 | 05:11 | 18:50 | 19:24 | 20:05 |
| 45 | 04:11 | 04:48 | 05:19 | 18:42 | 19:13 | 19:49 |
| 40 | 04:24 | 04:57 | 05:25 | 18:36 | 19:04 | 19:37 |
| 35 | 04:34 | 05:05 | 05:31 | 18:31 | 18:57 | 19:27 |
| 30 | 04:42 | 05:11 | 05:35 | 18:26 | 18:50 | 19:19 |
| 20 | 04:55 | 05:21 | 05:44 | 18:18 | 18:40 | 19:06 |
| 10 | 05:05 | 05:30 | 05:51 | 18:11 | 18:32 | 18:57 |
| 0 | 05:12 | 05:37 | 05:58 | 18:04 | 18:25 | 18:49 |
| -10 | 05:18 | 05:43 | 06:04 | 17:58 | 18:19 | 18:44 |
| -20 | 05:23 | 05:49 | 06:11 | 17:51 | 18:13 | 18:39 |
| -30 | 05:27 | 05:54 | 06:19 | 17:44 | 18:08 | 18:36 |
| -35 | 05:28 | 05:57 | 06:23 | 17:39 | 18:05 | 18:34 |
| -40 | 05:29 | 06:01 | 06:28 | 17:34 | 18:02 | 18:33 |
| -45 | 05:30 | 06:04 | 06:34 | 17:29 | 17:59 | 18:33 |
| -50 | 05:30 | 06:08 | 06:40 | 17:22 | 17:55 | 18:32 |
| -52 | 05:30 | 06:09 | 06:43 | 17:19 | 17:53 | 18:32 |
| -54 | 05:30 | 06:11 | 06:47 | 17:16 | 17:52 | 18:33 |
| -56 | 05:30 | 06:13 | 06:51 | 17:12 | 17:50 | 18:33 |
| -58 | 05:30 | 06:15 | 06:55 | 17:08 | 17:48 | 18:33 |
| -60 | 05:29 | 06:17 | 06:59 | 17:03 | 17:46 | 18:34 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **29** | **30** | **31** | **29** | **30** | **31** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 68 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 66 | 14:42 | ▬ | ▬ | 18:03 | ▬ | ▬ |
| 64 | 14:04 | 16:22 | ▬ | 18:42 | 18:01 | ▬ |
| 62 | 13:37 | 15:24 | 17:33 | 19:10 | 19:01 | 18:36 |
| 60 | 13:17 | 14:51 | 16:25 | 19:31 | 19:34 | 19:44 |
| 58 | 13:00 | 14:26 | 15:50 | 19:49 | 19:59 | 20:19 |
| 56 | 12:46 | 14:07 | 15:25 | 20:03 | 20:19 | 20:45 |
| 54 | 12:33 | 13:51 | 15:05 | 20:16 | 20:36 | 21:05 |
| 52 | 12:23 | 13:37 | 14:48 | 20:27 | 20:50 | 21:22 |
| 50 | 12:13 | 13:25 | 14:33 | 20:37 | 21:02 | 21:37 |
| 45 | 11:53 | 13:00 | 14:04 | 20:58 | 21:28 | 22:06 |
| 40 | 11:37 | 12:40 | 13:41 | 21:16 | 21:49 | 22:30 |
| 35 | 11:24 | 12:23 | 13:23 | 21:30 | 22:06 | 22:49 |
| 30 | 11:12 | 12:09 | 13:07 | 21:43 | 22:21 | 23:05 |
| 20 | 10:52 | 11:45 | 12:39 | 22:04 | 22:46 | 23:33 |
| 10 | 10:35 | 11:24 | 12:16 | 22:23 | 23:08 | 23:57 |
| 0 | 10:19 | 11:05 | 11:55 | 22:41 | 23:29 | –:– |
| -10 | 10:03 | 10:46 | 11:33 | 22:58 | 23:49 | –:– |
| -20 | 09:46 | 10:26 | 11:10 | 23:17 | –:– | 00:11 |
| -30 | 09:26 | 10:02 | 10:43 | 23:39 | –:– | 00:37 |
| -35 | 09:15 | 09:48 | 10:28 | 23:52 | –:– | 00:52 |
| -40 | 09:02 | 09:33 | 10:09 | –:– | 00:07 | 01:10 |
| -45 | 08:47 | 09:14 | 09:48 | –:– | 00:25 | 01:31 |
| -50 | 08:29 | 08:50 | 09:20 | –:– | 00:48 | 01:58 |
| -52 | 08:20 | 08:39 | 09:06 | –:– | 00:58 | 02:11 |
| -54 | 08:10 | 08:27 | 08:51 | –:– | 01:11 | 02:26 |
| -56 | 07:59 | 08:12 | 08:32 | 00:03 | 01:24 | 02:44 |
| -58 | 07:47 | 07:55 | 08:10 | 00:15 | 01:41 | 03:06 |
| -60 | 07:33 | 07:35 | 07:41 | 00:29 | 02:01 | 03:35 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **29** | 01:02 | 00:53 | 12:01 | 16:30 | 04:07 | 6 | 29 |
| **30** | 00:44 | 00:34 | 12:01 | 17:17 | 04:53 | 7 | 38 |
| **31** | 00:25 | 00:16 | 12:00 | 18:07 | 05:41 | 8 | 47 |

## 2025 September 01, 02, 03 (Mon, Tue, Wed)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 01 Monday | 0 | 340 24.8 | 210 24.8 | 18 30.1 | 145 39.4 | -6 1.8 | 231 3.2 | 22 12.8 | 339 24.3 | -2 15.9 |
| | 1 | 355 27.2 | 225 24.1 | 18 29.4 | 160 40.4 | -6 2.5 | 246 5.2 | 22 12.7 | 354 26.9 | -2 16.0 |
| | 2 | 10 29.7 | 240 23.5 | 18 28.8 | 175 41.4 | -6 3.1 | 261 7.2 | 22 12.7 | 9 29.5 | -2 16.0 |
| | 3 | 25 32.2 | 255 22.9 | 18 28.1 | 190 42.3 | -6 3.8 | 276 9.1 | 22 12.6 | 24 32.2 | -2 16.1 |
| | 4 | 40 34.6 | 270 22.2 | 18 27.5 | 205 43.3 | -6 4.4 | 291 11.1 | 22 12.6 | 39 34.8 | -2 16.2 |
| | 5 | 55 37.1 | 285 21.6 | 18 26.8 | 220 44.3 | -6 5.1 | 306 13.1 | 22 12.5 | 54 37.4 | -2 16.3 |
| | 6 | 70 39.6 | 300 21.0 | 18 26.2 | 235 45.2 | -6 5.7 | 321 15.1 | 22 12.4 | 69 40.0 | -2 16.3 |
| | 7 | 85 42.0 | 315 20.3 | 18 25.5 | 250 46.2 | -6 6.4 | 336 17.1 | 22 12.4 | 84 42.6 | -2 16.4 |
| | 8 | 100 44.5 | 330 19.7 | 18 24.9 | 265 47.2 | -6 7.0 | 351 19.1 | 22 12.3 | 99 45.3 | -2 16.5 |
| | 9 | 115 46.9 | 345 19.1 | 18 24.2 | 280 48.1 | -6 7.7 | 6 21.0 | 22 12.3 | 114 47.9 | -2 16.6 |
| | 10 | 130 49.4 | 0 18.5 | 18 23.6 | 295 49.1 | -6 8.3 | 21 23.0 | 22 12.2 | 129 50.5 | -2 16.6 |
| | 11 | 145 51.9 | 15 17.8 | 18 22.9 | 310 50.1 | -6 9.0 | 36 25.0 | 22 12.2 | 144 53.1 | -2 16.7 |
| | 12 | 160 54.3 | 30 17.2 | 18 22.2 | 325 51.0 | -6 9.6 | 51 27.0 | 22 12.1 | 159 55.7 | -2 16.8 |
| | 13 | 175 56.8 | 45 16.6 | 18 21.6 | 340 52.0 | -6 10.3 | 66 29.0 | 22 12.1 | 174 58.4 | -2 16.9 |
| | 14 | 190 59.3 | 60 16.0 | 18 20.9 | 355 53.0 | -6 10.9 | 81 31.0 | 22 12.0 | 190 1.0 | -2 16.9 |
| | 15 | 206 1.7 | 75 15.3 | 18 20.3 | 10 53.9 | -6 11.6 | 96 33.0 | 22 12.0 | 205 3.6 | -2 17.0 |
| | 16 | 221 4.2 | 90 14.7 | 18 19.6 | 25 54.9 | -6 12.2 | 111 34.9 | 22 11.9 | 220 6.2 | -2 17.1 |
| | 17 | 236 6.7 | 105 14.1 | 18 18.9 | 40 55.9 | -6 12.9 | 126 36.9 | 22 11.8 | 235 8.9 | -2 17.2 |
| | 18 | 251 9.1 | 120 13.5 | 18 18.3 | 55 56.8 | -6 13.5 | 141 38.9 | 22 11.8 | 250 11.5 | -2 17.2 |
| | 19 | 266 11.6 | 135 12.8 | 18 17.6 | 70 57.8 | -6 14.2 | 156 40.9 | 22 11.7 | 265 14.1 | -2 17.3 |
| | 20 | 281 14.1 | 150 12.2 | 18 17.0 | 85 58.8 | -6 14.8 | 171 42.9 | 22 11.7 | 280 16.7 | -2 17.4 |
| | 21 | 296 16.5 | 165 11.6 | 18 16.3 | 100 59.7 | -6 15.5 | 186 44.9 | 22 11.6 | 295 19.3 | -2 17.5 |
| | 22 | 311 19.0 | 180 11.0 | 18 15.6 | 116 0.7 | -6 16.1 | 201 46.9 | 22 11.6 | 310 22.0 | -2 17.5 |
| | 23 | 326 21.4 | 195 10.3 | 18 15.0 | 131 1.6 | -6 16.8 | 216 48.8 | 22 11.5 | 325 24.6 | -2 17.6 |
| | | MP 01:19 | *v* -0.6 | *d* -0.6 | *v* 1.0 | *d* 0.7 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 Tuesday | 0 | 341 23.9 | 210 9.7 | 18 14.3 | 146 2.6 | -6 17.4 | 231 50.8 | 22 11.5 | 340 27.2 | -2 17.7 |
| | 1 | 356 26.4 | 225 9.1 | 18 13.6 | 161 3.6 | -6 18.1 | 246 52.8 | 22 11.4 | 355 29.8 | -2 17.8 |
| | 2 | 11 28.8 | 240 8.5 | 18 13.0 | 176 4.5 | -6 18.7 | 261 54.8 | 22 11.3 | 10 32.5 | -2 17.8 |
| | 3 | 26 31.3 | 255 7.8 | 18 12.3 | 191 5.5 | -6 19.4 | 276 56.8 | 22 11.3 | 25 35.1 | -2 17.9 |
| | 4 | 41 33.8 | 270 7.2 | 18 11.6 | 206 6.5 | -6 20.0 | 291 58.8 | 22 11.2 | 40 37.7 | -2 18.0 |
| | 5 | 56 36.2 | 285 6.6 | 18 10.9 | 221 7.4 | -6 20.7 | 307 0.8 | 22 11.2 | 55 40.3 | -2 18.1 |
| | 6 | 71 38.7 | 300 6.0 | 18 10.3 | 236 8.4 | -6 21.3 | 322 2.8 | 22 11.1 | 70 42.9 | -2 18.1 |
| | 7 | 86 41.2 | 315 5.4 | 18 9.6 | 251 9.4 | -6 22.0 | 337 4.7 | 22 11.1 | 85 45.6 | -2 18.2 |
| | 8 | 101 43.6 | 330 4.7 | 18 8.9 | 266 10.3 | -6 22.6 | 352 6.7 | 22 11.0 | 100 48.2 | -2 18.3 |
| | 9 | 116 46.1 | 345 4.1 | 18 8.2 | 281 11.3 | -6 23.3 | 7 8.7 | 22 11.0 | 115 50.8 | -2 18.4 |
| | 10 | 131 48.6 | 0 3.5 | 18 7.6 | 296 12.2 | -6 23.9 | 22 10.7 | 22 10.9 | 130 53.4 | -2 18.4 |
| | 11 | 146 51.0 | 15 2.9 | 18 6.9 | 311 13.2 | -6 24.6 | 37 12.7 | 22 10.8 | 145 56.1 | -2 18.5 |
| | 12 | 161 53.5 | 30 2.3 | 18 6.2 | 326 14.2 | -6 25.2 | 52 14.7 | 22 10.8 | 160 58.7 | -2 18.6 |
| | 13 | 176 55.9 | 45 1.6 | 18 5.5 | 341 15.1 | -6 25.9 | 67 16.7 | 22 10.7 | 176 1.3 | -2 18.7 |
| | 14 | 191 58.4 | 60 1.0 | 18 4.8 | 356 16.1 | -6 26.5 | 82 18.7 | 22 10.7 | 191 3.9 | -2 18.7 |
| | 15 | 207 0.9 | 75 0.4 | 18 4.2 | 11 17.1 | -6 27.1 | 97 20.7 | 22 10.6 | 206 6.6 | -2 18.8 |
| | 16 | 222 3.3 | 89 59.8 | 18 3.5 | 26 18.0 | -6 27.8 | 112 22.6 | 22 10.6 | 221 9.2 | -2 18.9 |
| | 17 | 237 5.8 | 104 59.2 | 18 2.8 | 41 19.0 | -6 28.4 | 127 24.6 | 22 10.5 | 236 11.8 | -2 19.0 |
| | 18 | 252 8.3 | 119 58.5 | 18 2.1 | 56 19.9 | -6 29.1 | 142 26.6 | 22 10.5 | 251 14.4 | -2 19.0 |
| | 19 | 267 10.7 | 134 57.9 | 18 1.4 | 71 20.9 | -6 29.7 | 157 28.6 | 22 10.4 | 266 17.0 | -2 19.1 |
| | 20 | 282 13.2 | 149 57.3 | 18 0.7 | 86 21.9 | -6 30.4 | 172 30.6 | 22 10.4 | 281 19.7 | -2 19.2 |
| | 21 | 297 15.7 | 164 56.7 | 18 0.1 | 101 22.8 | -6 31.0 | 187 32.6 | 22 10.3 | 296 22.3 | -2 19.3 |
| | 22 | 312 18.1 | 179 56.1 | 17 59.4 | 116 23.8 | -6 31.7 | 202 34.6 | 22 10.2 | 311 24.9 | -2 19.3 |
| | 23 | 327 20.6 | 194 55.5 | 17 58.7 | 131 24.8 | -6 32.3 | 217 36.6 | 22 10.2 | 326 27.5 | -2 19.4 |
| | | MP 01:16 | *v* -0.6 | *d* -0.7 | *v* 1.0 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 03 Wednesday | 0 | 342 23.1 | 209 54.8 | 17 58.0 | 146 25.7 | -6 33.0 | 232 38.6 | 22 10.1 | 341 30.2 | -2 19.5 |
| | 1 | 357 25.5 | 224 54.2 | 17 57.3 | 161 26.7 | -6 33.6 | 247 40.6 | 22 10.1 | 356 32.8 | -2 19.6 |
| | 2 | 12 28.0 | 239 53.6 | 17 56.6 | 176 27.6 | -6 34.3 | 262 42.6 | 22 10.0 | 11 35.4 | -2 19.6 |
| | 3 | 27 30.4 | 254 53.0 | 17 55.9 | 191 28.6 | -6 34.9 | 277 44.5 | 22 10.0 | 26 38.0 | -2 19.7 |
| | 4 | 42 32.9 | 269 52.4 | 17 55.2 | 206 29.6 | -6 35.6 | 292 46.5 | 22 9.9 | 41 40.7 | -2 19.8 |
| | 5 | 57 35.4 | 284 51.8 | 17 54.5 | 221 30.5 | -6 36.2 | 307 48.5 | 22 9.9 | 56 43.3 | -2 19.9 |
| | 6 | 72 37.8 | 299 51.2 | 17 53.8 | 236 31.5 | -6 36.9 | 322 50.5 | 22 9.8 | 71 45.9 | -2 19.9 |
| | 7 | 87 40.3 | 314 50.5 | 17 53.1 | 251 32.4 | -6 37.5 | 337 52.5 | 22 9.7 | 86 48.5 | -2 20.0 |
| | 8 | 102 42.8 | 329 49.9 | 17 52.5 | 266 33.4 | -6 38.2 | 352 54.5 | 22 9.7 | 101 51.2 | -2 20.1 |
| | 9 | 117 45.2 | 344 49.3 | 17 51.8 | 281 34.3 | -6 38.8 | 7 56.5 | 22 9.6 | 116 53.8 | -2 20.2 |
| | 10 | 132 47.7 | 359 48.7 | 17 51.1 | 296 35.3 | -6 39.5 | 22 58.5 | 22 9.6 | 131 56.4 | -2 20.2 |
| | 11 | 147 50.2 | 14 48.1 | 17 50.4 | 311 36.3 | -6 40.1 | 38 0.5 | 22 9.5 | 146 59.0 | -2 20.3 |
| | 12 | 162 52.6 | 29 47.5 | 17 49.7 | 326 37.2 | -6 40.8 | 53 2.5 | 22 9.5 | 162 1.7 | -2 20.4 |
| | 13 | 177 55.1 | 44 46.9 | 17 49.0 | 341 38.2 | -6 41.4 | 68 4.5 | 22 9.4 | 177 4.3 | -2 20.5 |
| | 14 | 192 57.5 | 59 46.2 | 17 48.3 | 356 39.1 | -6 42.1 | 83 6.5 | 22 9.4 | 192 6.9 | -2 20.6 |
| | 15 | 208 0.0 | 74 45.6 | 17 47.6 | 11 40.1 | -6 42.7 | 98 8.5 | 22 9.3 | 207 9.5 | -2 20.6 |
| | 16 | 223 2.5 | 89 45.0 | 17 46.8 | 26 41.1 | -6 43.4 | 113 10.5 | 22 9.2 | 222 12.2 | -2 20.7 |
| | 17 | 238 4.9 | 104 44.4 | 17 46.1 | 41 42.0 | -6 44.0 | 128 12.5 | 22 9.2 | 237 14.8 | -2 20.8 |
| | 18 | 253 7.4 | 119 43.8 | 17 45.4 | 56 43.0 | -6 44.7 | 143 14.4 | 22 9.1 | 252 17.4 | -2 20.9 |
| | 19 | 268 9.9 | 134 43.2 | 17 44.7 | 71 43.9 | -6 45.3 | 158 16.4 | 22 9.1 | 267 20.0 | -2 20.9 |
| | 20 | 283 12.3 | 149 42.6 | 17 44.0 | 86 44.9 | -6 46.0 | 173 18.4 | 22 9.0 | 282 22.7 | -2 21.0 |
| | 21 | 298 14.8 | 164 42.0 | 17 43.3 | 101 45.8 | -6 46.6 | 188 20.4 | 22 9.0 | 297 25.3 | -2 21.1 |
| | 22 | 313 17.3 | 179 41.4 | 17 42.6 | 116 46.8 | -6 47.3 | 203 22.4 | 22 8.9 | 312 27.9 | -2 21.2 |
| | 23 | 328 19.7 | 194 40.7 | 17 41.9 | 131 47.8 | -6 47.9 | 218 24.4 | 22 8.9 | 327 30.5 | -2 21.2 |
| | | MP 01:12 | *v* -0.6 | *d* -0.7 | *v* 1.0 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.2 | -40 11.8 |
| Achernar | 335 19.4 | -57 6.1 |
| Acrux | 173 0.2 | -63 14.6 |
| Adhara | 255 5.7 | -29 0.1 |
| Aldebaran | 290 39.0 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.4 |
| Alkaid | 152 51.9 | 49 11.3 |
| Alnair | 27 31.8 | -46 50.1 |
| Alnilam | 275 37.3 | -1 11.0 |
| Alphard | 217 47.5 | -8 46.1 |
| Alphecca | 126 3.4 | 26 37.9 |
| Alpheratz | 357 33.9 | 29 14.0 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.2 | -42 9.8 |
| Antares | 112 15.2 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 8.8 | -69 4.7 |
| Avior | 234 15.1 | -59 35.2 |
| Bellatrix | 278 22.4 | 6 22.5 |
| Betelgeuse | 270 51.6 | 7 24.8 |
| Canopus | 263 52.4 | -52 42.2 |
| Capella | 280 21.2 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.5 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.5 | -17 50.5 |
| Dubhe | 193 41.0 | 61 36.8 |
| Elnath | 278 1.3 | 28 37.7 |
| Eltanin | 90 41.7 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.0 |
| Gacrux | 171 51.6 | -57 15.5 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.7 | -60 30.0 |
| Hamal | 327 50.4 | 23 35.1 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 20.2 | 74 3.2 |
| Markab | 13 29.0 | 15 20.7 |
| Menkar | 314 5.5 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.9 |
| Miaplacidus | 221 39.1 | -69 49.2 |
| Mirfak | 308 27.4 | 49 57.0 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.7 |
| Rasalhague | 95 58.0 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.4 | -8 10.1 |
| Rigil Kent. | 139 39.9 | -60 56.7 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 30.0 | 56 40.6 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 25.9 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.0 |
| Vega | 80 32.6 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 01 Mon | SHA | MP |
|---|---|---|
| Venus | 230 0.0 | 09:59 |
| Mars | 165 14.6 | 14:16 |
| Jupiter | 250 38.4 | 08:35 |
| Saturn | 358 59.5 | 01:22 |

| 02 Tue | SHA | MP |
|---|---|---|
| Venus | 228 45.8 | 10:00 |
| Mars | 164 38.7 | 14:15 |
| Jupiter | 250 26.9 | 08:31 |
| Saturn | 359 3.3 | 01:18 |

| 03 Wed | SHA | MP |
|---|---|---|
| Venus | 227 31.8 | 10:01 |
| Mars | 164 2.7 | 14:13 |
| Jupiter | 250 15.5 | 08:28 |
| Saturn | 359 7.1 | 01:14 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | v | Dec | d | HP |
| **01 Monday** | 0 | 179 58.4 | 8 15.5 | 85 12.1 | 9.6 | -28 2.7 | 3.1 | 54.7 |
| | 1 | 194 58.6 | 8 14.6 | 99 40.7 | 9.5 | -28 5.8 | 2.9 | 54.7 |
| | 2 | 209 58.8 | 8 13.7 | 114 9.2 | 9.5 | -28 8.7 | 2.8 | 54.7 |
| | 3 | 224 59.0 | 8 12.8 | 128 37.7 | 9.4 | -28 11.5 | 2.7 | 54.7 |
| | 4 | 239 59.2 | 8 11.9 | 143 6.1 | 9.3 | -28 14.1 | 2.5 | 54.7 |
| | 5 | 254 59.4 | 8 11.0 | 157 34.4 | 9.3 | -28 16.6 | 2.4 | 54.8 |
| | 6 | 269 59.6 | 8 10.1 | 172 2.7 | 9.2 | -28 19.0 | 2.2 | 54.8 |
| | 7 | 284 59.8 | 8 9.2 | 186 31.0 | 9.2 | -28 21.3 | 2.1 | 54.8 |
| | 8 | 300 0.0 | 8 8.3 | 200 59.2 | 9.2 | -28 23.4 | 2.0 | 54.8 |
| | 9 | 315 0.2 | 8 7.4 | 215 27.3 | 9.1 | -28 25.3 | 1.8 | 54.8 |
| | 10 | 330 0.4 | 8 6.5 | 229 55.4 | 9.1 | -28 27.1 | 1.7 | 54.8 |
| | 11 | 345 0.6 | 8 5.5 | 244 23.5 | 9.0 | -28 28.8 | 1.5 | 54.9 |
| | 12 | 0 0.8 | 8 4.6 | 258 51.5 | 9.0 | -28 30.3 | 1.4 | 54.9 |
| | 13 | 15 1.0 | 8 3.7 | 273 19.5 | 8.9 | -28 31.7 | 1.2 | 54.9 |
| | 14 | 30 1.2 | 8 2.8 | 287 47.4 | 8.9 | -28 32.9 | 1.1 | 54.9 |
| | 15 | 45 1.4 | 8 1.9 | 302 15.3 | 8.9 | -28 34.0 | 0.9 | 54.9 |
| | 16 | 60 1.6 | 8 1.0 | 316 43.2 | 8.8 | -28 35.0 | 0.8 | 55.0 |
| | 17 | 75 1.8 | 8 0.1 | 331 11.0 | 8.8 | -28 35.8 | 0.7 | 55.0 |
| | 18 | 90 2.0 | 7 59.2 | 345 38.8 | 8.7 | -28 36.4 | 0.5 | 55.0 |
| | 19 | 105 2.2 | 7 58.3 | 0 6.5 | 8.7 | -28 36.9 | 0.4 | 55.0 |
| | 20 | 120 2.4 | 7 57.4 | 14 34.2 | 8.7 | -28 37.3 | 0.2 | 55.1 |
| | 21 | 135 2.6 | 7 56.4 | 29 1.9 | 8.6 | -28 37.5 | 0.1 | 55.1 |
| | 22 | 150 2.8 | 7 55.5 | 43 29.6 | 8.6 | -28 37.6 | -0.1 | 55.1 |
| | 23 | 165 3.0 | 7 54.6 | 57 57.2 | 8.6 | -28 37.5 | -0.2 | 55.1 |
| | v | 0.2 | SD 15.8 | d -0.9 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **02 Tuesday** | 0 | 180 3.2 | 7 53.7 | 72 24.8 | 8.6 | -28 37.2 | -0.4 | 55.1 |
| | 1 | 195 3.4 | 7 52.8 | 86 52.3 | 8.5 | -28 36.9 | -0.5 | 55.2 |
| | 2 | 210 3.7 | 7 51.9 | 101 19.9 | 8.5 | -28 36.3 | -0.7 | 55.2 |
| | 3 | 225 3.9 | 7 51.0 | 115 47.4 | 8.5 | -28 35.6 | -0.8 | 55.2 |
| | 4 | 240 4.1 | 7 50.1 | 130 14.9 | 8.5 | -28 34.8 | -1.0 | 55.2 |
| | 5 | 255 4.3 | 7 49.1 | 144 42.3 | 8.4 | -28 33.8 | -1.1 | 55.3 |
| | 6 | 270 4.5 | 7 48.2 | 159 9.8 | 8.4 | -28 32.7 | -1.3 | 55.3 |
| | 7 | 285 4.7 | 7 47.3 | 173 37.2 | 8.4 | -28 31.4 | -1.4 | 55.3 |
| | 8 | 300 4.9 | 7 46.4 | 188 4.6 | 8.4 | -28 30.0 | -1.6 | 55.3 |
| | 9 | 315 5.1 | 7 45.5 | 202 32.0 | 8.4 | -28 28.4 | -1.7 | 55.4 |
| | 10 | 330 5.3 | 7 44.6 | 216 59.4 | 8.4 | -28 26.7 | -1.9 | 55.4 |
| | 11 | 345 5.5 | 7 43.7 | 231 26.7 | 8.3 | -28 24.8 | -2.0 | 55.4 |
| | 12 | 0 5.7 | 7 42.8 | 245 54.1 | 8.3 | -28 22.7 | -2.2 | 55.4 |
| | 13 | 15 5.9 | 7 41.8 | 260 21.4 | 8.3 | -28 20.5 | -2.3 | 55.5 |
| | 14 | 30 6.1 | 7 40.9 | 274 48.7 | 8.3 | -28 18.2 | -2.5 | 55.5 |
| | 15 | 45 6.3 | 7 40.0 | 289 16.0 | 8.3 | -28 15.7 | -2.7 | 55.5 |
| | 16 | 60 6.5 | 7 39.1 | 303 43.3 | 8.3 | -28 13.0 | -2.8 | 55.5 |
| | 17 | 75 6.7 | 7 38.2 | 318 10.6 | 8.3 | -28 10.2 | -3.0 | 55.6 |
| | 18 | 90 6.9 | 7 37.3 | 332 37.9 | 8.3 | -28 7.3 | -3.1 | 55.6 |
| | 19 | 105 7.1 | 7 36.3 | 347 5.2 | 8.3 | -28 4.2 | -3.3 | 55.6 |
| | 20 | 120 7.3 | 7 35.4 | 1 32.5 | 8.3 | -28 0.9 | -3.4 | 55.7 |
| | 21 | 135 7.5 | 7 34.5 | 15 59.8 | 8.3 | -27 57.5 | -3.6 | 55.7 |
| | 22 | 150 7.7 | 7 33.6 | 30 27.1 | 8.3 | -27 53.9 | -3.7 | 55.7 |
| | 23 | 165 7.9 | 7 32.7 | 44 54.3 | 8.3 | -27 50.2 | -3.9 | 55.7 |
| | v | 0.2 | SD 15.9 | d -0.9 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|
| **03 Wednesday** | 0 | 180 8.1 | 7 31.8 | 59 21.6 | 8.3 | -27 46.3 | -4.0 | 55.8 |
| | 1 | 195 8.3 | 7 30.8 | 73 48.9 | 8.3 | -27 42.3 | -4.2 | 55.8 |
| | 2 | 210 8.5 | 7 29.9 | 88 16.2 | 8.3 | -27 38.1 | -4.3 | 55.8 |
| | 3 | 225 8.7 | 7 29.0 | 102 43.5 | 8.3 | -27 33.8 | -4.5 | 55.9 |
| | 4 | 240 8.9 | 7 28.1 | 117 10.8 | 8.3 | -27 29.3 | -4.6 | 55.9 |
| | 5 | 255 9.1 | 7 27.2 | 131 38.2 | 8.3 | -27 24.7 | -4.8 | 55.9 |
| | 6 | 270 9.3 | 7 26.3 | 146 5.5 | 8.3 | -27 19.9 | -4.9 | 55.9 |
| | 7 | 285 9.6 | 7 25.3 | 160 32.8 | 8.4 | -27 14.9 | -5.1 | 56.0 |
| | 8 | 300 9.8 | 7 24.4 | 175 0.2 | 8.4 | -27 9.8 | -5.2 | 56.0 |
| | 9 | 315 10.0 | 7 23.5 | 189 27.6 | 8.4 | -27 4.6 | -5.4 | 56.0 |
| | 10 | 330 10.2 | 7 22.6 | 203 54.9 | 8.4 | -26 59.2 | -5.5 | 56.1 |
| | 11 | 345 10.4 | 7 21.7 | 218 22.3 | 8.4 | -26 53.6 | -5.7 | 56.1 |
| | 12 | 0 10.6 | 7 20.7 | 232 49.8 | 8.4 | -26 47.9 | -5.8 | 56.1 |
| | 13 | 15 10.8 | 7 19.8 | 247 17.2 | 8.5 | -26 42.1 | -6.0 | 56.2 |
| | 14 | 30 11.0 | 7 18.9 | 261 44.7 | 8.5 | -26 36.1 | -6.1 | 56.2 |
| | 15 | 45 11.2 | 7 18.0 | 276 12.1 | 8.5 | -26 29.9 | -6.3 | 56.2 |
| | 16 | 60 11.4 | 7 17.1 | 290 39.6 | 8.5 | -26 23.7 | -6.4 | 56.3 |
| | 17 | 75 11.6 | 7 16.1 | 305 7.1 | 8.5 | -26 17.2 | -6.6 | 56.3 |
| | 18 | 90 11.8 | 7 15.2 | 319 34.7 | 8.6 | -26 10.6 | -6.7 | 56.3 |
| | 19 | 105 12.0 | 7 14.3 | 334 2.3 | 8.6 | -26 3.9 | -6.9 | 56.3 |
| | 20 | 120 12.2 | 7 13.4 | 348 29.9 | 8.6 | -25 57.0 | -7.0 | 56.4 |
| | 21 | 135 12.4 | 7 12.5 | 2 57.5 | 8.6 | -25 49.9 | -7.2 | 56.4 |
| | 22 | 150 12.6 | 7 11.5 | 17 25.1 | 8.7 | -25 42.7 | -7.3 | 56.4 |
| | 23 | 165 12.9 | 7 10.6 | 31 52.8 | 8.7 | -25 35.4 | -7.5 | 56.5 |
| | v | 0.2 | SD 15.9 | d -0.9 | | SD 15.2 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 02:33 | 04:02 | 19:54 | 21:21 | //// |
| 70 | //// | 03:01 | 04:16 | 19:41 | 20:55 | 23:37 |
| 68 | 01:33 | 03:21 | 04:27 | 19:30 | 20:35 | 22:19 |
| 66 | 02:11 | 03:37 | 04:36 | 19:22 | 20:20 | 21:44 |
| 64 | 02:37 | 03:50 | 04:43 | 19:15 | 20:07 | 21:19 |
| 62 | 02:56 | 04:01 | 04:50 | 19:08 | 19:57 | 21:01 |
| 60 | 03:12 | 04:10 | 04:55 | 19:03 | 19:48 | 20:45 |
| 58 | 03:25 | 04:18 | 05:00 | 18:58 | 19:40 | 20:33 |
| 56 | 03:36 | 04:25 | 05:05 | 18:54 | 19:33 | 20:22 |
| 54 | 03:45 | 04:31 | 05:09 | 18:50 | 19:27 | 20:13 |
| 52 | 03:53 | 04:37 | 05:12 | 18:47 | 19:22 | 20:05 |
| 50 | 04:00 | 04:42 | 05:15 | 18:44 | 19:17 | 19:58 |
| 45 | 04:15 | 04:52 | 05:22 | 18:37 | 19:07 | 19:43 |
| 40 | 04:27 | 05:00 | 05:28 | 18:31 | 18:59 | 19:32 |
| 35 | 04:36 | 05:07 | 05:33 | 18:27 | 18:52 | 19:23 |
| 30 | 04:44 | 05:13 | 05:37 | 18:22 | 18:47 | 19:15 |
| 20 | 04:56 | 05:22 | 05:44 | 18:15 | 18:37 | 19:04 |
| 10 | 05:05 | 05:30 | 05:51 | 18:09 | 18:30 | 18:55 |
| 0 | 05:12 | 05:36 | 05:57 | 18:03 | 18:24 | 18:48 |
| -10 | 05:17 | 05:41 | 06:02 | 17:58 | 18:19 | 18:43 |
| -20 | 05:21 | 05:46 | 06:08 | 17:52 | 18:14 | 18:40 |
| -30 | 05:23 | 05:51 | 06:15 | 17:45 | 18:09 | 18:37 |
| -35 | 05:24 | 05:54 | 06:19 | 17:41 | 18:07 | 18:36 |
| -40 | 05:25 | 05:56 | 06:23 | 17:37 | 18:04 | 18:36 |
| -45 | 05:25 | 05:59 | 06:28 | 17:32 | 18:02 | 18:36 |
| -50 | 05:24 | 06:02 | 06:34 | 17:27 | 17:59 | 18:37 |
| -52 | 05:24 | 06:03 | 06:37 | 17:24 | 17:58 | 18:37 |
| -54 | 05:23 | 06:04 | 06:40 | 17:21 | 17:57 | 18:38 |
| -56 | 05:23 | 06:06 | 06:43 | 17:18 | 17:55 | 18:38 |
| -58 | 05:22 | 06:07 | 06:47 | 17:14 | 17:54 | 18:39 |
| -60 | 05:21 | 06:09 | 06:51 | 17:10 | 17:53 | 18:41 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **01** | **02** | **03** | **01** | **02** | **03** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | 20:40 | | | 21:05 |
| 62 | | | 19:14 | | | 22:30 |
| 60 | 17:43 | 18:24 | 18:37 | 20:16 | 21:28 | 23:07 |
| 58 | 17:00 | 17:46 | 18:11 | 20:59 | 22:05 | 23:33 |
| 56 | 16:31 | 17:19 | 17:50 | 21:27 | 22:31 | 23:53 |
| 54 | 16:09 | 16:58 | 17:33 | 21:50 | 22:52 | –:– |
| 52 | 15:51 | 16:41 | 17:18 | 22:08 | 23:10 | –:– |
| 50 | 15:35 | 16:26 | 17:05 | 22:24 | 23:24 | –:– |
| 45 | 15:04 | 15:56 | 16:38 | 22:55 | 23:54 | –:– |
| 40 | 14:40 | 15:32 | 16:17 | 23:19 | –:– | 00:18 |
| 35 | 14:20 | 15:12 | 15:59 | 23:39 | –:– | 00:37 |
| 30 | 14:03 | 14:56 | 15:44 | 23:56 | –:– | 00:53 |
| 20 | 13:34 | 14:27 | 15:18 | –:– | 00:25 | 01:21 |
| 10 | 13:10 | 14:03 | 14:56 | –:– | 00:50 | 01:45 |
| 0 | 12:47 | 13:41 | 14:35 | 00:19 | 01:12 | 02:07 |
| -10 | 12:24 | 13:18 | 14:14 | 00:42 | 01:35 | 02:29 |
| -20 | 11:59 | 12:54 | 13:51 | 01:06 | 02:00 | 02:52 |
| -30 | 11:31 | 12:25 | 13:25 | 01:34 | 02:29 | 03:19 |
| -35 | 11:14 | 12:08 | 13:09 | 01:50 | 02:45 | 03:35 |
| -40 | 10:55 | 11:49 | 12:51 | 02:10 | 03:05 | 03:54 |
| -45 | 10:31 | 11:25 | 12:30 | 02:33 | 03:29 | 04:16 |
| -50 | 10:00 | 10:54 | 12:02 | 03:04 | 04:00 | 04:45 |
| -52 | 09:45 | 10:39 | 11:48 | 03:19 | 04:15 | 04:59 |
| -54 | 09:28 | 10:21 | 11:32 | 03:36 | 04:33 | 05:15 |
| -56 | 09:06 | 10:00 | 11:14 | 03:57 | 04:55 | 05:34 |
| -58 | 08:39 | 09:32 | 10:51 | 04:24 | 05:23 | 05:57 |
| -60 | 08:01 | 08:52 | 10:20 | 05:02 | 06:02 | 06:28 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | MP | | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **01** | 00:06 | 00:03 | 12:00 | 19:00 | 06:33 | 9 | 57 |
| **02** | 00:13 | 00:23 | 12:00 | 19:54 | 07:26 | 10 | 67 |
| **03** | 00:32 | 00:42 | 11:59 | 20:48 | 08:21 | 11 | 76 |

## 2025 September 04, 05, 06 (Thu, Fri, Saturday)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 04 Thursday | 0 | 343 22.2 | 209 40.1 | 17 41.2 | 146 48.7 | -6 48.6 | 233 26.4 | 22 8.8 | 342 33.2 | -2 21.3 |
| | 1 | 358 24.7 | 224 39.5 | 17 40.5 | 161 49.7 | -6 49.2 | 248 28.4 | 22 8.8 | 357 35.8 | -2 21.4 |
| | 2 | 13 27.1 | 239 38.9 | 17 39.8 | 176 50.6 | -6 49.8 | 263 30.4 | 22 8.7 | 12 38.4 | -2 21.5 |
| | 3 | 28 29.6 | 254 38.3 | 17 39.1 | 191 51.6 | -6 50.5 | 278 32.4 | 22 8.6 | 27 41.1 | -2 21.5 |
| | 4 | 43 32.0 | 269 37.7 | 17 38.3 | 206 52.5 | -6 51.1 | 293 34.4 | 22 8.6 | 42 43.7 | -2 21.6 |
| | 5 | 58 34.5 | 284 37.1 | 17 37.6 | 221 53.5 | -6 51.8 | 308 36.4 | 22 8.5 | 57 46.3 | -2 21.7 |
| | 6 | 73 37.0 | 299 36.5 | 17 36.9 | 236 54.5 | -6 52.4 | 323 38.4 | 22 8.5 | 72 48.9 | -2 21.8 |
| | 7 | 88 39.4 | 314 35.9 | 17 36.2 | 251 55.4 | -6 53.1 | 338 40.4 | 22 8.4 | 87 51.6 | -2 21.8 |
| | 8 | 103 41.9 | 329 35.3 | 17 35.5 | 266 56.4 | -6 53.7 | 353 42.4 | 22 8.4 | 102 54.2 | -2 21.9 |
| | 9 | 118 44.4 | 344 34.7 | 17 34.8 | 281 57.3 | -6 54.4 | 8 44.4 | 22 8.3 | 117 56.8 | -2 22.0 |
| | 10 | 133 46.8 | 359 34.1 | 17 34.0 | 296 58.3 | -6 55.0 | 23 46.4 | 22 8.3 | 132 59.4 | -2 22.1 |
| | 11 | 148 49.3 | 14 33.5 | 17 33.3 | 311 59.2 | -6 55.7 | 38 48.4 | 22 8.2 | 148 2.1 | -2 22.1 |
| | 12 | 163 51.8 | 29 32.9 | 17 32.6 | 327 0.2 | -6 56.3 | 53 50.4 | 22 8.1 | 163 4.7 | -2 22.2 |
| | 13 | 178 54.2 | 44 32.2 | 17 31.9 | 342 1.1 | -6 57.0 | 68 52.4 | 22 8.1 | 178 7.3 | -2 22.3 |
| | 14 | 193 56.7 | 59 31.6 | 17 31.2 | 357 2.1 | -6 57.6 | 83 54.4 | 22 8.0 | 193 9.9 | -2 22.4 |
| | 15 | 208 59.2 | 74 31.0 | 17 30.4 | 12 3.0 | -6 58.3 | 98 56.4 | 22 8.0 | 208 12.6 | -2 22.5 |
| | 16 | 224 1.6 | 89 30.4 | 17 29.7 | 27 4.0 | -6 58.9 | 113 58.4 | 22 7.9 | 223 15.2 | -2 22.5 |
| | 17 | 239 4.1 | 104 29.8 | 17 29.0 | 42 5.0 | -6 59.6 | 129 0.4 | 22 7.9 | 238 17.8 | -2 22.6 |
| | 18 | 254 6.5 | 119 29.2 | 17 28.3 | 57 5.9 | -7 0.2 | 144 2.4 | 22 7.8 | 253 20.5 | -2 22.7 |
| | 19 | 269 9.0 | 134 28.6 | 17 27.5 | 72 6.9 | -7 0.9 | 159 4.4 | 22 7.8 | 268 23.1 | -2 22.8 |
| | 20 | 284 11.5 | 149 28.0 | 17 26.8 | 87 7.8 | -7 1.5 | 174 6.4 | 22 7.7 | 283 25.7 | -2 22.8 |
| | 21 | 299 13.9 | 164 27.4 | 17 26.1 | 102 8.8 | -7 2.1 | 189 8.4 | 22 7.7 | 298 28.3 | -2 22.9 |
| | 22 | 314 16.4 | 179 26.8 | 17 25.3 | 117 9.7 | -7 2.8 | 204 10.4 | 22 7.6 | 313 31.0 | -2 23.0 |
| | 23 | 329 18.9 | 194 26.2 | 17 24.6 | 132 10.7 | -7 3.4 | 219 12.4 | 22 7.5 | 328 33.6 | -2 23.1 |
| | | MP 01:08 | *v* -0.6 | *d* -0.7 | *v* 1.0 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Friday | 0 | 344 21.3 | 209 25.6 | 17 23.9 | 147 11.6 | -7 4.1 | 234 14.4 | 22 7.5 | 343 36.2 | -2 23.1 |
| | 1 | 359 23.8 | 224 25.0 | 17 23.2 | 162 12.6 | -7 4.7 | 249 16.4 | 22 7.4 | 358 38.8 | -2 23.2 |
| | 2 | 14 26.3 | 239 24.4 | 17 22.4 | 177 13.5 | -7 5.4 | 264 18.4 | 22 7.4 | 13 41.5 | -2 23.3 |
| | 3 | 29 28.7 | 254 23.8 | 17 21.7 | 192 14.5 | -7 6.0 | 279 20.4 | 22 7.3 | 28 44.1 | -2 23.4 |
| | 4 | 44 31.2 | 269 23.2 | 17 20.9 | 207 15.4 | -7 6.7 | 294 22.4 | 22 7.3 | 43 46.7 | -2 23.4 |
| | 5 | 59 33.7 | 284 22.6 | 17 20.2 | 222 16.4 | -7 7.3 | 309 24.4 | 22 7.2 | 58 49.4 | -2 23.5 |
| | 6 | 74 36.1 | 299 22.0 | 17 19.5 | 237 17.3 | -7 8.0 | 324 26.4 | 22 7.2 | 73 52.0 | -2 23.6 |
| | 7 | 89 38.6 | 314 21.4 | 17 18.7 | 252 18.3 | -7 8.6 | 339 28.4 | 22 7.1 | 88 54.6 | -2 23.7 |
| | 8 | 104 41.0 | 329 20.8 | 17 18.0 | 267 19.2 | -7 9.3 | 354 30.4 | 22 7.0 | 103 57.2 | -2 23.7 |
| | 9 | 119 43.5 | 344 20.2 | 17 17.3 | 282 20.2 | -7 9.9 | 9 32.4 | 22 7.0 | 118 59.9 | -2 23.8 |
| | 10 | 134 46.0 | 359 19.6 | 17 16.5 | 297 21.1 | -7 10.6 | 24 34.4 | 22 6.9 | 134 2.5 | -2 23.9 |
| | 11 | 149 48.4 | 14 19.0 | 17 15.8 | 312 22.1 | -7 11.2 | 39 36.4 | 22 6.9 | 149 5.1 | -2 24.0 |
| | 12 | 164 50.9 | 29 18.4 | 17 15.0 | 327 23.0 | -7 11.8 | 54 38.4 | 22 6.8 | 164 7.8 | -2 24.1 |
| | 13 | 179 53.4 | 44 17.8 | 17 14.3 | 342 24.0 | -7 12.5 | 69 40.4 | 22 6.8 | 179 10.4 | -2 24.1 |
| | 14 | 194 55.8 | 59 17.2 | 17 13.6 | 357 24.9 | -7 13.1 | 84 42.4 | 22 6.7 | 194 13.0 | -2 24.2 |
| | 15 | 209 58.3 | 74 16.6 | 17 12.8 | 12 25.9 | -7 13.8 | 99 44.4 | 22 6.7 | 209 15.6 | -2 24.3 |
| | 16 | 225 0.8 | 89 16.0 | 17 12.1 | 27 26.8 | -7 14.4 | 114 46.4 | 22 6.6 | 224 18.3 | -2 24.4 |
| | 17 | 240 3.2 | 104 15.4 | 17 11.3 | 42 27.8 | -7 15.1 | 129 48.4 | 22 6.5 | 239 20.9 | -2 24.4 |
| | 18 | 255 5.7 | 119 14.8 | 17 10.6 | 57 28.7 | -7 15.7 | 144 50.4 | 22 6.5 | 254 23.5 | -2 24.5 |
| | 19 | 270 8.1 | 134 14.2 | 17 9.8 | 72 29.7 | -7 16.4 | 159 52.4 | 22 6.4 | 269 26.2 | -2 24.6 |
| | 20 | 285 10.6 | 149 13.6 | 17 9.1 | 87 30.6 | -7 17.0 | 174 54.4 | 22 6.4 | 284 28.8 | -2 24.7 |
| | 21 | 300 13.1 | 164 13.0 | 17 8.3 | 102 31.6 | -7 17.7 | 189 56.4 | 22 6.3 | 299 31.4 | -2 24.7 |
| | 22 | 315 15.5 | 179 12.4 | 17 7.6 | 117 32.5 | -7 18.3 | 204 58.4 | 22 6.3 | 314 34.0 | -2 24.8 |
| | 23 | 330 18.0 | 194 11.9 | 17 6.8 | 132 33.5 | -7 19.0 | 220 0.4 | 22 6.2 | 329 36.7 | -2 24.9 |
| | | MP 01:04 | *v* -0.6 | *d* -0.7 | *v* 1.0 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 06 Saturday | 0 | 345 20.5 | 209 11.3 | 17 6.1 | 147 34.4 | -7 19.6 | 235 2.4 | 22 6.2 | 344 39.3 | -2 25.0 |
| | 1 | 0 22.9 | 224 10.7 | 17 5.3 | 162 35.4 | -7 20.2 | 250 4.4 | 22 6.1 | 359 41.9 | -2 25.1 |
| | 2 | 15 25.4 | 239 10.1 | 17 4.6 | 177 36.3 | -7 20.9 | 265 6.4 | 22 6.1 | 14 44.6 | -2 25.1 |
| | 3 | 30 27.9 | 254 9.5 | 17 3.8 | 192 37.3 | -7 21.5 | 280 8.4 | 22 6.0 | 29 47.2 | -2 25.2 |
| | 4 | 45 30.3 | 269 8.9 | 17 3.1 | 207 38.2 | -7 22.2 | 295 10.4 | 22 5.9 | 44 49.8 | -2 25.3 |
| | 5 | 60 32.8 | 284 8.3 | 17 2.3 | 222 39.2 | -7 22.8 | 310 12.4 | 22 5.9 | 59 52.4 | -2 25.4 |
| | 6 | 75 35.3 | 299 7.7 | 17 1.6 | 237 40.1 | -7 23.5 | 325 14.4 | 22 5.8 | 74 55.1 | -2 25.4 |
| | 7 | 90 37.7 | 314 7.1 | 17 0.8 | 252 41.1 | -7 24.1 | 340 16.5 | 22 5.8 | 89 57.7 | -2 25.5 |
| | 8 | 105 40.2 | 329 6.5 | 17 0.0 | 267 42.0 | -7 24.8 | 355 18.5 | 22 5.7 | 105 0.3 | -2 25.6 |
| | 9 | 120 42.6 | 344 5.9 | 16 59.3 | 282 43.0 | -7 25.4 | 10 20.5 | 22 5.7 | 120 3.0 | -2 25.7 |
| | 10 | 135 45.1 | 359 5.3 | 16 58.5 | 297 43.9 | -7 26.1 | 25 22.5 | 22 5.6 | 135 5.6 | -2 25.7 |
| | 11 | 150 47.6 | 14 4.7 | 16 57.8 | 312 44.8 | -7 26.7 | 40 24.5 | 22 5.6 | 150 8.2 | -2 25.8 |
| | 12 | 165 50.0 | 29 4.1 | 16 57.0 | 327 45.8 | -7 27.3 | 55 26.5 | 22 5.5 | 165 10.8 | -2 25.9 |
| | 13 | 180 52.5 | 44 3.6 | 16 56.2 | 342 46.7 | -7 28.0 | 70 28.5 | 22 5.4 | 180 13.5 | -2 26.0 |
| | 14 | 195 55.0 | 59 3.0 | 16 55.5 | 357 47.7 | -7 28.6 | 85 30.5 | 22 5.4 | 195 16.1 | -2 26.1 |
| | 15 | 210 57.4 | 74 2.4 | 16 54.7 | 12 48.6 | -7 29.3 | 100 32.5 | 22 5.3 | 210 18.7 | -2 26.1 |
| | 16 | 225 59.9 | 89 1.8 | 16 53.9 | 27 49.6 | -7 29.9 | 115 34.5 | 22 5.3 | 225 21.4 | -2 26.2 |
| | 17 | 241 2.4 | 104 1.2 | 16 53.2 | 42 50.5 | -7 30.6 | 130 36.5 | 22 5.2 | 240 24.0 | -2 26.3 |
| | 18 | 256 4.8 | 119 0.6 | 16 52.4 | 57 51.5 | -7 31.2 | 145 38.5 | 22 5.2 | 255 26.6 | -2 26.4 |
| | 19 | 271 7.3 | 134 0.0 | 16 51.6 | 72 52.4 | -7 31.9 | 160 40.5 | 22 5.1 | 270 29.3 | -2 26.4 |
| | 20 | 286 9.8 | 148 59.4 | 16 50.9 | 87 53.4 | -7 32.5 | 175 42.5 | 22 5.1 | 285 31.9 | -2 26.5 |
| | 21 | 301 12.2 | 163 58.8 | 16 50.1 | 102 54.3 | -7 33.1 | 190 44.6 | 22 5.0 | 300 34.5 | -2 26.6 |
| | 22 | 316 14.7 | 178 58.3 | 16 49.3 | 117 55.2 | -7 33.8 | 205 46.6 | 22 5.0 | 315 37.2 | -2 26.7 |
| | 23 | 331 17.1 | 193 57.7 | 16 48.6 | 132 56.2 | -7 34.4 | 220 48.6 | 22 4.9 | 330 39.8 | -2 26.8 |
| | | MP 01:00 | *v* -0.6 | *d* -0.8 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.2 | -40 11.8 |
| Achernar | 335 19.3 | -57 6.1 |
| Acrux | 173 0.2 | -63 14.6 |
| Adhara | 255 5.6 | -29 0.1 |
| Aldebaran | 290 39.0 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.4 |
| Alkaid | 152 51.9 | 49 11.3 |
| Alnair | 27 31.7 | -46 50.1 |
| Alnilam | 275 37.2 | -1 11.0 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 3.4 | 26 37.9 |
| Alpheratz | 357 33.9 | 29 14.0 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.2 | -42 9.8 |
| Antares | 112 15.2 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 8.9 | -69 4.7 |
| Avior | 234 15.1 | -59 35.2 |
| Bellatrix | 278 22.3 | 6 22.5 |
| Betelgeuse | 270 51.6 | 7 24.8 |
| Canopus | 263 52.4 | -52 42.2 |
| Capella | 280 21.1 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.5 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.5 | -17 50.5 |
| Dubhe | 193 41.0 | 61 36.8 |
| Elnath | 278 1.2 | 28 37.7 |
| Eltanin | 90 41.8 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.0 |
| Gacrux | 171 51.6 | -57 15.5 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.7 | -60 30.0 |
| Hamal | 327 50.4 | 23 35.1 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 20.3 | 74 3.2 |
| Markab | 13 29.0 | 15 20.7 |
| Menkar | 314 5.4 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.8 |
| Miaplacidus | 221 39.1 | -69 49.2 |
| Mirfak | 308 27.3 | 49 57.0 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.7 |
| Rasalhague | 95 58.0 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.4 | -8 10.1 |
| Rigil Kent. | 139 39.9 | -60 56.7 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 29.9 | 56 40.7 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 25.9 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.0 |
| Vega | 80 32.7 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 04 Thu | SHA | MP |
|---|---|---|
| Venus | 226 17.9 | 10:02 |
| Mars | 163 26.5 | 14:12 |
| Jupiter | 250 4.2 | 08:25 |
| Saturn | 359 11.0 | 01:10 |

| 05 Fri | SHA | MP |
|---|---|---|
| Venus | 225 4.3 | 10:03 |
| Mars | 162 50.3 | 14:10 |
| Jupiter | 249 53.0 | 08:22 |
| Saturn | 359 14.9 | 01:05 |

| 06 Sat | SHA | MP |
|---|---|---|
| Venus | 223 50.8 | 10:04 |
| Mars | 162 14.0 | 14:09 |
| Jupiter | 249 41.9 | 08:19 |
| Saturn | 359 18.8 | 01:01 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **04 Thursday** | 0 | 180 13.1 | 7 9.7 | 46 20.5 | 8.7 | -25 27.9 | -7.6 | 56.5 |
| | 1 | 195 13.3 | 7 8.8 | 60 48.2 | 8.8 | -25 20.3 | -7.8 | 56.5 |
| | 2 | 210 13.5 | 7 7.9 | 75 16.0 | 8.8 | -25 12.5 | -7.9 | 56.6 |
| | 3 | 225 13.7 | 7 6.9 | 89 43.8 | 8.8 | -25 4.6 | -8.1 | 56.6 |
| | 4 | 240 13.9 | 7 6.0 | 104 11.6 | 8.9 | -24 56.6 | -8.2 | 56.6 |
| | 5 | 255 14.1 | 7 5.1 | 118 39.5 | 8.9 | -24 48.4 | -8.3 | 56.7 |
| | 6 | 270 14.3 | 7 4.2 | 133 7.4 | 8.9 | -24 40.0 | -8.5 | 56.7 |
| | 7 | 285 14.5 | 7 3.2 | 147 35.3 | 9.0 | -24 31.5 | -8.6 | 56.7 |
| | 8 | 300 14.7 | 7 2.3 | 162 3.3 | 9.0 | -24 22.9 | -8.8 | 56.8 |
| | 9 | 315 14.9 | 7 1.4 | 176 31.3 | 9.0 | -24 14.1 | -8.9 | 56.8 |
| | 10 | 330 15.1 | 7 0.5 | 190 59.4 | 9.1 | -24 5.2 | -9.0 | 56.8 |
| | 11 | 345 15.3 | 6 59.5 | 205 27.5 | 9.1 | -23 56.2 | -9.2 | 56.9 |
| | 12 | 0 15.6 | 6 58.6 | 219 55.6 | 9.2 | -23 47.0 | -9.3 | 56.9 |
| | 13 | 15 15.8 | 6 57.7 | 234 23.7 | 9.2 | -23 37.7 | -9.5 | 56.9 |
| | 14 | 30 16.0 | 6 56.8 | 248 51.9 | 9.2 | -23 28.2 | -9.6 | 57.0 |
| | 15 | 45 16.2 | 6 55.9 | 263 20.2 | 9.3 | -23 18.6 | -9.7 | 57.0 |
| | 16 | 60 16.4 | 6 54.9 | 277 48.4 | 9.3 | -23 8.9 | -9.9 | 57.0 |
| | 17 | 75 16.6 | 6 54.0 | 292 16.8 | 9.4 | -22 59.0 | -10.0 | 57.1 |
| | 18 | 90 16.8 | 6 53.1 | 306 45.1 | 9.4 | -22 49.0 | -10.1 | 57.1 |
| | 19 | 105 17.0 | 6 52.1 | 321 13.5 | 9.4 | -22 38.9 | -10.3 | 57.1 |
| | 20 | 120 17.2 | 6 51.2 | 335 42.0 | 9.5 | -22 28.6 | -10.4 | 57.2 |
| | 21 | 135 17.4 | 6 50.3 | 350 10.4 | 9.5 | -22 18.2 | -10.5 | 57.2 |
| | 22 | 150 17.6 | 6 49.4 | 4 39.0 | 9.6 | -22 7.7 | -10.7 | 57.2 |
| | 23 | 165 17.9 | 6 48.4 | 19 7.5 | 9.6 | -21 57.0 | -10.8 | 57.3 |
| | *v* | 0.2 | SD 15.9 | *d* -0.9 | | SD 15.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **05 Friday** | 0 | 180 18.1 | 6 47.5 | 33 36.2 | 9.7 | -21 46.2 | -10.9 | 57.3 |
| | 1 | 195 18.3 | 6 46.6 | 48 4.8 | 9.7 | -21 35.3 | -11.0 | 57.3 |
| | 2 | 210 18.5 | 6 45.7 | 62 33.5 | 9.7 | -21 24.2 | -11.2 | 57.4 |
| | 3 | 225 18.7 | 6 44.7 | 77 2.3 | 9.8 | -21 13.1 | -11.3 | 57.4 |
| | 4 | 240 18.9 | 6 43.8 | 91 31.0 | 9.8 | -21 1.8 | -11.4 | 57.4 |
| | 5 | 255 19.1 | 6 42.9 | 105 59.9 | 9.9 | -20 50.3 | -11.5 | 57.5 |
| | 6 | 270 19.3 | 6 42.0 | 120 28.7 | 9.9 | -20 38.8 | -11.7 | 57.5 |
| | 7 | 285 19.5 | 6 41.0 | 134 57.7 | 10.0 | -20 27.1 | -11.8 | 57.5 |
| | 8 | 300 19.7 | 6 40.1 | 149 26.6 | 10.0 | -20 15.3 | -11.9 | 57.6 |
| | 9 | 315 20.0 | 6 39.2 | 163 55.6 | 10.0 | -20 3.4 | -12.0 | 57.6 |
| | 10 | 330 20.2 | 6 38.2 | 178 24.7 | 10.1 | -19 51.4 | -12.2 | 57.6 |
| | 11 | 345 20.4 | 6 37.3 | 192 53.8 | 10.1 | -19 39.2 | -12.3 | 57.7 |
| | 12 | 0 20.6 | 6 36.4 | 207 22.9 | 10.2 | -19 27.0 | -12.4 | 57.7 |
| | 13 | 15 20.8 | 6 35.5 | 221 52.1 | 10.2 | -19 14.6 | -12.5 | 57.7 |
| | 14 | 30 21.0 | 6 34.5 | 236 21.3 | 10.3 | -19 2.1 | -12.6 | 57.8 |
| | 15 | 45 21.2 | 6 33.6 | 250 50.6 | 10.3 | -18 49.5 | -12.7 | 57.8 |
| | 16 | 60 21.4 | 6 32.7 | 265 19.9 | 10.4 | -18 36.7 | -12.8 | 57.8 |
| | 17 | 75 21.6 | 6 31.7 | 279 49.2 | 10.4 | -18 23.9 | -13.0 | 57.9 |
| | 18 | 90 21.9 | 6 30.8 | 294 18.6 | 10.4 | -18 10.9 | -13.1 | 57.9 |
| | 19 | 105 22.1 | 6 29.9 | 308 48.1 | 10.5 | -17 57.9 | -13.2 | 57.9 |
| | 20 | 120 22.3 | 6 29.0 | 323 17.5 | 10.5 | -17 44.7 | -13.3 | 58.0 |
| | 21 | 135 22.5 | 6 28.0 | 337 47.1 | 10.6 | -17 31.4 | -13.4 | 58.0 |
| | 22 | 150 22.7 | 6 27.1 | 352 16.6 | 10.6 | -17 18.1 | -13.5 | 58.0 |
| | 23 | 165 22.9 | 6 26.2 | 6 46.2 | 10.6 | -17 4.6 | -13.6 | 58.1 |
| | *v* | 0.2 | SD 15.9 | *d* -0.9 | | SD 15.6 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **06 Saturday** | 0 | 180 23.1 | 6 25.2 | 21 15.9 | 10.7 | -16 51.0 | -13.7 | 58.1 |
| | 1 | 195 23.3 | 6 24.3 | 35 45.6 | 10.7 | -16 37.3 | -13.8 | 58.1 |
| | 2 | 210 23.6 | 6 23.4 | 50 15.3 | 10.8 | -16 23.5 | -13.9 | 58.2 |
| | 3 | 225 23.8 | 6 22.4 | 64 45.1 | 10.8 | -16 9.6 | -14.0 | 58.2 |
| | 4 | 240 24.0 | 6 21.5 | 79 14.9 | 10.8 | -15 55.6 | -14.1 | 58.2 |
| | 5 | 255 24.2 | 6 20.6 | 93 44.7 | 10.9 | -15 41.5 | -14.2 | 58.3 |
| | 6 | 270 24.4 | 6 19.6 | 108 14.6 | 10.9 | -15 27.3 | -14.3 | 58.3 |
| | 7 | 285 24.6 | 6 18.7 | 122 44.5 | 11.0 | -15 13.0 | -14.4 | 58.3 |
| | 8 | 300 24.8 | 6 17.8 | 137 14.5 | 11.0 | -14 58.6 | -14.5 | 58.4 |
| | 9 | 315 25.0 | 6 16.8 | 151 44.5 | 11.0 | -14 44.2 | -14.6 | 58.4 |
| | 10 | 330 25.3 | 6 15.9 | 166 14.5 | 11.1 | -14 29.6 | -14.7 | 58.4 |
| | 11 | 345 25.5 | 6 15.0 | 180 44.6 | 11.1 | -14 15.0 | -14.7 | 58.5 |
| | 12 | 0 25.7 | 6 14.0 | 195 14.7 | 11.1 | -14 0.2 | -14.8 | 58.5 |
| | 13 | 15 25.9 | 6 13.1 | 209 44.8 | 11.2 | -13 45.4 | -14.9 | 58.5 |
| | 14 | 30 26.1 | 6 12.2 | 224 15.0 | 11.2 | -13 30.5 | -15.0 | 58.5 |
| | 15 | 45 26.3 | 6 11.2 | 238 45.2 | 11.2 | -13 15.5 | -15.1 | 58.6 |
| | 16 | 60 26.5 | 6 10.3 | 253 15.4 | 11.3 | -13 0.4 | -15.2 | 58.6 |
| | 17 | 75 26.8 | 6 9.4 | 267 45.7 | 11.3 | -12 45.2 | -15.2 | 58.6 |
| | 18 | 90 27.0 | 6 8.4 | 282 16.0 | 11.3 | -12 30.0 | -15.3 | 58.7 |
| | 19 | 105 27.2 | 6 7.5 | 296 46.3 | 11.4 | -12 14.6 | -15.4 | 58.7 |
| | 20 | 120 27.4 | 6 6.6 | 311 16.7 | 11.4 | -11 59.2 | -15.5 | 58.7 |
| | 21 | 135 27.6 | 6 5.6 | 325 47.0 | 11.4 | -11 43.7 | -15.6 | 58.8 |
| | 22 | 150 27.8 | 6 4.7 | 340 17.5 | 11.4 | -11 28.2 | -15.6 | 58.8 |
| | 23 | 165 28.0 | 6 3.8 | 354 47.9 | 11.5 | -11 12.6 | -15.7 | 58.8 |
| | *v* | 0.2 | SD 15.9 | *d* -0.9 | | SD 15.9 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 02:53 | 04:17 | 19:38 | 21:00 | //// |
| 70 | 01:07 | 03:17 | 04:29 | 19:27 | 20:37 | 22:39 |
| 68 | 01:58 | 03:35 | 04:38 | 19:18 | 20:20 | 21:54 |
| 66 | 02:28 | 03:49 | 04:46 | 19:10 | 20:07 | 21:25 |
| 64 | 02:50 | 04:00 | 04:52 | 19:04 | 19:55 | 21:04 |
| 62 | 03:07 | 04:10 | 04:58 | 18:59 | 19:46 | 20:48 |
| 60 | 03:21 | 04:18 | 05:02 | 18:54 | 19:38 | 20:34 |
| 58 | 03:33 | 04:25 | 05:07 | 18:50 | 19:31 | 20:23 |
| 56 | 03:43 | 04:32 | 05:10 | 18:46 | 19:25 | 20:13 |
| 54 | 03:52 | 04:37 | 05:14 | 18:43 | 19:20 | 20:05 |
| 52 | 03:59 | 04:42 | 05:17 | 18:40 | 19:15 | 19:57 |
| 50 | 04:06 | 04:46 | 05:20 | 18:37 | 19:10 | 19:51 |
| 45 | 04:20 | 04:56 | 05:26 | 18:31 | 19:01 | 19:37 |
| 40 | 04:30 | 05:03 | 05:31 | 18:26 | 18:54 | 19:27 |
| 35 | 04:39 | 05:09 | 05:35 | 18:22 | 18:48 | 19:18 |
| 30 | 04:46 | 05:14 | 05:39 | 18:19 | 18:43 | 19:11 |
| 20 | 04:57 | 05:23 | 05:45 | 18:13 | 18:35 | 19:01 |
| 10 | 05:05 | 05:29 | 05:51 | 18:07 | 18:28 | 18:53 |
| 0 | 05:11 | 05:35 | 05:56 | 18:02 | 18:23 | 18:47 |
| -10 | 05:15 | 05:40 | 06:01 | 17:57 | 18:19 | 18:43 |
| -20 | 05:18 | 05:44 | 06:06 | 17:52 | 18:14 | 18:40 |
| -30 | 05:20 | 05:48 | 06:12 | 17:47 | 18:11 | 18:39 |
| -35 | 05:20 | 05:50 | 06:15 | 17:44 | 18:09 | 18:38 |
| -40 | 05:20 | 05:51 | 06:19 | 17:40 | 18:07 | 18:39 |
| -45 | 05:19 | 05:53 | 06:23 | 17:36 | 18:05 | 18:39 |
| -50 | 05:18 | 05:55 | 06:28 | 17:31 | 18:03 | 18:41 |
| -52 | 05:17 | 05:56 | 06:30 | 17:29 | 18:03 | 18:42 |
| -54 | 05:16 | 05:57 | 06:33 | 17:26 | 18:02 | 18:43 |
| -56 | 05:15 | 05:58 | 06:35 | 17:24 | 18:01 | 18:44 |
| -58 | 05:14 | 05:59 | 06:38 | 17:21 | 18:00 | 18:46 |
| -60 | 05:12 | 06:00 | 06:42 | 17:17 | 17:59 | 18:47 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **04** | **05** | **06** | **04** | **05** | **06** |
| 72 | ▬ | 21:36 | 20:01 | ▬ | 23:53 | –:– |
| 70 | ▬ | 20:34 | 19:40 | ▬ | –:– | 00:53 |
| 68 | ▬ | 19:59 | 19:24 | ▬ | –:– | 01:27 |
| 66 | 20:14 | 19:33 | 19:11 | 23:23 | –:– | 01:51 |
| 64 | 19:32 | 19:13 | 19:00 | –:– | 00:04 | 02:10 |
| 62 | 19:04 | 18:57 | 18:51 | –:– | 00:31 | 02:25 |
| 60 | 18:42 | 18:43 | 18:43 | –:– | 00:53 | 02:38 |
| 58 | 18:24 | 18:31 | 18:35 | –:– | 01:10 | 02:49 |
| 56 | 18:09 | 18:21 | 18:29 | –:– | 01:24 | 02:58 |
| 54 | 17:56 | 18:11 | 18:23 | 00:10 | 01:37 | 03:06 |
| 52 | 17:44 | 18:03 | 18:18 | 00:25 | 01:48 | 03:14 |
| 50 | 17:34 | 17:56 | 18:13 | 00:37 | 01:57 | 03:20 |
| 45 | 17:12 | 17:40 | 18:03 | 01:03 | 02:17 | 03:35 |
| 40 | 16:55 | 17:27 | 17:55 | 01:23 | 02:34 | 03:46 |
| 35 | 16:40 | 17:16 | 17:47 | 01:40 | 02:47 | 03:56 |
| 30 | 16:27 | 17:06 | 17:41 | 01:55 | 02:59 | 04:05 |
| 20 | 16:05 | 16:49 | 17:29 | 02:20 | 03:20 | 04:19 |
| 10 | 15:46 | 16:34 | 17:19 | 02:41 | 03:37 | 04:32 |
| 0 | 15:28 | 16:20 | 17:10 | 03:01 | 03:53 | 04:44 |
| -10 | 15:10 | 16:06 | 17:00 | 03:20 | 04:09 | 04:56 |
| -20 | 14:51 | 15:51 | 16:50 | 03:41 | 04:26 | 05:08 |
| -30 | 14:28 | 15:33 | 16:39 | 04:05 | 04:46 | 05:22 |
| -35 | 14:15 | 15:23 | 16:32 | 04:19 | 04:57 | 05:30 |
| -40 | 14:00 | 15:11 | 16:24 | 04:35 | 05:10 | 05:40 |
| -45 | 13:42 | 14:58 | 16:15 | 04:55 | 05:25 | 05:50 |
| -50 | 13:19 | 14:41 | 16:04 | 05:18 | 05:44 | 06:03 |
| -52 | 13:08 | 14:33 | 15:59 | 05:30 | 05:52 | 06:09 |
| -54 | 12:55 | 14:24 | 15:54 | 05:43 | 06:02 | 06:16 |
| -56 | 12:41 | 14:14 | 15:47 | 05:58 | 06:13 | 06:23 |
| -58 | 12:24 | 14:02 | 15:40 | 06:15 | 06:25 | 06:31 |
| -60 | 12:03 | 13:48 | 15:32 | 06:37 | 06:40 | 06:40 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **04** | 00:52 | 01:02 | 11:59 | 21:41 | 09:14 | 12 | 84 |
| **05** | 01:12 | 01:22 | 11:59 | 22:32 | 10:07 | 13 | 91 |
| **06** | 01:33 | 01:43 | 11:58 | 23:22 | 10:57 | 14 | 96 |

## 2025 September 07, 08, 09 (Sun, Mon, Tue)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 07 Sunday | 0 | 346 19.6 | 208 57.1 | 16 47.8 | 147 57.1 | -7 35.1 | 235 50.6 | 22 4.8 | 345 42.4 | -2 26.8 |
| | 1 | 1 22.1 | 223 56.5 | 16 47.0 | 162 58.1 | -7 35.7 | 250 52.6 | 22 4.8 | 0 45.0 | -2 26.9 |
| | 2 | 16 24.5 | 238 55.9 | 16 46.2 | 177 59.0 | -7 36.4 | 265 54.6 | 22 4.7 | 15 47.7 | -2 27.0 |
| | 3 | 31 27.0 | 253 55.3 | 16 45.5 | 193 0.0 | -7 37.0 | 280 56.6 | 22 4.7 | 30 50.3 | -2 27.1 |
| | 4 | 46 29.5 | 268 54.7 | 16 44.7 | 208 0.9 | -7 37.7 | 295 58.6 | 22 4.6 | 45 52.9 | -2 27.1 |
| | 5 | 61 31.9 | 283 54.2 | 16 43.9 | 223 1.9 | -7 38.3 | 311 0.6 | 22 4.6 | 60 55.6 | -2 27.2 |
| | 6 | 76 34.4 | 298 53.6 | 16 43.1 | 238 2.8 | -7 38.9 | 326 2.6 | 22 4.5 | 75 58.2 | -2 27.3 |
| | 7 | 91 36.9 | 313 53.0 | 16 42.4 | 253 3.7 | -7 39.6 | 341 4.6 | 22 4.5 | 91 0.8 | -2 27.4 |
| | 8 | 106 39.3 | 328 52.4 | 16 41.6 | 268 4.7 | -7 40.2 | 356 6.7 | 22 4.4 | 106 3.5 | -2 27.4 |
| | 9 | 121 41.8 | 343 51.8 | 16 40.8 | 283 5.6 | -7 40.9 | 11 8.7 | 22 4.3 | 121 6.1 | -2 27.5 |
| | 10 | 136 44.2 | 358 51.2 | 16 40.0 | 298 6.6 | -7 41.5 | 26 10.7 | 22 4.3 | 136 8.7 | -2 27.6 |
| | 11 | 151 46.7 | 13 50.6 | 16 39.2 | 313 7.5 | -7 42.2 | 41 12.7 | 22 4.2 | 151 11.4 | -2 27.7 |
| | 12 | 166 49.2 | 28 50.1 | 16 38.5 | 328 8.5 | -7 42.8 | 56 14.7 | 22 4.2 | 166 14.0 | -2 27.8 |
| | 13 | 181 51.6 | 43 49.5 | 16 37.7 | 343 9.4 | -7 43.4 | 71 16.7 | 22 4.1 | 181 16.6 | -2 27.8 |
| | 14 | 196 54.1 | 58 48.9 | 16 36.9 | 358 10.3 | -7 44.1 | 86 18.7 | 22 4.1 | 196 19.2 | -2 27.9 |
| | 15 | 211 56.6 | 73 48.3 | 16 36.1 | 13 11.3 | -7 44.7 | 101 20.7 | 22 4.0 | 211 21.9 | -2 28.0 |
| | 16 | 226 59.0 | 88 47.7 | 16 35.3 | 28 12.2 | -7 45.4 | 116 22.7 | 22 4.0 | 226 24.5 | -2 28.1 |
| | 17 | 242 1.5 | 103 47.1 | 16 34.5 | 43 13.2 | -7 46.0 | 131 24.8 | 22 3.9 | 241 27.1 | -2 28.1 |
| | 18 | 257 4.0 | 118 46.6 | 16 33.8 | 58 14.1 | -7 46.7 | 146 26.8 | 22 3.9 | 256 29.8 | -2 28.2 |
| | 19 | 272 6.4 | 133 46.0 | 16 33.0 | 73 15.0 | -7 47.3 | 161 28.8 | 22 3.8 | 271 32.4 | -2 28.3 |
| | 20 | 287 8.9 | 148 45.4 | 16 32.2 | 88 16.0 | -7 48.0 | 176 30.8 | 22 3.7 | 286 35.0 | -2 28.4 |
| | 21 | 302 11.4 | 163 44.8 | 16 31.4 | 103 16.9 | -7 48.6 | 191 32.8 | 22 3.7 | 301 37.7 | -2 28.5 |
| | 22 | 317 13.8 | 178 44.2 | 16 30.6 | 118 17.9 | -7 49.2 | 206 34.8 | 22 3.6 | 316 40.3 | -2 28.5 |
| | 23 | 332 16.3 | 193 43.7 | 16 29.8 | 133 18.8 | -7 49.9 | 221 36.8 | 22 3.6 | 331 42.9 | -2 28.6 |
| | | MP 00:56 | *v* -0.6 | *d* -0.8 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Monday | 0 | 347 18.7 | 208 43.1 | 16 29.0 | 148 19.7 | -7 50.5 | 236 38.8 | 22 3.5 | 346 45.6 | -2 28.7 |
| | 1 | 2 21.2 | 223 42.5 | 16 28.2 | 163 20.7 | -7 51.2 | 251 40.9 | 22 3.5 | 1 48.2 | -2 28.8 |
| | 2 | 17 23.7 | 238 41.9 | 16 27.4 | 178 21.6 | -7 51.8 | 266 42.9 | 22 3.4 | 16 50.8 | -2 28.8 |
| | 3 | 32 26.1 | 253 41.3 | 16 26.6 | 193 22.6 | -7 52.5 | 281 44.9 | 22 3.4 | 31 53.5 | -2 28.9 |
| | 4 | 47 28.6 | 268 40.8 | 16 25.8 | 208 23.5 | -7 53.1 | 296 46.9 | 22 3.3 | 46 56.1 | -2 29.0 |
| | 5 | 62 31.1 | 283 40.2 | 16 25.0 | 223 24.4 | -7 53.7 | 311 48.9 | 22 3.3 | 61 58.7 | -2 29.1 |
| | 6 | 77 33.5 | 298 39.6 | 16 24.2 | 238 25.4 | -7 54.4 | 326 50.9 | 22 3.2 | 77 1.4 | -2 29.2 |
| | 7 | 92 36.0 | 313 39.0 | 16 23.5 | 253 26.3 | -7 55.0 | 341 52.9 | 22 3.1 | 92 4.0 | -2 29.2 |
| | 8 | 107 38.5 | 328 38.5 | 16 22.7 | 268 27.3 | -7 55.7 | 356 55.0 | 22 3.1 | 107 6.6 | -2 29.3 |
| | 9 | 122 40.9 | 343 37.9 | 16 21.9 | 283 28.2 | -7 56.3 | 11 57.0 | 22 3.0 | 122 9.3 | -2 29.4 |
| | 10 | 137 43.4 | 358 37.3 | 16 21.1 | 298 29.1 | -7 57.0 | 26 59.0 | 22 3.0 | 137 11.9 | -2 29.5 |
| | 11 | 152 45.8 | 13 36.7 | 16 20.3 | 313 30.1 | -7 57.6 | 42 1.0 | 22 2.9 | 152 14.5 | -2 29.5 |
| | 12 | 167 48.3 | 28 36.2 | 16 19.5 | 328 31.0 | -7 58.2 | 57 3.0 | 22 2.9 | 167 17.1 | -2 29.6 |
| | 13 | 182 50.8 | 43 35.6 | 16 18.7 | 343 31.9 | -7 58.9 | 72 5.0 | 22 2.8 | 182 19.8 | -2 29.7 |
| | 14 | 197 53.2 | 58 35.0 | 16 17.8 | 358 32.9 | -7 59.5 | 87 7.1 | 22 2.8 | 197 22.4 | -2 29.8 |
| | 15 | 212 55.7 | 73 34.4 | 16 17.0 | 13 33.8 | -8 0.2 | 102 9.1 | 22 2.7 | 212 25.0 | -2 29.9 |
| | 16 | 227 58.2 | 88 33.9 | 16 16.2 | 28 34.8 | -8 0.8 | 117 11.1 | 22 2.6 | 227 27.7 | -2 29.9 |
| | 17 | 243 0.6 | 103 33.3 | 16 15.4 | 43 35.7 | -8 1.5 | 132 13.1 | 22 2.6 | 242 30.3 | -2 30.0 |
| | 18 | 258 3.1 | 118 32.7 | 16 14.6 | 58 36.6 | -8 2.1 | 147 15.1 | 22 2.5 | 257 32.9 | -2 30.1 |
| | 19 | 273 5.6 | 133 32.1 | 16 13.8 | 73 37.6 | -8 2.7 | 162 17.1 | 22 2.5 | 272 35.6 | -2 30.2 |
| | 20 | 288 8.0 | 148 31.6 | 16 13.0 | 88 38.5 | -8 3.4 | 177 19.2 | 22 2.4 | 287 38.2 | -2 30.2 |
| | 21 | 303 10.5 | 163 31.0 | 16 12.2 | 103 39.4 | -8 4.0 | 192 21.2 | 22 2.4 | 302 40.8 | -2 30.3 |
| | 22 | 318 13.0 | 178 30.4 | 16 11.4 | 118 40.4 | -8 4.7 | 207 23.2 | 22 2.3 | 317 43.5 | -2 30.4 |
| | 23 | 333 15.4 | 193 29.8 | 16 10.6 | 133 41.3 | -8 5.3 | 222 25.2 | 22 2.3 | 332 46.1 | -2 30.5 |
| | | MP 00:52 | *v* -0.6 | *d* -0.8 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Tuesday | 0 | 348 17.9 | 208 29.3 | 16 9.8 | 148 42.2 | -8 5.9 | 237 27.2 | 22 2.2 | 347 48.7 | -2 30.6 |
| | 1 | 3 20.3 | 223 28.7 | 16 9.0 | 163 43.2 | -8 6.6 | 252 29.2 | 22 2.2 | 2 51.4 | -2 30.6 |
| | 2 | 18 22.8 | 238 28.1 | 16 8.1 | 178 44.1 | -8 7.2 | 267 31.3 | 22 2.1 | 17 54.0 | -2 30.7 |
| | 3 | 33 25.3 | 253 27.6 | 16 7.3 | 193 45.0 | -8 7.9 | 282 33.3 | 22 2.0 | 32 56.6 | -2 30.8 |
| | 4 | 48 27.7 | 268 27.0 | 16 6.5 | 208 46.0 | -8 8.5 | 297 35.3 | 22 2.0 | 47 59.3 | -2 30.9 |
| | 5 | 63 30.2 | 283 26.4 | 16 5.7 | 223 46.9 | -8 9.2 | 312 37.3 | 22 1.9 | 63 1.9 | -2 30.9 |
| | 6 | 78 32.7 | 298 25.8 | 16 4.9 | 238 47.8 | -8 9.8 | 327 39.3 | 22 1.9 | 78 4.5 | -2 31.0 |
| | 7 | 93 35.1 | 313 25.3 | 16 4.1 | 253 48.8 | -8 10.4 | 342 41.4 | 22 1.8 | 93 7.2 | -2 31.1 |
| | 8 | 108 37.6 | 328 24.7 | 16 3.3 | 268 49.7 | -8 11.1 | 357 43.4 | 22 1.8 | 108 9.8 | -2 31.2 |
| | 9 | 123 40.1 | 343 24.1 | 16 2.4 | 283 50.7 | -8 11.7 | 12 45.4 | 22 1.7 | 123 12.4 | -2 31.3 |
| | 10 | 138 42.5 | 358 23.6 | 16 1.6 | 298 51.6 | -8 12.4 | 27 47.4 | 22 1.7 | 138 15.1 | -2 31.3 |
| | 11 | 153 45.0 | 13 23.0 | 16 0.8 | 313 52.5 | -8 13.0 | 42 49.4 | 22 1.6 | 153 17.7 | -2 31.4 |
| | 12 | 168 47.4 | 28 22.4 | 16 0.0 | 328 53.5 | -8 13.6 | 57 51.5 | 22 1.6 | 168 20.3 | -2 31.5 |
| | 13 | 183 49.9 | 43 21.9 | 15 59.2 | 343 54.4 | -8 14.3 | 72 53.5 | 22 1.5 | 183 23.0 | -2 31.6 |
| | 14 | 198 52.4 | 58 21.3 | 15 58.3 | 358 55.3 | -8 14.9 | 87 55.5 | 22 1.4 | 198 25.6 | -2 31.6 |
| | 15 | 213 54.8 | 73 20.7 | 15 57.5 | 13 56.2 | -8 15.6 | 102 57.5 | 22 1.4 | 213 28.2 | -2 31.7 |
| | 16 | 228 57.3 | 88 20.2 | 15 56.7 | 28 57.2 | -8 16.2 | 117 59.5 | 22 1.3 | 228 30.9 | -2 31.8 |
| | 17 | 243 59.8 | 103 19.6 | 15 55.9 | 43 58.1 | -8 16.8 | 133 1.6 | 22 1.3 | 243 33.5 | -2 31.9 |
| | 18 | 259 2.2 | 118 19.0 | 15 55.0 | 58 59.0 | -8 17.5 | 148 3.6 | 22 1.2 | 258 36.1 | -2 32.0 |
| | 19 | 274 4.7 | 133 18.5 | 15 54.2 | 74 0.0 | -8 18.1 | 163 5.6 | 22 1.2 | 273 38.8 | -2 32.0 |
| | 20 | 289 7.2 | 148 17.9 | 15 53.4 | 89 0.9 | -8 18.8 | 178 7.6 | 22 1.1 | 288 41.4 | -2 32.1 |
| | 21 | 304 9.6 | 163 17.3 | 15 52.6 | 104 1.8 | -8 19.4 | 193 9.7 | 22 1.1 | 303 44.0 | -2 32.2 |
| | 22 | 319 12.1 | 178 16.8 | 15 51.7 | 119 2.8 | -8 20.0 | 208 11.7 | 22 1.0 | 318 46.7 | -2 32.3 |
| | 23 | 334 14.6 | 193 16.2 | 15 50.9 | 134 3.7 | -8 20.7 | 223 13.7 | 22 1.0 | 333 49.3 | -2 32.4 |
| | | MP 00:48 | *v* -0.6 | *d* -0.8 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.1 | -40 11.8 |
| Achernar | 335 19.3 | -57 6.1 |
| Acrux | 173 0.2 | -63 14.6 |
| Adhara | 255 5.6 | -29 0.1 |
| Aldebaran | 290 39.0 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.4 |
| Alkaid | 152 51.9 | 49 11.3 |
| Alnair | 27 31.7 | -46 50.1 |
| Alnilam | 275 37.2 | -1 11.0 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 3.4 | 26 37.9 |
| Alpheratz | 357 33.9 | 29 14.0 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.2 | -42 9.8 |
| Antares | 112 15.2 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 8.9 | -69 4.7 |
| Avior | 234 15.0 | -59 35.2 |
| Bellatrix | 278 22.3 | 6 22.5 |
| Betelgeuse | 270 51.6 | 7 24.8 |
| Canopus | 263 52.4 | -52 42.2 |
| Capella | 280 21.1 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.5 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.5 |
| Dubhe | 193 40.9 | 61 36.8 |
| Elnath | 278 1.2 | 28 37.7 |
| Eltanin | 90 41.8 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.0 |
| Gacrux | 171 51.6 | -57 15.5 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.7 | -60 30.0 |
| Hamal | 327 50.3 | 23 35.1 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 20.3 | 74 3.2 |
| Markab | 13 29.0 | 15 20.7 |
| Menkar | 314 5.4 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.8 |
| Miaplacidus | 221 39.1 | -69 49.1 |
| Mirfak | 308 27.3 | 49 57.0 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.5 | 5 9.7 |
| Rasalhague | 95 58.0 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.4 | -8 10.1 |
| Rigil Kent. | 139 39.9 | -60 56.7 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 29.9 | 56 40.7 |
| Shaula | 96 9.5 | -37 7.4 |
| Sirius | 258 25.9 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.3 | -43 32.0 |
| Vega | 80 32.7 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 07 Sun | SHA | MP |
|---|---|---|
| Venus | 222 37.5 | 10:05 |
| Mars | 161 37.5 | 14:07 |
| Jupiter | 249 31.0 | 08:16 |
| Saturn | 359 22.8 | 00:57 |

| 08 Mon | SHA | MP |
|---|---|---|
| Venus | 221 24.3 | 10:06 |
| Mars | 161 1.0 | 14:06 |
| Jupiter | 249 20.1 | 08:12 |
| Saturn | 359 26.8 | 00:53 |

| 09 Tue | SHA | MP |
|---|---|---|
| Venus | 220 11.4 | 10:06 |
| Mars | 160 24.4 | 14:04 |
| Jupiter | 249 9.3 | 08:09 |
| Saturn | 359 30.9 | 00:49 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **07 Sunday** | 0 | 180 28.3 | 6 2.8 | 9 18.4 | 11.5 | -10 56.9 | -15.8 | 58.8 |
| | 1 | 195 28.5 | 6 1.9 | 23 48.8 | 11.5 | -10 41.1 | -15.8 | 58.9 |
| | 2 | 210 28.7 | 6 1.0 | 38 19.4 | 11.5 | -10 25.2 | -15.9 | 58.9 |
| | 3 | 225 28.9 | 6 0.0 | 52 49.9 | 11.6 | -10 9.3 | -16.0 | 58.9 |
| | 4 | 240 29.1 | 5 59.1 | 67 20.4 | 11.6 | -9 53.3 | -16.0 | 58.9 |
| | 5 | 255 29.3 | 5 58.2 | 81 51.0 | 11.6 | -9 37.3 | -16.1 | 59.0 |
| | 6 | 270 29.5 | 5 57.2 | 96 21.6 | 11.6 | -9 21.2 | -16.2 | 59.0 |
| | 7 | 285 29.8 | 5 56.3 | 110 52.3 | 11.6 | -9 5.0 | -16.2 | 59.0 |
| | 8 | 300 30.0 | 5 55.4 | 125 22.9 | 11.7 | -8 48.8 | -16.3 | 59.1 |
| | 9 | 315 30.2 | 5 54.4 | 139 53.6 | 11.7 | -8 32.5 | -16.3 | 59.1 |
| | 10 | 330 30.4 | 5 53.5 | 154 24.2 | 11.7 | -8 16.1 | -16.4 | 59.1 |
| | 11 | 345 30.6 | 5 52.5 | 168 54.9 | 11.7 | -7 59.7 | -16.5 | 59.1 |
| | 12 | 0 30.8 | 5 51.6 | 183 25.6 | 11.7 | -7 43.3 | -16.5 | 59.2 |
| | 13 | 15 31.0 | 5 50.7 | 197 56.3 | 11.7 | -7 26.8 | -16.6 | 59.2 |
| | 14 | 30 31.3 | 5 49.7 | 212 27.1 | 11.7 | -7 10.2 | -16.6 | 59.2 |
| | 15 | 45 31.5 | 5 48.8 | 226 57.8 | 11.8 | -6 53.6 | -16.7 | 59.2 |
| | 16 | 60 31.7 | 5 47.9 | 241 28.6 | 11.8 | -6 36.9 | -16.7 | 59.3 |
| | 17 | 75 31.9 | 5 46.9 | 255 59.3 | 11.8 | -6 20.2 | -16.8 | 59.3 |
| | 18 | 90 32.1 | 5 46.0 | 270 30.1 | 11.8 | -6 3.5 | -16.8 | 59.3 |
| | 19 | 105 32.3 | 5 45.0 | 285 0.9 | 11.8 | -5 46.7 | -16.8 | 59.3 |
| | 20 | 120 32.6 | 5 44.1 | 299 31.7 | 11.8 | -5 29.8 | -16.9 | 59.4 |
| | 21 | 135 32.8 | 5 43.2 | 314 2.5 | 11.8 | -5 12.9 | -16.9 | 59.4 |
| | 22 | 150 33.0 | 5 42.2 | 328 33.3 | 11.8 | -4 56.0 | -17.0 | 59.4 |
| | 23 | 165 33.2 | 5 41.3 | 343 4.1 | 11.8 | -4 39.0 | -17.0 | 59.4 |
| | *v* | 0.2 | SD 15.9 | *d* -0.9 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **08 Monday** | 0 | 180 33.4 | 5 40.3 | 357 34.9 | 11.8 | -4 22.0 | -17.0 | 59.4 |
| | 1 | 195 33.6 | 5 39.4 | 12 5.7 | 11.8 | -4 5.0 | -17.1 | 59.5 |
| | 2 | 210 33.9 | 5 38.5 | 26 36.5 | 11.8 | -3 47.9 | -17.1 | 59.5 |
| | 3 | 225 34.1 | 5 37.5 | 41 7.3 | 11.8 | -3 30.9 | -17.1 | 59.5 |
| | 4 | 240 34.3 | 5 36.6 | 55 38.1 | 11.8 | -3 13.7 | -17.2 | 59.5 |
| | 5 | 255 34.5 | 5 35.6 | 70 8.9 | 11.8 | -2 56.6 | -17.2 | 59.5 |
| | 6 | 270 34.7 | 5 34.7 | 84 39.7 | 11.8 | -2 39.4 | -17.2 | 59.6 |
| | 7 | 285 34.9 | 5 33.8 | 99 10.5 | 11.8 | -2 22.2 | -17.2 | 59.6 |
| | 8 | 300 35.2 | 5 32.8 | 113 41.2 | 11.8 | -2 5.0 | -17.2 | 59.6 |
| | 9 | 315 35.4 | 5 31.9 | 128 12.0 | 11.8 | -1 47.7 | -17.3 | 59.6 |
| | 10 | 330 35.6 | 5 30.9 | 142 42.8 | 11.8 | -1 30.4 | -17.3 | 59.6 |
| | 11 | 345 35.8 | 5 30.0 | 157 13.5 | 11.7 | -1 13.2 | -17.3 | 59.7 |
| | 12 | 0 36.0 | 5 29.1 | 171 44.3 | 11.7 | -0 55.9 | -17.3 | 59.7 |
| | 13 | 15 36.2 | 5 28.1 | 186 15.0 | 11.7 | -0 38.5 | -17.3 | 59.7 |
| | 14 | 30 36.5 | 5 27.2 | 200 45.7 | 11.7 | -0 21.2 | -17.3 | 59.7 |
| | 15 | 45 36.7 | 5 26.2 | 215 16.4 | 11.7 | -0 3.9 | 17.4 | 59.7 |
| | 16 | 60 36.9 | 5 25.3 | 229 47.1 | 11.7 | 0 13.5 | 17.4 | 59.7 |
| | 17 | 75 37.1 | 5 24.4 | 244 17.8 | 11.6 | 0 30.8 | 17.4 | 59.8 |
| | 18 | 90 37.3 | 5 23.4 | 258 48.4 | 11.6 | 0 48.2 | 17.4 | 59.8 |
| | 19 | 105 37.5 | 5 22.5 | 273 19.0 | 11.6 | 1 5.6 | 17.4 | 59.8 |
| | 20 | 120 37.8 | 5 21.5 | 287 49.6 | 11.6 | 1 22.9 | 17.4 | 59.8 |
| | 21 | 135 38.0 | 5 20.6 | 302 20.2 | 11.6 | 1 40.3 | 17.4 | 59.8 |
| | 22 | 150 38.2 | 5 19.6 | 316 50.8 | 11.5 | 1 57.7 | 17.4 | 59.8 |
| | 23 | 165 38.4 | 5 18.7 | 331 21.3 | 11.5 | 2 15.1 | 17.4 | 59.9 |
| | *v* | 0.2 | SD 15.9 | *d* -0.9 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **09 Tuesday** | 0 | 180 38.6 | 5 17.8 | 345 51.8 | 11.5 | 2 32.4 | 17.4 | 59.9 |
| | 1 | 195 38.8 | 5 16.8 | 0 22.3 | 11.5 | 2 49.8 | 17.4 | 59.9 |
| | 2 | 210 39.1 | 5 15.9 | 14 52.7 | 11.4 | 3 7.1 | 17.3 | 59.9 |
| | 3 | 225 39.3 | 5 14.9 | 29 23.2 | 11.4 | 3 24.5 | 17.3 | 59.9 |
| | 4 | 240 39.5 | 5 14.0 | 43 53.6 | 11.4 | 3 41.8 | 17.3 | 59.9 |
| | 5 | 255 39.7 | 5 13.0 | 58 23.9 | 11.3 | 3 59.1 | 17.3 | 59.9 |
| | 6 | 270 39.9 | 5 12.1 | 72 54.2 | 11.3 | 4 16.4 | 17.3 | 59.9 |
| | 7 | 285 40.2 | 5 11.2 | 87 24.5 | 11.3 | 4 33.7 | 17.3 | 60.0 |
| | 8 | 300 40.4 | 5 10.2 | 101 54.8 | 11.2 | 4 51.0 | 17.2 | 60.0 |
| | 9 | 315 40.6 | 5 9.3 | 116 25.0 | 11.2 | 5 8.2 | 17.2 | 60.0 |
| | 10 | 330 40.8 | 5 8.3 | 130 55.2 | 11.1 | 5 25.4 | 17.2 | 60.0 |
| | 11 | 345 41.0 | 5 7.4 | 145 25.3 | 11.1 | 5 42.6 | 17.2 | 60.0 |
| | 12 | 0 41.2 | 5 6.4 | 159 55.4 | 11.1 | 5 59.8 | 17.1 | 60.0 |
| | 13 | 15 41.5 | 5 5.5 | 174 25.5 | 11.0 | 6 17.0 | 17.1 | 60.0 |
| | 14 | 30 41.7 | 5 4.5 | 188 55.5 | 11.0 | 6 34.1 | 17.1 | 60.0 |
| | 15 | 45 41.9 | 5 3.6 | 203 25.5 | 10.9 | 6 51.2 | 17.1 | 60.0 |
| | 16 | 60 42.1 | 5 2.7 | 217 55.4 | 10.9 | 7 8.2 | 17.0 | 60.0 |
| | 17 | 75 42.3 | 5 1.7 | 232 25.3 | 10.8 | 7 25.2 | 17.0 | 60.0 |
| | 18 | 90 42.6 | 5 0.8 | 246 55.1 | 10.8 | 7 42.2 | 16.9 | 60.0 |
| | 19 | 105 42.8 | 4 59.8 | 261 24.9 | 10.7 | 7 59.2 | 16.9 | 60.1 |
| | 20 | 120 43.0 | 4 58.9 | 275 54.6 | 10.7 | 8 16.1 | 16.9 | 60.1 |
| | 21 | 135 43.2 | 4 57.9 | 290 24.3 | 10.6 | 8 32.9 | 16.8 | 60.1 |
| | 22 | 150 43.4 | 4 57.0 | 304 53.9 | 10.6 | 8 49.7 | 16.8 | 60.1 |
| | 23 | 165 43.7 | 4 56.0 | 319 23.5 | 10.5 | 9 6.5 | 16.7 | 60.1 |
| | *v* | 0.2 | SD 15.9 | *d* -0.9 | | SD 16.3 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | //// | 03:12 | 04:31 | 19:21 | 20:39 | 23:15 |
| 70 | 01:41 | 03:32 | 04:41 | 19:12 | 20:20 | 22:07 |
| 68 | 02:18 | 03:47 | 04:49 | 19:05 | 20:06 | 21:32 |
| 66 | 02:44 | 04:00 | 04:55 | 18:59 | 19:54 | 21:08 |
| 64 | 03:03 | 04:10 | 05:01 | 18:53 | 19:44 | 20:50 |
| 62 | 03:18 | 04:19 | 05:05 | 18:49 | 19:35 | 20:35 |
| 60 | 03:31 | 04:26 | 05:09 | 18:45 | 19:28 | 20:23 |
| 58 | 03:41 | 04:32 | 05:13 | 18:41 | 19:22 | 20:13 |
| 56 | 03:50 | 04:38 | 05:16 | 18:38 | 19:17 | 20:04 |
| 54 | 03:58 | 04:43 | 05:19 | 18:35 | 19:12 | 19:56 |
| 52 | 04:05 | 04:47 | 05:22 | 18:33 | 19:08 | 19:49 |
| 50 | 04:11 | 04:51 | 05:24 | 18:31 | 19:04 | 19:43 |
| 45 | 04:24 | 04:59 | 05:29 | 18:26 | 18:56 | 19:31 |
| 40 | 04:33 | 05:06 | 05:34 | 18:22 | 18:49 | 19:22 |
| 35 | 04:41 | 05:12 | 05:37 | 18:18 | 18:44 | 19:14 |
| 30 | 04:48 | 05:16 | 05:40 | 18:15 | 18:39 | 19:08 |
| 20 | 04:58 | 05:24 | 05:46 | 18:10 | 18:32 | 18:58 |
| 10 | 05:05 | 05:29 | 05:50 | 18:05 | 18:26 | 18:51 |
| 0 | 05:10 | 05:34 | 05:55 | 18:01 | 18:22 | 18:46 |
| -10 | 05:13 | 05:38 | 05:59 | 17:57 | 18:18 | 18:43 |
| -20 | 05:16 | 05:41 | 06:03 | 17:53 | 18:15 | 18:41 |
| -30 | 05:16 | 05:44 | 06:08 | 17:48 | 18:12 | 18:40 |
| -35 | 05:16 | 05:45 | 06:11 | 17:46 | 18:11 | 18:40 |
| -40 | 05:15 | 05:47 | 06:14 | 17:43 | 18:10 | 18:41 |
| -45 | 05:14 | 05:48 | 06:17 | 17:39 | 18:09 | 18:43 |
| -50 | 05:12 | 05:49 | 06:21 | 17:35 | 18:08 | 18:45 |
| -52 | 05:11 | 05:50 | 06:23 | 17:34 | 18:07 | 18:46 |
| -54 | 05:09 | 05:50 | 06:25 | 17:32 | 18:07 | 18:48 |
| -56 | 05:08 | 05:50 | 06:28 | 17:29 | 18:07 | 18:50 |
| -58 | 05:06 | 05:51 | 06:30 | 17:27 | 18:06 | 18:52 |
| -60 | 05:03 | 05:51 | 06:33 | 17:24 | 18:06 | 18:54 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **07** | **08** | **09** | **07** | **08** | **09** |
| 72 | 19:14 | 18:36 | 17:56 | 03:14 | 05:45 | 08:12 |
| 70 | 19:06 | 18:37 | 18:07 | 03:32 | 05:49 | 08:05 |
| 68 | 19:00 | 18:38 | 18:16 | 03:45 | 05:53 | 07:59 |
| 66 | 18:54 | 18:39 | 18:23 | 03:57 | 05:56 | 07:54 |
| 64 | 18:49 | 18:39 | 18:29 | 04:06 | 05:58 | 07:50 |
| 62 | 18:45 | 18:40 | 18:35 | 04:14 | 06:00 | 07:47 |
| 60 | 18:42 | 18:40 | 18:39 | 04:20 | 06:02 | 07:44 |
| 58 | 18:38 | 18:41 | 18:44 | 04:26 | 06:03 | 07:41 |
| 56 | 18:35 | 18:41 | 18:47 | 04:32 | 06:05 | 07:39 |
| 54 | 18:33 | 18:42 | 18:51 | 04:36 | 06:06 | 07:37 |
| 52 | 18:30 | 18:42 | 18:54 | 04:40 | 06:07 | 07:35 |
| 50 | 18:28 | 18:42 | 18:57 | 04:44 | 06:08 | 07:33 |
| 45 | 18:24 | 18:43 | 19:03 | 04:52 | 06:10 | 07:29 |
| 40 | 18:20 | 18:44 | 19:08 | 04:59 | 06:12 | 07:26 |
| 35 | 18:16 | 18:44 | 19:13 | 05:05 | 06:14 | 07:23 |
| 30 | 18:13 | 18:45 | 19:17 | 05:10 | 06:15 | 07:21 |
| 20 | 18:08 | 18:45 | 19:24 | 05:19 | 06:18 | 07:17 |
| 10 | 18:03 | 18:46 | 19:30 | 05:26 | 06:20 | 07:13 |
| 0 | 17:59 | 18:47 | 19:36 | 05:33 | 06:21 | 07:10 |
| -10 | 17:54 | 18:48 | 19:42 | 05:40 | 06:23 | 07:07 |
| -20 | 17:49 | 18:49 | 19:49 | 05:47 | 06:25 | 07:03 |
| -30 | 17:44 | 18:50 | 19:56 | 05:56 | 06:27 | 06:59 |
| -35 | 17:41 | 18:50 | 20:01 | 06:00 | 06:29 | 06:57 |
| -40 | 17:37 | 18:51 | 20:05 | 06:06 | 06:30 | 06:54 |
| -45 | 17:33 | 18:52 | 20:11 | 06:12 | 06:32 | 06:51 |
| -50 | 17:28 | 18:53 | 20:18 | 06:19 | 06:33 | 06:47 |
| -52 | 17:26 | 18:53 | 20:22 | 06:22 | 06:34 | 06:46 |
| -54 | 17:23 | 18:53 | 20:25 | 06:26 | 06:35 | 06:44 |
| -56 | 17:20 | 18:54 | 20:29 | 06:30 | 06:36 | 06:42 |
| -58 | 17:17 | 18:55 | 20:34 | 06:35 | 06:37 | 06:40 |
| -60 | 17:14 | 18:55 | 20:39 | 06:40 | 06:39 | 06:37 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **07** | 01:53 | 02:03 | 11:58 | –:– | 11:46 | 15 | 99 |
| **08** | 02:14 | 02:24 | 11:58 | 00:10 | 12:34 | 16 | 100 |
| **09** | 02:35 | 02:45 | 11:57 | 00:58 | 13:23 | 17 | 98 |

## 2025 September 10, 11, 12 (Wed, Thu, Fri)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 10 Wednesday | 0 | 349 17.0 | 208 15.6 | 15 50.1 | 149 4.6 | -8 21.3 | 238 15.7 | 22 0.9 | 348 52.0 | -2 32.4 |
| | 1 | 4 19.5 | 223 15.1 | 15 49.2 | 164 5.6 | -8 22.0 | 253 17.7 | 22 0.8 | 3 54.6 | -2 32.5 |
| | 2 | 19 21.9 | 238 14.5 | 15 48.4 | 179 6.5 | -8 22.6 | 268 19.8 | 22 0.8 | 18 57.2 | -2 32.6 |
| | 3 | 34 24.4 | 253 13.9 | 15 47.6 | 194 7.4 | -8 23.3 | 283 21.8 | 22 0.7 | 33 59.9 | -2 32.7 |
| | 4 | 49 26.9 | 268 13.4 | 15 46.7 | 209 8.4 | -8 23.9 | 298 23.8 | 22 0.7 | 49 2.5 | -2 32.7 |
| | 5 | 64 29.3 | 283 12.8 | 15 45.9 | 224 9.3 | -8 24.5 | 313 25.8 | 22 0.6 | 64 5.1 | -2 32.8 |
| | 6 | 79 31.8 | 298 12.3 | 15 45.1 | 239 10.2 | -8 25.2 | 328 27.9 | 22 0.6 | 79 7.8 | -2 32.9 |
| | 7 | 94 34.3 | 313 11.7 | 15 44.2 | 254 11.1 | -8 25.8 | 343 29.9 | 22 0.5 | 94 10.4 | -2 33.0 |
| | 8 | 109 36.7 | 328 11.1 | 15 43.4 | 269 12.1 | -8 26.5 | 358 31.9 | 22 0.5 | 109 13.0 | -2 33.1 |
| | 9 | 124 39.2 | 343 10.6 | 15 42.6 | 284 13.0 | -8 27.1 | 13 33.9 | 22 0.4 | 124 15.7 | -2 33.1 |
| | 10 | 139 41.7 | 358 10.0 | 15 41.7 | 299 13.9 | -8 27.7 | 28 36.0 | 22 0.4 | 139 18.3 | -2 33.2 |
| | 11 | 154 44.1 | 13 9.4 | 15 40.9 | 314 14.9 | -8 28.4 | 43 38.0 | 22 0.3 | 154 20.9 | -2 33.3 |
| | 12 | 169 46.6 | 28 8.9 | 15 40.0 | 329 15.8 | -8 29.0 | 58 40.0 | 22 0.2 | 169 23.6 | -2 33.4 |
| | 13 | 184 49.0 | 43 8.3 | 15 39.2 | 344 16.7 | -8 29.6 | 73 42.0 | 22 0.2 | 184 26.2 | -2 33.4 |
| | 14 | 199 51.5 | 58 7.8 | 15 38.4 | 359 17.6 | -8 30.3 | 88 44.1 | 22 0.1 | 199 28.8 | -2 33.5 |
| | 15 | 214 54.0 | 73 7.2 | 15 37.5 | 14 18.6 | -8 30.9 | 103 46.1 | 22 0.1 | 214 31.5 | -2 33.6 |
| | 16 | 229 56.4 | 88 6.6 | 15 36.7 | 29 19.5 | -8 31.6 | 118 48.1 | 22 0.0 | 229 34.1 | -2 33.7 |
| | 17 | 244 58.9 | 103 6.1 | 15 35.8 | 44 20.4 | -8 32.2 | 133 50.1 | 22 0.0 | 244 36.7 | -2 33.8 |
| | 18 | 260 1.4 | 118 5.5 | 15 35.0 | 59 21.4 | -8 32.8 | 148 52.2 | 21 59.9 | 259 39.4 | -2 33.8 |
| | 19 | 275 3.8 | 133 5.0 | 15 34.1 | 74 22.3 | -8 33.5 | 163 54.2 | 21 59.9 | 274 42.0 | -2 33.9 |
| | 20 | 290 6.3 | 148 4.4 | 15 33.3 | 89 23.2 | -8 34.1 | 178 56.2 | 21 59.8 | 289 44.6 | -2 34.0 |
| | 21 | 305 8.8 | 163 3.9 | 15 32.5 | 104 24.1 | -8 34.8 | 193 58.2 | 21 59.8 | 304 47.3 | -2 34.1 |
| | 22 | 320 11.2 | 178 3.3 | 15 31.6 | 119 25.1 | -8 35.4 | 209 0.3 | 21 59.7 | 319 49.9 | -2 34.2 |
| | 23 | 335 13.7 | 193 2.7 | 15 30.8 | 134 26.0 | -8 36.0 | 224 2.3 | 21 59.6 | 334 52.6 | -2 34.2 |
| | | MP 00:44 | *v* -0.6 | *d* -0.8 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 Thursday | 0 | 350 16.2 | 208 2.2 | 15 29.9 | 149 26.9 | -8 36.7 | 239 4.3 | 21 59.6 | 349 55.2 | -2 34.3 |
| | 1 | 5 18.6 | 223 1.6 | 15 29.1 | 164 27.8 | -8 37.3 | 254 6.4 | 21 59.5 | 4 57.8 | -2 34.4 |
| | 2 | 20 21.1 | 238 1.1 | 15 28.2 | 179 28.8 | -8 38.0 | 269 8.4 | 21 59.5 | 20 0.5 | -2 34.5 |
| | 3 | 35 23.5 | 253 0.5 | 15 27.4 | 194 29.7 | -8 38.6 | 284 10.4 | 21 59.4 | 35 3.1 | -2 34.5 |
| | 4 | 50 26.0 | 268 0.0 | 15 26.5 | 209 30.6 | -8 39.2 | 299 12.4 | 21 59.4 | 50 5.7 | -2 34.6 |
| | 5 | 65 28.5 | 282 59.4 | 15 25.7 | 224 31.5 | -8 39.9 | 314 14.5 | 21 59.3 | 65 8.4 | -2 34.7 |
| | 6 | 80 30.9 | 297 58.8 | 15 24.8 | 239 32.5 | -8 40.5 | 329 16.5 | 21 59.3 | 80 11.0 | -2 34.8 |
| | 7 | 95 33.4 | 312 58.3 | 15 23.9 | 254 33.4 | -8 41.1 | 344 18.5 | 21 59.2 | 95 13.6 | -2 34.9 |
| | 8 | 110 35.9 | 327 57.7 | 15 23.1 | 269 34.3 | -8 41.8 | 359 20.6 | 21 59.2 | 110 16.3 | -2 34.9 |
| | 9 | 125 38.3 | 342 57.2 | 15 22.2 | 284 35.2 | -8 42.4 | 14 22.6 | 21 59.1 | 125 18.9 | -2 35.0 |
| | 10 | 140 40.8 | 357 56.6 | 15 21.4 | 299 36.2 | -8 43.1 | 29 24.6 | 21 59.0 | 140 21.5 | -2 35.1 |
| | 11 | 155 43.3 | 12 56.1 | 15 20.5 | 314 37.1 | -8 43.7 | 44 26.6 | 21 59.0 | 155 24.2 | -2 35.2 |
| | 12 | 170 45.7 | 27 55.5 | 15 19.7 | 329 38.0 | -8 44.3 | 59 28.7 | 21 58.9 | 170 26.8 | -2 35.3 |
| | 13 | 185 48.2 | 42 55.0 | 15 18.8 | 344 38.9 | -8 45.0 | 74 30.7 | 21 58.9 | 185 29.5 | -2 35.3 |
| | 14 | 200 50.7 | 57 54.4 | 15 17.9 | 359 39.9 | -8 45.6 | 89 32.7 | 21 58.8 | 200 32.1 | -2 35.4 |
| | 15 | 215 53.1 | 72 53.9 | 15 17.1 | 14 40.8 | -8 46.3 | 104 34.8 | 21 58.8 | 215 34.7 | -2 35.5 |
| | 16 | 230 55.6 | 87 53.3 | 15 16.2 | 29 41.7 | -8 46.9 | 119 36.8 | 21 58.7 | 230 37.4 | -2 35.6 |
| | 17 | 245 58.0 | 102 52.8 | 15 15.4 | 44 42.6 | -8 47.5 | 134 38.8 | 21 58.7 | 245 40.0 | -2 35.6 |
| | 18 | 261 0.5 | 117 52.2 | 15 14.5 | 59 43.6 | -8 48.2 | 149 40.9 | 21 58.6 | 260 42.6 | -2 35.7 |
| | 19 | 276 3.0 | 132 51.7 | 15 13.6 | 74 44.5 | -8 48.8 | 164 42.9 | 21 58.6 | 275 45.3 | -2 35.8 |
| | 20 | 291 5.4 | 147 51.1 | 15 12.8 | 89 45.4 | -8 49.4 | 179 44.9 | 21 58.5 | 290 47.9 | -2 35.9 |
| | 21 | 306 7.9 | 162 50.6 | 15 11.9 | 104 46.3 | -8 50.1 | 194 46.9 | 21 58.4 | 305 50.5 | -2 36.0 |
| | 22 | 321 10.4 | 177 50.0 | 15 11.0 | 119 47.2 | -8 50.7 | 209 49.0 | 21 58.4 | 320 53.2 | -2 36.0 |
| | 23 | 336 12.8 | 192 49.5 | 15 10.2 | 134 48.2 | -8 51.4 | 224 51.0 | 21 58.3 | 335 55.8 | -2 36.1 |
| | | MP 00:40 | *v* -0.6 | *d* -0.8 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 Friday | 0 | 351 15.3 | 207 48.9 | 15 9.3 | 149 49.1 | -8 52.0 | 239 53.0 | 21 58.3 | 350 58.5 | -2 36.2 |
| | 1 | 6 17.8 | 222 48.4 | 15 8.4 | 164 50.0 | -8 52.6 | 254 55.1 | 21 58.2 | 6 1.1 | -2 36.3 |
| | 2 | 21 20.2 | 237 47.8 | 15 7.6 | 179 50.9 | -8 53.3 | 269 57.1 | 21 58.2 | 21 3.7 | -2 36.4 |
| | 3 | 36 22.7 | 252 47.3 | 15 6.7 | 194 51.9 | -8 53.9 | 284 59.1 | 21 58.1 | 36 6.4 | -2 36.4 |
| | 4 | 51 25.1 | 267 46.7 | 15 5.8 | 209 52.8 | -8 54.5 | 300 1.2 | 21 58.1 | 51 9.0 | -2 36.5 |
| | 5 | 66 27.6 | 282 46.2 | 15 5.0 | 224 53.7 | -8 55.2 | 315 3.2 | 21 58.0 | 66 11.6 | -2 36.6 |
| | 6 | 81 30.1 | 297 45.6 | 15 4.1 | 239 54.6 | -8 55.8 | 330 5.2 | 21 58.0 | 81 14.3 | -2 36.7 |
| | 7 | 96 32.5 | 312 45.1 | 15 3.2 | 254 55.5 | -8 56.4 | 345 7.3 | 21 57.9 | 96 16.9 | -2 36.7 |
| | 8 | 111 35.0 | 327 44.5 | 15 2.3 | 269 56.5 | -8 57.1 | 0 9.3 | 21 57.8 | 111 19.5 | -2 36.8 |
| | 9 | 126 37.5 | 342 44.0 | 15 1.5 | 284 57.4 | -8 57.7 | 15 11.3 | 21 57.8 | 126 22.2 | -2 36.9 |
| | 10 | 141 39.9 | 357 43.4 | 15 0.6 | 299 58.3 | -8 58.4 | 30 13.4 | 21 57.7 | 141 24.8 | -2 37.0 |
| | 11 | 156 42.4 | 12 42.9 | 14 59.7 | 314 59.2 | -8 59.0 | 45 15.4 | 21 57.7 | 156 27.5 | -2 37.1 |
| | 12 | 171 44.9 | 27 42.3 | 14 58.8 | 330 0.1 | -8 59.6 | 60 17.4 | 21 57.6 | 171 30.1 | -2 37.1 |
| | 13 | 186 47.3 | 42 41.8 | 14 58.0 | 345 1.1 | -9 0.3 | 75 19.5 | 21 57.6 | 186 32.7 | -2 37.2 |
| | 14 | 201 49.8 | 57 41.3 | 14 57.1 | 0 2.0 | -9 0.9 | 90 21.5 | 21 57.5 | 201 35.4 | -2 37.3 |
| | 15 | 216 52.3 | 72 40.7 | 14 56.2 | 15 2.9 | -9 1.5 | 105 23.6 | 21 57.5 | 216 38.0 | -2 37.4 |
| | 16 | 231 54.7 | 87 40.2 | 14 55.3 | 30 3.8 | -9 2.2 | 120 25.6 | 21 57.4 | 231 40.6 | -2 37.5 |
| | 17 | 246 57.2 | 102 39.6 | 14 54.4 | 45 4.7 | -9 2.8 | 135 27.6 | 21 57.4 | 246 43.3 | -2 37.5 |
| | 18 | 261 59.6 | 117 39.1 | 14 53.6 | 60 5.6 | -9 3.4 | 150 29.7 | 21 57.3 | 261 45.9 | -2 37.6 |
| | 19 | 277 2.1 | 132 38.5 | 14 52.7 | 75 6.6 | -9 4.1 | 165 31.7 | 21 57.3 | 276 48.6 | -2 37.7 |
| | 20 | 292 4.6 | 147 38.0 | 14 51.8 | 90 7.5 | -9 4.7 | 180 33.7 | 21 57.2 | 291 51.2 | -2 37.8 |
| | 21 | 307 7.0 | 162 37.5 | 14 50.9 | 105 8.4 | -9 5.4 | 195 35.8 | 21 57.1 | 306 53.8 | -2 37.9 |
| | 22 | 322 9.5 | 177 36.9 | 14 50.0 | 120 9.3 | -9 6.0 | 210 37.8 | 21 57.1 | 321 56.5 | -2 37.9 |
| | 23 | 337 12.0 | 192 36.4 | 14 49.2 | 135 10.2 | -9 6.6 | 225 39.8 | 21 57.0 | 336 59.1 | -2 38.0 |
| | | MP 00:36 | *v* -0.5 | *d* -0.9 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.1 | -40 11.8 |
| Achernar | 335 19.3 | -57 6.1 |
| Acrux | 173 0.2 | -63 14.5 |
| Adhara | 255 5.6 | -29 0.1 |
| Aldebaran | 290 38.9 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.4 |
| Alkaid | 152 51.9 | 49 11.3 |
| Alnair | 27 31.7 | -46 50.1 |
| Alnilam | 275 37.2 | -1 11.0 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 3.4 | 26 37.9 |
| Alpheratz | 357 33.9 | 29 14.0 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.2 | -42 9.8 |
| Antares | 112 15.2 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 9.0 | -69 4.7 |
| Avior | 234 15.0 | -59 35.2 |
| Bellatrix | 278 22.3 | 6 22.5 |
| Betelgeuse | 270 51.6 | 7 24.8 |
| Canopus | 263 52.3 | -52 42.2 |
| Capella | 280 21.1 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.5 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.5 |
| Dubhe | 193 40.9 | 61 36.8 |
| Elnath | 278 1.2 | 28 37.7 |
| Eltanin | 90 41.8 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.0 |
| Gacrux | 171 51.6 | -57 15.5 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.7 | -60 30.0 |
| Hamal | 327 50.3 | 23 35.1 |
| Kaus Aust. | 83 31.6 | -34 22.4 |
| Kochab | 137 20.4 | 74 3.2 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.4 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 39.0 | -69 49.1 |
| Mirfak | 308 27.3 | 49 57.0 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.2 |
| Pollux | 243 16.9 | 27 57.9 |
| Procyon | 244 50.4 | 5 9.7 |
| Rasalhague | 95 58.0 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.3 | -8 10.1 |
| Rigil Kent. | 139 40.0 | -60 56.7 |
| Sabik | 102 2.1 | -15 45.4 |
| Schedar | 349 29.9 | 56 40.7 |
| Shaula | 96 9.6 | -37 7.4 |
| Sirius | 258 25.9 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.3 | -43 31.9 |
| Vega | 80 32.7 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 10 Wed | SHA | MP |
|---|---|---|
| Venus | 218 58.6 | 10:07 |
| Mars | 159 47.6 | 14:03 |
| Jupiter | 248 58.7 | 08:06 |
| Saturn | 359 34.9 | 00:44 |

| 11 Thu | SHA | MP |
|---|---|---|
| Venus | 217 46.0 | 10:08 |
| Mars | 159 10.8 | 14:01 |
| Jupiter | 248 48.2 | 08:03 |
| Saturn | 359 39.0 | 00:40 |

| 12 Fri | SHA | MP |
|---|---|---|
| Venus | 216 33.6 | 10:09 |
| Mars | 158 33.8 | 14:00 |
| Jupiter | 248 37.8 | 07:59 |
| Saturn | 359 43.2 | 00:36 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **10 Wednesday** | 0 | 180 43.9 | 4 55.1 | 333 53.0 | 10.5 | 9 23.2 | 16.7 | 60.1 |
| | 1 | 195 44.1 | 4 54.1 | 348 22.5 | 10.4 | 9 39.9 | 16.6 | 60.1 |
| | 2 | 210 44.3 | 4 53.2 | 2 51.9 | 10.3 | 9 56.5 | 16.6 | 60.1 |
| | 3 | 225 44.5 | 4 52.2 | 17 21.2 | 10.3 | 10 13.1 | 16.5 | 60.1 |
| | 4 | 240 44.8 | 4 51.3 | 31 50.5 | 10.2 | 10 29.6 | 16.5 | 60.1 |
| | 5 | 255 45.0 | 4 50.3 | 46 19.7 | 10.2 | 10 46.1 | 16.4 | 60.1 |
| | 6 | 270 45.2 | 4 49.4 | 60 48.9 | 10.1 | 11 2.5 | 16.3 | 60.1 |
| | 7 | 285 45.4 | 4 48.5 | 75 18.0 | 10.0 | 11 18.8 | 16.3 | 60.1 |
| | 8 | 300 45.6 | 4 47.5 | 89 47.0 | 10.0 | 11 35.1 | 16.2 | 60.1 |
| | 9 | 315 45.9 | 4 46.6 | 104 16.0 | 9.9 | 11 51.3 | 16.1 | 60.1 |
| | 10 | 330 46.1 | 4 45.6 | 118 44.9 | 9.8 | 12 7.5 | 16.1 | 60.1 |
| | 11 | 345 46.3 | 4 44.7 | 133 13.8 | 9.8 | 12 23.5 | 16.0 | 60.1 |
| | 12 | 0 46.5 | 4 43.7 | 147 42.6 | 9.7 | 12 39.5 | 15.9 | 60.1 |
| | 13 | 15 46.7 | 4 42.8 | 162 11.3 | 9.6 | 12 55.5 | 15.9 | 60.1 |
| | 14 | 30 47.0 | 4 41.8 | 176 39.9 | 9.6 | 13 11.3 | 15.8 | 60.1 |
| | 15 | 45 47.2 | 4 40.9 | 191 8.5 | 9.5 | 13 27.1 | 15.7 | 60.1 |
| | 16 | 60 47.4 | 4 39.9 | 205 37.0 | 9.4 | 13 42.8 | 15.6 | 60.1 |
| | 17 | 75 47.6 | 4 39.0 | 220 5.4 | 9.4 | 13 58.5 | 15.5 | 60.1 |
| | 18 | 90 47.8 | 4 38.0 | 234 33.8 | 9.3 | 14 14.0 | 15.5 | 60.1 |
| | 19 | 105 48.1 | 4 37.1 | 249 2.0 | 9.2 | 14 29.5 | 15.4 | 60.1 |
| | 20 | 120 48.3 | 4 36.1 | 263 30.3 | 9.1 | 14 44.9 | 15.3 | 60.1 |
| | 21 | 135 48.5 | 4 35.2 | 277 58.4 | 9.1 | 15 0.2 | 15.2 | 60.1 |
| | 22 | 150 48.7 | 4 34.2 | 292 26.5 | 9.0 | 15 15.4 | 15.1 | 60.1 |
| | 23 | 165 48.9 | 4 33.3 | 306 54.4 | 8.9 | 15 30.5 | 15.0 | 60.1 |
| | *v* | 0.2 | SD 15.9 | *d* -0.9 | | SD 16.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **11 Thursday** | 0 | 180 49.2 | 4 32.3 | 321 22.3 | 8.8 | 15 45.5 | 14.9 | 60.1 |
| | 1 | 195 49.4 | 4 31.4 | 335 50.2 | 8.7 | 16 0.4 | 14.8 | 60.1 |
| | 2 | 210 49.6 | 4 30.4 | 350 17.9 | 8.7 | 16 15.3 | 14.7 | 60.1 |
| | 3 | 225 49.8 | 4 29.5 | 4 45.6 | 8.6 | 16 30.0 | 14.6 | 60.1 |
| | 4 | 240 50.0 | 4 28.5 | 19 13.2 | 8.5 | 16 44.6 | 14.5 | 60.1 |
| | 5 | 255 50.3 | 4 27.6 | 33 40.7 | 8.4 | 16 59.2 | 14.4 | 60.1 |
| | 6 | 270 50.5 | 4 26.6 | 48 8.1 | 8.3 | 17 13.6 | 14.3 | 60.1 |
| | 7 | 285 50.7 | 4 25.7 | 62 35.4 | 8.3 | 17 27.9 | 14.2 | 60.0 |
| | 8 | 300 50.9 | 4 24.7 | 77 2.7 | 8.2 | 17 42.2 | 14.1 | 60.0 |
| | 9 | 315 51.1 | 4 23.8 | 91 29.9 | 8.1 | 17 56.3 | 14.0 | 60.0 |
| | 10 | 330 51.4 | 4 22.8 | 105 57.0 | 8.0 | 18 10.3 | 13.9 | 60.0 |
| | 11 | 345 51.6 | 4 21.9 | 120 24.0 | 7.9 | 18 24.2 | 13.8 | 60.0 |
| | 12 | 0 51.8 | 4 20.9 | 134 50.9 | 7.8 | 18 37.9 | 13.7 | 60.0 |
| | 13 | 15 52.0 | 4 20.0 | 149 17.8 | 7.8 | 18 51.6 | 13.5 | 60.0 |
| | 14 | 30 52.2 | 4 19.0 | 163 44.5 | 7.7 | 19 5.1 | 13.4 | 60.0 |
| | 15 | 45 52.5 | 4 18.1 | 178 11.2 | 7.6 | 19 18.5 | 13.3 | 60.0 |
| | 16 | 60 52.7 | 4 17.1 | 192 37.8 | 7.5 | 19 31.8 | 13.2 | 60.0 |
| | 17 | 75 52.9 | 4 16.1 | 207 4.3 | 7.4 | 19 45.0 | 13.1 | 60.0 |
| | 18 | 90 53.1 | 4 15.2 | 221 30.8 | 7.3 | 19 58.1 | 12.9 | 60.0 |
| | 19 | 105 53.4 | 4 14.2 | 235 57.1 | 7.3 | 20 11.0 | 12.8 | 60.0 |
| | 20 | 120 53.6 | 4 13.3 | 250 23.3 | 7.2 | 20 23.8 | 12.7 | 59.9 |
| | 21 | 135 53.8 | 4 12.3 | 264 49.5 | 7.1 | 20 36.5 | 12.5 | 59.9 |
| | 22 | 150 54.0 | 4 11.4 | 279 15.6 | 7.0 | 20 49.0 | 12.4 | 59.9 |
| | 23 | 165 54.2 | 4 10.4 | 293 41.6 | 6.9 | 21 1.4 | 12.3 | 59.9 |
| | *v* | 0.2 | SD 15.9 | *d* -1.0 | | SD 16.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **12 Friday** | 0 | 180 54.5 | 4 9.5 | 308 7.5 | 6.8 | 21 13.7 | 12.1 | 59.9 |
| | 1 | 195 54.7 | 4 8.5 | 322 33.3 | 6.7 | 21 25.8 | 12.0 | 59.9 |
| | 2 | 210 54.9 | 4 7.6 | 336 59.1 | 6.7 | 21 37.8 | 11.9 | 59.9 |
| | 3 | 225 55.1 | 4 6.6 | 351 24.7 | 6.6 | 21 49.6 | 11.7 | 59.9 |
| | 4 | 240 55.3 | 4 5.7 | 5 50.3 | 6.5 | 22 1.3 | 11.6 | 59.9 |
| | 5 | 255 55.6 | 4 4.7 | 20 15.8 | 6.4 | 22 12.9 | 11.4 | 59.8 |
| | 6 | 270 55.8 | 4 3.8 | 34 41.2 | 6.3 | 22 24.3 | 11.3 | 59.8 |
| | 7 | 285 56.0 | 4 2.8 | 49 6.5 | 6.2 | 22 35.6 | 11.1 | 59.8 |
| | 8 | 300 56.2 | 4 1.8 | 63 31.8 | 6.2 | 22 46.7 | 11.0 | 59.8 |
| | 9 | 315 56.5 | 4 0.9 | 77 56.9 | 6.1 | 22 57.7 | 10.8 | 59.8 |
| | 10 | 330 56.7 | 3 59.9 | 92 22.0 | 6.0 | 23 8.5 | 10.7 | 59.8 |
| | 11 | 345 56.9 | 3 59.0 | 106 47.0 | 5.9 | 23 19.2 | 10.5 | 59.8 |
| | 12 | 0 57.1 | 3 58.0 | 121 11.9 | 5.8 | 23 29.7 | 10.4 | 59.8 |
| | 13 | 15 57.3 | 3 57.1 | 135 36.8 | 5.8 | 23 40.1 | 10.2 | 59.7 |
| | 14 | 30 57.6 | 3 56.1 | 150 1.5 | 5.7 | 23 50.3 | 10.0 | 59.7 |
| | 15 | 45 57.8 | 3 55.2 | 164 26.2 | 5.6 | 24 0.3 | 9.9 | 59.7 |
| | 16 | 60 58.0 | 3 54.2 | 178 50.8 | 5.5 | 24 10.2 | 9.7 | 59.7 |
| | 17 | 75 58.2 | 3 53.2 | 193 15.3 | 5.5 | 24 19.9 | 9.6 | 59.7 |
| | 18 | 90 58.5 | 3 52.3 | 207 39.8 | 5.4 | 24 29.5 | 9.4 | 59.7 |
| | 19 | 105 58.7 | 3 51.3 | 222 4.1 | 5.3 | 24 38.9 | 9.2 | 59.6 |
| | 20 | 120 58.9 | 3 50.4 | 236 28.5 | 5.2 | 24 48.1 | 9.1 | 59.6 |
| | 21 | 135 59.1 | 3 49.4 | 250 52.7 | 5.2 | 24 57.2 | 8.9 | 59.6 |
| | 22 | 150 59.3 | 3 48.5 | 265 16.8 | 5.1 | 25 6.1 | 8.7 | 59.6 |
| | 23 | 165 59.6 | 3 47.5 | 279 40.9 | 5.0 | 25 14.8 | 8.6 | 59.6 |
| | *v* | 0.2 | SD 15.9 | *d* -1.0 | | SD 16.3 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 01:18 | 03:29 | 04:45 | 19:06 | 20:20 | 22:25 |
| 70 | 02:06 | 03:46 | 04:53 | 18:58 | 20:04 | 21:41 |
| 68 | 02:36 | 04:00 | 04:59 | 18:52 | 19:51 | 21:13 |
| 66 | 02:58 | 04:10 | 05:05 | 18:47 | 19:41 | 20:52 |
| 64 | 03:15 | 04:19 | 05:09 | 18:43 | 19:32 | 20:36 |
| 62 | 03:28 | 04:27 | 05:13 | 18:39 | 19:25 | 20:23 |
| 60 | 03:40 | 04:33 | 05:17 | 18:36 | 19:19 | 20:12 |
| 58 | 03:49 | 04:39 | 05:20 | 18:33 | 19:13 | 20:03 |
| 56 | 03:57 | 04:44 | 05:22 | 18:30 | 19:08 | 19:55 |
| 54 | 04:04 | 04:48 | 05:25 | 18:28 | 19:04 | 19:48 |
| 52 | 04:11 | 04:52 | 05:27 | 18:26 | 19:00 | 19:42 |
| 50 | 04:16 | 04:56 | 05:29 | 18:24 | 18:57 | 19:36 |
| 45 | 04:28 | 05:03 | 05:33 | 18:20 | 18:50 | 19:25 |
| 40 | 04:37 | 05:09 | 05:36 | 18:17 | 18:44 | 19:16 |
| 35 | 04:44 | 05:14 | 05:39 | 18:14 | 18:39 | 19:09 |
| 30 | 04:50 | 05:18 | 05:42 | 18:11 | 18:35 | 19:04 |
| 20 | 04:58 | 05:24 | 05:46 | 18:07 | 18:29 | 18:55 |
| 10 | 05:05 | 05:29 | 05:50 | 18:03 | 18:25 | 18:49 |
| 0 | 05:09 | 05:33 | 05:54 | 18:00 | 18:21 | 18:45 |
| -10 | 05:12 | 05:36 | 05:57 | 17:57 | 18:18 | 18:42 |
| -20 | 05:13 | 05:38 | 06:00 | 17:54 | 18:16 | 18:41 |
| -30 | 05:13 | 05:40 | 06:04 | 17:50 | 18:14 | 18:42 |
| -35 | 05:12 | 05:41 | 06:06 | 17:48 | 18:13 | 18:42 |
| -40 | 05:11 | 05:42 | 06:09 | 17:46 | 18:13 | 18:44 |
| -45 | 05:08 | 05:42 | 06:12 | 17:43 | 18:12 | 18:46 |
| -50 | 05:05 | 05:43 | 06:15 | 17:40 | 18:12 | 18:50 |
| -52 | 05:04 | 05:43 | 06:16 | 17:38 | 18:12 | 18:51 |
| -54 | 05:02 | 05:43 | 06:18 | 17:37 | 18:12 | 18:53 |
| -56 | 05:00 | 05:43 | 06:20 | 17:35 | 18:12 | 18:55 |
| -58 | 04:57 | 05:43 | 06:22 | 17:33 | 18:12 | 18:58 |
| -60 | 04:54 | 05:42 | 06:24 | 17:31 | 18:13 | 19:01 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **10** | **11** | **12** | **10** | **11** | **12** |
| 72 | 17:03 | | | 10:54 | | |
| 70 | 17:29 | 16:08 | | 10:30 | 13:44 | |
| 68 | 17:49 | 17:04 | | 10:13 | 12:49 | |
| 66 | 18:05 | 17:39 | | 09:58 | 12:17 | |
| 64 | 18:18 | 18:04 | 17:38 | 09:47 | 11:53 | 14:18 |
| 62 | 18:29 | 18:23 | 18:16 | 09:37 | 11:34 | 13:41 |
| 60 | 18:39 | 18:40 | 18:43 | 09:29 | 11:19 | 13:14 |
| 58 | 18:47 | 18:54 | 19:05 | 09:22 | 11:06 | 12:54 |
| 56 | 18:55 | 19:06 | 19:22 | 09:15 | 10:55 | 12:37 |
| 54 | 19:02 | 19:16 | 19:37 | 09:10 | 10:45 | 12:22 |
| 52 | 19:08 | 19:26 | 19:50 | 09:04 | 10:37 | 12:10 |
| 50 | 19:13 | 19:34 | 20:02 | 09:00 | 10:29 | 11:59 |
| 45 | 19:25 | 19:52 | 20:26 | 08:50 | 10:13 | 11:36 |
| 40 | 19:35 | 20:07 | 20:45 | 08:42 | 09:59 | 11:18 |
| 35 | 19:44 | 20:19 | 21:01 | 08:35 | 09:48 | 11:02 |
| 30 | 19:52 | 20:31 | 21:15 | 08:29 | 09:38 | 10:49 |
| 20 | 20:05 | 20:50 | 21:40 | 08:18 | 09:21 | 10:27 |
| 10 | 20:17 | 21:06 | 22:01 | 08:09 | 09:07 | 10:07 |
| 0 | 20:28 | 21:22 | 22:20 | 08:00 | 08:53 | 09:49 |
| -10 | 20:39 | 21:38 | 22:40 | 07:52 | 08:40 | 09:32 |
| -20 | 20:51 | 21:55 | 23:02 | 07:43 | 08:25 | 09:12 |
| -30 | 21:05 | 22:15 | 23:27 | 07:32 | 08:09 | 08:50 |
| -35 | 21:13 | 22:27 | 23:41 | 07:26 | 07:59 | 08:38 |
| -40 | 21:22 | 22:40 | 23:58 | 07:20 | 07:49 | 08:23 |
| -45 | 21:33 | 22:56 | –:– | 07:12 | 07:36 | 08:06 |
| -50 | 21:46 | 23:16 | –:– | 07:03 | 07:21 | 07:44 |
| -52 | 21:53 | 23:26 | –:– | 06:58 | 07:14 | 07:34 |
| -54 | 22:00 | 23:37 | –:– | 06:54 | 07:06 | 07:23 |
| -56 | 22:07 | 23:49 | –:– | 06:49 | 06:57 | 07:10 |
| -58 | 22:16 | –:– | 00:03 | 06:43 | 06:47 | 06:55 |
| -60 | 22:26 | –:– | 00:20 | 06:36 | 06:36 | 06:37 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **10** | 02:56 | 03:06 | 11:57 | 01:48 | 14:14 | 18 | 93 |
| **11** | 03:17 | 03:27 | 11:57 | 02:40 | 15:08 | 19 | 86 |
| **12** | 03:38 | 03:48 | 11:56 | 03:36 | 16:05 | 20 | 77 |

## 2025 September 13, 14, 15 (Sat, Sun, Mon)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 13 Saturday | 0 | 352 14.4 | 207 35.8 | 14 48.3 | 150 11.2 | -9 7.3 | 240 41.9 | 21 57.0 | 352 1.7 | -2 38.1 |
| | 1 | 7 16.9 | 222 35.3 | 14 47.4 | 165 12.1 | -9 7.9 | 255 43.9 | 21 56.9 | 7 4.4 | -2 38.2 |
| | 2 | 22 19.4 | 237 34.7 | 14 46.5 | 180 13.0 | -9 8.5 | 270 46.0 | 21 56.9 | 22 7.0 | -2 38.2 |
| | 3 | 37 21.8 | 252 34.2 | 14 45.6 | 195 13.9 | -9 9.2 | 285 48.0 | 21 56.8 | 37 9.7 | -2 38.3 |
| | 4 | 52 24.3 | 267 33.7 | 14 44.7 | 210 14.8 | -9 9.8 | 300 50.0 | 21 56.8 | 52 12.3 | -2 38.4 |
| | 5 | 67 26.8 | 282 33.1 | 14 43.8 | 225 15.7 | -9 10.4 | 315 52.1 | 21 56.7 | 67 14.9 | -2 38.5 |
| | 6 | 82 29.2 | 297 32.6 | 14 42.9 | 240 16.7 | -9 11.1 | 330 54.1 | 21 56.7 | 82 17.6 | -2 38.6 |
| | 7 | 97 31.7 | 312 32.0 | 14 42.1 | 255 17.6 | -9 11.7 | 345 56.1 | 21 56.6 | 97 20.2 | -2 38.6 |
| | 8 | 112 34.1 | 327 31.5 | 14 41.2 | 270 18.5 | -9 12.3 | 0 58.2 | 21 56.5 | 112 22.8 | -2 38.7 |
| | 9 | 127 36.6 | 342 31.0 | 14 40.3 | 285 19.4 | -9 13.0 | 16 0.2 | 21 56.5 | 127 25.5 | -2 38.8 |
| | 10 | 142 39.1 | 357 30.4 | 14 39.4 | 300 20.3 | -9 13.6 | 31 2.3 | 21 56.4 | 142 28.1 | -2 38.9 |
| | 11 | 157 41.5 | 12 29.9 | 14 38.5 | 315 21.2 | -9 14.3 | 46 4.3 | 21 56.4 | 157 30.8 | -2 39.0 |
| | 12 | 172 44.0 | 27 29.4 | 14 37.6 | 330 22.1 | -9 14.9 | 61 6.3 | 21 56.3 | 172 33.4 | -2 39.0 |
| | 13 | 187 46.5 | 42 28.8 | 14 36.7 | 345 23.1 | -9 15.5 | 76 8.4 | 21 56.3 | 187 36.0 | -2 39.1 |
| | 14 | 202 48.9 | 57 28.3 | 14 35.8 | 0 24.0 | -9 16.2 | 91 10.4 | 21 56.2 | 202 38.7 | -2 39.2 |
| | 15 | 217 51.4 | 72 27.7 | 14 34.9 | 15 24.9 | -9 16.8 | 106 12.5 | 21 56.2 | 217 41.3 | -2 39.3 |
| | 16 | 232 53.9 | 87 27.2 | 14 34.0 | 30 25.8 | -9 17.4 | 121 14.5 | 21 56.1 | 232 43.9 | -2 39.4 |
| | 17 | 247 56.3 | 102 26.7 | 14 33.1 | 45 26.7 | -9 18.1 | 136 16.5 | 21 56.1 | 247 46.6 | -2 39.4 |
| | 18 | 262 58.8 | 117 26.1 | 14 32.2 | 60 27.6 | -9 18.7 | 151 18.6 | 21 56.0 | 262 49.2 | -2 39.5 |
| | 19 | 278 1.3 | 132 25.6 | 14 31.3 | 75 28.5 | -9 19.3 | 166 20.6 | 21 56.0 | 277 51.9 | -2 39.6 |
| | 20 | 293 3.7 | 147 25.1 | 14 30.4 | 90 29.5 | -9 20.0 | 181 22.7 | 21 55.9 | 292 54.5 | -2 39.7 |
| | 21 | 308 6.2 | 162 24.5 | 14 29.5 | 105 30.4 | -9 20.6 | 196 24.7 | 21 55.8 | 307 57.1 | -2 39.7 |
| | 22 | 323 8.6 | 177 24.0 | 14 28.6 | 120 31.3 | -9 21.2 | 211 26.8 | 21 55.8 | 322 59.8 | -2 39.8 |
| | 23 | 338 11.1 | 192 23.5 | 14 27.7 | 135 32.2 | -9 21.9 | 226 28.8 | 21 55.7 | 338 2.4 | -2 39.9 |
| | | MP 00:32 | *v* -0.5 | *d* -0.9 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 Sunday | 0 | 353 13.6 | 207 22.9 | 14 26.8 | 150 33.1 | -9 22.5 | 241 30.8 | 21 55.7 | 353 5.1 | -2 40.0 |
| | 1 | 8 16.0 | 222 22.4 | 14 25.9 | 165 34.0 | -9 23.1 | 256 32.9 | 21 55.6 | 8 7.7 | -2 40.1 |
| | 2 | 23 18.5 | 237 21.9 | 14 25.0 | 180 34.9 | -9 23.8 | 271 34.9 | 21 55.6 | 23 10.3 | -2 40.1 |
| | 3 | 38 21.0 | 252 21.3 | 14 24.1 | 195 35.8 | -9 24.4 | 286 37.0 | 21 55.5 | 38 13.0 | -2 40.2 |
| | 4 | 53 23.4 | 267 20.8 | 14 23.2 | 210 36.7 | -9 25.0 | 301 39.0 | 21 55.5 | 53 15.6 | -2 40.3 |
| | 5 | 68 25.9 | 282 20.3 | 14 22.3 | 225 37.7 | -9 25.7 | 316 41.1 | 21 55.4 | 68 18.2 | -2 40.4 |
| | 6 | 83 28.4 | 297 19.7 | 14 21.4 | 240 38.6 | -9 26.3 | 331 43.1 | 21 55.4 | 83 20.9 | -2 40.5 |
| | 7 | 98 30.8 | 312 19.2 | 14 20.5 | 255 39.5 | -9 26.9 | 346 45.1 | 21 55.3 | 98 23.5 | -2 40.5 |
| | 8 | 113 33.3 | 327 18.7 | 14 19.6 | 270 40.4 | -9 27.6 | 1 47.2 | 21 55.3 | 113 26.2 | -2 40.6 |
| | 9 | 128 35.8 | 342 18.1 | 14 18.6 | 285 41.3 | -9 28.2 | 16 49.2 | 21 55.2 | 128 28.8 | -2 40.7 |
| | 10 | 143 38.2 | 357 17.6 | 14 17.7 | 300 42.2 | -9 28.8 | 31 51.3 | 21 55.1 | 143 31.4 | -2 40.8 |
| | 11 | 158 40.7 | 12 17.1 | 14 16.8 | 315 43.1 | -9 29.5 | 46 53.3 | 21 55.1 | 158 34.1 | -2 40.9 |
| | 12 | 173 43.1 | 27 16.5 | 14 15.9 | 330 44.0 | -9 30.1 | 61 55.4 | 21 55.0 | 173 36.7 | -2 40.9 |
| | 13 | 188 45.6 | 42 16.0 | 14 15.0 | 345 44.9 | -9 30.7 | 76 57.4 | 21 55.0 | 188 39.4 | -2 41.0 |
| | 14 | 203 48.1 | 57 15.5 | 14 14.1 | 0 45.8 | -9 31.4 | 91 59.5 | 21 54.9 | 203 42.0 | -2 41.1 |
| | 15 | 218 50.5 | 72 14.9 | 14 13.2 | 15 46.8 | -9 32.0 | 107 1.5 | 21 54.9 | 218 44.6 | -2 41.2 |
| | 16 | 233 53.0 | 87 14.4 | 14 12.3 | 30 47.7 | -9 32.6 | 122 3.5 | 21 54.8 | 233 47.3 | -2 41.2 |
| | 17 | 248 55.5 | 102 13.9 | 14 11.3 | 45 48.6 | -9 33.3 | 137 5.6 | 21 54.8 | 248 49.9 | -2 41.3 |
| | 18 | 263 57.9 | 117 13.4 | 14 10.4 | 60 49.5 | -9 33.9 | 152 7.6 | 21 54.7 | 263 52.5 | -2 41.4 |
| | 19 | 279 0.4 | 132 12.8 | 14 9.5 | 75 50.4 | -9 34.5 | 167 9.7 | 21 54.7 | 278 55.2 | -2 41.5 |
| | 20 | 294 2.9 | 147 12.3 | 14 8.6 | 90 51.3 | -9 35.2 | 182 11.7 | 21 54.6 | 293 57.8 | -2 41.6 |
| | 21 | 309 5.3 | 162 11.8 | 14 7.7 | 105 52.2 | -9 35.8 | 197 13.8 | 21 54.6 | 309 0.5 | -2 41.6 |
| | 22 | 324 7.8 | 177 11.3 | 14 6.8 | 120 53.1 | -9 36.4 | 212 15.8 | 21 54.5 | 324 3.1 | -2 41.7 |
| | 23 | 339 10.2 | 192 10.7 | 14 5.8 | 135 54.0 | -9 37.1 | 227 17.9 | 21 54.5 | 339 5.7 | -2 41.8 |
| | | MP 00:28 | *v* -0.5 | *d* -0.9 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 Monday | 0 | 354 12.7 | 207 10.2 | 14 4.9 | 150 54.9 | -9 37.7 | 242 19.9 | 21 54.4 | 354 8.4 | -2 41.9 |
| | 1 | 9 15.2 | 222 9.7 | 14 4.0 | 165 55.8 | -9 38.3 | 257 22.0 | 21 54.3 | 9 11.0 | -2 42.0 |
| | 2 | 24 17.6 | 237 9.1 | 14 3.1 | 180 56.7 | -9 39.0 | 272 24.0 | 21 54.3 | 24 13.7 | -2 42.0 |
| | 3 | 39 20.1 | 252 8.6 | 14 2.2 | 195 57.7 | -9 39.6 | 287 26.1 | 21 54.2 | 39 16.3 | -2 42.1 |
| | 4 | 54 22.6 | 267 8.1 | 14 1.2 | 210 58.6 | -9 40.2 | 302 28.1 | 21 54.2 | 54 18.9 | -2 42.2 |
| | 5 | 69 25.0 | 282 7.6 | 14 0.3 | 225 59.5 | -9 40.8 | 317 30.2 | 21 54.1 | 69 21.6 | -2 42.3 |
| | 6 | 84 27.5 | 297 7.0 | 13 59.4 | 241 0.4 | -9 41.5 | 332 32.2 | 21 54.1 | 84 24.2 | -2 42.4 |
| | 7 | 99 30.0 | 312 6.5 | 13 58.5 | 256 1.3 | -9 42.1 | 347 34.3 | 21 54.0 | 99 26.9 | -2 42.4 |
| | 8 | 114 32.4 | 327 6.0 | 13 57.5 | 271 2.2 | -9 42.7 | 2 36.3 | 21 54.0 | 114 29.5 | -2 42.5 |
| | 9 | 129 34.9 | 342 5.5 | 13 56.6 | 286 3.1 | -9 43.4 | 17 38.4 | 21 53.9 | 129 32.1 | -2 42.6 |
| | 10 | 144 37.4 | 357 5.0 | 13 55.7 | 301 4.0 | -9 44.0 | 32 40.4 | 21 53.9 | 144 34.8 | -2 42.7 |
| | 11 | 159 39.8 | 12 4.4 | 13 54.8 | 316 4.9 | -9 44.6 | 47 42.4 | 21 53.8 | 159 37.4 | -2 42.7 |
| | 12 | 174 42.3 | 27 3.9 | 13 53.8 | 331 5.8 | -9 45.3 | 62 44.5 | 21 53.8 | 174 40.1 | -2 42.8 |
| | 13 | 189 44.7 | 42 3.4 | 13 52.9 | 346 6.7 | -9 45.9 | 77 46.5 | 21 53.7 | 189 42.7 | -2 42.9 |
| | 14 | 204 47.2 | 57 2.9 | 13 52.0 | 1 7.6 | -9 46.5 | 92 48.6 | 21 53.6 | 204 45.3 | -2 43.0 |
| | 15 | 219 49.7 | 72 2.3 | 13 51.0 | 16 8.5 | -9 47.2 | 107 50.7 | 21 53.6 | 219 48.0 | -2 43.1 |
| | 16 | 234 52.1 | 87 1.8 | 13 50.1 | 31 9.4 | -9 47.8 | 122 52.7 | 21 53.5 | 234 50.6 | -2 43.1 |
| | 17 | 249 54.6 | 102 1.3 | 13 49.2 | 46 10.3 | -9 48.4 | 137 54.8 | 21 53.5 | 249 53.2 | -2 43.2 |
| | 18 | 264 57.1 | 117 0.8 | 13 48.3 | 61 11.2 | -9 49.1 | 152 56.8 | 21 53.4 | 264 55.9 | -2 43.3 |
| | 19 | 279 59.5 | 132 0.3 | 13 47.3 | 76 12.1 | -9 49.7 | 167 58.9 | 21 53.4 | 279 58.5 | -2 43.4 |
| | 20 | 295 2.0 | 146 59.7 | 13 46.4 | 91 13.0 | -9 50.3 | 183 0.9 | 21 53.3 | 295 1.2 | -2 43.5 |
| | 21 | 310 4.5 | 161 59.2 | 13 45.5 | 106 13.9 | -9 50.9 | 198 3.0 | 21 53.3 | 310 3.8 | -2 43.5 |
| | 22 | 325 6.9 | 176 58.7 | 13 44.5 | 121 14.8 | -9 51.6 | 213 5.0 | 21 53.2 | 325 6.4 | -2 43.6 |
| | 23 | 340 9.4 | 191 58.2 | 13 43.6 | 136 15.7 | -9 52.2 | 228 7.1 | 21 53.2 | 340 9.1 | -2 43.7 |
| | | MP 00:24 | *v* -0.5 | *d* -0.9 | *v* 0.9 | *d* 0.6 | *v* 2.0 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.1 | -40 11.8 |
| Achernar | 335 19.3 | -57 6.1 |
| Acrux | 173 0.2 | -63 14.5 |
| Adhara | 255 5.6 | -29 0.1 |
| Aldebaran | 290 38.9 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.4 |
| Alkaid | 152 51.9 | 49 11.3 |
| Alnair | 27 31.8 | -46 50.2 |
| Alnilam | 275 37.2 | -1 11.0 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 3.4 | 26 37.9 |
| Alpheratz | 357 33.9 | 29 14.0 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.2 | -42 9.8 |
| Antares | 112 15.2 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 9.0 | -69 4.7 |
| Avior | 234 15.0 | -59 35.2 |
| Bellatrix | 278 22.3 | 6 22.5 |
| Betelgeuse | 270 51.5 | 7 24.8 |
| Canopus | 263 52.3 | -52 42.2 |
| Capella | 280 21.1 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.5 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.5 |
| Dubhe | 193 40.9 | 61 36.8 |
| Elnath | 278 1.2 | 28 37.7 |
| Eltanin | 90 41.8 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.0 |
| Gacrux | 171 51.6 | -57 15.5 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.7 | -60 29.9 |
| Hamal | 327 50.3 | 23 35.1 |
| Kaus Aust. | 83 31.7 | -34 22.4 |
| Kochab | 137 20.4 | 74 3.2 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.4 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 39.0 | -69 49.1 |
| Mirfak | 308 27.2 | 49 57.0 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.2 |
| Pollux | 243 16.8 | 27 57.8 |
| Procyon | 244 50.4 | 5 9.7 |
| Rasalhague | 95 58.0 | 12 32.6 |
| Regulus | 207 34.2 | 11 50.6 |
| Rigel | 281 3.3 | -8 10.1 |
| Rigil Kent. | 139 40.0 | -60 56.7 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 29.9 | 56 40.7 |
| Shaula | 96 9.6 | -37 7.4 |
| Sirius | 258 25.9 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.3 | -43 31.9 |
| Vega | 80 32.7 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 13 Sat | SHA | MP |
|---|---|---|
| Venus | 215 21.4 | 10:10 |
| Mars | 157 56.7 | 13:58 |
| Jupiter | 248 27.5 | 07:56 |
| Saturn | 359 47.3 | 00:32 |

| 14 Sun | SHA | MP |
|---|---|---|
| Venus | 214 9.3 | 10:11 |
| Mars | 157 19.5 | 13:57 |
| Jupiter | 248 17.3 | 07:53 |
| Saturn | 359 51.5 | 00:28 |

| 15 Mon | SHA | MP |
|---|---|---|
| Venus | 212 57.5 | 10:12 |
| Mars | 156 42.2 | 13:56 |
| Jupiter | 248 7.2 | 07:50 |
| Saturn | 359 55.7 | 00:23 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **13 Saturday** | 0 | 180 59.8 | 3 46.6 | 294 5.0 | 5.0 | 25 23.4 | 8.4 | 59.6 |
| | 1 | 196 0.0 | 3 45.6 | 308 28.9 | 4.9 | 25 31.8 | 8.2 | 59.6 |
| | 2 | 211 0.2 | 3 44.6 | 322 52.8 | 4.8 | 25 40.0 | 8.0 | 59.5 |
| | 3 | 226 0.5 | 3 43.7 | 337 16.6 | 4.8 | 25 48.0 | 7.9 | 59.5 |
| | 4 | 241 0.7 | 3 42.7 | 351 40.4 | 4.7 | 25 55.9 | 7.7 | 59.5 |
| | 5 | 256 0.9 | 3 41.8 | 6 4.1 | 4.6 | 26 3.6 | 7.5 | 59.5 |
| | 6 | 271 1.1 | 3 40.8 | 20 27.7 | 4.6 | 26 11.1 | 7.3 | 59.5 |
| | 7 | 286 1.3 | 3 39.9 | 34 51.3 | 4.5 | 26 18.4 | 7.2 | 59.5 |
| | 8 | 301 1.6 | 3 38.9 | 49 14.8 | 4.5 | 26 25.6 | 7.0 | 59.4 |
| | 9 | 316 1.8 | 3 37.9 | 63 38.3 | 4.4 | 26 32.5 | 6.8 | 59.4 |
| | 10 | 331 2.0 | 3 37.0 | 78 1.7 | 4.4 | 26 39.3 | 6.6 | 59.4 |
| | 11 | 346 2.2 | 3 36.0 | 92 25.1 | 4.3 | 26 45.9 | 6.4 | 59.4 |
| | 12 | 1 2.5 | 3 35.1 | 106 48.4 | 4.3 | 26 52.4 | 6.2 | 59.4 |
| | 13 | 16 2.7 | 3 34.1 | 121 11.7 | 4.2 | 26 58.6 | 6.1 | 59.3 |
| | 14 | 31 2.9 | 3 33.2 | 135 34.9 | 4.2 | 27 4.7 | 5.9 | 59.3 |
| | 15 | 46 3.1 | 3 32.2 | 149 58.1 | 4.1 | 27 10.5 | 5.7 | 59.3 |
| | 16 | 61 3.3 | 3 31.2 | 164 21.2 | 4.1 | 27 16.2 | 5.5 | 59.3 |
| | 17 | 76 3.6 | 3 30.3 | 178 44.3 | 4.1 | 27 21.7 | 5.3 | 59.3 |
| | 18 | 91 3.8 | 3 29.3 | 193 7.4 | 4.0 | 27 27.0 | 5.1 | 59.2 |
| | 19 | 106 4.0 | 3 28.4 | 207 30.4 | 4.0 | 27 32.1 | 4.9 | 59.2 |
| | 20 | 121 4.2 | 3 27.4 | 221 53.4 | 4.0 | 27 37.1 | 4.7 | 59.2 |
| | 21 | 136 4.5 | 3 26.4 | 236 16.3 | 3.9 | 27 41.8 | 4.6 | 59.2 |
| | 22 | 151 4.7 | 3 25.5 | 250 39.2 | 3.9 | 27 46.4 | 4.4 | 59.2 |
| | 23 | 166 4.9 | 3 24.5 | 265 2.1 | 3.9 | 27 50.7 | 4.2 | 59.2 |
| | | *v* 0.2 | SD 15.9 | *d* -1.0 | | SD 16.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **14 Sunday** | 0 | 181 5.1 | 3 23.6 | 279 25.0 | 3.9 | 27 54.9 | 4.0 | 59.1 |
| | 1 | 196 5.4 | 3 22.6 | 293 47.9 | 3.8 | 27 58.9 | 3.8 | 59.1 |
| | 2 | 211 5.6 | 3 21.6 | 308 10.7 | 3.8 | 28 2.6 | 3.6 | 59.1 |
| | 3 | 226 5.8 | 3 20.7 | 322 33.5 | 3.8 | 28 6.2 | 3.4 | 59.1 |
| | 4 | 241 6.0 | 3 19.7 | 336 56.3 | 3.8 | 28 9.6 | 3.2 | 59.1 |
| | 5 | 256 6.2 | 3 18.8 | 351 19.1 | 3.8 | 28 12.8 | 3.0 | 59.0 |
| | 6 | 271 6.5 | 3 17.8 | 5 41.9 | 3.8 | 28 15.9 | 2.8 | 59.0 |
| | 7 | 286 6.7 | 3 16.9 | 20 4.6 | 3.8 | 28 18.7 | 2.6 | 59.0 |
| | 8 | 301 6.9 | 3 15.9 | 34 27.4 | 3.8 | 28 21.3 | 2.4 | 59.0 |
| | 9 | 316 7.1 | 3 14.9 | 48 50.1 | 3.8 | 28 23.7 | 2.2 | 59.0 |
| | 10 | 331 7.4 | 3 14.0 | 63 12.9 | 3.8 | 28 26.0 | 2.0 | 58.9 |
| | 11 | 346 7.6 | 3 13.0 | 77 35.6 | 3.8 | 28 28.0 | 1.9 | 58.9 |
| | 12 | 1 7.8 | 3 12.0 | 91 58.4 | 3.8 | 28 29.9 | 1.7 | 58.9 |
| | 13 | 16 8.0 | 3 11.1 | 106 21.2 | 3.8 | 28 31.6 | 1.5 | 58.9 |
| | 14 | 31 8.2 | 3 10.1 | 120 43.9 | 3.8 | 28 33.0 | 1.3 | 58.8 |
| | 15 | 46 8.5 | 3 9.2 | 135 6.7 | 3.8 | 28 34.3 | 1.1 | 58.8 |
| | 16 | 61 8.7 | 3 8.2 | 149 29.5 | 3.8 | 28 35.4 | 0.9 | 58.8 |
| | 17 | 76 8.9 | 3 7.2 | 163 52.3 | 3.8 | 28 36.3 | 0.7 | 58.8 |
| | 18 | 91 9.1 | 3 6.3 | 178 15.1 | 3.8 | 28 37.0 | 0.5 | 58.8 |
| | 19 | 106 9.4 | 3 5.3 | 192 38.0 | 3.9 | 28 37.5 | 0.3 | 58.7 |
| | 20 | 121 9.6 | 3 4.4 | 207 0.9 | 3.9 | 28 37.8 | 0.1 | 58.7 |
| | 21 | 136 9.8 | 3 3.4 | 221 23.7 | 3.9 | 28 37.9 | -0.1 | 58.7 |
| | 22 | 151 10.0 | 3 2.4 | 235 46.7 | 4.0 | 28 37.8 | -0.3 | 58.7 |
| | 23 | 166 10.3 | 3 1.5 | 250 9.6 | 4.0 | 28 37.6 | -0.5 | 58.7 |
| | | *v* 0.2 | SD 15.9 | *d* -1.0 | | SD 16.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **15 Monday** | 0 | 181 10.5 | 3 0.5 | 264 32.6 | 4.0 | 28 37.1 | -0.6 | 58.6 |
| | 1 | 196 10.7 | 2 59.6 | 278 55.6 | 4.1 | 28 36.5 | -0.8 | 58.6 |
| | 2 | 211 10.9 | 2 58.6 | 293 18.7 | 4.1 | 28 35.6 | -1.0 | 58.6 |
| | 3 | 226 11.1 | 2 57.6 | 307 41.8 | 4.1 | 28 34.6 | -1.2 | 58.6 |
| | 4 | 241 11.4 | 2 56.7 | 322 4.9 | 4.2 | 28 33.4 | -1.4 | 58.6 |
| | 5 | 256 11.6 | 2 55.7 | 336 28.1 | 4.2 | 28 32.0 | -1.6 | 58.5 |
| | 6 | 271 11.8 | 2 54.7 | 350 51.3 | 4.3 | 28 30.4 | -1.8 | 58.5 |
| | 7 | 286 12.0 | 2 53.8 | 5 14.6 | 4.3 | 28 28.6 | -2.0 | 58.5 |
| | 8 | 301 12.3 | 2 52.8 | 19 38.0 | 4.4 | 28 26.7 | -2.1 | 58.5 |
| | 9 | 316 12.5 | 2 51.9 | 34 1.3 | 4.4 | 28 24.5 | -2.3 | 58.4 |
| | 10 | 331 12.7 | 2 50.9 | 48 24.8 | 4.5 | 28 22.2 | -2.5 | 58.4 |
| | 11 | 346 12.9 | 2 49.9 | 62 48.3 | 4.6 | 28 19.7 | -2.7 | 58.4 |
| | 12 | 1 13.2 | 2 49.0 | 77 11.8 | 4.6 | 28 17.0 | -2.9 | 58.4 |
| | 13 | 16 13.4 | 2 48.0 | 91 35.5 | 4.7 | 28 14.1 | -3.1 | 58.4 |
| | 14 | 31 13.6 | 2 47.0 | 105 59.1 | 4.7 | 28 11.1 | -3.2 | 58.3 |
| | 15 | 46 13.8 | 2 46.1 | 120 22.9 | 4.8 | 28 7.8 | -3.4 | 58.3 |
| | 16 | 61 14.0 | 2 45.1 | 134 46.7 | 4.9 | 28 4.4 | -3.6 | 58.3 |
| | 17 | 76 14.3 | 2 44.1 | 149 10.6 | 5.0 | 28 0.8 | -3.8 | 58.3 |
| | 18 | 91 14.5 | 2 43.2 | 163 34.5 | 5.0 | 27 57.1 | -3.9 | 58.2 |
| | 19 | 106 14.7 | 2 42.2 | 177 58.6 | 5.1 | 27 53.1 | -4.1 | 58.2 |
| | 20 | 121 14.9 | 2 41.3 | 192 22.7 | 5.2 | 27 49.0 | -4.3 | 58.2 |
| | 21 | 136 15.2 | 2 40.3 | 206 46.8 | 5.3 | 27 44.7 | -4.5 | 58.2 |
| | 22 | 151 15.4 | 2 39.3 | 221 11.1 | 5.3 | 27 40.3 | -4.6 | 58.2 |
| | 23 | 166 15.6 | 2 38.4 | 235 35.4 | 5.4 | 27 35.6 | -4.8 | 58.1 |
| | | *v* 0.2 | SD 15.9 | *d* -1.0 | | SD 16.0 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 01:52 | 03:46 | 04:59 | 18:50 | 20:02 | 21:52 |
| 70 | 02:28 | 04:00 | 05:05 | 18:44 | 19:48 | 21:19 |
| 68 | 02:53 | 04:12 | 05:10 | 18:39 | 19:37 | 20:55 |
| 66 | 03:11 | 04:21 | 05:14 | 18:35 | 19:28 | 20:37 |
| 64 | 03:26 | 04:29 | 05:18 | 18:32 | 19:21 | 20:23 |
| 62 | 03:38 | 04:35 | 05:21 | 18:29 | 19:15 | 20:11 |
| 60 | 03:48 | 04:41 | 05:24 | 18:27 | 19:09 | 20:01 |
| 58 | 03:57 | 04:46 | 05:26 | 18:24 | 19:04 | 19:53 |
| 56 | 04:04 | 04:50 | 05:28 | 18:22 | 19:00 | 19:46 |
| 54 | 04:11 | 04:54 | 05:30 | 18:21 | 18:56 | 19:40 |
| 52 | 04:16 | 04:57 | 05:32 | 18:19 | 18:53 | 19:34 |
| 50 | 04:21 | 05:00 | 05:33 | 18:18 | 18:50 | 19:29 |
| 45 | 04:32 | 05:07 | 05:36 | 18:14 | 18:44 | 19:19 |
| 40 | 04:40 | 05:12 | 05:39 | 18:12 | 18:39 | 19:11 |
| 35 | 04:46 | 05:16 | 05:42 | 18:10 | 18:35 | 19:05 |
| 30 | 04:51 | 05:20 | 05:44 | 18:08 | 18:32 | 19:00 |
| 20 | 04:59 | 05:25 | 05:47 | 18:04 | 18:26 | 18:52 |
| 10 | 05:04 | 05:29 | 05:50 | 18:02 | 18:23 | 18:47 |
| 0 | 05:08 | 05:32 | 05:53 | 17:59 | 18:20 | 18:44 |
| -10 | 05:10 | 05:34 | 05:55 | 17:57 | 18:18 | 18:42 |
| -20 | 05:10 | 05:36 | 05:58 | 17:54 | 18:16 | 18:42 |
| -30 | 05:09 | 05:37 | 06:01 | 17:52 | 18:15 | 18:43 |
| -35 | 05:08 | 05:37 | 06:02 | 17:50 | 18:15 | 18:45 |
| -40 | 05:06 | 05:37 | 06:04 | 17:48 | 18:15 | 18:47 |
| -45 | 05:03 | 05:37 | 06:06 | 17:46 | 18:16 | 18:50 |
| -50 | 04:59 | 05:36 | 06:08 | 17:44 | 18:16 | 18:54 |
| -52 | 04:57 | 05:36 | 06:09 | 17:43 | 18:17 | 18:56 |
| -54 | 04:54 | 05:35 | 06:11 | 17:42 | 18:17 | 18:59 |
| -56 | 04:52 | 05:35 | 06:12 | 17:41 | 18:18 | 19:01 |
| -58 | 04:49 | 05:34 | 06:13 | 17:40 | 18:19 | 19:05 |
| -60 | 04:45 | 05:33 | 06:15 | 17:38 | 18:20 | 19:08 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **13** | **14** | **15** | **13** | **14** | **15** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | | | | |
| 62 | 18:03 | | 19:46 | 16:00 | | 18:36 |
| 60 | 18:55 | 19:31 | 20:53 | 15:09 | 16:43 | 17:29 |
| 58 | 19:27 | 20:11 | 21:27 | 14:37 | 16:03 | 16:54 |
| 56 | 19:51 | 20:39 | 21:52 | 14:14 | 15:35 | 16:29 |
| 54 | 20:10 | 21:01 | 22:13 | 13:55 | 15:13 | 16:09 |
| 52 | 20:27 | 21:19 | 22:29 | 13:39 | 14:55 | 15:51 |
| 50 | 20:41 | 21:35 | 22:44 | 13:25 | 14:39 | 15:37 |
| 45 | 21:10 | 22:06 | 23:13 | 12:56 | 14:08 | 15:07 |
| 40 | 21:32 | 22:30 | 23:36 | 12:34 | 13:44 | 14:44 |
| 35 | 21:51 | 22:50 | 23:55 | 12:16 | 13:24 | 14:24 |
| 30 | 22:08 | 23:07 | –:– | 12:00 | 13:07 | 14:08 |
| 20 | 22:35 | 23:36 | –:– | 11:33 | 12:39 | 13:40 |
| 10 | 22:59 | –:– | 00:00 | 11:10 | 12:14 | 13:15 |
| 0 | 23:21 | –:– | 00:23 | 10:49 | 11:51 | 12:53 |
| -10 | 23:44 | –:– | 00:46 | 10:28 | 11:28 | 12:30 |
| -20 | –:– | 00:08 | 01:11 | 10:05 | 11:04 | 12:06 |
| -30 | –:– | 00:36 | 01:40 | 09:39 | 10:35 | 11:37 |
| -35 | –:– | 00:53 | 01:57 | 09:23 | 10:18 | 11:20 |
| -40 | –:– | 01:12 | 02:17 | 09:06 | 09:58 | 11:00 |
| -45 | 00:19 | 01:36 | 02:42 | 08:44 | 09:34 | 10:36 |
| -50 | 00:45 | 02:07 | 03:13 | 08:17 | 09:03 | 10:05 |
| -52 | 00:58 | 02:22 | 03:29 | 08:04 | 08:48 | 09:50 |
| -54 | 01:13 | 02:40 | 03:47 | 07:49 | 08:30 | 09:31 |
| -56 | 01:30 | 03:01 | 04:09 | 07:31 | 08:08 | 09:09 |
| -58 | 01:51 | 03:29 | 04:38 | 07:09 | 07:40 | 08:41 |
| -60 | 02:18 | 04:08 | 05:20 | 06:42 | 07:00 | 07:59 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **13** | 03:59 | 04:10 | 11:56 | 04:35 | 17:05 | 21 | 66 |
| **14** | 04:21 | 04:31 | 11:55 | 05:36 | 18:07 | 22 | 55 |
| **15** | 04:42 | 04:53 | 11:55 | 06:38 | 19:08 | 23 | 44 |

## 2025 September 16, 17, 18 (Tue, Wed, Thu)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.0 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 16 Tuesday | 0 | 355 11.9 | 206 57.7 | 13 42.6 | 151 16.6 | -9 52.8 | 243 9.1 | 21 53.1 | 355 11.7 | -2 43.8 |
| | 1 | 10 14.3 | 221 57.1 | 13 41.7 | 166 17.5 | -9 53.5 | 258 11.2 | 21 53.1 | 10 14.4 | -2 43.9 |
| | 2 | 25 16.8 | 236 56.6 | 13 40.8 | 181 18.4 | -9 54.1 | 273 13.2 | 21 53.0 | 25 17.0 | -2 43.9 |
| | 3 | 40 19.2 | 251 56.1 | 13 39.8 | 196 19.3 | -9 54.7 | 288 15.3 | 21 53.0 | 40 19.6 | -2 44.0 |
| | 4 | 55 21.7 | 266 55.6 | 13 38.9 | 211 20.2 | -9 55.4 | 303 17.3 | 21 52.9 | 55 22.3 | -2 44.1 |
| | 5 | 70 24.2 | 281 55.1 | 13 38.0 | 226 21.2 | -9 56.0 | 318 19.4 | 21 52.9 | 70 24.9 | -2 44.2 |
| | 6 | 85 26.6 | 296 54.5 | 13 37.0 | 241 22.1 | -9 56.6 | 333 21.4 | 21 52.8 | 85 27.6 | -2 44.3 |
| | 7 | 100 29.1 | 311 54.0 | 13 36.1 | 256 23.0 | -9 57.2 | 348 23.5 | 21 52.7 | 100 30.2 | -2 44.3 |
| | 8 | 115 31.6 | 326 53.5 | 13 35.1 | 271 23.9 | -9 57.9 | 3 25.5 | 21 52.7 | 115 32.8 | -2 44.4 |
| | 9 | 130 34.0 | 341 53.0 | 13 34.2 | 286 24.8 | -9 58.5 | 18 27.6 | 21 52.6 | 130 35.5 | -2 44.5 |
| | 10 | 145 36.5 | 356 52.5 | 13 33.2 | 301 25.7 | -9 59.1 | 33 29.7 | 21 52.6 | 145 38.1 | -2 44.6 |
| | 11 | 160 39.0 | 11 52.0 | 13 32.3 | 316 26.6 | -9 59.8 | 48 31.7 | 21 52.5 | 160 40.8 | -2 44.6 |
| | 12 | 175 41.4 | 26 51.5 | 13 31.4 | 331 27.5 | -10 0.4 | 63 33.8 | 21 52.5 | 175 43.4 | -2 44.7 |
| | 13 | 190 43.9 | 41 50.9 | 13 30.4 | 346 28.4 | -10 1.0 | 78 35.8 | 21 52.4 | 190 46.0 | -2 44.8 |
| | 14 | 205 46.4 | 56 50.4 | 13 29.5 | 1 29.3 | -10 1.6 | 93 37.9 | 21 52.4 | 205 48.7 | -2 44.9 |
| | 15 | 220 48.8 | 71 49.9 | 13 28.5 | 16 30.2 | -10 2.3 | 108 39.9 | 21 52.3 | 220 51.3 | -2 45.0 |
| | 16 | 235 51.3 | 86 49.4 | 13 27.6 | 31 31.0 | -10 2.9 | 123 42.0 | 21 52.3 | 235 54.0 | -2 45.0 |
| | 17 | 250 53.7 | 101 48.9 | 13 26.6 | 46 31.9 | -10 3.5 | 138 44.0 | 21 52.2 | 250 56.6 | -2 45.1 |
| | 18 | 265 56.2 | 116 48.4 | 13 25.7 | 61 32.8 | -10 4.2 | 153 46.1 | 21 52.2 | 265 59.2 | -2 45.2 |
| | 19 | 280 58.7 | 131 47.9 | 13 24.7 | 76 33.7 | -10 4.8 | 168 48.2 | 21 52.1 | 281 1.9 | -2 45.3 |
| | 20 | 296 1.1 | 146 47.3 | 13 23.8 | 91 34.6 | -10 5.4 | 183 50.2 | 21 52.1 | 296 4.5 | -2 45.4 |
| | 21 | 311 3.6 | 161 46.8 | 13 22.8 | 106 35.5 | -10 6.0 | 198 52.3 | 21 52.0 | 311 7.2 | -2 45.4 |
| | 22 | 326 6.1 | 176 46.3 | 13 21.9 | 121 36.4 | -10 6.7 | 213 54.3 | 21 51.9 | 326 9.8 | -2 45.5 |
| | 23 | 341 8.5 | 191 45.8 | 13 20.9 | 136 37.3 | -10 7.3 | 228 56.4 | 21 51.9 | 341 12.4 | -2 45.6 |
| | | MP 00:21 | *v* -0.5 | *d* -0.9 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 Wednesday | 0 | 356 11.0 | 206 45.3 | 13 20.0 | 151 38.2 | -10 7.9 | 243 58.4 | 21 51.8 | 356 15.1 | -2 45.7 |
| | 1 | 11 13.5 | 221 44.8 | 13 19.0 | 166 39.1 | -10 8.6 | 259 0.5 | 21 51.8 | 11 17.7 | -2 45.8 |
| | 2 | 26 15.9 | 236 44.3 | 13 18.1 | 181 40.0 | -10 9.2 | 274 2.6 | 21 51.7 | 26 20.4 | -2 45.8 |
| | 3 | 41 18.4 | 251 43.8 | 13 17.1 | 196 40.9 | -10 9.8 | 289 4.6 | 21 51.7 | 41 23.0 | -2 45.9 |
| | 4 | 56 20.9 | 266 43.3 | 13 16.2 | 211 41.8 | -10 10.4 | 304 6.7 | 21 51.6 | 56 25.6 | -2 46.0 |
| | 5 | 71 23.3 | 281 42.7 | 13 15.2 | 226 42.7 | -10 11.1 | 319 8.7 | 21 51.6 | 71 28.3 | -2 46.1 |
| | 6 | 86 25.8 | 296 42.2 | 13 14.2 | 241 43.6 | -10 11.7 | 334 10.8 | 21 51.5 | 86 30.9 | -2 46.2 |
| | 7 | 101 28.2 | 311 41.7 | 13 13.3 | 256 44.5 | -10 12.3 | 349 12.8 | 21 51.5 | 101 33.6 | -2 46.2 |
| | 8 | 116 30.7 | 326 41.2 | 13 12.3 | 271 45.4 | -10 13.0 | 4 14.9 | 21 51.4 | 116 36.2 | -2 46.3 |
| | 9 | 131 33.2 | 341 40.7 | 13 11.4 | 286 46.3 | -10 13.6 | 19 17.0 | 21 51.4 | 131 38.9 | -2 46.4 |
| | 10 | 146 35.6 | 356 40.2 | 13 10.4 | 301 47.2 | -10 14.2 | 34 19.0 | 21 51.3 | 146 41.5 | -2 46.5 |
| | 11 | 161 38.1 | 11 39.7 | 13 9.4 | 316 48.1 | -10 14.8 | 49 21.1 | 21 51.3 | 161 44.1 | -2 46.5 |
| | 12 | 176 40.6 | 26 39.2 | 13 8.5 | 331 49.0 | -10 15.5 | 64 23.1 | 21 51.2 | 176 46.8 | -2 46.6 |
| | 13 | 191 43.0 | 41 38.7 | 13 7.5 | 346 49.9 | -10 16.1 | 79 25.2 | 21 51.2 | 191 49.4 | -2 46.7 |
| | 14 | 206 45.5 | 56 38.2 | 13 6.6 | 1 50.8 | -10 16.7 | 94 27.3 | 21 51.1 | 206 52.1 | -2 46.8 |
| | 15 | 221 48.0 | 71 37.7 | 13 5.6 | 16 51.7 | -10 17.3 | 109 29.3 | 21 51.1 | 221 54.7 | -2 46.9 |
| | 16 | 236 50.4 | 86 37.2 | 13 4.6 | 31 52.6 | -10 18.0 | 124 31.4 | 21 51.0 | 236 57.3 | -2 46.9 |
| | 17 | 251 52.9 | 101 36.6 | 13 3.7 | 46 53.5 | -10 18.6 | 139 33.5 | 21 50.9 | 252 0.0 | -2 47.0 |
| | 18 | 266 55.3 | 116 36.1 | 13 2.7 | 61 54.3 | -10 19.2 | 154 35.5 | 21 50.9 | 267 2.6 | -2 47.1 |
| | 19 | 281 57.8 | 131 35.6 | 13 1.7 | 76 55.2 | -10 19.8 | 169 37.6 | 21 50.8 | 282 5.3 | -2 47.2 |
| | 20 | 297 0.3 | 146 35.1 | 13 0.8 | 91 56.1 | -10 20.5 | 184 39.6 | 21 50.8 | 297 7.9 | -2 47.3 |
| | 21 | 312 2.7 | 161 34.6 | 12 59.8 | 106 57.0 | -10 21.1 | 199 41.7 | 21 50.7 | 312 10.5 | -2 47.3 |
| | 22 | 327 5.2 | 176 34.1 | 12 58.8 | 121 57.9 | -10 21.7 | 214 43.8 | 21 50.7 | 327 13.2 | -2 47.4 |
| | 23 | 342 7.7 | 191 33.6 | 12 57.9 | 136 58.8 | -10 22.4 | 229 45.8 | 21 50.6 | 342 15.8 | -2 47.5 |
| | | MP 00:17 | *v* -0.5 | *d* -1.0 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Thursday | 0 | 357 10.1 | 206 33.1 | 12 56.9 | 151 59.7 | -10 23.0 | 244 47.9 | 21 50.6 | 357 18.5 | -2 47.6 |
| | 1 | 12 12.6 | 221 32.6 | 12 55.9 | 167 0.6 | -10 23.6 | 259 50.0 | 21 50.5 | 12 21.1 | -2 47.7 |
| | 2 | 27 15.1 | 236 32.1 | 12 55.0 | 182 1.5 | -10 24.2 | 274 52.0 | 21 50.5 | 27 23.7 | -2 47.7 |
| | 3 | 42 17.5 | 251 31.6 | 12 54.0 | 197 2.4 | -10 24.9 | 289 54.1 | 21 50.4 | 42 26.4 | -2 47.8 |
| | 4 | 57 20.0 | 266 31.1 | 12 53.0 | 212 3.3 | -10 25.5 | 304 56.1 | 21 50.4 | 57 29.0 | -2 47.9 |
| | 5 | 72 22.5 | 281 30.6 | 12 52.1 | 227 4.2 | -10 26.1 | 319 58.2 | 21 50.3 | 72 31.7 | -2 48.0 |
| | 6 | 87 24.9 | 296 30.1 | 12 51.1 | 242 5.1 | -10 26.7 | 335 0.3 | 21 50.3 | 87 34.3 | -2 48.1 |
| | 7 | 102 27.4 | 311 29.6 | 12 50.1 | 257 5.9 | -10 27.4 | 350 2.3 | 21 50.2 | 102 36.9 | -2 48.1 |
| | 8 | 117 29.8 | 326 29.1 | 12 49.1 | 272 6.8 | -10 28.0 | 5 4.4 | 21 50.2 | 117 39.6 | -2 48.2 |
| | 9 | 132 32.3 | 341 28.6 | 12 48.2 | 287 7.7 | -10 28.6 | 20 6.5 | 21 50.1 | 132 42.2 | -2 48.3 |
| | 10 | 147 34.8 | 356 28.1 | 12 47.2 | 302 8.6 | -10 29.2 | 35 8.5 | 21 50.1 | 147 44.9 | -2 48.4 |
| | 11 | 162 37.2 | 11 27.6 | 12 46.2 | 317 9.5 | -10 29.9 | 50 10.6 | 21 50.0 | 162 47.5 | -2 48.4 |
| | 12 | 177 39.7 | 26 27.1 | 12 45.2 | 332 10.4 | -10 30.5 | 65 12.7 | 21 50.0 | 177 50.2 | -2 48.5 |
| | 13 | 192 42.2 | 41 26.6 | 12 44.3 | 347 11.3 | -10 31.1 | 80 14.7 | 21 49.9 | 192 52.8 | -2 48.6 |
| | 14 | 207 44.6 | 56 26.1 | 12 43.3 | 2 12.2 | -10 31.7 | 95 16.8 | 21 49.8 | 207 55.4 | -2 48.7 |
| | 15 | 222 47.1 | 71 25.6 | 12 42.3 | 17 13.1 | -10 32.4 | 110 18.9 | 21 49.8 | 222 58.1 | -2 48.8 |
| | 16 | 237 49.6 | 86 25.1 | 12 41.3 | 32 13.9 | -10 33.0 | 125 20.9 | 21 49.7 | 238 0.7 | -2 48.8 |
| | 17 | 252 52.0 | 101 24.6 | 12 40.3 | 47 14.8 | -10 33.6 | 140 23.0 | 21 49.7 | 253 3.4 | -2 48.9 |
| | 18 | 267 54.5 | 116 24.1 | 12 39.4 | 62 15.7 | -10 34.2 | 155 25.1 | 21 49.6 | 268 6.0 | -2 49.0 |
| | 19 | 282 57.0 | 131 23.6 | 12 38.4 | 77 16.6 | -10 34.9 | 170 27.1 | 21 49.6 | 283 8.6 | -2 49.1 |
| | 20 | 297 59.4 | 146 23.1 | 12 37.4 | 92 17.5 | -10 35.5 | 185 29.2 | 21 49.5 | 298 11.3 | -2 49.2 |
| | 21 | 313 1.9 | 161 22.6 | 12 36.4 | 107 18.4 | -10 36.1 | 200 31.3 | 21 49.5 | 313 13.9 | -2 49.2 |
| | 22 | 328 4.3 | 176 22.1 | 12 35.4 | 122 19.3 | -10 36.7 | 215 33.3 | 21 49.4 | 328 16.6 | -2 49.3 |
| | 23 | 343 6.8 | 191 21.6 | 12 34.5 | 137 20.2 | -10 37.4 | 230 35.4 | 21 49.4 | 343 19.2 | -2 49.4 |
| | | MP 00:13 | *v* -0.5 | *d* -1.0 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.1 | -40 11.8 |
| Achernar | 335 19.2 | -57 6.1 |
| Acrux | 173 0.2 | -63 14.5 |
| Adhara | 255 5.6 | -29 0.1 |
| Aldebaran | 290 38.9 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.3 |
| Alkaid | 152 51.9 | 49 11.3 |
| Alnair | 27 31.7 | -46 50.2 |
| Alnilam | 275 37.2 | -1 11.0 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 3.4 | 26 37.9 |
| Alpheratz | 357 33.8 | 29 14.1 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.8 |
| Antares | 112 15.2 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 9.0 | -69 4.7 |
| Avior | 234 15.0 | -59 35.2 |
| Bellatrix | 278 22.3 | 6 22.5 |
| Betelgeuse | 270 51.5 | 7 24.8 |
| Canopus | 263 52.3 | -52 42.2 |
| Capella | 280 21.0 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.5 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.5 |
| Dubhe | 193 40.9 | 61 36.8 |
| Elnath | 278 1.1 | 28 37.7 |
| Eltanin | 90 41.9 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.4 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.7 | -60 29.9 |
| Hamal | 327 50.3 | 23 35.1 |
| Kaus Aust. | 83 31.7 | -34 22.4 |
| Kochab | 137 20.5 | 74 3.2 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.4 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 39.0 | -69 49.1 |
| Mirfak | 308 27.2 | 49 57.0 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.2 |
| Pollux | 243 16.8 | 27 57.8 |
| Procyon | 244 50.4 | 5 9.7 |
| Rasalhague | 95 58.0 | 12 32.6 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.3 | -8 10.1 |
| Rigil Kent. | 139 40.0 | -60 56.6 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 29.9 | 56 40.7 |
| Shaula | 96 9.6 | -37 7.4 |
| Sirius | 258 25.8 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.3 | -43 31.9 |
| Vega | 80 32.7 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 16 Tue | SHA | MP |
|---|---|---|
| Venus | 211 45.8 | 10:13 |
| Mars | 156 4.8 | 13:54 |
| Jupiter | 247 57.3 | 07:46 |
| Saturn | 359 59.9 | 00:19 |

| 17 Wed | SHA | MP |
|---|---|---|
| Venus | 210 34.3 | 10:13 |
| Mars | 155 27.2 | 13:53 |
| Jupiter | 247 47.4 | 07:43 |
| Saturn | 0 4.1 | 00:15 |

| 18 Thu | SHA | MP |
|---|---|---|
| Venus | 209 23.0 | 10:14 |
| Mars | 154 49.6 | 13:51 |
| Jupiter | 247 37.8 | 07:40 |
| Saturn | 0 8.3 | 00:11 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **16 Tuesday** | 0 | 181 15.8 | 2 37.4 | 249 59.9 | 5.5 | 27 30.8 | -5.0 | 58.1 |
| | 1 | 196 16.1 | 2 36.4 | 264 24.4 | 5.6 | 27 25.9 | -5.1 | 58.1 |
| | 2 | 211 16.3 | 2 35.5 | 278 49.0 | 5.7 | 27 20.7 | -5.3 | 58.1 |
| | 3 | 226 16.5 | 2 34.5 | 293 13.6 | 5.8 | 27 15.4 | -5.5 | 58.0 |
| | 4 | 241 16.7 | 2 33.5 | 307 38.4 | 5.9 | 27 9.9 | -5.6 | 58.0 |
| | 5 | 256 16.9 | 2 32.6 | 322 3.2 | 5.9 | 27 4.3 | -5.8 | 58.0 |
| | 6 | 271 17.2 | 2 31.6 | 336 28.2 | 6.0 | 26 58.5 | -6.0 | 58.0 |
| | 7 | 286 17.4 | 2 30.7 | 350 53.2 | 6.1 | 26 52.6 | -6.1 | 58.0 |
| | 8 | 301 17.6 | 2 29.7 | 5 18.4 | 6.2 | 26 46.4 | -6.3 | 57.9 |
| | 9 | 316 17.8 | 2 28.7 | 19 43.6 | 6.3 | 26 40.2 | -6.4 | 57.9 |
| | 10 | 331 18.1 | 2 27.8 | 34 8.9 | 6.4 | 26 33.7 | -6.6 | 57.9 |
| | 11 | 346 18.3 | 2 26.8 | 48 34.3 | 6.5 | 26 27.2 | -6.7 | 57.9 |
| | 12 | 1 18.5 | 2 25.8 | 62 59.8 | 6.6 | 26 20.4 | -6.9 | 57.8 |
| | 13 | 16 18.7 | 2 24.9 | 77 25.4 | 6.7 | 26 13.5 | -7.0 | 57.8 |
| | 14 | 31 19.0 | 2 23.9 | 91 51.1 | 6.8 | 26 6.5 | -7.2 | 57.8 |
| | 15 | 46 19.2 | 2 22.9 | 106 16.9 | 6.9 | 25 59.3 | -7.3 | 57.8 |
| | 16 | 61 19.4 | 2 22.0 | 120 42.8 | 7.0 | 25 51.9 | -7.5 | 57.8 |
| | 17 | 76 19.6 | 2 21.0 | 135 8.9 | 7.1 | 25 44.4 | -7.6 | 57.7 |
| | 18 | 91 19.8 | 2 20.0 | 149 35.0 | 7.2 | 25 36.8 | -7.8 | 57.7 |
| | 19 | 106 20.1 | 2 19.1 | 164 1.2 | 7.3 | 25 29.0 | -7.9 | 57.7 |
| | 20 | 121 20.3 | 2 18.1 | 178 27.5 | 7.4 | 25 21.1 | -8.1 | 57.7 |
| | 21 | 136 20.5 | 2 17.1 | 192 53.9 | 7.5 | 25 13.0 | -8.2 | 57.7 |
| | 22 | 151 20.7 | 2 16.2 | 207 20.5 | 7.6 | 25 4.8 | -8.3 | 57.6 |
| | 23 | 166 21.0 | 2 15.2 | 221 47.1 | 7.7 | 24 56.5 | -8.5 | 57.6 |
| | *v* | 0.2 | SD 15.9 | *d* -1.0 | | SD 15.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **17 Wednesday** | 0 | 181 21.2 | 2 14.2 | 236 13.8 | 7.8 | 24 48.0 | -8.6 | 57.6 |
| | 1 | 196 21.4 | 2 13.3 | 250 40.7 | 8.0 | 24 39.4 | -8.7 | 57.6 |
| | 2 | 211 21.6 | 2 12.3 | 265 7.6 | 8.1 | 24 30.7 | -8.9 | 57.5 |
| | 3 | 226 21.9 | 2 11.3 | 279 34.7 | 8.2 | 24 21.8 | -9.0 | 57.5 |
| | 4 | 241 22.1 | 2 10.4 | 294 1.9 | 8.3 | 24 12.8 | -9.1 | 57.5 |
| | 5 | 256 22.3 | 2 9.4 | 308 29.2 | 8.4 | 24 3.6 | -9.3 | 57.5 |
| | 6 | 271 22.5 | 2 8.4 | 322 56.5 | 8.5 | 23 54.4 | -9.4 | 57.5 |
| | 7 | 286 22.7 | 2 7.5 | 337 24.0 | 8.6 | 23 45.0 | -9.5 | 57.4 |
| | 8 | 301 23.0 | 2 6.5 | 351 51.7 | 8.7 | 23 35.5 | -9.6 | 57.4 |
| | 9 | 316 23.2 | 2 5.5 | 6 19.4 | 8.8 | 23 25.8 | -9.8 | 57.4 |
| | 10 | 331 23.4 | 2 4.6 | 20 47.2 | 8.9 | 23 16.1 | -9.9 | 57.4 |
| | 11 | 346 23.6 | 2 3.6 | 35 15.1 | 9.0 | 23 6.2 | -10.0 | 57.3 |
| | 12 | 1 23.9 | 2 2.6 | 49 43.2 | 9.1 | 22 56.2 | -10.1 | 57.3 |
| | 13 | 16 24.1 | 2 1.7 | 64 11.3 | 9.3 | 22 46.1 | -10.2 | 57.3 |
| | 14 | 31 24.3 | 2 0.7 | 78 39.6 | 9.4 | 22 35.9 | -10.3 | 57.3 |
| | 15 | 46 24.5 | 1 59.7 | 93 7.9 | 9.5 | 22 25.5 | -10.5 | 57.3 |
| | 16 | 61 24.8 | 1 58.8 | 107 36.4 | 9.6 | 22 15.1 | -10.6 | 57.2 |
| | 17 | 76 25.0 | 1 57.8 | 122 5.0 | 9.7 | 22 4.5 | -10.7 | 57.2 |
| | 18 | 91 25.2 | 1 56.8 | 136 33.7 | 9.8 | 21 53.8 | -10.8 | 57.2 |
| | 19 | 106 25.4 | 1 55.9 | 151 2.5 | 9.9 | 21 43.1 | -10.9 | 57.2 |
| | 20 | 121 25.6 | 1 54.9 | 165 31.4 | 10.0 | 21 32.2 | -11.0 | 57.1 |
| | 21 | 136 25.9 | 1 53.9 | 180 0.4 | 10.1 | 21 21.2 | -11.1 | 57.1 |
| | 22 | 151 26.1 | 1 53.0 | 194 29.5 | 10.2 | 21 10.1 | -11.2 | 57.1 |
| | 23 | 166 26.3 | 1 52.0 | 208 58.7 | 10.3 | 20 58.9 | -11.3 | 57.1 |
| | *v* | 0.2 | SD 15.9 | *d* -1.0 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **18 Thursday** | 0 | 181 26.5 | 1 51.0 | 223 28.0 | 10.4 | 20 47.6 | -11.4 | 57.1 |
| | 1 | 196 26.8 | 1 50.1 | 237 57.5 | 10.5 | 20 36.2 | -11.5 | 57.0 |
| | 2 | 211 27.0 | 1 49.1 | 252 27.0 | 10.6 | 20 24.7 | -11.6 | 57.0 |
| | 3 | 226 27.2 | 1 48.1 | 266 56.7 | 10.7 | 20 13.2 | -11.7 | 57.0 |
| | 4 | 241 27.4 | 1 47.2 | 281 26.4 | 10.9 | 20 1.5 | -11.8 | 57.0 |
| | 5 | 256 27.7 | 1 46.2 | 295 56.3 | 11.0 | 19 49.7 | -11.9 | 57.0 |
| | 6 | 271 27.9 | 1 45.2 | 310 26.2 | 11.1 | 19 37.9 | -11.9 | 56.9 |
| | 7 | 286 28.1 | 1 44.2 | 324 56.3 | 11.2 | 19 25.9 | -12.0 | 56.9 |
| | 8 | 301 28.3 | 1 43.3 | 339 26.4 | 11.3 | 19 13.9 | -12.1 | 56.9 |
| | 9 | 316 28.5 | 1 42.3 | 353 56.7 | 11.4 | 19 1.8 | -12.2 | 56.9 |
| | 10 | 331 28.8 | 1 41.3 | 8 27.0 | 11.5 | 18 49.6 | -12.3 | 56.8 |
| | 11 | 346 29.0 | 1 40.4 | 22 57.5 | 11.6 | 18 37.3 | -12.4 | 56.8 |
| | 12 | 1 29.2 | 1 39.4 | 37 28.1 | 11.7 | 18 24.9 | -12.4 | 56.8 |
| | 13 | 16 29.4 | 1 38.4 | 51 58.7 | 11.8 | 18 12.5 | -12.5 | 56.8 |
| | 14 | 31 29.7 | 1 37.5 | 66 29.5 | 11.8 | 18 0.0 | -12.6 | 56.8 |
| | 15 | 46 29.9 | 1 36.5 | 81 0.3 | 11.9 | 17 47.4 | -12.7 | 56.7 |
| | 16 | 61 30.1 | 1 35.5 | 95 31.2 | 12.0 | 17 34.7 | -12.8 | 56.7 |
| | 17 | 76 30.3 | 1 34.6 | 110 2.3 | 12.1 | 17 21.9 | -12.8 | 56.7 |
| | 18 | 91 30.5 | 1 33.6 | 124 33.4 | 12.2 | 17 9.1 | -12.9 | 56.7 |
| | 19 | 106 30.8 | 1 32.6 | 139 4.6 | 12.3 | 16 56.2 | -13.0 | 56.7 |
| | 20 | 121 31.0 | 1 31.7 | 153 36.0 | 12.4 | 16 43.2 | -13.0 | 56.6 |
| | 21 | 136 31.2 | 1 30.7 | 168 7.4 | 12.5 | 16 30.2 | -13.1 | 56.6 |
| | 22 | 151 31.4 | 1 29.7 | 182 38.9 | 12.6 | 16 17.1 | -13.2 | 56.6 |
| | 23 | 166 31.7 | 1 28.7 | 197 10.5 | 12.7 | 16 3.9 | -13.2 | 56.6 |
| | *v* | 0.2 | SD 15.9 | *d* -1.0 | | SD 15.6 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 02:18 | 04:01 | 05:13 | 18:34 | 19:45 | 21:26 |
| 70 | 02:47 | 04:13 | 05:17 | 18:30 | 19:33 | 20:58 |
| 68 | 03:08 | 04:23 | 05:21 | 18:27 | 19:24 | 20:38 |
| 66 | 03:24 | 04:31 | 05:24 | 18:24 | 19:16 | 20:23 |
| 64 | 03:37 | 04:38 | 05:26 | 18:21 | 19:10 | 20:10 |
| 62 | 03:48 | 04:43 | 05:29 | 18:19 | 19:04 | 20:00 |
| 60 | 03:57 | 04:48 | 05:31 | 18:18 | 19:00 | 19:51 |
| 58 | 04:04 | 04:53 | 05:32 | 18:16 | 18:55 | 19:43 |
| 56 | 04:11 | 04:56 | 05:34 | 18:14 | 18:52 | 19:37 |
| 54 | 04:17 | 05:00 | 05:35 | 18:13 | 18:49 | 19:31 |
| 52 | 04:22 | 05:02 | 05:36 | 18:12 | 18:46 | 19:26 |
| 50 | 04:26 | 05:05 | 05:38 | 18:11 | 18:43 | 19:22 |
| 45 | 04:36 | 05:11 | 05:40 | 18:09 | 18:38 | 19:13 |
| 40 | 04:43 | 05:15 | 05:42 | 18:07 | 18:34 | 19:06 |
| 35 | 04:49 | 05:18 | 05:44 | 18:05 | 18:31 | 19:00 |
| 30 | 04:53 | 05:21 | 05:45 | 18:04 | 18:28 | 18:56 |
| 20 | 05:00 | 05:26 | 05:48 | 18:02 | 18:24 | 18:49 |
| 10 | 05:04 | 05:29 | 05:50 | 18:00 | 18:21 | 18:45 |
| 0 | 05:07 | 05:31 | 05:52 | 17:58 | 18:19 | 18:43 |
| -10 | 05:08 | 05:32 | 05:53 | 17:56 | 18:17 | 18:42 |
| -20 | 05:07 | 05:33 | 05:55 | 17:55 | 18:17 | 18:42 |
| -30 | 05:05 | 05:33 | 05:57 | 17:53 | 18:17 | 18:45 |
| -35 | 05:03 | 05:33 | 05:58 | 17:52 | 18:17 | 18:47 |
| -40 | 05:01 | 05:32 | 05:59 | 17:51 | 18:18 | 18:50 |
| -45 | 04:57 | 05:31 | 06:00 | 17:50 | 18:19 | 18:53 |
| -50 | 04:52 | 05:30 | 06:02 | 17:49 | 18:21 | 18:59 |
| -52 | 04:50 | 05:29 | 06:02 | 17:48 | 18:22 | 19:01 |
| -54 | 04:47 | 05:28 | 06:03 | 17:47 | 18:23 | 19:04 |
| -56 | 04:44 | 05:27 | 06:04 | 17:47 | 18:24 | 19:07 |
| -58 | 04:40 | 05:26 | 06:05 | 17:46 | 18:25 | 19:11 |
| -60 | 04:36 | 05:24 | 06:06 | 17:45 | 18:27 | 19:16 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **16** | **17** | **18** | **16** | **17** | **18** |
| 72 | | | 23:52 | | | 20:11 |
| 70 | | | –:– | | | 19:27 |
| 68 | | 22:15 | –:– | | 20:02 | 18:57 |
| 66 | | 23:10 | –:– | | 19:07 | 18:35 |
| 64 | 21:15 | 23:42 | –:– | 19:09 | 18:33 | 18:17 |
| 62 | 22:07 | –:– | 00:06 | 18:16 | 18:08 | 18:02 |
| 60 | 22:39 | –:– | 00:25 | 17:44 | 17:49 | 17:50 |
| 58 | 23:02 | –:– | 00:40 | 17:20 | 17:32 | 17:39 |
| 56 | 23:21 | –:– | 00:53 | 17:00 | 17:19 | 17:30 |
| 54 | 23:37 | –:– | 01:05 | 16:44 | 17:06 | 17:21 |
| 52 | 23:51 | –:– | 01:15 | 16:30 | 16:56 | 17:14 |
| 50 | –:– | 00:03 | 01:24 | 16:18 | 16:46 | 17:07 |
| 45 | –:– | 00:27 | 01:43 | 15:52 | 16:26 | 16:52 |
| 40 | –:– | 00:47 | 01:58 | 15:32 | 16:09 | 16:40 |
| 35 | –:– | 01:03 | 02:11 | 15:14 | 15:55 | 16:29 |
| 30 | 00:11 | 01:17 | 02:22 | 15:00 | 15:43 | 16:20 |
| 20 | 00:39 | 01:41 | 02:41 | 14:34 | 15:22 | 16:04 |
| 10 | 01:02 | 02:02 | 02:58 | 14:12 | 15:04 | 15:50 |
| 0 | 01:24 | 02:21 | 03:13 | 13:52 | 14:46 | 15:37 |
| -10 | 01:46 | 02:40 | 03:29 | 13:31 | 14:29 | 15:23 |
| -20 | 02:09 | 03:00 | 03:45 | 13:09 | 14:10 | 15:09 |
| -30 | 02:36 | 03:24 | 04:04 | 12:43 | 13:49 | 14:52 |
| -35 | 02:52 | 03:37 | 04:14 | 12:27 | 13:36 | 14:43 |
| -40 | 03:11 | 03:53 | 04:27 | 12:09 | 13:21 | 14:32 |
| -45 | 03:33 | 04:12 | 04:41 | 11:48 | 13:03 | 14:18 |
| -50 | 04:01 | 04:35 | 04:59 | 11:20 | 12:41 | 14:02 |
| -52 | 04:15 | 04:46 | 05:07 | 11:07 | 12:31 | 13:55 |
| -54 | 04:31 | 04:59 | 05:16 | 10:51 | 12:19 | 13:46 |
| -56 | 04:50 | 05:13 | 05:27 | 10:32 | 12:05 | 13:36 |
| -58 | 05:13 | 05:30 | 05:39 | 10:10 | 11:48 | 13:26 |
| -60 | 05:44 | 05:51 | 05:52 | 09:40 | 11:29 | 13:13 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **16** | 05:03 | 05:14 | 11:55 | 07:38 | 20:06 | 24 | 33 |
| **17** | 05:25 | 05:35 | 11:54 | 08:34 | 21:00 | 25 | 23 |
| **18** | 05:46 | 05:57 | 11:54 | 09:25 | 21:49 | 26 | 15 |

## 2025 September 19, 20, 21 (Fri, Sat, Sun)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.1 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 19 Friday | 0 | 358 9.3 | 206 21.1 | 12 33.5 | 152 21.1 | -10 38.0 | 245 37.5 | 21 49.3 | 358 21.8 | -2 49.5 |
| | 1 | 13 11.7 | 221 20.6 | 12 32.5 | 167 21.9 | -10 38.6 | 260 39.5 | 21 49.3 | 13 24.5 | -2 49.6 |
| | 2 | 28 14.2 | 236 20.1 | 12 31.5 | 182 22.8 | -10 39.2 | 275 41.6 | 21 49.2 | 28 27.1 | -2 49.6 |
| | 3 | 43 16.7 | 251 19.6 | 12 30.5 | 197 23.7 | -10 39.8 | 290 43.7 | 21 49.2 | 43 29.8 | -2 49.7 |
| | 4 | 58 19.1 | 266 19.1 | 12 29.5 | 212 24.6 | -10 40.5 | 305 45.7 | 21 49.1 | 58 32.4 | -2 49.8 |
| | 5 | 73 21.6 | 281 18.6 | 12 28.5 | 227 25.5 | -10 41.1 | 320 47.8 | 21 49.1 | 73 35.1 | -2 49.9 |
| | 6 | 88 24.1 | 296 18.1 | 12 27.6 | 242 26.4 | -10 41.7 | 335 49.9 | 21 49.0 | 88 37.7 | -2 49.9 |
| | 7 | 103 26.5 | 311 17.6 | 12 26.6 | 257 27.3 | -10 42.3 | 350 52.0 | 21 49.0 | 103 40.3 | -2 50.0 |
| | 8 | 118 29.0 | 326 17.1 | 12 25.6 | 272 28.1 | -10 43.0 | 5 54.0 | 21 48.9 | 118 43.0 | -2 50.1 |
| | 9 | 133 31.4 | 341 16.6 | 12 24.6 | 287 29.0 | -10 43.6 | 20 56.1 | 21 48.9 | 133 45.6 | -2 50.2 |
| | 10 | 148 33.9 | 356 16.1 | 12 23.6 | 302 29.9 | -10 44.2 | 35 58.2 | 21 48.8 | 148 48.3 | -2 50.3 |
| | 11 | 163 36.4 | 11 15.7 | 12 22.6 | 317 30.8 | -10 44.8 | 51 0.2 | 21 48.8 | 163 50.9 | -2 50.3 |
| | 12 | 178 38.8 | 26 15.2 | 12 21.6 | 332 31.7 | -10 45.5 | 66 2.3 | 21 48.7 | 178 53.5 | -2 50.4 |
| | 13 | 193 41.3 | 41 14.7 | 12 20.6 | 347 32.6 | -10 46.1 | 81 4.4 | 21 48.6 | 193 56.2 | -2 50.5 |
| | 14 | 208 43.8 | 56 14.2 | 12 19.6 | 2 33.4 | -10 46.7 | 96 6.5 | 21 48.6 | 208 58.8 | -2 50.6 |
| | 15 | 223 46.2 | 71 13.7 | 12 18.6 | 17 34.3 | -10 47.3 | 111 8.5 | 21 48.5 | 224 1.5 | -2 50.7 |
| | 16 | 238 48.7 | 86 13.2 | 12 17.7 | 32 35.2 | -10 47.9 | 126 10.6 | 21 48.5 | 239 4.1 | -2 50.7 |
| | 17 | 253 51.2 | 101 12.7 | 12 16.7 | 47 36.1 | -10 48.6 | 141 12.7 | 21 48.4 | 254 6.7 | -2 50.8 |
| | 18 | 268 53.6 | 116 12.2 | 12 15.7 | 62 37.0 | -10 49.2 | 156 14.7 | 21 48.4 | 269 9.4 | -2 50.9 |
| | 19 | 283 56.1 | 131 11.7 | 12 14.7 | 77 37.9 | -10 49.8 | 171 16.8 | 21 48.3 | 284 12.0 | -2 51.0 |
| | 20 | 298 58.6 | 146 11.2 | 12 13.7 | 92 38.7 | -10 50.4 | 186 18.9 | 21 48.3 | 299 14.7 | -2 51.1 |
| | 21 | 314 1.0 | 161 10.7 | 12 12.7 | 107 39.6 | -10 51.1 | 201 21.0 | 21 48.2 | 314 17.3 | -2 51.1 |
| | 22 | 329 3.5 | 176 10.2 | 12 11.7 | 122 40.5 | -10 51.7 | 216 23.0 | 21 48.2 | 329 20.0 | -2 51.2 |
| | 23 | 344 5.9 | 191 9.8 | 12 10.7 | 137 41.4 | -10 52.3 | 231 25.1 | 21 48.1 | 344 22.6 | -2 51.3 |
| | | MP 00:09 | *v* -0.5 | *d* -1.0 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Saturday | 0 | 359 8.4 | 206 9.3 | 12 9.7 | 152 42.3 | -10 52.9 | 246 27.2 | 21 48.1 | 359 25.2 | -2 51.4 |
| | 1 | 14 10.9 | 221 8.8 | 12 8.7 | 167 43.2 | -10 53.5 | 261 29.3 | 21 48.0 | 14 27.9 | -2 51.4 |
| | 2 | 29 13.3 | 236 8.3 | 12 7.7 | 182 44.0 | -10 54.2 | 276 31.3 | 21 48.0 | 29 30.5 | -2 51.5 |
| | 3 | 44 15.8 | 251 7.8 | 12 6.7 | 197 44.9 | -10 54.8 | 291 33.4 | 21 47.9 | 44 33.2 | -2 51.6 |
| | 4 | 59 18.3 | 266 7.3 | 12 5.7 | 212 45.8 | -10 55.4 | 306 35.5 | 21 47.9 | 59 35.8 | -2 51.7 |
| | 5 | 74 20.7 | 281 6.8 | 12 4.7 | 227 46.7 | -10 56.0 | 321 37.6 | 21 47.8 | 74 38.4 | -2 51.8 |
| | 6 | 89 23.2 | 296 6.3 | 12 3.7 | 242 47.6 | -10 56.6 | 336 39.6 | 21 47.8 | 89 41.1 | -2 51.8 |
| | 7 | 104 25.7 | 311 5.8 | 12 2.7 | 257 48.4 | -10 57.3 | 351 41.7 | 21 47.7 | 104 43.7 | -2 51.9 |
| | 8 | 119 28.1 | 326 5.4 | 12 1.7 | 272 49.3 | -10 57.9 | 6 43.8 | 21 47.7 | 119 46.4 | -2 52.0 |
| | 9 | 134 30.6 | 341 4.9 | 12 0.7 | 287 50.2 | -10 58.5 | 21 45.9 | 21 47.6 | 134 49.0 | -2 52.1 |
| | 10 | 149 33.0 | 356 4.4 | 11 59.7 | 302 51.1 | -10 59.1 | 36 47.9 | 21 47.6 | 149 51.7 | -2 52.2 |
| | 11 | 164 35.5 | 11 3.9 | 11 58.7 | 317 52.0 | -10 59.7 | 51 50.0 | 21 47.5 | 164 54.3 | -2 52.2 |
| | 12 | 179 38.0 | 26 3.4 | 11 57.7 | 332 52.8 | -11 0.4 | 66 52.1 | 21 47.5 | 179 56.9 | -2 52.3 |
| | 13 | 194 40.4 | 41 2.9 | 11 56.6 | 347 53.7 | -11 1.0 | 81 54.2 | 21 47.4 | 194 59.6 | -2 52.4 |
| | 14 | 209 42.9 | 56 2.4 | 11 55.6 | 2 54.6 | -11 1.6 | 96 56.2 | 21 47.4 | 210 2.2 | -2 52.5 |
| | 15 | 224 45.4 | 71 2.0 | 11 54.6 | 17 55.5 | -11 2.2 | 111 58.3 | 21 47.3 | 225 4.9 | -2 52.6 |
| | 16 | 239 47.8 | 86 1.5 | 11 53.6 | 32 56.4 | -11 2.8 | 127 0.4 | 21 47.3 | 240 7.5 | -2 52.6 |
| | 17 | 254 50.3 | 101 1.0 | 11 52.6 | 47 57.2 | -11 3.5 | 142 2.5 | 21 47.2 | 255 10.1 | -2 52.7 |
| | 18 | 269 52.8 | 116 0.5 | 11 51.6 | 62 58.1 | -11 4.1 | 157 4.6 | 21 47.2 | 270 12.8 | -2 52.8 |
| | 19 | 284 55.2 | 131 0.0 | 11 50.6 | 77 59.0 | -11 4.7 | 172 6.6 | 21 47.1 | 285 15.4 | -2 52.9 |
| | 20 | 299 57.7 | 145 59.5 | 11 49.6 | 92 59.9 | -11 5.3 | 187 8.7 | 21 47.1 | 300 18.1 | -2 52.9 |
| | 21 | 315 0.2 | 160 59.1 | 11 48.6 | 108 0.7 | -11 5.9 | 202 10.8 | 21 47.0 | 315 20.7 | -2 53.0 |
| | 22 | 330 2.6 | 175 58.6 | 11 47.6 | 123 1.6 | -11 6.6 | 217 12.9 | 21 46.9 | 330 23.4 | -2 53.1 |
| | 23 | 345 5.1 | 190 58.1 | 11 46.6 | 138 2.5 | -11 7.2 | 232 14.9 | 21 46.9 | 345 26.0 | -2 53.2 |
| | | MP 00:05 | *v* -0.5 | *d* -1.0 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 Sunday | 0 | 0 7.5 | 205 57.6 | 11 45.5 | 153 3.4 | -11 7.8 | 247 17.0 | 21 46.8 | 0 28.6 | -2 53.3 |
| | 1 | 15 10.0 | 220 57.1 | 11 44.5 | 168 4.2 | -11 8.4 | 262 19.1 | 21 46.8 | 15 31.3 | -2 53.3 |
| | 2 | 30 12.5 | 235 56.6 | 11 43.5 | 183 5.1 | -11 9.0 | 277 21.2 | 21 46.7 | 30 33.9 | -2 53.4 |
| | 3 | 45 14.9 | 250 56.2 | 11 42.5 | 198 6.0 | -11 9.7 | 292 23.3 | 21 46.7 | 45 36.6 | -2 53.5 |
| | 4 | 60 17.4 | 265 55.7 | 11 41.5 | 213 6.9 | -11 10.3 | 307 25.3 | 21 46.6 | 60 39.2 | -2 53.6 |
| | 5 | 75 19.9 | 280 55.2 | 11 40.5 | 228 7.8 | -11 10.9 | 322 27.4 | 21 46.6 | 75 41.8 | -2 53.7 |
| | 6 | 90 22.3 | 295 54.7 | 11 39.5 | 243 8.6 | -11 11.5 | 337 29.5 | 21 46.5 | 90 44.5 | -2 53.7 |
| | 7 | 105 24.8 | 310 54.2 | 11 38.4 | 258 9.5 | -11 12.1 | 352 31.6 | 21 46.5 | 105 47.1 | -2 53.8 |
| | 8 | 120 27.3 | 325 53.8 | 11 37.4 | 273 10.4 | -11 12.8 | 7 33.7 | 21 46.4 | 120 49.8 | -2 53.9 |
| | 9 | 135 29.7 | 340 53.3 | 11 36.4 | 288 11.3 | -11 13.4 | 22 35.8 | 21 46.4 | 135 52.4 | -2 54.0 |
| | 10 | 150 32.2 | 355 52.8 | 11 35.4 | 303 12.1 | -11 14.0 | 37 37.8 | 21 46.3 | 150 55.1 | -2 54.0 |
| | 11 | 165 34.6 | 10 52.3 | 11 34.4 | 318 13.0 | -11 14.6 | 52 39.9 | 21 46.3 | 165 57.7 | -2 54.1 |
| | 12 | 180 37.1 | 25 51.8 | 11 33.3 | 333 13.9 | -11 15.2 | 67 42.0 | 21 46.2 | 181 0.3 | -2 54.2 |
| | 13 | 195 39.6 | 40 51.4 | 11 32.3 | 348 14.7 | -11 15.8 | 82 44.1 | 21 46.2 | 196 3.0 | -2 54.3 |
| | 14 | 210 42.0 | 55 50.9 | 11 31.3 | 3 15.6 | -11 16.5 | 97 46.2 | 21 46.1 | 211 5.6 | -2 54.4 |
| | 15 | 225 44.5 | 70 50.4 | 11 30.3 | 18 16.5 | -11 17.1 | 112 48.2 | 21 46.1 | 226 8.3 | -2 54.4 |
| | 16 | 240 47.0 | 85 49.9 | 11 29.3 | 33 17.4 | -11 17.7 | 127 50.3 | 21 46.0 | 241 10.9 | -2 54.5 |
| | 17 | 255 49.4 | 100 49.4 | 11 28.2 | 48 18.2 | -11 18.3 | 142 52.4 | 21 46.0 | 256 13.5 | -2 54.6 |
| | 18 | 270 51.9 | 115 49.0 | 11 27.2 | 63 19.1 | -11 18.9 | 157 54.5 | 21 45.9 | 271 16.2 | -2 54.7 |
| | 19 | 285 54.4 | 130 48.5 | 11 26.2 | 78 20.0 | -11 19.5 | 172 56.6 | 21 45.9 | 286 18.8 | -2 54.8 |
| | 20 | 300 56.8 | 145 48.0 | 11 25.2 | 93 20.9 | -11 20.2 | 187 58.7 | 21 45.8 | 301 21.5 | -2 54.8 |
| | 21 | 315 59.3 | 160 47.5 | 11 24.1 | 108 21.7 | -11 20.8 | 203 0.8 | 21 45.8 | 316 24.1 | -2 54.9 |
| | 22 | 331 1.8 | 175 47.1 | 11 23.1 | 123 22.6 | -11 21.4 | 218 2.8 | 21 45.7 | 331 26.8 | -2 55.0 |
| | 23 | 346 4.2 | 190 46.6 | 11 22.1 | 138 23.5 | -11 22.0 | 233 4.9 | 21 45.7 | 346 29.4 | -2 55.1 |
| | | MP 00:01 | *v* -0.5 | *d* -1.0 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.0 | -40 11.8 |
| Achernar | 335 19.2 | -57 6.1 |
| Acrux | 173 0.2 | -63 14.5 |
| Adhara | 255 5.5 | -29 0.1 |
| Aldebaran | 290 38.9 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.3 |
| Alkaid | 152 51.9 | 49 11.2 |
| Alnair | 27 31.7 | -46 50.2 |
| Alnilam | 275 37.1 | -1 10.9 |
| Alphard | 217 47.5 | -8 46.0 |
| Alphecca | 126 3.4 | 26 37.9 |
| Alpheratz | 357 33.8 | 29 14.1 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.8 |
| Antares | 112 15.2 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.1 |
| Atria | 107 9.1 | -69 4.7 |
| Avior | 234 14.9 | -59 35.2 |
| Bellatrix | 278 22.2 | 6 22.5 |
| Betelgeuse | 270 51.5 | 7 24.8 |
| Canopus | 263 52.2 | -52 42.2 |
| Capella | 280 21.0 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.5 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.5 |
| Dubhe | 193 40.9 | 61 36.7 |
| Elnath | 278 1.1 | 28 37.7 |
| Eltanin | 90 41.9 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.4 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.7 | -60 29.9 |
| Hamal | 327 50.3 | 23 35.1 |
| Kaus Aust. | 83 31.7 | -34 22.4 |
| Kochab | 137 20.5 | 74 3.1 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.3 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.9 | -69 49.1 |
| Mirfak | 308 27.2 | 49 57.1 |
| Nunki | 75 46.9 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.3 |
| Pollux | 243 16.8 | 27 57.8 |
| Procyon | 244 50.4 | 5 9.7 |
| Rasalhague | 95 58.0 | 12 32.6 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.3 | -8 10.1 |
| Rigil Kent. | 139 40.0 | -60 56.6 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 29.9 | 56 40.7 |
| Shaula | 96 9.6 | -37 7.4 |
| Sirius | 258 25.8 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.2 | -43 31.9 |
| Vega | 80 32.7 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 19 Fri | SHA | MP |
|---|---|---|
| Venus | 208 11.8 | 10:15 |
| Mars | 154 11.8 | 13:50 |
| Jupiter | 247 28.2 | 07:36 |
| Saturn | 0 12.6 | 00:07 |

| 20 Sat | SHA | MP |
|---|---|---|
| Venus | 207 0.9 | 10:16 |
| Mars | 153 33.9 | 13:48 |
| Jupiter | 247 18.8 | 07:33 |
| Saturn | 0 16.8 | 00:02 |

| 21 Sun | SHA | MP |
|---|---|---|
| Venus | 205 50.1 | 10:16 |
| Mars | 152 55.8 | 13:47 |
| Jupiter | 247 9.5 | 07:30 |
| Saturn | 0 21.1 | 23:54 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **19 Friday** | 0 | 181 31.9 | 1 27.8 | 211 42.1 | 12.8 | 15 50.7 | -13.3 | 56.5 |
| | 1 | 196 32.1 | 1 26.8 | 226 13.9 | 12.9 | 15 37.4 | -13.4 | 56.5 |
| | 2 | 211 32.3 | 1 25.8 | 240 45.8 | 12.9 | 15 24.0 | -13.4 | 56.5 |
| | 3 | 226 32.5 | 1 24.9 | 255 17.7 | 13.0 | 15 10.6 | -13.5 | 56.5 |
| | 4 | 241 32.8 | 1 23.9 | 269 49.7 | 13.1 | 14 57.1 | -13.5 | 56.5 |
| | 5 | 256 33.0 | 1 22.9 | 284 21.8 | 13.2 | 14 43.6 | -13.6 | 56.4 |
| | 6 | 271 33.2 | 1 22.0 | 298 54.0 | 13.3 | 14 30.0 | -13.6 | 56.4 |
| | 7 | 286 33.4 | 1 21.0 | 313 26.3 | 13.4 | 14 16.4 | -13.7 | 56.4 |
| | 8 | 301 33.7 | 1 20.0 | 327 58.6 | 13.4 | 14 2.7 | -13.8 | 56.4 |
| | 9 | 316 33.9 | 1 19.0 | 342 31.1 | 13.5 | 13 48.9 | -13.8 | 56.4 |
| | 10 | 331 34.1 | 1 18.1 | 357 3.6 | 13.6 | 13 35.1 | -13.9 | 56.3 |
| | 11 | 346 34.3 | 1 17.1 | 11 36.2 | 13.7 | 13 21.2 | -13.9 | 56.3 |
| | 12 | 1 34.5 | 1 16.1 | 26 8.9 | 13.7 | 13 7.3 | -14.0 | 56.3 |
| | 13 | 16 34.8 | 1 15.2 | 40 41.6 | 13.8 | 12 53.4 | -14.0 | 56.3 |
| | 14 | 31 35.0 | 1 14.2 | 55 14.4 | 13.9 | 12 39.4 | -14.0 | 56.3 |
| | 15 | 46 35.2 | 1 13.2 | 69 47.3 | 14.0 | 12 25.3 | -14.1 | 56.2 |
| | 16 | 61 35.4 | 1 12.3 | 84 20.3 | 14.0 | 12 11.2 | -14.1 | 56.2 |
| | 17 | 76 35.7 | 1 11.3 | 98 53.3 | 14.1 | 11 57.1 | -14.2 | 56.2 |
| | 18 | 91 35.9 | 1 10.3 | 113 26.4 | 14.2 | 11 42.9 | -14.2 | 56.2 |
| | 19 | 106 36.1 | 1 9.3 | 127 59.6 | 14.2 | 11 28.7 | -14.3 | 56.2 |
| | 20 | 121 36.3 | 1 8.4 | 142 32.9 | 14.3 | 11 14.5 | -14.3 | 56.1 |
| | 21 | 136 36.5 | 1 7.4 | 157 6.2 | 14.4 | 11 0.2 | -14.3 | 56.1 |
| | 22 | 151 36.8 | 1 6.4 | 171 39.5 | 14.4 | 10 45.9 | -14.4 | 56.1 |
| | 23 | 166 37.0 | 1 5.5 | 186 13.0 | 14.5 | 10 31.5 | -14.4 | 56.1 |
| | *v* | 0.2 | SD 15.9 | *d* -1.0 | | SD 15.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Saturday** | 0 | 181 37.2 | 1 4.5 | 200 46.5 | 14.6 | 10 17.1 | -14.4 | 56.1 |
| | 1 | 196 37.4 | 1 3.5 | 215 20.1 | 14.6 | 10 2.7 | -14.5 | 56.0 |
| | 2 | 211 37.7 | 1 2.5 | 229 53.7 | 14.7 | 9 48.2 | -14.5 | 56.0 |
| | 3 | 226 37.9 | 1 1.6 | 244 27.4 | 14.8 | 9 33.7 | -14.5 | 56.0 |
| | 4 | 241 38.1 | 1 0.6 | 259 1.2 | 14.8 | 9 19.2 | -14.6 | 56.0 |
| | 5 | 256 38.3 | 0 59.6 | 273 35.0 | 14.9 | 9 4.6 | -14.6 | 56.0 |
| | 6 | 271 38.5 | 0 58.7 | 288 8.9 | 14.9 | 8 50.1 | -14.6 | 55.9 |
| | 7 | 286 38.8 | 0 57.7 | 302 42.8 | 15.0 | 8 35.5 | -14.6 | 55.9 |
| | 8 | 301 39.0 | 0 56.7 | 317 16.8 | 15.0 | 8 20.8 | -14.7 | 55.9 |
| | 9 | 316 39.2 | 0 55.7 | 331 50.8 | 15.1 | 8 6.2 | -14.7 | 55.9 |
| | 10 | 331 39.4 | 0 54.8 | 346 24.9 | 15.1 | 7 51.5 | -14.7 | 55.9 |
| | 11 | 346 39.6 | 0 53.8 | 0 59.1 | 15.2 | 7 36.8 | -14.7 | 55.8 |
| | 12 | 1 39.9 | 0 52.8 | 15 33.3 | 15.2 | 7 22.1 | -14.7 | 55.8 |
| | 13 | 16 40.1 | 0 51.9 | 30 7.5 | 15.3 | 7 7.3 | -14.8 | 55.8 |
| | 14 | 31 40.3 | 0 50.9 | 44 41.8 | 15.3 | 6 52.6 | -14.8 | 55.8 |
| | 15 | 46 40.5 | 0 49.9 | 59 16.1 | 15.4 | 6 37.8 | -14.8 | 55.8 |
| | 16 | 61 40.8 | 0 48.9 | 73 50.5 | 15.4 | 6 23.0 | -14.8 | 55.7 |
| | 17 | 76 41.0 | 0 48.0 | 88 25.0 | 15.5 | 6 8.2 | -14.8 | 55.7 |
| | 18 | 91 41.2 | 0 47.0 | 102 59.4 | 15.5 | 5 53.4 | -14.8 | 55.7 |
| | 19 | 106 41.4 | 0 46.0 | 117 34.0 | 15.6 | 5 38.6 | -14.8 | 55.7 |
| | 20 | 121 41.6 | 0 45.1 | 132 8.5 | 15.6 | 5 23.7 | -14.9 | 55.7 |
| | 21 | 136 41.9 | 0 44.1 | 146 43.1 | 15.6 | 5 8.9 | -14.9 | 55.6 |
| | 22 | 151 42.1 | 0 43.1 | 161 17.8 | 15.7 | 4 54.0 | -14.9 | 55.6 |
| | 23 | 166 42.3 | 0 42.1 | 175 52.5 | 15.7 | 4 39.1 | -14.9 | 55.6 |
| | *v* | 0.2 | SD 15.9 | *d* -1.0 | | SD 15.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **21 Sunday** | 0 | 181 42.5 | 0 41.2 | 190 27.2 | 15.8 | 4 24.2 | -14.9 | 55.6 |
| | 1 | 196 42.7 | 0 40.2 | 205 2.0 | 15.8 | 4 9.3 | -14.9 | 55.6 |
| | 2 | 211 43.0 | 0 39.2 | 219 36.8 | 15.8 | 3 54.4 | -14.9 | 55.5 |
| | 3 | 226 43.2 | 0 38.3 | 234 11.6 | 15.9 | 3 39.5 | -14.9 | 55.5 |
| | 4 | 241 43.4 | 0 37.3 | 248 46.5 | 15.9 | 3 24.6 | -14.9 | 55.5 |
| | 5 | 256 43.6 | 0 36.3 | 263 21.3 | 15.9 | 3 9.7 | -14.9 | 55.5 |
| | 6 | 271 43.8 | 0 35.3 | 277 56.3 | 16.0 | 2 54.8 | -14.9 | 55.5 |
| | 7 | 286 44.1 | 0 34.4 | 292 31.2 | 16.0 | 2 39.9 | -14.9 | 55.4 |
| | 8 | 301 44.3 | 0 33.4 | 307 6.2 | 16.0 | 2 25.0 | -14.9 | 55.4 |
| | 9 | 316 44.5 | 0 32.4 | 321 41.2 | 16.0 | 2 10.0 | -14.9 | 55.4 |
| | 10 | 331 44.7 | 0 31.4 | 336 16.3 | 16.1 | 1 55.1 | -14.9 | 55.4 |
| | 11 | 346 44.9 | 0 30.5 | 350 51.3 | 16.1 | 1 40.2 | -14.9 | 55.4 |
| | 12 | 1 45.2 | 0 29.5 | 5 26.4 | 16.1 | 1 25.3 | -14.9 | 55.4 |
| | 13 | 16 45.4 | 0 28.5 | 20 1.6 | 16.1 | 1 10.4 | -14.9 | 55.3 |
| | 14 | 31 45.6 | 0 27.6 | 34 36.7 | 16.2 | 0 55.5 | -14.9 | 55.3 |
| | 15 | 46 45.8 | 0 26.6 | 49 11.8 | 16.2 | 0 40.6 | -14.9 | 55.3 |
| | 16 | 61 46.0 | 0 25.6 | 63 47.0 | 16.2 | 0 25.7 | -14.9 | 55.3 |
| | 17 | 76 46.3 | 0 24.6 | 78 22.2 | 16.2 | 0 10.9 | -14.9 | 55.3 |
| | 18 | 91 46.5 | 0 23.7 | 92 57.4 | 16.2 | -0 4.0 | 14.9 | 55.2 |
| | 19 | 106 46.7 | 0 22.7 | 107 32.7 | 16.3 | -0 18.9 | 14.8 | 55.2 |
| | 20 | 121 46.9 | 0 21.7 | 122 7.9 | 16.3 | -0 33.7 | 14.8 | 55.2 |
| | 21 | 136 47.1 | 0 20.7 | 136 43.2 | 16.3 | -0 48.6 | 14.8 | 55.2 |
| | 22 | 151 47.4 | 0 19.8 | 151 18.5 | 16.3 | -1 3.4 | 14.8 | 55.2 |
| | 23 | 166 47.6 | 0 18.8 | 165 53.8 | 16.3 | -1 18.2 | 14.8 | 55.2 |
| | *v* | 0.2 | SD 15.9 | *d* -1.0 | | SD 15.2 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 02:40 | 04:16 | 05:26 | 18:19 | 19:28 | 21:02 |
| 70 | 03:04 | 04:26 | 05:29 | 18:16 | 19:18 | 20:39 |
| 68 | 03:22 | 04:35 | 05:31 | 18:14 | 19:10 | 20:22 |
| 66 | 03:36 | 04:41 | 05:33 | 18:12 | 19:04 | 20:09 |
| 64 | 03:47 | 04:47 | 05:35 | 18:11 | 18:59 | 19:58 |
| 62 | 03:57 | 04:52 | 05:36 | 18:10 | 18:54 | 19:48 |
| 60 | 04:05 | 04:56 | 05:38 | 18:08 | 18:50 | 19:41 |
| 58 | 04:12 | 04:59 | 05:39 | 18:07 | 18:47 | 19:34 |
| 56 | 04:18 | 05:02 | 05:40 | 18:07 | 18:44 | 19:28 |
| 54 | 04:23 | 05:05 | 05:41 | 18:06 | 18:41 | 19:23 |
| 52 | 04:27 | 05:08 | 05:41 | 18:05 | 18:39 | 19:19 |
| 50 | 04:31 | 05:10 | 05:42 | 18:04 | 18:37 | 19:15 |
| 45 | 04:40 | 05:14 | 05:44 | 18:03 | 18:32 | 19:07 |
| 40 | 04:46 | 05:18 | 05:45 | 18:02 | 18:29 | 19:01 |
| 35 | 04:51 | 05:21 | 05:46 | 18:01 | 18:26 | 18:56 |
| 30 | 04:55 | 05:23 | 05:47 | 18:00 | 18:24 | 18:52 |
| 20 | 05:01 | 05:26 | 05:48 | 17:59 | 18:21 | 18:46 |
| 10 | 05:04 | 05:28 | 05:49 | 17:58 | 18:19 | 18:43 |
| 0 | 05:06 | 05:30 | 05:50 | 17:57 | 18:18 | 18:42 |
| -10 | 05:06 | 05:30 | 05:51 | 17:56 | 18:17 | 18:42 |
| -20 | 05:05 | 05:30 | 05:52 | 17:55 | 18:17 | 18:43 |
| -30 | 05:02 | 05:29 | 05:53 | 17:55 | 18:19 | 18:46 |
| -35 | 04:59 | 05:28 | 05:54 | 17:54 | 18:20 | 18:49 |
| -40 | 04:56 | 05:27 | 05:54 | 17:54 | 18:21 | 18:53 |
| -45 | 04:51 | 05:25 | 05:55 | 17:54 | 18:23 | 18:57 |
| -50 | 04:45 | 05:23 | 05:55 | 17:53 | 18:25 | 19:03 |
| -52 | 04:42 | 05:22 | 05:55 | 17:53 | 18:27 | 19:06 |
| -54 | 04:39 | 05:21 | 05:56 | 17:53 | 18:28 | 19:10 |
| -56 | 04:35 | 05:19 | 05:56 | 17:53 | 18:30 | 19:14 |
| -58 | 04:31 | 05:17 | 05:56 | 17:52 | 18:32 | 19:18 |
| -60 | 04:26 | 05:15 | 05:57 | 17:52 | 18:34 | 19:23 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **19** | **20** | **21** | **19** | **20** | **21** |
| 72 | –:– | 02:37 | 04:48 | 19:01 | 18:20 | 17:46 |
| 70 | 00:34 | 02:53 | 04:52 | 18:43 | 18:12 | 17:47 |
| 68 | 01:02 | 03:05 | 04:56 | 18:28 | 18:06 | 17:47 |
| 66 | 01:23 | 03:15 | 04:59 | 18:16 | 18:01 | 17:47 |
| 64 | 01:39 | 03:24 | 05:02 | 18:06 | 17:56 | 17:47 |
| 62 | 01:53 | 03:31 | 05:04 | 17:57 | 17:52 | 17:47 |
| 60 | 02:04 | 03:37 | 05:06 | 17:49 | 17:48 | 17:47 |
| 58 | 02:14 | 03:43 | 05:07 | 17:43 | 17:45 | 17:47 |
| 56 | 02:23 | 03:48 | 05:09 | 17:37 | 17:42 | 17:47 |
| 54 | 02:30 | 03:52 | 05:10 | 17:32 | 17:40 | 17:47 |
| 52 | 02:37 | 03:56 | 05:12 | 17:27 | 17:38 | 17:47 |
| 50 | 02:43 | 03:59 | 05:13 | 17:22 | 17:35 | 17:47 |
| 45 | 02:56 | 04:07 | 05:15 | 17:13 | 17:31 | 17:47 |
| 40 | 03:07 | 04:13 | 05:17 | 17:05 | 17:27 | 17:47 |
| 35 | 03:16 | 04:19 | 05:19 | 16:58 | 17:23 | 17:47 |
| 30 | 03:24 | 04:24 | 05:21 | 16:52 | 17:20 | 17:47 |
| 20 | 03:38 | 04:32 | 05:23 | 16:41 | 17:15 | 17:47 |
| 10 | 03:50 | 04:39 | 05:26 | 16:32 | 17:11 | 17:47 |
| 0 | 04:01 | 04:46 | 05:28 | 16:23 | 17:06 | 17:47 |
| -10 | 04:12 | 04:52 | 05:30 | 16:14 | 17:02 | 17:47 |
| -20 | 04:24 | 04:59 | 05:32 | 16:04 | 16:57 | 17:47 |
| -30 | 04:38 | 05:08 | 05:35 | 15:53 | 16:51 | 17:47 |
| -35 | 04:45 | 05:12 | 05:37 | 15:47 | 16:48 | 17:47 |
| -40 | 04:54 | 05:17 | 05:38 | 15:39 | 16:44 | 17:47 |
| -45 | 05:04 | 05:23 | 05:40 | 15:31 | 16:40 | 17:47 |
| -50 | 05:17 | 05:31 | 05:43 | 15:20 | 16:35 | 17:47 |
| -52 | 05:22 | 05:34 | 05:44 | 15:15 | 16:33 | 17:47 |
| -54 | 05:28 | 05:37 | 05:45 | 15:10 | 16:30 | 17:47 |
| -56 | 05:35 | 05:41 | 05:46 | 15:04 | 16:27 | 17:47 |
| -58 | 05:43 | 05:46 | 05:48 | 14:57 | 16:24 | 17:47 |
| -60 | 05:52 | 05:51 | 05:49 | 14:50 | 16:20 | 17:47 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **19** | 06:08 | 06:18 | 11:54 | 10:12 | 22:34 | 27 | 8 |
| **20** | 06:29 | 06:39 | 11:53 | 10:56 | 23:17 | 28 | 3 |
| **21** | 06:50 | 07:01 | 11:53 | 11:38 | 23:58 | 29 | 1 |

## 2025 September 22, 23, 24 (Mon, Tue, Wed)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.1 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 22 Monday | 0 | 1 6.7 | 205 46.1 | 11 21.1 | 153 24.3 | -11 22.6 | 248 7.0 | 21 45.6 | 1 32.0 | -2 55.1 |
| | 1 | 16 9.1 | 220 45.6 | 11 20.0 | 168 25.2 | -11 23.2 | 263 9.1 | 21 45.6 | 16 34.7 | -2 55.2 |
| | 2 | 31 11.6 | 235 45.2 | 11 19.0 | 183 26.1 | -11 23.9 | 278 11.2 | 21 45.5 | 31 37.3 | -2 55.3 |
| | 3 | 46 14.1 | 250 44.7 | 11 18.0 | 198 27.0 | -11 24.5 | 293 13.3 | 21 45.5 | 46 40.0 | -2 55.4 |
| | 4 | 61 16.5 | 265 44.2 | 11 16.9 | 213 27.8 | -11 25.1 | 308 15.4 | 21 45.4 | 61 42.6 | -2 55.5 |
| | 5 | 76 19.0 | 280 43.7 | 11 15.9 | 228 28.7 | -11 25.7 | 323 17.4 | 21 45.4 | 76 45.2 | -2 55.5 |
| | 6 | 91 21.5 | 295 43.3 | 11 14.9 | 243 29.6 | -11 26.3 | 338 19.5 | 21 45.3 | 91 47.9 | -2 55.6 |
| | 7 | 106 23.9 | 310 42.8 | 11 13.9 | 258 30.4 | -11 26.9 | 353 21.6 | 21 45.3 | 106 50.5 | -2 55.7 |
| | 8 | 121 26.4 | 325 42.3 | 11 12.8 | 273 31.3 | -11 27.6 | 8 23.7 | 21 45.2 | 121 53.2 | -2 55.8 |
| | 9 | 136 28.9 | 340 41.8 | 11 11.8 | 288 32.2 | -11 28.2 | 23 25.8 | 21 45.2 | 136 55.8 | -2 55.9 |
| | 10 | 151 31.3 | 355 41.4 | 11 10.8 | 303 33.0 | -11 28.8 | 38 27.9 | 21 45.1 | 151 58.5 | -2 55.9 |
| | 11 | 166 33.8 | 10 40.9 | 11 9.7 | 318 33.9 | -11 29.4 | 53 30.0 | 21 45.1 | 167 1.1 | -2 56.0 |
| | 12 | 181 36.2 | 25 40.4 | 11 8.7 | 333 34.8 | -11 30.0 | 68 32.0 | 21 45.0 | 182 3.7 | -2 56.1 |
| | 13 | 196 38.7 | 40 39.9 | 11 7.7 | 348 35.6 | -11 30.6 | 83 34.1 | 21 45.0 | 197 6.4 | -2 56.2 |
| | 14 | 211 41.2 | 55 39.5 | 11 6.6 | 3 36.5 | -11 31.3 | 98 36.2 | 21 44.9 | 212 9.0 | -2 56.2 |
| | 15 | 226 43.6 | 70 39.0 | 11 5.6 | 18 37.4 | -11 31.9 | 113 38.3 | 21 44.9 | 227 11.7 | -2 56.3 |
| | 16 | 241 46.1 | 85 38.5 | 11 4.6 | 33 38.3 | -11 32.5 | 128 40.4 | 21 44.8 | 242 14.3 | -2 56.4 |
| | 17 | 256 48.6 | 100 38.1 | 11 3.5 | 48 39.1 | -11 33.1 | 143 42.5 | 21 44.8 | 257 16.9 | -2 56.5 |
| | 18 | 271 51.0 | 115 37.6 | 11 2.5 | 63 40.0 | -11 33.7 | 158 44.6 | 21 44.7 | 272 19.6 | -2 56.6 |
| | 19 | 286 53.5 | 130 37.1 | 11 1.4 | 78 40.9 | -11 34.3 | 173 46.7 | 21 44.7 | 287 22.2 | -2 56.6 |
| | 20 | 301 56.0 | 145 36.7 | 11 0.4 | 93 41.7 | -11 34.9 | 188 48.8 | 21 44.6 | 302 24.9 | -2 56.7 |
| | 21 | 316 58.4 | 160 36.2 | 10 59.4 | 108 42.6 | -11 35.6 | 203 50.9 | 21 44.6 | 317 27.5 | -2 56.8 |
| | 22 | 332 0.9 | 175 35.7 | 10 58.3 | 123 43.5 | -11 36.2 | 218 52.9 | 21 44.5 | 332 30.2 | -2 56.9 |
| | 23 | 347 3.4 | 190 35.2 | 10 57.3 | 138 44.3 | -11 36.8 | 233 55.0 | 21 44.5 | 347 32.8 | -2 57.0 |
| | | MP 23:53 | *v* -0.5 | *d* -1.0 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Tuesday | 0 | 2 5.8 | 205 34.8 | 10 56.2 | 153 45.2 | -11 37.4 | 248 57.1 | 21 44.4 | 2 35.4 | -2 57.0 |
| | 1 | 17 8.3 | 220 34.3 | 10 55.2 | 168 46.1 | -11 38.0 | 263 59.2 | 21 44.4 | 17 38.1 | -2 57.1 |
| | 2 | 32 10.7 | 235 33.8 | 10 54.2 | 183 46.9 | -11 38.6 | 279 1.3 | 21 44.3 | 32 40.7 | -2 57.2 |
| | 3 | 47 13.2 | 250 33.4 | 10 53.1 | 198 47.8 | -11 39.2 | 294 3.4 | 21 44.3 | 47 43.4 | -2 57.3 |
| | 4 | 62 15.7 | 265 32.9 | 10 52.1 | 213 48.6 | -11 39.9 | 309 5.5 | 21 44.2 | 62 46.0 | -2 57.3 |
| | 5 | 77 18.1 | 280 32.4 | 10 51.0 | 228 49.5 | -11 40.5 | 324 7.6 | 21 44.2 | 77 48.6 | -2 57.4 |
| | 6 | 92 20.6 | 295 32.0 | 10 50.0 | 243 50.4 | -11 41.1 | 339 9.7 | 21 44.1 | 92 51.3 | -2 57.5 |
| | 7 | 107 23.1 | 310 31.5 | 10 48.9 | 258 51.2 | -11 41.7 | 354 11.8 | 21 44.1 | 107 53.9 | -2 57.6 |
| | 8 | 122 25.5 | 325 31.0 | 10 47.9 | 273 52.1 | -11 42.3 | 9 13.9 | 21 44.0 | 122 56.6 | -2 57.7 |
| | 9 | 137 28.0 | 340 30.6 | 10 46.9 | 288 53.0 | -11 42.9 | 24 16.0 | 21 44.0 | 137 59.2 | -2 57.7 |
| | 10 | 152 30.5 | 355 30.1 | 10 45.8 | 303 53.8 | -11 43.5 | 39 18.0 | 21 43.9 | 153 1.9 | -2 57.8 |
| | 11 | 167 32.9 | 10 29.6 | 10 44.8 | 318 54.7 | -11 44.1 | 54 20.1 | 21 43.9 | 168 4.5 | -2 57.9 |
| | 12 | 182 35.4 | 25 29.2 | 10 43.7 | 333 55.6 | -11 44.8 | 69 22.2 | 21 43.8 | 183 7.1 | -2 58.0 |
| | 13 | 197 37.9 | 40 28.7 | 10 42.7 | 348 56.4 | -11 45.4 | 84 24.3 | 21 43.8 | 198 9.8 | -2 58.0 |
| | 14 | 212 40.3 | 55 28.2 | 10 41.6 | 3 57.3 | -11 46.0 | 99 26.4 | 21 43.7 | 213 12.4 | -2 58.1 |
| | 15 | 227 42.8 | 70 27.8 | 10 40.6 | 18 58.1 | -11 46.6 | 114 28.5 | 21 43.7 | 228 15.1 | -2 58.2 |
| | 16 | 242 45.2 | 85 27.3 | 10 39.5 | 33 59.0 | -11 47.2 | 129 30.6 | 21 43.6 | 243 17.7 | -2 58.3 |
| | 17 | 257 47.7 | 100 26.8 | 10 38.5 | 48 59.9 | -11 47.8 | 144 32.7 | 21 43.6 | 258 20.3 | -2 58.4 |
| | 18 | 272 50.2 | 115 26.4 | 10 37.4 | 64 0.7 | -11 48.4 | 159 34.8 | 21 43.5 | 273 23.0 | -2 58.4 |
| | 19 | 287 52.6 | 130 25.9 | 10 36.4 | 79 1.6 | -11 49.0 | 174 36.9 | 21 43.5 | 288 25.6 | -2 58.5 |
| | 20 | 302 55.1 | 145 25.5 | 10 35.3 | 94 2.5 | -11 49.7 | 189 39.0 | 21 43.4 | 303 28.3 | -2 58.6 |
| | 21 | 317 57.6 | 160 25.0 | 10 34.3 | 109 3.3 | -11 50.3 | 204 41.1 | 21 43.4 | 318 30.9 | -2 58.7 |
| | 22 | 333 0.0 | 175 24.5 | 10 33.2 | 124 4.2 | -11 50.9 | 219 43.2 | 21 43.3 | 333 33.6 | -2 58.8 |
| | 23 | 348 2.5 | 190 24.1 | 10 32.2 | 139 5.0 | -11 51.5 | 234 45.3 | 21 43.3 | 348 36.2 | -2 58.8 |
| | | MP 23:49 | *v* -0.5 | *d* -1.0 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* -0.1 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 Wednesday | 0 | 3 5.0 | 205 23.6 | 10 31.1 | 154 5.9 | -11 52.1 | 249 47.4 | 21 43.2 | 3 38.8 | -2 58.9 |
| | 1 | 18 7.4 | 220 23.1 | 10 30.1 | 169 6.8 | -11 52.7 | 264 49.5 | 21 43.2 | 18 41.5 | -2 59.0 |
| | 2 | 33 9.9 | 235 22.7 | 10 29.0 | 184 7.6 | -11 53.3 | 279 51.6 | 21 43.1 | 33 44.1 | -2 59.1 |
| | 3 | 48 12.3 | 250 22.2 | 10 28.0 | 199 8.5 | -11 53.9 | 294 53.7 | 21 43.1 | 48 46.8 | -2 59.1 |
| | 4 | 63 14.8 | 265 21.8 | 10 26.9 | 214 9.3 | -11 54.5 | 309 55.8 | 21 43.0 | 63 49.4 | -2 59.2 |
| | 5 | 78 17.3 | 280 21.3 | 10 25.8 | 229 10.2 | -11 55.2 | 324 57.9 | 21 43.0 | 78 52.0 | -2 59.3 |
| | 6 | 93 19.7 | 295 20.8 | 10 24.8 | 244 11.1 | -11 55.8 | 340 0.0 | 21 42.9 | 93 54.7 | -2 59.4 |
| | 7 | 108 22.2 | 310 20.4 | 10 23.7 | 259 11.9 | -11 56.4 | 355 2.1 | 21 42.9 | 108 57.3 | -2 59.5 |
| | 8 | 123 24.7 | 325 19.9 | 10 22.7 | 274 12.8 | -11 57.0 | 10 4.2 | 21 42.8 | 124 0.0 | -2 59.5 |
| | 9 | 138 27.1 | 340 19.5 | 10 21.6 | 289 13.6 | -11 57.6 | 25 6.3 | 21 42.8 | 139 2.6 | -2 59.6 |
| | 10 | 153 29.6 | 355 19.0 | 10 20.6 | 304 14.5 | -11 58.2 | 40 8.4 | 21 42.7 | 154 5.3 | -2 59.7 |
| | 11 | 168 32.1 | 10 18.5 | 10 19.5 | 319 15.3 | -11 58.8 | 55 10.5 | 21 42.7 | 169 7.9 | -2 59.8 |
| | 12 | 183 34.5 | 25 18.1 | 10 18.4 | 334 16.2 | -11 59.4 | 70 12.6 | 21 42.6 | 184 10.5 | -2 59.8 |
| | 13 | 198 37.0 | 40 17.6 | 10 17.4 | 349 17.1 | -12 0.0 | 85 14.7 | 21 42.6 | 199 13.2 | -2 59.9 |
| | 14 | 213 39.5 | 55 17.2 | 10 16.3 | 4 17.9 | -12 0.6 | 100 16.8 | 21 42.5 | 214 15.8 | -3 0.0 |
| | 15 | 228 41.9 | 70 16.7 | 10 15.3 | 19 18.8 | -12 1.3 | 115 18.9 | 21 42.5 | 229 18.5 | -3 0.1 |
| | 16 | 243 44.4 | 85 16.2 | 10 14.2 | 34 19.6 | -12 1.9 | 130 21.0 | 21 42.4 | 244 21.1 | -3 0.2 |
| | 17 | 258 46.8 | 100 15.8 | 10 13.1 | 49 20.5 | -12 2.5 | 145 23.1 | 21 42.4 | 259 23.7 | -3 0.2 |
| | 18 | 273 49.3 | 115 15.3 | 10 12.1 | 64 21.3 | -12 3.1 | 160 25.2 | 21 42.3 | 274 26.4 | -3 0.3 |
| | 19 | 288 51.8 | 130 14.9 | 10 11.0 | 79 22.2 | -12 3.7 | 175 27.3 | 21 42.3 | 289 29.0 | -3 0.4 |
| | 20 | 303 54.2 | 145 14.4 | 10 9.9 | 94 23.1 | -12 4.3 | 190 29.4 | 21 42.2 | 304 31.7 | -3 0.5 |
| | 21 | 318 56.7 | 160 14.0 | 10 8.9 | 109 23.9 | -12 4.9 | 205 31.5 | 21 42.2 | 319 34.3 | -3 0.5 |
| | 22 | 333 59.2 | 175 13.5 | 10 7.8 | 124 24.8 | -12 5.5 | 220 33.6 | 21 42.1 | 334 36.9 | -3 0.6 |
| | 23 | 349 1.6 | 190 13.0 | 10 6.7 | 139 25.6 | -12 6.1 | 235 35.7 | 21 42.1 | 349 39.6 | -3 0.7 |
| | | MP 23:45 | *v* -0.5 | *d* -1.1 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.0 | -40 11.8 |
| Achernar | 335 19.2 | -57 6.1 |
| Acrux | 173 0.2 | -63 14.5 |
| Adhara | 255 5.5 | -29 0.1 |
| Aldebaran | 290 38.8 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.3 |
| Alkaid | 152 51.9 | 49 11.2 |
| Alnair | 27 31.8 | -46 50.2 |
| Alnilam | 275 37.1 | -1 10.9 |
| Alphard | 217 47.4 | -8 46.0 |
| Alphecca | 126 3.4 | 26 37.9 |
| Alpheratz | 357 33.8 | 29 14.1 |
| Altair | 61 59.2 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.8 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.6 | 19 3.0 |
| Atria | 107 9.1 | -69 4.6 |
| Avior | 234 14.9 | -59 35.2 |
| Bellatrix | 278 22.2 | 6 22.5 |
| Betelgeuse | 270 51.5 | 7 24.8 |
| Canopus | 263 52.2 | -52 42.2 |
| Capella | 280 21.0 | 46 1.3 |
| Deneb | 49 25.1 | 45 22.6 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.5 |
| Dubhe | 193 40.9 | 61 36.7 |
| Elnath | 278 1.1 | 28 37.7 |
| Eltanin | 90 41.9 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.4 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.9 |
| Hamal | 327 50.3 | 23 35.1 |
| Kaus Aust. | 83 31.7 | -34 22.4 |
| Kochab | 137 20.6 | 74 3.1 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.3 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.9 | -69 49.1 |
| Mirfak | 308 27.1 | 49 57.1 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.4 | -56 39.3 |
| Pollux | 243 16.8 | 27 57.8 |
| Procyon | 244 50.4 | 5 9.7 |
| Rasalhague | 95 58.0 | 12 32.6 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.3 | -8 10.1 |
| Rigil Kent. | 139 40.0 | -60 56.6 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 29.9 | 56 40.8 |
| Shaula | 96 9.6 | -37 7.4 |
| Sirius | 258 25.8 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.2 | -43 31.9 |
| Vega | 80 32.8 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 22 Mon | SHA | MP |
|---|---|---|
| Venus | 204 39.4 | 10:17 |
| Mars | 152 17.7 | 13:46 |
| Jupiter | 247 0.3 | 07:26 |
| Saturn | 0 25.4 | 23:50 |

| 23 Tue | SHA | MP |
|---|---|---|
| Venus | 203 29.0 | 10:18 |
| Mars | 151 39.4 | 13:44 |
| Jupiter | 246 51.3 | 07:23 |
| Saturn | 0 29.6 | 23:45 |

| 24 Wed | SHA | MP |
|---|---|---|
| Venus | 202 18.6 | 10:19 |
| Mars | 151 0.9 | 13:43 |
| Jupiter | 246 42.4 | 07:20 |
| Saturn | 0 33.9 | 23:41 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **22 Monday** | 0 | 181 47.8 | 0 17.8 | 180 29.1 | 16.3 | -1 33.0 | 14.8 | 55.1 |
| | 1 | 196 48.0 | 0 16.9 | 195 4.4 | 16.3 | -1 47.8 | 14.8 | 55.1 |
| | 2 | 211 48.2 | 0 15.9 | 209 39.7 | 16.3 | -2 2.5 | 14.7 | 55.1 |
| | 3 | 226 48.5 | 0 14.9 | 224 15.1 | 16.3 | -2 17.3 | 14.7 | 55.1 |
| | 4 | 241 48.7 | 0 13.9 | 238 50.4 | 16.3 | -2 32.0 | 14.7 | 55.1 |
| | 5 | 256 48.9 | 0 13.0 | 253 25.7 | 16.4 | -2 46.7 | 14.7 | 55.1 |
| | 6 | 271 49.1 | 0 12.0 | 268 1.1 | 16.4 | -3 1.4 | 14.7 | 55.0 |
| | 7 | 286 49.3 | 0 11.0 | 282 36.5 | 16.4 | -3 16.1 | 14.6 | 55.0 |
| | 8 | 301 49.6 | 0 10.0 | 297 11.8 | 16.4 | -3 30.7 | 14.6 | 55.0 |
| | 9 | 316 49.8 | 0 9.1 | 311 47.2 | 16.4 | -3 45.3 | 14.6 | 55.0 |
| | 10 | 331 50.0 | 0 8.1 | 326 22.6 | 16.4 | -3 59.9 | 14.6 | 55.0 |
| | 11 | 346 50.2 | 0 7.1 | 340 57.9 | 16.4 | -4 14.5 | 14.6 | 55.0 |
| | 12 | 1 50.4 | 0 6.2 | 355 33.3 | 16.4 | -4 29.1 | 14.5 | 54.9 |
| | 13 | 16 50.7 | 0 5.2 | 10 8.7 | 16.4 | -4 43.6 | 14.5 | 54.9 |
| | 14 | 31 50.9 | 0 4.2 | 24 44.0 | 16.4 | -4 58.1 | 14.5 | 54.9 |
| | 15 | 46 51.1 | 0 3.2 | 39 19.4 | 16.4 | -5 12.6 | 14.4 | 54.9 |
| | 16 | 61 51.3 | 0 2.3 | 53 54.7 | 16.4 | -5 27.0 | 14.4 | 54.9 |
| | 17 | 76 51.5 | 0 1.3 | 68 30.1 | 16.3 | -5 41.4 | 14.4 | 54.9 |
| | 18 | 91 51.8 | 0 0.3 | 83 5.4 | 16.3 | -5 55.8 | 14.4 | 54.8 |
| | 19 | 106 52.0 | -0 0.7 | 97 40.8 | 16.3 | -6 10.2 | 14.3 | 54.8 |
| | 20 | 121 52.2 | -0 1.6 | 112 16.1 | 16.3 | -6 24.5 | 14.3 | 54.8 |
| | 21 | 136 52.4 | -0 2.6 | 126 51.4 | 16.3 | -6 38.8 | 14.3 | 54.8 |
| | 22 | 151 52.6 | -0 3.6 | 141 26.7 | 16.3 | -6 53.1 | 14.2 | 54.8 |
| | 23 | 166 52.9 | -0 4.6 | 156 2.0 | 16.3 | -7 7.3 | 14.2 | 54.8 |
| | | *v* 0.2 | SD 15.9 | *d* -1.0 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Tuesday** | 0 | 181 53.1 | -0 5.5 | 170 37.3 | 16.3 | -7 21.5 | 14.2 | 54.7 |
| | 1 | 196 53.3 | -0 6.5 | 185 12.6 | 16.3 | -7 35.6 | 14.1 | 54.7 |
| | 2 | 211 53.5 | -0 7.5 | 199 47.9 | 16.2 | -7 49.8 | 14.1 | 54.7 |
| | 3 | 226 53.7 | -0 8.5 | 214 23.1 | 16.2 | -8 3.8 | 14.0 | 54.7 |
| | 4 | 241 53.9 | -0 9.4 | 228 58.3 | 16.2 | -8 17.9 | 14.0 | 54.7 |
| | 5 | 256 54.2 | -0 10.4 | 243 33.5 | 16.2 | -8 31.9 | 14.0 | 54.7 |
| | 6 | 271 54.4 | -0 11.4 | 258 8.7 | 16.2 | -8 45.8 | 13.9 | 54.7 |
| | 7 | 286 54.6 | -0 12.3 | 272 43.9 | 16.2 | -8 59.8 | 13.9 | 54.6 |
| | 8 | 301 54.8 | -0 13.3 | 287 19.1 | 16.1 | -9 13.6 | 13.8 | 54.6 |
| | 9 | 316 55.0 | -0 14.3 | 301 54.2 | 16.1 | -9 27.5 | 13.8 | 54.6 |
| | 10 | 331 55.3 | -0 15.3 | 316 29.3 | 16.1 | -9 41.3 | 13.8 | 54.6 |
| | 11 | 346 55.5 | -0 16.2 | 331 4.4 | 16.1 | -9 55.0 | 13.7 | 54.6 |
| | 12 | 1 55.7 | -0 17.2 | 345 39.5 | 16.0 | -10 8.7 | 13.7 | 54.6 |
| | 13 | 16 55.9 | -0 18.2 | 0 14.5 | 16.0 | -10 22.4 | 13.6 | 54.6 |
| | 14 | 31 56.1 | -0 19.2 | 14 49.5 | 16.0 | -10 36.0 | 13.6 | 54.5 |
| | 15 | 46 56.3 | -0 20.1 | 29 24.5 | 16.0 | -10 49.6 | 13.5 | 54.5 |
| | 16 | 61 56.6 | -0 21.1 | 43 59.5 | 15.9 | -11 3.1 | 13.5 | 54.5 |
| | 17 | 76 56.8 | -0 22.1 | 58 34.4 | 15.9 | -11 16.6 | 13.4 | 54.5 |
| | 18 | 91 57.0 | -0 23.1 | 73 9.4 | 15.9 | -11 30.0 | 13.4 | 54.5 |
| | 19 | 106 57.2 | -0 24.0 | 87 44.2 | 15.9 | -11 43.4 | 13.3 | 54.5 |
| | 20 | 121 57.4 | -0 25.0 | 102 19.1 | 15.8 | -11 56.7 | 13.3 | 54.5 |
| | 21 | 136 57.7 | -0 26.0 | 116 53.9 | 15.8 | -12 10.0 | 13.2 | 54.5 |
| | 22 | 151 57.9 | -0 27.0 | 131 28.7 | 15.8 | -12 23.2 | 13.2 | 54.4 |
| | 23 | 166 58.1 | -0 27.9 | 146 3.5 | 15.7 | -12 36.4 | 13.1 | 54.4 |
| | | *v* 0.2 | SD 15.9 | *d* 1.0 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **24 Wednesday** | 0 | 181 58.3 | -0 28.9 | 160 38.2 | 15.7 | -12 49.5 | 13.1 | 54.4 |
| | 1 | 196 58.5 | -0 29.9 | 175 12.9 | 15.7 | -13 2.5 | 13.0 | 54.4 |
| | 2 | 211 58.7 | -0 30.8 | 189 47.5 | 15.6 | -13 15.5 | 12.9 | 54.4 |
| | 3 | 226 59.0 | -0 31.8 | 204 22.1 | 15.6 | -13 28.5 | 12.9 | 54.4 |
| | 4 | 241 59.2 | -0 32.8 | 218 56.7 | 15.5 | -13 41.3 | 12.8 | 54.4 |
| | 5 | 256 59.4 | -0 33.8 | 233 31.3 | 15.5 | -13 54.2 | 12.8 | 54.4 |
| | 6 | 271 59.6 | -0 34.7 | 248 5.8 | 15.5 | -14 6.9 | 12.7 | 54.4 |
| | 7 | 286 59.8 | -0 35.7 | 262 40.2 | 15.4 | -14 19.6 | 12.6 | 54.3 |
| | 8 | 302 0.0 | -0 36.7 | 277 14.6 | 15.4 | -14 32.3 | 12.6 | 54.3 |
| | 9 | 317 0.3 | -0 37.7 | 291 49.0 | 15.3 | -14 44.9 | 12.5 | 54.3 |
| | 10 | 332 0.5 | -0 38.6 | 306 23.4 | 15.3 | -14 57.4 | 12.5 | 54.3 |
| | 11 | 347 0.7 | -0 39.6 | 320 57.7 | 15.3 | -15 9.9 | 12.4 | 54.3 |
| | 12 | 2 0.9 | -0 40.6 | 335 31.9 | 15.2 | -15 22.3 | 12.3 | 54.3 |
| | 13 | 17 1.1 | -0 41.6 | 350 6.1 | 15.2 | -15 34.6 | 12.3 | 54.3 |
| | 14 | 32 1.3 | -0 42.5 | 4 40.3 | 15.1 | -15 46.8 | 12.2 | 54.3 |
| | 15 | 47 1.6 | -0 43.5 | 19 14.4 | 15.1 | -15 59.0 | 12.1 | 54.3 |
| | 16 | 62 1.8 | -0 44.5 | 33 48.5 | 15.0 | -16 11.2 | 12.1 | 54.3 |
| | 17 | 77 2.0 | -0 45.5 | 48 22.6 | 15.0 | -16 23.2 | 12.0 | 54.2 |
| | 18 | 92 2.2 | -0 46.4 | 62 56.5 | 14.9 | -16 35.2 | 11.9 | 54.2 |
| | 19 | 107 2.4 | -0 47.4 | 77 30.5 | 14.9 | -16 47.2 | 11.9 | 54.2 |
| | 20 | 122 2.6 | -0 48.4 | 92 4.4 | 14.8 | -16 59.0 | 11.8 | 54.2 |
| | 21 | 137 2.9 | -0 49.4 | 106 38.2 | 14.8 | -17 10.8 | 11.7 | 54.2 |
| | 22 | 152 3.1 | -0 50.3 | 121 12.0 | 14.7 | -17 22.5 | 11.6 | 54.2 |
| | 23 | 167 3.3 | -0 51.3 | 135 45.7 | 14.7 | -17 34.2 | 11.6 | 54.2 |
| | | *v* 0.2 | SD 15.9 | *d* 1.0 | | SD 14.8 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 03:00 | 04:31 | 05:39 | 18:03 | 19:11 | 20:41 |
| 70 | 03:20 | 04:39 | 05:41 | 18:02 | 19:04 | 20:22 |
| 68 | 03:35 | 04:46 | 05:42 | 18:01 | 18:57 | 20:07 |
| 66 | 03:47 | 04:51 | 05:43 | 18:01 | 18:52 | 19:55 |
| 64 | 03:57 | 04:56 | 05:43 | 18:00 | 18:48 | 19:46 |
| 62 | 04:06 | 05:00 | 05:44 | 18:00 | 18:44 | 19:37 |
| 60 | 04:13 | 05:03 | 05:45 | 17:59 | 18:41 | 19:31 |
| 58 | 04:19 | 05:06 | 05:45 | 17:59 | 18:38 | 19:25 |
| 56 | 04:24 | 05:08 | 05:46 | 17:59 | 18:36 | 19:20 |
| 54 | 04:29 | 05:11 | 05:46 | 17:58 | 18:33 | 19:15 |
| 52 | 04:33 | 05:13 | 05:46 | 17:58 | 18:32 | 19:11 |
| 50 | 04:36 | 05:14 | 05:47 | 17:58 | 18:30 | 19:08 |
| 45 | 04:43 | 05:18 | 05:47 | 17:57 | 18:27 | 19:01 |
| 40 | 04:49 | 05:21 | 05:48 | 17:57 | 18:24 | 18:55 |
| 35 | 04:53 | 05:23 | 05:48 | 17:57 | 18:22 | 18:51 |
| 30 | 04:57 | 05:25 | 05:48 | 17:56 | 18:20 | 18:48 |
| 20 | 05:01 | 05:27 | 05:49 | 17:56 | 18:18 | 18:44 |
| 10 | 05:04 | 05:28 | 05:49 | 17:56 | 18:17 | 18:41 |
| 0 | 05:05 | 05:29 | 05:49 | 17:56 | 18:17 | 18:41 |
| -10 | 05:04 | 05:29 | 05:50 | 17:56 | 18:17 | 18:41 |
| -20 | 05:02 | 05:27 | 05:49 | 17:56 | 18:18 | 18:44 |
| -30 | 04:58 | 05:25 | 05:49 | 17:56 | 18:20 | 18:48 |
| -35 | 04:55 | 05:24 | 05:49 | 17:57 | 18:22 | 18:51 |
| -40 | 04:51 | 05:22 | 05:49 | 17:57 | 18:24 | 18:56 |
| -45 | 04:45 | 05:20 | 05:49 | 17:57 | 18:27 | 19:01 |
| -50 | 04:38 | 05:16 | 05:49 | 17:58 | 18:30 | 19:08 |
| -52 | 04:35 | 05:15 | 05:48 | 17:58 | 18:32 | 19:12 |
| -54 | 04:31 | 05:13 | 05:48 | 17:58 | 18:34 | 19:15 |
| -56 | 04:27 | 05:11 | 05:48 | 17:58 | 18:36 | 19:20 |
| -58 | 04:22 | 05:09 | 05:48 | 17:59 | 18:38 | 19:25 |
| -60 | 04:16 | 05:06 | 05:47 | 17:59 | 18:41 | 19:31 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **22** | **23** | **24** | **22** | **23** | **24** |
| 72 | 06:51 | 08:57 | 11:28 | 17:13 | 16:34 | 15:31 |
| 70 | 06:46 | 08:41 | 10:49 | 17:21 | 16:52 | 16:11 |
| 68 | 06:42 | 08:29 | 10:23 | 17:27 | 17:06 | 16:39 |
| 66 | 06:39 | 08:19 | 10:03 | 17:33 | 17:18 | 17:00 |
| 64 | 06:36 | 08:10 | 09:47 | 17:38 | 17:28 | 17:17 |
| 62 | 06:34 | 08:03 | 09:34 | 17:42 | 17:37 | 17:31 |
| 60 | 06:31 | 07:57 | 09:23 | 17:45 | 17:44 | 17:43 |
| 58 | 06:30 | 07:51 | 09:14 | 17:49 | 17:51 | 17:54 |
| 56 | 06:28 | 07:46 | 09:06 | 17:51 | 17:56 | 18:03 |
| 54 | 06:27 | 07:42 | 08:58 | 17:54 | 18:02 | 18:11 |
| 52 | 06:25 | 07:38 | 08:52 | 17:56 | 18:06 | 18:18 |
| 50 | 06:24 | 07:35 | 08:46 | 17:59 | 18:11 | 18:25 |
| 45 | 06:22 | 07:27 | 08:33 | 18:03 | 18:20 | 18:39 |
| 40 | 06:19 | 07:21 | 08:23 | 18:07 | 18:28 | 18:51 |
| 35 | 06:18 | 07:16 | 08:14 | 18:11 | 18:35 | 19:01 |
| 30 | 06:16 | 07:11 | 08:06 | 18:14 | 18:41 | 19:10 |
| 20 | 06:13 | 07:03 | 07:53 | 18:19 | 18:51 | 19:25 |
| 10 | 06:11 | 06:56 | 07:41 | 18:24 | 19:00 | 19:38 |
| 0 | 06:09 | 06:49 | 07:31 | 18:28 | 19:09 | 19:51 |
| -10 | 06:06 | 06:43 | 07:20 | 18:32 | 19:18 | 20:04 |
| -20 | 06:04 | 06:36 | 07:09 | 18:37 | 19:27 | 20:17 |
| -30 | 06:01 | 06:28 | 06:56 | 18:42 | 19:38 | 20:33 |
| -35 | 06:00 | 06:23 | 06:48 | 18:46 | 19:44 | 20:42 |
| -40 | 05:58 | 06:18 | 06:40 | 18:49 | 19:51 | 20:53 |
| -45 | 05:56 | 06:13 | 06:30 | 18:53 | 19:59 | 21:05 |
| -50 | 05:54 | 06:06 | 06:19 | 18:58 | 20:09 | 21:20 |
| -52 | 05:53 | 06:03 | 06:13 | 19:00 | 20:14 | 21:27 |
| -54 | 05:52 | 05:59 | 06:07 | 19:03 | 20:19 | 21:35 |
| -56 | 05:51 | 05:55 | 06:01 | 19:06 | 20:24 | 21:44 |
| -58 | 05:49 | 05:51 | 05:53 | 19:09 | 20:31 | 21:54 |
| -60 | 05:48 | 05:46 | 05:45 | 19:12 | 20:38 | 22:06 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **22** | 07:11 | 07:22 | 11:53 | 12:18 | –:– | 30 | 0 |
| **23** | 07:32 | 07:43 | 11:52 | 12:59 | 00:39 | 1 | 1 |
| **24** | 07:53 | 08:04 | 11:52 | 13:41 | 01:20 | 2 | 4 |

## 2025 September 25, 26, 27 (Thu, Fri, Sat)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.1 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 25 Thursday | 0 | 4 4.1 | 205 12.6 | 10 5.7 | 154 26.5 | -12 6.7 | 250 37.8 | 21 42.0 | 4 42.2 | -3 0.8 |
| | 1 | 19 6.6 | 220 12.1 | 10 4.6 | 169 27.3 | -12 7.3 | 265 39.9 | 21 42.0 | 19 44.9 | -3 0.9 |
| | 2 | 34 9.0 | 235 11.7 | 10 3.5 | 184 28.2 | -12 7.9 | 280 42.0 | 21 41.9 | 34 47.5 | -3 0.9 |
| | 3 | 49 11.5 | 250 11.2 | 10 2.5 | 199 29.0 | -12 8.6 | 295 44.1 | 21 41.9 | 49 50.2 | -3 1.0 |
| | 4 | 64 13.9 | 265 10.8 | 10 1.4 | 214 29.9 | -12 9.2 | 310 46.2 | 21 41.8 | 64 52.8 | -3 1.1 |
| | 5 | 79 16.4 | 280 10.3 | 10 0.3 | 229 30.8 | -12 9.8 | 325 48.3 | 21 41.8 | 79 55.4 | -3 1.2 |
| | 6 | 94 18.9 | 295 9.9 | 9 59.3 | 244 31.6 | -12 10.4 | 340 50.4 | 21 41.7 | 94 58.1 | -3 1.2 |
| | 7 | 109 21.3 | 310 9.4 | 9 58.2 | 259 32.5 | -12 11.0 | 355 52.5 | 21 41.7 | 110 0.7 | -3 1.3 |
| | 8 | 124 23.8 | 325 8.9 | 9 57.1 | 274 33.3 | -12 11.6 | 10 54.6 | 21 41.6 | 125 3.4 | -3 1.4 |
| | 9 | 139 26.3 | 340 8.5 | 9 56.1 | 289 34.2 | -12 12.2 | 25 56.7 | 21 41.6 | 140 6.0 | -3 1.5 |
| | 10 | 154 28.7 | 355 8.0 | 9 55.0 | 304 35.0 | -12 12.8 | 40 58.8 | 21 41.5 | 155 8.6 | -3 1.5 |
| | 11 | 169 31.2 | 10 7.6 | 9 53.9 | 319 35.9 | -12 13.4 | 56 0.9 | 21 41.5 | 170 11.3 | -3 1.6 |
| | 12 | 184 33.7 | 25 7.1 | 9 52.9 | 334 36.7 | -12 14.0 | 71 3.0 | 21 41.4 | 185 13.9 | -3 1.7 |
| | 13 | 199 36.1 | 40 6.7 | 9 51.8 | 349 37.6 | -12 14.6 | 86 5.1 | 21 41.4 | 200 16.6 | -3 1.8 |
| | 14 | 214 38.6 | 55 6.2 | 9 50.7 | 4 38.4 | -12 15.2 | 101 7.2 | 21 41.3 | 215 19.2 | -3 1.9 |
| | 15 | 229 41.1 | 70 5.8 | 9 49.6 | 19 39.3 | -12 15.8 | 116 9.3 | 21 41.3 | 230 21.8 | -3 1.9 |
| | 16 | 244 43.5 | 85 5.3 | 9 48.6 | 34 40.1 | -12 16.5 | 131 11.5 | 21 41.2 | 245 24.5 | -3 2.0 |
| | 17 | 259 46.0 | 100 4.9 | 9 47.5 | 49 41.0 | -12 17.1 | 146 13.6 | 21 41.2 | 260 27.1 | -3 2.1 |
| | 18 | 274 48.4 | 115 4.4 | 9 46.4 | 64 41.8 | -12 17.7 | 161 15.7 | 21 41.1 | 275 29.8 | -3 2.2 |
| | 19 | 289 50.9 | 130 4.0 | 9 45.3 | 79 42.7 | -12 18.3 | 176 17.8 | 21 41.1 | 290 32.4 | -3 2.2 |
| | 20 | 304 53.4 | 145 3.5 | 9 44.3 | 94 43.5 | -12 18.9 | 191 19.9 | 21 41.0 | 305 35.1 | -3 2.3 |
| | 21 | 319 55.8 | 160 3.1 | 9 43.2 | 109 44.4 | -12 19.5 | 206 22.0 | 21 41.0 | 320 37.7 | -3 2.4 |
| | 22 | 334 58.3 | 175 2.6 | 9 42.1 | 124 45.2 | -12 20.1 | 221 24.1 | 21 40.9 | 335 40.3 | -3 2.5 |
| | 23 | 350 0.8 | 190 2.2 | 9 41.0 | 139 46.1 | -12 20.7 | 236 26.2 | 21 40.9 | 350 43.0 | -3 2.6 |
| | | MP 23:41 | *v* -0.5 | *d* -1.1 | *v* 0.9 | *d* 0.6 | *v* 2.1 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 Friday | 0 | 5 3.2 | 205 1.7 | 9 39.9 | 154 46.9 | -12 21.3 | 251 28.3 | 21 40.9 | 5 45.6 | -3 2.6 |
| | 1 | 20 5.7 | 220 1.3 | 9 38.9 | 169 47.8 | -12 21.9 | 266 30.4 | 21 40.8 | 20 48.3 | -3 2.7 |
| | 2 | 35 8.2 | 235 0.8 | 9 37.8 | 184 48.6 | -12 22.5 | 281 32.5 | 21 40.8 | 35 50.9 | -3 2.8 |
| | 3 | 50 10.6 | 250 0.4 | 9 36.7 | 199 49.5 | -12 23.1 | 296 34.6 | 21 40.7 | 50 53.5 | -3 2.9 |
| | 4 | 65 13.1 | 264 59.9 | 9 35.6 | 214 50.3 | -12 23.7 | 311 36.8 | 21 40.7 | 65 56.2 | -3 2.9 |
| | 5 | 80 15.6 | 279 59.5 | 9 34.6 | 229 51.2 | -12 24.3 | 326 38.9 | 21 40.6 | 80 58.8 | -3 3.0 |
| | 6 | 95 18.0 | 294 59.0 | 9 33.5 | 244 52.0 | -12 24.9 | 341 41.0 | 21 40.6 | 96 1.5 | -3 3.1 |
| | 7 | 110 20.5 | 309 58.6 | 9 32.4 | 259 52.9 | -12 25.5 | 356 43.1 | 21 40.5 | 111 4.1 | -3 3.2 |
| | 8 | 125 22.9 | 324 58.1 | 9 31.3 | 274 53.7 | -12 26.1 | 11 45.2 | 21 40.5 | 126 6.7 | -3 3.2 |
| | 9 | 140 25.4 | 339 57.7 | 9 30.2 | 289 54.6 | -12 26.7 | 26 47.3 | 21 40.4 | 141 9.4 | -3 3.3 |
| | 10 | 155 27.9 | 354 57.2 | 9 29.1 | 304 55.4 | -12 27.3 | 41 49.4 | 21 40.4 | 156 12.0 | -3 3.4 |
| | 11 | 170 30.3 | 9 56.8 | 9 28.1 | 319 56.3 | -12 28.0 | 56 51.5 | 21 40.3 | 171 14.7 | -3 3.5 |
| | 12 | 185 32.8 | 24 56.3 | 9 27.0 | 334 57.1 | -12 28.6 | 71 53.6 | 21 40.3 | 186 17.3 | -3 3.6 |
| | 13 | 200 35.3 | 39 55.9 | 9 25.9 | 349 58.0 | -12 29.2 | 86 55.7 | 21 40.2 | 201 20.0 | -3 3.6 |
| | 14 | 215 37.7 | 54 55.5 | 9 24.8 | 4 58.8 | -12 29.8 | 101 57.9 | 21 40.2 | 216 22.6 | -3 3.7 |
| | 15 | 230 40.2 | 69 55.0 | 9 23.7 | 19 59.6 | -12 30.4 | 117 0.0 | 21 40.1 | 231 25.2 | -3 3.8 |
| | 16 | 245 42.7 | 84 54.6 | 9 22.6 | 35 0.5 | -12 31.0 | 132 2.1 | 21 40.1 | 246 27.9 | -3 3.9 |
| | 17 | 260 45.1 | 99 54.1 | 9 21.6 | 50 1.3 | -12 31.6 | 147 4.2 | 21 40.0 | 261 30.5 | -3 3.9 |
| | 18 | 275 47.6 | 114 53.7 | 9 20.5 | 65 2.2 | -12 32.2 | 162 6.3 | 21 40.0 | 276 33.2 | -3 4.0 |
| | 19 | 290 50.0 | 129 53.2 | 9 19.4 | 80 3.0 | -12 32.8 | 177 8.4 | 21 39.9 | 291 35.8 | -3 4.1 |
| | 20 | 305 52.5 | 144 52.8 | 9 18.3 | 95 3.9 | -12 33.4 | 192 10.5 | 21 39.9 | 306 38.4 | -3 4.2 |
| | 21 | 320 55.0 | 159 52.3 | 9 17.2 | 110 4.7 | -12 34.0 | 207 12.7 | 21 39.8 | 321 41.1 | -3 4.2 |
| | 22 | 335 57.4 | 174 51.9 | 9 16.1 | 125 5.6 | -12 34.6 | 222 14.8 | 21 39.8 | 336 43.7 | -3 4.3 |
| | 23 | 350 59.9 | 189 51.4 | 9 15.0 | 140 6.4 | -12 35.2 | 237 16.9 | 21 39.7 | 351 46.4 | -3 4.4 |
| | | MP 23:37 | *v* -0.4 | *d* -1.1 | *v* 0.8 | *d* 0.6 | *v* 2.1 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 Saturday | 0 | 6 2.4 | 204 51.0 | 9 13.9 | 155 7.3 | -12 35.8 | 252 19.0 | 21 39.7 | 6 49.0 | -3 4.5 |
| | 1 | 21 4.8 | 219 50.6 | 9 12.8 | 170 8.1 | -12 36.4 | 267 21.1 | 21 39.6 | 21 51.6 | -3 4.6 |
| | 2 | 36 7.3 | 234 50.1 | 9 11.8 | 185 8.9 | -12 37.0 | 282 23.2 | 21 39.6 | 36 54.3 | -3 4.6 |
| | 3 | 51 9.8 | 249 49.7 | 9 10.7 | 200 9.8 | -12 37.6 | 297 25.3 | 21 39.5 | 51 56.9 | -3 4.7 |
| | 4 | 66 12.2 | 264 49.2 | 9 9.6 | 215 10.6 | -12 38.2 | 312 27.5 | 21 39.5 | 66 59.6 | -3 4.8 |
| | 5 | 81 14.7 | 279 48.8 | 9 8.5 | 230 11.5 | -12 38.8 | 327 29.6 | 21 39.5 | 82 2.2 | -3 4.9 |
| | 6 | 96 17.2 | 294 48.3 | 9 7.4 | 245 12.3 | -12 39.4 | 342 31.7 | 21 39.4 | 97 4.8 | -3 4.9 |
| | 7 | 111 19.6 | 309 47.9 | 9 6.3 | 260 13.2 | -12 40.0 | 357 33.8 | 21 39.4 | 112 7.5 | -3 5.0 |
| | 8 | 126 22.1 | 324 47.5 | 9 5.2 | 275 14.0 | -12 40.6 | 12 35.9 | 21 39.3 | 127 10.1 | -3 5.1 |
| | 9 | 141 24.5 | 339 47.0 | 9 4.1 | 290 14.8 | -12 41.2 | 27 38.0 | 21 39.3 | 142 12.8 | -3 5.2 |
| | 10 | 156 27.0 | 354 46.6 | 9 3.0 | 305 15.7 | -12 41.8 | 42 40.2 | 21 39.2 | 157 15.4 | -3 5.2 |
| | 11 | 171 29.5 | 9 46.1 | 9 1.9 | 320 16.5 | -12 42.4 | 57 42.3 | 21 39.2 | 172 18.0 | -3 5.3 |
| | 12 | 186 31.9 | 24 45.7 | 9 0.8 | 335 17.4 | -12 43.0 | 72 44.4 | 21 39.1 | 187 20.7 | -3 5.4 |
| | 13 | 201 34.4 | 39 45.3 | 8 59.7 | 350 18.2 | -12 43.6 | 87 46.5 | 21 39.1 | 202 23.3 | -3 5.5 |
| | 14 | 216 36.9 | 54 44.8 | 8 58.6 | 5 19.0 | -12 44.2 | 102 48.6 | 21 39.0 | 217 26.0 | -3 5.6 |
| | 15 | 231 39.3 | 69 44.4 | 8 57.5 | 20 19.9 | -12 44.8 | 117 50.7 | 21 39.0 | 232 28.6 | -3 5.6 |
| | 16 | 246 41.8 | 84 43.9 | 8 56.4 | 35 20.7 | -12 45.4 | 132 52.9 | 21 38.9 | 247 31.2 | -3 5.7 |
| | 17 | 261 44.3 | 99 43.5 | 8 55.3 | 50 21.6 | -12 46.0 | 147 55.0 | 21 38.9 | 262 33.9 | -3 5.8 |
| | 18 | 276 46.7 | 114 43.1 | 8 54.2 | 65 22.4 | -12 46.6 | 162 57.1 | 21 38.8 | 277 36.5 | -3 5.9 |
| | 19 | 291 49.2 | 129 42.6 | 8 53.1 | 80 23.2 | -12 47.2 | 177 59.2 | 21 38.8 | 292 39.2 | -3 5.9 |
| | 20 | 306 51.7 | 144 42.2 | 8 52.0 | 95 24.1 | -12 47.8 | 193 1.3 | 21 38.7 | 307 41.8 | -3 6.0 |
| | 21 | 321 54.1 | 159 41.7 | 8 51.0 | 110 24.9 | -12 48.4 | 208 3.5 | 21 38.7 | 322 44.4 | -3 6.1 |
| | 22 | 336 56.6 | 174 41.3 | 8 49.9 | 125 25.8 | -12 49.0 | 223 5.6 | 21 38.6 | 337 47.1 | -3 6.2 |
| | 23 | 351 59.0 | 189 40.9 | 8 48.8 | 140 26.6 | -12 49.6 | 238 7.7 | 21 38.6 | 352 49.7 | -3 6.2 |
| | | MP 23:33 | *v* -0.4 | *d* -1.1 | *v* 0.8 | *d* 0.6 | *v* 2.1 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.0 | -40 11.8 |
| Achernar | 335 19.2 | -57 6.2 |
| Acrux | 173 0.2 | -63 14.5 |
| Adhara | 255 5.5 | -29 0.1 |
| Aldebaran | 290 38.8 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.3 |
| Alkaid | 152 52.0 | 49 11.2 |
| Alnair | 27 31.8 | -46 50.2 |
| Alnilam | 275 37.1 | -1 10.9 |
| Alphard | 217 47.4 | -8 46.0 |
| Alphecca | 126 3.5 | 26 37.9 |
| Alpheratz | 357 33.8 | 29 14.1 |
| Altair | 61 59.3 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.8 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.1 | -69 4.6 |
| Avior | 234 14.9 | -59 35.2 |
| Bellatrix | 278 22.2 | 6 22.5 |
| Betelgeuse | 270 51.4 | 7 24.8 |
| Canopus | 263 52.2 | -52 42.2 |
| Capella | 280 20.9 | 46 1.3 |
| Deneb | 49 25.2 | 45 22.6 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.6 |
| Dubhe | 193 40.9 | 61 36.7 |
| Elnath | 278 1.1 | 28 37.7 |
| Eltanin | 90 41.9 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.4 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.9 |
| Hamal | 327 50.3 | 23 35.1 |
| Kaus Aust. | 83 31.7 | -34 22.4 |
| Kochab | 137 20.6 | 74 3.1 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.3 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.9 | -69 49.1 |
| Mirfak | 308 27.1 | 49 57.1 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.5 | -56 39.3 |
| Pollux | 243 16.7 | 27 57.8 |
| Procyon | 244 50.3 | 5 9.7 |
| Rasalhague | 95 58.1 | 12 32.6 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.2 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.6 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 29.9 | 56 40.8 |
| Shaula | 96 9.6 | -37 7.4 |
| Sirius | 258 25.8 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.2 | -43 31.9 |
| Vega | 80 32.8 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 25 Thu | SHA | MP |
|---|---|---|
| Venus | 201 8.5 | 10:19 |
| Mars | 150 22.4 | 13:41 |
| Jupiter | 246 33.7 | 07:16 |
| Saturn | 0 38.1 | 23:37 |

| 26 Fri | SHA | MP |
|---|---|---|
| Venus | 199 58.5 | 10:20 |
| Mars | 149 43.7 | 13:40 |
| Jupiter | 246 25.1 | 07:13 |
| Saturn | 0 42.4 | 23:33 |

| 27 Sat | SHA | MP |
|---|---|---|
| Venus | 198 48.6 | 10:21 |
| Mars | 149 4.9 | 13:39 |
| Jupiter | 246 16.6 | 07:10 |
| Saturn | 0 46.6 | 23:29 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **25 Thursday** | 0 | 182 3.5 | -0 52.3 | 150 19.4 | 14.6 | -17 45.7 | 11.5 | 54.2 |
| | 1 | 197 3.7 | -0 53.2 | 164 53.1 | 14.6 | -17 57.2 | 11.4 | 54.2 |
| | 2 | 212 3.9 | -0 54.2 | 179 26.7 | 14.5 | -18 8.6 | 11.3 | 54.2 |
| | 3 | 227 4.2 | -0 55.2 | 194 0.2 | 14.5 | -18 20.0 | 11.3 | 54.2 |
| | 4 | 242 4.4 | -0 56.2 | 208 33.7 | 14.4 | -18 31.2 | 11.2 | 54.2 |
| | 5 | 257 4.6 | -0 57.1 | 223 7.1 | 14.4 | -18 42.4 | 11.1 | 54.2 |
| | 6 | 272 4.8 | -0 58.1 | 237 40.5 | 14.3 | -18 53.5 | 11.0 | 54.1 |
| | 7 | 287 5.0 | -0 59.1 | 252 13.8 | 14.3 | -19 4.6 | 10.9 | 54.1 |
| | 8 | 302 5.2 | -1 0.1 | 266 47.0 | 14.2 | -19 15.5 | 10.9 | 54.1 |
| | 9 | 317 5.4 | -1 1.0 | 281 20.2 | 14.1 | -19 26.4 | 10.8 | 54.1 |
| | 10 | 332 5.7 | -1 2.0 | 295 53.4 | 14.1 | -19 37.2 | 10.7 | 54.1 |
| | 11 | 347 5.9 | -1 3.0 | 310 26.5 | 14.0 | -19 47.9 | 10.6 | 54.1 |
| | 12 | 2 6.1 | -1 4.0 | 324 59.5 | 14.0 | -19 58.5 | 10.5 | 54.1 |
| | 13 | 17 6.3 | -1 4.9 | 339 32.5 | 13.9 | -20 9.0 | 10.5 | 54.1 |
| | 14 | 32 6.5 | -1 5.9 | 354 5.4 | 13.9 | -20 19.5 | 10.4 | 54.1 |
| | 15 | 47 6.7 | -1 6.9 | 8 38.3 | 13.8 | -20 29.8 | 10.3 | 54.1 |
| | 16 | 62 6.9 | -1 7.9 | 23 11.1 | 13.7 | -20 40.1 | 10.2 | 54.1 |
| | 17 | 77 7.2 | -1 8.8 | 37 43.8 | 13.7 | -20 50.3 | 10.1 | 54.1 |
| | 18 | 92 7.4 | -1 9.8 | 52 16.5 | 13.6 | -21 0.4 | 10.0 | 54.1 |
| | 19 | 107 7.6 | -1 10.8 | 66 49.1 | 13.6 | -21 10.4 | 9.9 | 54.1 |
| | 20 | 122 7.8 | -1 11.8 | 81 21.7 | 13.5 | -21 20.4 | 9.8 | 54.1 |
| | 21 | 137 8.0 | -1 12.7 | 95 54.2 | 13.4 | -21 30.2 | 9.7 | 54.1 |
| | 22 | 152 8.2 | -1 13.7 | 110 26.6 | 13.4 | -21 39.9 | 9.7 | 54.1 |
| | 23 | 167 8.5 | -1 14.7 | 124 59.0 | 13.3 | -21 49.6 | 9.6 | 54.1 |
| | | *v* 0.2 SD 15.9 *d* 1.0 | | SD 14.8 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **26 Friday** | 0 | 182 8.7 | -1 15.6 | 139 31.3 | 13.3 | -21 59.2 | 9.5 | 54.1 |
| | 1 | 197 8.9 | -1 16.6 | 154 3.6 | 13.2 | -22 8.6 | 9.4 | 54.1 |
| | 2 | 212 9.1 | -1 17.6 | 168 35.8 | 13.1 | -22 18.0 | 9.3 | 54.1 |
| | 3 | 227 9.3 | -1 18.6 | 183 7.9 | 13.1 | -22 27.3 | 9.2 | 54.1 |
| | 4 | 242 9.5 | -1 19.5 | 197 39.9 | 13.0 | -22 36.4 | 9.1 | 54.1 |
| | 5 | 257 9.7 | -1 20.5 | 212 11.9 | 12.9 | -22 45.5 | 9.0 | 54.1 |
| | 6 | 272 9.9 | -1 21.5 | 226 43.9 | 12.9 | -22 54.5 | 8.9 | 54.1 |
| | 7 | 287 10.2 | -1 22.5 | 241 15.8 | 12.8 | -23 3.4 | 8.8 | 54.1 |
| | 8 | 302 10.4 | -1 23.4 | 255 47.6 | 12.7 | -23 12.2 | 8.7 | 54.1 |
| | 9 | 317 10.6 | -1 24.4 | 270 19.3 | 12.7 | -23 20.9 | 8.6 | 54.1 |
| | 10 | 332 10.8 | -1 25.4 | 284 51.0 | 12.6 | -23 29.5 | 8.5 | 54.1 |
| | 11 | 347 11.0 | -1 26.4 | 299 22.6 | 12.6 | -23 37.9 | 8.4 | 54.1 |
| | 12 | 2 11.2 | -1 27.3 | 313 54.2 | 12.5 | -23 46.3 | 8.3 | 54.1 |
| | 13 | 17 11.4 | -1 28.3 | 328 25.7 | 12.4 | -23 54.6 | 8.2 | 54.1 |
| | 14 | 32 11.7 | -1 29.3 | 342 57.1 | 12.4 | -24 2.8 | 8.1 | 54.1 |
| | 15 | 47 11.9 | -1 30.3 | 357 28.5 | 12.3 | -24 10.8 | 8.0 | 54.1 |
| | 16 | 62 12.1 | -1 31.2 | 11 59.8 | 12.2 | -24 18.8 | 7.9 | 54.1 |
| | 17 | 77 12.3 | -1 32.2 | 26 31.0 | 12.2 | -24 26.7 | 7.7 | 54.1 |
| | 18 | 92 12.5 | -1 33.2 | 41 2.2 | 12.1 | -24 34.4 | 7.6 | 54.1 |
| | 19 | 107 12.7 | -1 34.1 | 55 33.3 | 12.0 | -24 42.1 | 7.5 | 54.1 |
| | 20 | 122 12.9 | -1 35.1 | 70 4.3 | 12.0 | -24 49.6 | 7.4 | 54.1 |
| | 21 | 137 13.1 | -1 36.1 | 84 35.3 | 11.9 | -24 57.0 | 7.3 | 54.1 |
| | 22 | 152 13.4 | -1 37.1 | 99 6.2 | 11.9 | -25 4.3 | 7.2 | 54.1 |
| | 23 | 167 13.6 | -1 38.0 | 113 37.1 | 11.8 | -25 11.5 | 7.1 | 54.1 |
| | | *v* 0.2 SD 16.0 *d* 1.0 | | SD 14.8 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **27 Saturday** | 0 | 182 13.8 | -1 39.0 | 128 7.9 | 11.7 | -25 18.6 | 7.0 | 54.1 |
| | 1 | 197 14.0 | -1 40.0 | 142 38.6 | 11.7 | -25 25.6 | 6.9 | 54.1 |
| | 2 | 212 14.2 | -1 41.0 | 157 9.2 | 11.6 | -25 32.5 | 6.7 | 54.1 |
| | 3 | 227 14.4 | -1 41.9 | 171 39.8 | 11.5 | -25 39.2 | 6.6 | 54.1 |
| | 4 | 242 14.6 | -1 42.9 | 186 10.4 | 11.5 | -25 45.8 | 6.5 | 54.1 |
| | 5 | 257 14.8 | -1 43.9 | 200 40.9 | 11.4 | -25 52.4 | 6.4 | 54.1 |
| | 6 | 272 15.1 | -1 44.9 | 215 11.3 | 11.4 | -25 58.8 | 6.3 | 54.1 |
| | 7 | 287 15.3 | -1 45.8 | 229 41.6 | 11.3 | -26 5.0 | 6.2 | 54.1 |
| | 8 | 302 15.5 | -1 46.8 | 244 11.9 | 11.2 | -26 11.2 | 6.0 | 54.1 |
| | 9 | 317 15.7 | -1 47.8 | 258 42.2 | 11.2 | -26 17.3 | 5.9 | 54.1 |
| | 10 | 332 15.9 | -1 48.7 | 273 12.3 | 11.1 | -26 23.2 | 5.8 | 54.1 |
| | 11 | 347 16.1 | -1 49.7 | 287 42.4 | 11.1 | -26 29.0 | 5.7 | 54.1 |
| | 12 | 2 16.3 | -1 50.7 | 302 12.5 | 11.0 | -26 34.7 | 5.6 | 54.1 |
| | 13 | 17 16.5 | -1 51.7 | 316 42.5 | 10.9 | -26 40.2 | 5.4 | 54.2 |
| | 14 | 32 16.7 | -1 52.6 | 331 12.4 | 10.9 | -26 45.7 | 5.3 | 54.2 |
| | 15 | 47 17.0 | -1 53.6 | 345 42.3 | 10.8 | -26 51.0 | 5.2 | 54.2 |
| | 16 | 62 17.2 | -1 54.6 | 0 12.1 | 10.8 | -26 56.2 | 5.1 | 54.2 |
| | 17 | 77 17.4 | -1 55.6 | 14 41.9 | 10.7 | -27 1.3 | 4.9 | 54.2 |
| | 18 | 92 17.6 | -1 56.5 | 29 11.6 | 10.6 | -27 6.2 | 4.8 | 54.2 |
| | 19 | 107 17.8 | -1 57.5 | 43 41.2 | 10.6 | -27 11.0 | 4.7 | 54.2 |
| | 20 | 122 18.0 | -1 58.5 | 58 10.8 | 10.5 | -27 15.7 | 4.6 | 54.2 |
| | 21 | 137 18.2 | -1 59.4 | 72 40.4 | 10.5 | -27 20.3 | 4.4 | 54.2 |
| | 22 | 152 18.4 | -2 0.4 | 87 9.9 | 10.4 | -27 24.8 | 4.3 | 54.2 |
| | 23 | 167 18.6 | -2 1.4 | 101 39.3 | 10.4 | -27 29.1 | 4.2 | 54.2 |
| | | *v* 0.2 SD 16.0 *d* 1.0 | | SD 14.8 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 03:18 | 04:45 | 05:53 | 17:48 | 18:55 | 20:21 |
| 70 | 03:35 | 04:51 | 05:53 | 17:48 | 18:49 | 20:05 |
| 68 | 03:48 | 04:57 | 05:52 | 17:49 | 18:44 | 19:52 |
| 66 | 03:58 | 05:01 | 05:52 | 17:49 | 18:40 | 19:42 |
| 64 | 04:07 | 05:05 | 05:52 | 17:50 | 18:37 | 19:34 |
| 62 | 04:14 | 05:08 | 05:52 | 17:50 | 18:34 | 19:27 |
| 60 | 04:21 | 05:10 | 05:52 | 17:50 | 18:31 | 19:21 |
| 58 | 04:26 | 05:12 | 05:52 | 17:50 | 18:29 | 19:16 |
| 56 | 04:30 | 05:14 | 05:51 | 17:51 | 18:28 | 19:11 |
| 54 | 04:34 | 05:16 | 05:51 | 17:51 | 18:26 | 19:07 |
| 52 | 04:38 | 05:18 | 05:51 | 17:51 | 18:25 | 19:04 |
| 50 | 04:41 | 05:19 | 05:51 | 17:51 | 18:23 | 19:01 |
| 45 | 04:47 | 05:22 | 05:51 | 17:52 | 18:21 | 18:55 |
| 40 | 04:52 | 05:24 | 05:51 | 17:52 | 18:19 | 18:50 |
| 35 | 04:56 | 05:25 | 05:50 | 17:52 | 18:18 | 18:47 |
| 30 | 04:58 | 05:26 | 05:50 | 17:53 | 18:17 | 18:44 |
| 20 | 05:02 | 05:28 | 05:50 | 17:53 | 18:15 | 18:41 |
| 10 | 05:04 | 05:28 | 05:49 | 17:54 | 18:15 | 18:39 |
| 0 | 05:04 | 05:28 | 05:48 | 17:55 | 18:15 | 18:40 |
| -10 | 05:02 | 05:27 | 05:48 | 17:56 | 18:17 | 18:41 |
| -20 | 04:59 | 05:25 | 05:47 | 17:57 | 18:19 | 18:44 |
| -30 | 04:54 | 05:22 | 05:46 | 17:58 | 18:22 | 18:50 |
| -35 | 04:50 | 05:20 | 05:45 | 17:59 | 18:24 | 18:54 |
| -40 | 04:45 | 05:17 | 05:44 | 18:00 | 18:27 | 18:59 |
| -45 | 04:39 | 05:14 | 05:43 | 18:01 | 18:30 | 19:05 |
| -50 | 04:31 | 05:10 | 05:42 | 18:02 | 18:35 | 19:13 |
| -52 | 04:28 | 05:08 | 05:41 | 18:03 | 18:37 | 19:17 |
| -54 | 04:23 | 05:05 | 05:41 | 18:04 | 18:39 | 19:21 |
| -56 | 04:18 | 05:03 | 05:40 | 18:04 | 18:42 | 19:26 |
| -58 | 04:13 | 05:00 | 05:39 | 18:05 | 18:45 | 19:32 |
| -60 | 04:06 | 04:57 | 05:38 | 18:06 | 18:48 | 19:39 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **25** | **26** | **27** | **25** | **26** | **27** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | 12:43 | | | 15:49 | | |
| 66 | 12:01 | | | 16:33 | | |
| 64 | 11:32 | 13:33 | | 17:03 | 16:37 | |
| 62 | 11:10 | 12:53 | 14:48 | 17:25 | 17:17 | 17:04 |
| 60 | 10:53 | 12:26 | 14:00 | 17:43 | 17:45 | 17:52 |
| 58 | 10:39 | 12:05 | 13:30 | 17:58 | 18:07 | 18:22 |
| 56 | 10:26 | 11:48 | 13:07 | 18:11 | 18:24 | 18:46 |
| 54 | 10:15 | 11:33 | 12:49 | 18:23 | 18:40 | 19:04 |
| 52 | 10:06 | 11:20 | 12:33 | 18:33 | 18:53 | 19:20 |
| 50 | 09:58 | 11:09 | 12:19 | 18:42 | 19:04 | 19:34 |
| 45 | 09:40 | 10:46 | 11:52 | 19:01 | 19:28 | 20:03 |
| 40 | 09:25 | 10:28 | 11:30 | 19:17 | 19:48 | 20:25 |
| 35 | 09:13 | 10:12 | 11:12 | 19:30 | 20:04 | 20:43 |
| 30 | 09:02 | 09:59 | 10:56 | 19:42 | 20:18 | 20:59 |
| 20 | 08:44 | 09:37 | 10:30 | 20:01 | 20:42 | 21:26 |
| 10 | 08:28 | 09:17 | 10:08 | 20:19 | 21:03 | 21:50 |
| 0 | 08:14 | 08:59 | 09:47 | 20:35 | 21:22 | 22:11 |
| -10 | 07:59 | 08:41 | 09:26 | 20:52 | 21:41 | 22:33 |
| -20 | 07:44 | 08:22 | 09:04 | 21:09 | 22:02 | 22:56 |
| -30 | 07:26 | 08:00 | 08:39 | 21:30 | 22:27 | 23:24 |
| -35 | 07:16 | 07:47 | 08:24 | 21:42 | 22:41 | 23:40 |
| -40 | 07:04 | 07:32 | 08:06 | 21:55 | 22:58 | 23:59 |
| -45 | 06:51 | 07:15 | 07:46 | 22:12 | 23:18 | –:– |
| -50 | 06:34 | 06:54 | 07:20 | 22:32 | 23:43 | –:– |
| -52 | 06:26 | 06:43 | 07:07 | 22:42 | 23:55 | –:– |
| -54 | 06:18 | 06:32 | 06:53 | 22:53 | –:– | 00:10 |
| -56 | 06:08 | 06:19 | 06:36 | 23:05 | –:– | 00:26 |
| -58 | 05:57 | 06:04 | 06:16 | 23:20 | –:– | 00:46 |
| -60 | 05:45 | 05:46 | 05:50 | 23:37 | –:– | 01:10 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **25** | 08:14 | 08:24 | 11:52 | 14:24 | 02:02 | 3 | 9 |
| **26** | 08:35 | 08:45 | 11:51 | 15:10 | 02:47 | 4 | 15 |
| **27** | 08:55 | 09:05 | 11:51 | 15:59 | 03:34 | 5 | 23 |

## 2025 September 28, 29, 30 (Sun, Mon, Tue)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.6 GHA | Mars 1.6 Dec | Jupiter -2.1 GHA | Jupiter -2.1 Dec | Saturn 0.6 GHA | Saturn 0.6 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 28 Sunday | 0 | 7 1.5 | 204 40.4 | 8 47.6 | 155 27.4 | -12 50.2 | 253 9.8 | 21 38.5 | 7 52.4 | -3 6.3 |
| | 1 | 22 4.0 | 219 40.0 | 8 46.5 | 170 28.3 | -12 50.8 | 268 11.9 | 21 38.5 | 22 55.0 | -3 6.4 |
| | 2 | 37 6.4 | 234 39.5 | 8 45.4 | 185 29.1 | -12 51.4 | 283 14.1 | 21 38.5 | 37 57.6 | -3 6.5 |
| | 3 | 52 8.9 | 249 39.1 | 8 44.3 | 200 30.0 | -12 52.0 | 298 16.2 | 21 38.4 | 53 0.3 | -3 6.5 |
| | 4 | 67 11.4 | 264 38.7 | 8 43.2 | 215 30.8 | -12 52.6 | 313 18.3 | 21 38.4 | 68 2.9 | -3 6.6 |
| | 5 | 82 13.8 | 279 38.2 | 8 42.1 | 230 31.6 | -12 53.2 | 328 20.4 | 21 38.3 | 83 5.6 | -3 6.7 |
| | 6 | 97 16.3 | 294 37.8 | 8 41.0 | 245 32.5 | -12 53.8 | 343 22.6 | 21 38.3 | 98 8.2 | -3 6.8 |
| | 7 | 112 18.8 | 309 37.4 | 8 39.9 | 260 33.3 | -12 54.4 | 358 24.7 | 21 38.2 | 113 10.8 | -3 6.8 |
| | 8 | 127 21.2 | 324 36.9 | 8 38.8 | 275 34.1 | -12 55.0 | 13 26.8 | 21 38.2 | 128 13.5 | -3 6.9 |
| | 9 | 142 23.7 | 339 36.5 | 8 37.7 | 290 35.0 | -12 55.6 | 28 28.9 | 21 38.1 | 143 16.1 | -3 7.0 |
| | 10 | 157 26.2 | 354 36.1 | 8 36.6 | 305 35.8 | -12 56.2 | 43 31.0 | 21 38.1 | 158 18.8 | -3 7.1 |
| | 11 | 172 28.6 | 9 35.6 | 8 35.5 | 320 36.6 | -12 56.8 | 58 33.2 | 21 38.0 | 173 21.4 | -3 7.2 |
| | 12 | 187 31.1 | 24 35.2 | 8 34.4 | 335 37.5 | -12 57.4 | 73 35.3 | 21 38.0 | 188 24.0 | -3 7.2 |
| | 13 | 202 33.5 | 39 34.7 | 8 33.3 | 350 38.3 | -12 58.0 | 88 37.4 | 21 37.9 | 203 26.7 | -3 7.3 |
| | 14 | 217 36.0 | 54 34.3 | 8 32.2 | 5 39.2 | -12 58.6 | 103 39.5 | 21 37.9 | 218 29.3 | -3 7.4 |
| | 15 | 232 38.5 | 69 33.9 | 8 31.1 | 20 40.0 | -12 59.2 | 118 41.7 | 21 37.8 | 233 32.0 | -3 7.5 |
| | 16 | 247 40.9 | 84 33.4 | 8 30.0 | 35 40.8 | -12 59.8 | 133 43.8 | 21 37.8 | 248 34.6 | -3 7.5 |
| | 17 | 262 43.4 | 99 33.0 | 8 28.9 | 50 41.7 | -13 0.4 | 148 45.9 | 21 37.8 | 263 37.2 | -3 7.6 |
| | 18 | 277 45.9 | 114 32.6 | 8 27.8 | 65 42.5 | -13 1.0 | 163 48.0 | 21 37.7 | 278 39.9 | -3 7.7 |
| | 19 | 292 48.3 | 129 32.1 | 8 26.7 | 80 43.3 | -13 1.6 | 178 50.2 | 21 37.7 | 293 42.5 | -3 7.8 |
| | 20 | 307 50.8 | 144 31.7 | 8 25.5 | 95 44.2 | -13 2.2 | 193 52.3 | 21 37.6 | 308 45.2 | -3 7.8 |
| | 21 | 322 53.3 | 159 31.3 | 8 24.4 | 110 45.0 | -13 2.8 | 208 54.4 | 21 37.6 | 323 47.8 | -3 7.9 |
| | 22 | 337 55.7 | 174 30.8 | 8 23.3 | 125 45.8 | -13 3.4 | 223 56.5 | 21 37.5 | 338 50.4 | -3 8.0 |
| | 23 | 352 58.2 | 189 30.4 | 8 22.2 | 140 46.7 | -13 4.0 | 238 58.7 | 21 37.5 | 353 53.1 | -3 8.1 |
| | | MP 23:29 | *v* -0.4 | *d* -1.1 | *v* 0.8 | *d* 0.6 | *v* 2.1 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 Monday | 0 | 8 0.6 | 204 30.0 | 8 21.1 | 155 47.5 | -13 4.6 | 254 0.8 | 21 37.4 | 8 55.7 | -3 8.1 |
| | 1 | 23 3.1 | 219 29.5 | 8 20.0 | 170 48.3 | -13 5.2 | 269 2.9 | 21 37.4 | 23 58.4 | -3 8.2 |
| | 2 | 38 5.6 | 234 29.1 | 8 18.9 | 185 49.2 | -13 5.8 | 284 5.1 | 21 37.3 | 39 1.0 | -3 8.3 |
| | 3 | 53 8.0 | 249 28.7 | 8 17.8 | 200 50.0 | -13 6.4 | 299 7.2 | 21 37.3 | 54 3.6 | -3 8.4 |
| | 4 | 68 10.5 | 264 28.2 | 8 16.7 | 215 50.8 | -13 6.9 | 314 9.3 | 21 37.2 | 69 6.3 | -3 8.4 |
| | 5 | 83 13.0 | 279 27.8 | 8 15.5 | 230 51.7 | -13 7.5 | 329 11.4 | 21 37.2 | 84 8.9 | -3 8.5 |
| | 6 | 98 15.4 | 294 27.4 | 8 14.4 | 245 52.5 | -13 8.1 | 344 13.6 | 21 37.1 | 99 11.6 | -3 8.6 |
| | 7 | 113 17.9 | 309 27.0 | 8 13.3 | 260 53.3 | -13 8.7 | 359 15.7 | 21 37.1 | 114 14.2 | -3 8.7 |
| | 8 | 128 20.4 | 324 26.5 | 8 12.2 | 275 54.1 | -13 9.3 | 14 17.8 | 21 37.1 | 129 16.8 | -3 8.7 |
| | 9 | 143 22.8 | 339 26.1 | 8 11.1 | 290 55.0 | -13 9.9 | 29 20.0 | 21 37.0 | 144 19.5 | -3 8.8 |
| | 10 | 158 25.3 | 354 25.7 | 8 10.0 | 305 55.8 | -13 10.5 | 44 22.1 | 21 37.0 | 159 22.1 | -3 8.9 |
| | 11 | 173 27.8 | 9 25.2 | 8 8.9 | 320 56.6 | -13 11.1 | 59 24.2 | 21 36.9 | 174 24.8 | -3 9.0 |
| | 12 | 188 30.2 | 24 24.8 | 8 7.7 | 335 57.5 | -13 11.7 | 74 26.3 | 21 36.9 | 189 27.4 | -3 9.0 |
| | 13 | 203 32.7 | 39 24.4 | 8 6.6 | 350 58.3 | -13 12.3 | 89 28.5 | 21 36.8 | 204 30.0 | -3 9.1 |
| | 14 | 218 35.1 | 54 23.9 | 8 5.5 | 5 59.1 | -13 12.9 | 104 30.6 | 21 36.8 | 219 32.7 | -3 9.2 |
| | 15 | 233 37.6 | 69 23.5 | 8 4.4 | 21 0.0 | -13 13.5 | 119 32.7 | 21 36.7 | 234 35.3 | -3 9.3 |
| | 16 | 248 40.1 | 84 23.1 | 8 3.3 | 36 0.8 | -13 14.1 | 134 34.9 | 21 36.7 | 249 37.9 | -3 9.3 |
| | 17 | 263 42.5 | 99 22.7 | 8 2.1 | 51 1.6 | -13 14.7 | 149 37.0 | 21 36.6 | 264 40.6 | -3 9.4 |
| | 18 | 278 45.0 | 114 22.2 | 8 1.0 | 66 2.4 | -13 15.3 | 164 39.1 | 21 36.6 | 279 43.2 | -3 9.5 |
| | 19 | 293 47.5 | 129 21.8 | 7 59.9 | 81 3.3 | -13 15.9 | 179 41.3 | 21 36.5 | 294 45.9 | -3 9.6 |
| | 20 | 308 49.9 | 144 21.4 | 7 58.8 | 96 4.1 | -13 16.5 | 194 43.4 | 21 36.5 | 309 48.5 | -3 9.7 |
| | 21 | 323 52.4 | 159 20.9 | 7 57.7 | 111 4.9 | -13 17.1 | 209 45.5 | 21 36.5 | 324 51.1 | -3 9.7 |
| | 22 | 338 54.9 | 174 20.5 | 7 56.6 | 126 5.8 | -13 17.6 | 224 47.7 | 21 36.4 | 339 53.8 | -3 9.8 |
| | 23 | 353 57.3 | 189 20.1 | 7 55.4 | 141 6.6 | -13 18.2 | 239 49.8 | 21 36.4 | 354 56.4 | -3 9.9 |
| | | MP 23:25 | *v* -0.4 | *d* -1.1 | *v* 0.8 | *d* 0.6 | *v* 2.1 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Tuesday | 0 | 8 59.8 | 204 19.7 | 7 54.3 | 156 7.4 | -13 18.8 | 254 51.9 | 21 36.3 | 9 59.1 | -3 10.0 |
| | 1 | 24 2.3 | 219 19.2 | 7 53.2 | 171 8.2 | -13 19.4 | 269 54.1 | 21 36.3 | 25 1.7 | -3 10.0 |
| | 2 | 39 4.7 | 234 18.8 | 7 52.1 | 186 9.1 | -13 20.0 | 284 56.2 | 21 36.2 | 40 4.3 | -3 10.1 |
| | 3 | 54 7.2 | 249 18.4 | 7 50.9 | 201 9.9 | -13 20.6 | 299 58.3 | 21 36.2 | 55 7.0 | -3 10.2 |
| | 4 | 69 9.6 | 264 17.9 | 7 49.8 | 216 10.7 | -13 21.2 | 315 0.5 | 21 36.1 | 70 9.6 | -3 10.3 |
| | 5 | 84 12.1 | 279 17.5 | 7 48.7 | 231 11.5 | -13 21.8 | 330 2.6 | 21 36.1 | 85 12.3 | -3 10.3 |
| | 6 | 99 14.6 | 294 17.1 | 7 47.6 | 246 12.4 | -13 22.4 | 345 4.7 | 21 36.0 | 100 14.9 | -3 10.4 |
| | 7 | 114 17.0 | 309 16.7 | 7 46.4 | 261 13.2 | -13 23.0 | 0 6.9 | 21 36.0 | 115 17.5 | -3 10.5 |
| | 8 | 129 19.5 | 324 16.2 | 7 45.3 | 276 14.0 | -13 23.6 | 15 9.0 | 21 35.9 | 130 20.2 | -3 10.6 |
| | 9 | 144 22.0 | 339 15.8 | 7 44.2 | 291 14.8 | -13 24.2 | 30 11.1 | 21 35.9 | 145 22.8 | -3 10.6 |
| | 10 | 159 24.4 | 354 15.4 | 7 43.1 | 306 15.7 | -13 24.8 | 45 13.3 | 21 35.9 | 160 25.4 | -3 10.7 |
| | 11 | 174 26.9 | 9 15.0 | 7 41.9 | 321 16.5 | -13 25.3 | 60 15.4 | 21 35.8 | 175 28.1 | -3 10.8 |
| | 12 | 189 29.4 | 24 14.5 | 7 40.8 | 336 17.3 | -13 25.9 | 75 17.5 | 21 35.8 | 190 30.7 | -3 10.9 |
| | 13 | 204 31.8 | 39 14.1 | 7 39.7 | 351 18.1 | -13 26.5 | 90 19.7 | 21 35.7 | 205 33.4 | -3 10.9 |
| | 14 | 219 34.3 | 54 13.7 | 7 38.6 | 6 19.0 | -13 27.1 | 105 21.8 | 21 35.7 | 220 36.0 | -3 11.0 |
| | 15 | 234 36.8 | 69 13.3 | 7 37.4 | 21 19.8 | -13 27.7 | 120 24.0 | 21 35.6 | 235 38.6 | -3 11.1 |
| | 16 | 249 39.2 | 84 12.8 | 7 36.3 | 36 20.6 | -13 28.3 | 135 26.1 | 21 35.6 | 250 41.3 | -3 11.2 |
| | 17 | 264 41.7 | 99 12.4 | 7 35.2 | 51 21.4 | -13 28.9 | 150 28.2 | 21 35.5 | 265 43.9 | -3 11.2 |
| | 18 | 279 44.1 | 114 12.0 | 7 34.1 | 66 22.3 | -13 29.5 | 165 30.4 | 21 35.5 | 280 46.6 | -3 11.3 |
| | 19 | 294 46.6 | 129 11.6 | 7 32.9 | 81 23.1 | -13 30.1 | 180 32.5 | 21 35.4 | 295 49.2 | -3 11.4 |
| | 20 | 309 49.1 | 144 11.1 | 7 31.8 | 96 23.9 | -13 30.7 | 195 34.6 | 21 35.4 | 310 51.8 | -3 11.4 |
| | 21 | 324 51.5 | 159 10.7 | 7 30.7 | 111 24.7 | -13 31.2 | 210 36.8 | 21 35.4 | 325 54.5 | -3 11.5 |
| | 22 | 339 54.0 | 174 10.3 | 7 29.5 | 126 25.5 | -13 31.8 | 225 38.9 | 21 35.3 | 340 57.1 | -3 11.6 |
| | 23 | 354 56.5 | 189 9.9 | 7 28.4 | 141 26.4 | -13 32.4 | 240 41.1 | 21 35.3 | 355 59.7 | -3 11.7 |
| | | MP 23:22 | *v* -0.4 | *d* -1.1 | *v* 0.8 | *d* 0.6 | *v* 2.1 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.0 | -40 11.8 |
| Achernar | 335 19.2 | -57 6.2 |
| Acrux | 173 0.2 | -63 14.5 |
| Adhara | 255 5.5 | -29 0.1 |
| Aldebaran | 290 38.8 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.3 |
| Alkaid | 152 52.0 | 49 11.2 |
| Alnair | 27 31.8 | -46 50.2 |
| Alnilam | 275 37.1 | -1 11.0 |
| Alphard | 217 47.4 | -8 46.0 |
| Alphecca | 126 3.5 | 26 37.9 |
| Alpheratz | 357 33.8 | 29 14.1 |
| Altair | 61 59.3 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.8 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.2 | -69 4.6 |
| Avior | 234 14.8 | -59 35.2 |
| Bellatrix | 278 22.2 | 6 22.5 |
| Betelgeuse | 270 51.4 | 7 24.8 |
| Canopus | 263 52.1 | -52 42.2 |
| Capella | 280 20.9 | 46 1.3 |
| Deneb | 49 25.2 | 45 22.6 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.6 |
| Dubhe | 193 40.9 | 61 36.7 |
| Elnath | 278 1.0 | 28 37.7 |
| Eltanin | 90 42.0 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.4 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.9 |
| Hamal | 327 50.2 | 23 35.1 |
| Kaus Aust. | 83 31.7 | -34 22.4 |
| Kochab | 137 20.7 | 74 3.1 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.3 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.8 | -69 49.1 |
| Mirfak | 308 27.1 | 49 57.1 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.5 | -56 39.3 |
| Pollux | 243 16.7 | 27 57.8 |
| Procyon | 244 50.3 | 5 9.7 |
| Rasalhague | 95 58.1 | 12 32.6 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.2 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.6 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.8 |
| Shaula | 96 9.7 | -37 7.4 |
| Sirius | 258 25.8 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.2 | -43 31.9 |
| Vega | 80 32.8 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 28 Sun | SHA | MP |
|---|---|---|
| Venus | 197 38.9 | 10:22 |
| Mars | 148 25.9 | 13:37 |
| Jupiter | 246 8.3 | 07:06 |
| Saturn | 0 50.9 | 23:24 |

| 29 Mon | SHA | MP |
|---|---|---|
| Venus | 196 29.3 | 10:22 |
| Mars | 147 46.8 | 13:36 |
| Jupiter | 246 0.2 | 07:03 |
| Saturn | 0 55.1 | 23:20 |

| 30 Tue | SHA | MP |
|---|---|---|
| Venus | 195 19.9 | 10:23 |
| Mars | 147 7.6 | 13:35 |
| Jupiter | 245 52.1 | 07:00 |
| Saturn | 0 59.3 | 23:16 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **28 Sunday** | 0 | 182 18.8 | -2 2.4 | 116 8.7 | 10.3 | -27 33.3 | 4.1 | 54.2 |
| | 1 | 197 19.1 | -2 3.3 | 130 38.0 | 10.3 | -27 37.3 | 3.9 | 54.3 |
| | 2 | 212 19.3 | -2 4.3 | 145 7.3 | 10.2 | -27 41.2 | 3.8 | 54.3 |
| | 3 | 227 19.5 | -2 5.3 | 159 36.5 | 10.2 | -27 45.0 | 3.7 | 54.3 |
| | 4 | 242 19.7 | -2 6.3 | 174 5.7 | 10.1 | -27 48.7 | 3.5 | 54.3 |
| | 5 | 257 19.9 | -2 7.2 | 188 34.8 | 10.1 | -27 52.2 | 3.4 | 54.3 |
| | 6 | 272 20.1 | -2 8.2 | 203 3.9 | 10.0 | -27 55.6 | 3.3 | 54.3 |
| | 7 | 287 20.3 | -2 9.2 | 217 32.9 | 10.0 | -27 58.9 | 3.1 | 54.3 |
| | 8 | 302 20.5 | -2 10.1 | 232 1.9 | 9.9 | -28 2.0 | 3.0 | 54.3 |
| | 9 | 317 20.7 | -2 11.1 | 246 30.8 | 9.9 | -28 5.0 | 2.9 | 54.4 |
| | 10 | 332 20.9 | -2 12.1 | 260 59.7 | 9.9 | -28 7.9 | 2.7 | 54.4 |
| | 11 | 347 21.2 | -2 13.1 | 275 28.6 | 9.8 | -28 10.6 | 2.6 | 54.4 |
| | 12 | 2 21.4 | -2 14.0 | 289 57.4 | 9.8 | -28 13.2 | 2.5 | 54.4 |
| | 13 | 17 21.6 | -2 15.0 | 304 26.2 | 9.7 | -28 15.6 | 2.3 | 54.4 |
| | 14 | 32 21.8 | -2 16.0 | 318 54.9 | 9.7 | -28 18.0 | 2.2 | 54.4 |
| | 15 | 47 22.0 | -2 17.0 | 333 23.6 | 9.6 | -28 20.1 | 2.0 | 54.4 |
| | 16 | 62 22.2 | -2 17.9 | 347 52.2 | 9.6 | -28 22.2 | 1.9 | 54.5 |
| | 17 | 77 22.4 | -2 18.9 | 2 20.8 | 9.6 | -28 24.1 | 1.8 | 54.5 |
| | 18 | 92 22.6 | -2 19.9 | 16 49.4 | 9.5 | -28 25.9 | 1.6 | 54.5 |
| | 19 | 107 22.8 | -2 20.8 | 31 18.0 | 9.5 | -28 27.5 | 1.5 | 54.5 |
| | 20 | 122 23.0 | -2 21.8 | 45 46.5 | 9.5 | -28 29.0 | 1.3 | 54.5 |
| | 21 | 137 23.2 | -2 22.8 | 60 14.9 | 9.4 | -28 30.3 | 1.2 | 54.5 |
| | 22 | 152 23.4 | -2 23.8 | 74 43.4 | 9.4 | -28 31.5 | 1.1 | 54.5 |
| | 23 | 167 23.7 | -2 24.7 | 89 11.8 | 9.4 | -28 32.6 | 0.9 | 54.6 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **29 Monday** | 0 | 182 23.9 | -2 25.7 | 103 40.1 | 9.3 | -28 33.5 | 0.8 | 54.6 |
| | 1 | 197 24.1 | -2 26.7 | 118 8.5 | 9.3 | -28 34.3 | 0.6 | 54.6 |
| | 2 | 212 24.3 | -2 27.6 | 132 36.8 | 9.3 | -28 34.9 | 0.5 | 54.6 |
| | 3 | 227 24.5 | -2 28.6 | 147 5.1 | 9.3 | -28 35.4 | 0.4 | 54.6 |
| | 4 | 242 24.7 | -2 29.6 | 161 33.3 | 9.2 | -28 35.8 | 0.2 | 54.6 |
| | 5 | 257 24.9 | -2 30.6 | 176 1.6 | 9.2 | -28 36.0 | 0.1 | 54.7 |
| | 6 | 272 25.1 | -2 31.5 | 190 29.8 | 9.2 | -28 36.1 | -0.1 | 54.7 |
| | 7 | 287 25.3 | -2 32.5 | 204 58.0 | 9.2 | -28 36.0 | -0.2 | 54.7 |
| | 8 | 302 25.5 | -2 33.5 | 219 26.1 | 9.1 | -28 35.8 | -0.4 | 54.7 |
| | 9 | 317 25.7 | -2 34.4 | 233 54.3 | 9.1 | -28 35.4 | -0.5 | 54.7 |
| | 10 | 332 25.9 | -2 35.4 | 248 22.4 | 9.1 | -28 34.9 | -0.7 | 54.8 |
| | 11 | 347 26.1 | -2 36.4 | 262 50.5 | 9.1 | -28 34.3 | -0.8 | 54.8 |
| | 12 | 2 26.3 | -2 37.4 | 277 18.6 | 9.1 | -28 33.5 | -0.9 | 54.8 |
| | 13 | 17 26.6 | -2 38.3 | 291 46.7 | 9.1 | -28 32.5 | -1.1 | 54.8 |
| | 14 | 32 26.8 | -2 39.3 | 306 14.8 | 9.0 | -28 31.4 | -1.2 | 54.8 |
| | 15 | 47 27.0 | -2 40.3 | 320 42.8 | 9.0 | -28 30.2 | -1.4 | 54.9 |
| | 16 | 62 27.2 | -2 41.2 | 335 10.8 | 9.0 | -28 28.8 | -1.5 | 54.9 |
| | 17 | 77 27.4 | -2 42.2 | 349 38.9 | 9.0 | -28 27.3 | -1.7 | 54.9 |
| | 18 | 92 27.6 | -2 43.2 | 4 6.9 | 9.0 | -28 25.6 | -1.8 | 54.9 |
| | 19 | 107 27.8 | -2 44.2 | 18 34.9 | 9.0 | -28 23.8 | -2.0 | 55.0 |
| | 20 | 122 28.0 | -2 45.1 | 33 2.9 | 9.0 | -28 21.9 | -2.1 | 55.0 |
| | 21 | 137 28.2 | -2 46.1 | 47 30.9 | 9.0 | -28 19.8 | -2.3 | 55.0 |
| | 22 | 152 28.4 | -2 47.1 | 61 58.8 | 9.0 | -28 17.5 | -2.4 | 55.0 |
| | 23 | 167 28.6 | -2 48.0 | 76 26.8 | 9.0 | -28 15.1 | -2.5 | 55.1 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **30 Tuesday** | 0 | 182 28.8 | -2 49.0 | 90 54.8 | 9.0 | -28 12.6 | -2.7 | 55.1 |
| | 1 | 197 29.0 | -2 50.0 | 105 22.8 | 9.0 | -28 9.9 | -2.8 | 55.1 |
| | 2 | 212 29.2 | -2 50.9 | 119 50.8 | 9.0 | -28 7.0 | -3.0 | 55.1 |
| | 3 | 227 29.4 | -2 51.9 | 134 18.7 | 9.0 | -28 4.0 | -3.1 | 55.1 |
| | 4 | 242 29.6 | -2 52.9 | 148 46.7 | 9.0 | -28 0.9 | -3.3 | 55.2 |
| | 5 | 257 29.8 | -2 53.9 | 163 14.7 | 9.0 | -27 57.6 | -3.4 | 55.2 |
| | 6 | 272 30.0 | -2 54.8 | 177 42.7 | 9.0 | -27 54.2 | -3.6 | 55.2 |
| | 7 | 287 30.3 | -2 55.8 | 192 10.7 | 9.0 | -27 50.6 | -3.7 | 55.3 |
| | 8 | 302 30.5 | -2 56.8 | 206 38.6 | 9.0 | -27 46.9 | -3.9 | 55.3 |
| | 9 | 317 30.7 | -2 57.7 | 221 6.6 | 9.0 | -27 43.1 | -4.0 | 55.3 |
| | 10 | 332 30.9 | -2 58.7 | 235 34.6 | 9.0 | -27 39.0 | -4.2 | 55.3 |
| | 11 | 347 31.1 | -2 59.7 | 250 2.7 | 9.0 | -27 34.9 | -4.3 | 55.4 |
| | 12 | 2 31.3 | -3 0.7 | 264 30.7 | 9.0 | -27 30.6 | -4.4 | 55.4 |
| | 13 | 17 31.5 | -3 1.6 | 278 58.7 | 9.0 | -27 26.1 | -4.6 | 55.4 |
| | 14 | 32 31.7 | -3 2.6 | 293 26.8 | 9.1 | -27 21.6 | -4.7 | 55.4 |
| | 15 | 47 31.9 | -3 3.6 | 307 54.8 | 9.1 | -27 16.8 | -4.9 | 55.5 |
| | 16 | 62 32.1 | -3 4.5 | 322 22.9 | 9.1 | -27 11.9 | -5.0 | 55.5 |
| | 17 | 77 32.3 | -3 5.5 | 336 51.0 | 9.1 | -27 6.9 | -5.2 | 55.5 |
| | 18 | 92 32.5 | -3 6.5 | 351 19.1 | 9.1 | -27 1.7 | -5.3 | 55.6 |
| | 19 | 107 32.7 | -3 7.4 | 5 47.2 | 9.1 | -26 56.4 | -5.5 | 55.6 |
| | 20 | 122 32.9 | -3 8.4 | 20 15.4 | 9.2 | -26 51.0 | -5.6 | 55.6 |
| | 21 | 137 33.1 | -3 9.4 | 34 43.5 | 9.2 | -26 45.3 | -5.7 | 55.6 |
| | 22 | 152 33.3 | -3 10.3 | 49 11.7 | 9.2 | -26 39.6 | -5.9 | 55.7 |
| | 23 | 167 33.5 | -3 11.3 | 63 39.9 | 9.2 | -26 33.7 | -6.0 | 55.7 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 15.0 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 03:34 | 04:59 | 06:06 | 17:33 | 18:40 | 20:03 |
| 70 | 03:49 | 05:04 | 06:04 | 17:35 | 18:35 | 19:49 |
| 68 | 04:00 | 05:07 | 06:03 | 17:36 | 18:31 | 19:38 |
| 66 | 04:09 | 05:11 | 06:02 | 17:38 | 18:29 | 19:30 |
| 64 | 04:17 | 05:13 | 06:01 | 17:39 | 18:26 | 19:22 |
| 62 | 04:23 | 05:15 | 06:00 | 17:40 | 18:24 | 19:16 |
| 60 | 04:28 | 05:17 | 05:59 | 17:41 | 18:22 | 19:11 |
| 58 | 04:33 | 05:19 | 05:58 | 17:42 | 18:21 | 19:07 |
| 56 | 04:37 | 05:20 | 05:57 | 17:43 | 18:20 | 19:03 |
| 54 | 04:40 | 05:22 | 05:57 | 17:43 | 18:18 | 19:00 |
| 52 | 04:43 | 05:23 | 05:56 | 17:44 | 18:18 | 18:57 |
| 50 | 04:46 | 05:23 | 05:56 | 17:45 | 18:17 | 18:54 |
| 45 | 04:51 | 05:25 | 05:54 | 17:46 | 18:15 | 18:49 |
| 40 | 04:55 | 05:26 | 05:53 | 17:47 | 18:14 | 18:45 |
| 35 | 04:58 | 05:27 | 05:53 | 17:48 | 18:13 | 18:43 |
| 30 | 05:00 | 05:28 | 05:52 | 17:49 | 18:13 | 18:41 |
| 20 | 05:03 | 05:28 | 05:50 | 17:51 | 18:13 | 18:38 |
| 10 | 05:03 | 05:28 | 05:49 | 17:52 | 18:13 | 18:38 |
| 0 | 05:03 | 05:27 | 05:47 | 17:54 | 18:15 | 18:39 |
| -10 | 05:00 | 05:25 | 05:46 | 17:56 | 18:17 | 18:41 |
| -20 | 04:56 | 05:22 | 05:44 | 17:57 | 18:19 | 18:45 |
| -30 | 04:50 | 05:18 | 05:42 | 18:00 | 18:24 | 18:52 |
| -35 | 04:46 | 05:15 | 05:41 | 18:01 | 18:26 | 18:56 |
| -40 | 04:40 | 05:12 | 05:39 | 18:03 | 18:30 | 19:02 |
| -45 | 04:33 | 05:08 | 05:37 | 18:05 | 18:34 | 19:09 |
| -50 | 04:24 | 05:03 | 05:35 | 18:07 | 18:39 | 19:18 |
| -52 | 04:20 | 05:00 | 05:34 | 18:08 | 18:42 | 19:22 |
| -54 | 04:15 | 04:58 | 05:33 | 18:09 | 18:45 | 19:27 |
| -56 | 04:10 | 04:55 | 05:32 | 18:10 | 18:48 | 19:33 |
| -58 | 04:03 | 04:51 | 05:31 | 18:12 | 18:51 | 19:40 |
| -60 | 03:56 | 04:47 | 05:29 | 18:13 | 18:56 | 19:47 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **28** | **29** | **30** | **28** | **29** | **30** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | | | | |
| 62 | | | 17:33 | | | 19:46 |
| 60 | 15:26 | 16:22 | 16:45 | 18:12 | 19:06 | 20:34 |
| 58 | 14:46 | 15:41 | 16:14 | 18:52 | 19:46 | 21:05 |
| 56 | 14:18 | 15:13 | 15:50 | 19:20 | 20:14 | 21:28 |
| 54 | 13:57 | 14:51 | 15:31 | 19:42 | 20:36 | 21:47 |
| 52 | 13:39 | 14:33 | 15:15 | 20:00 | 20:54 | 22:02 |
| 50 | 13:23 | 14:18 | 15:01 | 20:15 | 21:10 | 22:16 |
| 45 | 12:53 | 13:47 | 14:33 | 20:46 | 21:40 | 22:44 |
| 40 | 12:29 | 13:23 | 14:10 | 21:10 | 22:04 | 23:06 |
| 35 | 12:09 | 13:03 | 13:52 | 21:30 | 22:24 | 23:24 |
| 30 | 11:53 | 12:46 | 13:36 | 21:47 | 22:41 | 23:39 |
| 20 | 11:24 | 12:18 | 13:08 | 22:16 | 23:09 | –:– |
| 10 | 11:00 | 11:53 | 12:45 | 22:40 | 23:33 | –:– |
| 0 | 10:38 | 11:30 | 12:23 | 23:03 | 23:56 | –:– |
| -10 | 10:15 | 11:07 | 12:01 | 23:26 | –:– | 00:18 |
| -20 | 09:51 | 10:43 | 11:38 | 23:50 | –:– | 00:42 |
| -30 | 09:23 | 10:14 | 11:11 | –:– | 00:19 | 01:10 |
| -35 | 09:07 | 09:57 | 10:54 | –:– | 00:36 | 01:27 |
| -40 | 08:48 | 09:38 | 10:36 | –:– | 00:55 | 01:46 |
| -45 | 08:25 | 09:14 | 10:13 | 00:21 | 01:19 | 02:09 |
| -50 | 07:55 | 08:43 | 09:43 | 00:51 | 01:50 | 02:39 |
| -52 | 07:40 | 08:27 | 09:29 | 01:05 | 02:06 | 02:54 |
| -54 | 07:23 | 08:09 | 09:12 | 01:22 | 02:24 | 03:11 |
| -56 | 07:03 | 07:47 | 08:52 | 01:42 | 02:45 | 03:31 |
| -58 | 06:38 | 07:19 | 08:27 | 02:07 | 03:13 | 03:57 |
| -60 | 06:03 | 06:39 | 07:52 | 02:41 | 03:54 | 04:32 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **28** | 09:15 | 09:25 | 11:51 | 16:50 | 04:24 | 6 | 31 |
| **29** | 09:35 | 09:45 | 11:50 | 17:43 | 05:16 | 7 | 40 |
| **30** | 09:55 | 10:05 | 11:50 | 18:36 | 06:09 | 8 | 50 |

## 2025 October 01, 02, 03 (Wed, Thu, Fri)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.6 GHA | Mars 1.6 Dec | Jupiter -2.1 GHA | Jupiter -2.1 Dec | Saturn 0.6 GHA | Saturn 0.6 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 Wednesday | 0 | 9 58.9 | 204 9.5 | 7 27.3 | 156 27.2 | -13 33.0 | 255 43.2 | 21 35.2 | 11 2.4 | -3 11.7 |
| | 1 | 25 1.4 | 219 9.0 | 7 26.1 | 171 28.0 | -13 33.6 | 270 45.3 | 21 35.2 | 26 5.0 | -3 11.8 |
| | 2 | 40 3.9 | 234 8.6 | 7 25.0 | 186 28.8 | -13 34.2 | 285 47.5 | 21 35.1 | 41 7.7 | -3 11.9 |
| | 3 | 55 6.3 | 249 8.2 | 7 23.9 | 201 29.7 | -13 34.8 | 300 49.6 | 21 35.1 | 56 10.3 | -3 12.0 |
| | 4 | 70 8.8 | 264 7.8 | 7 22.7 | 216 30.5 | -13 35.4 | 315 51.8 | 21 35.0 | 71 12.9 | -3 12.0 |
| | 5 | 85 11.2 | 279 7.3 | 7 21.6 | 231 31.3 | -13 36.0 | 330 53.9 | 21 35.0 | 86 15.6 | -3 12.1 |
| | 6 | 100 13.7 | 294 6.9 | 7 20.5 | 246 32.1 | -13 36.5 | 345 56.0 | 21 35.0 | 101 18.2 | -3 12.2 |
| | 7 | 115 16.2 | 309 6.5 | 7 19.3 | 261 32.9 | -13 37.1 | 0 58.2 | 21 34.9 | 116 20.8 | -3 12.3 |
| | 8 | 130 18.6 | 324 6.1 | 7 18.2 | 276 33.8 | -13 37.7 | 16 0.3 | 21 34.9 | 131 23.5 | -3 12.3 |
| | 9 | 145 21.1 | 339 5.7 | 7 17.1 | 291 34.6 | -13 38.3 | 31 2.5 | 21 34.8 | 146 26.1 | -3 12.4 |
| | 10 | 160 23.6 | 354 5.2 | 7 15.9 | 306 35.4 | -13 38.9 | 46 4.6 | 21 34.8 | 161 28.8 | -3 12.5 |
| | 11 | 175 26.0 | 9 4.8 | 7 14.8 | 321 36.2 | -13 39.5 | 61 6.7 | 21 34.7 | 176 31.4 | -3 12.6 |
| | 12 | 190 28.5 | 24 4.4 | 7 13.7 | 336 37.0 | -13 40.1 | 76 8.9 | 21 34.7 | 191 34.0 | -3 12.6 |
| | 13 | 205 31.0 | 39 4.0 | 7 12.5 | 351 37.8 | -13 40.7 | 91 11.0 | 21 34.6 | 206 36.7 | -3 12.7 |
| | 14 | 220 33.4 | 54 3.6 | 7 11.4 | 6 38.7 | -13 41.3 | 106 13.2 | 21 34.6 | 221 39.3 | -3 12.8 |
| | 15 | 235 35.9 | 69 3.1 | 7 10.3 | 21 39.5 | -13 41.8 | 121 15.3 | 21 34.5 | 236 41.9 | -3 12.9 |
| | 16 | 250 38.4 | 84 2.7 | 7 9.1 | 36 40.3 | -13 42.4 | 136 17.5 | 21 34.5 | 251 44.6 | -3 12.9 |
| | 17 | 265 40.8 | 99 2.3 | 7 8.0 | 51 41.1 | -13 43.0 | 151 19.6 | 21 34.5 | 266 47.2 | -3 13.0 |
| | 18 | 280 43.3 | 114 1.9 | 7 6.9 | 66 41.9 | -13 43.6 | 166 21.8 | 21 34.4 | 281 49.9 | -3 13.1 |
| | 19 | 295 45.7 | 129 1.5 | 7 5.7 | 81 42.8 | -13 44.2 | 181 23.9 | 21 34.4 | 296 52.5 | -3 13.2 |
| | 20 | 310 48.2 | 144 1.0 | 7 4.6 | 96 43.6 | -13 44.8 | 196 26.0 | 21 34.3 | 311 55.1 | -3 13.2 |
| | 21 | 325 50.7 | 159 0.6 | 7 3.4 | 111 44.4 | -13 45.4 | 211 28.2 | 21 34.3 | 326 57.8 | -3 13.3 |
| | 22 | 340 53.1 | 174 0.2 | 7 2.3 | 126 45.2 | -13 45.9 | 226 30.3 | 21 34.2 | 342 0.4 | -3 13.4 |
| | 23 | 355 55.6 | 188 59.8 | 7 1.2 | 141 46.0 | -13 46.5 | 241 32.5 | 21 34.2 | 357 3.0 | -3 13.5 |
| | | MP 23:18 | *v* -0.4 | *d* -1.1 | *v* 0.8 | *d* 0.6 | *v* 2.1 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.6 GHA | Mars 1.6 Dec | Jupiter -2.1 GHA | Jupiter -2.1 Dec | Saturn 0.6 GHA | Saturn 0.6 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 Thursday | 0 | 10 58.1 | 203 59.4 | 7 0.0 | 156 46.8 | -13 47.1 | 256 34.6 | 21 34.1 | 12 5.7 | -3 13.5 |
| | 1 | 26 0.5 | 218 59.0 | 6 58.9 | 171 47.6 | -13 47.7 | 271 36.8 | 21 34.1 | 27 8.3 | -3 13.6 |
| | 2 | 41 3.0 | 233 58.5 | 6 57.7 | 186 48.5 | -13 48.3 | 286 38.9 | 21 34.1 | 42 11.0 | -3 13.7 |
| | 3 | 56 5.5 | 248 58.1 | 6 56.6 | 201 49.3 | -13 48.9 | 301 41.1 | 21 34.0 | 57 13.6 | -3 13.8 |
| | 4 | 71 7.9 | 263 57.7 | 6 55.5 | 216 50.1 | -13 49.5 | 316 43.2 | 21 34.0 | 72 16.2 | -3 13.8 |
| | 5 | 86 10.4 | 278 57.3 | 6 54.3 | 231 50.9 | -13 50.0 | 331 45.4 | 21 33.9 | 87 18.9 | -3 13.9 |
| | 6 | 101 12.9 | 293 56.9 | 6 53.2 | 246 51.7 | -13 50.6 | 346 47.5 | 21 33.9 | 102 21.5 | -3 14.0 |
| | 7 | 116 15.3 | 308 56.4 | 6 52.0 | 261 52.5 | -13 51.2 | 1 49.7 | 21 33.8 | 117 24.1 | -3 14.0 |
| | 8 | 131 17.8 | 323 56.0 | 6 50.9 | 276 53.4 | -13 51.8 | 16 51.8 | 21 33.8 | 132 26.8 | -3 14.1 |
| | 9 | 146 20.2 | 338 55.6 | 6 49.7 | 291 54.2 | -13 52.4 | 31 53.9 | 21 33.7 | 147 29.4 | -3 14.2 |
| | 10 | 161 22.7 | 353 55.2 | 6 48.6 | 306 55.0 | -13 53.0 | 46 56.1 | 21 33.7 | 162 32.0 | -3 14.3 |
| | 11 | 176 25.2 | 8 54.8 | 6 47.5 | 321 55.8 | -13 53.6 | 61 58.2 | 21 33.7 | 177 34.7 | -3 14.3 |
| | 12 | 191 27.6 | 23 54.4 | 6 46.3 | 336 56.6 | -13 54.1 | 77 0.4 | 21 33.6 | 192 37.3 | -3 14.4 |
| | 13 | 206 30.1 | 38 54.0 | 6 45.2 | 351 57.4 | -13 54.7 | 92 2.5 | 21 33.6 | 207 40.0 | -3 14.5 |
| | 14 | 221 32.6 | 53 53.5 | 6 44.0 | 6 58.2 | -13 55.3 | 107 4.7 | 21 33.5 | 222 42.6 | -3 14.6 |
| | 15 | 236 35.0 | 68 53.1 | 6 42.9 | 21 59.0 | -13 55.9 | 122 6.8 | 21 33.5 | 237 45.2 | -3 14.6 |
| | 16 | 251 37.5 | 83 52.7 | 6 41.7 | 36 59.9 | -13 56.5 | 137 9.0 | 21 33.4 | 252 47.9 | -3 14.7 |
| | 17 | 266 40.0 | 98 52.3 | 6 40.6 | 52 0.7 | -13 57.1 | 152 11.1 | 21 33.4 | 267 50.5 | -3 14.8 |
| | 18 | 281 42.4 | 113 51.9 | 6 39.4 | 67 1.5 | -13 57.6 | 167 13.3 | 21 33.4 | 282 53.1 | -3 14.9 |
| | 19 | 296 44.9 | 128 51.5 | 6 38.3 | 82 2.3 | -13 58.2 | 182 15.4 | 21 33.3 | 297 55.8 | -3 14.9 |
| | 20 | 311 47.3 | 143 51.0 | 6 37.1 | 97 3.1 | -13 58.8 | 197 17.6 | 21 33.3 | 312 58.4 | -3 15.0 |
| | 21 | 326 49.8 | 158 50.6 | 6 36.0 | 112 3.9 | -13 59.4 | 212 19.8 | 21 33.2 | 328 1.0 | -3 15.1 |
| | 22 | 341 52.3 | 173 50.2 | 6 34.8 | 127 4.7 | -14 0.0 | 227 21.9 | 21 33.2 | 343 3.7 | -3 15.2 |
| | 23 | 356 54.7 | 188 49.8 | 6 33.7 | 142 5.5 | -14 0.6 | 242 24.1 | 21 33.1 | 358 6.3 | -3 15.2 |
| | | MP 23:14 | *v* -0.4 | *d* -1.1 | *v* 0.8 | *d* 0.6 | *v* 2.1 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.6 GHA | Mars 1.6 Dec | Jupiter -2.1 GHA | Jupiter -2.1 Dec | Saturn 0.6 GHA | Saturn 0.6 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 03 Friday | 0 | 11 57.2 | 203 49.4 | 6 32.5 | 157 6.3 | -14 1.1 | 257 26.2 | 21 33.1 | 13 9.0 | -3 15.3 |
| | 1 | 26 59.7 | 218 49.0 | 6 31.4 | 172 7.1 | -14 1.7 | 272 28.4 | 21 33.0 | 28 11.6 | -3 15.4 |
| | 2 | 42 2.1 | 233 48.6 | 6 30.2 | 187 8.0 | -14 2.3 | 287 30.5 | 21 33.0 | 43 14.2 | -3 15.4 |
| | 3 | 57 4.6 | 248 48.1 | 6 29.1 | 202 8.8 | -14 2.9 | 302 32.7 | 21 33.0 | 58 16.9 | -3 15.5 |
| | 4 | 72 7.1 | 263 47.7 | 6 27.9 | 217 9.6 | -14 3.5 | 317 34.8 | 21 32.9 | 73 19.5 | -3 15.6 |
| | 5 | 87 9.5 | 278 47.3 | 6 26.8 | 232 10.4 | -14 4.0 | 332 37.0 | 21 32.9 | 88 22.1 | -3 15.7 |
| | 6 | 102 12.0 | 293 46.9 | 6 25.6 | 247 11.2 | -14 4.6 | 347 39.1 | 21 32.8 | 103 24.8 | -3 15.7 |
| | 7 | 117 14.5 | 308 46.5 | 6 24.5 | 262 12.0 | -14 5.2 | 2 41.3 | 21 32.8 | 118 27.4 | -3 15.8 |
| | 8 | 132 16.9 | 323 46.1 | 6 23.3 | 277 12.8 | -14 5.8 | 17 43.4 | 21 32.7 | 133 30.0 | -3 15.9 |
| | 9 | 147 19.4 | 338 45.7 | 6 22.2 | 292 13.6 | -14 6.4 | 32 45.6 | 21 32.7 | 148 32.7 | -3 16.0 |
| | 10 | 162 21.8 | 353 45.3 | 6 21.0 | 307 14.4 | -14 6.9 | 47 47.7 | 21 32.7 | 163 35.3 | -3 16.0 |
| | 11 | 177 24.3 | 8 44.8 | 6 19.9 | 322 15.2 | -14 7.5 | 62 49.9 | 21 32.6 | 178 38.0 | -3 16.1 |
| | 12 | 192 26.8 | 23 44.4 | 6 18.7 | 337 16.0 | -14 8.1 | 77 52.1 | 21 32.6 | 193 40.6 | -3 16.2 |
| | 13 | 207 29.2 | 38 44.0 | 6 17.6 | 352 16.8 | -14 8.7 | 92 54.2 | 21 32.5 | 208 43.2 | -3 16.2 |
| | 14 | 222 31.7 | 53 43.6 | 6 16.4 | 7 17.7 | -14 9.3 | 107 56.4 | 21 32.5 | 223 45.9 | -3 16.3 |
| | 15 | 237 34.2 | 68 43.2 | 6 15.3 | 22 18.5 | -14 9.8 | 122 58.5 | 21 32.4 | 238 48.5 | -3 16.4 |
| | 16 | 252 36.6 | 83 42.8 | 6 14.1 | 37 19.3 | -14 10.4 | 138 0.7 | 21 32.4 | 253 51.1 | -3 16.5 |
| | 17 | 267 39.1 | 98 42.4 | 6 13.0 | 52 20.1 | -14 11.0 | 153 2.8 | 21 32.4 | 268 53.8 | -3 16.5 |
| | 18 | 282 41.6 | 113 42.0 | 6 11.8 | 67 20.9 | -14 11.6 | 168 5.0 | 21 32.3 | 283 56.4 | -3 16.6 |
| | 19 | 297 44.0 | 128 41.6 | 6 10.6 | 82 21.7 | -14 12.2 | 183 7.2 | 21 32.3 | 298 59.0 | -3 16.7 |
| | 20 | 312 46.5 | 143 41.1 | 6 9.5 | 97 22.5 | -14 12.7 | 198 9.3 | 21 32.2 | 314 1.7 | -3 16.8 |
| | 21 | 327 49.0 | 158 40.7 | 6 8.3 | 112 23.3 | -14 13.3 | 213 11.5 | 21 32.2 | 329 4.3 | -3 16.8 |
| | 22 | 342 51.4 | 173 40.3 | 6 7.2 | 127 24.1 | -14 13.9 | 228 13.6 | 21 32.1 | 344 6.9 | -3 16.9 |
| | 23 | 357 53.9 | 188 39.9 | 6 6.0 | 142 24.9 | -14 14.5 | 243 15.8 | 21 32.1 | 359 9.6 | -3 17.0 |
| | | MP 23:10 | *v* -0.4 | *d* -1.1 | *v* 0.8 | *d* 0.6 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.0 | -40 11.8 |
| Achernar | 335 19.1 | -57 6.2 |
| Acrux | 173 0.2 | -63 14.5 |
| Adhara | 255 5.4 | -29 0.1 |
| Aldebaran | 290 38.8 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.3 |
| Alkaid | 152 52.0 | 49 11.2 |
| Alnair | 27 31.8 | -46 50.2 |
| Alnilam | 275 37.0 | -1 11.0 |
| Alphard | 217 47.4 | -8 46.0 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.1 |
| Altair | 61 59.3 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.8 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.2 | -69 4.6 |
| Avior | 234 14.8 | -59 35.2 |
| Bellatrix | 278 22.1 | 6 22.5 |
| Betelgeuse | 270 51.4 | 7 24.8 |
| Canopus | 263 52.1 | -52 42.2 |
| Capella | 280 20.9 | 46 1.3 |
| Deneb | 49 25.2 | 45 22.6 |
| Denebola | 182 24.7 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.6 |
| Dubhe | 193 40.8 | 61 36.7 |
| Elnath | 278 1.0 | 28 37.7 |
| Eltanin | 90 42.0 | 51 29.4 |
| Enif | 33 38.0 | 9 59.7 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.4 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.9 |
| Hamal | 327 50.2 | 23 35.2 |
| Kaus Aust. | 83 31.7 | -34 22.4 |
| Kochab | 137 20.7 | 74 3.1 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.3 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.8 | -69 49.0 |
| Mirfak | 308 27.1 | 49 57.1 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.5 | -56 39.3 |
| Pollux | 243 16.7 | 27 57.8 |
| Procyon | 244 50.3 | 5 9.7 |
| Rasalhague | 95 58.1 | 12 32.6 |
| Regulus | 207 34.1 | 11 50.6 |
| Rigel | 281 3.2 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.6 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.8 |
| Shaula | 96 9.7 | -37 7.4 |
| Sirius | 258 25.7 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.2 | -43 31.9 |
| Vega | 80 32.8 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 01 Wed | SHA | MP |
|---|---|---|
| Venus | 194 10.5 | 10:24 |
| Mars | 146 28.3 | 13:33 |
| Jupiter | 245 44.3 | 06:56 |
| Saturn | 1 3.5 | 23:12 |

| 02 Thu | SHA | MP |
|---|---|---|
| Venus | 193 1.3 | 10:24 |
| Mars | 145 48.8 | 13:32 |
| Jupiter | 245 36.6 | 06:53 |
| Saturn | 1 7.6 | 23:08 |

| 03 Fri | SHA | MP |
|---|---|---|
| Venus | 191 52.2 | 10:25 |
| Mars | 145 9.1 | 13:31 |
| Jupiter | 245 29.0 | 06:49 |
| Saturn | 1 11.8 | 23:03 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **01 Wednesday** | 0 | 182 33.7 | -3 12.3 | 78 8.1 | 9.2 | -26 27.7 | -6.2 | 55.7 |
| | 1 | 197 33.9 | -3 13.3 | 92 36.4 | 9.3 | -26 21.5 | -6.3 | 55.8 |
| | 2 | 212 34.1 | -3 14.2 | 107 4.6 | 9.3 | -26 15.2 | -6.5 | 55.8 |
| | 3 | 227 34.3 | -3 15.2 | 121 32.9 | 9.3 | -26 8.7 | -6.6 | 55.8 |
| | 4 | 242 34.5 | -3 16.2 | 136 1.2 | 9.3 | -26 2.1 | -6.7 | 55.9 |
| | 5 | 257 34.7 | -3 17.1 | 150 29.6 | 9.4 | -25 55.4 | -6.9 | 55.9 |
| | 6 | 272 34.9 | -3 18.1 | 164 58.0 | 9.4 | -25 48.5 | -7.0 | 55.9 |
| | 7 | 287 35.1 | -3 19.1 | 179 26.3 | 9.4 | -25 41.4 | -7.2 | 55.9 |
| | 8 | 302 35.3 | -3 20.0 | 193 54.8 | 9.4 | -25 34.3 | -7.3 | 56.0 |
| | 9 | 317 35.5 | -3 21.0 | 208 23.2 | 9.5 | -25 27.0 | -7.4 | 56.0 |
| | 10 | 332 35.7 | -3 22.0 | 222 51.7 | 9.5 | -25 19.5 | -7.6 | 56.0 |
| | 11 | 347 35.9 | -3 22.9 | 237 20.2 | 9.5 | -25 11.9 | -7.7 | 56.1 |
| | 12 | 2 36.1 | -3 23.9 | 251 48.7 | 9.6 | -25 4.2 | -7.9 | 56.1 |
| | 13 | 17 36.3 | -3 24.9 | 266 17.3 | 9.6 | -24 56.4 | -8.0 | 56.1 |
| | 14 | 32 36.5 | -3 25.8 | 280 45.9 | 9.6 | -24 48.4 | -8.1 | 56.2 |
| | 15 | 47 36.7 | -3 26.8 | 295 14.5 | 9.7 | -24 40.2 | -8.3 | 56.2 |
| | 16 | 62 36.9 | -3 27.8 | 309 43.2 | 9.7 | -24 31.9 | -8.4 | 56.2 |
| | 17 | 77 37.1 | -3 28.8 | 324 11.9 | 9.7 | -24 23.5 | -8.5 | 56.3 |
| | 18 | 92 37.3 | -3 29.7 | 338 40.6 | 9.8 | -24 15.0 | -8.7 | 56.3 |
| | 19 | 107 37.5 | -3 30.7 | 353 9.3 | 9.8 | -24 6.3 | -8.8 | 56.3 |
| | 20 | 122 37.7 | -3 31.7 | 7 38.1 | 9.8 | -23 57.5 | -8.9 | 56.4 |
| | 21 | 137 37.9 | -3 32.6 | 22 6.9 | 9.9 | -23 48.6 | -9.1 | 56.4 |
| | 22 | 152 38.1 | -3 33.6 | 36 35.8 | 9.9 | -23 39.5 | -9.2 | 56.5 |
| | 23 | 167 38.3 | -3 34.6 | 51 4.7 | 9.9 | -23 30.3 | -9.3 | 56.5 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 15.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **02 Thursday** | 0 | 182 38.5 | -3 35.5 | 65 33.6 | 10.0 | -23 20.9 | -9.5 | 56.5 |
| | 1 | 197 38.7 | -3 36.5 | 80 2.6 | 10.0 | -23 11.4 | -9.6 | 56.6 |
| | 2 | 212 38.9 | -3 37.5 | 94 31.6 | 10.0 | -23 1.8 | -9.7 | 56.6 |
| | 3 | 227 39.1 | -3 38.4 | 109 0.6 | 10.1 | -22 52.1 | -9.9 | 56.6 |
| | 4 | 242 39.3 | -3 39.4 | 123 29.7 | 10.1 | -22 42.2 | -10.0 | 56.7 |
| | 5 | 257 39.5 | -3 40.4 | 137 58.8 | 10.1 | -22 32.2 | -10.1 | 56.7 |
| | 6 | 272 39.7 | -3 41.3 | 152 27.9 | 10.2 | -22 22.1 | -10.2 | 56.7 |
| | 7 | 287 39.9 | -3 42.3 | 166 57.1 | 10.2 | -22 11.9 | -10.4 | 56.8 |
| | 8 | 302 40.1 | -3 43.3 | 181 26.3 | 10.3 | -22 1.5 | -10.5 | 56.8 |
| | 9 | 317 40.3 | -3 44.2 | 195 55.6 | 10.3 | -21 51.0 | -10.6 | 56.9 |
| | 10 | 332 40.5 | -3 45.2 | 210 24.9 | 10.3 | -21 40.4 | -10.8 | 56.9 |
| | 11 | 347 40.7 | -3 46.2 | 224 54.2 | 10.4 | -21 29.6 | -10.9 | 56.9 |
| | 12 | 2 40.9 | -3 47.1 | 239 23.5 | 10.4 | -21 18.7 | -11.0 | 57.0 |
| | 13 | 17 41.1 | -3 48.1 | 253 52.9 | 10.4 | -21 7.7 | -11.1 | 57.0 |
| | 14 | 32 41.3 | -3 49.1 | 268 22.4 | 10.5 | -20 56.6 | -11.2 | 57.0 |
| | 15 | 47 41.5 | -3 50.0 | 282 51.8 | 10.5 | -20 45.4 | -11.4 | 57.1 |
| | 16 | 62 41.7 | -3 51.0 | 297 21.4 | 10.5 | -20 34.0 | -11.5 | 57.1 |
| | 17 | 77 41.9 | -3 52.0 | 311 50.9 | 10.6 | -20 22.5 | -11.6 | 57.2 |
| | 18 | 92 42.1 | -3 52.9 | 326 20.5 | 10.6 | -20 10.9 | -11.7 | 57.2 |
| | 19 | 107 42.3 | -3 53.9 | 340 50.1 | 10.6 | -19 59.2 | -11.8 | 57.2 |
| | 20 | 122 42.5 | -3 54.9 | 355 19.7 | 10.7 | -19 47.4 | -12.0 | 57.3 |
| | 21 | 137 42.7 | -3 55.8 | 9 49.4 | 10.7 | -19 35.4 | -12.1 | 57.3 |
| | 22 | 152 42.9 | -3 56.8 | 24 19.1 | 10.8 | -19 23.4 | -12.2 | 57.3 |
| | 23 | 167 43.1 | -3 57.8 | 38 48.9 | 10.8 | -19 11.2 | -12.3 | 57.4 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 15.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **03 Friday** | 0 | 182 43.3 | -3 58.7 | 53 18.7 | 10.8 | -18 58.9 | -12.4 | 57.4 |
| | 1 | 197 43.5 | -3 59.7 | 67 48.5 | 10.9 | -18 46.5 | -12.5 | 57.5 |
| | 2 | 212 43.7 | -4 0.7 | 82 18.4 | 10.9 | -18 34.0 | -12.6 | 57.5 |
| | 3 | 227 43.9 | -4 1.6 | 96 48.3 | 10.9 | -18 21.3 | -12.7 | 57.5 |
| | 4 | 242 44.1 | -4 2.6 | 111 18.2 | 11.0 | -18 8.6 | -12.8 | 57.6 |
| | 5 | 257 44.3 | -4 3.6 | 125 48.1 | 11.0 | -17 55.8 | -13.0 | 57.6 |
| | 6 | 272 44.5 | -4 4.5 | 140 18.1 | 11.0 | -17 42.8 | -13.1 | 57.6 |
| | 7 | 287 44.7 | -4 5.5 | 154 48.2 | 11.1 | -17 29.7 | -13.2 | 57.7 |
| | 8 | 302 44.9 | -4 6.4 | 169 18.2 | 11.1 | -17 16.6 | -13.3 | 57.7 |
| | 9 | 317 45.1 | -4 7.4 | 183 48.3 | 11.1 | -17 3.3 | -13.4 | 57.8 |
| | 10 | 332 45.2 | -4 8.4 | 198 18.4 | 11.1 | -16 49.9 | -13.5 | 57.8 |
| | 11 | 347 45.4 | -4 9.3 | 212 48.6 | 11.2 | -16 36.4 | -13.6 | 57.8 |
| | 12 | 2 45.6 | -4 10.3 | 227 18.8 | 11.2 | -16 22.8 | -13.7 | 57.9 |
| | 13 | 17 45.8 | -4 11.3 | 241 49.0 | 11.2 | -16 9.2 | -13.8 | 57.9 |
| | 14 | 32 46.0 | -4 12.2 | 256 19.2 | 11.3 | -15 55.4 | -13.9 | 58.0 |
| | 15 | 47 46.2 | -4 13.2 | 270 49.5 | 11.3 | -15 41.5 | -14.0 | 58.0 |
| | 16 | 62 46.4 | -4 14.2 | 285 19.8 | 11.3 | -15 27.5 | -14.1 | 58.0 |
| | 17 | 77 46.6 | -4 15.1 | 299 50.1 | 11.3 | -15 13.4 | -14.2 | 58.1 |
| | 18 | 92 46.8 | -4 16.1 | 314 20.4 | 11.4 | -14 59.2 | -14.3 | 58.1 |
| | 19 | 107 47.0 | -4 17.1 | 328 50.8 | 11.4 | -14 45.0 | -14.4 | 58.2 |
| | 20 | 122 47.2 | -4 18.0 | 343 21.2 | 11.4 | -14 30.6 | -14.5 | 58.2 |
| | 21 | 137 47.4 | -4 19.0 | 357 51.6 | 11.4 | -14 16.1 | -14.6 | 58.2 |
| | 22 | 152 47.6 | -4 19.9 | 12 22.0 | 11.5 | -14 1.6 | -14.6 | 58.3 |
| | 23 | 167 47.8 | -4 20.9 | 26 52.5 | 11.5 | -13 46.9 | -14.7 | 58.3 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 15.7 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 03:50 | 05:12 | 06:20 | 17:17 | 18:24 | 19:45 |
| 70 | 04:02 | 05:16 | 06:16 | 17:21 | 18:21 | 19:34 |
| 68 | 04:12 | 05:18 | 06:14 | 17:24 | 18:19 | 19:25 |
| 66 | 04:20 | 05:20 | 06:11 | 17:26 | 18:17 | 19:17 |
| 64 | 04:26 | 05:22 | 06:09 | 17:28 | 18:16 | 19:11 |
| 62 | 04:31 | 05:23 | 06:07 | 17:30 | 18:14 | 19:06 |
| 60 | 04:36 | 05:24 | 06:06 | 17:32 | 18:13 | 19:02 |
| 58 | 04:40 | 05:25 | 06:05 | 17:33 | 18:12 | 18:58 |
| 56 | 04:43 | 05:26 | 06:03 | 17:35 | 18:12 | 18:55 |
| 54 | 04:46 | 05:27 | 06:02 | 17:36 | 18:11 | 18:52 |
| 52 | 04:48 | 05:28 | 06:01 | 17:37 | 18:11 | 18:50 |
| 50 | 04:50 | 05:28 | 06:00 | 17:38 | 18:10 | 18:48 |
| 45 | 04:55 | 05:29 | 05:58 | 17:40 | 18:09 | 18:43 |
| 40 | 04:58 | 05:29 | 05:56 | 17:42 | 18:09 | 18:40 |
| 35 | 05:00 | 05:30 | 05:55 | 17:44 | 18:09 | 18:38 |
| 30 | 05:02 | 05:30 | 05:53 | 17:45 | 18:09 | 18:37 |
| 20 | 05:03 | 05:29 | 05:51 | 17:48 | 18:10 | 18:35 |
| 10 | 05:03 | 05:28 | 05:49 | 17:50 | 18:11 | 18:36 |
| 0 | 05:02 | 05:26 | 05:46 | 17:53 | 18:14 | 18:38 |
| -10 | 04:58 | 05:23 | 05:44 | 17:55 | 18:16 | 18:41 |
| -20 | 04:54 | 05:19 | 05:41 | 17:58 | 18:20 | 18:46 |
| -30 | 04:46 | 05:14 | 05:38 | 18:01 | 18:25 | 18:54 |
| -35 | 04:41 | 05:11 | 05:36 | 18:03 | 18:29 | 18:59 |
| -40 | 04:35 | 05:07 | 05:34 | 18:06 | 18:33 | 19:05 |
| -45 | 04:27 | 05:02 | 05:32 | 18:08 | 18:38 | 19:13 |
| -50 | 04:17 | 04:56 | 05:29 | 18:11 | 18:44 | 19:23 |
| -52 | 04:13 | 04:53 | 05:27 | 18:13 | 18:47 | 19:28 |
| -54 | 04:07 | 04:50 | 05:26 | 18:15 | 18:50 | 19:34 |
| -56 | 04:01 | 04:47 | 05:24 | 18:16 | 18:54 | 19:40 |
| -58 | 03:54 | 04:42 | 05:22 | 18:18 | 18:58 | 19:47 |
| -60 | 03:46 | 04:38 | 05:20 | 18:21 | 19:03 | 19:56 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **01** | **02** | **03** | **01** | **02** | **03** |
| 72 | ▬ | ▬ | 18:45 | ▬ | ▬ | –:– |
| 70 | ▬ | 19:58 | 18:14 | ▬ | 21:01 | –:– |
| 68 | ▬ | 18:38 | 17:51 | ▬ | 22:20 | –:– |
| 66 | ▬ | 18:00 | 17:33 | ▬ | 22:57 | –:– |
| 64 | 17:58 | 17:33 | 17:18 | 21:11 | 23:23 | –:– |
| 62 | 17:19 | 17:11 | 17:05 | 21:49 | 23:43 | –:– |
| 60 | 16:52 | 16:54 | 16:54 | 22:16 | 23:59 | –:– |
| 58 | 16:30 | 16:40 | 16:45 | 22:36 | –:– | 00:13 |
| 56 | 16:13 | 16:27 | 16:37 | 22:53 | –:– | 00:24 |
| 54 | 15:58 | 16:16 | 16:29 | 23:08 | –:– | 00:35 |
| 52 | 15:45 | 16:06 | 16:23 | 23:20 | –:– | 00:44 |
| 50 | 15:33 | 15:58 | 16:17 | 23:31 | –:– | 00:52 |
| 45 | 15:09 | 15:39 | 16:04 | 23:54 | –:– | 01:09 |
| 40 | 14:50 | 15:24 | 15:53 | –:– | 00:13 | 01:23 |
| 35 | 14:34 | 15:11 | 15:44 | –:– | 00:28 | 01:35 |
| 30 | 14:20 | 15:00 | 15:36 | –:– | 00:41 | 01:45 |
| 20 | 13:56 | 14:40 | 15:21 | 00:05 | 01:04 | 02:02 |
| 10 | 13:35 | 14:23 | 15:09 | 00:28 | 01:23 | 02:17 |
| 0 | 13:16 | 14:07 | 14:57 | 00:49 | 01:41 | 02:31 |
| -10 | 12:56 | 13:51 | 14:45 | 01:09 | 01:59 | 02:45 |
| -20 | 12:35 | 13:34 | 14:33 | 01:32 | 02:17 | 03:00 |
| -30 | 12:11 | 13:14 | 14:18 | 01:57 | 02:39 | 03:17 |
| -35 | 11:57 | 13:02 | 14:10 | 02:12 | 02:52 | 03:26 |
| -40 | 11:40 | 12:49 | 14:00 | 02:30 | 03:06 | 03:37 |
| -45 | 11:20 | 12:33 | 13:49 | 02:50 | 03:23 | 03:50 |
| -50 | 10:55 | 12:13 | 13:35 | 03:16 | 03:44 | 04:06 |
| -52 | 10:43 | 12:04 | 13:28 | 03:29 | 03:54 | 04:13 |
| -54 | 10:29 | 11:53 | 13:21 | 03:44 | 04:06 | 04:21 |
| -56 | 10:12 | 11:41 | 13:13 | 04:00 | 04:18 | 04:30 |
| -58 | 09:53 | 11:27 | 13:04 | 04:20 | 04:33 | 04:40 |
| -60 | 09:28 | 11:11 | 12:53 | 04:46 | 04:50 | 04:52 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **01** | 10:15 | 10:25 | 11:50 | 19:28 | 07:02 | 9 | 60 |
| **02** | 10:34 | 10:44 | 11:49 | 20:19 | 07:54 | 10 | 70 |
| **03** | 10:53 | 11:03 | 11:49 | 21:09 | 08:44 | 11 | 79 |

## 2025 October 04, 05, 06 (Sat, Sun, Mon)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.1 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 04 Saturday | 0 | 12 56.3 | 203 39.5 | 6 4.9 | 157 25.7 | -14 15.1 | 258 17.9 | 21 32.1 | 14 12.2 | -3 17.0 |
| | 1 | 27 58.8 | 218 39.1 | 6 3.7 | 172 26.5 | -14 15.6 | 273 20.1 | 21 32.0 | 29 14.8 | -3 17.1 |
| | 2 | 43 1.3 | 233 38.7 | 6 2.6 | 187 27.3 | -14 16.2 | 288 22.3 | 21 32.0 | 44 17.5 | -3 17.2 |
| | 3 | 58 3.7 | 248 38.3 | 6 1.4 | 202 28.1 | -14 16.8 | 303 24.4 | 21 31.9 | 59 20.1 | -3 17.3 |
| | 4 | 73 6.2 | 263 37.9 | 6 0.2 | 217 28.9 | -14 17.4 | 318 26.6 | 21 31.9 | 74 22.7 | -3 17.3 |
| | 5 | 88 8.7 | 278 37.5 | 5 59.1 | 232 29.7 | -14 18.0 | 333 28.7 | 21 31.8 | 89 25.4 | -3 17.4 |
| | 6 | 103 11.1 | 293 37.1 | 5 57.9 | 247 30.5 | -14 18.5 | 348 30.9 | 21 31.8 | 104 28.0 | -3 17.5 |
| | 7 | 118 13.6 | 308 36.6 | 5 56.8 | 262 31.3 | -14 19.1 | 3 33.1 | 21 31.8 | 119 30.7 | -3 17.6 |
| | 8 | 133 16.1 | 323 36.2 | 5 55.6 | 277 32.1 | -14 19.7 | 18 35.2 | 21 31.7 | 134 33.3 | -3 17.6 |
| | 9 | 148 18.5 | 338 35.8 | 5 54.4 | 292 32.9 | -14 20.3 | 33 37.4 | 21 31.7 | 149 35.9 | -3 17.7 |
| | 10 | 163 21.0 | 353 35.4 | 5 53.3 | 307 33.7 | -14 20.8 | 48 39.5 | 21 31.6 | 164 38.6 | -3 17.8 |
| | 11 | 178 23.4 | 8 35.0 | 5 52.1 | 322 34.5 | -14 21.4 | 63 41.7 | 21 31.6 | 179 41.2 | -3 17.8 |
| | 12 | 193 25.9 | 23 34.6 | 5 51.0 | 337 35.3 | -14 22.0 | 78 43.9 | 21 31.5 | 194 43.8 | -3 17.9 |
| | 13 | 208 28.4 | 38 34.2 | 5 49.8 | 352 36.1 | -14 22.6 | 93 46.0 | 21 31.5 | 209 46.5 | -3 18.0 |
| | 14 | 223 30.8 | 53 33.8 | 5 48.6 | 7 36.9 | -14 23.1 | 108 48.2 | 21 31.5 | 224 49.1 | -3 18.1 |
| | 15 | 238 33.3 | 68 33.4 | 5 47.5 | 22 37.7 | -14 23.7 | 123 50.4 | 21 31.4 | 239 51.7 | -3 18.1 |
| | 16 | 253 35.8 | 83 33.0 | 5 46.3 | 37 38.5 | -14 24.3 | 138 52.5 | 21 31.4 | 254 54.4 | -3 18.2 |
| | 17 | 268 38.2 | 98 32.6 | 5 45.1 | 52 39.3 | -14 24.9 | 153 54.7 | 21 31.3 | 269 57.0 | -3 18.3 |
| | 18 | 283 40.7 | 113 32.2 | 5 44.0 | 67 40.1 | -14 25.4 | 168 56.8 | 21 31.3 | 284 59.6 | -3 18.4 |
| | 19 | 298 43.2 | 128 31.7 | 5 42.8 | 82 40.9 | -14 26.0 | 183 59.0 | 21 31.2 | 300 2.3 | -3 18.4 |
| | 20 | 313 45.6 | 143 31.3 | 5 41.7 | 97 41.7 | -14 26.6 | 199 1.2 | 21 31.2 | 315 4.9 | -3 18.5 |
| | 21 | 328 48.1 | 158 30.9 | 5 40.5 | 112 42.5 | -14 27.2 | 214 3.3 | 21 31.2 | 330 7.5 | -3 18.6 |
| | 22 | 343 50.6 | 173 30.5 | 5 39.3 | 127 43.3 | -14 27.7 | 229 5.5 | 21 31.1 | 345 10.2 | -3 18.6 |
| | 23 | 358 53.0 | 188 30.1 | 5 38.2 | 142 44.1 | -14 28.3 | 244 7.7 | 21 31.1 | 0 12.8 | -3 18.7 |
| | | MP 23:06 | *v* -0.4 | *d* -1.2 | *v* 0.8 | *d* 0.6 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Sunday | 0 | 13 55.5 | 203 29.7 | 5 37.0 | 157 44.9 | -14 28.9 | 259 9.8 | 21 31.0 | 15 15.4 | -3 18.8 |
| | 1 | 28 57.9 | 218 29.3 | 5 35.8 | 172 45.7 | -14 29.5 | 274 12.0 | 21 31.0 | 30 18.1 | -3 18.9 |
| | 2 | 44 0.4 | 233 28.9 | 5 34.7 | 187 46.5 | -14 30.0 | 289 14.2 | 21 31.0 | 45 20.7 | -3 18.9 |
| | 3 | 59 2.9 | 248 28.5 | 5 33.5 | 202 47.3 | -14 30.6 | 304 16.3 | 21 30.9 | 60 23.3 | -3 19.0 |
| | 4 | 74 5.3 | 263 28.1 | 5 32.3 | 217 48.1 | -14 31.2 | 319 18.5 | 21 30.9 | 75 26.0 | -3 19.1 |
| | 5 | 89 7.8 | 278 27.7 | 5 31.2 | 232 48.9 | -14 31.8 | 334 20.7 | 21 30.8 | 90 28.6 | -3 19.1 |
| | 6 | 104 10.3 | 293 27.3 | 5 30.0 | 247 49.7 | -14 32.3 | 349 22.8 | 21 30.8 | 105 31.2 | -3 19.2 |
| | 7 | 119 12.7 | 308 26.9 | 5 28.8 | 262 50.5 | -14 32.9 | 4 25.0 | 21 30.7 | 120 33.9 | -3 19.3 |
| | 8 | 134 15.2 | 323 26.5 | 5 27.7 | 277 51.3 | -14 33.5 | 19 27.2 | 21 30.7 | 135 36.5 | -3 19.4 |
| | 9 | 149 17.7 | 338 26.1 | 5 26.5 | 292 52.1 | -14 34.1 | 34 29.3 | 21 30.7 | 150 39.1 | -3 19.4 |
| | 10 | 164 20.1 | 353 25.7 | 5 25.3 | 307 52.9 | -14 34.6 | 49 31.5 | 21 30.6 | 165 41.8 | -3 19.5 |
| | 11 | 179 22.6 | 8 25.3 | 5 24.2 | 322 53.7 | -14 35.2 | 64 33.7 | 21 30.6 | 180 44.4 | -3 19.6 |
| | 12 | 194 25.0 | 23 24.9 | 5 23.0 | 337 54.5 | -14 35.8 | 79 35.8 | 21 30.5 | 195 47.0 | -3 19.6 |
| | 13 | 209 27.5 | 38 24.4 | 5 21.8 | 352 55.3 | -14 36.4 | 94 38.0 | 21 30.5 | 210 49.7 | -3 19.7 |
| | 14 | 224 30.0 | 53 24.0 | 5 20.7 | 7 56.1 | -14 36.9 | 109 40.2 | 21 30.5 | 225 52.3 | -3 19.8 |
| | 15 | 239 32.4 | 68 23.6 | 5 19.5 | 22 56.9 | -14 37.5 | 124 42.4 | 21 30.4 | 240 54.9 | -3 19.9 |
| | 16 | 254 34.9 | 83 23.2 | 5 18.3 | 37 57.7 | -14 38.1 | 139 44.5 | 21 30.4 | 255 57.6 | -3 19.9 |
| | 17 | 269 37.4 | 98 22.8 | 5 17.1 | 52 58.5 | -14 38.6 | 154 46.7 | 21 30.3 | 271 0.2 | -3 20.0 |
| | 18 | 284 39.8 | 113 22.4 | 5 16.0 | 67 59.2 | -14 39.2 | 169 48.9 | 21 30.3 | 286 2.8 | -3 20.1 |
| | 19 | 299 42.3 | 128 22.0 | 5 14.8 | 83 0.0 | -14 39.8 | 184 51.0 | 21 30.2 | 301 5.5 | -3 20.1 |
| | 20 | 314 44.8 | 143 21.6 | 5 13.6 | 98 0.8 | -14 40.4 | 199 53.2 | 21 30.2 | 316 8.1 | -3 20.2 |
| | 21 | 329 47.2 | 158 21.2 | 5 12.5 | 113 1.6 | -14 40.9 | 214 55.4 | 21 30.2 | 331 10.7 | -3 20.3 |
| | 22 | 344 49.7 | 173 20.8 | 5 11.3 | 128 2.4 | -14 41.5 | 229 57.5 | 21 30.1 | 346 13.4 | -3 20.4 |
| | 23 | 359 52.2 | 188 20.4 | 5 10.1 | 143 3.2 | -14 42.1 | 244 59.7 | 21 30.1 | 1 16.0 | -3 20.4 |
| | | MP 23:02 | *v* -0.4 | *d* -1.2 | *v* 0.8 | *d* 0.6 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 06 Monday | 0 | 14 54.6 | 203 20.0 | 5 8.9 | 158 4.0 | -14 42.6 | 260 1.9 | 21 30.0 | 16 18.6 | -3 20.5 |
| | 1 | 29 57.1 | 218 19.6 | 5 7.8 | 173 4.8 | -14 43.2 | 275 4.1 | 21 30.0 | 31 21.3 | -3 20.6 |
| | 2 | 44 59.5 | 233 19.2 | 5 6.6 | 188 5.6 | -14 43.8 | 290 6.2 | 21 30.0 | 46 23.9 | -3 20.6 |
| | 3 | 60 2.0 | 248 18.8 | 5 5.4 | 203 6.4 | -14 44.3 | 305 8.4 | 21 29.9 | 61 26.5 | -3 20.7 |
| | 4 | 75 4.5 | 263 18.4 | 5 4.3 | 218 7.2 | -14 44.9 | 320 10.6 | 21 29.9 | 76 29.2 | -3 20.8 |
| | 5 | 90 6.9 | 278 18.0 | 5 3.1 | 233 8.0 | -14 45.5 | 335 12.8 | 21 29.8 | 91 31.8 | -3 20.9 |
| | 6 | 105 9.4 | 293 17.6 | 5 1.9 | 248 8.8 | -14 46.1 | 350 14.9 | 21 29.8 | 106 34.4 | -3 20.9 |
| | 7 | 120 11.9 | 308 17.2 | 5 0.7 | 263 9.5 | -14 46.6 | 5 17.1 | 21 29.8 | 121 37.1 | -3 21.0 |
| | 8 | 135 14.3 | 323 16.8 | 4 59.6 | 278 10.3 | -14 47.2 | 20 19.3 | 21 29.7 | 136 39.7 | -3 21.1 |
| | 9 | 150 16.8 | 338 16.4 | 4 58.4 | 293 11.1 | -14 47.8 | 35 21.5 | 21 29.7 | 151 42.3 | -3 21.1 |
| | 10 | 165 19.3 | 353 16.0 | 4 57.2 | 308 11.9 | -14 48.3 | 50 23.6 | 21 29.6 | 166 45.0 | -3 21.2 |
| | 11 | 180 21.7 | 8 15.6 | 4 56.0 | 323 12.7 | -14 48.9 | 65 25.8 | 21 29.6 | 181 47.6 | -3 21.3 |
| | 12 | 195 24.2 | 23 15.2 | 4 54.9 | 338 13.5 | -14 49.5 | 80 28.0 | 21 29.6 | 196 50.2 | -3 21.3 |
| | 13 | 210 26.7 | 38 14.8 | 4 53.7 | 353 14.3 | -14 50.0 | 95 30.2 | 21 29.5 | 211 52.8 | -3 21.4 |
| | 14 | 225 29.1 | 53 14.4 | 4 52.5 | 8 15.1 | -14 50.6 | 110 32.3 | 21 29.5 | 226 55.5 | -3 21.5 |
| | 15 | 240 31.6 | 68 14.0 | 4 51.3 | 23 15.9 | -14 51.2 | 125 34.5 | 21 29.4 | 241 58.1 | -3 21.6 |
| | 16 | 255 34.0 | 83 13.6 | 4 50.2 | 38 16.6 | -14 51.7 | 140 36.7 | 21 29.4 | 257 0.7 | -3 21.6 |
| | 17 | 270 36.5 | 98 13.2 | 4 49.0 | 53 17.4 | -14 52.3 | 155 38.9 | 21 29.4 | 272 3.4 | -3 21.7 |
| | 18 | 285 39.0 | 113 12.8 | 4 47.8 | 68 18.2 | -14 52.9 | 170 41.0 | 21 29.3 | 287 6.0 | -3 21.8 |
| | 19 | 300 41.4 | 128 12.4 | 4 46.6 | 83 19.0 | -14 53.4 | 185 43.2 | 21 29.3 | 302 8.6 | -3 21.8 |
| | 20 | 315 43.9 | 143 12.0 | 4 45.4 | 98 19.8 | -14 54.0 | 200 45.4 | 21 29.2 | 317 11.3 | -3 21.9 |
| | 21 | 330 46.4 | 158 11.6 | 4 44.3 | 113 20.6 | -14 54.6 | 215 47.6 | 21 29.2 | 332 13.9 | -3 22.0 |
| | 22 | 345 48.8 | 173 11.2 | 4 43.1 | 128 21.4 | -14 55.1 | 230 49.7 | 21 29.1 | 347 16.5 | -3 22.1 |
| | 23 | 0 51.3 | 188 10.8 | 4 41.9 | 143 22.2 | -14 55.7 | 245 51.9 | 21 29.1 | 2 19.2 | -3 22.1 |
| | | MP 22:58 | *v* -0.4 | *d* -1.2 | *v* 0.8 | *d* 0.6 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 11.0 | -40 11.8 |
| Achernar | 335 19.1 | -57 6.2 |
| Acrux | 173 0.2 | -63 14.4 |
| Adhara | 255 5.4 | -29 0.1 |
| Aldebaran | 290 38.8 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.2 |
| Alkaid | 152 52.0 | 49 11.2 |
| Alnair | 27 31.8 | -46 50.2 |
| Alnilam | 275 37.0 | -1 11.0 |
| Alphard | 217 47.4 | -8 46.0 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.1 |
| Altair | 61 59.3 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.9 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.2 | -69 4.6 |
| Avior | 234 14.8 | -59 35.1 |
| Bellatrix | 278 22.1 | 6 22.5 |
| Betelgeuse | 270 51.4 | 7 24.8 |
| Canopus | 263 52.1 | -52 42.2 |
| Capella | 280 20.8 | 46 1.3 |
| Deneb | 49 25.2 | 45 22.6 |
| Denebola | 182 24.6 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.6 |
| Dubhe | 193 40.8 | 61 36.6 |
| Elnath | 278 1.0 | 28 37.7 |
| Eltanin | 90 42.0 | 51 29.4 |
| Enif | 33 38.0 | 9 59.8 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.4 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.9 |
| Hamal | 327 50.2 | 23 35.2 |
| Kaus Aust. | 83 31.8 | -34 22.4 |
| Kochab | 137 20.7 | 74 3.1 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.3 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.8 | -69 49.0 |
| Mirfak | 308 27.0 | 49 57.1 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.5 | -56 39.3 |
| Pollux | 243 16.7 | 27 57.8 |
| Procyon | 244 50.3 | 5 9.7 |
| Rasalhague | 95 58.1 | 12 32.6 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.2 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.6 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.8 |
| Shaula | 96 9.7 | -37 7.4 |
| Sirius | 258 25.7 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.1 | -43 31.9 |
| Vega | 80 32.8 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 04 Sat | SHA | MP |
|---|---|---|
| Venus | 190 43.2 | 10:26 |
| Mars | 144 29.4 | 13:30 |
| Jupiter | 245 21.6 | 06:46 |
| Saturn | 1 15.9 | 22:59 |

| 05 Sun | SHA | MP |
|---|---|---|
| Venus | 189 34.2 | 10:26 |
| Mars | 143 49.4 | 13:28 |
| Jupiter | 245 14.4 | 06:42 |
| Saturn | 1 20.0 | 22:55 |

| 06 Mon | SHA | MP |
|---|---|---|
| Venus | 188 25.4 | 10:27 |
| Mars | 143 9.4 | 13:27 |
| Jupiter | 245 7.3 | 06:39 |
| Saturn | 1 24.0 | 22:51 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **04 Saturday** | 0 | 182 48.0 | -4 21.9 | 41 23.0 | 11.5 | -13 32.2 | -14.8 | 58.4 |
| | 1 | 197 48.2 | -4 22.8 | 55 53.5 | 11.5 | -13 17.4 | -14.9 | 58.4 |
| | 2 | 212 48.3 | -4 23.8 | 70 24.0 | 11.6 | -13 2.5 | -15.0 | 58.4 |
| | 3 | 227 48.5 | -4 24.8 | 84 54.6 | 11.6 | -12 47.5 | -15.1 | 58.5 |
| | 4 | 242 48.7 | -4 25.7 | 99 25.2 | 11.6 | -12 32.4 | -15.2 | 58.5 |
| | 5 | 257 48.9 | -4 26.7 | 113 55.8 | 11.6 | -12 17.3 | -15.2 | 58.5 |
| | 6 | 272 49.1 | -4 27.7 | 128 26.4 | 11.6 | -12 2.0 | -15.3 | 58.6 |
| | 7 | 287 49.3 | -4 28.6 | 142 57.0 | 11.6 | -11 46.7 | -15.4 | 58.6 |
| | 8 | 302 49.5 | -4 29.6 | 157 27.6 | 11.7 | -11 31.3 | -15.5 | 58.7 |
| | 9 | 317 49.7 | -4 30.5 | 171 58.3 | 11.7 | -11 15.8 | -15.6 | 58.7 |
| | 10 | 332 49.9 | -4 31.5 | 186 28.9 | 11.7 | -11 0.3 | -15.6 | 58.7 |
| | 11 | 347 50.1 | -4 32.5 | 200 59.6 | 11.7 | -10 44.6 | -15.7 | 58.8 |
| | 12 | 2 50.3 | -4 33.4 | 215 30.3 | 11.7 | -10 28.9 | -15.8 | 58.8 |
| | 13 | 17 50.5 | -4 34.4 | 230 1.0 | 11.7 | -10 13.1 | -15.9 | 58.8 |
| | 14 | 32 50.7 | -4 35.4 | 244 31.7 | 11.7 | -9 57.3 | -15.9 | 58.9 |
| | 15 | 47 50.8 | -4 36.3 | 259 2.4 | 11.7 | -9 41.3 | -16.0 | 58.9 |
| | 16 | 62 51.0 | -4 37.3 | 273 33.2 | 11.7 | -9 25.3 | -16.1 | 59.0 |
| | 17 | 77 51.2 | -4 38.2 | 288 3.9 | 11.7 | -9 9.3 | -16.1 | 59.0 |
| | 18 | 92 51.4 | -4 39.2 | 302 34.6 | 11.7 | -8 53.2 | -16.2 | 59.0 |
| | 19 | 107 51.6 | -4 40.2 | 317 5.4 | 11.8 | -8 37.0 | -16.3 | 59.1 |
| | 20 | 122 51.8 | -4 41.1 | 331 36.1 | 11.8 | -8 20.7 | -16.3 | 59.1 |
| | 21 | 137 52.0 | -4 42.1 | 346 6.9 | 11.8 | -8 4.4 | -16.4 | 59.1 |
| | 22 | 152 52.2 | -4 43.0 | 0 37.6 | 11.8 | -7 48.0 | -16.4 | 59.2 |
| | 23 | 167 52.4 | -4 44.0 | 15 8.4 | 11.8 | -7 31.5 | -16.5 | 59.2 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 15.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **05 Sunday** | 0 | 182 52.6 | -4 45.0 | 29 39.2 | 11.8 | -7 15.0 | -16.6 | 59.2 |
| | 1 | 197 52.7 | -4 45.9 | 44 9.9 | 11.8 | -6 58.5 | -16.6 | 59.3 |
| | 2 | 212 52.9 | -4 46.9 | 58 40.7 | 11.8 | -6 41.8 | -16.7 | 59.3 |
| | 3 | 227 53.1 | -4 47.9 | 73 11.4 | 11.7 | -6 25.2 | -16.7 | 59.4 |
| | 4 | 242 53.3 | -4 48.8 | 87 42.2 | 11.7 | -6 8.5 | -16.8 | 59.4 |
| | 5 | 257 53.5 | -4 49.8 | 102 12.9 | 11.7 | -5 51.7 | -16.8 | 59.4 |
| | 6 | 272 53.7 | -4 50.7 | 116 43.6 | 11.7 | -5 34.8 | -16.9 | 59.5 |
| | 7 | 287 53.9 | -4 51.7 | 131 14.4 | 11.7 | -5 18.0 | -16.9 | 59.5 |
| | 8 | 302 54.1 | -4 52.7 | 145 45.1 | 11.7 | -5 1.1 | -17.0 | 59.5 |
| | 9 | 317 54.3 | -4 53.6 | 160 15.8 | 11.7 | -4 44.1 | -17.0 | 59.6 |
| | 10 | 332 54.4 | -4 54.6 | 174 46.5 | 11.7 | -4 27.1 | -17.1 | 59.6 |
| | 11 | 347 54.6 | -4 55.5 | 189 17.2 | 11.7 | -4 10.0 | -17.1 | 59.6 |
| | 12 | 2 54.8 | -4 56.5 | 203 47.8 | 11.7 | -3 52.9 | -17.1 | 59.7 |
| | 13 | 17 55.0 | -4 57.5 | 218 18.5 | 11.6 | -3 35.8 | -17.2 | 59.7 |
| | 14 | 32 55.2 | -4 58.4 | 232 49.1 | 11.6 | -3 18.6 | -17.2 | 59.7 |
| | 15 | 47 55.4 | -4 59.4 | 247 19.7 | 11.6 | -3 1.4 | -17.2 | 59.8 |
| | 16 | 62 55.6 | -5 0.3 | 261 50.4 | 11.6 | -2 44.2 | -17.3 | 59.8 |
| | 17 | 77 55.7 | -5 1.3 | 276 20.9 | 11.6 | -2 26.9 | -17.3 | 59.8 |
| | 18 | 92 55.9 | -5 2.3 | 290 51.5 | 11.5 | -2 9.6 | -17.3 | 59.8 |
| | 19 | 107 56.1 | -5 3.2 | 305 22.0 | 11.5 | -1 52.3 | -17.4 | 59.9 |
| | 20 | 122 56.3 | -5 4.2 | 319 52.6 | 11.5 | -1 34.9 | -17.4 | 59.9 |
| | 21 | 137 56.5 | -5 5.1 | 334 23.1 | 11.5 | -1 17.5 | -17.4 | 59.9 |
| | 22 | 152 56.7 | -5 6.1 | 348 53.5 | 11.4 | -1 0.1 | -17.4 | 60.0 |
| | 23 | 167 56.9 | -5 7.0 | 3 24.0 | 11.4 | -0 42.7 | -17.5 | 60.0 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 16.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **06 Monday** | 0 | 182 57.1 | -5 8.0 | 17 54.4 | 11.4 | -0 25.2 | -17.5 | 60.0 |
| | 1 | 197 57.2 | -5 9.0 | 32 24.8 | 11.4 | -0 7.7 | 17.5 | 60.0 |
| | 2 | 212 57.4 | -5 9.9 | 46 55.1 | 11.3 | 0 9.8 | 17.5 | 60.1 |
| | 3 | 227 57.6 | -5 10.9 | 61 25.4 | 11.3 | 0 27.3 | 17.5 | 60.1 |
| | 4 | 242 57.8 | -5 11.8 | 75 55.7 | 11.3 | 0 44.8 | 17.5 | 60.1 |
| | 5 | 257 58.0 | -5 12.8 | 90 26.0 | 11.2 | 1 2.3 | 17.5 | 60.2 |
| | 6 | 272 58.2 | -5 13.8 | 104 56.2 | 11.2 | 1 19.9 | 17.6 | 60.2 |
| | 7 | 287 58.3 | -5 14.7 | 119 26.4 | 11.1 | 1 37.4 | 17.6 | 60.2 |
| | 8 | 302 58.5 | -5 15.7 | 133 56.5 | 11.1 | 1 55.0 | 17.6 | 60.2 |
| | 9 | 317 58.7 | -5 16.6 | 148 26.6 | 11.1 | 2 12.6 | 17.6 | 60.3 |
| | 10 | 332 58.9 | -5 17.6 | 162 56.7 | 11.0 | 2 30.1 | 17.6 | 60.3 |
| | 11 | 347 59.1 | -5 18.5 | 177 26.7 | 11.0 | 2 47.7 | 17.6 | 60.3 |
| | 12 | 2 59.3 | -5 19.5 | 191 56.7 | 10.9 | 3 5.3 | 17.6 | 60.3 |
| | 13 | 17 59.4 | -5 20.5 | 206 26.6 | 10.9 | 3 22.8 | 17.6 | 60.4 |
| | 14 | 32 59.6 | -5 21.4 | 220 56.5 | 10.8 | 3 40.4 | 17.6 | 60.4 |
| | 15 | 47 59.8 | -5 22.4 | 235 26.3 | 10.8 | 3 58.0 | 17.5 | 60.4 |
| | 16 | 63 0.0 | -5 23.3 | 249 56.1 | 10.7 | 4 15.5 | 17.5 | 60.4 |
| | 17 | 78 0.2 | -5 24.3 | 264 25.9 | 10.7 | 4 33.0 | 17.5 | 60.4 |
| | 18 | 93 0.4 | -5 25.2 | 278 55.6 | 10.6 | 4 50.6 | 17.5 | 60.5 |
| | 19 | 108 0.5 | -5 26.2 | 293 25.2 | 10.6 | 5 8.1 | 17.5 | 60.5 |
| | 20 | 123 0.7 | -5 27.2 | 307 54.8 | 10.5 | 5 25.6 | 17.5 | 60.5 |
| | 21 | 138 0.9 | -5 28.1 | 322 24.3 | 10.5 | 5 43.1 | 17.5 | 60.5 |
| | 22 | 153 1.1 | -5 29.1 | 336 53.8 | 10.4 | 6 0.5 | 17.4 | 60.6 |
| | 23 | 168 1.3 | -5 30.0 | 351 23.2 | 10.4 | 6 18.0 | 17.4 | 60.6 |
| | | *v* 0.2 | SD 16.0 | *d* 1.0 | | SD 16.4 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 04:05 | 05:26 | 06:33 | 17:02 | 18:09 | 19:29 |
| 70 | 04:15 | 05:27 | 06:28 | 17:07 | 18:08 | 19:19 |
| 68 | 04:23 | 05:29 | 06:24 | 17:11 | 18:07 | 19:12 |
| 66 | 04:30 | 05:30 | 06:21 | 17:15 | 18:06 | 19:05 |
| 64 | 04:35 | 05:31 | 06:18 | 17:18 | 18:05 | 19:00 |
| 62 | 04:39 | 05:31 | 06:15 | 17:21 | 18:05 | 18:56 |
| 60 | 04:43 | 05:32 | 06:13 | 17:23 | 18:04 | 18:53 |
| 58 | 04:46 | 05:32 | 06:11 | 17:25 | 18:04 | 18:50 |
| 56 | 04:49 | 05:32 | 06:09 | 17:27 | 18:04 | 18:47 |
| 54 | 04:51 | 05:32 | 06:08 | 17:29 | 18:04 | 18:45 |
| 52 | 04:53 | 05:33 | 06:06 | 17:30 | 18:04 | 18:43 |
| 50 | 04:55 | 05:33 | 06:05 | 17:32 | 18:04 | 18:41 |
| 45 | 04:59 | 05:33 | 06:02 | 17:35 | 18:04 | 18:38 |
| 40 | 05:01 | 05:32 | 05:59 | 17:37 | 18:04 | 18:36 |
| 35 | 05:03 | 05:32 | 05:57 | 17:40 | 18:05 | 18:34 |
| 30 | 05:04 | 05:31 | 05:55 | 17:42 | 18:06 | 18:33 |
| 20 | 05:04 | 05:30 | 05:52 | 17:45 | 18:07 | 18:33 |
| 10 | 05:03 | 05:27 | 05:49 | 17:49 | 18:10 | 18:34 |
| 0 | 05:01 | 05:25 | 05:45 | 17:52 | 18:13 | 18:37 |
| -10 | 04:57 | 05:21 | 05:42 | 17:55 | 18:16 | 18:41 |
| -20 | 04:51 | 05:17 | 05:39 | 17:59 | 18:21 | 18:47 |
| -30 | 04:42 | 05:11 | 05:35 | 18:03 | 18:27 | 18:56 |
| -35 | 04:37 | 05:07 | 05:32 | 18:06 | 18:31 | 19:01 |
| -40 | 04:30 | 05:02 | 05:29 | 18:09 | 18:36 | 19:08 |
| -45 | 04:21 | 04:57 | 05:26 | 18:12 | 18:42 | 19:17 |
| -50 | 04:10 | 04:50 | 05:22 | 18:16 | 18:49 | 19:28 |
| -52 | 04:05 | 04:46 | 05:20 | 18:18 | 18:52 | 19:34 |
| -54 | 03:59 | 04:42 | 05:18 | 18:20 | 18:56 | 19:40 |
| -56 | 03:52 | 04:38 | 05:16 | 18:22 | 19:00 | 19:47 |
| -58 | 03:44 | 04:34 | 05:14 | 18:25 | 19:05 | 19:55 |
| -60 | 03:35 | 04:28 | 05:11 | 18:28 | 19:11 | 20:05 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **04** | **05** | **06** | **04** | **05** | **06** |
| 72 | 17:47 | 17:07 | 16:29 | 00:01 | 02:42 | 05:10 |
| 70 | 17:34 | 17:03 | 16:34 | 00:29 | 02:53 | 05:09 |
| 68 | 17:23 | 17:01 | 16:39 | 00:51 | 03:01 | 05:07 |
| 66 | 17:14 | 16:58 | 16:43 | 01:07 | 03:08 | 05:07 |
| 64 | 17:06 | 16:56 | 16:46 | 01:21 | 03:13 | 05:06 |
| 62 | 17:00 | 16:54 | 16:49 | 01:32 | 03:18 | 05:05 |
| 60 | 16:54 | 16:53 | 16:52 | 01:41 | 03:23 | 05:04 |
| 58 | 16:49 | 16:51 | 16:54 | 01:50 | 03:26 | 05:04 |
| 56 | 16:44 | 16:50 | 16:56 | 01:57 | 03:30 | 05:04 |
| 54 | 16:40 | 16:49 | 16:58 | 02:03 | 03:32 | 05:03 |
| 52 | 16:36 | 16:48 | 17:00 | 02:09 | 03:35 | 05:03 |
| 50 | 16:33 | 16:47 | 17:02 | 02:14 | 03:38 | 05:02 |
| 45 | 16:25 | 16:45 | 17:05 | 02:25 | 03:43 | 05:02 |
| 40 | 16:19 | 16:43 | 17:08 | 02:34 | 03:47 | 05:01 |
| 35 | 16:14 | 16:42 | 17:11 | 02:42 | 03:51 | 05:00 |
| 30 | 16:09 | 16:41 | 17:13 | 02:49 | 03:54 | 05:00 |
| 20 | 16:00 | 16:38 | 17:17 | 03:01 | 04:00 | 04:59 |
| 10 | 15:53 | 16:36 | 17:20 | 03:11 | 04:04 | 04:58 |
| 0 | 15:46 | 16:34 | 17:24 | 03:20 | 04:09 | 04:58 |
| -10 | 15:39 | 16:33 | 17:27 | 03:30 | 04:13 | 04:57 |
| -20 | 15:31 | 16:31 | 17:31 | 03:40 | 04:18 | 04:56 |
| -30 | 15:23 | 16:28 | 17:35 | 03:51 | 04:23 | 04:55 |
| -35 | 15:18 | 16:27 | 17:38 | 03:57 | 04:26 | 04:54 |
| -40 | 15:12 | 16:26 | 17:41 | 04:05 | 04:30 | 04:54 |
| -45 | 15:06 | 16:24 | 17:44 | 04:13 | 04:33 | 04:53 |
| -50 | 14:58 | 16:22 | 17:48 | 04:23 | 04:38 | 04:52 |
| -52 | 14:54 | 16:21 | 17:50 | 04:28 | 04:40 | 04:52 |
| -54 | 14:50 | 16:20 | 17:52 | 04:33 | 04:42 | 04:51 |
| -56 | 14:45 | 16:19 | 17:54 | 04:38 | 04:45 | 04:51 |
| -58 | 14:40 | 16:17 | 17:56 | 04:45 | 04:48 | 04:50 |
| -60 | 14:35 | 16:16 | 17:59 | 04:52 | 04:51 | 04:50 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **04** | 11:12 | 11:21 | 11:49 | 21:57 | 09:33 | 12 | 87 |
| **05** | 11:30 | 11:39 | 11:48 | 22:46 | 10:22 | 13 | 94 |
| **06** | 11:48 | 11:57 | 11:48 | 23:36 | 11:11 | 14 | 98 |

## 2025 October 07, 08, 09 (Tue, Wed, Thu)

| | | Aries | Venus -3.9 | | Mars 1.6 | | Jupiter -2.2 | | Saturn 0.6 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 07 Tuesday | 0 | 15 53.8 | 203 10.4 | 4 40.7 | 158 22.9 | -14 56.3 | 260 54.1 | 21 29.1 | 17 21.8 | -3 22.2 |
| | 1 | 30 56.2 | 218 10.0 | 4 39.6 | 173 23.7 | -14 56.8 | 275 56.3 | 21 29.0 | 32 24.4 | -3 22.3 |
| | 2 | 45 58.7 | 233 9.6 | 4 38.4 | 188 24.5 | -14 57.4 | 290 58.5 | 21 29.0 | 47 27.1 | -3 22.3 |
| | 3 | 61 1.1 | 248 9.2 | 4 37.2 | 203 25.3 | -14 58.0 | 306 0.6 | 21 28.9 | 62 29.7 | -3 22.4 |
| | 4 | 76 3.6 | 263 8.8 | 4 36.0 | 218 26.1 | -14 58.5 | 321 2.8 | 21 28.9 | 77 32.3 | -3 22.5 |
| | 5 | 91 6.1 | 278 8.4 | 4 34.8 | 233 26.9 | -14 59.1 | 336 5.0 | 21 28.9 | 92 35.0 | -3 22.5 |
| | 6 | 106 8.5 | 293 8.0 | 4 33.7 | 248 27.7 | -14 59.7 | 351 7.2 | 21 28.8 | 107 37.6 | -3 22.6 |
| | 7 | 121 11.0 | 308 7.6 | 4 32.5 | 263 28.4 | -15 0.2 | 6 9.4 | 21 28.8 | 122 40.2 | -3 22.7 |
| | 8 | 136 13.5 | 323 7.2 | 4 31.3 | 278 29.2 | -15 0.8 | 21 11.5 | 21 28.7 | 137 42.8 | -3 22.8 |
| | 9 | 151 15.9 | 338 6.8 | 4 30.1 | 293 30.0 | -15 1.4 | 36 13.7 | 21 28.7 | 152 45.5 | -3 22.8 |
| | 10 | 166 18.4 | 353 6.4 | 4 28.9 | 308 30.8 | -15 1.9 | 51 15.9 | 21 28.7 | 167 48.1 | -3 22.9 |
| | 11 | 181 20.9 | 8 6.0 | 4 27.7 | 323 31.6 | -15 2.5 | 66 18.1 | 21 28.6 | 182 50.7 | -3 23.0 |
| | 12 | 196 23.3 | 23 5.6 | 4 26.6 | 338 32.4 | -15 3.1 | 81 20.3 | 21 28.6 | 197 53.4 | -3 23.0 |
| | 13 | 211 25.8 | 38 5.2 | 4 25.4 | 353 33.1 | -15 3.6 | 96 22.5 | 21 28.5 | 212 56.0 | -3 23.1 |
| | 14 | 226 28.3 | 53 4.8 | 4 24.2 | 8 33.9 | -15 4.2 | 111 24.6 | 21 28.5 | 227 58.6 | -3 23.2 |
| | 15 | 241 30.7 | 68 4.4 | 4 23.0 | 23 34.7 | -15 4.8 | 126 26.8 | 21 28.5 | 243 1.3 | -3 23.2 |
| | 16 | 256 33.2 | 83 4.0 | 4 21.8 | 38 35.5 | -15 5.3 | 141 29.0 | 21 28.4 | 258 3.9 | -3 23.3 |
| | 17 | 271 35.6 | 98 3.6 | 4 20.6 | 53 36.3 | -15 5.9 | 156 31.2 | 21 28.4 | 273 6.5 | -3 23.4 |
| | 18 | 286 38.1 | 113 3.2 | 4 19.5 | 68 37.0 | -15 6.5 | 171 33.4 | 21 28.3 | 288 9.1 | -3 23.5 |
| | 19 | 301 40.6 | 128 2.8 | 4 18.3 | 83 37.8 | -15 7.0 | 186 35.6 | 21 28.3 | 303 11.8 | -3 23.5 |
| | 20 | 316 43.0 | 143 2.4 | 4 17.1 | 98 38.6 | -15 7.6 | 201 37.7 | 21 28.3 | 318 14.4 | -3 23.6 |
| | 21 | 331 45.5 | 158 2.0 | 4 15.9 | 113 39.4 | -15 8.1 | 216 39.9 | 21 28.2 | 333 17.0 | -3 23.7 |
| | 22 | 346 48.0 | 173 1.6 | 4 14.7 | 128 40.2 | -15 8.7 | 231 42.1 | 21 28.2 | 348 19.7 | -3 23.7 |
| | 23 | 1 50.4 | 188 1.2 | 4 13.5 | 143 41.0 | -15 9.3 | 246 44.3 | 21 28.2 | 3 22.3 | -3 23.8 |
| | | MP 22:54 | *v* -0.4 | *d* -1.2 | *v* 0.8 | *d* 0.6 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Wednesday | 0 | 16 52.9 | 203 0.8 | 4 12.4 | 158 41.7 | -15 9.8 | 261 46.5 | 21 28.1 | 18 24.9 | -3 23.9 |
| | 1 | 31 55.4 | 218 0.4 | 4 11.2 | 173 42.5 | -15 10.4 | 276 48.7 | 21 28.1 | 33 27.6 | -3 23.9 |
| | 2 | 46 57.8 | 233 0.0 | 4 10.0 | 188 43.3 | -15 11.0 | 291 50.9 | 21 28.0 | 48 30.2 | -3 24.0 |
| | 3 | 62 0.3 | 247 59.6 | 4 8.8 | 203 44.1 | -15 11.5 | 306 53.0 | 21 28.0 | 63 32.8 | -3 24.1 |
| | 4 | 77 2.7 | 262 59.2 | 4 7.6 | 218 44.9 | -15 12.1 | 321 55.2 | 21 28.0 | 78 35.4 | -3 24.1 |
| | 5 | 92 5.2 | 277 58.8 | 4 6.4 | 233 45.6 | -15 12.6 | 336 57.4 | 21 27.9 | 93 38.1 | -3 24.2 |
| | 6 | 107 7.7 | 292 58.4 | 4 5.2 | 248 46.4 | -15 13.2 | 351 59.6 | 21 27.9 | 108 40.7 | -3 24.3 |
| | 7 | 122 10.1 | 307 58.0 | 4 4.0 | 263 47.2 | -15 13.8 | 7 1.8 | 21 27.8 | 123 43.3 | -3 24.4 |
| | 8 | 137 12.6 | 322 57.6 | 4 2.9 | 278 48.0 | -15 14.3 | 22 4.0 | 21 27.8 | 138 46.0 | -3 24.4 |
| | 9 | 152 15.1 | 337 57.2 | 4 1.7 | 293 48.7 | -15 14.9 | 37 6.2 | 21 27.8 | 153 48.6 | -3 24.5 |
| | 10 | 167 17.5 | 352 56.8 | 4 0.5 | 308 49.5 | -15 15.4 | 52 8.4 | 21 27.7 | 168 51.2 | -3 24.6 |
| | 11 | 182 20.0 | 7 56.4 | 3 59.3 | 323 50.3 | -15 16.0 | 67 10.5 | 21 27.7 | 183 53.9 | -3 24.6 |
| | 12 | 197 22.5 | 22 56.0 | 3 58.1 | 338 51.1 | -15 16.6 | 82 12.7 | 21 27.6 | 198 56.5 | -3 24.7 |
| | 13 | 212 24.9 | 37 55.6 | 3 56.9 | 353 51.9 | -15 17.1 | 97 14.9 | 21 27.6 | 213 59.1 | -3 24.8 |
| | 14 | 227 27.4 | 52 55.2 | 3 55.7 | 8 52.6 | -15 17.7 | 112 17.1 | 21 27.6 | 229 1.7 | -3 24.8 |
| | 15 | 242 29.9 | 67 54.8 | 3 54.5 | 23 53.4 | -15 18.2 | 127 19.3 | 21 27.5 | 244 4.4 | -3 24.9 |
| | 16 | 257 32.3 | 82 54.4 | 3 53.4 | 38 54.2 | -15 18.8 | 142 21.5 | 21 27.5 | 259 7.0 | -3 25.0 |
| | 17 | 272 34.8 | 97 54.1 | 3 52.2 | 53 55.0 | -15 19.4 | 157 23.7 | 21 27.4 | 274 9.6 | -3 25.0 |
| | 18 | 287 37.2 | 112 53.7 | 3 51.0 | 68 55.7 | -15 19.9 | 172 25.9 | 21 27.4 | 289 12.3 | -3 25.1 |
| | 19 | 302 39.7 | 127 53.3 | 3 49.8 | 83 56.5 | -15 20.5 | 187 28.1 | 21 27.4 | 304 14.9 | -3 25.2 |
| | 20 | 317 42.2 | 142 52.9 | 3 48.6 | 98 57.3 | -15 21.0 | 202 30.3 | 21 27.3 | 319 17.5 | -3 25.2 |
| | 21 | 332 44.6 | 157 52.5 | 3 47.4 | 113 58.1 | -15 21.6 | 217 32.4 | 21 27.3 | 334 20.1 | -3 25.3 |
| | 22 | 347 47.1 | 172 52.1 | 3 46.2 | 128 58.8 | -15 22.2 | 232 34.6 | 21 27.3 | 349 22.8 | -3 25.4 |
| | 23 | 2 49.6 | 187 51.7 | 3 45.0 | 143 59.6 | -15 22.7 | 247 36.8 | 21 27.2 | 4 25.4 | -3 25.5 |
| | | MP 22:50 | *v* -0.4 | *d* -1.2 | *v* 0.8 | *d* 0.6 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Thursday | 0 | 17 52.0 | 202 51.3 | 3 43.8 | 159 0.4 | -15 23.3 | 262 39.0 | 21 27.2 | 19 28.0 | -3 25.5 |
| | 1 | 32 54.5 | 217 50.9 | 3 42.6 | 174 1.2 | -15 23.8 | 277 41.2 | 21 27.1 | 34 30.7 | -3 25.6 |
| | 2 | 47 57.0 | 232 50.5 | 3 41.4 | 189 1.9 | -15 24.4 | 292 43.4 | 21 27.1 | 49 33.3 | -3 25.7 |
| | 3 | 62 59.4 | 247 50.1 | 3 40.3 | 204 2.7 | -15 24.9 | 307 45.6 | 21 27.1 | 64 35.9 | -3 25.7 |
| | 4 | 78 1.9 | 262 49.7 | 3 39.1 | 219 3.5 | -15 25.5 | 322 47.8 | 21 27.0 | 79 38.5 | -3 25.8 |
| | 5 | 93 4.4 | 277 49.3 | 3 37.9 | 234 4.2 | -15 26.1 | 337 50.0 | 21 27.0 | 94 41.2 | -3 25.9 |
| | 6 | 108 6.8 | 292 48.9 | 3 36.7 | 249 5.0 | -15 26.6 | 352 52.2 | 21 26.9 | 109 43.8 | -3 25.9 |
| | 7 | 123 9.3 | 307 48.5 | 3 35.5 | 264 5.8 | -15 27.2 | 7 54.4 | 21 26.9 | 124 46.4 | -3 26.0 |
| | 8 | 138 11.7 | 322 48.1 | 3 34.3 | 279 6.6 | -15 27.7 | 22 56.6 | 21 26.9 | 139 49.0 | -3 26.1 |
| | 9 | 153 14.2 | 337 47.7 | 3 33.1 | 294 7.3 | -15 28.3 | 37 58.8 | 21 26.8 | 154 51.7 | -3 26.1 |
| | 10 | 168 16.7 | 352 47.3 | 3 31.9 | 309 8.1 | -15 28.8 | 53 1.0 | 21 26.8 | 169 54.3 | -3 26.2 |
| | 11 | 183 19.1 | 7 46.9 | 3 30.7 | 324 8.9 | -15 29.4 | 68 3.2 | 21 26.8 | 184 56.9 | -3 26.3 |
| | 12 | 198 21.6 | 22 46.5 | 3 29.5 | 339 9.6 | -15 30.0 | 83 5.4 | 21 26.7 | 199 59.6 | -3 26.3 |
| | 13 | 213 24.1 | 37 46.1 | 3 28.3 | 354 10.4 | -15 30.5 | 98 7.5 | 21 26.7 | 215 2.2 | -3 26.4 |
| | 14 | 228 26.5 | 52 45.8 | 3 27.1 | 9 11.2 | -15 31.1 | 113 9.7 | 21 26.6 | 230 4.8 | -3 26.5 |
| | 15 | 243 29.0 | 67 45.4 | 3 25.9 | 24 12.0 | -15 31.6 | 128 11.9 | 21 26.6 | 245 7.4 | -3 26.5 |
| | 16 | 258 31.5 | 82 45.0 | 3 24.7 | 39 12.7 | -15 32.2 | 143 14.1 | 21 26.6 | 260 10.1 | -3 26.6 |
| | 17 | 273 33.9 | 97 44.6 | 3 23.5 | 54 13.5 | -15 32.7 | 158 16.3 | 21 26.5 | 275 12.7 | -3 26.7 |
| | 18 | 288 36.4 | 112 44.2 | 3 22.3 | 69 14.3 | -15 33.3 | 173 18.5 | 21 26.5 | 290 15.3 | -3 26.7 |
| | 19 | 303 38.8 | 127 43.8 | 3 21.2 | 84 15.0 | -15 33.8 | 188 20.7 | 21 26.5 | 305 17.9 | -3 26.8 |
| | 20 | 318 41.3 | 142 43.4 | 3 20.0 | 99 15.8 | -15 34.4 | 203 22.9 | 21 26.4 | 320 20.6 | -3 26.9 |
| | 21 | 333 43.8 | 157 43.0 | 3 18.8 | 114 16.6 | -15 35.0 | 218 25.1 | 21 26.4 | 335 23.2 | -3 27.0 |
| | 22 | 348 46.2 | 172 42.6 | 3 17.6 | 129 17.3 | -15 35.5 | 233 27.3 | 21 26.3 | 350 25.8 | -3 27.0 |
| | 23 | 3 48.7 | 187 42.2 | 3 16.4 | 144 18.1 | -15 36.1 | 248 29.5 | 21 26.3 | 5 28.5 | -3 27.1 |
| | | MP 22:46 | *v* -0.4 | *d* -1.2 | *v* 0.8 | *d* 0.6 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 11.8 |
| Achernar | 335 19.1 | -57 6.2 |
| Acrux | 173 0.2 | -63 14.4 |
| Adhara | 255 5.4 | -29 0.1 |
| Aldebaran | 290 38.7 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.2 |
| Alkaid | 152 52.0 | 49 11.2 |
| Alnair | 27 31.8 | -46 50.2 |
| Alnilam | 275 37.0 | -1 11.0 |
| Alphard | 217 47.4 | -8 46.0 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.1 |
| Altair | 61 59.3 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.9 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.3 | -69 4.6 |
| Avior | 234 14.7 | -59 35.1 |
| Bellatrix | 278 22.1 | 6 22.5 |
| Betelgeuse | 270 51.3 | 7 24.8 |
| Canopus | 263 52.0 | -52 42.2 |
| Capella | 280 20.8 | 46 1.3 |
| Deneb | 49 25.2 | 45 22.6 |
| Denebola | 182 24.6 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.6 |
| Dubhe | 193 40.8 | 61 36.6 |
| Elnath | 278 1.0 | 28 37.7 |
| Eltanin | 90 42.0 | 51 29.4 |
| Enif | 33 38.0 | 9 59.8 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.4 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.9 |
| Hamal | 327 50.2 | 23 35.2 |
| Kaus Aust. | 83 31.8 | -34 22.4 |
| Kochab | 137 20.8 | 74 3.1 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.2 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.7 | -69 49.0 |
| Mirfak | 308 27.0 | 49 57.1 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.6 | -56 39.3 |
| Pollux | 243 16.6 | 27 57.8 |
| Procyon | 244 50.3 | 5 9.7 |
| Rasalhague | 95 58.1 | 12 32.6 |
| Regulus | 207 34.0 | 11 50.6 |
| Rigel | 281 3.1 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.6 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.8 |
| Shaula | 96 9.7 | -37 7.4 |
| Sirius | 258 25.7 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.1 | -43 31.9 |
| Vega | 80 32.9 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 07 Tue | SHA | MP |
|---|---|---|
| Venus | 187 16.6 | 10:28 |
| Mars | 142 29.2 | 13:26 |
| Jupiter | 245 0.4 | 06:35 |
| Saturn | 1 28.0 | 22:47 |

| 08 Wed | SHA | MP |
|---|---|---|
| Venus | 186 7.9 | 10:28 |
| Mars | 141 48.8 | 13:25 |
| Jupiter | 244 53.6 | 06:32 |
| Saturn | 1 32.0 | 22:42 |

| 09 Thu | SHA | MP |
|---|---|---|
| Venus | 184 59.3 | 10:29 |
| Mars | 141 8.3 | 13:23 |
| Jupiter | 244 47.0 | 06:28 |
| Saturn | 1 36.0 | 22:38 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **07 Tuesday** | 0 | 183 1.5 | -5 31.0 | 5 52.6 | 10.3 | 6 35.4 | 17.4 | 60.6 |
| | 1 | 198 1.6 | -5 31.9 | 20 21.9 | 10.2 | 6 52.8 | 17.4 | 60.6 |
| | 2 | 213 1.8 | -5 32.9 | 34 51.2 | 10.2 | 7 10.1 | 17.3 | 60.6 |
| | 3 | 228 2.0 | -5 33.8 | 49 20.3 | 10.1 | 7 27.4 | 17.3 | 60.6 |
| | 4 | 243 2.2 | -5 34.8 | 63 49.5 | 10.1 | 7 44.7 | 17.3 | 60.7 |
| | 5 | 258 2.4 | -5 35.8 | 78 18.5 | 10.0 | 8 2.0 | 17.2 | 60.7 |
| | 6 | 273 2.5 | -5 36.7 | 92 47.5 | 9.9 | 8 19.2 | 17.2 | 60.7 |
| | 7 | 288 2.7 | -5 37.7 | 107 16.4 | 9.9 | 8 36.4 | 17.1 | 60.7 |
| | 8 | 303 2.9 | -5 38.6 | 121 45.3 | 9.8 | 8 53.6 | 17.1 | 60.7 |
| | 9 | 318 3.1 | -5 39.6 | 136 14.1 | 9.7 | 9 10.7 | 17.1 | 60.7 |
| | 10 | 333 3.3 | -5 40.5 | 150 42.8 | 9.6 | 9 27.7 | 17.0 | 60.8 |
| | 11 | 348 3.4 | -5 41.5 | 165 11.4 | 9.6 | 9 44.7 | 17.0 | 60.8 |
| | 12 | 3 3.6 | -5 42.4 | 179 40.0 | 9.5 | 10 1.7 | 16.9 | 60.8 |
| | 13 | 18 3.8 | -5 43.4 | 194 8.5 | 9.4 | 10 18.6 | 16.9 | 60.8 |
| | 14 | 33 4.0 | -5 44.3 | 208 37.0 | 9.4 | 10 35.5 | 16.8 | 60.8 |
| | 15 | 48 4.2 | -5 45.3 | 223 5.3 | 9.3 | 10 52.3 | 16.8 | 60.8 |
| | 16 | 63 4.3 | -5 46.3 | 237 33.6 | 9.2 | 11 9.1 | 16.7 | 60.8 |
| | 17 | 78 4.5 | -5 47.2 | 252 1.8 | 9.1 | 11 25.7 | 16.6 | 60.8 |
| | 18 | 93 4.7 | -5 48.2 | 266 29.9 | 9.0 | 11 42.4 | 16.6 | 60.8 |
| | 19 | 108 4.9 | -5 49.1 | 280 58.0 | 9.0 | 11 58.9 | 16.5 | 60.9 |
| | 20 | 123 5.0 | -5 50.1 | 295 25.9 | 8.9 | 12 15.4 | 16.4 | 60.9 |
| | 21 | 138 5.2 | -5 51.0 | 309 53.8 | 8.8 | 12 31.9 | 16.4 | 60.9 |
| | 22 | 153 5.4 | -5 52.0 | 324 21.6 | 8.7 | 12 48.2 | 16.3 | 60.9 |
| | 23 | 168 5.6 | -5 52.9 | 338 49.3 | 8.6 | 13 4.5 | 16.2 | 60.9 |
| | | *v* 0.2 | SD 16.0 *d* 1.0 | | | SD 16.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **08 Wednesday** | 0 | 183 5.8 | -5 53.9 | 353 17.0 | 8.6 | 13 20.7 | 16.1 | 60.9 |
| | 1 | 198 5.9 | -5 54.8 | 7 44.5 | 8.5 | 13 36.9 | 16.1 | 60.9 |
| | 2 | 213 6.1 | -5 55.8 | 22 12.0 | 8.4 | 13 52.9 | 16.0 | 60.9 |
| | 3 | 228 6.3 | -5 56.7 | 36 39.4 | 8.3 | 14 8.9 | 15.9 | 60.9 |
| | 4 | 243 6.5 | -5 57.7 | 51 6.7 | 8.2 | 14 24.8 | 15.8 | 60.9 |
| | 5 | 258 6.6 | -5 58.6 | 65 33.9 | 8.1 | 14 40.6 | 15.7 | 60.9 |
| | 6 | 273 6.8 | -5 59.6 | 80 1.0 | 8.0 | 14 56.4 | 15.6 | 60.9 |
| | 7 | 288 7.0 | -6 0.5 | 94 28.0 | 7.9 | 15 12.0 | 15.5 | 60.9 |
| | 8 | 303 7.2 | -6 1.5 | 108 55.0 | 7.8 | 15 27.5 | 15.4 | 60.9 |
| | 9 | 318 7.3 | -6 2.4 | 123 21.8 | 7.8 | 15 43.0 | 15.4 | 60.9 |
| | 10 | 333 7.5 | -6 3.4 | 137 48.6 | 7.7 | 15 58.3 | 15.3 | 60.9 |
| | 11 | 348 7.7 | -6 4.4 | 152 15.2 | 7.6 | 16 13.6 | 15.2 | 60.9 |
| | 12 | 3 7.9 | -6 5.3 | 166 41.8 | 7.5 | 16 28.7 | 15.0 | 60.9 |
| | 13 | 18 8.0 | -6 6.3 | 181 8.3 | 7.4 | 16 43.8 | 14.9 | 60.9 |
| | 14 | 33 8.2 | -6 7.2 | 195 34.7 | 7.3 | 16 58.7 | 14.8 | 60.9 |
| | 15 | 48 8.4 | -6 8.2 | 210 1.0 | 7.2 | 17 13.6 | 14.7 | 60.9 |
| | 16 | 63 8.6 | -6 9.1 | 224 27.2 | 7.1 | 17 28.3 | 14.6 | 60.9 |
| | 17 | 78 8.7 | -6 10.1 | 238 53.3 | 7.0 | 17 42.9 | 14.5 | 60.9 |
| | 18 | 93 8.9 | -6 11.0 | 253 19.3 | 6.9 | 17 57.4 | 14.4 | 60.9 |
| | 19 | 108 9.1 | -6 12.0 | 267 45.2 | 6.8 | 18 11.8 | 14.3 | 60.9 |
| | 20 | 123 9.3 | -6 12.9 | 282 11.1 | 6.7 | 18 26.1 | 14.1 | 60.9 |
| | 21 | 138 9.4 | -6 13.9 | 296 36.8 | 6.6 | 18 40.2 | 14.0 | 60.9 |
| | 22 | 153 9.6 | -6 14.8 | 311 2.4 | 6.5 | 18 54.2 | 13.9 | 60.9 |
| | 23 | 168 9.8 | -6 15.8 | 325 28.0 | 6.4 | 19 8.1 | 13.8 | 60.9 |
| | | *v* 0.2 | SD 16.0 *d* 1.0 | | | SD 16.6 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **09 Thursday** | 0 | 183 10.0 | -6 16.7 | 339 53.4 | 6.4 | 19 21.9 | 13.6 | 60.9 |
| | 1 | 198 10.1 | -6 17.7 | 354 18.8 | 6.3 | 19 35.6 | 13.5 | 60.9 |
| | 2 | 213 10.3 | -6 18.6 | 8 44.0 | 6.2 | 19 49.1 | 13.4 | 60.9 |
| | 3 | 228 10.5 | -6 19.6 | 23 9.2 | 6.1 | 20 2.5 | 13.2 | 60.9 |
| | 4 | 243 10.6 | -6 20.5 | 37 34.2 | 6.0 | 20 15.7 | 13.1 | 60.9 |
| | 5 | 258 10.8 | -6 21.5 | 51 59.2 | 5.9 | 20 28.8 | 13.0 | 60.9 |
| | 6 | 273 11.0 | -6 22.4 | 66 24.1 | 5.8 | 20 41.8 | 12.8 | 60.9 |
| | 7 | 288 11.2 | -6 23.3 | 80 48.9 | 5.7 | 20 54.6 | 12.7 | 60.9 |
| | 8 | 303 11.3 | -6 24.3 | 95 13.6 | 5.6 | 21 7.3 | 12.5 | 60.8 |
| | 9 | 318 11.5 | -6 25.2 | 109 38.2 | 5.5 | 21 19.9 | 12.4 | 60.8 |
| | 10 | 333 11.7 | -6 26.2 | 124 2.7 | 5.4 | 21 32.3 | 12.2 | 60.8 |
| | 11 | 348 11.8 | -6 27.1 | 138 27.1 | 5.3 | 21 44.5 | 12.1 | 60.8 |
| | 12 | 3 12.0 | -6 28.1 | 152 51.4 | 5.2 | 21 56.6 | 11.9 | 60.8 |
| | 13 | 18 12.2 | -6 29.0 | 167 15.6 | 5.1 | 22 8.6 | 11.8 | 60.8 |
| | 14 | 33 12.3 | -6 30.0 | 181 39.8 | 5.1 | 22 20.3 | 11.6 | 60.8 |
| | 15 | 48 12.5 | -6 30.9 | 196 3.8 | 5.0 | 22 32.0 | 11.5 | 60.8 |
| | 16 | 63 12.7 | -6 31.9 | 210 27.8 | 4.9 | 22 43.5 | 11.3 | 60.8 |
| | 17 | 78 12.9 | -6 32.8 | 224 51.7 | 4.8 | 22 54.8 | 11.2 | 60.7 |
| | 18 | 93 13.0 | -6 33.8 | 239 15.5 | 4.7 | 23 5.9 | 11.0 | 60.7 |
| | 19 | 108 13.2 | -6 34.7 | 253 39.2 | 4.6 | 23 16.9 | 10.8 | 60.7 |
| | 20 | 123 13.4 | -6 35.7 | 268 2.8 | 4.5 | 23 27.8 | 10.7 | 60.7 |
| | 21 | 138 13.5 | -6 36.6 | 282 26.3 | 4.4 | 23 38.4 | 10.5 | 60.7 |
| | 22 | 153 13.7 | -6 37.6 | 296 49.8 | 4.4 | 23 48.9 | 10.3 | 60.7 |
| | 23 | 168 13.9 | -6 38.5 | 311 13.1 | 4.3 | 23 59.2 | 10.2 | 60.7 |
| | | *v* 0.2 | SD 16.0 *d* 0.9 | | | SD 16.6 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 04:20 | 05:39 | 06:47 | 16:46 | 17:54 | 19:13 |
| 70 | 04:28 | 05:39 | 06:41 | 16:53 | 17:54 | 19:05 |
| 68 | 04:34 | 05:39 | 06:35 | 16:59 | 17:54 | 18:59 |
| 66 | 04:40 | 05:39 | 06:31 | 17:03 | 17:55 | 18:54 |
| 64 | 04:44 | 05:39 | 06:27 | 17:07 | 17:55 | 18:50 |
| 62 | 04:47 | 05:39 | 06:23 | 17:11 | 17:55 | 18:46 |
| 60 | 04:50 | 05:39 | 06:20 | 17:14 | 17:56 | 18:44 |
| 58 | 04:53 | 05:38 | 06:18 | 17:17 | 17:56 | 18:41 |
| 56 | 04:55 | 05:38 | 06:15 | 17:19 | 17:56 | 18:39 |
| 54 | 04:57 | 05:38 | 06:13 | 17:21 | 17:57 | 18:37 |
| 52 | 04:58 | 05:38 | 06:11 | 17:23 | 17:57 | 18:36 |
| 50 | 05:00 | 05:37 | 06:10 | 17:25 | 17:57 | 18:35 |
| 45 | 05:02 | 05:36 | 06:06 | 17:29 | 17:58 | 18:32 |
| 40 | 05:04 | 05:35 | 06:02 | 17:33 | 18:00 | 18:31 |
| 35 | 05:05 | 05:34 | 06:00 | 17:35 | 18:01 | 18:30 |
| 30 | 05:05 | 05:33 | 05:57 | 17:38 | 18:02 | 18:30 |
| 20 | 05:05 | 05:30 | 05:52 | 17:43 | 18:05 | 18:30 |
| 10 | 05:03 | 05:27 | 05:48 | 17:47 | 18:08 | 18:32 |
| 0 | 05:00 | 05:24 | 05:45 | 17:51 | 18:12 | 18:36 |
| -10 | 04:55 | 05:19 | 05:40 | 17:55 | 18:16 | 18:41 |
| -20 | 04:48 | 05:14 | 05:36 | 18:00 | 18:22 | 18:48 |
| -30 | 04:39 | 05:07 | 05:31 | 18:05 | 18:29 | 18:58 |
| -35 | 04:32 | 05:02 | 05:28 | 18:08 | 18:34 | 19:04 |
| -40 | 04:25 | 04:57 | 05:25 | 18:12 | 18:39 | 19:12 |
| -45 | 04:15 | 04:51 | 05:21 | 18:16 | 18:46 | 19:21 |
| -50 | 04:03 | 04:43 | 05:16 | 18:21 | 18:54 | 19:34 |
| -52 | 03:57 | 04:39 | 05:14 | 18:23 | 18:58 | 19:40 |
| -54 | 03:51 | 04:35 | 05:11 | 18:26 | 19:02 | 19:47 |
| -56 | 03:43 | 04:30 | 05:08 | 18:28 | 19:07 | 19:54 |
| -58 | 03:34 | 04:25 | 05:05 | 18:32 | 19:12 | 20:03 |
| -60 | 03:24 | 04:19 | 05:02 | 18:35 | 19:19 | 20:14 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **07** | **08** | **09** | **07** | **08** | **09** |
| 72 | 15:44 | 14:22 | | 07:44 | 11:00 | |
| 70 | 16:01 | 15:10 | | 07:30 | 10:15 | |
| 68 | 16:15 | 15:41 | | 07:19 | 09:45 | |
| 66 | 16:26 | 16:05 | 15:24 | 07:09 | 09:23 | 12:04 |
| 64 | 16:36 | 16:23 | 16:05 | 07:02 | 09:06 | 11:25 |
| 62 | 16:44 | 16:39 | 16:33 | 06:55 | 08:52 | 10:58 |
| 60 | 16:51 | 16:52 | 16:54 | 06:50 | 08:40 | 10:37 |
| 58 | 16:58 | 17:03 | 17:12 | 06:45 | 08:30 | 10:20 |
| 56 | 17:03 | 17:13 | 17:27 | 06:40 | 08:21 | 10:06 |
| 54 | 17:09 | 17:22 | 17:40 | 06:36 | 08:13 | 09:54 |
| 52 | 17:13 | 17:30 | 17:52 | 06:33 | 08:06 | 09:43 |
| 50 | 17:17 | 17:37 | 18:02 | 06:30 | 08:00 | 09:33 |
| 45 | 17:27 | 17:52 | 18:24 | 06:23 | 07:47 | 09:13 |
| 40 | 17:34 | 18:05 | 18:41 | 06:17 | 07:36 | 08:57 |
| 35 | 17:41 | 18:16 | 18:56 | 06:12 | 07:26 | 08:43 |
| 30 | 17:47 | 18:25 | 19:09 | 06:08 | 07:18 | 08:31 |
| 20 | 17:57 | 18:42 | 19:31 | 06:00 | 07:04 | 08:11 |
| 10 | 18:07 | 18:56 | 19:51 | 05:54 | 06:52 | 07:54 |
| 0 | 18:15 | 19:10 | 20:09 | 05:48 | 06:41 | 07:37 |
| -10 | 18:24 | 19:24 | 20:27 | 05:42 | 06:29 | 07:21 |
| -20 | 18:33 | 19:39 | 20:47 | 05:35 | 06:17 | 07:04 |
| -30 | 18:44 | 19:56 | 21:10 | 05:28 | 06:04 | 06:44 |
| -35 | 18:51 | 20:06 | 21:24 | 05:24 | 05:56 | 06:33 |
| -40 | 18:58 | 20:18 | 21:40 | 05:19 | 05:47 | 06:20 |
| -45 | 19:07 | 20:32 | 21:59 | 05:14 | 05:37 | 06:05 |
| -50 | 19:17 | 20:49 | 22:22 | 05:07 | 05:24 | 05:46 |
| -52 | 19:22 | 20:57 | 22:34 | 05:04 | 05:18 | 05:37 |
| -54 | 19:27 | 21:06 | 22:47 | 05:01 | 05:12 | 05:27 |
| -56 | 19:33 | 21:16 | 23:02 | 04:57 | 05:05 | 05:16 |
| -58 | 19:40 | 21:28 | 23:20 | 04:53 | 04:57 | 05:04 |
| -60 | 19:47 | 21:42 | 23:42 | 04:49 | 04:48 | 04:49 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **07** | 12:06 | 12:14 | 11:48 | –:– | 12:01 | 15 | 100 |
| **08** | 12:23 | 12:31 | 11:47 | 00:28 | 12:55 | 16 | 99 |
| **09** | 12:40 | 12:48 | 11:47 | 01:24 | 13:53 | 17 | 95 |

## 2025 October 10, 11, 12 (Fri, Sat, Sun)

| | | Aries | Venus -3.9 | | Mars 1.5 | | Jupiter -2.2 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 10 Friday | 0 | 18 51.2 | 202 41.8 | 3 15.2 | 159 18.9 | -15 36.6 | 263 31.7 | 21 26.3 | 20 31.1 | -3 27.2 |
| | 1 | 33 53.6 | 217 41.4 | 3 14.0 | 174 19.6 | -15 37.2 | 278 33.9 | 21 26.2 | 35 33.7 | -3 27.2 |
| | 2 | 48 56.1 | 232 41.0 | 3 12.8 | 189 20.4 | -15 37.7 | 293 36.1 | 21 26.2 | 50 36.3 | -3 27.3 |
| | 3 | 63 58.6 | 247 40.6 | 3 11.6 | 204 21.2 | -15 38.3 | 308 38.3 | 21 26.2 | 65 39.0 | -3 27.4 |
| | 4 | 79 1.0 | 262 40.2 | 3 10.4 | 219 21.9 | -15 38.8 | 323 40.5 | 21 26.1 | 80 41.6 | -3 27.4 |
| | 5 | 94 3.5 | 277 39.8 | 3 9.2 | 234 22.7 | -15 39.4 | 338 42.7 | 21 26.1 | 95 44.2 | -3 27.5 |
| | 6 | 109 6.0 | 292 39.4 | 3 8.0 | 249 23.5 | -15 39.9 | 353 44.9 | 21 26.0 | 110 46.8 | -3 27.6 |
| | 7 | 124 8.4 | 307 39.1 | 3 6.8 | 264 24.2 | -15 40.5 | 8 47.1 | 21 26.0 | 125 49.5 | -3 27.6 |
| | 8 | 139 10.9 | 322 38.7 | 3 5.6 | 279 25.0 | -15 41.0 | 23 49.3 | 21 26.0 | 140 52.1 | -3 27.7 |
| | 9 | 154 13.3 | 337 38.3 | 3 4.4 | 294 25.8 | -15 41.6 | 38 51.5 | 21 25.9 | 155 54.7 | -3 27.8 |
| | 10 | 169 15.8 | 352 37.9 | 3 3.2 | 309 26.5 | -15 42.1 | 53 53.7 | 21 25.9 | 170 57.3 | -3 27.8 |
| | 11 | 184 18.3 | 7 37.5 | 3 2.0 | 324 27.3 | -15 42.7 | 68 55.9 | 21 25.9 | 186 0.0 | -3 27.9 |
| | 12 | 199 20.7 | 22 37.1 | 3 0.8 | 339 28.1 | -15 43.2 | 83 58.1 | 21 25.8 | 201 2.6 | -3 28.0 |
| | 13 | 214 23.2 | 37 36.7 | 2 59.6 | 354 28.8 | -15 43.8 | 99 0.3 | 21 25.8 | 216 5.2 | -3 28.0 |
| | 14 | 229 25.7 | 52 36.3 | 2 58.4 | 9 29.6 | -15 44.4 | 114 2.5 | 21 25.7 | 231 7.8 | -3 28.1 |
| | 15 | 244 28.1 | 67 35.9 | 2 57.2 | 24 30.4 | -15 44.9 | 129 4.8 | 21 25.7 | 246 10.5 | -3 28.2 |
| | 16 | 259 30.6 | 82 35.5 | 2 56.0 | 39 31.1 | -15 45.5 | 144 7.0 | 21 25.7 | 261 13.1 | -3 28.2 |
| | 17 | 274 33.1 | 97 35.1 | 2 54.8 | 54 31.9 | -15 46.0 | 159 9.2 | 21 25.6 | 276 15.7 | -3 28.3 |
| | 18 | 289 35.5 | 112 34.7 | 2 53.6 | 69 32.6 | -15 46.6 | 174 11.4 | 21 25.6 | 291 18.4 | -3 28.4 |
| | 19 | 304 38.0 | 127 34.3 | 2 52.4 | 84 33.4 | -15 47.1 | 189 13.6 | 21 25.6 | 306 21.0 | -3 28.4 |
| | 20 | 319 40.5 | 142 33.9 | 2 51.2 | 99 34.2 | -15 47.7 | 204 15.8 | 21 25.5 | 321 23.6 | -3 28.5 |
| | 21 | 334 42.9 | 157 33.6 | 2 50.0 | 114 34.9 | -15 48.2 | 219 18.0 | 21 25.5 | 336 26.2 | -3 28.6 |
| | 22 | 349 45.4 | 172 33.2 | 2 48.8 | 129 35.7 | -15 48.8 | 234 20.2 | 21 25.5 | 351 28.9 | -3 28.6 |
| | 23 | 4 47.8 | 187 32.8 | 2 47.6 | 144 36.5 | -15 49.3 | 249 22.4 | 21 25.4 | 6 31.5 | -3 28.7 |
| | | MP 22:42 | *v* -0.4 | *d* -1.2 | *v* 0.8 | *d* 0.6 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 Saturday | 0 | 19 50.3 | 202 32.4 | 2 46.4 | 159 37.2 | -15 49.9 | 264 24.6 | 21 25.4 | 21 34.1 | -3 28.8 |
| | 1 | 34 52.8 | 217 32.0 | 2 45.2 | 174 38.0 | -15 50.4 | 279 26.8 | 21 25.3 | 36 36.7 | -3 28.8 |
| | 2 | 49 55.2 | 232 31.6 | 2 44.0 | 189 38.7 | -15 51.0 | 294 29.0 | 21 25.3 | 51 39.4 | -3 28.9 |
| | 3 | 64 57.7 | 247 31.2 | 2 42.8 | 204 39.5 | -15 51.5 | 309 31.2 | 21 25.3 | 66 42.0 | -3 29.0 |
| | 4 | 80 0.2 | 262 30.8 | 2 41.6 | 219 40.3 | -15 52.0 | 324 33.4 | 21 25.2 | 81 44.6 | -3 29.0 |
| | 5 | 95 2.6 | 277 30.4 | 2 40.4 | 234 41.0 | -15 52.6 | 339 35.6 | 21 25.2 | 96 47.2 | -3 29.1 |
| | 6 | 110 5.1 | 292 30.0 | 2 39.2 | 249 41.8 | -15 53.1 | 354 37.8 | 21 25.2 | 111 49.9 | -3 29.2 |
| | 7 | 125 7.6 | 307 29.6 | 2 38.0 | 264 42.5 | -15 53.7 | 9 40.1 | 21 25.1 | 126 52.5 | -3 29.2 |
| | 8 | 140 10.0 | 322 29.2 | 2 36.8 | 279 43.3 | -15 54.2 | 24 42.3 | 21 25.1 | 141 55.1 | -3 29.3 |
| | 9 | 155 12.5 | 337 28.8 | 2 35.6 | 294 44.1 | -15 54.8 | 39 44.5 | 21 25.1 | 156 57.7 | -3 29.4 |
| | 10 | 170 15.0 | 352 28.5 | 2 34.4 | 309 44.8 | -15 55.3 | 54 46.7 | 21 25.0 | 172 0.3 | -3 29.4 |
| | 11 | 185 17.4 | 7 28.1 | 2 33.2 | 324 45.6 | -15 55.9 | 69 48.9 | 21 25.0 | 187 3.0 | -3 29.5 |
| | 12 | 200 19.9 | 22 27.7 | 2 32.0 | 339 46.3 | -15 56.4 | 84 51.1 | 21 24.9 | 202 5.6 | -3 29.6 |
| | 13 | 215 22.3 | 37 27.3 | 2 30.8 | 354 47.1 | -15 57.0 | 99 53.3 | 21 24.9 | 217 8.2 | -3 29.6 |
| | 14 | 230 24.8 | 52 26.9 | 2 29.5 | 9 47.8 | -15 57.5 | 114 55.5 | 21 24.9 | 232 10.8 | -3 29.7 |
| | 15 | 245 27.3 | 67 26.5 | 2 28.3 | 24 48.6 | -15 58.1 | 129 57.7 | 21 24.8 | 247 13.5 | -3 29.8 |
| | 16 | 260 29.7 | 82 26.1 | 2 27.1 | 39 49.4 | -15 58.6 | 144 59.9 | 21 24.8 | 262 16.1 | -3 29.8 |
| | 17 | 275 32.2 | 97 25.7 | 2 25.9 | 54 50.1 | -15 59.2 | 160 2.2 | 21 24.8 | 277 18.7 | -3 29.9 |
| | 18 | 290 34.7 | 112 25.3 | 2 24.7 | 69 50.9 | -15 59.7 | 175 4.4 | 21 24.7 | 292 21.3 | -3 30.0 |
| | 19 | 305 37.1 | 127 24.9 | 2 23.5 | 84 51.6 | -16 0.3 | 190 6.6 | 21 24.7 | 307 24.0 | -3 30.0 |
| | 20 | 320 39.6 | 142 24.5 | 2 22.3 | 99 52.4 | -16 0.8 | 205 8.8 | 21 24.7 | 322 26.6 | -3 30.1 |
| | 21 | 335 42.1 | 157 24.1 | 2 21.1 | 114 53.1 | -16 1.3 | 220 11.0 | 21 24.6 | 337 29.2 | -3 30.2 |
| | 22 | 350 44.5 | 172 23.8 | 2 19.9 | 129 53.9 | -16 1.9 | 235 13.2 | 21 24.6 | 352 31.8 | -3 30.2 |
| | 23 | 5 47.0 | 187 23.4 | 2 18.7 | 144 54.7 | -16 2.4 | 250 15.4 | 21 24.6 | 7 34.5 | -3 30.3 |
| | | MP 22:38 | *v* -0.4 | *d* -1.2 | *v* 0.8 | *d* 0.5 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 Sunday | 0 | 20 49.5 | 202 23.0 | 2 17.5 | 159 55.4 | -16 3.0 | 265 17.6 | 21 24.5 | 22 37.1 | -3 30.4 |
| | 1 | 35 51.9 | 217 22.6 | 2 16.3 | 174 56.2 | -16 3.5 | 280 19.9 | 21 24.5 | 37 39.7 | -3 30.4 |
| | 2 | 50 54.4 | 232 22.2 | 2 15.1 | 189 56.9 | -16 4.1 | 295 22.1 | 21 24.4 | 52 42.3 | -3 30.5 |
| | 3 | 65 56.8 | 247 21.8 | 2 13.9 | 204 57.7 | -16 4.6 | 310 24.3 | 21 24.4 | 67 45.0 | -3 30.5 |
| | 4 | 80 59.3 | 262 21.4 | 2 12.7 | 219 58.4 | -16 5.2 | 325 26.5 | 21 24.4 | 82 47.6 | -3 30.6 |
| | 5 | 96 1.8 | 277 21.0 | 2 11.5 | 234 59.2 | -16 5.7 | 340 28.7 | 21 24.3 | 97 50.2 | -3 30.7 |
| | 6 | 111 4.2 | 292 20.6 | 2 10.3 | 249 59.9 | -16 6.2 | 355 30.9 | 21 24.3 | 112 52.8 | -3 30.7 |
| | 7 | 126 6.7 | 307 20.2 | 2 9.0 | 265 0.7 | -16 6.8 | 10 33.1 | 21 24.3 | 127 55.4 | -3 30.8 |
| | 8 | 141 9.2 | 322 19.8 | 2 7.8 | 280 1.4 | -16 7.3 | 25 35.4 | 21 24.2 | 142 58.1 | -3 30.9 |
| | 9 | 156 11.6 | 337 19.4 | 2 6.6 | 295 2.2 | -16 7.9 | 40 37.6 | 21 24.2 | 158 0.7 | -3 30.9 |
| | 10 | 171 14.1 | 352 19.1 | 2 5.4 | 310 2.9 | -16 8.4 | 55 39.8 | 21 24.2 | 173 3.3 | -3 31.0 |
| | 11 | 186 16.6 | 7 18.7 | 2 4.2 | 325 3.7 | -16 9.0 | 70 42.0 | 21 24.1 | 188 5.9 | -3 31.1 |
| | 12 | 201 19.0 | 22 18.3 | 2 3.0 | 340 4.5 | -16 9.5 | 85 44.2 | 21 24.1 | 203 8.6 | -3 31.1 |
| | 13 | 216 21.5 | 37 17.9 | 2 1.8 | 355 5.2 | -16 10.0 | 100 46.4 | 21 24.1 | 218 11.2 | -3 31.2 |
| | 14 | 231 23.9 | 52 17.5 | 2 0.6 | 10 6.0 | -16 10.6 | 115 48.7 | 21 24.0 | 233 13.8 | -3 31.3 |
| | 15 | 246 26.4 | 67 17.1 | 1 59.4 | 25 6.7 | -16 11.1 | 130 50.9 | 21 24.0 | 248 16.4 | -3 31.3 |
| | 16 | 261 28.9 | 82 16.7 | 1 58.2 | 40 7.5 | -16 11.7 | 145 53.1 | 21 24.0 | 263 19.0 | -3 31.4 |
| | 17 | 276 31.3 | 97 16.3 | 1 57.0 | 55 8.2 | -16 12.2 | 160 55.3 | 21 23.9 | 278 21.7 | -3 31.5 |
| | 18 | 291 33.8 | 112 15.9 | 1 55.8 | 70 9.0 | -16 12.8 | 175 57.5 | 21 23.9 | 293 24.3 | -3 31.5 |
| | 19 | 306 36.3 | 127 15.5 | 1 54.6 | 85 9.7 | -16 13.3 | 190 59.8 | 21 23.9 | 308 26.9 | -3 31.6 |
| | 20 | 321 38.7 | 142 15.1 | 1 53.3 | 100 10.5 | -16 13.8 | 206 2.0 | 21 23.8 | 323 29.5 | -3 31.7 |
| | 21 | 336 41.2 | 157 14.8 | 1 52.1 | 115 11.2 | -16 14.4 | 221 4.2 | 21 23.8 | 338 32.2 | -3 31.7 |
| | 22 | 351 43.7 | 172 14.4 | 1 50.9 | 130 12.0 | -16 14.9 | 236 6.4 | 21 23.7 | 353 34.8 | -3 31.8 |
| | 23 | 6 46.1 | 187 14.0 | 1 49.7 | 145 12.7 | -16 15.5 | 251 8.6 | 21 23.7 | 8 37.4 | -3 31.8 |
| | | MP 22:34 | *v* -0.4 | *d* -1.2 | *v* 0.8 | *d* 0.5 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 11.8 |
| Achernar | 335 19.1 | -57 6.2 |
| Acrux | 173 0.2 | -63 14.4 |
| Adhara | 255 5.4 | -29 0.1 |
| Aldebaran | 290 38.7 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.2 |
| Alkaid | 152 52.0 | 49 11.1 |
| Alnair | 27 31.8 | -46 50.2 |
| Alnilam | 275 37.0 | -1 11.0 |
| Alphard | 217 47.3 | -8 46.0 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.1 |
| Altair | 61 59.3 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.9 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.3 | -69 4.6 |
| Avior | 234 14.7 | -59 35.1 |
| Bellatrix | 278 22.1 | 6 22.5 |
| Betelgeuse | 270 51.3 | 7 24.8 |
| Canopus | 263 52.0 | -52 42.2 |
| Capella | 280 20.8 | 46 1.3 |
| Deneb | 49 25.2 | 45 22.6 |
| Denebola | 182 24.6 | 14 25.8 |
| Diphda | 348 46.4 | -17 50.6 |
| Dubhe | 193 40.8 | 61 36.6 |
| Elnath | 278 0.9 | 28 37.7 |
| Eltanin | 90 42.1 | 51 29.4 |
| Enif | 33 38.0 | 9 59.8 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.3 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.8 |
| Hamal | 327 50.2 | 23 35.2 |
| Kaus Aust. | 83 31.8 | -34 22.4 |
| Kochab | 137 20.8 | 74 3.0 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.2 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.7 | -69 49.0 |
| Mirfak | 308 27.0 | 49 57.1 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.6 | -56 39.3 |
| Pollux | 243 16.6 | 27 57.8 |
| Procyon | 244 50.2 | 5 9.7 |
| Rasalhague | 95 58.1 | 12 32.6 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.1 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.6 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.9 |
| Shaula | 96 9.7 | -37 7.4 |
| Sirius | 258 25.7 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.1 | -43 31.9 |
| Vega | 80 32.9 | 38 48.7 |
| Zuben'ubi | 136 55.7 | -16 8.9 |

| 10 Fri | SHA | MP |
|---|---|---|
| Venus | 183 50.6 | 10:29 |
| Mars | 140 27.7 | 13:22 |
| Jupiter | 244 40.6 | 06:25 |
| Saturn | 1 39.9 | 22:34 |

| 11 Sat | SHA | MP |
|---|---|---|
| Venus | 182 42.1 | 10:30 |
| Mars | 139 46.9 | 13:21 |
| Jupiter | 244 34.3 | 06:21 |
| Saturn | 1 43.8 | 22:30 |

| 12 Sun | SHA | MP |
|---|---|---|
| Venus | 181 33.5 | 10:31 |
| Mars | 139 6.0 | 13:20 |
| Jupiter | 244 28.2 | 06:18 |
| Saturn | 1 47.6 | 22:26 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **10 Friday** | 0 | 183 14.0 | -6 39.5 | 325 36.4 | 4.2 | 24 9.4 | 10.0 | 60.6 |
| | 1 | 198 14.2 | -6 40.4 | 339 59.6 | 4.1 | 24 19.4 | 9.8 | 60.6 |
| | 2 | 213 14.4 | -6 41.3 | 354 22.7 | 4.1 | 24 29.2 | 9.6 | 60.6 |
| | 3 | 228 14.5 | -6 42.3 | 8 45.8 | 4.0 | 24 38.8 | 9.4 | 60.6 |
| | 4 | 243 14.7 | -6 43.2 | 23 8.8 | 3.9 | 24 48.2 | 9.3 | 60.6 |
| | 5 | 258 14.9 | -6 44.2 | 37 31.7 | 3.8 | 24 57.5 | 9.1 | 60.5 |
| | 6 | 273 15.0 | -6 45.1 | 51 54.5 | 3.8 | 25 6.6 | 8.9 | 60.5 |
| | 7 | 288 15.2 | -6 46.1 | 66 17.3 | 3.7 | 25 15.5 | 8.7 | 60.5 |
| | 8 | 303 15.4 | -6 47.0 | 80 40.0 | 3.6 | 25 24.2 | 8.5 | 60.5 |
| | 9 | 318 15.5 | -6 48.0 | 95 2.6 | 3.6 | 25 32.8 | 8.4 | 60.5 |
| | 10 | 333 15.7 | -6 48.9 | 109 25.2 | 3.5 | 25 41.1 | 8.2 | 60.5 |
| | 11 | 348 15.9 | -6 49.8 | 123 47.7 | 3.4 | 25 49.3 | 8.0 | 60.4 |
| | 12 | 3 16.0 | -6 50.8 | 138 10.1 | 3.4 | 25 57.2 | 7.8 | 60.4 |
| | 13 | 18 16.2 | -6 51.7 | 152 32.5 | 3.3 | 26 5.0 | 7.6 | 60.4 |
| | 14 | 33 16.4 | -6 52.7 | 166 54.8 | 3.3 | 26 12.6 | 7.4 | 60.4 |
| | 15 | 48 16.5 | -6 53.6 | 181 17.1 | 3.2 | 26 20.0 | 7.2 | 60.3 |
| | 16 | 63 16.7 | -6 54.6 | 195 39.3 | 3.2 | 26 27.2 | 7.0 | 60.3 |
| | 17 | 78 16.9 | -6 55.5 | 210 1.5 | 3.1 | 26 34.3 | 6.8 | 60.3 |
| | 18 | 93 17.0 | -6 56.5 | 224 23.6 | 3.1 | 26 41.1 | 6.6 | 60.3 |
| | 19 | 108 17.2 | -6 57.4 | 238 45.7 | 3.0 | 26 47.7 | 6.4 | 60.3 |
| | 20 | 123 17.3 | -6 58.3 | 253 7.7 | 3.0 | 26 54.1 | 6.2 | 60.2 |
| | 21 | 138 17.5 | -6 59.3 | 267 29.7 | 2.9 | 27 0.4 | 6.0 | 60.2 |
| | 22 | 153 17.7 | -7 0.2 | 281 51.6 | 2.9 | 27 6.4 | 5.8 | 60.2 |
| | 23 | 168 17.8 | -7 1.2 | 296 13.5 | 2.9 | 27 12.2 | 5.6 | 60.2 |
| | | *v* 0.2 | SD 16.0 | *d* 0.9 | | SD 16.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **11 Saturday** | 0 | 183 18.0 | -7 2.1 | 310 35.4 | 2.8 | 27 17.8 | 5.4 | 60.1 |
| | 1 | 198 18.2 | -7 3.1 | 324 57.3 | 2.8 | 27 23.3 | 5.2 | 60.1 |
| | 2 | 213 18.3 | -7 4.0 | 339 19.1 | 2.8 | 27 28.5 | 5.0 | 60.1 |
| | 3 | 228 18.5 | -7 4.9 | 353 40.9 | 2.8 | 27 33.5 | 4.8 | 60.1 |
| | 4 | 243 18.6 | -7 5.9 | 8 2.6 | 2.7 | 27 38.4 | 4.6 | 60.0 |
| | 5 | 258 18.8 | -7 6.8 | 22 24.4 | 2.7 | 27 43.0 | 4.4 | 60.0 |
| | 6 | 273 19.0 | -7 7.8 | 36 46.1 | 2.7 | 27 47.4 | 4.2 | 60.0 |
| | 7 | 288 19.1 | -7 8.7 | 51 7.8 | 2.7 | 27 51.6 | 4.0 | 60.0 |
| | 8 | 303 19.3 | -7 9.6 | 65 29.5 | 2.7 | 27 55.6 | 3.8 | 59.9 |
| | 9 | 318 19.4 | -7 10.6 | 79 51.2 | 2.7 | 27 59.5 | 3.6 | 59.9 |
| | 10 | 333 19.6 | -7 11.5 | 94 12.9 | 2.7 | 28 3.1 | 3.4 | 59.9 |
| | 11 | 348 19.8 | -7 12.5 | 108 34.6 | 2.7 | 28 6.5 | 3.2 | 59.9 |
| | 12 | 3 19.9 | -7 13.4 | 122 56.2 | 2.7 | 28 9.7 | 3.0 | 59.8 |
| | 13 | 18 20.1 | -7 14.3 | 137 17.9 | 2.7 | 28 12.7 | 2.8 | 59.8 |
| | 14 | 33 20.2 | -7 15.3 | 151 39.6 | 2.7 | 28 15.4 | 2.6 | 59.8 |
| | 15 | 48 20.4 | -7 16.2 | 166 1.3 | 2.7 | 28 18.0 | 2.4 | 59.7 |
| | 16 | 63 20.6 | -7 17.2 | 180 23.0 | 2.7 | 28 20.4 | 2.2 | 59.7 |
| | 17 | 78 20.7 | -7 18.1 | 194 44.7 | 2.7 | 28 22.6 | 2.0 | 59.7 |
| | 18 | 93 20.9 | -7 19.0 | 209 6.4 | 2.7 | 28 24.6 | 1.8 | 59.7 |
| | 19 | 108 21.0 | -7 20.0 | 223 28.1 | 2.8 | 28 26.3 | 1.6 | 59.6 |
| | 20 | 123 21.2 | -7 20.9 | 237 49.9 | 2.8 | 28 27.9 | 1.4 | 59.6 |
| | 21 | 138 21.4 | -7 21.9 | 252 11.7 | 2.8 | 28 29.2 | 1.2 | 59.6 |
| | 22 | 153 21.5 | -7 22.8 | 266 33.5 | 2.8 | 28 30.4 | 1.0 | 59.5 |
| | 23 | 168 21.7 | -7 23.7 | 280 55.3 | 2.9 | 28 31.4 | 0.8 | 59.5 |
| | | *v* 0.2 | SD 16.0 | *d* 0.9 | | SD 16.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **12 Sunday** | 0 | 183 21.8 | -7 24.7 | 295 17.2 | 2.9 | 28 32.1 | 0.5 | 59.5 |
| | 1 | 198 22.0 | -7 25.6 | 309 39.1 | 2.9 | 28 32.7 | 0.3 | 59.5 |
| | 2 | 213 22.1 | -7 26.6 | 324 1.0 | 3.0 | 28 33.0 | 0.1 | 59.4 |
| | 3 | 228 22.3 | -7 27.5 | 338 23.0 | 3.0 | 28 33.2 | -0.1 | 59.4 |
| | 4 | 243 22.5 | -7 28.4 | 352 45.0 | 3.1 | 28 33.1 | -0.3 | 59.4 |
| | 5 | 258 22.6 | -7 29.4 | 7 7.1 | 3.1 | 28 32.9 | -0.5 | 59.3 |
| | 6 | 273 22.8 | -7 30.3 | 21 29.2 | 3.2 | 28 32.4 | -0.6 | 59.3 |
| | 7 | 288 22.9 | -7 31.2 | 35 51.3 | 3.2 | 28 31.8 | -0.8 | 59.3 |
| | 8 | 303 23.1 | -7 32.2 | 50 13.5 | 3.3 | 28 30.9 | -1.0 | 59.2 |
| | 9 | 318 23.2 | -7 33.1 | 64 35.8 | 3.3 | 28 29.9 | -1.2 | 59.2 |
| | 10 | 333 23.4 | -7 34.0 | 78 58.1 | 3.4 | 28 28.6 | -1.4 | 59.2 |
| | 11 | 348 23.5 | -7 35.0 | 93 20.5 | 3.4 | 28 27.2 | -1.6 | 59.2 |
| | 12 | 3 23.7 | -7 35.9 | 107 43.0 | 3.5 | 28 25.6 | -1.8 | 59.1 |
| | 13 | 18 23.9 | -7 36.9 | 122 5.5 | 3.6 | 28 23.7 | -2.0 | 59.1 |
| | 14 | 33 24.0 | -7 37.8 | 136 28.1 | 3.6 | 28 21.7 | -2.2 | 59.1 |
| | 15 | 48 24.2 | -7 38.7 | 150 50.7 | 3.7 | 28 19.5 | -2.4 | 59.0 |
| | 16 | 63 24.3 | -7 39.7 | 165 13.4 | 3.8 | 28 17.1 | -2.6 | 59.0 |
| | 17 | 78 24.5 | -7 40.6 | 179 36.2 | 3.9 | 28 14.6 | -2.8 | 59.0 |
| | 18 | 93 24.6 | -7 41.5 | 193 59.1 | 4.0 | 28 11.8 | -3.0 | 58.9 |
| | 19 | 108 24.8 | -7 42.5 | 208 22.0 | 4.0 | 28 8.8 | -3.1 | 58.9 |
| | 20 | 123 24.9 | -7 43.4 | 222 45.1 | 4.1 | 28 5.7 | -3.3 | 58.9 |
| | 21 | 138 25.1 | -7 44.3 | 237 8.2 | 4.2 | 28 2.4 | -3.5 | 58.8 |
| | 22 | 153 25.2 | -7 45.3 | 251 31.4 | 4.3 | 27 58.9 | -3.7 | 58.8 |
| | 23 | 168 25.4 | -7 46.2 | 265 54.7 | 4.4 | 27 55.2 | -3.9 | 58.8 |
| | | *v* 0.2 | SD 16.0 | *d* 0.9 | | SD 16.2 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 04:34 | 05:52 | 07:01 | 16:31 | 17:39 | 18:57 |
| 70 | 04:40 | 05:51 | 06:53 | 16:39 | 17:41 | 18:51 |
| 68 | 04:45 | 05:50 | 06:46 | 16:46 | 17:42 | 18:46 |
| 66 | 04:49 | 05:49 | 06:40 | 16:52 | 17:44 | 18:43 |
| 64 | 04:53 | 05:48 | 06:35 | 16:57 | 17:45 | 18:40 |
| 62 | 04:55 | 05:47 | 06:31 | 17:01 | 17:46 | 18:37 |
| 60 | 04:58 | 05:46 | 06:28 | 17:05 | 17:47 | 18:35 |
| 58 | 04:59 | 05:45 | 06:24 | 17:08 | 17:48 | 18:33 |
| 56 | 05:01 | 05:44 | 06:21 | 17:11 | 17:49 | 18:32 |
| 54 | 05:02 | 05:43 | 06:19 | 17:14 | 17:50 | 18:30 |
| 52 | 05:03 | 05:43 | 06:16 | 17:17 | 17:50 | 18:29 |
| 50 | 05:04 | 05:42 | 06:14 | 17:19 | 17:51 | 18:28 |
| 45 | 05:06 | 05:40 | 06:09 | 17:24 | 17:53 | 18:27 |
| 40 | 05:07 | 05:38 | 06:05 | 17:28 | 17:55 | 18:26 |
| 35 | 05:07 | 05:37 | 06:02 | 17:31 | 17:57 | 18:26 |
| 30 | 05:07 | 05:35 | 05:59 | 17:35 | 17:59 | 18:26 |
| 20 | 05:06 | 05:31 | 05:53 | 17:40 | 18:02 | 18:28 |
| 10 | 05:03 | 05:27 | 05:48 | 17:45 | 18:06 | 18:31 |
| 0 | 04:59 | 05:23 | 05:44 | 17:50 | 18:11 | 18:35 |
| -10 | 04:53 | 05:18 | 05:39 | 17:55 | 18:16 | 18:41 |
| -20 | 04:45 | 05:11 | 05:34 | 18:01 | 18:23 | 18:49 |
| -30 | 04:35 | 05:03 | 05:27 | 18:07 | 18:31 | 19:00 |
| -35 | 04:28 | 04:58 | 05:24 | 18:11 | 18:36 | 19:07 |
| -40 | 04:20 | 04:52 | 05:20 | 18:15 | 18:42 | 19:15 |
| -45 | 04:09 | 04:45 | 05:15 | 18:20 | 18:50 | 19:26 |
| -50 | 03:56 | 04:36 | 05:09 | 18:26 | 18:59 | 19:39 |
| -52 | 03:49 | 04:32 | 05:07 | 18:28 | 19:03 | 19:46 |
| -54 | 03:42 | 04:27 | 05:04 | 18:31 | 19:08 | 19:53 |
| -56 | 03:34 | 04:22 | 05:01 | 18:35 | 19:14 | 20:02 |
| -58 | 03:24 | 04:16 | 04:57 | 18:38 | 19:20 | 20:12 |
| -60 | 03:13 | 04:09 | 04:53 | 18:42 | 19:27 | 20:23 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **10** | **11** | **12** | **10** | **11** | **12** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | | | | |
| 62 | 16:24 | | | 13:16 | | |
| 60 | 17:03 | 17:28 | 18:37 | 12:37 | 14:25 | 15:30 |
| 58 | 17:30 | 18:07 | 19:14 | 12:11 | 13:47 | 14:52 |
| 56 | 17:51 | 18:34 | 19:41 | 11:50 | 13:21 | 14:26 |
| 54 | 18:09 | 18:55 | 20:02 | 11:32 | 12:59 | 14:05 |
| 52 | 18:24 | 19:13 | 20:19 | 11:17 | 12:42 | 13:47 |
| 50 | 18:38 | 19:28 | 20:34 | 11:05 | 12:27 | 13:32 |
| 45 | 19:05 | 19:58 | 21:04 | 10:38 | 11:56 | 13:01 |
| 40 | 19:27 | 20:22 | 21:27 | 10:17 | 11:33 | 12:38 |
| 35 | 19:45 | 20:42 | 21:47 | 10:00 | 11:13 | 12:18 |
| 30 | 20:00 | 20:59 | 22:03 | 09:45 | 10:57 | 12:01 |
| 20 | 20:27 | 21:28 | 22:31 | 09:20 | 10:28 | 11:33 |
| 10 | 20:50 | 21:52 | 22:55 | 08:58 | 10:04 | 11:08 |
| 0 | 21:11 | 22:15 | 23:18 | 08:38 | 09:42 | 10:45 |
| -10 | 21:33 | 22:38 | 23:40 | 08:18 | 09:19 | 10:22 |
| -20 | 21:56 | 23:03 | –:– | 07:57 | 08:55 | 09:58 |
| -30 | 22:23 | 23:32 | –:– | 07:32 | 08:27 | 09:29 |
| -35 | 22:39 | 23:49 | –:– | 07:17 | 08:10 | 09:12 |
| -40 | 22:58 | –:– | 00:09 | 07:01 | 07:51 | 08:52 |
| -45 | 23:21 | –:– | 00:33 | 06:41 | 07:28 | 08:28 |
| -50 | 23:50 | –:– | 01:05 | 06:16 | 06:58 | 07:56 |
| -52 | –:– | 00:05 | 01:20 | 06:04 | 06:43 | 07:40 |
| -54 | –:– | 00:22 | 01:39 | 05:50 | 06:26 | 07:22 |
| -56 | –:– | 00:42 | 02:01 | 05:34 | 06:06 | 07:00 |
| -58 | –:– | 01:07 | 02:30 | 05:15 | 05:40 | 06:31 |
| -60 | –:– | 01:42 | 03:13 | 04:53 | 05:05 | 05:48 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **10** | 12:56 | 13:04 | 11:47 | 02:23 | 14:55 | 18 | 88 |
| **11** | 13:12 | 13:20 | 11:47 | 03:26 | 15:58 | 19 | 80 |
| **12** | 13:27 | 13:35 | 11:46 | 04:30 | 17:02 | 20 | 69 |

## 2025 October 13, 14, 15 (Mon, Tue, Wed)

| | | Aries | Venus -3.9 | | Mars 1.5 | | Jupiter -2.2 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 13 Monday | 0 | 21 48.6 | 202 13.6 | 1 48.5 | 160 13.5 | -16 16.0 | 266 10.9 | 21 23.7 | 23 40.0 | -3 31.9 |
| | 1 | 36 51.1 | 217 13.2 | 1 47.3 | 175 14.2 | -16 16.5 | 281 13.1 | 21 23.6 | 38 42.6 | -3 32.0 |
| | 2 | 51 53.5 | 232 12.8 | 1 46.1 | 190 14.9 | -16 17.1 | 296 15.3 | 21 23.6 | 53 45.3 | -3 32.0 |
| | 3 | 66 56.0 | 247 12.4 | 1 44.9 | 205 15.7 | -16 17.6 | 311 17.5 | 21 23.6 | 68 47.9 | -3 32.1 |
| | 4 | 81 58.4 | 262 12.0 | 1 43.7 | 220 16.4 | -16 18.2 | 326 19.7 | 21 23.5 | 83 50.5 | -3 32.2 |
| | 5 | 97 0.9 | 277 11.6 | 1 42.5 | 235 17.2 | -16 18.7 | 341 22.0 | 21 23.5 | 98 53.1 | -3 32.2 |
| | 6 | 112 3.4 | 292 11.2 | 1 41.2 | 250 17.9 | -16 19.2 | 356 24.2 | 21 23.5 | 113 55.7 | -3 32.3 |
| | 7 | 127 5.8 | 307 10.8 | 1 40.0 | 265 18.7 | -16 19.8 | 11 26.4 | 21 23.4 | 128 58.4 | -3 32.4 |
| | 8 | 142 8.3 | 322 10.5 | 1 38.8 | 280 19.4 | -16 20.3 | 26 28.6 | 21 23.4 | 144 1.0 | -3 32.4 |
| | 9 | 157 10.8 | 337 10.1 | 1 37.6 | 295 20.2 | -16 20.9 | 41 30.9 | 21 23.4 | 159 3.6 | -3 32.5 |
| | 10 | 172 13.2 | 352 9.7 | 1 36.4 | 310 20.9 | -16 21.4 | 56 33.1 | 21 23.3 | 174 6.2 | -3 32.6 |
| | 11 | 187 15.7 | 7 9.3 | 1 35.2 | 325 21.7 | -16 21.9 | 71 35.3 | 21 23.3 | 189 8.8 | -3 32.6 |
| | 12 | 202 18.2 | 22 8.9 | 1 34.0 | 340 22.4 | -16 22.5 | 86 37.5 | 21 23.3 | 204 11.5 | -3 32.7 |
| | 13 | 217 20.6 | 37 8.5 | 1 32.8 | 355 23.2 | -16 23.0 | 101 39.8 | 21 23.2 | 219 14.1 | -3 32.7 |
| | 14 | 232 23.1 | 52 8.1 | 1 31.5 | 10 23.9 | -16 23.5 | 116 42.0 | 21 23.2 | 234 16.7 | -3 32.8 |
| | 15 | 247 25.6 | 67 7.7 | 1 30.3 | 25 24.6 | -16 24.1 | 131 44.2 | 21 23.2 | 249 19.3 | -3 32.9 |
| | 16 | 262 28.0 | 82 7.3 | 1 29.1 | 40 25.4 | -16 24.6 | 146 46.4 | 21 23.1 | 264 21.9 | -3 32.9 |
| | 17 | 277 30.5 | 97 6.9 | 1 27.9 | 55 26.1 | -16 25.2 | 161 48.7 | 21 23.1 | 279 24.6 | -3 33.0 |
| | 18 | 292 32.9 | 112 6.6 | 1 26.7 | 70 26.9 | -16 25.7 | 176 50.9 | 21 23.1 | 294 27.2 | -3 33.1 |
| | 19 | 307 35.4 | 127 6.2 | 1 25.5 | 85 27.6 | -16 26.2 | 191 53.1 | 21 23.0 | 309 29.8 | -3 33.1 |
| | 20 | 322 37.9 | 142 5.8 | 1 24.3 | 100 28.4 | -16 26.8 | 206 55.3 | 21 23.0 | 324 32.4 | -3 33.2 |
| | 21 | 337 40.3 | 157 5.4 | 1 23.1 | 115 29.1 | -16 27.3 | 221 57.6 | 21 23.0 | 339 35.0 | -3 33.3 |
| | 22 | 352 42.8 | 172 5.0 | 1 21.8 | 130 29.9 | -16 27.8 | 236 59.8 | 21 22.9 | 354 37.7 | -3 33.3 |
| | 23 | 7 45.3 | 187 4.6 | 1 20.6 | 145 30.6 | -16 28.4 | 252 2.0 | 21 22.9 | 9 40.3 | -3 33.4 |
| | | MP 22:30 | *v* -0.4 | *d* -1.2 | *v* 0.7 | *d* 0.5 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 Tuesday | 0 | 22 47.7 | 202 4.2 | 1 19.4 | 160 31.3 | -16 28.9 | 267 4.2 | 21 22.9 | 24 42.9 | -3 33.4 |
| | 1 | 37 50.2 | 217 3.8 | 1 18.2 | 175 32.1 | -16 29.4 | 282 6.5 | 21 22.8 | 39 45.5 | -3 33.5 |
| | 2 | 52 52.7 | 232 3.4 | 1 17.0 | 190 32.8 | -16 30.0 | 297 8.7 | 21 22.8 | 54 48.1 | -3 33.6 |
| | 3 | 67 55.1 | 247 3.0 | 1 15.8 | 205 33.6 | -16 30.5 | 312 10.9 | 21 22.8 | 69 50.8 | -3 33.6 |
| | 4 | 82 57.6 | 262 2.6 | 1 14.6 | 220 34.3 | -16 31.0 | 327 13.2 | 21 22.7 | 84 53.4 | -3 33.7 |
| | 5 | 98 0.1 | 277 2.3 | 1 13.4 | 235 35.0 | -16 31.6 | 342 15.4 | 21 22.7 | 99 56.0 | -3 33.8 |
| | 6 | 113 2.5 | 292 1.9 | 1 12.1 | 250 35.8 | -16 32.1 | 357 17.6 | 21 22.7 | 114 58.6 | -3 33.8 |
| | 7 | 128 5.0 | 307 1.5 | 1 10.9 | 265 36.5 | -16 32.7 | 12 19.8 | 21 22.6 | 130 1.2 | -3 33.9 |
| | 8 | 143 7.4 | 322 1.1 | 1 9.7 | 280 37.3 | -16 33.2 | 27 22.1 | 21 22.6 | 145 3.9 | -3 34.0 |
| | 9 | 158 9.9 | 337 0.7 | 1 8.5 | 295 38.0 | -16 33.7 | 42 24.3 | 21 22.6 | 160 6.5 | -3 34.0 |
| | 10 | 173 12.4 | 352 0.3 | 1 7.3 | 310 38.7 | -16 34.3 | 57 26.5 | 21 22.5 | 175 9.1 | -3 34.1 |
| | 11 | 188 14.8 | 6 59.9 | 1 6.1 | 325 39.5 | -16 34.8 | 72 28.8 | 21 22.5 | 190 11.7 | -3 34.1 |
| | 12 | 203 17.3 | 21 59.5 | 1 4.9 | 340 40.2 | -16 35.3 | 87 31.0 | 21 22.5 | 205 14.3 | -3 34.2 |
| | 13 | 218 19.8 | 36 59.1 | 1 3.6 | 355 41.0 | -16 35.9 | 102 33.2 | 21 22.4 | 220 17.0 | -3 34.3 |
| | 14 | 233 22.2 | 51 58.7 | 1 2.4 | 10 41.7 | -16 36.4 | 117 35.5 | 21 22.4 | 235 19.6 | -3 34.3 |
| | 15 | 248 24.7 | 66 58.3 | 1 1.2 | 25 42.4 | -16 36.9 | 132 37.7 | 21 22.4 | 250 22.2 | -3 34.4 |
| | 16 | 263 27.2 | 81 58.0 | 1 0.0 | 40 43.2 | -16 37.4 | 147 39.9 | 21 22.3 | 265 24.8 | -3 34.5 |
| | 17 | 278 29.6 | 96 57.6 | 0 58.8 | 55 43.9 | -16 38.0 | 162 42.2 | 21 22.3 | 280 27.4 | -3 34.5 |
| | 18 | 293 32.1 | 111 57.2 | 0 57.6 | 70 44.7 | -16 38.5 | 177 44.4 | 21 22.3 | 295 30.0 | -3 34.6 |
| | 19 | 308 34.6 | 126 56.8 | 0 56.3 | 85 45.4 | -16 39.0 | 192 46.6 | 21 22.2 | 310 32.7 | -3 34.6 |
| | 20 | 323 37.0 | 141 56.4 | 0 55.1 | 100 46.1 | -16 39.6 | 207 48.9 | 21 22.2 | 325 35.3 | -3 34.7 |
| | 21 | 338 39.5 | 156 56.0 | 0 53.9 | 115 46.9 | -16 40.1 | 222 51.1 | 21 22.2 | 340 37.9 | -3 34.8 |
| | 22 | 353 41.9 | 171 55.6 | 0 52.7 | 130 47.6 | -16 40.6 | 237 53.3 | 21 22.1 | 355 40.5 | -3 34.8 |
| | 23 | 8 44.4 | 186 55.2 | 0 51.5 | 145 48.3 | -16 41.2 | 252 55.6 | 21 22.1 | 10 43.1 | -3 34.9 |
| | | MP 22:26 | *v* -0.4 | *d* -1.2 | *v* 0.7 | *d* 0.5 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 15 Wednesday | 0 | 23 46.9 | 201 54.8 | 0 50.3 | 160 49.1 | -16 41.7 | 267 57.8 | 21 22.1 | 25 45.7 | -3 35.0 |
| | 1 | 38 49.3 | 216 54.4 | 0 49.1 | 175 49.8 | -16 42.2 | 283 0.0 | 21 22.1 | 40 48.4 | -3 35.0 |
| | 2 | 53 51.8 | 231 54.1 | 0 47.8 | 190 50.5 | -16 42.8 | 298 2.3 | 21 22.0 | 55 51.0 | -3 35.1 |
| | 3 | 68 54.3 | 246 53.7 | 0 46.6 | 205 51.3 | -16 43.3 | 313 4.5 | 21 22.0 | 70 53.6 | -3 35.1 |
| | 4 | 83 56.7 | 261 53.3 | 0 45.4 | 220 52.0 | -16 43.8 | 328 6.8 | 21 22.0 | 85 56.2 | -3 35.2 |
| | 5 | 98 59.2 | 276 52.9 | 0 44.2 | 235 52.7 | -16 44.3 | 343 9.0 | 21 21.9 | 100 58.8 | -3 35.3 |
| | 6 | 114 1.7 | 291 52.5 | 0 43.0 | 250 53.5 | -16 44.9 | 358 11.2 | 21 21.9 | 116 1.5 | -3 35.3 |
| | 7 | 129 4.1 | 306 52.1 | 0 41.8 | 265 54.2 | -16 45.4 | 13 13.5 | 21 21.9 | 131 4.1 | -3 35.4 |
| | 8 | 144 6.6 | 321 51.7 | 0 40.5 | 280 54.9 | -16 45.9 | 28 15.7 | 21 21.8 | 146 6.7 | -3 35.5 |
| | 9 | 159 9.0 | 336 51.3 | 0 39.3 | 295 55.7 | -16 46.5 | 43 17.9 | 21 21.8 | 161 9.3 | -3 35.5 |
| | 10 | 174 11.5 | 351 50.9 | 0 38.1 | 310 56.4 | -16 47.0 | 58 20.2 | 21 21.8 | 176 11.9 | -3 35.6 |
| | 11 | 189 14.0 | 6 50.5 | 0 36.9 | 325 57.1 | -16 47.5 | 73 22.4 | 21 21.7 | 191 14.5 | -3 35.6 |
| | 12 | 204 16.4 | 21 50.1 | 0 35.7 | 340 57.9 | -16 48.0 | 88 24.7 | 21 21.7 | 206 17.2 | -3 35.7 |
| | 13 | 219 18.9 | 36 49.8 | 0 34.4 | 355 58.6 | -16 48.6 | 103 26.9 | 21 21.7 | 221 19.8 | -3 35.8 |
| | 14 | 234 21.4 | 51 49.4 | 0 33.2 | 10 59.3 | -16 49.1 | 118 29.1 | 21 21.6 | 236 22.4 | -3 35.8 |
| | 15 | 249 23.8 | 66 49.0 | 0 32.0 | 26 0.1 | -16 49.6 | 133 31.4 | 21 21.6 | 251 25.0 | -3 35.9 |
| | 16 | 264 26.3 | 81 48.6 | 0 30.8 | 41 0.8 | -16 50.2 | 148 33.6 | 21 21.6 | 266 27.6 | -3 36.0 |
| | 17 | 279 28.8 | 96 48.2 | 0 29.6 | 56 1.5 | -16 50.7 | 163 35.9 | 21 21.5 | 281 30.2 | -3 36.0 |
| | 18 | 294 31.2 | 111 47.8 | 0 28.4 | 71 2.3 | -16 51.2 | 178 38.1 | 21 21.5 | 296 32.8 | -3 36.1 |
| | 19 | 309 33.7 | 126 47.4 | 0 27.1 | 86 3.0 | -16 51.7 | 193 40.3 | 21 21.5 | 311 35.5 | -3 36.1 |
| | 20 | 324 36.2 | 141 47.0 | 0 25.9 | 101 3.7 | -16 52.3 | 208 42.6 | 21 21.4 | 326 38.1 | -3 36.2 |
| | 21 | 339 38.6 | 156 46.6 | 0 24.7 | 116 4.5 | -16 52.8 | 223 44.8 | 21 21.4 | 341 40.7 | -3 36.3 |
| | 22 | 354 41.1 | 171 46.2 | 0 23.5 | 131 5.2 | -16 53.3 | 238 47.1 | 21 21.4 | 356 43.3 | -3 36.3 |
| | 23 | 9 43.5 | 186 45.8 | 0 22.3 | 146 5.9 | -16 53.8 | 253 49.3 | 21 21.4 | 11 45.9 | -3 36.4 |
| | | MP 22:23 | *v* -0.4 | *d* -1.2 | *v* 0.7 | *d* 0.5 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 11.9 |
| Achernar | 335 19.1 | -57 6.2 |
| Acrux | 173 0.1 | -63 14.4 |
| Adhara | 255 5.3 | -29 0.1 |
| Aldebaran | 290 38.7 | 16 33.7 |
| Alioth | 166 13.0 | 55 49.2 |
| Alkaid | 152 52.0 | 49 11.1 |
| Alnair | 27 31.8 | -46 50.2 |
| Alnilam | 275 37.0 | -1 11.0 |
| Alphard | 217 47.3 | -8 46.0 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.3 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.9 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.3 | -69 4.6 |
| Avior | 234 14.7 | -59 35.1 |
| Bellatrix | 278 22.1 | 6 22.5 |
| Betelgeuse | 270 51.3 | 7 24.8 |
| Canopus | 263 52.0 | -52 42.2 |
| Capella | 280 20.7 | 46 1.3 |
| Deneb | 49 25.3 | 45 22.6 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.8 | 61 36.6 |
| Elnath | 278 0.9 | 28 37.7 |
| Eltanin | 90 42.1 | 51 29.4 |
| Enif | 33 38.0 | 9 59.8 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.3 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.8 |
| Hamal | 327 50.2 | 23 35.2 |
| Kaus Aust. | 83 31.8 | -34 22.4 |
| Kochab | 137 20.8 | 74 3.0 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.2 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.6 | -69 49.0 |
| Mirfak | 308 27.0 | 49 57.1 |
| Nunki | 75 47.0 | -26 15.9 |
| Peacock | 53 4.6 | -56 39.3 |
| Pollux | 243 16.6 | 27 57.8 |
| Procyon | 244 50.2 | 5 9.6 |
| Rasalhague | 95 58.1 | 12 32.6 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.1 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.9 |
| Shaula | 96 9.7 | -37 7.4 |
| Sirius | 258 25.6 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.1 | -43 31.9 |
| Vega | 80 32.9 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 13 Mon | SHA | MP |
|---|---|---|
| Venus | 180 25.0 | 10:31 |
| Mars | 138 24.9 | 13:18 |
| Jupiter | 244 22.3 | 06:14 |
| Saturn | 1 51.4 | 22:21 |

| 14 Tue | SHA | MP |
|---|---|---|
| Venus | 179 16.5 | 10:32 |
| Mars | 137 43.6 | 13:17 |
| Jupiter | 244 16.5 | 06:11 |
| Saturn | 1 55.2 | 22:17 |

| 15 Wed | SHA | MP |
|---|---|---|
| Venus | 178 8.0 | 10:33 |
| Mars | 137 2.2 | 13:16 |
| Jupiter | 244 10.9 | 06:07 |
| Saturn | 1 58.9 | 22:13 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **13 Monday** | 0 | 183 25.5 | -7 47.1 | 280 18.1 | 4.5 | 27 51.3 | -4.0 | 58.7 |
| | 1 | 198 25.7 | -7 48.1 | 294 41.5 | 4.6 | 27 47.3 | -4.2 | 58.7 |
| | 2 | 213 25.8 | -7 49.0 | 309 5.1 | 4.7 | 27 43.0 | -4.4 | 58.7 |
| | 3 | 228 26.0 | -7 49.9 | 323 28.7 | 4.7 | 27 38.6 | -4.6 | 58.7 |
| | 4 | 243 26.1 | -7 50.9 | 337 52.5 | 4.8 | 27 34.1 | -4.7 | 58.6 |
| | 5 | 258 26.3 | -7 51.8 | 352 16.3 | 4.9 | 27 29.3 | -4.9 | 58.6 |
| | 6 | 273 26.4 | -7 52.7 | 6 40.3 | 5.0 | 27 24.4 | -5.1 | 58.6 |
| | 7 | 288 26.6 | -7 53.7 | 21 4.3 | 5.1 | 27 19.3 | -5.3 | 58.5 |
| | 8 | 303 26.7 | -7 54.6 | 35 28.4 | 5.2 | 27 14.0 | -5.4 | 58.5 |
| | 9 | 318 26.9 | -7 55.5 | 49 52.7 | 5.4 | 27 8.6 | -5.6 | 58.5 |
| | 10 | 333 27.0 | -7 56.5 | 64 17.0 | 5.5 | 27 3.0 | -5.8 | 58.4 |
| | 11 | 348 27.2 | -7 57.4 | 78 41.5 | 5.6 | 26 57.3 | -5.9 | 58.4 |
| | 12 | 3 27.3 | -7 58.3 | 93 6.1 | 5.7 | 26 51.3 | -6.1 | 58.4 |
| | 13 | 18 27.5 | -7 59.3 | 107 30.7 | 5.8 | 26 45.2 | -6.2 | 58.3 |
| | 14 | 33 27.6 | -8 0.2 | 121 55.5 | 5.9 | 26 39.0 | -6.4 | 58.3 |
| | 15 | 48 27.8 | -8 1.1 | 136 20.4 | 6.0 | 26 32.6 | -6.6 | 58.3 |
| | 16 | 63 27.9 | -8 2.1 | 150 45.4 | 6.1 | 26 26.0 | -6.7 | 58.2 |
| | 17 | 78 28.1 | -8 3.0 | 165 10.5 | 6.2 | 26 19.3 | -6.9 | 58.2 |
| | 18 | 93 28.2 | -8 3.9 | 179 35.8 | 6.3 | 26 12.5 | -7.0 | 58.2 |
| | 19 | 108 28.4 | -8 4.9 | 194 1.1 | 6.5 | 26 5.4 | -7.2 | 58.1 |
| | 20 | 123 28.5 | -8 5.8 | 208 26.6 | 6.6 | 25 58.3 | -7.3 | 58.1 |
| | 21 | 138 28.7 | -8 6.7 | 222 52.2 | 6.7 | 25 51.0 | -7.5 | 58.1 |
| | 22 | 153 28.8 | -8 7.6 | 237 17.8 | 6.8 | 25 43.5 | -7.6 | 58.1 |
| | 23 | 168 29.0 | -8 8.6 | 251 43.7 | 6.9 | 25 35.9 | -7.8 | 58.0 |
| | | *v* 0.2 | SD 16.0 | *d* 0.9 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **14 Tuesday** | 0 | 183 29.1 | -8 9.5 | 266 9.6 | 7.0 | 25 28.1 | -7.9 | 58.0 |
| | 1 | 198 29.3 | -8 10.4 | 280 35.6 | 7.2 | 25 20.2 | -8.0 | 58.0 |
| | 2 | 213 29.4 | -8 11.4 | 295 1.8 | 7.3 | 25 12.2 | -8.2 | 57.9 |
| | 3 | 228 29.5 | -8 12.3 | 309 28.1 | 7.4 | 25 4.0 | -8.3 | 57.9 |
| | 4 | 243 29.7 | -8 13.2 | 323 54.5 | 7.5 | 24 55.7 | -8.4 | 57.9 |
| | 5 | 258 29.8 | -8 14.1 | 338 21.0 | 7.6 | 24 47.3 | -8.6 | 57.8 |
| | 6 | 273 30.0 | -8 15.1 | 352 47.6 | 7.8 | 24 38.7 | -8.7 | 57.8 |
| | 7 | 288 30.1 | -8 16.0 | 7 14.4 | 7.9 | 24 30.0 | -8.8 | 57.8 |
| | 8 | 303 30.3 | -8 16.9 | 21 41.3 | 8.0 | 24 21.2 | -9.0 | 57.7 |
| | 9 | 318 30.4 | -8 17.9 | 36 8.3 | 8.1 | 24 12.2 | -9.1 | 57.7 |
| | 10 | 333 30.6 | -8 18.8 | 50 35.4 | 8.2 | 24 3.1 | -9.2 | 57.7 |
| | 11 | 348 30.7 | -8 19.7 | 65 2.6 | 8.4 | 23 53.9 | -9.3 | 57.7 |
| | 12 | 3 30.8 | -8 20.6 | 79 30.0 | 8.5 | 23 44.5 | -9.5 | 57.6 |
| | 13 | 18 31.0 | -8 21.6 | 93 57.5 | 8.6 | 23 35.1 | -9.6 | 57.6 |
| | 14 | 33 31.1 | -8 22.5 | 108 25.1 | 8.7 | 23 25.5 | -9.7 | 57.6 |
| | 15 | 48 31.3 | -8 23.4 | 122 52.8 | 8.8 | 23 15.8 | -9.8 | 57.5 |
| | 16 | 63 31.4 | -8 24.4 | 137 20.7 | 9.0 | 23 5.9 | -9.9 | 57.5 |
| | 17 | 78 31.6 | -8 25.3 | 151 48.6 | 9.1 | 22 56.0 | -10.1 | 57.5 |
| | 18 | 93 31.7 | -8 26.2 | 166 16.7 | 9.2 | 22 45.9 | -10.2 | 57.4 |
| | 19 | 108 31.8 | -8 27.1 | 180 44.9 | 9.3 | 22 35.8 | -10.3 | 57.4 |
| | 20 | 123 32.0 | -8 28.1 | 195 13.2 | 9.4 | 22 25.5 | -10.4 | 57.4 |
| | 21 | 138 32.1 | -8 29.0 | 209 41.7 | 9.6 | 22 15.1 | -10.5 | 57.4 |
| | 22 | 153 32.3 | -8 29.9 | 224 10.2 | 9.7 | 22 4.6 | -10.6 | 57.3 |
| | 23 | 168 32.4 | -8 30.8 | 238 38.9 | 9.8 | 21 54.0 | -10.7 | 57.3 |
| | | *v* 0.1 | SD 16.0 | *d* 0.9 | | SD 15.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **15 Wednesday** | 0 | 183 32.5 | -8 31.8 | 253 7.7 | 9.9 | 21 43.3 | -10.8 | 57.3 |
| | 1 | 198 32.7 | -8 32.7 | 267 36.6 | 10.0 | 21 32.5 | -10.9 | 57.2 |
| | 2 | 213 32.8 | -8 33.6 | 282 5.6 | 10.1 | 21 21.6 | -11.0 | 57.2 |
| | 3 | 228 33.0 | -8 34.5 | 296 34.8 | 10.3 | 21 10.6 | -11.1 | 57.2 |
| | 4 | 243 33.1 | -8 35.5 | 311 4.0 | 10.4 | 20 59.5 | -11.2 | 57.1 |
| | 5 | 258 33.2 | -8 36.4 | 325 33.4 | 10.5 | 20 48.3 | -11.3 | 57.1 |
| | 6 | 273 33.4 | -8 37.3 | 340 2.9 | 10.6 | 20 37.1 | -11.4 | 57.1 |
| | 7 | 288 33.5 | -8 38.2 | 354 32.5 | 10.7 | 20 25.7 | -11.5 | 57.1 |
| | 8 | 303 33.6 | -8 39.1 | 9 2.2 | 10.8 | 20 14.2 | -11.6 | 57.0 |
| | 9 | 318 33.8 | -8 40.1 | 23 32.0 | 10.9 | 20 2.6 | -11.7 | 57.0 |
| | 10 | 333 33.9 | -8 41.0 | 38 2.0 | 11.0 | 19 51.0 | -11.7 | 57.0 |
| | 11 | 348 34.1 | -8 41.9 | 52 32.0 | 11.2 | 19 39.2 | -11.8 | 56.9 |
| | 12 | 3 34.2 | -8 42.8 | 67 2.2 | 11.3 | 19 27.4 | -11.9 | 56.9 |
| | 13 | 18 34.3 | -8 43.8 | 81 32.4 | 11.4 | 19 15.5 | -12.0 | 56.9 |
| | 14 | 33 34.5 | -8 44.7 | 96 2.8 | 11.5 | 19 3.5 | -12.1 | 56.9 |
| | 15 | 48 34.6 | -8 45.6 | 110 33.3 | 11.6 | 18 51.4 | -12.2 | 56.8 |
| | 16 | 63 34.7 | -8 46.5 | 125 3.9 | 11.7 | 18 39.3 | -12.2 | 56.8 |
| | 17 | 78 34.9 | -8 47.4 | 139 34.5 | 11.8 | 18 27.1 | -12.3 | 56.8 |
| | 18 | 93 35.0 | -8 48.4 | 154 5.3 | 11.9 | 18 14.8 | -12.4 | 56.8 |
| | 19 | 108 35.2 | -8 49.3 | 168 36.2 | 12.0 | 18 2.4 | -12.5 | 56.7 |
| | 20 | 123 35.3 | -8 50.2 | 183 7.2 | 12.1 | 17 49.9 | -12.5 | 56.7 |
| | 21 | 138 35.4 | -8 51.1 | 197 38.3 | 12.2 | 17 37.4 | -12.6 | 56.7 |
| | 22 | 153 35.6 | -8 52.0 | 212 9.5 | 12.3 | 17 24.8 | -12.7 | 56.6 |
| | 23 | 168 35.7 | -8 53.0 | 226 40.8 | 12.4 | 17 12.1 | -12.7 | 56.6 |
| | | *v* 0.1 | SD 16.0 | *d* 0.9 | | SD 15.6 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 04:47 | 06:06 | 07:15 | 16:15 | 17:25 | 18:42 |
| 70 | 04:52 | 06:03 | 07:05 | 16:25 | 17:28 | 18:38 |
| 68 | 04:56 | 06:00 | 06:57 | 16:34 | 17:30 | 18:34 |
| 66 | 04:59 | 05:58 | 06:50 | 16:41 | 17:33 | 18:32 |
| 64 | 05:01 | 05:56 | 06:44 | 16:47 | 17:35 | 18:29 |
| 62 | 05:03 | 05:54 | 06:39 | 16:52 | 17:37 | 18:28 |
| 60 | 05:05 | 05:53 | 06:35 | 16:56 | 17:38 | 18:26 |
| 58 | 05:06 | 05:51 | 06:31 | 17:00 | 17:40 | 18:25 |
| 56 | 05:07 | 05:50 | 06:28 | 17:04 | 17:41 | 18:24 |
| 54 | 05:08 | 05:49 | 06:24 | 17:07 | 17:43 | 18:23 |
| 52 | 05:08 | 05:48 | 06:22 | 17:10 | 17:44 | 18:23 |
| 50 | 05:09 | 05:46 | 06:19 | 17:13 | 17:45 | 18:22 |
| 45 | 05:10 | 05:44 | 06:13 | 17:18 | 17:48 | 18:22 |
| 40 | 05:10 | 05:41 | 06:09 | 17:23 | 17:50 | 18:22 |
| 35 | 05:10 | 05:39 | 06:04 | 17:27 | 17:53 | 18:22 |
| 30 | 05:09 | 05:37 | 06:01 | 17:31 | 17:55 | 18:23 |
| 20 | 05:06 | 05:32 | 05:54 | 17:38 | 18:00 | 18:26 |
| 10 | 05:03 | 05:27 | 05:48 | 17:44 | 18:05 | 18:30 |
| 0 | 04:58 | 05:22 | 05:43 | 17:49 | 18:10 | 18:35 |
| -10 | 04:51 | 05:16 | 05:37 | 17:55 | 18:16 | 18:41 |
| -20 | 04:43 | 05:09 | 05:31 | 18:02 | 18:24 | 18:50 |
| -30 | 04:31 | 05:00 | 05:24 | 18:09 | 18:33 | 19:02 |
| -35 | 04:24 | 04:54 | 05:20 | 18:13 | 18:39 | 19:09 |
| -40 | 04:15 | 04:48 | 05:15 | 18:18 | 18:46 | 19:19 |
| -45 | 04:03 | 04:39 | 05:10 | 18:24 | 18:54 | 19:30 |
| -50 | 03:49 | 04:30 | 05:03 | 18:30 | 19:04 | 19:45 |
| -52 | 03:42 | 04:25 | 05:00 | 18:34 | 19:09 | 19:52 |
| -54 | 03:34 | 04:20 | 04:57 | 18:37 | 19:14 | 20:00 |
| -56 | 03:25 | 04:14 | 04:53 | 18:41 | 19:20 | 20:10 |
| -58 | 03:14 | 04:07 | 04:49 | 18:45 | 19:27 | 20:21 |
| -60 | 03:02 | 03:59 | 04:44 | 18:50 | 19:35 | 20:33 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **13** | **14** | **15** | **13** | **14** | **15** |
| 72 | ▭ | ▭ | 20:40 | ▭ | ▭ | 19:17 |
| 70 | ▭ | ▭ | 21:56 | ▭ | ▭ | 18:00 |
| 68 | ▭ | ▭ | 22:33 | ▭ | ▭ | 17:21 |
| 66 | ▭ | 20:35 | 22:59 | ▭ | 17:34 | 16:54 |
| 64 | ▭ | 21:17 | 23:18 | ▭ | 16:51 | 16:33 |
| 62 | 19:42 | 21:45 | 23:34 | 16:30 | 16:22 | 16:16 |
| 60 | 20:20 | 22:07 | 23:48 | 15:52 | 16:00 | 16:02 |
| 58 | 20:46 | 22:24 | 23:59 | 15:25 | 15:41 | 15:49 |
| 56 | 21:07 | 22:39 | –:– | 15:04 | 15:26 | 15:39 |
| 54 | 21:24 | 22:52 | –:– | 14:47 | 15:13 | 15:29 |
| 52 | 21:39 | 23:03 | –:– | 14:32 | 15:01 | 15:21 |
| 50 | 21:51 | 23:12 | –:– | 14:19 | 14:51 | 15:13 |
| 45 | 22:17 | 23:33 | –:– | 13:52 | 14:29 | 14:57 |
| 40 | 22:38 | 23:50 | –:– | 13:30 | 14:11 | 14:43 |
| 35 | 22:55 | –:– | 00:04 | 13:12 | 13:56 | 14:32 |
| 30 | 23:10 | –:– | 00:16 | 12:57 | 13:43 | 14:22 |
| 20 | 23:35 | –:– | 00:36 | 12:30 | 13:21 | 14:04 |
| 10 | 23:57 | –:– | 00:54 | 12:08 | 13:01 | 13:49 |
| 0 | –:– | 00:17 | 01:10 | 11:46 | 12:43 | 13:34 |
| -10 | –:– | 00:37 | 01:27 | 11:25 | 12:25 | 13:20 |
| -20 | 00:04 | 00:58 | 01:44 | 11:02 | 12:05 | 13:04 |
| -30 | 00:32 | 01:23 | 02:05 | 10:35 | 11:42 | 12:46 |
| -35 | 00:48 | 01:37 | 02:16 | 10:19 | 11:28 | 12:35 |
| -40 | 01:07 | 01:54 | 02:30 | 10:00 | 11:12 | 12:23 |
| -45 | 01:31 | 02:13 | 02:45 | 09:38 | 10:53 | 12:09 |
| -50 | 02:00 | 02:38 | 03:05 | 09:09 | 10:30 | 11:51 |
| -52 | 02:15 | 02:50 | 03:14 | 08:55 | 10:18 | 11:42 |
| -54 | 02:31 | 03:04 | 03:24 | 08:38 | 10:05 | 11:33 |
| -56 | 02:51 | 03:19 | 03:35 | 08:19 | 09:50 | 11:22 |
| -58 | 03:16 | 03:38 | 03:48 | 07:54 | 09:32 | 11:10 |
| -60 | 03:50 | 04:01 | 04:04 | 07:20 | 09:10 | 10:55 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **13** | 13:42 | 13:49 | 11:46 | 05:32 | 18:02 | 21 | 58 |
| **14** | 13:56 | 14:03 | 11:46 | 06:30 | 18:57 | 22 | 47 |
| **15** | 14:10 | 14:17 | 11:46 | 07:23 | 19:47 | 23 | 37 |

## 2025 October 16, 17, 18 (Thu, Fri, Sat)

| | | Aries | Venus -3.9 | | Mars 1.5 | | Jupiter -2.2 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 16 Thursday | 0 | 24 46.0 | 201 45.5 | 0 21.1 | 161 6.6 | -16 54.4 | 268 51.5 | 21 21.3 | 26 48.5 | -3 36.4 |
| | 1 | 39 48.5 | 216 45.1 | 0 19.8 | 176 7.4 | -16 54.9 | 283 53.8 | 21 21.3 | 41 51.2 | -3 36.5 |
| | 2 | 54 50.9 | 231 44.7 | 0 18.6 | 191 8.1 | -16 55.4 | 298 56.0 | 21 21.3 | 56 53.8 | -3 36.6 |
| | 3 | 69 53.4 | 246 44.3 | 0 17.4 | 206 8.8 | -16 55.9 | 313 58.3 | 21 21.2 | 71 56.4 | -3 36.6 |
| | 4 | 84 55.9 | 261 43.9 | 0 16.2 | 221 9.6 | -16 56.5 | 329 0.5 | 21 21.2 | 86 59.0 | -3 36.7 |
| | 5 | 99 58.3 | 276 43.5 | 0 15.0 | 236 10.3 | -16 57.0 | 344 2.8 | 21 21.2 | 102 1.6 | -3 36.8 |
| | 6 | 115 0.8 | 291 43.1 | 0 13.7 | 251 11.0 | -16 57.5 | 359 5.0 | 21 21.1 | 117 4.2 | -3 36.8 |
| | 7 | 130 3.3 | 306 42.7 | 0 12.5 | 266 11.7 | -16 58.0 | 14 7.3 | 21 21.1 | 132 6.8 | -3 36.9 |
| | 8 | 145 5.7 | 321 42.3 | 0 11.3 | 281 12.5 | -16 58.6 | 29 9.5 | 21 21.1 | 147 9.5 | -3 36.9 |
| | 9 | 160 8.2 | 336 41.9 | 0 10.1 | 296 13.2 | -16 59.1 | 44 11.7 | 21 21.0 | 162 12.1 | -3 37.0 |
| | 10 | 175 10.7 | 351 41.5 | 0 8.9 | 311 13.9 | -16 59.6 | 59 14.0 | 21 21.0 | 177 14.7 | -3 37.1 |
| | 11 | 190 13.1 | 6 41.1 | 0 7.6 | 326 14.6 | -17 0.1 | 74 16.2 | 21 21.0 | 192 17.3 | -3 37.1 |
| | 12 | 205 15.6 | 21 40.8 | 0 6.4 | 341 15.4 | -17 0.7 | 89 18.5 | 21 21.0 | 207 19.9 | -3 37.2 |
| | 13 | 220 18.0 | 36 40.4 | 0 5.2 | 356 16.1 | -17 1.2 | 104 20.7 | 21 20.9 | 222 22.5 | -3 37.2 |
| | 14 | 235 20.5 | 51 40.0 | 0 4.0 | 11 16.8 | -17 1.7 | 119 23.0 | 21 20.9 | 237 25.1 | -3 37.3 |
| | 15 | 250 23.0 | 66 39.6 | 0 2.8 | 26 17.5 | -17 2.2 | 134 25.2 | 21 20.9 | 252 27.8 | -3 37.4 |
| | 16 | 265 25.4 | 81 39.2 | 0 1.5 | 41 18.3 | -17 2.7 | 149 27.5 | 21 20.8 | 267 30.4 | -3 37.4 |
| | 17 | 280 27.9 | 96 38.8 | 0 0.3 | 56 19.0 | -17 3.3 | 164 29.7 | 21 20.8 | 282 33.0 | -3 37.5 |
| | 18 | 295 30.4 | 111 38.4 | -0 0.9 | 71 19.7 | -17 3.8 | 179 32.0 | 21 20.8 | 297 35.6 | -3 37.5 |
| | 19 | 310 32.8 | 126 38.0 | -0 2.1 | 86 20.4 | -17 4.3 | 194 34.2 | 21 20.7 | 312 38.2 | -3 37.6 |
| | 20 | 325 35.3 | 141 37.6 | -0 3.3 | 101 21.2 | -17 4.8 | 209 36.5 | 21 20.7 | 327 40.8 | -3 37.7 |
| | 21 | 340 37.8 | 156 37.2 | -0 4.6 | 116 21.9 | -17 5.4 | 224 38.7 | 21 20.7 | 342 43.4 | -3 37.7 |
| | 22 | 355 40.2 | 171 36.8 | -0 5.8 | 131 22.6 | -17 5.9 | 239 41.0 | 21 20.7 | 357 46.1 | -3 37.8 |
| | 23 | 10 42.7 | 186 36.4 | -0 7.0 | 146 23.3 | -17 6.4 | 254 43.2 | 21 20.6 | 12 48.7 | -3 37.8 |
| | | MP 22:19 | *v* -0.4 | *d* -1.2 | *v* 0.7 | *d* 0.5 | *v* 2.2 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 Friday | 0 | 25 45.1 | 201 36.1 | -0 8.2 | 161 24.1 | -17 6.9 | 269 45.5 | 21 20.6 | 27 51.3 | -3 37.9 |
| | 1 | 40 47.6 | 216 35.7 | -0 9.4 | 176 24.8 | -17 7.4 | 284 47.7 | 21 20.6 | 42 53.9 | -3 38.0 |
| | 2 | 55 50.1 | 231 35.3 | -0 10.7 | 191 25.5 | -17 8.0 | 299 50.0 | 21 20.5 | 57 56.5 | -3 38.0 |
| | 3 | 70 52.5 | 246 34.9 | -0 11.9 | 206 26.2 | -17 8.5 | 314 52.2 | 21 20.5 | 72 59.1 | -3 38.1 |
| | 4 | 85 55.0 | 261 34.5 | -0 13.1 | 221 26.9 | -17 9.0 | 329 54.5 | 21 20.5 | 88 1.7 | -3 38.1 |
| | 5 | 100 57.5 | 276 34.1 | -0 14.3 | 236 27.7 | -17 9.5 | 344 56.7 | 21 20.4 | 103 4.3 | -3 38.2 |
| | 6 | 115 59.9 | 291 33.7 | -0 15.5 | 251 28.4 | -17 10.0 | 359 59.0 | 21 20.4 | 118 7.0 | -3 38.3 |
| | 7 | 131 2.4 | 306 33.3 | -0 16.8 | 266 29.1 | -17 10.6 | 15 1.2 | 21 20.4 | 133 9.6 | -3 38.3 |
| | 8 | 146 4.9 | 321 32.9 | -0 18.0 | 281 29.8 | -17 11.1 | 30 3.5 | 21 20.4 | 148 12.2 | -3 38.4 |
| | 9 | 161 7.3 | 336 32.5 | -0 19.2 | 296 30.6 | -17 11.6 | 45 5.7 | 21 20.3 | 163 14.8 | -3 38.4 |
| | 10 | 176 9.8 | 351 32.1 | -0 20.4 | 311 31.3 | -17 12.1 | 60 8.0 | 21 20.3 | 178 17.4 | -3 38.5 |
| | 11 | 191 12.3 | 6 31.7 | -0 21.6 | 326 32.0 | -17 12.6 | 75 10.2 | 21 20.3 | 193 20.0 | -3 38.6 |
| | 12 | 206 14.7 | 21 31.3 | -0 22.9 | 341 32.7 | -17 13.1 | 90 12.5 | 21 20.2 | 208 22.6 | -3 38.6 |
| | 13 | 221 17.2 | 36 31.0 | -0 24.1 | 356 33.4 | -17 13.7 | 105 14.8 | 21 20.2 | 223 25.2 | -3 38.7 |
| | 14 | 236 19.6 | 51 30.6 | -0 25.3 | 11 34.1 | -17 14.2 | 120 17.0 | 21 20.2 | 238 27.9 | -3 38.7 |
| | 15 | 251 22.1 | 66 30.2 | -0 26.5 | 26 34.9 | -17 14.7 | 135 19.3 | 21 20.2 | 253 30.5 | -3 38.8 |
| | 16 | 266 24.6 | 81 29.8 | -0 27.7 | 41 35.6 | -17 15.2 | 150 21.5 | 21 20.1 | 268 33.1 | -3 38.9 |
| | 17 | 281 27.0 | 96 29.4 | -0 29.0 | 56 36.3 | -17 15.7 | 165 23.8 | 21 20.1 | 283 35.7 | -3 38.9 |
| | 18 | 296 29.5 | 111 29.0 | -0 30.2 | 71 37.0 | -17 16.2 | 180 26.0 | 21 20.1 | 298 38.3 | -3 39.0 |
| | 19 | 311 32.0 | 126 28.6 | -0 31.4 | 86 37.7 | -17 16.8 | 195 28.3 | 21 20.0 | 313 40.9 | -3 39.0 |
| | 20 | 326 34.4 | 141 28.2 | -0 32.6 | 101 38.5 | -17 17.3 | 210 30.5 | 21 20.0 | 328 43.5 | -3 39.1 |
| | 21 | 341 36.9 | 156 27.8 | -0 33.9 | 116 39.2 | -17 17.8 | 225 32.8 | 21 20.0 | 343 46.1 | -3 39.2 |
| | 22 | 356 39.4 | 171 27.4 | -0 35.1 | 131 39.9 | -17 18.3 | 240 35.1 | 21 19.9 | 358 48.7 | -3 39.2 |
| | 23 | 11 41.8 | 186 27.0 | -0 36.3 | 146 40.6 | -17 18.8 | 255 37.3 | 21 19.9 | 13 51.4 | -3 39.3 |
| | | MP 22:15 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Saturday | 0 | 26 44.3 | 201 26.6 | -0 37.5 | 161 41.3 | -17 19.3 | 270 39.6 | 21 19.9 | 28 54.0 | -3 39.3 |
| | 1 | 41 46.7 | 216 26.2 | -0 38.7 | 176 42.0 | -17 19.9 | 285 41.8 | 21 19.9 | 43 56.6 | -3 39.4 |
| | 2 | 56 49.2 | 231 25.8 | -0 40.0 | 191 42.8 | -17 20.4 | 300 44.1 | 21 19.8 | 58 59.2 | -3 39.5 |
| | 3 | 71 51.7 | 246 25.5 | -0 41.2 | 206 43.5 | -17 20.9 | 315 46.3 | 21 19.8 | 74 1.8 | -3 39.5 |
| | 4 | 86 54.1 | 261 25.1 | -0 42.4 | 221 44.2 | -17 21.4 | 330 48.6 | 21 19.8 | 89 4.4 | -3 39.6 |
| | 5 | 101 56.6 | 276 24.7 | -0 43.6 | 236 44.9 | -17 21.9 | 345 50.9 | 21 19.7 | 104 7.0 | -3 39.6 |
| | 6 | 116 59.1 | 291 24.3 | -0 44.8 | 251 45.6 | -17 22.4 | 0 53.1 | 21 19.7 | 119 9.6 | -3 39.7 |
| | 7 | 132 1.5 | 306 23.9 | -0 46.1 | 266 46.3 | -17 22.9 | 15 55.4 | 21 19.7 | 134 12.2 | -3 39.7 |
| | 8 | 147 4.0 | 321 23.5 | -0 47.3 | 281 47.0 | -17 23.5 | 30 57.6 | 21 19.7 | 149 14.9 | -3 39.8 |
| | 9 | 162 6.5 | 336 23.1 | -0 48.5 | 296 47.8 | -17 24.0 | 45 59.9 | 21 19.6 | 164 17.5 | -3 39.9 |
| | 10 | 177 8.9 | 351 22.7 | -0 49.7 | 311 48.5 | -17 24.5 | 61 2.2 | 21 19.6 | 179 20.1 | -3 39.9 |
| | 11 | 192 11.4 | 6 22.3 | -0 51.0 | 326 49.2 | -17 25.0 | 76 4.4 | 21 19.6 | 194 22.7 | -3 40.0 |
| | 12 | 207 13.9 | 21 21.9 | -0 52.2 | 341 49.9 | -17 25.5 | 91 6.7 | 21 19.5 | 209 25.3 | -3 40.0 |
| | 13 | 222 16.3 | 36 21.5 | -0 53.4 | 356 50.6 | -17 26.0 | 106 9.0 | 21 19.5 | 224 27.9 | -3 40.1 |
| | 14 | 237 18.8 | 51 21.1 | -0 54.6 | 11 51.3 | -17 26.5 | 121 11.2 | 21 19.5 | 239 30.5 | -3 40.2 |
| | 15 | 252 21.2 | 66 20.7 | -0 55.8 | 26 52.0 | -17 27.0 | 136 13.5 | 21 19.5 | 254 33.1 | -3 40.2 |
| | 16 | 267 23.7 | 81 20.3 | -0 57.1 | 41 52.7 | -17 27.6 | 151 15.7 | 21 19.4 | 269 35.7 | -3 40.3 |
| | 17 | 282 26.2 | 96 19.9 | -0 58.3 | 56 53.5 | -17 28.1 | 166 18.0 | 21 19.4 | 284 38.3 | -3 40.3 |
| | 18 | 297 28.6 | 111 19.5 | -0 59.5 | 71 54.2 | -17 28.6 | 181 20.3 | 21 19.4 | 299 40.9 | -3 40.4 |
| | 19 | 312 31.1 | 126 19.1 | -1 0.7 | 86 54.9 | -17 29.1 | 196 22.5 | 21 19.4 | 314 43.6 | -3 40.4 |
| | 20 | 327 33.6 | 141 18.8 | -1 2.0 | 101 55.6 | -17 29.6 | 211 24.8 | 21 19.3 | 329 46.2 | -3 40.5 |
| | 21 | 342 36.0 | 156 18.4 | -1 3.2 | 116 56.3 | -17 30.1 | 226 27.1 | 21 19.3 | 344 48.8 | -3 40.6 |
| | 22 | 357 38.5 | 171 18.0 | -1 4.4 | 131 57.0 | -17 30.6 | 241 29.3 | 21 19.3 | 359 51.4 | -3 40.6 |
| | 23 | 12 41.0 | 186 17.6 | -1 5.6 | 146 57.7 | -17 31.1 | 256 31.6 | 21 19.2 | 14 54.0 | -3 40.7 |
| | | MP 22:11 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 11.9 |
| Achernar | 335 19.1 | -57 6.2 |
| Acrux | 173 0.1 | -63 14.4 |
| Adhara | 255 5.3 | -29 0.1 |
| Aldebaran | 290 38.7 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.2 |
| Alkaid | 152 52.0 | 49 11.1 |
| Alnair | 27 31.8 | -46 50.3 |
| Alnilam | 275 36.9 | -1 11.0 |
| Alphard | 217 47.3 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.3 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.9 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.3 | -69 4.6 |
| Avior | 234 14.6 | -59 35.1 |
| Bellatrix | 278 22.0 | 6 22.5 |
| Betelgeuse | 270 51.3 | 7 24.8 |
| Canopus | 263 52.0 | -52 42.2 |
| Capella | 280 20.7 | 46 1.3 |
| Deneb | 49 25.3 | 45 22.6 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.7 | 61 36.6 |
| Elnath | 278 0.9 | 28 37.7 |
| Eltanin | 90 42.1 | 51 29.4 |
| Enif | 33 38.0 | 9 59.8 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.6 | -57 15.3 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.8 |
| Hamal | 327 50.2 | 23 35.2 |
| Kaus Aust. | 83 31.8 | -34 22.4 |
| Kochab | 137 20.9 | 74 3.0 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.2 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.8 |
| Miaplacidus | 221 38.6 | -69 49.0 |
| Mirfak | 308 26.9 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.6 | -56 39.3 |
| Pollux | 243 16.6 | 27 57.8 |
| Procyon | 244 50.2 | 5 9.6 |
| Rasalhague | 95 58.1 | 12 32.6 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.1 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.9 |
| Shaula | 96 9.7 | -37 7.4 |
| Sirius | 258 25.6 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.0 | -43 31.9 |
| Vega | 80 32.9 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 16 Thu | SHA | MP |
|---|---|---|
| Venus | 176 59.4 | 10:33 |
| Mars | 136 20.6 | 13:15 |
| Jupiter | 244 5.5 | 06:04 |
| Saturn | 2 2.5 | 22:09 |

| 17 Fri | SHA | MP |
|---|---|---|
| Venus | 175 50.9 | 10:34 |
| Mars | 135 38.9 | 13:14 |
| Jupiter | 244 0.3 | 06:00 |
| Saturn | 2 6.1 | 22:05 |

| 18 Sat | SHA | MP |
|---|---|---|
| Venus | 174 42.3 | 10:34 |
| Mars | 134 57.0 | 13:13 |
| Jupiter | 243 55.3 | 05:56 |
| Saturn | 2 9.7 | 22:01 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **16 Thursday** | 0 | 183 35.8 | -8 53.9 | 241 12.2 | 12.5 | 16 59.4 | -12.8 | 56.6 |
| | 1 | 198 36.0 | -8 54.8 | 255 43.7 | 12.6 | 16 46.6 | -12.9 | 56.6 |
| | 2 | 213 36.1 | -8 55.7 | 270 15.3 | 12.7 | 16 33.7 | -12.9 | 56.5 |
| | 3 | 228 36.2 | -8 56.6 | 284 47.0 | 12.8 | 16 20.8 | -13.0 | 56.5 |
| | 4 | 243 36.4 | -8 57.6 | 299 18.8 | 12.9 | 16 7.8 | -13.1 | 56.5 |
| | 5 | 258 36.5 | -8 58.5 | 313 50.6 | 13.0 | 15 54.7 | -13.1 | 56.5 |
| | 6 | 273 36.6 | -8 59.4 | 328 22.6 | 13.1 | 15 41.6 | -13.2 | 56.4 |
| | 7 | 288 36.8 | -9 0.3 | 342 54.7 | 13.1 | 15 28.4 | -13.2 | 56.4 |
| | 8 | 303 36.9 | -9 1.2 | 357 26.8 | 13.2 | 15 15.2 | -13.3 | 56.4 |
| | 9 | 318 37.0 | -9 2.2 | 11 59.0 | 13.3 | 15 1.9 | -13.3 | 56.4 |
| | 10 | 333 37.1 | -9 3.1 | 26 31.4 | 13.4 | 14 48.5 | -13.4 | 56.3 |
| | 11 | 348 37.3 | -9 4.0 | 41 3.8 | 13.5 | 14 35.1 | -13.5 | 56.3 |
| | 12 | 3 37.4 | -9 4.9 | 55 36.3 | 13.6 | 14 21.7 | -13.5 | 56.3 |
| | 13 | 18 37.5 | -9 5.8 | 70 8.8 | 13.7 | 14 8.2 | -13.6 | 56.3 |
| | 14 | 33 37.7 | -9 6.7 | 84 41.5 | 13.7 | 13 54.6 | -13.6 | 56.2 |
| | 15 | 48 37.8 | -9 7.7 | 99 14.2 | 13.8 | 13 41.0 | -13.7 | 56.2 |
| | 16 | 63 37.9 | -9 8.6 | 113 47.1 | 13.9 | 13 27.4 | -13.7 | 56.2 |
| | 17 | 78 38.1 | -9 9.5 | 128 20.0 | 14.0 | 13 13.7 | -13.7 | 56.2 |
| | 18 | 93 38.2 | -9 10.4 | 142 53.0 | 14.1 | 12 59.9 | -13.8 | 56.1 |
| | 19 | 108 38.3 | -9 11.3 | 157 26.0 | 14.1 | 12 46.1 | -13.8 | 56.1 |
| | 20 | 123 38.4 | -9 12.2 | 171 59.2 | 14.2 | 12 32.3 | -13.9 | 56.1 |
| | 21 | 138 38.6 | -9 13.2 | 186 32.4 | 14.3 | 12 18.4 | -13.9 | 56.1 |
| | 22 | 153 38.7 | -9 14.1 | 201 5.6 | 14.4 | 12 4.5 | -14.0 | 56.0 |
| | 23 | 168 38.8 | -9 15.0 | 215 39.0 | 14.4 | 11 50.5 | -14.0 | 56.0 |
| | *v* | 0.1 | SD 16.0 | *d* 0.9 | | SD 15.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **17 Friday** | 0 | 183 39.0 | -9 15.9 | 230 12.4 | 14.5 | 11 36.5 | -14.0 | 56.0 |
| | 1 | 198 39.1 | -9 16.8 | 244 45.9 | 14.6 | 11 22.5 | -14.1 | 56.0 |
| | 2 | 213 39.2 | -9 17.7 | 259 19.5 | 14.6 | 11 8.4 | -14.1 | 55.9 |
| | 3 | 228 39.3 | -9 18.6 | 273 53.1 | 14.7 | 10 54.3 | -14.1 | 55.9 |
| | 4 | 243 39.5 | -9 19.5 | 288 26.8 | 14.8 | 10 40.2 | -14.2 | 55.9 |
| | 5 | 258 39.6 | -9 20.5 | 303 0.6 | 14.8 | 10 26.0 | -14.2 | 55.9 |
| | 6 | 273 39.7 | -9 21.4 | 317 34.4 | 14.9 | 10 11.8 | -14.2 | 55.9 |
| | 7 | 288 39.8 | -9 22.3 | 332 8.3 | 15.0 | 9 57.6 | -14.3 | 55.8 |
| | 8 | 303 40.0 | -9 23.2 | 346 42.3 | 15.0 | 9 43.3 | -14.3 | 55.8 |
| | 9 | 318 40.1 | -9 24.1 | 1 16.3 | 15.1 | 9 29.0 | -14.3 | 55.8 |
| | 10 | 333 40.2 | -9 25.0 | 15 50.4 | 15.1 | 9 14.7 | -14.3 | 55.8 |
| | 11 | 348 40.3 | -9 25.9 | 30 24.5 | 15.2 | 9 0.3 | -14.4 | 55.7 |
| | 12 | 3 40.5 | -9 26.8 | 44 58.7 | 15.2 | 8 46.0 | -14.4 | 55.7 |
| | 13 | 18 40.6 | -9 27.8 | 59 33.0 | 15.3 | 8 31.6 | -14.4 | 55.7 |
| | 14 | 33 40.7 | -9 28.7 | 74 7.3 | 15.4 | 8 17.1 | -14.4 | 55.7 |
| | 15 | 48 40.8 | -9 29.6 | 88 41.6 | 15.4 | 8 2.7 | -14.5 | 55.7 |
| | 16 | 63 41.0 | -9 30.5 | 103 16.0 | 15.5 | 7 48.2 | -14.5 | 55.6 |
| | 17 | 78 41.1 | -9 31.4 | 117 50.5 | 15.5 | 7 33.7 | -14.5 | 55.6 |
| | 18 | 93 41.2 | -9 32.3 | 132 25.0 | 15.6 | 7 19.2 | -14.5 | 55.6 |
| | 19 | 108 41.3 | -9 33.2 | 146 59.6 | 15.6 | 7 4.7 | -14.5 | 55.6 |
| | 20 | 123 41.5 | -9 34.1 | 161 34.2 | 15.7 | 6 50.2 | -14.6 | 55.6 |
| | 21 | 138 41.6 | -9 35.0 | 176 8.8 | 15.7 | 6 35.6 | -14.6 | 55.5 |
| | 22 | 153 41.7 | -9 36.0 | 190 43.5 | 15.7 | 6 21.0 | -14.6 | 55.5 |
| | 23 | 168 41.8 | -9 36.9 | 205 18.3 | 15.8 | 6 6.4 | -14.6 | 55.5 |
| | *v* | 0.1 | SD 16.0 | *d* 0.9 | | SD 15.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **18 Saturday** | 0 | 183 41.9 | -9 37.8 | 219 53.0 | 15.8 | 5 51.8 | -14.6 | 55.5 |
| | 1 | 198 42.1 | -9 38.7 | 234 27.9 | 15.9 | 5 37.2 | -14.6 | 55.5 |
| | 2 | 213 42.2 | -9 39.6 | 249 2.7 | 15.9 | 5 22.6 | -14.6 | 55.4 |
| | 3 | 228 42.3 | -9 40.5 | 263 37.7 | 15.9 | 5 7.9 | -14.7 | 55.4 |
| | 4 | 243 42.4 | -9 41.4 | 278 12.6 | 16.0 | 4 53.3 | -14.7 | 55.4 |
| | 5 | 258 42.6 | -9 42.3 | 292 47.6 | 16.0 | 4 38.6 | -14.7 | 55.4 |
| | 6 | 273 42.7 | -9 43.2 | 307 22.6 | 16.1 | 4 23.9 | -14.7 | 55.4 |
| | 7 | 288 42.8 | -9 44.1 | 321 57.6 | 16.1 | 4 9.3 | -14.7 | 55.3 |
| | 8 | 303 42.9 | -9 45.0 | 336 32.7 | 16.1 | 3 54.6 | -14.7 | 55.3 |
| | 9 | 318 43.0 | -9 45.9 | 351 7.9 | 16.2 | 3 39.9 | -14.7 | 55.3 |
| | 10 | 333 43.1 | -9 46.8 | 5 43.0 | 16.2 | 3 25.2 | -14.7 | 55.3 |
| | 11 | 348 43.3 | -9 47.7 | 20 18.2 | 16.2 | 3 10.5 | -14.7 | 55.3 |
| | 12 | 3 43.4 | -9 48.7 | 34 53.4 | 16.2 | 2 55.8 | -14.7 | 55.2 |
| | 13 | 18 43.5 | -9 49.6 | 49 28.6 | 16.3 | 2 41.1 | -14.7 | 55.2 |
| | 14 | 33 43.6 | -9 50.5 | 64 3.9 | 16.3 | 2 26.4 | -14.7 | 55.2 |
| | 15 | 48 43.7 | -9 51.4 | 78 39.2 | 16.3 | 2 11.7 | -14.7 | 55.2 |
| | 16 | 63 43.9 | -9 52.3 | 93 14.5 | 16.3 | 1 57.0 | -14.7 | 55.2 |
| | 17 | 78 44.0 | -9 53.2 | 107 49.8 | 16.4 | 1 42.2 | -14.7 | 55.1 |
| | 18 | 93 44.1 | -9 54.1 | 122 25.2 | 16.4 | 1 27.5 | -14.7 | 55.1 |
| | 19 | 108 44.2 | -9 55.0 | 137 0.6 | 16.4 | 1 12.8 | -14.7 | 55.1 |
| | 20 | 123 44.3 | -9 55.9 | 151 36.0 | 16.4 | 0 58.2 | -14.7 | 55.1 |
| | 21 | 138 44.4 | -9 56.8 | 166 11.4 | 16.4 | 0 43.5 | -14.7 | 55.1 |
| | 22 | 153 44.5 | -9 57.7 | 180 46.8 | 16.5 | 0 28.8 | -14.7 | 55.1 |
| | 23 | 168 44.7 | -9 58.6 | 195 22.3 | 16.5 | 0 14.1 | -14.7 | 55.0 |
| | *v* | 0.1 | SD 16.1 | *d* 0.9 | | SD 15.1 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 05:01 | 06:19 | 07:30 | 15:59 | 17:10 | 18:28 |
| 70 | 05:04 | 06:14 | 07:18 | 16:11 | 17:15 | 18:25 |
| 68 | 05:06 | 06:11 | 07:08 | 16:21 | 17:19 | 18:23 |
| 66 | 05:08 | 06:07 | 07:00 | 16:29 | 17:22 | 18:21 |
| 64 | 05:10 | 06:05 | 06:53 | 16:36 | 17:25 | 18:20 |
| 62 | 05:11 | 06:02 | 06:47 | 16:42 | 17:28 | 18:19 |
| 60 | 05:12 | 06:00 | 06:42 | 16:48 | 17:30 | 18:18 |
| 58 | 05:12 | 05:58 | 06:38 | 16:52 | 17:32 | 18:17 |
| 56 | 05:13 | 05:56 | 06:34 | 16:56 | 17:34 | 18:17 |
| 54 | 05:13 | 05:54 | 06:30 | 17:00 | 17:36 | 18:17 |
| 52 | 05:13 | 05:53 | 06:27 | 17:03 | 17:38 | 18:17 |
| 50 | 05:14 | 05:51 | 06:24 | 17:06 | 17:39 | 18:16 |
| 45 | 05:13 | 05:48 | 06:17 | 17:13 | 17:43 | 18:17 |
| 40 | 05:13 | 05:44 | 06:12 | 17:19 | 17:46 | 18:17 |
| 35 | 05:12 | 05:41 | 06:07 | 17:24 | 17:49 | 18:19 |
| 30 | 05:11 | 05:38 | 06:03 | 17:28 | 17:52 | 18:20 |
| 20 | 05:07 | 05:33 | 05:55 | 17:36 | 17:58 | 18:23 |
| 10 | 05:03 | 05:27 | 05:49 | 17:42 | 18:04 | 18:28 |
| 0 | 04:57 | 05:21 | 05:42 | 17:49 | 18:10 | 18:34 |
| -10 | 04:50 | 05:14 | 05:36 | 17:55 | 18:17 | 18:42 |
| -20 | 04:40 | 05:06 | 05:29 | 18:03 | 18:25 | 18:51 |
| -30 | 04:27 | 04:56 | 05:21 | 18:11 | 18:35 | 19:04 |
| -35 | 04:19 | 04:50 | 05:16 | 18:16 | 18:42 | 19:12 |
| -40 | 04:09 | 04:43 | 05:11 | 18:21 | 18:49 | 19:22 |
| -45 | 03:57 | 04:34 | 05:04 | 18:27 | 18:58 | 19:35 |
| -50 | 03:42 | 04:23 | 04:57 | 18:35 | 19:09 | 19:51 |
| -52 | 03:34 | 04:18 | 04:53 | 18:39 | 19:15 | 19:59 |
| -54 | 03:25 | 04:12 | 04:49 | 18:43 | 19:20 | 20:08 |
| -56 | 03:15 | 04:06 | 04:45 | 18:47 | 19:27 | 20:18 |
| -58 | 03:04 | 03:58 | 04:40 | 18:52 | 19:35 | 20:30 |
| -60 | 02:50 | 03:50 | 04:35 | 18:58 | 19:43 | 20:44 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **16** | **17** | **18** | **16** | **17** | **18** |
| 72 | –:– | 00:05 | 02:19 | 17:29 | 16:44 | 16:10 |
| 70 | –:– | 00:25 | 02:27 | 17:06 | 16:33 | 16:07 |
| 68 | –:– | 00:41 | 02:33 | 16:48 | 16:25 | 16:05 |
| 66 | –:– | 00:54 | 02:39 | 16:33 | 16:17 | 16:04 |
| 64 | –:– | 01:05 | 02:43 | 16:21 | 16:11 | 16:02 |
| 62 | –:– | 01:14 | 02:47 | 16:11 | 16:06 | 16:01 |
| 60 | –:– | 01:22 | 02:50 | 16:02 | 16:01 | 16:00 |
| 58 | –:– | 01:28 | 02:53 | 15:54 | 15:57 | 15:59 |
| 56 | 00:09 | 01:34 | 02:55 | 15:47 | 15:53 | 15:58 |
| 54 | 00:18 | 01:39 | 02:58 | 15:41 | 15:50 | 15:57 |
| 52 | 00:25 | 01:44 | 03:00 | 15:35 | 15:47 | 15:56 |
| 50 | 00:32 | 01:49 | 03:02 | 15:30 | 15:44 | 15:56 |
| 45 | 00:47 | 01:58 | 03:06 | 15:19 | 15:38 | 15:54 |
| 40 | 00:59 | 02:05 | 03:09 | 15:10 | 15:32 | 15:53 |
| 35 | 01:09 | 02:12 | 03:12 | 15:02 | 15:28 | 15:52 |
| 30 | 01:18 | 02:18 | 03:15 | 14:55 | 15:24 | 15:51 |
| 20 | 01:34 | 02:28 | 03:19 | 14:42 | 15:17 | 15:49 |
| 10 | 01:47 | 02:36 | 03:23 | 14:32 | 15:11 | 15:48 |
| 0 | 01:59 | 02:44 | 03:27 | 14:21 | 15:05 | 15:46 |
| -10 | 02:12 | 02:53 | 03:30 | 14:11 | 14:59 | 15:45 |
| -20 | 02:25 | 03:01 | 03:34 | 14:00 | 14:53 | 15:43 |
| -30 | 02:40 | 03:11 | 03:39 | 13:47 | 14:45 | 15:41 |
| -35 | 02:49 | 03:16 | 03:41 | 13:40 | 14:41 | 15:40 |
| -40 | 02:58 | 03:23 | 03:44 | 13:31 | 14:36 | 15:39 |
| -45 | 03:10 | 03:30 | 03:47 | 13:21 | 14:31 | 15:38 |
| -50 | 03:24 | 03:39 | 03:51 | 13:09 | 14:24 | 15:36 |
| -52 | 03:30 | 03:43 | 03:53 | 13:04 | 14:21 | 15:35 |
| -54 | 03:37 | 03:47 | 03:55 | 12:57 | 14:17 | 15:34 |
| -56 | 03:45 | 03:52 | 03:57 | 12:50 | 14:14 | 15:33 |
| -58 | 03:54 | 03:57 | 03:59 | 12:42 | 14:09 | 15:32 |
| -60 | 04:04 | 04:03 | 04:02 | 12:33 | 14:04 | 15:31 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **16** | 14:23 | 14:30 | 11:46 | 08:11 | 20:33 | 24 | 27 |
| **17** | 14:36 | 14:42 | 11:45 | 08:55 | 21:16 | 25 | 18 |
| **18** | 14:48 | 14:54 | 11:45 | 09:36 | 21:57 | 26 | 11 |

## 2025 October 19, 20, 21 (Sun, Mon, Tue)

| | | Aries | Venus -3.9 | | Mars 1.5 | | Jupiter -2.2 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 19 Sunday | 0 | 27 43.4 | 201 17.2 | -1 6.8 | 161 58.4 | -17 31.6 | 271 33.9 | 21 19.2 | 29 56.6 | -3 40.7 |
| | 1 | 42 45.9 | 216 16.8 | -1 8.1 | 176 59.1 | -17 32.1 | 286 36.1 | 21 19.2 | 44 59.2 | -3 40.8 |
| | 2 | 57 48.3 | 231 16.4 | -1 9.3 | 191 59.8 | -17 32.7 | 301 38.4 | 21 19.2 | 60 1.8 | -3 40.8 |
| | 3 | 72 50.8 | 246 16.0 | -1 10.5 | 207 0.5 | -17 33.2 | 316 40.7 | 21 19.1 | 75 4.4 | -3 40.9 |
| | 4 | 87 53.3 | 261 15.6 | -1 11.7 | 222 1.3 | -17 33.7 | 331 42.9 | 21 19.1 | 90 7.0 | -3 41.0 |
| | 5 | 102 55.7 | 276 15.2 | -1 13.0 | 237 2.0 | -17 34.2 | 346 45.2 | 21 19.1 | 105 9.6 | -3 41.0 |
| | 6 | 117 58.2 | 291 14.8 | -1 14.2 | 252 2.7 | -17 34.7 | 1 47.5 | 21 19.1 | 120 12.3 | -3 41.1 |
| | 7 | 133 0.7 | 306 14.4 | -1 15.4 | 267 3.4 | -17 35.2 | 16 49.7 | 21 19.0 | 135 14.9 | -3 41.1 |
| | 8 | 148 3.1 | 321 14.0 | -1 16.6 | 282 4.1 | -17 35.7 | 31 52.0 | 21 19.0 | 150 17.5 | -3 41.2 |
| | 9 | 163 5.6 | 336 13.6 | -1 17.8 | 297 4.8 | -17 36.2 | 46 54.3 | 21 19.0 | 165 20.1 | -3 41.3 |
| | 10 | 178 8.1 | 351 13.2 | -1 19.1 | 312 5.5 | -17 36.7 | 61 56.5 | 21 18.9 | 180 22.7 | -3 41.3 |
| | 11 | 193 10.5 | 6 12.8 | -1 20.3 | 327 6.2 | -17 37.2 | 76 58.8 | 21 18.9 | 195 25.3 | -3 41.4 |
| | 12 | 208 13.0 | 21 12.4 | -1 21.5 | 342 6.9 | -17 37.7 | 92 1.1 | 21 18.9 | 210 27.9 | -3 41.4 |
| | 13 | 223 15.5 | 36 12.0 | -1 22.7 | 357 7.6 | -17 38.2 | 107 3.3 | 21 18.9 | 225 30.5 | -3 41.5 |
| | 14 | 238 17.9 | 51 11.6 | -1 24.0 | 12 8.3 | -17 38.8 | 122 5.6 | 21 18.8 | 240 33.1 | -3 41.5 |
| | 15 | 253 20.4 | 66 11.2 | -1 25.2 | 27 9.0 | -17 39.3 | 137 7.9 | 21 18.8 | 255 35.7 | -3 41.6 |
| | 16 | 268 22.8 | 81 10.8 | -1 26.4 | 42 9.7 | -17 39.8 | 152 10.2 | 21 18.8 | 270 38.3 | -3 41.7 |
| | 17 | 283 25.3 | 96 10.4 | -1 27.6 | 57 10.4 | -17 40.3 | 167 12.4 | 21 18.8 | 285 40.9 | -3 41.7 |
| | 18 | 298 27.8 | 111 10.1 | -1 28.9 | 72 11.1 | -17 40.8 | 182 14.7 | 21 18.7 | 300 43.5 | -3 41.8 |
| | 19 | 313 30.2 | 126 9.7 | -1 30.1 | 87 11.8 | -17 41.3 | 197 17.0 | 21 18.7 | 315 46.1 | -3 41.8 |
| | 20 | 328 32.7 | 141 9.3 | -1 31.3 | 102 12.6 | -17 41.8 | 212 19.2 | 21 18.7 | 330 48.8 | -3 41.9 |
| | 21 | 343 35.2 | 156 8.9 | -1 32.5 | 117 13.3 | -17 42.3 | 227 21.5 | 21 18.6 | 345 51.4 | -3 41.9 |
| | 22 | 358 37.6 | 171 8.5 | -1 33.7 | 132 14.0 | -17 42.8 | 242 23.8 | 21 18.6 | 0 54.0 | -3 42.0 |
| | 23 | 13 40.1 | 186 8.1 | -1 35.0 | 147 14.7 | -17 43.3 | 257 26.1 | 21 18.6 | 15 56.6 | -3 42.0 |
| | | MP 22:07 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Monday | 0 | 28 42.6 | 201 7.7 | -1 36.2 | 162 15.4 | -17 43.8 | 272 28.3 | 21 18.6 | 30 59.2 | -3 42.1 |
| | 1 | 43 45.0 | 216 7.3 | -1 37.4 | 177 16.1 | -17 44.3 | 287 30.6 | 21 18.5 | 46 1.8 | -3 42.2 |
| | 2 | 58 47.5 | 231 6.9 | -1 38.6 | 192 16.8 | -17 44.8 | 302 32.9 | 21 18.5 | 61 4.4 | -3 42.2 |
| | 3 | 73 50.0 | 246 6.5 | -1 39.9 | 207 17.5 | -17 45.3 | 317 35.2 | 21 18.5 | 76 7.0 | -3 42.3 |
| | 4 | 88 52.4 | 261 6.1 | -1 41.1 | 222 18.2 | -17 45.8 | 332 37.4 | 21 18.5 | 91 9.6 | -3 42.3 |
| | 5 | 103 54.9 | 276 5.7 | -1 42.3 | 237 18.9 | -17 46.3 | 347 39.7 | 21 18.4 | 106 12.2 | -3 42.4 |
| | 6 | 118 57.3 | 291 5.3 | -1 43.5 | 252 19.6 | -17 46.8 | 2 42.0 | 21 18.4 | 121 14.8 | -3 42.4 |
| | 7 | 133 59.8 | 306 4.9 | -1 44.7 | 267 20.3 | -17 47.3 | 17 44.3 | 21 18.4 | 136 17.4 | -3 42.5 |
| | 8 | 149 2.3 | 321 4.5 | -1 46.0 | 282 21.0 | -17 47.8 | 32 46.5 | 21 18.4 | 151 20.0 | -3 42.6 |
| | 9 | 164 4.7 | 336 4.1 | -1 47.2 | 297 21.7 | -17 48.3 | 47 48.8 | 21 18.3 | 166 22.6 | -3 42.6 |
| | 10 | 179 7.2 | 351 3.7 | -1 48.4 | 312 22.4 | -17 48.8 | 62 51.1 | 21 18.3 | 181 25.2 | -3 42.7 |
| | 11 | 194 9.7 | 6 3.3 | -1 49.6 | 327 23.1 | -17 49.3 | 77 53.4 | 21 18.3 | 196 27.8 | -3 42.7 |
| | 12 | 209 12.1 | 21 2.9 | -1 50.9 | 342 23.8 | -17 49.8 | 92 55.6 | 21 18.3 | 211 30.4 | -3 42.8 |
| | 13 | 224 14.6 | 36 2.5 | -1 52.1 | 357 24.5 | -17 50.3 | 107 57.9 | 21 18.2 | 226 33.0 | -3 42.8 |
| | 14 | 239 17.1 | 51 2.1 | -1 53.3 | 12 25.2 | -17 50.8 | 123 0.2 | 21 18.2 | 241 35.6 | -3 42.9 |
| | 15 | 254 19.5 | 66 1.7 | -1 54.5 | 27 25.9 | -17 51.3 | 138 2.5 | 21 18.2 | 256 38.3 | -3 42.9 |
| | 16 | 269 22.0 | 81 1.3 | -1 55.8 | 42 26.6 | -17 51.8 | 153 4.8 | 21 18.2 | 271 40.9 | -3 43.0 |
| | 17 | 284 24.4 | 96 0.9 | -1 57.0 | 57 27.3 | -17 52.3 | 168 7.0 | 21 18.1 | 286 43.5 | -3 43.1 |
| | 18 | 299 26.9 | 111 0.5 | -1 58.2 | 72 28.0 | -17 52.8 | 183 9.3 | 21 18.1 | 301 46.1 | -3 43.1 |
| | 19 | 314 29.4 | 126 0.1 | -1 59.4 | 87 28.7 | -17 53.3 | 198 11.6 | 21 18.1 | 316 48.7 | -3 43.2 |
| | 20 | 329 31.8 | 140 59.7 | -2 0.6 | 102 29.4 | -17 53.8 | 213 13.9 | 21 18.1 | 331 51.3 | -3 43.2 |
| | 21 | 344 34.3 | 155 59.3 | -2 1.9 | 117 30.1 | -17 54.3 | 228 16.1 | 21 18.0 | 346 53.9 | -3 43.3 |
| | 22 | 359 36.8 | 170 58.9 | -2 3.1 | 132 30.8 | -17 54.8 | 243 18.4 | 21 18.0 | 1 56.5 | -3 43.3 |
| | 23 | 14 39.2 | 185 58.5 | -2 4.3 | 147 31.5 | -17 55.3 | 258 20.7 | 21 18.0 | 16 59.1 | -3 43.4 |
| | | MP 22:03 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 21 Tuesday | 0 | 29 41.7 | 200 58.1 | -2 5.5 | 162 32.2 | -17 55.8 | 273 23.0 | 21 18.0 | 32 1.7 | -3 43.4 |
| | 1 | 44 44.2 | 215 57.7 | -2 6.8 | 177 32.8 | -17 56.3 | 288 25.3 | 21 17.9 | 47 4.3 | -3 43.5 |
| | 2 | 59 46.6 | 230 57.3 | -2 8.0 | 192 33.5 | -17 56.8 | 303 27.6 | 21 17.9 | 62 6.9 | -3 43.6 |
| | 3 | 74 49.1 | 245 56.9 | -2 9.2 | 207 34.2 | -17 57.3 | 318 29.8 | 21 17.9 | 77 9.5 | -3 43.6 |
| | 4 | 89 51.6 | 260 56.5 | -2 10.4 | 222 34.9 | -17 57.8 | 333 32.1 | 21 17.9 | 92 12.1 | -3 43.7 |
| | 5 | 104 54.0 | 275 56.1 | -2 11.6 | 237 35.6 | -17 58.3 | 348 34.4 | 21 17.8 | 107 14.7 | -3 43.7 |
| | 6 | 119 56.5 | 290 55.7 | -2 12.9 | 252 36.3 | -17 58.8 | 3 36.7 | 21 17.8 | 122 17.3 | -3 43.8 |
| | 7 | 134 58.9 | 305 55.3 | -2 14.1 | 267 37.0 | -17 59.3 | 18 39.0 | 21 17.8 | 137 19.9 | -3 43.8 |
| | 8 | 150 1.4 | 320 54.9 | -2 15.3 | 282 37.7 | -17 59.8 | 33 41.3 | 21 17.8 | 152 22.5 | -3 43.9 |
| | 9 | 165 3.9 | 335 54.5 | -2 16.5 | 297 38.4 | -18 0.3 | 48 43.5 | 21 17.7 | 167 25.1 | -3 43.9 |
| | 10 | 180 6.3 | 350 54.1 | -2 17.8 | 312 39.1 | -18 0.8 | 63 45.8 | 21 17.7 | 182 27.7 | -3 44.0 |
| | 11 | 195 8.8 | 5 53.7 | -2 19.0 | 327 39.8 | -18 1.3 | 78 48.1 | 21 17.7 | 197 30.3 | -3 44.0 |
| | 12 | 210 11.3 | 20 53.3 | -2 20.2 | 342 40.5 | -18 1.8 | 93 50.4 | 21 17.7 | 212 32.9 | -3 44.1 |
| | 13 | 225 13.7 | 35 52.9 | -2 21.4 | 357 41.2 | -18 2.3 | 108 52.7 | 21 17.6 | 227 35.5 | -3 44.2 |
| | 14 | 240 16.2 | 50 52.5 | -2 22.6 | 12 41.9 | -18 2.8 | 123 55.0 | 21 17.6 | 242 38.1 | -3 44.2 |
| | 15 | 255 18.7 | 65 52.1 | -2 23.9 | 27 42.6 | -18 3.3 | 138 57.2 | 21 17.6 | 257 40.7 | -3 44.3 |
| | 16 | 270 21.1 | 80 51.7 | -2 25.1 | 42 43.3 | -18 3.8 | 153 59.5 | 21 17.6 | 272 43.3 | -3 44.3 |
| | 17 | 285 23.6 | 95 51.3 | -2 26.3 | 57 43.9 | -18 4.3 | 169 1.8 | 21 17.5 | 287 45.9 | -3 44.4 |
| | 18 | 300 26.0 | 110 50.9 | -2 27.5 | 72 44.6 | -18 4.8 | 184 4.1 | 21 17.5 | 302 48.5 | -3 44.4 |
| | 19 | 315 28.5 | 125 50.5 | -2 28.8 | 87 45.3 | -18 5.3 | 199 6.4 | 21 17.5 | 317 51.1 | -3 44.5 |
| | 20 | 330 31.0 | 140 50.1 | -2 30.0 | 102 46.0 | -18 5.8 | 214 8.7 | 21 17.5 | 332 53.7 | -3 44.5 |
| | 21 | 345 33.4 | 155 49.7 | -2 31.2 | 117 46.7 | -18 6.3 | 229 11.0 | 21 17.4 | 347 56.3 | -3 44.6 |
| | 22 | 0 35.9 | 170 49.3 | -2 32.4 | 132 47.4 | -18 6.8 | 244 13.3 | 21 17.4 | 2 58.9 | -3 44.6 |
| | 23 | 15 38.4 | 185 48.9 | -2 33.6 | 147 48.1 | -18 7.2 | 259 15.5 | 21 17.4 | 18 1.5 | -3 44.7 |
| | | MP 21:59 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 11.9 |
| Achernar | 335 19.1 | -57 6.3 |
| Acrux | 173 0.1 | -63 14.4 |
| Adhara | 255 5.3 | -29 0.1 |
| Aldebaran | 290 38.7 | 16 33.8 |
| Alioth | 166 12.9 | 55 49.2 |
| Alkaid | 152 52.0 | 49 11.1 |
| Alnair | 27 31.8 | -46 50.3 |
| Alnilam | 275 36.9 | -1 11.0 |
| Alphard | 217 47.3 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.4 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.9 |
| Antares | 112 15.3 | -26 29.4 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.4 | -69 4.6 |
| Avior | 234 14.6 | -59 35.1 |
| Bellatrix | 278 22.0 | 6 22.5 |
| Betelgeuse | 270 51.3 | 7 24.8 |
| Canopus | 263 51.9 | -52 42.2 |
| Capella | 280 20.7 | 46 1.3 |
| Deneb | 49 25.3 | 45 22.6 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.7 | 61 36.6 |
| Elnath | 278 0.9 | 28 37.7 |
| Eltanin | 90 42.1 | 51 29.3 |
| Enif | 33 38.0 | 9 59.8 |
| Fomalhaut | 15 13.5 | -29 29.1 |
| Gacrux | 171 51.5 | -57 15.3 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.8 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.8 | -34 22.4 |
| Kochab | 137 20.9 | 74 3.0 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.2 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.7 |
| Miaplacidus | 221 38.5 | -69 49.0 |
| Mirfak | 308 26.9 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.6 | -56 39.3 |
| Pollux | 243 16.5 | 27 57.8 |
| Procyon | 244 50.2 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 34.0 | 11 50.5 |
| Rigel | 281 3.1 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.9 |
| Shaula | 96 9.7 | -37 7.4 |
| Sirius | 258 25.6 | -16 44.8 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.0 | -43 31.9 |
| Vega | 80 32.9 | 38 48.7 |
| Zuben'ubi | 136 55.7 | -16 8.9 |

| 19 Sun | SHA | MP |
|---|---|---|
| Venus | 173 33.8 | 10:35 |
| Mars | 134 15.0 | 13:11 |
| Jupiter | 243 50.4 | 05:53 |
| Saturn | 2 13.2 | 21:56 |

| 20 Mon | SHA | MP |
|---|---|---|
| Venus | 172 25.1 | 10:36 |
| Mars | 133 32.8 | 13:10 |
| Jupiter | 243 45.8 | 05:49 |
| Saturn | 2 16.6 | 21:52 |

| 21 Tue | SHA | MP |
|---|---|---|
| Venus | 171 16.4 | 10:36 |
| Mars | 132 50.5 | 13:09 |
| Jupiter | 243 41.3 | 05:46 |
| Saturn | 2 20.0 | 21:48 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **19 Sunday** | 0 | 183 44.8 | -9 59.5 | 209 57.8 | 16.5 | -0 0.6 | 14.7 | 55.0 |
| | 1 | 198 44.9 | -10 0.4 | 224 33.2 | 16.5 | -0 15.2 | 14.7 | 55.0 |
| | 2 | 213 45.0 | -10 1.3 | 239 8.7 | 16.5 | -0 29.9 | 14.6 | 55.0 |
| | 3 | 228 45.1 | -10 2.2 | 253 44.3 | 16.5 | -0 44.5 | 14.6 | 55.0 |
| | 4 | 243 45.2 | -10 3.1 | 268 19.8 | 16.5 | -0 59.2 | 14.6 | 55.0 |
| | 5 | 258 45.3 | -10 4.0 | 282 55.3 | 16.5 | -1 13.8 | 14.6 | 54.9 |
| | 6 | 273 45.5 | -10 4.9 | 297 30.8 | 16.5 | -1 28.4 | 14.6 | 54.9 |
| | 7 | 288 45.6 | -10 5.8 | 312 6.4 | 16.6 | -1 43.0 | 14.6 | 54.9 |
| | 8 | 303 45.7 | -10 6.7 | 326 42.0 | 16.6 | -1 57.6 | 14.6 | 54.9 |
| | 9 | 318 45.8 | -10 7.6 | 341 17.5 | 16.6 | -2 12.1 | 14.6 | 54.9 |
| | 10 | 333 45.9 | -10 8.5 | 355 53.1 | 16.6 | -2 26.7 | 14.5 | 54.9 |
| | 11 | 348 46.0 | -10 9.4 | 10 28.7 | 16.6 | -2 41.2 | 14.5 | 54.8 |
| | 12 | 3 46.1 | -10 10.3 | 25 4.2 | 16.6 | -2 55.7 | 14.5 | 54.8 |
| | 13 | 18 46.2 | -10 11.2 | 39 39.8 | 16.6 | -3 10.2 | 14.5 | 54.8 |
| | 14 | 33 46.4 | -10 12.1 | 54 15.4 | 16.6 | -3 24.7 | 14.5 | 54.8 |
| | 15 | 48 46.5 | -10 13.0 | 68 50.9 | 16.6 | -3 39.2 | 14.4 | 54.8 |
| | 16 | 63 46.6 | -10 13.9 | 83 26.5 | 16.6 | -3 53.6 | 14.4 | 54.8 |
| | 17 | 78 46.7 | -10 14.8 | 98 2.1 | 16.6 | -4 8.0 | 14.4 | 54.8 |
| | 18 | 93 46.8 | -10 15.7 | 112 37.7 | 16.6 | -4 22.4 | 14.4 | 54.7 |
| | 19 | 108 46.9 | -10 16.6 | 127 13.2 | 16.6 | -4 36.8 | 14.3 | 54.7 |
| | 20 | 123 47.0 | -10 17.5 | 141 48.8 | 16.6 | -4 51.2 | 14.3 | 54.7 |
| | 21 | 138 47.1 | -10 18.4 | 156 24.3 | 16.5 | -5 5.5 | 14.3 | 54.7 |
| | 22 | 153 47.2 | -10 19.3 | 170 59.9 | 16.5 | -5 19.8 | 14.3 | 54.7 |
| | 23 | 168 47.3 | -10 20.2 | 185 35.4 | 16.5 | -5 34.0 | 14.2 | 54.7 |
| | | *v* 0.1 | SD 16.1 | *d* 0.9 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Monday** | 0 | 183 47.5 | -10 21.1 | 200 10.9 | 16.5 | -5 48.3 | 14.2 | 54.7 |
| | 1 | 198 47.6 | -10 22.0 | 214 46.5 | 16.5 | -6 2.5 | 14.2 | 54.6 |
| | 2 | 213 47.7 | -10 22.9 | 229 22.0 | 16.5 | -6 16.7 | 14.2 | 54.6 |
| | 3 | 228 47.8 | -10 23.8 | 243 57.5 | 16.5 | -6 30.9 | 14.1 | 54.6 |
| | 4 | 243 47.9 | -10 24.7 | 258 32.9 | 16.5 | -6 45.0 | 14.1 | 54.6 |
| | 5 | 258 48.0 | -10 25.6 | 273 8.4 | 16.4 | -6 59.1 | 14.1 | 54.6 |
| | 6 | 273 48.1 | -10 26.5 | 287 43.8 | 16.4 | -7 13.1 | 14.0 | 54.6 |
| | 7 | 288 48.2 | -10 27.4 | 302 19.3 | 16.4 | -7 27.2 | 14.0 | 54.6 |
| | 8 | 303 48.3 | -10 28.3 | 316 54.7 | 16.4 | -7 41.2 | 14.0 | 54.5 |
| | 9 | 318 48.4 | -10 29.2 | 331 30.1 | 16.4 | -7 55.1 | 13.9 | 54.5 |
| | 10 | 333 48.5 | -10 30.0 | 346 5.5 | 16.4 | -8 9.1 | 13.9 | 54.5 |
| | 11 | 348 48.6 | -10 30.9 | 0 40.8 | 16.3 | -8 22.9 | 13.9 | 54.5 |
| | 12 | 3 48.7 | -10 31.8 | 15 16.2 | 16.3 | -8 36.8 | 13.8 | 54.5 |
| | 13 | 18 48.8 | -10 32.7 | 29 51.5 | 16.3 | -8 50.6 | 13.8 | 54.5 |
| | 14 | 33 48.9 | -10 33.6 | 44 26.8 | 16.3 | -9 4.4 | 13.7 | 54.5 |
| | 15 | 48 49.0 | -10 34.5 | 59 2.1 | 16.2 | -9 18.1 | 13.7 | 54.5 |
| | 16 | 63 49.1 | -10 35.4 | 73 37.3 | 16.2 | -9 31.8 | 13.7 | 54.4 |
| | 17 | 78 49.2 | -10 36.3 | 88 12.5 | 16.2 | -9 45.5 | 13.6 | 54.4 |
| | 18 | 93 49.3 | -10 37.2 | 102 47.7 | 16.2 | -9 59.1 | 13.6 | 54.4 |
| | 19 | 108 49.5 | -10 38.1 | 117 22.9 | 16.1 | -10 12.7 | 13.5 | 54.4 |
| | 20 | 123 49.6 | -10 39.0 | 131 58.0 | 16.1 | -10 26.2 | 13.5 | 54.4 |
| | 21 | 138 49.7 | -10 39.9 | 146 33.1 | 16.1 | -10 39.7 | 13.4 | 54.4 |
| | 22 | 153 49.8 | -10 40.8 | 161 8.2 | 16.0 | -10 53.1 | 13.4 | 54.4 |
| | 23 | 168 49.9 | -10 41.6 | 175 43.3 | 16.0 | -11 6.5 | 13.3 | 54.4 |
| | | *v* 0.1 | SD 16.1 | *d* 0.9 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **21 Tuesday** | 0 | 183 50.0 | -10 42.5 | 190 18.3 | 16.0 | -11 19.9 | 13.3 | 54.4 |
| | 1 | 198 50.1 | -10 43.4 | 204 53.3 | 16.0 | -11 33.2 | 13.2 | 54.3 |
| | 2 | 213 50.2 | -10 44.3 | 219 28.2 | 15.9 | -11 46.4 | 13.2 | 54.3 |
| | 3 | 228 50.3 | -10 45.2 | 234 3.1 | 15.9 | -11 59.6 | 13.2 | 54.3 |
| | 4 | 243 50.4 | -10 46.1 | 248 38.0 | 15.8 | -12 12.8 | 13.1 | 54.3 |
| | 5 | 258 50.5 | -10 47.0 | 263 12.9 | 15.8 | -12 25.9 | 13.0 | 54.3 |
| | 6 | 273 50.6 | -10 47.9 | 277 47.7 | 15.8 | -12 38.9 | 13.0 | 54.3 |
| | 7 | 288 50.7 | -10 48.8 | 292 22.5 | 15.7 | -12 51.9 | 12.9 | 54.3 |
| | 8 | 303 50.8 | -10 49.6 | 306 57.2 | 15.7 | -13 4.8 | 12.9 | 54.3 |
| | 9 | 318 50.9 | -10 50.5 | 321 31.9 | 15.7 | -13 17.7 | 12.8 | 54.3 |
| | 10 | 333 51.0 | -10 51.4 | 336 6.6 | 15.6 | -13 30.6 | 12.8 | 54.3 |
| | 11 | 348 51.1 | -10 52.3 | 350 41.2 | 15.6 | -13 43.3 | 12.7 | 54.2 |
| | 12 | 3 51.2 | -10 53.2 | 5 15.7 | 15.5 | -13 56.1 | 12.7 | 54.2 |
| | 13 | 18 51.3 | -10 54.1 | 19 50.3 | 15.5 | -14 8.7 | 12.6 | 54.2 |
| | 14 | 33 51.3 | -10 55.0 | 34 24.8 | 15.5 | -14 21.3 | 12.5 | 54.2 |
| | 15 | 48 51.4 | -10 55.9 | 48 59.2 | 15.4 | -14 33.9 | 12.5 | 54.2 |
| | 16 | 63 51.5 | -10 56.7 | 63 33.6 | 15.4 | -14 46.3 | 12.4 | 54.2 |
| | 17 | 78 51.6 | -10 57.6 | 78 8.0 | 15.3 | -14 58.8 | 12.4 | 54.2 |
| | 18 | 93 51.7 | -10 58.5 | 92 42.3 | 15.3 | -15 11.1 | 12.3 | 54.2 |
| | 19 | 108 51.8 | -10 59.4 | 107 16.6 | 15.2 | -15 23.4 | 12.2 | 54.2 |
| | 20 | 123 51.9 | -11 0.3 | 121 50.8 | 15.2 | -15 35.7 | 12.2 | 54.2 |
| | 21 | 138 52.0 | -11 1.2 | 136 25.0 | 15.1 | -15 47.8 | 12.1 | 54.2 |
| | 22 | 153 52.1 | -11 2.0 | 150 59.1 | 15.1 | -15 59.9 | 12.0 | 54.1 |
| | 23 | 168 52.2 | -11 2.9 | 165 33.2 | 15.0 | -16 12.0 | 12.0 | 54.1 |
| | | *v* 0.1 | SD 16.1 | *d* 0.9 | | SD 14.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 05:14 | 06:32 | 07:45 | 15:43 | 16:56 | 18:14 |
| 70 | 05:15 | 06:26 | 07:31 | 15:57 | 17:02 | 18:12 |
| 68 | 05:16 | 06:21 | 07:20 | 16:09 | 17:07 | 18:11 |
| 66 | 05:17 | 06:17 | 07:10 | 16:18 | 17:12 | 18:11 |
| 64 | 05:18 | 06:13 | 07:02 | 16:26 | 17:15 | 18:10 |
| 62 | 05:18 | 06:10 | 06:56 | 16:33 | 17:19 | 18:10 |
| 60 | 05:19 | 06:07 | 06:50 | 16:39 | 17:22 | 18:10 |
| 58 | 05:19 | 06:04 | 06:45 | 16:44 | 17:24 | 18:10 |
| 56 | 05:19 | 06:02 | 06:40 | 16:49 | 17:27 | 18:10 |
| 54 | 05:19 | 06:00 | 06:36 | 16:53 | 17:29 | 18:10 |
| 52 | 05:18 | 05:58 | 06:32 | 16:57 | 17:31 | 18:10 |
| 50 | 05:18 | 05:56 | 06:29 | 17:00 | 17:33 | 18:11 |
| 45 | 05:17 | 05:51 | 06:21 | 17:08 | 17:38 | 18:12 |
| 40 | 05:16 | 05:47 | 06:15 | 17:14 | 17:42 | 18:13 |
| 35 | 05:14 | 05:44 | 06:09 | 17:20 | 17:46 | 18:15 |
| 30 | 05:12 | 05:40 | 06:05 | 17:25 | 17:49 | 18:17 |
| 20 | 05:08 | 05:34 | 05:56 | 17:33 | 17:56 | 18:21 |
| 10 | 05:03 | 05:27 | 05:49 | 17:41 | 18:02 | 18:27 |
| 0 | 04:56 | 05:21 | 05:42 | 17:48 | 18:09 | 18:34 |
| -10 | 04:48 | 05:13 | 05:34 | 17:56 | 18:17 | 18:42 |
| -20 | 04:38 | 05:04 | 05:27 | 18:04 | 18:26 | 18:53 |
| -30 | 04:24 | 04:53 | 05:18 | 18:13 | 18:37 | 19:06 |
| -35 | 04:15 | 04:46 | 05:12 | 18:18 | 18:44 | 19:15 |
| -40 | 04:05 | 04:38 | 05:06 | 18:24 | 18:52 | 19:26 |
| -45 | 03:51 | 04:29 | 04:59 | 18:31 | 19:02 | 19:40 |
| -50 | 03:34 | 04:17 | 04:51 | 18:40 | 19:15 | 19:57 |
| -52 | 03:26 | 04:11 | 04:47 | 18:44 | 19:20 | 20:05 |
| -54 | 03:17 | 04:05 | 04:42 | 18:49 | 19:27 | 20:15 |
| -56 | 03:06 | 03:57 | 04:38 | 18:54 | 19:34 | 20:26 |
| -58 | 02:53 | 03:49 | 04:32 | 18:59 | 19:42 | 20:39 |
| -60 | 02:38 | 03:40 | 04:26 | 19:05 | 19:52 | 20:55 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **19** | **20** | **21** | **19** | **20** | **21** |
| 72 | 04:22 | 06:24 | 08:40 | 15:37 | 15:01 | 14:12 |
| 70 | 04:20 | 06:13 | 08:13 | 15:42 | 15:15 | 14:41 |
| 68 | 04:19 | 06:03 | 07:53 | 15:47 | 15:27 | 15:03 |
| 66 | 04:18 | 05:56 | 07:38 | 15:50 | 15:36 | 15:20 |
| 64 | 04:17 | 05:50 | 07:25 | 15:53 | 15:44 | 15:34 |
| 62 | 04:16 | 05:44 | 07:14 | 15:56 | 15:51 | 15:46 |
| 60 | 04:15 | 05:39 | 07:05 | 15:58 | 15:57 | 15:56 |
| 58 | 04:14 | 05:35 | 06:57 | 16:00 | 16:02 | 16:05 |
| 56 | 04:14 | 05:32 | 06:50 | 16:02 | 16:07 | 16:13 |
| 54 | 04:13 | 05:28 | 06:44 | 16:04 | 16:11 | 16:20 |
| 52 | 04:13 | 05:25 | 06:38 | 16:06 | 16:15 | 16:26 |
| 50 | 04:13 | 05:23 | 06:33 | 16:07 | 16:19 | 16:32 |
| 45 | 04:12 | 05:17 | 06:22 | 16:10 | 16:27 | 16:45 |
| 40 | 04:11 | 05:12 | 06:13 | 16:13 | 16:33 | 16:55 |
| 35 | 04:10 | 05:08 | 06:06 | 16:15 | 16:39 | 17:04 |
| 30 | 04:10 | 05:04 | 05:59 | 16:17 | 16:44 | 17:12 |
| 20 | 04:09 | 04:58 | 05:48 | 16:21 | 16:52 | 17:25 |
| 10 | 04:08 | 04:53 | 05:38 | 16:24 | 17:00 | 17:37 |
| 0 | 04:07 | 04:47 | 05:28 | 16:27 | 17:07 | 17:48 |
| -10 | 04:07 | 04:42 | 05:19 | 16:29 | 17:14 | 18:00 |
| -20 | 04:06 | 04:37 | 05:09 | 16:33 | 17:22 | 18:12 |
| -30 | 04:05 | 04:31 | 04:58 | 16:36 | 17:31 | 18:26 |
| -35 | 04:04 | 04:28 | 04:52 | 16:38 | 17:36 | 18:34 |
| -40 | 04:04 | 04:24 | 04:45 | 16:40 | 17:42 | 18:43 |
| -45 | 04:03 | 04:19 | 04:36 | 16:43 | 17:48 | 18:54 |
| -50 | 04:03 | 04:14 | 04:26 | 16:46 | 17:57 | 19:07 |
| -52 | 04:02 | 04:12 | 04:22 | 16:48 | 18:00 | 19:13 |
| -54 | 04:02 | 04:09 | 04:17 | 16:50 | 18:04 | 19:20 |
| -56 | 04:02 | 04:06 | 04:11 | 16:51 | 18:09 | 19:28 |
| -58 | 04:01 | 04:03 | 04:05 | 16:53 | 18:14 | 19:37 |
| -60 | 04:01 | 03:59 | 03:58 | 16:56 | 18:20 | 19:47 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **19** | 14:59 | 15:05 | 11:45 | 10:17 | 22:37 | 27 | 6 |
| **20** | 15:10 | 15:15 | 11:45 | 10:57 | 23:18 | 28 | 2 |
| **21** | 15:20 | 15:25 | 11:45 | 11:38 | 24:00 | 29 | 0 |

## 2025 October 22, 23, 24 (Wed, Thu, Fri)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.5 GHA | Mars 1.5 Dec | Jupiter -2.3 GHA | Jupiter -2.3 Dec | Saturn 0.7 GHA | Saturn 0.7 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 Wednesday | 0 | 30 40.8 | 200 48.5 | -2 34.9 | 162 48.8 | -18 7.7 | 274 17.8 | 21 17.4 | 33 4.1 | -3 44.8 |
| | 1 | 45 43.3 | 215 48.1 | -2 36.1 | 177 49.5 | -18 8.2 | 289 20.1 | 21 17.3 | 48 6.7 | -3 44.8 |
| | 2 | 60 45.8 | 230 47.7 | -2 37.3 | 192 50.2 | -18 8.7 | 304 22.4 | 21 17.3 | 63 9.3 | -3 44.9 |
| | 3 | 75 48.2 | 245 47.3 | -2 38.5 | 207 50.8 | -18 9.2 | 319 24.7 | 21 17.3 | 78 11.9 | -3 44.9 |
| | 4 | 90 50.7 | 260 46.9 | -2 39.7 | 222 51.5 | -18 9.7 | 334 27.0 | 21 17.3 | 93 14.5 | -3 45.0 |
| | 5 | 105 53.2 | 275 46.5 | -2 41.0 | 237 52.2 | -18 10.2 | 349 29.3 | 21 17.2 | 108 17.1 | -3 45.0 |
| | 6 | 120 55.6 | 290 46.1 | -2 42.2 | 252 52.9 | -18 10.7 | 4 31.6 | 21 17.2 | 123 19.7 | -3 45.1 |
| | 7 | 135 58.1 | 305 45.7 | -2 43.4 | 267 53.6 | -18 11.2 | 19 33.9 | 21 17.2 | 138 22.3 | -3 45.1 |
| | 8 | 151 0.5 | 320 45.3 | -2 44.6 | 282 54.3 | -18 11.7 | 34 36.2 | 21 17.2 | 153 24.9 | -3 45.2 |
| | 9 | 166 3.0 | 335 44.9 | -2 45.9 | 297 55.0 | -18 12.2 | 49 38.5 | 21 17.2 | 168 27.5 | -3 45.2 |
| | 10 | 181 5.5 | 350 44.5 | -2 47.1 | 312 55.7 | -18 12.7 | 64 40.7 | 21 17.1 | 183 30.1 | -3 45.3 |
| | 11 | 196 7.9 | 5 44.1 | -2 48.3 | 327 56.3 | -18 13.1 | 79 43.0 | 21 17.1 | 198 32.7 | -3 45.3 |
| | 12 | 211 10.4 | 20 43.7 | -2 49.5 | 342 57.0 | -18 13.6 | 94 45.3 | 21 17.1 | 213 35.3 | -3 45.4 |
| | 13 | 226 12.9 | 35 43.3 | -2 50.7 | 357 57.7 | -18 14.1 | 109 47.6 | 21 17.1 | 228 37.9 | -3 45.4 |
| | 14 | 241 15.3 | 50 42.9 | -2 52.0 | 12 58.4 | -18 14.6 | 124 49.9 | 21 17.0 | 243 40.5 | -3 45.5 |
| | 15 | 256 17.8 | 65 42.5 | -2 53.2 | 27 59.1 | -18 15.1 | 139 52.2 | 21 17.0 | 258 43.1 | -3 45.6 |
| | 16 | 271 20.3 | 80 42.1 | -2 54.4 | 42 59.8 | -18 15.6 | 154 54.5 | 21 17.0 | 273 45.7 | -3 45.6 |
| | 17 | 286 22.7 | 95 41.7 | -2 55.6 | 58 0.5 | -18 16.1 | 169 56.8 | 21 17.0 | 288 48.3 | -3 45.7 |
| | 18 | 301 25.2 | 110 41.2 | -2 56.8 | 73 1.1 | -18 16.6 | 184 59.1 | 21 16.9 | 303 50.9 | -3 45.7 |
| | 19 | 316 27.7 | 125 40.8 | -2 58.1 | 88 1.8 | -18 17.1 | 200 1.4 | 21 16.9 | 318 53.5 | -3 45.8 |
| | 20 | 331 30.1 | 140 40.4 | -2 59.3 | 103 2.5 | -18 17.5 | 215 3.7 | 21 16.9 | 333 56.1 | -3 45.8 |
| | 21 | 346 32.6 | 155 40.0 | -3 0.5 | 118 3.2 | -18 18.0 | 230 6.0 | 21 16.9 | 348 58.7 | -3 45.9 |
| | 22 | 1 35.0 | 170 39.6 | -3 1.7 | 133 3.9 | -18 18.5 | 245 8.3 | 21 16.9 | 4 1.3 | -3 45.9 |
| | 23 | 16 37.5 | 185 39.2 | -3 2.9 | 148 4.6 | -18 19.0 | 260 10.6 | 21 16.8 | 19 3.9 | -3 46.0 |
| | | MP 21:55 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Thursday | 0 | 31 40.0 | 200 38.8 | -3 4.2 | 163 5.2 | -18 19.5 | 275 12.9 | 21 16.8 | 34 6.5 | -3 46.0 |
| | 1 | 46 42.4 | 215 38.4 | -3 5.4 | 178 5.9 | -18 20.0 | 290 15.2 | 21 16.8 | 49 9.1 | -3 46.1 |
| | 2 | 61 44.9 | 230 38.0 | -3 6.6 | 193 6.6 | -18 20.5 | 305 17.5 | 21 16.8 | 64 11.7 | -3 46.1 |
| | 3 | 76 47.4 | 245 37.6 | -3 7.8 | 208 7.3 | -18 21.0 | 320 19.8 | 21 16.7 | 79 14.3 | -3 46.2 |
| | 4 | 91 49.8 | 260 37.2 | -3 9.0 | 223 8.0 | -18 21.4 | 335 22.1 | 21 16.7 | 94 16.9 | -3 46.2 |
| | 5 | 106 52.3 | 275 36.8 | -3 10.3 | 238 8.7 | -18 21.9 | 350 24.4 | 21 16.7 | 109 19.5 | -3 46.3 |
| | 6 | 121 54.8 | 290 36.4 | -3 11.5 | 253 9.3 | -18 22.4 | 5 26.7 | 21 16.7 | 124 22.1 | -3 46.3 |
| | 7 | 136 57.2 | 305 36.0 | -3 12.7 | 268 10.0 | -18 22.9 | 20 29.0 | 21 16.7 | 139 24.7 | -3 46.4 |
| | 8 | 151 59.7 | 320 35.6 | -3 13.9 | 283 10.7 | -18 23.4 | 35 31.3 | 21 16.6 | 154 27.3 | -3 46.4 |
| | 9 | 167 2.1 | 335 35.2 | -3 15.1 | 298 11.4 | -18 23.9 | 50 33.6 | 21 16.6 | 169 29.9 | -3 46.5 |
| | 10 | 182 4.6 | 350 34.8 | -3 16.4 | 313 12.1 | -18 24.4 | 65 35.9 | 21 16.6 | 184 32.5 | -3 46.5 |
| | 11 | 197 7.1 | 5 34.4 | -3 17.6 | 328 12.7 | -18 24.8 | 80 38.2 | 21 16.6 | 199 35.1 | -3 46.6 |
| | 12 | 212 9.5 | 20 33.9 | -3 18.8 | 343 13.4 | -18 25.3 | 95 40.5 | 21 16.5 | 214 37.7 | -3 46.7 |
| | 13 | 227 12.0 | 35 33.5 | -3 20.0 | 358 14.1 | -18 25.8 | 110 42.8 | 21 16.5 | 229 40.3 | -3 46.7 |
| | 14 | 242 14.5 | 50 33.1 | -3 21.2 | 13 14.8 | -18 26.3 | 125 45.1 | 21 16.5 | 244 42.9 | -3 46.8 |
| | 15 | 257 16.9 | 65 32.7 | -3 22.5 | 28 15.5 | -18 26.8 | 140 47.4 | 21 16.5 | 259 45.5 | -3 46.8 |
| | 16 | 272 19.4 | 80 32.3 | -3 23.7 | 43 16.1 | -18 27.3 | 155 49.7 | 21 16.5 | 274 48.1 | -3 46.9 |
| | 17 | 287 21.9 | 95 31.9 | -3 24.9 | 58 16.8 | -18 27.7 | 170 52.0 | 21 16.4 | 289 50.7 | -3 46.9 |
| | 18 | 302 24.3 | 110 31.5 | -3 26.1 | 73 17.5 | -18 28.2 | 185 54.3 | 21 16.4 | 304 53.3 | -3 47.0 |
| | 19 | 317 26.8 | 125 31.1 | -3 27.3 | 88 18.2 | -18 28.7 | 200 56.6 | 21 16.4 | 319 55.9 | -3 47.0 |
| | 20 | 332 29.3 | 140 30.7 | -3 28.6 | 103 18.8 | -18 29.2 | 215 58.9 | 21 16.4 | 334 58.5 | -3 47.1 |
| | 21 | 347 31.7 | 155 30.3 | -3 29.8 | 118 19.5 | -18 29.7 | 231 1.2 | 21 16.3 | 350 1.1 | -3 47.1 |
| | 22 | 2 34.2 | 170 29.9 | -3 31.0 | 133 20.2 | -18 30.2 | 246 3.5 | 21 16.3 | 5 3.7 | -3 47.2 |
| | 23 | 17 36.6 | 185 29.5 | -3 32.2 | 148 20.9 | -18 30.6 | 261 5.8 | 21 16.3 | 20 6.3 | -3 47.2 |
| | | MP 21:51 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 Friday | 0 | 32 39.1 | 200 29.1 | -3 33.4 | 163 21.6 | -18 31.1 | 276 8.1 | 21 16.3 | 35 8.9 | -3 47.3 |
| | 1 | 47 41.6 | 215 28.6 | -3 34.6 | 178 22.2 | -18 31.6 | 291 10.4 | 21 16.3 | 50 11.5 | -3 47.3 |
| | 2 | 62 44.0 | 230 28.2 | -3 35.9 | 193 22.9 | -18 32.1 | 306 12.7 | 21 16.2 | 65 14.0 | -3 47.4 |
| | 3 | 77 46.5 | 245 27.8 | -3 37.1 | 208 23.6 | -18 32.6 | 321 15.0 | 21 16.2 | 80 16.6 | -3 47.4 |
| | 4 | 92 49.0 | 260 27.4 | -3 38.3 | 223 24.3 | -18 33.0 | 336 17.3 | 21 16.2 | 95 19.2 | -3 47.5 |
| | 5 | 107 51.4 | 275 27.0 | -3 39.5 | 238 24.9 | -18 33.5 | 351 19.6 | 21 16.2 | 110 21.8 | -3 47.5 |
| | 6 | 122 53.9 | 290 26.6 | -3 40.7 | 253 25.6 | -18 34.0 | 6 21.9 | 21 16.2 | 125 24.4 | -3 47.6 |
| | 7 | 137 56.4 | 305 26.2 | -3 42.0 | 268 26.3 | -18 34.5 | 21 24.2 | 21 16.1 | 140 27.0 | -3 47.6 |
| | 8 | 152 58.8 | 320 25.8 | -3 43.2 | 283 27.0 | -18 35.0 | 36 26.6 | 21 16.1 | 155 29.6 | -3 47.7 |
| | 9 | 168 1.3 | 335 25.4 | -3 44.4 | 298 27.6 | -18 35.4 | 51 28.9 | 21 16.1 | 170 32.2 | -3 47.7 |
| | 10 | 183 3.8 | 350 25.0 | -3 45.6 | 313 28.3 | -18 35.9 | 66 31.2 | 21 16.1 | 185 34.8 | -3 47.8 |
| | 11 | 198 6.2 | 5 24.6 | -3 46.8 | 328 29.0 | -18 36.4 | 81 33.5 | 21 16.1 | 200 37.4 | -3 47.8 |
| | 12 | 213 8.7 | 20 24.1 | -3 48.0 | 343 29.6 | -18 36.9 | 96 35.8 | 21 16.0 | 215 40.0 | -3 47.9 |
| | 13 | 228 11.1 | 35 23.7 | -3 49.3 | 358 30.3 | -18 37.3 | 111 38.1 | 21 16.0 | 230 42.6 | -3 47.9 |
| | 14 | 243 13.6 | 50 23.3 | -3 50.5 | 13 31.0 | -18 37.8 | 126 40.4 | 21 16.0 | 245 45.2 | -3 48.0 |
| | 15 | 258 16.1 | 65 22.9 | -3 51.7 | 28 31.7 | -18 38.3 | 141 42.7 | 21 16.0 | 260 47.8 | -3 48.0 |
| | 16 | 273 18.5 | 80 22.5 | -3 52.9 | 43 32.3 | -18 38.8 | 156 45.0 | 21 16.0 | 275 50.4 | -3 48.1 |
| | 17 | 288 21.0 | 95 22.1 | -3 54.1 | 58 33.0 | -18 39.3 | 171 47.3 | 21 15.9 | 290 53.0 | -3 48.1 |
| | 18 | 303 23.5 | 110 21.7 | -3 55.3 | 73 33.7 | -18 39.7 | 186 49.7 | 21 15.9 | 305 55.6 | -3 48.2 |
| | 19 | 318 25.9 | 125 21.3 | -3 56.6 | 88 34.4 | -18 40.2 | 201 52.0 | 21 15.9 | 320 58.1 | -3 48.2 |
| | 20 | 333 28.4 | 140 20.9 | -3 57.8 | 103 35.0 | -18 40.7 | 216 54.3 | 21 15.9 | 336 0.7 | -3 48.3 |
| | 21 | 348 30.9 | 155 20.4 | -3 59.0 | 118 35.7 | -18 41.2 | 231 56.6 | 21 15.8 | 351 3.3 | -3 48.3 |
| | 22 | 3 33.3 | 170 20.0 | -4 0.2 | 133 36.4 | -18 41.6 | 246 58.9 | 21 15.8 | 6 5.9 | -3 48.4 |
| | 23 | 18 35.8 | 185 19.6 | -4 1.4 | 148 37.0 | -18 42.1 | 262 1.2 | 21 15.8 | 21 8.5 | -3 48.4 |
| | | MP 21:47 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 11.9 |
| Achernar | 335 19.1 | -57 6.3 |
| Acrux | 173 0.1 | -63 14.4 |
| Adhara | 255 5.3 | -29 0.1 |
| Aldebaran | 290 38.6 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.1 |
| Alkaid | 152 52.0 | 49 11.1 |
| Alnair | 27 31.9 | -46 50.3 |
| Alnilam | 275 36.9 | -1 11.0 |
| Alphard | 217 47.3 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.4 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.9 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.7 | 19 3.0 |
| Atria | 107 9.4 | -69 4.6 |
| Avior | 234 14.6 | -59 35.1 |
| Bellatrix | 278 22.0 | 6 22.5 |
| Betelgeuse | 270 51.2 | 7 24.8 |
| Canopus | 263 51.9 | -52 42.2 |
| Capella | 280 20.7 | 46 1.3 |
| Deneb | 49 25.3 | 45 22.6 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.7 | 61 36.6 |
| Elnath | 278 0.8 | 28 37.7 |
| Eltanin | 90 42.2 | 51 29.3 |
| Enif | 33 38.0 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.1 |
| Gacrux | 171 51.5 | -57 15.3 |
| Gienah | 175 43.3 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.8 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.8 | -34 22.4 |
| Kochab | 137 20.9 | 74 3.0 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.2 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.7 |
| Miaplacidus | 221 38.5 | -69 49.0 |
| Mirfak | 308 26.9 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.7 | -56 39.3 |
| Pollux | 243 16.5 | 27 57.8 |
| Procyon | 244 50.1 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 33.9 | 11 50.5 |
| Rigel | 281 3.0 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.9 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.6 | -16 44.9 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.0 | -43 31.9 |
| Vega | 80 33.0 | 38 48.7 |
| Zuben'ubi | 136 55.7 | -16 8.9 |

| 22 Wed | SHA | MP |
|---|---|---|
| Venus | 170 7.7 | 10:37 |
| Mars | 132 7.9 | 13:08 |
| Jupiter | 243 37.0 | 05:42 |
| Saturn | 2 23.3 | 21:44 |

| 23 Thu | SHA | MP |
|---|---|---|
| Venus | 168 58.8 | 10:38 |
| Mars | 131 25.3 | 13:07 |
| Jupiter | 243 32.9 | 05:38 |
| Saturn | 2 26.6 | 21:40 |

| 24 Fri | SHA | MP |
|---|---|---|
| Venus | 167 49.9 | 10:38 |
| Mars | 130 42.4 | 13:06 |
| Jupiter | 243 29.0 | 05:35 |
| Saturn | 2 29.7 | 21:36 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **22 Wednesday** | 0 | 183 52.3 | -11 3.8 | 180 7.2 | 15.0 | -16 24.0 | 11.9 | 54.1 |
| | 1 | 198 52.4 | -11 4.7 | 194 41.2 | 14.9 | -16 35.9 | 11.8 | 54.1 |
| | 2 | 213 52.5 | -11 5.6 | 209 15.1 | 14.9 | -16 47.7 | 11.8 | 54.1 |
| | 3 | 228 52.6 | -11 6.5 | 223 49.0 | 14.8 | -16 59.5 | 11.7 | 54.1 |
| | 4 | 243 52.7 | -11 7.3 | 238 22.9 | 14.8 | -17 11.2 | 11.6 | 54.1 |
| | 5 | 258 52.8 | -11 8.2 | 252 56.6 | 14.7 | -17 22.8 | 11.6 | 54.1 |
| | 6 | 273 52.9 | -11 9.1 | 267 30.4 | 14.7 | -17 34.3 | 11.5 | 54.1 |
| | 7 | 288 53.0 | -11 10.0 | 282 4.0 | 14.6 | -17 45.8 | 11.4 | 54.1 |
| | 8 | 303 53.1 | -11 10.9 | 296 37.6 | 14.6 | -17 57.2 | 11.3 | 54.1 |
| | 9 | 318 53.1 | -11 11.8 | 311 11.2 | 14.5 | -18 8.6 | 11.3 | 54.1 |
| | 10 | 333 53.2 | -11 12.6 | 325 44.7 | 14.5 | -18 19.8 | 11.2 | 54.1 |
| | 11 | 348 53.3 | -11 13.5 | 340 18.2 | 14.4 | -18 31.0 | 11.1 | 54.1 |
| | 12 | 3 53.4 | -11 14.4 | 354 51.6 | 14.3 | -18 42.1 | 11.0 | 54.1 |
| | 13 | 18 53.5 | -11 15.3 | 9 24.9 | 14.3 | -18 53.1 | 10.9 | 54.0 |
| | 14 | 33 53.6 | -11 16.2 | 23 58.2 | 14.2 | -19 4.1 | 10.9 | 54.0 |
| | 15 | 48 53.7 | -11 17.0 | 38 31.4 | 14.2 | -19 15.0 | 10.8 | 54.0 |
| | 16 | 63 53.8 | -11 17.9 | 53 4.6 | 14.1 | -19 25.7 | 10.7 | 54.0 |
| | 17 | 78 53.9 | -11 18.8 | 67 37.7 | 14.1 | -19 36.5 | 10.6 | 54.0 |
| | 18 | 93 54.0 | -11 19.7 | 82 10.8 | 14.0 | -19 47.1 | 10.5 | 54.0 |
| | 19 | 108 54.0 | -11 20.5 | 96 43.8 | 13.9 | -19 57.6 | 10.5 | 54.0 |
| | 20 | 123 54.1 | -11 21.4 | 111 16.7 | 13.9 | -20 8.1 | 10.4 | 54.0 |
| | 21 | 138 54.2 | -11 22.3 | 125 49.6 | 13.8 | -20 18.5 | 10.3 | 54.0 |
| | 22 | 153 54.3 | -11 23.2 | 140 22.4 | 13.8 | -20 28.7 | 10.2 | 54.0 |
| | 23 | 168 54.4 | -11 24.1 | 154 55.1 | 13.7 | -20 38.9 | 10.1 | 54.0 |
| | | *v* 0.1 | SD 16.1 | *d* 0.9 | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Thursday** | 0 | 183 54.5 | -11 24.9 | 169 27.8 | 13.6 | -20 49.1 | 10.0 | 54.0 |
| | 1 | 198 54.6 | -11 25.8 | 184 0.5 | 13.6 | -20 59.1 | 9.9 | 54.0 |
| | 2 | 213 54.7 | -11 26.7 | 198 33.1 | 13.5 | -21 9.0 | 9.8 | 54.0 |
| | 3 | 228 54.7 | -11 27.6 | 213 5.6 | 13.5 | -21 18.9 | 9.8 | 54.0 |
| | 4 | 243 54.8 | -11 28.4 | 227 38.0 | 13.4 | -21 28.6 | 9.7 | 54.0 |
| | 5 | 258 54.9 | -11 29.3 | 242 10.4 | 13.3 | -21 38.3 | 9.6 | 54.0 |
| | 6 | 273 55.0 | -11 30.2 | 256 42.7 | 13.3 | -21 47.9 | 9.5 | 54.0 |
| | 7 | 288 55.1 | -11 31.1 | 271 15.0 | 13.2 | -21 57.3 | 9.4 | 54.0 |
| | 8 | 303 55.2 | -11 31.9 | 285 47.2 | 13.1 | -22 6.7 | 9.3 | 54.0 |
| | 9 | 318 55.3 | -11 32.8 | 300 19.4 | 13.1 | -22 16.0 | 9.2 | 54.0 |
| | 10 | 333 55.3 | -11 33.7 | 314 51.4 | 13.0 | -22 25.2 | 9.1 | 54.0 |
| | 11 | 348 55.4 | -11 34.6 | 329 23.5 | 13.0 | -22 34.3 | 9.0 | 54.0 |
| | 12 | 3 55.5 | -11 35.4 | 343 55.4 | 12.9 | -22 43.3 | 8.9 | 54.0 |
| | 13 | 18 55.6 | -11 36.3 | 358 27.3 | 12.8 | -22 52.2 | 8.8 | 54.0 |
| | 14 | 33 55.7 | -11 37.2 | 12 59.1 | 12.8 | -23 1.0 | 8.7 | 53.9 |
| | 15 | 48 55.8 | -11 38.0 | 27 30.9 | 12.7 | -23 9.7 | 8.6 | 53.9 |
| | 16 | 63 55.8 | -11 38.9 | 42 2.6 | 12.6 | -23 18.3 | 8.5 | 53.9 |
| | 17 | 78 55.9 | -11 39.8 | 56 34.3 | 12.6 | -23 26.8 | 8.4 | 53.9 |
| | 18 | 93 56.0 | -11 40.7 | 71 5.9 | 12.5 | -23 35.2 | 8.3 | 53.9 |
| | 19 | 108 56.1 | -11 41.5 | 85 37.4 | 12.5 | -23 43.5 | 8.2 | 53.9 |
| | 20 | 123 56.2 | -11 42.4 | 100 8.8 | 12.4 | -23 51.7 | 8.1 | 53.9 |
| | 21 | 138 56.2 | -11 43.3 | 114 40.2 | 12.3 | -23 59.8 | 8.0 | 53.9 |
| | 22 | 153 56.3 | -11 44.1 | 129 11.6 | 12.3 | -24 7.8 | 7.9 | 53.9 |
| | 23 | 168 56.4 | -11 45.0 | 143 42.8 | 12.2 | -24 15.7 | 7.8 | 53.9 |
| | | *v* 0.1 | SD 16.1 | *d* 0.9 | | SD 14.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **24 Friday** | 0 | 183 56.5 | -11 45.9 | 158 14.0 | 12.1 | -24 23.4 | 7.7 | 53.9 |
| | 1 | 198 56.6 | -11 46.7 | 172 45.2 | 12.1 | -24 31.1 | 7.6 | 53.9 |
| | 2 | 213 56.6 | -11 47.6 | 187 16.3 | 12.0 | -24 38.7 | 7.4 | 53.9 |
| | 3 | 228 56.7 | -11 48.5 | 201 47.3 | 12.0 | -24 46.1 | 7.3 | 53.9 |
| | 4 | 243 56.8 | -11 49.3 | 216 18.3 | 11.9 | -24 53.4 | 7.2 | 53.9 |
| | 5 | 258 56.9 | -11 50.2 | 230 49.2 | 11.8 | -25 0.7 | 7.1 | 53.9 |
| | 6 | 273 57.0 | -11 51.1 | 245 20.0 | 11.8 | -25 7.8 | 7.0 | 53.9 |
| | 7 | 288 57.0 | -11 51.9 | 259 50.8 | 11.7 | -25 14.8 | 6.9 | 53.9 |
| | 8 | 303 57.1 | -11 52.8 | 274 21.5 | 11.7 | -25 21.6 | 6.8 | 53.9 |
| | 9 | 318 57.2 | -11 53.7 | 288 52.2 | 11.6 | -25 28.4 | 6.7 | 53.9 |
| | 10 | 333 57.3 | -11 54.5 | 303 22.8 | 11.5 | -25 35.1 | 6.5 | 54.0 |
| | 11 | 348 57.3 | -11 55.4 | 317 53.3 | 11.5 | -25 41.6 | 6.4 | 54.0 |
| | 12 | 3 57.4 | -11 56.3 | 332 23.8 | 11.4 | -25 48.0 | 6.3 | 54.0 |
| | 13 | 18 57.5 | -11 57.1 | 346 54.3 | 11.4 | -25 54.3 | 6.2 | 54.0 |
| | 14 | 33 57.6 | -11 58.0 | 1 24.6 | 11.3 | -26 0.5 | 6.1 | 54.0 |
| | 15 | 48 57.7 | -11 58.9 | 15 55.0 | 11.3 | -26 6.6 | 6.0 | 54.0 |
| | 16 | 63 57.7 | -11 59.7 | 30 25.2 | 11.2 | -26 12.5 | 5.8 | 54.0 |
| | 17 | 78 57.8 | -12 0.6 | 44 55.4 | 11.2 | -26 18.4 | 5.7 | 54.0 |
| | 18 | 93 57.9 | -12 1.5 | 59 25.6 | 11.1 | -26 24.1 | 5.6 | 54.0 |
| | 19 | 108 58.0 | -12 2.3 | 73 55.7 | 11.0 | -26 29.7 | 5.5 | 54.0 |
| | 20 | 123 58.0 | -12 3.2 | 88 25.7 | 11.0 | -26 35.2 | 5.3 | 54.0 |
| | 21 | 138 58.1 | -12 4.1 | 102 55.7 | 10.9 | -26 40.5 | 5.2 | 54.0 |
| | 22 | 153 58.2 | -12 4.9 | 117 25.7 | 10.9 | -26 45.7 | 5.1 | 54.0 |
| | 23 | 168 58.2 | -12 5.8 | 131 55.5 | 10.8 | -26 50.8 | 5.0 | 54.0 |
| | | *v* 0.1 | SD 16.1 | *d* 0.9 | | SD 14.7 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 05:26 | 06:45 | 08:01 | 15:26 | 16:42 | 18:00 |
| 70 | 05:27 | 06:38 | 07:44 | 15:43 | 16:49 | 18:00 |
| 68 | 05:27 | 06:32 | 07:31 | 15:56 | 16:56 | 18:00 |
| 66 | 05:26 | 06:26 | 07:21 | 16:07 | 17:01 | 18:01 |
| 64 | 05:26 | 06:22 | 07:12 | 16:16 | 17:06 | 18:01 |
| 62 | 05:26 | 06:18 | 07:04 | 16:24 | 17:10 | 18:02 |
| 60 | 05:26 | 06:14 | 06:57 | 16:31 | 17:14 | 18:02 |
| 58 | 05:25 | 06:11 | 06:51 | 16:36 | 17:17 | 18:03 |
| 56 | 05:25 | 06:08 | 06:46 | 16:42 | 17:20 | 18:03 |
| 54 | 05:24 | 06:05 | 06:42 | 16:46 | 17:23 | 18:04 |
| 52 | 05:23 | 06:03 | 06:37 | 16:51 | 17:25 | 18:05 |
| 50 | 05:23 | 06:00 | 06:33 | 16:55 | 17:28 | 18:05 |
| 45 | 05:21 | 05:55 | 06:25 | 17:03 | 17:33 | 18:07 |
| 40 | 05:19 | 05:51 | 06:18 | 17:10 | 17:38 | 18:09 |
| 35 | 05:17 | 05:46 | 06:12 | 17:16 | 17:42 | 18:12 |
| 30 | 05:14 | 05:42 | 06:07 | 17:22 | 17:46 | 18:14 |
| 20 | 05:09 | 05:35 | 05:57 | 17:31 | 17:54 | 18:20 |
| 10 | 05:03 | 05:28 | 05:49 | 17:40 | 18:01 | 18:26 |
| 0 | 04:56 | 05:20 | 05:41 | 17:48 | 18:09 | 18:33 |
| -10 | 04:47 | 05:12 | 05:33 | 17:56 | 18:17 | 18:42 |
| -20 | 04:35 | 05:02 | 05:24 | 18:05 | 18:27 | 18:54 |
| -30 | 04:21 | 04:50 | 05:14 | 18:15 | 18:40 | 19:09 |
| -35 | 04:11 | 04:42 | 05:09 | 18:21 | 18:47 | 19:19 |
| -40 | 04:00 | 04:34 | 05:02 | 18:28 | 18:56 | 19:30 |
| -45 | 03:46 | 04:23 | 04:54 | 18:36 | 19:07 | 19:45 |
| -50 | 03:27 | 04:10 | 04:45 | 18:45 | 19:20 | 20:03 |
| -52 | 03:18 | 04:04 | 04:40 | 18:50 | 19:26 | 20:12 |
| -54 | 03:08 | 03:57 | 04:36 | 18:55 | 19:33 | 20:23 |
| -56 | 02:56 | 03:49 | 04:30 | 19:00 | 19:41 | 20:35 |
| -58 | 02:42 | 03:40 | 04:24 | 19:06 | 19:50 | 20:49 |
| -60 | 02:25 | 03:30 | 04:18 | 19:13 | 20:01 | 21:07 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **22** | **23** | **24** | **22** | **23** | **24** |
| 72 | | | | | | |
| 70 | 10:48 | | | 13:36 | | |
| 68 | 09:59 | | | 14:26 | | |
| 66 | 09:28 | 11:46 | | 14:58 | 14:14 | |
| 64 | 09:06 | 10:58 | | 15:22 | 15:03 | |
| 62 | 08:48 | 10:27 | 12:15 | 15:41 | 15:34 | 15:25 |
| 60 | 08:33 | 10:04 | 11:38 | 15:56 | 15:58 | 16:03 |
| 58 | 08:20 | 09:46 | 11:12 | 16:09 | 16:17 | 16:30 |
| 56 | 08:10 | 09:31 | 10:51 | 16:21 | 16:33 | 16:51 |
| 54 | 08:00 | 09:18 | 10:34 | 16:31 | 16:46 | 17:08 |
| 52 | 07:52 | 09:06 | 10:19 | 16:40 | 16:58 | 17:23 |
| 50 | 07:44 | 08:56 | 10:07 | 16:48 | 17:09 | 17:36 |
| 45 | 07:28 | 08:35 | 09:41 | 17:06 | 17:31 | 18:03 |
| 40 | 07:15 | 08:18 | 09:20 | 17:20 | 17:49 | 18:24 |
| 35 | 07:04 | 08:04 | 09:03 | 17:32 | 18:04 | 18:42 |
| 30 | 06:55 | 07:51 | 08:48 | 17:43 | 18:17 | 18:57 |
| 20 | 06:38 | 07:30 | 08:24 | 18:01 | 18:40 | 19:23 |
| 10 | 06:24 | 07:12 | 08:02 | 18:17 | 18:59 | 19:45 |
| 0 | 06:11 | 06:55 | 07:42 | 18:32 | 19:18 | 20:06 |
| -10 | 05:57 | 06:38 | 07:23 | 18:47 | 19:36 | 20:27 |
| -20 | 05:43 | 06:21 | 07:02 | 19:03 | 19:56 | 20:50 |
| -30 | 05:28 | 06:00 | 06:37 | 19:22 | 20:19 | 21:16 |
| -35 | 05:18 | 05:48 | 06:23 | 19:33 | 20:32 | 21:31 |
| -40 | 05:08 | 05:35 | 06:07 | 19:45 | 20:48 | 21:49 |
| -45 | 04:56 | 05:19 | 05:47 | 20:00 | 21:07 | 22:11 |
| -50 | 04:41 | 04:59 | 05:23 | 20:19 | 21:30 | 22:39 |
| -52 | 04:34 | 04:50 | 05:11 | 20:28 | 21:42 | 22:53 |
| -54 | 04:27 | 04:39 | 04:58 | 20:37 | 21:54 | 23:08 |
| -56 | 04:18 | 04:28 | 04:42 | 20:48 | 22:09 | 23:27 |
| -58 | 04:09 | 04:14 | 04:24 | 21:01 | 22:27 | 23:50 |
| -60 | 03:58 | 03:59 | 04:02 | 21:16 | 22:49 | –:– |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **22** | 15:29 | 15:34 | 11:44 | 12:21 | –:– | 0 | 0 |
| **23** | 15:38 | 15:42 | 11:44 | 13:06 | 00:43 | 1 | 2 |
| **24** | 15:46 | 15:50 | 11:44 | 13:54 | 01:30 | 2 | 5 |

## 2025 October 25, 26, 27 (Sat, Sun, Mon)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.5 GHA | Mars 1.5 Dec | Jupiter -2.3 GHA | Jupiter -2.3 Dec | Saturn 0.7 GHA | Saturn 0.7 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Saturday | 0 | 33 38.2 | 200 19.2 | -4 2.6 | 163 37.7 | -18 42.6 | 277 3.5 | 21 15.8 | 36 11.1 | -3 48.5 |
| | 1 | 48 40.7 | 215 18.8 | -4 3.9 | 178 38.4 | -18 43.1 | 292 5.8 | 21 15.8 | 51 13.7 | -3 48.5 |
| | 2 | 63 43.2 | 230 18.4 | -4 5.1 | 193 39.0 | -18 43.5 | 307 8.2 | 21 15.8 | 66 16.3 | -3 48.6 |
| | 3 | 78 45.6 | 245 18.0 | -4 6.3 | 208 39.7 | -18 44.0 | 322 10.5 | 21 15.7 | 81 18.9 | -3 48.6 |
| | 4 | 93 48.1 | 260 17.6 | -4 7.5 | 223 40.4 | -18 44.5 | 337 12.8 | 21 15.7 | 96 21.5 | -3 48.7 |
| | 5 | 108 50.6 | 275 17.1 | -4 8.7 | 238 41.0 | -18 45.0 | 352 15.1 | 21 15.7 | 111 24.1 | -3 48.7 |
| | 6 | 123 53.0 | 290 16.7 | -4 9.9 | 253 41.7 | -18 45.4 | 7 17.4 | 21 15.7 | 126 26.7 | -3 48.8 |
| | 7 | 138 55.5 | 305 16.3 | -4 11.2 | 268 42.4 | -18 45.9 | 22 19.7 | 21 15.7 | 141 29.3 | -3 48.8 |
| | 8 | 153 58.0 | 320 15.9 | -4 12.4 | 283 43.1 | -18 46.4 | 37 22.0 | 21 15.6 | 156 31.8 | -3 48.9 |
| | 9 | 169 0.4 | 335 15.5 | -4 13.6 | 298 43.7 | -18 46.9 | 52 24.4 | 21 15.6 | 171 34.4 | -3 48.9 |
| | 10 | 184 2.9 | 350 15.1 | -4 14.8 | 313 44.4 | -18 47.3 | 67 26.7 | 21 15.6 | 186 37.0 | -3 49.0 |
| | 11 | 199 5.4 | 5 14.7 | -4 16.0 | 328 45.1 | -18 47.8 | 82 29.0 | 21 15.6 | 201 39.6 | -3 49.0 |
| | 12 | 214 7.8 | 20 14.2 | -4 17.2 | 343 45.7 | -18 48.3 | 97 31.3 | 21 15.6 | 216 42.2 | -3 49.1 |
| | 13 | 229 10.3 | 35 13.8 | -4 18.4 | 358 46.4 | -18 48.7 | 112 33.6 | 21 15.5 | 231 44.8 | -3 49.1 |
| | 14 | 244 12.7 | 50 13.4 | -4 19.7 | 13 47.1 | -18 49.2 | 127 35.9 | 21 15.5 | 246 47.4 | -3 49.2 |
| | 15 | 259 15.2 | 65 13.0 | -4 20.9 | 28 47.7 | -18 49.7 | 142 38.3 | 21 15.5 | 261 50.0 | -3 49.2 |
| | 16 | 274 17.7 | 80 12.6 | -4 22.1 | 43 48.4 | -18 50.2 | 157 40.6 | 21 15.5 | 276 52.6 | -3 49.3 |
| | 17 | 289 20.1 | 95 12.2 | -4 23.3 | 58 49.0 | -18 50.6 | 172 42.9 | 21 15.5 | 291 55.2 | -3 49.3 |
| | 18 | 304 22.6 | 110 11.7 | -4 24.5 | 73 49.7 | -18 51.1 | 187 45.2 | 21 15.4 | 306 57.8 | -3 49.4 |
| | 19 | 319 25.1 | 125 11.3 | -4 25.7 | 88 50.4 | -18 51.6 | 202 47.5 | 21 15.4 | 322 0.4 | -3 49.4 |
| | 20 | 334 27.5 | 140 10.9 | -4 26.9 | 103 51.0 | -18 52.0 | 217 49.9 | 21 15.4 | 337 2.9 | -3 49.5 |
| | 21 | 349 30.0 | 155 10.5 | -4 28.2 | 118 51.7 | -18 52.5 | 232 52.2 | 21 15.4 | 352 5.5 | -3 49.5 |
| | 22 | 4 32.5 | 170 10.1 | -4 29.4 | 133 52.4 | -18 53.0 | 247 54.5 | 21 15.4 | 7 8.1 | -3 49.6 |
| | 23 | 19 34.9 | 185 9.7 | -4 30.6 | 148 53.0 | -18 53.4 | 262 56.8 | 21 15.3 | 22 10.7 | -3 49.6 |
| | | MP 21:43 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 Sunday | 0 | 34 37.4 | 200 9.2 | -4 31.8 | 163 53.7 | -18 53.9 | 277 59.1 | 21 15.3 | 37 13.3 | -3 49.7 |
| | 1 | 49 39.9 | 215 8.8 | -4 33.0 | 178 54.4 | -18 54.4 | 293 1.5 | 21 15.3 | 52 15.9 | -3 49.7 |
| | 2 | 64 42.3 | 230 8.4 | -4 34.2 | 193 55.0 | -18 54.8 | 308 3.8 | 21 15.3 | 67 18.5 | -3 49.7 |
| | 3 | 79 44.8 | 245 8.0 | -4 35.4 | 208 55.7 | -18 55.3 | 323 6.1 | 21 15.3 | 82 21.1 | -3 49.8 |
| | 4 | 94 47.2 | 260 7.6 | -4 36.6 | 223 56.3 | -18 55.8 | 338 8.4 | 21 15.3 | 97 23.7 | -3 49.8 |
| | 5 | 109 49.7 | 275 7.2 | -4 37.9 | 238 57.0 | -18 56.3 | 353 10.8 | 21 15.2 | 112 26.2 | -3 49.9 |
| | 6 | 124 52.2 | 290 6.7 | -4 39.1 | 253 57.7 | -18 56.7 | 8 13.1 | 21 15.2 | 127 28.8 | -3 49.9 |
| | 7 | 139 54.6 | 305 6.3 | -4 40.3 | 268 58.3 | -18 57.2 | 23 15.4 | 21 15.2 | 142 31.4 | -3 50.0 |
| | 8 | 154 57.1 | 320 5.9 | -4 41.5 | 283 59.0 | -18 57.7 | 38 17.7 | 21 15.2 | 157 34.0 | -3 50.0 |
| | 9 | 169 59.6 | 335 5.5 | -4 42.7 | 298 59.6 | -18 58.1 | 53 20.0 | 21 15.2 | 172 36.6 | -3 50.1 |
| | 10 | 185 2.0 | 350 5.1 | -4 43.9 | 314 0.3 | -18 58.6 | 68 22.4 | 21 15.1 | 187 39.2 | -3 50.1 |
| | 11 | 200 4.5 | 5 4.7 | -4 45.1 | 329 1.0 | -18 59.1 | 83 24.7 | 21 15.1 | 202 41.8 | -3 50.2 |
| | 12 | 215 7.0 | 20 4.2 | -4 46.3 | 344 1.6 | -18 59.5 | 98 27.0 | 21 15.1 | 217 44.4 | -3 50.2 |
| | 13 | 230 9.4 | 35 3.8 | -4 47.6 | 359 2.3 | -19 0.0 | 113 29.3 | 21 15.1 | 232 47.0 | -3 50.3 |
| | 14 | 245 11.9 | 50 3.4 | -4 48.8 | 14 2.9 | -19 0.4 | 128 31.7 | 21 15.1 | 247 49.5 | -3 50.3 |
| | 15 | 260 14.4 | 65 3.0 | -4 50.0 | 29 3.6 | -19 0.9 | 143 34.0 | 21 15.1 | 262 52.1 | -3 50.4 |
| | 16 | 275 16.8 | 80 2.6 | -4 51.2 | 44 4.3 | -19 1.4 | 158 36.3 | 21 15.0 | 277 54.7 | -3 50.4 |
| | 17 | 290 19.3 | 95 2.1 | -4 52.4 | 59 4.9 | -19 1.8 | 173 38.7 | 21 15.0 | 292 57.3 | -3 50.5 |
| | 18 | 305 21.7 | 110 1.7 | -4 53.6 | 74 5.6 | -19 2.3 | 188 41.0 | 21 15.0 | 307 59.9 | -3 50.5 |
| | 19 | 320 24.2 | 125 1.3 | -4 54.8 | 89 6.2 | -19 2.8 | 203 43.3 | 21 15.0 | 323 2.5 | -3 50.6 |
| | 20 | 335 26.7 | 140 0.9 | -4 56.0 | 104 6.9 | -19 3.2 | 218 45.6 | 21 15.0 | 338 5.1 | -3 50.6 |
| | 21 | 350 29.1 | 155 0.5 | -4 57.2 | 119 7.6 | -19 3.7 | 233 48.0 | 21 15.0 | 353 7.7 | -3 50.7 |
| | 22 | 5 31.6 | 170 0.0 | -4 58.5 | 134 8.2 | -19 4.2 | 248 50.3 | 21 14.9 | 8 10.2 | -3 50.7 |
| | 23 | 20 34.1 | 184 59.6 | -4 59.7 | 149 8.9 | -19 4.6 | 263 52.6 | 21 14.9 | 23 12.8 | -3 50.7 |
| | | MP 21:39 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 Monday | 0 | 35 36.5 | 199 59.2 | -5 0.9 | 164 9.5 | -19 5.1 | 278 55.0 | 21 14.9 | 38 15.4 | -3 50.8 |
| | 1 | 50 39.0 | 214 58.8 | -5 2.1 | 179 10.2 | -19 5.5 | 293 57.3 | 21 14.9 | 53 18.0 | -3 50.8 |
| | 2 | 65 41.5 | 229 58.3 | -5 3.3 | 194 10.8 | -19 6.0 | 308 59.6 | 21 14.9 | 68 20.6 | -3 50.9 |
| | 3 | 80 43.9 | 244 57.9 | -5 4.5 | 209 11.5 | -19 6.5 | 324 1.9 | 21 14.9 | 83 23.2 | -3 50.9 |
| | 4 | 95 46.4 | 259 57.5 | -5 5.7 | 224 12.2 | -19 6.9 | 339 4.3 | 21 14.8 | 98 25.8 | -3 51.0 |
| | 5 | 110 48.9 | 274 57.1 | -5 6.9 | 239 12.8 | -19 7.4 | 354 6.6 | 21 14.8 | 113 28.4 | -3 51.0 |
| | 6 | 125 51.3 | 289 56.7 | -5 8.1 | 254 13.5 | -19 7.9 | 9 8.9 | 21 14.8 | 128 30.9 | -3 51.1 |
| | 7 | 140 53.8 | 304 56.2 | -5 9.3 | 269 14.1 | -19 8.3 | 24 11.3 | 21 14.8 | 143 33.5 | -3 51.1 |
| | 8 | 155 56.2 | 319 55.8 | -5 10.5 | 284 14.8 | -19 8.8 | 39 13.6 | 21 14.8 | 158 36.1 | -3 51.2 |
| | 9 | 170 58.7 | 334 55.4 | -5 11.8 | 299 15.4 | -19 9.2 | 54 15.9 | 21 14.7 | 173 38.7 | -3 51.2 |
| | 10 | 186 1.2 | 349 55.0 | -5 13.0 | 314 16.1 | -19 9.7 | 69 18.3 | 21 14.7 | 188 41.3 | -3 51.3 |
| | 11 | 201 3.6 | 4 54.5 | -5 14.2 | 329 16.7 | -19 10.2 | 84 20.6 | 21 14.7 | 203 43.9 | -3 51.3 |
| | 12 | 216 6.1 | 19 54.1 | -5 15.4 | 344 17.4 | -19 10.6 | 99 22.9 | 21 14.7 | 218 46.5 | -3 51.3 |
| | 13 | 231 8.6 | 34 53.7 | -5 16.6 | 359 18.0 | -19 11.1 | 114 25.3 | 21 14.7 | 233 49.0 | -3 51.4 |
| | 14 | 246 11.0 | 49 53.3 | -5 17.8 | 14 18.7 | -19 11.5 | 129 27.6 | 21 14.7 | 248 51.6 | -3 51.4 |
| | 15 | 261 13.5 | 64 52.8 | -5 19.0 | 29 19.3 | -19 12.0 | 144 29.9 | 21 14.7 | 263 54.2 | -3 51.5 |
| | 16 | 276 16.0 | 79 52.4 | -5 20.2 | 44 20.0 | -19 12.5 | 159 32.3 | 21 14.6 | 278 56.8 | -3 51.5 |
| | 17 | 291 18.4 | 94 52.0 | -5 21.4 | 59 20.6 | -19 12.9 | 174 34.6 | 21 14.6 | 293 59.4 | -3 51.6 |
| | 18 | 306 20.9 | 109 51.6 | -5 22.6 | 74 21.3 | -19 13.4 | 189 36.9 | 21 14.6 | 309 2.0 | -3 51.6 |
| | 19 | 321 23.3 | 124 51.1 | -5 23.8 | 89 21.9 | -19 13.8 | 204 39.3 | 21 14.6 | 324 4.5 | -3 51.7 |
| | 20 | 336 25.8 | 139 50.7 | -5 25.0 | 104 22.6 | -19 14.3 | 219 41.6 | 21 14.6 | 339 7.1 | -3 51.7 |
| | 21 | 351 28.3 | 154 50.3 | -5 26.2 | 119 23.3 | -19 14.7 | 234 43.9 | 21 14.6 | 354 9.7 | -3 51.8 |
| | 22 | 6 30.7 | 169 49.9 | -5 27.4 | 134 23.9 | -19 15.2 | 249 46.3 | 21 14.5 | 9 12.3 | -3 51.8 |
| | 23 | 21 33.2 | 184 49.4 | -5 28.7 | 149 24.6 | -19 15.7 | 264 48.6 | 21 14.5 | 24 14.9 | -3 51.8 |
| | | MP 21:35 | *v* -0.4 | *d* 1.2 | *v* 0.7 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 11.9 |
| Achernar | 335 19.1 | -57 6.3 |
| Acrux | 173 0.1 | -63 14.4 |
| Adhara | 255 5.2 | -29 0.1 |
| Aldebaran | 290 38.6 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.1 |
| Alkaid | 152 52.0 | 49 11.1 |
| Alnair | 27 31.9 | -46 50.3 |
| Alnilam | 275 36.9 | -1 11.0 |
| Alphard | 217 47.2 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.4 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.9 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.7 | 19 2.9 |
| Atria | 107 9.4 | -69 4.6 |
| Avior | 234 14.5 | -59 35.1 |
| Bellatrix | 278 22.0 | 6 22.5 |
| Betelgeuse | 270 51.2 | 7 24.8 |
| Canopus | 263 51.9 | -52 42.2 |
| Capella | 280 20.6 | 46 1.3 |
| Deneb | 49 25.3 | 45 22.6 |
| Denebola | 182 24.6 | 14 25.7 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.7 | 61 36.5 |
| Elnath | 278 0.8 | 28 37.7 |
| Eltanin | 90 42.2 | 51 29.3 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.1 |
| Gacrux | 171 51.5 | -57 15.3 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.8 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.9 | 74 3.0 |
| Markab | 13 29.0 | 15 20.8 |
| Menkar | 314 5.2 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.7 |
| Miaplacidus | 221 38.4 | -69 49.0 |
| Mirfak | 308 26.9 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.7 | -56 39.3 |
| Pollux | 243 16.5 | 27 57.8 |
| Procyon | 244 50.1 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 33.9 | 11 50.5 |
| Rigel | 281 3.0 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.9 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.5 | -16 44.9 |
| Spica | 158 22.0 | -11 17.7 |
| Suhail | 222 46.0 | -43 31.9 |
| Vega | 80 33.0 | 38 48.7 |
| Zuben'ubi | 136 55.7 | -16 8.9 |

| 25 Sat | SHA | MP |
|---|---|---|
| Venus | 166 41.0 | 10:39 |
| Mars | 129 59.5 | 13:05 |
| Jupiter | 243 25.3 | 05:31 |
| Saturn | 2 32.9 | 21:32 |

| 26 Sun | SHA | MP |
|---|---|---|
| Venus | 165 31.9 | 10:40 |
| Mars | 129 16.3 | 13:04 |
| Jupiter | 243 21.8 | 05:27 |
| Saturn | 2 35.9 | 21:27 |

| 27 Mon | SHA | MP |
|---|---|---|
| Venus | 164 22.7 | 10:40 |
| Mars | 128 33.0 | 13:03 |
| Jupiter | 243 18.4 | 05:23 |
| Saturn | 2 38.9 | 21:23 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **25 Saturday** | 0 | 183 58.3 | -12 6.6 | 146 25.4 | 10.8 | -26 55.8 | 4.8 | 54.0 |
| | 1 | 198 58.4 | -12 7.5 | 160 55.2 | 10.7 | -27 0.6 | 4.7 | 54.0 |
| | 2 | 213 58.5 | -12 8.4 | 175 24.9 | 10.7 | -27 5.4 | 4.6 | 54.0 |
| | 3 | 228 58.5 | -12 9.2 | 189 54.6 | 10.6 | -27 10.0 | 4.5 | 54.0 |
| | 4 | 243 58.6 | -12 10.1 | 204 24.2 | 10.6 | -27 14.4 | 4.3 | 54.0 |
| | 5 | 258 58.7 | -12 10.9 | 218 53.8 | 10.5 | -27 18.8 | 4.2 | 54.0 |
| | 6 | 273 58.7 | -12 11.8 | 233 23.4 | 10.5 | -27 23.0 | 4.1 | 54.0 |
| | 7 | 288 58.8 | -12 12.7 | 247 52.9 | 10.5 | -27 27.1 | 4.0 | 54.0 |
| | 8 | 303 58.9 | -12 13.5 | 262 22.3 | 10.4 | -27 31.0 | 3.8 | 54.0 |
| | 9 | 318 59.0 | -12 14.4 | 276 51.7 | 10.4 | -27 34.9 | 3.7 | 54.1 |
| | 10 | 333 59.0 | -12 15.2 | 291 21.1 | 10.3 | -27 38.6 | 3.6 | 54.1 |
| | 11 | 348 59.1 | -12 16.1 | 305 50.4 | 10.3 | -27 42.1 | 3.4 | 54.1 |
| | 12 | 3 59.2 | -12 16.9 | 320 19.7 | 10.2 | -27 45.6 | 3.3 | 54.1 |
| | 13 | 18 59.2 | -12 17.8 | 334 48.9 | 10.2 | -27 48.9 | 3.2 | 54.1 |
| | 14 | 33 59.3 | -12 18.7 | 349 18.1 | 10.2 | -27 52.0 | 3.0 | 54.1 |
| | 15 | 48 59.4 | -12 19.5 | 3 47.3 | 10.1 | -27 55.1 | 2.9 | 54.1 |
| | 16 | 63 59.4 | -12 20.4 | 18 16.4 | 10.1 | -27 58.0 | 2.8 | 54.1 |
| | 17 | 78 59.5 | -12 21.2 | 32 45.5 | 10.1 | -28 0.8 | 2.6 | 54.1 |
| | 18 | 93 59.6 | -12 22.1 | 47 14.6 | 10.0 | -28 3.4 | 2.5 | 54.1 |
| | 19 | 108 59.6 | -12 22.9 | 61 43.6 | 10.0 | -28 5.9 | 2.4 | 54.1 |
| | 20 | 123 59.7 | -12 23.8 | 76 12.6 | 10.0 | -28 8.3 | 2.2 | 54.1 |
| | 21 | 138 59.8 | -12 24.7 | 90 41.5 | 9.9 | -28 10.5 | 2.1 | 54.1 |
| | 22 | 153 59.8 | -12 25.5 | 105 10.5 | 9.9 | -28 12.6 | 2.0 | 54.2 |
| | 23 | 168 59.9 | -12 26.4 | 119 39.3 | 9.9 | -28 14.5 | 1.8 | 54.2 |
| | | *v* 0.1 | SD 16.1 *d* 0.9 | | SD 14.7 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **26 Sunday** | 0 | 184 0.0 | -12 27.2 | 134 8.2 | 9.8 | -28 16.4 | 1.7 | 54.2 |
| | 1 | 199 0.0 | -12 28.1 | 148 37.0 | 9.8 | -28 18.1 | 1.6 | 54.2 |
| | 2 | 214 0.1 | -12 28.9 | 163 5.8 | 9.8 | -28 19.6 | 1.4 | 54.2 |
| | 3 | 229 0.2 | -12 29.8 | 177 34.6 | 9.8 | -28 21.0 | 1.3 | 54.2 |
| | 4 | 244 0.2 | -12 30.6 | 192 3.4 | 9.7 | -28 22.3 | 1.1 | 54.2 |
| | 5 | 259 0.3 | -12 31.5 | 206 32.1 | 9.7 | -28 23.4 | 1.0 | 54.2 |
| | 6 | 274 0.4 | -12 32.3 | 221 0.8 | 9.7 | -28 24.4 | 0.9 | 54.2 |
| | 7 | 289 0.4 | -12 33.2 | 235 29.5 | 9.7 | -28 25.3 | 0.7 | 54.3 |
| | 8 | 304 0.5 | -12 34.0 | 249 58.2 | 9.6 | -28 26.0 | 0.6 | 54.3 |
| | 9 | 319 0.5 | -12 34.9 | 264 26.8 | 9.6 | -28 26.6 | 0.4 | 54.3 |
| | 10 | 334 0.6 | -12 35.7 | 278 55.5 | 9.6 | -28 27.0 | 0.3 | 54.3 |
| | 11 | 349 0.7 | -12 36.6 | 293 24.1 | 9.6 | -28 27.3 | 0.2 | 54.3 |
| | 12 | 4 0.7 | -12 37.4 | 307 52.7 | 9.6 | -28 27.5 | 0.0 | 54.3 |
| | 13 | 19 0.8 | -12 38.3 | 322 21.2 | 9.6 | -28 27.5 | -0.1 | 54.3 |
| | 14 | 34 0.9 | -12 39.1 | 336 49.8 | 9.6 | -28 27.4 | -0.3 | 54.3 |
| | 15 | 49 0.9 | -12 40.0 | 351 18.4 | 9.5 | -28 27.2 | -0.4 | 54.4 |
| | 16 | 64 1.0 | -12 40.8 | 5 46.9 | 9.5 | -28 26.8 | -0.5 | 54.4 |
| | 17 | 79 1.0 | -12 41.7 | 20 15.5 | 9.5 | -28 26.2 | -0.7 | 54.4 |
| | 18 | 94 1.1 | -12 42.5 | 34 44.0 | 9.5 | -28 25.5 | -0.8 | 54.4 |
| | 19 | 109 1.2 | -12 43.4 | 49 12.5 | 9.5 | -28 24.7 | -1.0 | 54.4 |
| | 20 | 124 1.2 | -12 44.2 | 63 41.0 | 9.5 | -28 23.8 | -1.1 | 54.4 |
| | 21 | 139 1.3 | -12 45.1 | 78 9.5 | 9.5 | -28 22.7 | -1.2 | 54.4 |
| | 22 | 154 1.3 | -12 45.9 | 92 38.0 | 9.5 | -28 21.4 | -1.4 | 54.5 |
| | 23 | 169 1.4 | -12 46.7 | 107 6.5 | 9.5 | -28 20.0 | -1.5 | 54.5 |
| | | *v* 0.1 | SD 16.1 *d* 0.9 | | SD 14.8 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **27 Monday** | 0 | 184 1.4 | -12 47.6 | 121 35.0 | 9.5 | -28 18.5 | -1.7 | 54.5 |
| | 1 | 199 1.5 | -12 48.4 | 136 3.5 | 9.5 | -28 16.8 | -1.8 | 54.5 |
| | 2 | 214 1.6 | -12 49.3 | 150 32.0 | 9.5 | -28 15.0 | -1.9 | 54.5 |
| | 3 | 229 1.6 | -12 50.1 | 165 0.5 | 9.5 | -28 13.1 | -2.1 | 54.5 |
| | 4 | 244 1.7 | -12 51.0 | 179 29.0 | 9.5 | -28 11.0 | -2.2 | 54.6 |
| | 5 | 259 1.7 | -12 51.8 | 193 57.5 | 9.5 | -28 8.8 | -2.4 | 54.6 |
| | 6 | 274 1.8 | -12 52.7 | 208 26.0 | 9.5 | -28 6.4 | -2.5 | 54.6 |
| | 7 | 289 1.8 | -12 53.5 | 222 54.6 | 9.5 | -28 3.9 | -2.7 | 54.6 |
| | 8 | 304 1.9 | -12 54.3 | 237 23.1 | 9.5 | -28 1.2 | -2.8 | 54.6 |
| | 9 | 319 1.9 | -12 55.2 | 251 51.6 | 9.5 | -27 58.4 | -2.9 | 54.7 |
| | 10 | 334 2.0 | -12 56.0 | 266 20.2 | 9.6 | -27 55.5 | -3.1 | 54.7 |
| | 11 | 349 2.1 | -12 56.9 | 280 48.7 | 9.6 | -27 52.4 | -3.2 | 54.7 |
| | 12 | 4 2.1 | -12 57.7 | 295 17.3 | 9.6 | -27 49.2 | -3.4 | 54.7 |
| | 13 | 19 2.2 | -12 58.6 | 309 45.8 | 9.6 | -27 45.8 | -3.5 | 54.7 |
| | 14 | 34 2.2 | -12 59.4 | 324 14.4 | 9.6 | -27 42.3 | -3.6 | 54.8 |
| | 15 | 49 2.3 | -13 0.2 | 338 43.0 | 9.6 | -27 38.7 | -3.8 | 54.8 |
| | 16 | 64 2.3 | -13 1.1 | 353 11.7 | 9.6 | -27 34.9 | -3.9 | 54.8 |
| | 17 | 79 2.4 | -13 1.9 | 7 40.3 | 9.7 | -27 31.0 | -4.1 | 54.8 |
| | 18 | 94 2.4 | -13 2.8 | 22 8.9 | 9.7 | -27 27.0 | -4.2 | 54.8 |
| | 19 | 109 2.5 | -13 3.6 | 36 37.6 | 9.7 | -27 22.8 | -4.3 | 54.9 |
| | 20 | 124 2.5 | -13 4.4 | 51 6.3 | 9.7 | -27 18.4 | -4.5 | 54.9 |
| | 21 | 139 2.6 | -13 5.3 | 65 35.0 | 9.7 | -27 14.0 | -4.6 | 54.9 |
| | 22 | 154 2.6 | -13 6.1 | 80 3.7 | 9.8 | -27 9.4 | -4.7 | 54.9 |
| | 23 | 169 2.7 | -13 6.9 | 94 32.5 | 9.8 | -27 4.6 | -4.9 | 54.9 |
| | | *v* 0.1 | SD 16.1 *d* 0.8 | | SD 14.9 | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 05:39 | 06:59 | 08:17 | 15:09 | 16:28 | 17:47 |
| 70 | 05:38 | 06:50 | 07:58 | 15:29 | 16:37 | 17:49 |
| 68 | 05:37 | 06:42 | 07:43 | 15:44 | 16:45 | 17:50 |
| 66 | 05:35 | 06:36 | 07:31 | 15:56 | 16:51 | 17:51 |
| 64 | 05:34 | 06:30 | 07:21 | 16:06 | 16:57 | 17:52 |
| 62 | 05:33 | 06:25 | 07:12 | 16:15 | 17:02 | 17:53 |
| 60 | 05:32 | 06:21 | 07:05 | 16:22 | 17:06 | 17:55 |
| 58 | 05:31 | 06:17 | 06:58 | 16:29 | 17:10 | 17:56 |
| 56 | 05:30 | 06:14 | 06:53 | 16:35 | 17:13 | 17:57 |
| 54 | 05:29 | 06:11 | 06:47 | 16:40 | 17:17 | 17:58 |
| 52 | 05:28 | 06:08 | 06:43 | 16:45 | 17:20 | 17:59 |
| 50 | 05:27 | 06:05 | 06:38 | 16:49 | 17:22 | 18:00 |
| 45 | 05:25 | 05:59 | 06:29 | 16:58 | 17:28 | 18:03 |
| 40 | 05:22 | 05:54 | 06:21 | 17:06 | 17:34 | 18:06 |
| 35 | 05:19 | 05:49 | 06:15 | 17:13 | 17:39 | 18:08 |
| 30 | 05:16 | 05:44 | 06:09 | 17:19 | 17:43 | 18:11 |
| 20 | 05:10 | 05:36 | 05:58 | 17:29 | 17:52 | 18:18 |
| 10 | 05:03 | 05:28 | 05:49 | 17:39 | 18:00 | 18:25 |
| 0 | 04:55 | 05:20 | 05:41 | 17:47 | 18:09 | 18:33 |
| -10 | 04:45 | 05:10 | 05:32 | 17:56 | 18:18 | 18:43 |
| -20 | 04:33 | 05:00 | 05:22 | 18:06 | 18:29 | 18:55 |
| -30 | 04:17 | 04:47 | 05:11 | 18:17 | 18:42 | 19:12 |
| -35 | 04:07 | 04:39 | 05:05 | 18:24 | 18:50 | 19:22 |
| -40 | 03:55 | 04:29 | 04:58 | 18:31 | 19:00 | 19:34 |
| -45 | 03:40 | 04:18 | 04:49 | 18:40 | 19:11 | 19:50 |
| -50 | 03:20 | 04:04 | 04:39 | 18:50 | 19:25 | 20:10 |
| -52 | 03:11 | 03:57 | 04:34 | 18:55 | 19:32 | 20:19 |
| -54 | 02:59 | 03:50 | 04:29 | 19:00 | 19:40 | 20:31 |
| -56 | 02:47 | 03:41 | 04:23 | 19:06 | 19:49 | 20:44 |
| -58 | 02:31 | 03:32 | 04:16 | 19:13 | 19:58 | 21:00 |
| -60 | 02:12 | 03:20 | 04:09 | 19:21 | 20:10 | 21:19 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **25** | **26** | **27** | **25** | **26** | **27** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | | | | | | |
| 62 | 14:36 | | 15:50 | 14:49 | | 17:12 |
| 60 | 13:07 | 14:15 | 14:48 | 16:18 | 16:58 | 18:14 |
| 58 | 12:31 | 13:34 | 14:14 | 16:54 | 17:39 | 18:47 |
| 56 | 12:05 | 13:06 | 13:49 | 17:20 | 18:07 | 19:12 |
| 54 | 11:45 | 12:44 | 13:28 | 17:41 | 18:28 | 19:32 |
| 52 | 11:28 | 12:26 | 13:12 | 17:58 | 18:46 | 19:49 |
| 50 | 11:13 | 12:11 | 12:57 | 18:13 | 19:02 | 20:03 |
| 45 | 10:43 | 11:40 | 12:28 | 18:43 | 19:33 | 20:32 |
| 40 | 10:20 | 11:16 | 12:05 | 19:06 | 19:57 | 20:54 |
| 35 | 10:01 | 10:56 | 11:46 | 19:26 | 20:16 | 21:13 |
| 30 | 09:45 | 10:39 | 11:29 | 19:42 | 20:33 | 21:29 |
| 20 | 09:17 | 10:11 | 11:02 | 20:10 | 21:02 | 21:56 |
| 10 | 08:54 | 09:46 | 10:38 | 20:34 | 21:26 | 22:19 |
| 0 | 08:32 | 09:23 | 10:16 | 20:57 | 21:49 | 22:41 |
| -10 | 08:10 | 09:01 | 09:53 | 21:19 | 22:11 | 23:02 |
| -20 | 07:47 | 08:36 | 09:30 | 21:43 | 22:36 | 23:25 |
| -30 | 07:20 | 08:08 | 09:02 | 22:11 | 23:04 | 23:52 |
| -35 | 07:04 | 07:51 | 08:45 | 22:28 | 23:20 | –:– |
| -40 | 06:45 | 07:32 | 08:26 | 22:47 | 23:40 | –:– |
| -45 | 06:23 | 07:08 | 08:03 | 23:11 | –:– | 00:03 |
| -50 | 05:55 | 06:37 | 07:33 | 23:41 | –:– | 00:34 |
| -52 | 05:41 | 06:22 | 07:18 | 23:56 | –:– | 00:49 |
| -54 | 05:25 | 06:05 | 07:01 | –:– | 00:14 | 01:06 |
| -56 | 05:06 | 05:43 | 06:40 | –:– | 00:35 | 01:27 |
| -58 | 04:42 | 05:16 | 06:13 | –:– | 01:02 | 01:53 |
| -60 | 04:12 | 04:38 | 05:37 | 00:20 | 01:41 | 02:30 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **25** | 15:53 | 15:57 | 11:44 | 14:44 | 02:19 | 3 | 11 |
| **26** | 16:00 | 16:03 | 11:44 | 15:36 | 03:10 | 4 | 17 |
| **27** | 16:06 | 16:08 | 11:44 | 16:28 | 04:02 | 5 | 25 |

## 2025 October 28, 29, 30 (Tue, Wed, Thu)

| | | Aries | Venus -3.9 | | Mars 1.5 | | Jupiter -2.3 | | Saturn 0.7 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 28 Tuesday | 0 | 36 35.7 | 199 49.0 | -5 29.9 | 164 25.2 | -19 16.1 | 279 51.0 | 21 14.5 | 39 17.5 | -3 51.9 |
| | 1 | 51 38.1 | 214 48.6 | -5 31.1 | 179 25.9 | -19 16.6 | 294 53.3 | 21 14.5 | 54 20.0 | -3 51.9 |
| | 2 | 66 40.6 | 229 48.2 | -5 32.3 | 194 26.5 | -19 17.0 | 309 55.6 | 21 14.5 | 69 22.6 | -3 52.0 |
| | 3 | 81 43.1 | 244 47.7 | -5 33.5 | 209 27.2 | -19 17.5 | 324 58.0 | 21 14.5 | 84 25.2 | -3 52.0 |
| | 4 | 96 45.5 | 259 47.3 | -5 34.7 | 224 27.8 | -19 17.9 | 340 0.3 | 21 14.4 | 99 27.8 | -3 52.1 |
| | 5 | 111 48.0 | 274 46.9 | -5 35.9 | 239 28.4 | -19 18.4 | 355 2.7 | 21 14.4 | 114 30.4 | -3 52.1 |
| | 6 | 126 50.5 | 289 46.5 | -5 37.1 | 254 29.1 | -19 18.8 | 10 5.0 | 21 14.4 | 129 33.0 | -3 52.2 |
| | 7 | 141 52.9 | 304 46.0 | -5 38.3 | 269 29.7 | -19 19.3 | 25 7.3 | 21 14.4 | 144 35.5 | -3 52.2 |
| | 8 | 156 55.4 | 319 45.6 | -5 39.5 | 284 30.4 | -19 19.7 | 40 9.7 | 21 14.4 | 159 38.1 | -3 52.3 |
| | 9 | 171 57.8 | 334 45.2 | -5 40.7 | 299 31.0 | -19 20.2 | 55 12.0 | 21 14.4 | 174 40.7 | -3 52.3 |
| | 10 | 187 0.3 | 349 44.7 | -5 41.9 | 314 31.7 | -19 20.7 | 70 14.4 | 21 14.4 | 189 43.3 | -3 52.3 |
| | 11 | 202 2.8 | 4 44.3 | -5 43.1 | 329 32.3 | -19 21.1 | 85 16.7 | 21 14.3 | 204 45.9 | -3 52.4 |
| | 12 | 217 5.2 | 19 43.9 | -5 44.3 | 344 33.0 | -19 21.6 | 100 19.0 | 21 14.3 | 219 48.5 | -3 52.4 |
| | 13 | 232 7.7 | 34 43.4 | -5 45.5 | 359 33.6 | -19 22.0 | 115 21.4 | 21 14.3 | 234 51.0 | -3 52.5 |
| | 14 | 247 10.2 | 49 43.0 | -5 46.7 | 14 34.3 | -19 22.5 | 130 23.7 | 21 14.3 | 249 53.6 | -3 52.5 |
| | 15 | 262 12.6 | 64 42.6 | -5 47.9 | 29 34.9 | -19 22.9 | 145 26.1 | 21 14.3 | 264 56.2 | -3 52.6 |
| | 16 | 277 15.1 | 79 42.2 | -5 49.1 | 44 35.6 | -19 23.4 | 160 28.4 | 21 14.3 | 279 58.8 | -3 52.6 |
| | 17 | 292 17.6 | 94 41.7 | -5 50.3 | 59 36.2 | -19 23.8 | 175 30.7 | 21 14.2 | 295 1.4 | -3 52.7 |
| | 18 | 307 20.0 | 109 41.3 | -5 51.5 | 74 36.9 | -19 24.3 | 190 33.1 | 21 14.2 | 310 4.0 | -3 52.7 |
| | 19 | 322 22.5 | 124 40.9 | -5 52.7 | 89 37.5 | -19 24.7 | 205 35.4 | 21 14.2 | 325 6.5 | -3 52.7 |
| | 20 | 337 25.0 | 139 40.4 | -5 53.9 | 104 38.1 | -19 25.2 | 220 37.8 | 21 14.2 | 340 9.1 | -3 52.8 |
| | 21 | 352 27.4 | 154 40.0 | -5 55.1 | 119 38.8 | -19 25.6 | 235 40.1 | 21 14.2 | 355 11.7 | -3 52.8 |
| | 22 | 7 29.9 | 169 39.6 | -5 56.3 | 134 39.4 | -19 26.1 | 250 42.5 | 21 14.2 | 10 14.3 | -3 52.9 |
| | 23 | 22 32.3 | 184 39.1 | -5 57.5 | 149 40.1 | -19 26.5 | 265 44.8 | 21 14.2 | 25 16.9 | -3 52.9 |
| | | MP 21:31 | *v* -0.4 | *d* 1.2 | *v* 0.6 | *d* 0.5 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 Wednesday | 0 | 37 34.8 | 199 38.7 | -5 58.7 | 164 40.7 | -19 27.0 | 280 47.2 | 21 14.1 | 40 19.4 | -3 53.0 |
| | 1 | 52 37.3 | 214 38.3 | -5 59.9 | 179 41.4 | -19 27.4 | 295 49.5 | 21 14.1 | 55 22.0 | -3 53.0 |
| | 2 | 67 39.7 | 229 37.8 | -6 1.1 | 194 42.0 | -19 27.9 | 310 51.9 | 21 14.1 | 70 24.6 | -3 53.1 |
| | 3 | 82 42.2 | 244 37.4 | -6 2.3 | 209 42.6 | -19 28.3 | 325 54.2 | 21 14.1 | 85 27.2 | -3 53.1 |
| | 4 | 97 44.7 | 259 37.0 | -6 3.5 | 224 43.3 | -19 28.8 | 340 56.5 | 21 14.1 | 100 29.8 | -3 53.1 |
| | 5 | 112 47.1 | 274 36.5 | -6 4.7 | 239 43.9 | -19 29.2 | 355 58.9 | 21 14.1 | 115 32.3 | -3 53.2 |
| | 6 | 127 49.6 | 289 36.1 | -6 6.0 | 254 44.6 | -19 29.7 | 11 1.2 | 21 14.1 | 130 34.9 | -3 53.2 |
| | 7 | 142 52.1 | 304 35.7 | -6 7.2 | 269 45.2 | -19 30.1 | 26 3.6 | 21 14.0 | 145 37.5 | -3 53.3 |
| | 8 | 157 54.5 | 319 35.2 | -6 8.3 | 284 45.9 | -19 30.6 | 41 5.9 | 21 14.0 | 160 40.1 | -3 53.3 |
| | 9 | 172 57.0 | 334 34.8 | -6 9.5 | 299 46.5 | -19 31.0 | 56 8.3 | 21 14.0 | 175 42.7 | -3 53.4 |
| | 10 | 187 59.5 | 349 34.4 | -6 10.7 | 314 47.1 | -19 31.5 | 71 10.6 | 21 14.0 | 190 45.2 | -3 53.4 |
| | 11 | 203 1.9 | 4 33.9 | -6 11.9 | 329 47.8 | -19 31.9 | 86 13.0 | 21 14.0 | 205 47.8 | -3 53.4 |
| | 12 | 218 4.4 | 19 33.5 | -6 13.1 | 344 48.4 | -19 32.3 | 101 15.3 | 21 14.0 | 220 50.4 | -3 53.5 |
| | 13 | 233 6.8 | 34 33.1 | -6 14.3 | 359 49.1 | -19 32.8 | 116 17.7 | 21 14.0 | 235 53.0 | -3 53.5 |
| | 14 | 248 9.3 | 49 32.6 | -6 15.5 | 14 49.7 | -19 33.2 | 131 20.0 | 21 14.0 | 250 55.6 | -3 53.6 |
| | 15 | 263 11.8 | 64 32.2 | -6 16.7 | 29 50.3 | -19 33.7 | 146 22.4 | 21 13.9 | 265 58.1 | -3 53.6 |
| | 16 | 278 14.2 | 79 31.8 | -6 17.9 | 44 51.0 | -19 34.1 | 161 24.7 | 21 13.9 | 281 0.7 | -3 53.7 |
| | 17 | 293 16.7 | 94 31.3 | -6 19.1 | 59 51.6 | -19 34.6 | 176 27.1 | 21 13.9 | 296 3.3 | -3 53.7 |
| | 18 | 308 19.2 | 109 30.9 | -6 20.3 | 74 52.3 | -19 35.0 | 191 29.4 | 21 13.9 | 311 5.9 | -3 53.7 |
| | 19 | 323 21.6 | 124 30.5 | -6 21.5 | 89 52.9 | -19 35.5 | 206 31.8 | 21 13.9 | 326 8.4 | -3 53.8 |
| | 20 | 338 24.1 | 139 30.0 | -6 22.7 | 104 53.5 | -19 35.9 | 221 34.2 | 21 13.9 | 341 11.0 | -3 53.8 |
| | 21 | 353 26.6 | 154 29.6 | -6 23.9 | 119 54.2 | -19 36.4 | 236 36.5 | 21 13.9 | 356 13.6 | -3 53.9 |
| | 22 | 8 29.0 | 169 29.1 | -6 25.1 | 134 54.8 | -19 36.8 | 251 38.9 | 21 13.8 | 11 16.2 | -3 53.9 |
| | 23 | 23 31.5 | 184 28.7 | -6 26.3 | 149 55.4 | -19 37.2 | 266 41.2 | 21 13.8 | 26 18.8 | -3 54.0 |
| | | MP 21:27 | *v* -0.4 | *d* 1.2 | *v* 0.6 | *d* 0.4 | *v* 2.3 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Thursday | 0 | 38 33.9 | 199 28.3 | -6 27.5 | 164 56.1 | -19 37.7 | 281 43.6 | 21 13.8 | 41 21.3 | -3 54.0 |
| | 1 | 53 36.4 | 214 27.8 | -6 28.7 | 179 56.7 | -19 38.1 | 296 45.9 | 21 13.8 | 56 23.9 | -3 54.0 |
| | 2 | 68 38.9 | 229 27.4 | -6 29.9 | 194 57.4 | -19 38.6 | 311 48.3 | 21 13.8 | 71 26.5 | -3 54.1 |
| | 3 | 83 41.3 | 244 27.0 | -6 31.1 | 209 58.0 | -19 39.0 | 326 50.6 | 21 13.8 | 86 29.1 | -3 54.1 |
| | 4 | 98 43.8 | 259 26.5 | -6 32.3 | 224 58.6 | -19 39.4 | 341 53.0 | 21 13.8 | 101 31.6 | -3 54.2 |
| | 5 | 113 46.3 | 274 26.1 | -6 33.5 | 239 59.3 | -19 39.9 | 356 55.3 | 21 13.8 | 116 34.2 | -3 54.2 |
| | 6 | 128 48.7 | 289 25.6 | -6 34.7 | 254 59.9 | -19 40.3 | 11 57.7 | 21 13.7 | 131 36.8 | -3 54.2 |
| | 7 | 143 51.2 | 304 25.2 | -6 35.9 | 270 0.5 | -19 40.8 | 27 0.1 | 21 13.7 | 146 39.4 | -3 54.3 |
| | 8 | 158 53.7 | 319 24.8 | -6 37.1 | 285 1.2 | -19 41.2 | 42 2.4 | 21 13.7 | 161 42.0 | -3 54.3 |
| | 9 | 173 56.1 | 334 24.3 | -6 38.3 | 300 1.8 | -19 41.7 | 57 4.8 | 21 13.7 | 176 44.5 | -3 54.4 |
| | 10 | 188 58.6 | 349 23.9 | -6 39.5 | 315 2.4 | -19 42.1 | 72 7.1 | 21 13.7 | 191 47.1 | -3 54.4 |
| | 11 | 204 1.1 | 4 23.4 | -6 40.7 | 330 3.1 | -19 42.5 | 87 9.5 | 21 13.7 | 206 49.7 | -3 54.5 |
| | 12 | 219 3.5 | 19 23.0 | -6 41.9 | 345 3.7 | -19 43.0 | 102 11.8 | 21 13.7 | 221 52.3 | -3 54.5 |
| | 13 | 234 6.0 | 34 22.6 | -6 43.1 | 0 4.3 | -19 43.4 | 117 14.2 | 21 13.7 | 236 54.8 | -3 54.5 |
| | 14 | 249 8.4 | 49 22.1 | -6 44.2 | 15 5.0 | -19 43.9 | 132 16.6 | 21 13.6 | 251 57.4 | -3 54.6 |
| | 15 | 264 10.9 | 64 21.7 | -6 45.4 | 30 5.6 | -19 44.3 | 147 18.9 | 21 13.6 | 267 0.0 | -3 54.6 |
| | 16 | 279 13.4 | 79 21.2 | -6 46.6 | 45 6.2 | -19 44.7 | 162 21.3 | 21 13.6 | 282 2.6 | -3 54.7 |
| | 17 | 294 15.8 | 94 20.8 | -6 47.8 | 60 6.9 | -19 45.2 | 177 23.6 | 21 13.6 | 297 5.1 | -3 54.7 |
| | 18 | 309 18.3 | 109 20.4 | -6 49.0 | 75 7.5 | -19 45.6 | 192 26.0 | 21 13.6 | 312 7.7 | -3 54.7 |
| | 19 | 324 20.8 | 124 19.9 | -6 50.2 | 90 8.1 | -19 46.0 | 207 28.4 | 21 13.6 | 327 10.3 | -3 54.8 |
| | 20 | 339 23.2 | 139 19.5 | -6 51.4 | 105 8.8 | -19 46.5 | 222 30.7 | 21 13.6 | 342 12.9 | -3 54.8 |
| | 21 | 354 25.7 | 154 19.0 | -6 52.6 | 120 9.4 | -19 46.9 | 237 33.1 | 21 13.6 | 357 15.4 | -3 54.9 |
| | 22 | 9 28.2 | 169 18.6 | -6 53.8 | 135 10.0 | -19 47.4 | 252 35.4 | 21 13.6 | 12 18.0 | -3 54.9 |
| | 23 | 24 30.6 | 184 18.1 | -6 55.0 | 150 10.7 | -19 47.8 | 267 37.8 | 21 13.5 | 27 20.6 | -3 54.9 |
| | | MP 21:24 | *v* -0.4 | *d* 1.2 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 11.9 |
| Achernar | 335 19.1 | -57 6.3 |
| Acrux | 173 0.0 | -63 14.4 |
| Adhara | 255 5.2 | -29 0.1 |
| Aldebaran | 290 38.6 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.1 |
| Alkaid | 152 52.0 | 49 11.0 |
| Alnair | 27 31.9 | -46 50.3 |
| Alnilam | 275 36.9 | -1 11.0 |
| Alphard | 217 47.2 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.8 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.4 | 8 56.3 |
| Ankaa | 353 6.1 | -42 9.9 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.7 | 19 2.9 |
| Atria | 107 9.4 | -69 4.6 |
| Avior | 234 14.5 | -59 35.1 |
| Bellatrix | 278 22.0 | 6 22.5 |
| Betelgeuse | 270 51.2 | 7 24.8 |
| Canopus | 263 51.8 | -52 42.2 |
| Capella | 280 20.6 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.6 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.6 | 61 36.5 |
| Elnath | 278 0.8 | 28 37.7 |
| Eltanin | 90 42.2 | 51 29.3 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.1 |
| Gacrux | 171 51.5 | -57 15.3 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.8 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.9 | 74 2.9 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.2 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.7 |
| Miaplacidus | 221 38.4 | -69 49.0 |
| Mirfak | 308 26.9 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.7 | -56 39.3 |
| Pollux | 243 16.5 | 27 57.8 |
| Procyon | 244 50.1 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 33.9 | 11 50.5 |
| Rigel | 281 3.0 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 40.9 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.5 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 31.9 |
| Vega | 80 33.0 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 28 Tue | SHA | MP |
|---|---|---|
| Venus | 163 13.3 | 10:41 |
| Mars | 127 49.5 | 13:02 |
| Jupiter | 243 15.3 | 05:20 |
| Saturn | 2 41.8 | 21:19 |

| 29 Wed | SHA | MP |
|---|---|---|
| Venus | 162 3.9 | 10:42 |
| Mars | 127 5.9 | 13:01 |
| Jupiter | 243 12.4 | 05:16 |
| Saturn | 2 44.6 | 21:15 |

| 30 Thu | SHA | MP |
|---|---|---|
| Venus | 160 54.3 | 10:42 |
| Mars | 126 22.1 | 13:00 |
| Jupiter | 243 9.6 | 05:12 |
| Saturn | 2 47.4 | 21:11 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **28 Tuesday** | 0 | 184 2.7 | -13 7.8 | 109 1.3 | 9.8 | -26 59.7 | -5.0 | 55.0 |
| | 1 | 199 2.8 | -13 8.6 | 123 30.1 | 9.8 | -26 54.7 | -5.2 | 55.0 |
| | 2 | 214 2.8 | -13 9.4 | 137 58.9 | 9.8 | -26 49.5 | -5.3 | 55.0 |
| | 3 | 229 2.9 | -13 10.3 | 152 27.7 | 9.9 | -26 44.2 | -5.4 | 55.0 |
| | 4 | 244 2.9 | -13 11.1 | 166 56.6 | 9.9 | -26 38.8 | -5.6 | 55.1 |
| | 5 | 259 3.0 | -13 12.0 | 181 25.5 | 9.9 | -26 33.2 | -5.7 | 55.1 |
| | 6 | 274 3.0 | -13 12.8 | 195 54.5 | 10.0 | -26 27.5 | -5.8 | 55.1 |
| | 7 | 289 3.1 | -13 13.6 | 210 23.4 | 10.0 | -26 21.7 | -6.0 | 55.1 |
| | 8 | 304 3.1 | -13 14.5 | 224 52.4 | 10.0 | -26 15.7 | -6.1 | 55.2 |
| | 9 | 319 3.2 | -13 15.3 | 239 21.4 | 10.0 | -26 9.6 | -6.2 | 55.2 |
| | 10 | 334 3.2 | -13 16.1 | 253 50.5 | 10.1 | -26 3.4 | -6.4 | 55.2 |
| | 11 | 349 3.3 | -13 17.0 | 268 19.5 | 10.1 | -25 57.0 | -6.5 | 55.2 |
| | 12 | 4 3.3 | -13 17.8 | 282 48.6 | 10.1 | -25 50.5 | -6.6 | 55.3 |
| | 13 | 19 3.4 | -13 18.6 | 297 17.8 | 10.2 | -25 43.9 | -6.8 | 55.3 |
| | 14 | 34 3.4 | -13 19.5 | 311 47.0 | 10.2 | -25 37.1 | -6.9 | 55.3 |
| | 15 | 49 3.4 | -13 20.3 | 326 16.2 | 10.2 | -25 30.2 | -7.0 | 55.3 |
| | 16 | 64 3.5 | -13 21.1 | 340 45.4 | 10.3 | -25 23.1 | -7.2 | 55.4 |
| | 17 | 79 3.5 | -13 21.9 | 355 14.7 | 10.3 | -25 16.0 | -7.3 | 55.4 |
| | 18 | 94 3.6 | -13 22.8 | 9 44.0 | 10.3 | -25 8.7 | -7.4 | 55.4 |
| | 19 | 109 3.6 | -13 23.6 | 24 13.3 | 10.4 | -25 1.2 | -7.6 | 55.4 |
| | 20 | 124 3.7 | -13 24.4 | 38 42.7 | 10.4 | -24 53.7 | -7.7 | 55.5 |
| | 21 | 139 3.7 | -13 25.3 | 53 12.1 | 10.4 | -24 46.0 | -7.8 | 55.5 |
| | 22 | 154 3.8 | -13 26.1 | 67 41.6 | 10.5 | -24 38.2 | -7.9 | 55.5 |
| | 23 | 169 3.8 | -13 26.9 | 82 11.1 | 10.5 | -24 30.2 | -8.1 | 55.6 |
| | | *v* 0.0 SD 16.1 | *d* 0.8 | SD 15.0 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **29 Wednesday** | 0 | 184 3.8 | -13 27.8 | 96 40.6 | 10.6 | -24 22.2 | -8.2 | 55.6 |
| | 1 | 199 3.9 | -13 28.6 | 111 10.1 | 10.6 | -24 14.0 | -8.3 | 55.6 |
| | 2 | 214 3.9 | -13 29.4 | 125 39.7 | 10.6 | -24 5.6 | -8.5 | 55.6 |
| | 3 | 229 4.0 | -13 30.2 | 140 9.4 | 10.7 | -23 57.2 | -8.6 | 55.7 |
| | 4 | 244 4.0 | -13 31.1 | 154 39.0 | 10.7 | -23 48.6 | -8.7 | 55.7 |
| | 5 | 259 4.0 | -13 31.9 | 169 8.8 | 10.7 | -23 39.9 | -8.8 | 55.7 |
| | 6 | 274 4.1 | -13 32.7 | 183 38.5 | 10.8 | -23 31.1 | -8.9 | 55.8 |
| | 7 | 289 4.1 | -13 33.5 | 198 8.3 | 10.8 | -23 22.1 | -9.1 | 55.8 |
| | 8 | 304 4.2 | -13 34.4 | 212 38.1 | 10.9 | -23 13.1 | -9.2 | 55.8 |
| | 9 | 319 4.2 | -13 35.2 | 227 8.0 | 10.9 | -23 3.9 | -9.3 | 55.9 |
| | 10 | 334 4.2 | -13 36.0 | 241 37.9 | 10.9 | -22 54.6 | -9.4 | 55.9 |
| | 11 | 349 4.3 | -13 36.8 | 256 7.8 | 11.0 | -22 45.1 | -9.6 | 55.9 |
| | 12 | 4 4.3 | -13 37.7 | 270 37.8 | 11.0 | -22 35.6 | -9.7 | 55.9 |
| | 13 | 19 4.4 | -13 38.5 | 285 7.8 | 11.1 | -22 25.9 | -9.8 | 56.0 |
| | 14 | 34 4.4 | -13 39.3 | 299 37.9 | 11.1 | -22 16.1 | -9.9 | 56.0 |
| | 15 | 49 4.4 | -13 40.1 | 314 8.0 | 11.1 | -22 6.2 | -10.0 | 56.0 |
| | 16 | 64 4.5 | -13 41.0 | 328 38.1 | 11.2 | -21 56.2 | -10.1 | 56.1 |
| | 17 | 79 4.5 | -13 41.8 | 343 8.3 | 11.2 | -21 46.0 | -10.3 | 56.1 |
| | 18 | 94 4.5 | -13 42.6 | 357 38.5 | 11.3 | -21 35.8 | -10.4 | 56.1 |
| | 19 | 109 4.6 | -13 43.4 | 12 8.8 | 11.3 | -21 25.4 | -10.5 | 56.2 |
| | 20 | 124 4.6 | -13 44.2 | 26 39.0 | 11.3 | -21 14.9 | -10.6 | 56.2 |
| | 21 | 139 4.7 | -13 45.1 | 41 9.4 | 11.4 | -21 4.3 | -10.7 | 56.2 |
| | 22 | 154 4.7 | -13 45.9 | 55 39.7 | 11.4 | -20 53.6 | -10.8 | 56.3 |
| | 23 | 169 4.7 | -13 46.7 | 70 10.1 | 11.4 | -20 42.7 | -10.9 | 56.3 |
| | | *v* 0.0 SD 16.1 | *d* 0.8 | SD 15.2 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **30 Thursday** | 0 | 184 4.8 | -13 47.5 | 84 40.6 | 11.5 | -20 31.8 | -11.1 | 56.3 |
| | 1 | 199 4.8 | -13 48.3 | 99 11.1 | 11.5 | -20 20.7 | -11.2 | 56.4 |
| | 2 | 214 4.8 | -13 49.2 | 113 41.6 | 11.6 | -20 9.6 | -11.3 | 56.4 |
| | 3 | 229 4.9 | -13 50.0 | 128 12.1 | 11.6 | -19 58.3 | -11.4 | 56.5 |
| | 4 | 244 4.9 | -13 50.8 | 142 42.7 | 11.6 | -19 46.9 | -11.5 | 56.5 |
| | 5 | 259 4.9 | -13 51.6 | 157 13.3 | 11.7 | -19 35.4 | -11.6 | 56.5 |
| | 6 | 274 5.0 | -13 52.4 | 171 44.0 | 11.7 | -19 23.8 | -11.7 | 56.6 |
| | 7 | 289 5.0 | -13 53.2 | 186 14.7 | 11.7 | -19 12.1 | -11.8 | 56.6 |
| | 8 | 304 5.0 | -13 54.1 | 200 45.4 | 11.8 | -19 0.3 | -11.9 | 56.6 |
| | 9 | 319 5.1 | -13 54.9 | 215 16.2 | 11.8 | -18 48.3 | -12.0 | 56.7 |
| | 10 | 334 5.1 | -13 55.7 | 229 47.0 | 11.8 | -18 36.3 | -12.1 | 56.7 |
| | 11 | 349 5.1 | -13 56.5 | 244 17.8 | 11.9 | -18 24.2 | -12.2 | 56.7 |
| | 12 | 4 5.1 | -13 57.3 | 258 48.7 | 11.9 | -18 11.9 | -12.3 | 56.8 |
| | 13 | 19 5.2 | -13 58.1 | 273 19.5 | 11.9 | -17 59.6 | -12.4 | 56.8 |
| | 14 | 34 5.2 | -13 58.9 | 287 50.5 | 12.0 | -17 47.2 | -12.5 | 56.9 |
| | 15 | 49 5.2 | -13 59.8 | 302 21.4 | 12.0 | -17 34.6 | -12.6 | 56.9 |
| | 16 | 64 5.3 | -14 0.6 | 316 52.4 | 12.0 | -17 22.0 | -12.7 | 56.9 |
| | 17 | 79 5.3 | -14 1.4 | 331 23.4 | 12.0 | -17 9.2 | -12.8 | 57.0 |
| | 18 | 94 5.3 | -14 2.2 | 345 54.5 | 12.1 | -16 56.4 | -12.9 | 57.0 |
| | 19 | 109 5.4 | -14 3.0 | 0 25.5 | 12.1 | -16 43.5 | -13.0 | 57.0 |
| | 20 | 124 5.4 | -14 3.8 | 14 56.7 | 12.1 | -16 30.4 | -13.1 | 57.1 |
| | 21 | 139 5.4 | -14 4.6 | 29 27.8 | 12.2 | -16 17.3 | -13.2 | 57.1 |
| | 22 | 154 5.4 | -14 5.4 | 43 58.9 | 12.2 | -16 4.1 | -13.3 | 57.2 |
| | 23 | 169 5.5 | -14 6.2 | 58 30.1 | 12.2 | -15 50.8 | -13.4 | 57.2 |
| | | *v* 0.0 SD 16.1 | *d* 0.8 | SD 15.4 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 05:51 | 07:12 | 08:34 | 14:52 | 16:14 | 17:35 |
| 70 | 05:49 | 07:01 | 08:12 | 15:14 | 16:25 | 17:37 |
| 68 | 05:46 | 06:52 | 07:55 | 15:31 | 16:34 | 17:40 |
| 66 | 05:44 | 06:45 | 07:42 | 15:45 | 16:41 | 17:42 |
| 64 | 05:42 | 06:39 | 07:30 | 15:56 | 16:48 | 17:44 |
| 62 | 05:41 | 06:33 | 07:21 | 16:06 | 16:53 | 17:46 |
| 60 | 05:39 | 06:28 | 07:12 | 16:14 | 16:58 | 17:47 |
| 58 | 05:38 | 06:24 | 07:05 | 16:21 | 17:03 | 17:49 |
| 56 | 05:36 | 06:20 | 06:59 | 16:28 | 17:07 | 17:51 |
| 54 | 05:35 | 06:16 | 06:53 | 16:34 | 17:11 | 17:52 |
| 52 | 05:33 | 06:13 | 06:48 | 16:39 | 17:14 | 17:54 |
| 50 | 05:32 | 06:10 | 06:43 | 16:44 | 17:17 | 17:55 |
| 45 | 05:28 | 06:03 | 06:33 | 16:54 | 17:24 | 17:59 |
| 40 | 05:25 | 05:57 | 06:25 | 17:02 | 17:30 | 18:02 |
| 35 | 05:22 | 05:51 | 06:17 | 17:10 | 17:36 | 18:05 |
| 30 | 05:18 | 05:46 | 06:11 | 17:16 | 17:41 | 18:09 |
| 20 | 05:11 | 05:37 | 06:00 | 17:28 | 17:50 | 18:16 |
| 10 | 05:03 | 05:28 | 05:50 | 17:38 | 17:59 | 18:24 |
| 0 | 04:54 | 05:19 | 05:40 | 17:47 | 18:08 | 18:33 |
| -10 | 04:44 | 05:09 | 05:31 | 17:57 | 18:19 | 18:44 |
| -20 | 04:31 | 04:58 | 05:21 | 18:07 | 18:30 | 18:57 |
| -30 | 04:14 | 04:44 | 05:09 | 18:19 | 18:44 | 19:14 |
| -35 | 04:03 | 04:35 | 05:02 | 18:26 | 18:53 | 19:25 |
| -40 | 03:50 | 04:25 | 04:54 | 18:34 | 19:03 | 19:38 |
| -45 | 03:34 | 04:13 | 04:45 | 18:44 | 19:16 | 19:55 |
| -50 | 03:13 | 03:58 | 04:33 | 18:55 | 19:31 | 20:16 |
| -52 | 03:03 | 03:51 | 04:28 | 19:01 | 19:38 | 20:27 |
| -54 | 02:51 | 03:43 | 04:22 | 19:06 | 19:47 | 20:39 |
| -56 | 02:37 | 03:33 | 04:16 | 19:13 | 19:56 | 20:53 |
| -58 | 02:20 | 03:23 | 04:09 | 19:20 | 20:07 | 21:11 |
| -60 | 01:59 | 03:11 | 04:01 | 19:29 | 20:19 | 21:33 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **28** | **29** | **30** | **28** | **29** | **30** |
| 72 | ▬ | ▬ | 17:42 | ▬ | ▬ | 20:39 |
| 70 | ▬ | ▬ | 16:50 | ▬ | ▬ | 21:29 |
| 68 | ▬ | 17:35 | 16:17 | ▬ | 19:01 | 22:00 |
| 66 | ▬ | 16:26 | 15:53 | ▬ | 20:08 | 22:23 |
| 64 | 16:27 | 15:50 | 15:34 | 18:23 | 20:43 | 22:41 |
| 62 | 15:32 | 15:24 | 15:18 | 19:17 | 21:09 | 22:55 |
| 60 | 14:59 | 15:04 | 15:05 | 19:49 | 21:28 | 23:07 |
| 58 | 14:35 | 14:47 | 14:54 | 20:13 | 21:45 | 23:18 |
| 56 | 14:15 | 14:32 | 14:44 | 20:32 | 21:58 | 23:27 |
| 54 | 13:59 | 14:20 | 14:35 | 20:48 | 22:10 | 23:35 |
| 52 | 13:45 | 14:09 | 14:27 | 21:02 | 22:21 | 23:42 |
| 50 | 13:33 | 13:59 | 14:20 | 21:14 | 22:30 | 23:49 |
| 45 | 13:07 | 13:39 | 14:04 | 21:38 | 22:49 | –:– |
| 40 | 12:47 | 13:22 | 13:52 | 21:58 | 23:05 | –:– |
| 35 | 12:29 | 13:07 | 13:41 | 22:14 | 23:18 | –:– |
| 30 | 12:15 | 12:55 | 13:31 | 22:28 | 23:30 | –:– |
| 20 | 11:50 | 12:34 | 13:15 | 22:52 | 23:49 | –:– |
| 10 | 11:28 | 12:15 | 13:00 | 23:13 | –:– | 00:06 |
| 0 | 11:07 | 11:58 | 12:47 | 23:32 | –:– | 00:22 |
| -10 | 10:47 | 11:40 | 12:33 | 23:51 | –:– | 00:37 |
| -20 | 10:25 | 11:22 | 12:19 | –:– | 00:11 | 00:54 |
| -30 | 10:00 | 11:00 | 12:02 | –:– | 00:34 | 01:12 |
| -35 | 09:45 | 10:47 | 11:52 | 00:07 | 00:48 | 01:23 |
| -40 | 09:27 | 10:33 | 11:41 | 00:25 | 01:04 | 01:36 |
| -45 | 09:06 | 10:15 | 11:27 | 00:47 | 01:22 | 01:50 |
| -50 | 08:39 | 09:53 | 11:11 | 01:14 | 01:45 | 02:08 |
| -52 | 08:26 | 09:43 | 11:03 | 01:28 | 01:56 | 02:17 |
| -54 | 08:11 | 09:31 | 10:54 | 01:43 | 02:08 | 02:26 |
| -56 | 07:53 | 09:17 | 10:45 | 02:01 | 02:23 | 02:36 |
| -58 | 07:32 | 09:01 | 10:34 | 02:23 | 02:39 | 02:48 |
| -60 | 07:04 | 08:42 | 10:21 | 02:51 | 02:59 | 03:02 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **28** | 16:11 | 16:13 | 11:44 | 17:20 | 04:54 | 6 | 34 |
| **29** | 16:15 | 16:17 | 11:44 | 18:10 | 05:45 | 7 | 43 |
| **30** | 16:19 | 16:21 | 11:44 | 18:58 | 06:34 | 8 | 53 |

## 2025 October 31, November 01, 02 (Fri, Sat, Sun)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.5 GHA | Mars 1.5 Dec | Jupiter -2.3 GHA | Jupiter -2.3 Dec | Saturn 0.8 GHA | Saturn 0.8 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 Friday | 0 | 39 33.1 | 199 17.7 | -6 56.2 | 165 11.3 | -19 48.2 | 282 40.2 | 21 13.5 | 42 23.2 | -3 55.0 |
| | 1 | 54 35.6 | 214 17.2 | -6 57.4 | 180 11.9 | -19 48.7 | 297 42.5 | 21 13.5 | 57 25.7 | -3 55.0 |
| | 2 | 69 38.0 | 229 16.8 | -6 58.5 | 195 12.5 | -19 49.1 | 312 44.9 | 21 13.5 | 72 28.3 | -3 55.1 |
| | 3 | 84 40.5 | 244 16.4 | -6 59.7 | 210 13.2 | -19 49.5 | 327 47.3 | 21 13.5 | 87 30.9 | -3 55.1 |
| | 4 | 99 42.9 | 259 15.9 | -7 0.9 | 225 13.8 | -19 50.0 | 342 49.6 | 21 13.5 | 102 33.5 | -3 55.2 |
| | 5 | 114 45.4 | 274 15.5 | -7 2.1 | 240 14.4 | -19 50.4 | 357 52.0 | 21 13.5 | 117 36.0 | -3 55.2 |
| | 6 | 129 47.9 | 289 15.0 | -7 3.3 | 255 15.1 | -19 50.8 | 12 54.4 | 21 13.5 | 132 38.6 | -3 55.2 |
| | 7 | 144 50.3 | 304 14.6 | -7 4.5 | 270 15.7 | -19 51.3 | 27 56.7 | 21 13.4 | 147 41.2 | -3 55.3 |
| | 8 | 159 52.8 | 319 14.1 | -7 5.7 | 285 16.3 | -19 51.7 | 42 59.1 | 21 13.4 | 162 43.7 | -3 55.3 |
| | 9 | 174 55.3 | 334 13.7 | -7 6.9 | 300 16.9 | -19 52.1 | 58 1.4 | 21 13.4 | 177 46.3 | -3 55.4 |
| | 10 | 189 57.7 | 349 13.2 | -7 8.1 | 315 17.6 | -19 52.6 | 73 3.8 | 21 13.4 | 192 48.9 | -3 55.4 |
| | 11 | 205 0.2 | 4 12.8 | -7 9.2 | 330 18.2 | -19 53.0 | 88 6.2 | 21 13.4 | 207 51.5 | -3 55.4 |
| | 12 | 220 2.7 | 19 12.3 | -7 10.4 | 345 18.8 | -19 53.4 | 103 8.5 | 21 13.4 | 222 54.0 | -3 55.5 |
| | 13 | 235 5.1 | 34 11.9 | -7 11.6 | 0 19.5 | -19 53.9 | 118 10.9 | 21 13.4 | 237 56.6 | -3 55.5 |
| | 14 | 250 7.6 | 49 11.4 | -7 12.8 | 15 20.1 | -19 54.3 | 133 13.3 | 21 13.4 | 252 59.2 | -3 55.6 |
| | 15 | 265 10.0 | 64 11.0 | -7 14.0 | 30 20.7 | -19 54.7 | 148 15.6 | 21 13.4 | 268 1.8 | -3 55.6 |
| | 16 | 280 12.5 | 79 10.6 | -7 15.2 | 45 21.3 | -19 55.2 | 163 18.0 | 21 13.4 | 283 4.3 | -3 55.6 |
| | 17 | 295 15.0 | 94 10.1 | -7 16.4 | 60 22.0 | -19 55.6 | 178 20.4 | 21 13.3 | 298 6.9 | -3 55.7 |
| | 18 | 310 17.4 | 109 9.7 | -7 17.6 | 75 22.6 | -19 56.0 | 193 22.8 | 21 13.3 | 313 9.5 | -3 55.7 |
| | 19 | 325 19.9 | 124 9.2 | -7 18.7 | 90 23.2 | -19 56.5 | 208 25.1 | 21 13.3 | 328 12.0 | -3 55.8 |
| | 20 | 340 22.4 | 139 8.8 | -7 19.9 | 105 23.8 | -19 56.9 | 223 27.5 | 21 13.3 | 343 14.6 | -3 55.8 |
| | 21 | 355 24.8 | 154 8.3 | -7 21.1 | 120 24.5 | -19 57.3 | 238 29.9 | 21 13.3 | 358 17.2 | -3 55.8 |
| | 22 | 10 27.3 | 169 7.9 | -7 22.3 | 135 25.1 | -19 57.7 | 253 32.2 | 21 13.3 | 13 19.8 | -3 55.9 |
| | 23 | 25 29.8 | 184 7.4 | -7 23.5 | 150 25.7 | -19 58.2 | 268 34.6 | 21 13.3 | 28 22.3 | -3 55.9 |
| | | MP 21:20 | *v* -0.4 | *d* 1.2 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 Saturday | 0 | 40 32.2 | 199 7.0 | -7 24.7 | 165 26.3 | -19 58.6 | 283 37.0 | 21 13.3 | 43 24.9 | -3 55.9 |
| | 1 | 55 34.7 | 214 6.5 | -7 25.9 | 180 27.0 | -19 59.0 | 298 39.3 | 21 13.3 | 58 27.5 | -3 56.0 |
| | 2 | 70 37.2 | 229 6.1 | -7 27.0 | 195 27.6 | -19 59.5 | 313 41.7 | 21 13.2 | 73 30.0 | -3 56.0 |
| | 3 | 85 39.6 | 244 5.6 | -7 28.2 | 210 28.2 | -19 59.9 | 328 44.1 | 21 13.2 | 88 32.6 | -3 56.1 |
| | 4 | 100 42.1 | 259 5.1 | -7 29.4 | 225 28.8 | -20 0.3 | 343 46.5 | 21 13.2 | 103 35.2 | -3 56.1 |
| | 5 | 115 44.5 | 274 4.7 | -7 30.6 | 240 29.4 | -20 0.7 | 358 48.8 | 21 13.2 | 118 37.8 | -3 56.1 |
| | 6 | 130 47.0 | 289 4.2 | -7 31.8 | 255 30.1 | -20 1.2 | 13 51.2 | 21 13.2 | 133 40.3 | -3 56.2 |
| | 7 | 145 49.5 | 304 3.8 | -7 33.0 | 270 30.7 | -20 1.6 | 28 53.6 | 21 13.2 | 148 42.9 | -3 56.2 |
| | 8 | 160 51.9 | 319 3.3 | -7 34.1 | 285 31.3 | -20 2.0 | 43 56.0 | 21 13.2 | 163 45.5 | -3 56.3 |
| | 9 | 175 54.4 | 334 2.9 | -7 35.3 | 300 31.9 | -20 2.5 | 58 58.3 | 21 13.2 | 178 48.0 | -3 56.3 |
| | 10 | 190 56.9 | 349 2.4 | -7 36.5 | 315 32.6 | -20 2.9 | 74 0.7 | 21 13.2 | 193 50.6 | -3 56.3 |
| | 11 | 205 59.3 | 4 2.0 | -7 37.7 | 330 33.2 | -20 3.3 | 89 3.1 | 21 13.2 | 208 53.2 | -3 56.4 |
| | 12 | 221 1.8 | 19 1.5 | -7 38.9 | 345 33.8 | -20 3.7 | 104 5.5 | 21 13.2 | 223 55.7 | -3 56.4 |
| | 13 | 236 4.3 | 34 1.1 | -7 40.0 | 0 34.4 | -20 4.2 | 119 7.8 | 21 13.1 | 238 58.3 | -3 56.5 |
| | 14 | 251 6.7 | 49 0.6 | -7 41.2 | 15 35.0 | -20 4.6 | 134 10.2 | 21 13.1 | 254 0.9 | -3 56.5 |
| | 15 | 266 9.2 | 64 0.2 | -7 42.4 | 30 35.7 | -20 5.0 | 149 12.6 | 21 13.1 | 269 3.5 | -3 56.5 |
| | 16 | 281 11.7 | 78 59.7 | -7 43.6 | 45 36.3 | -20 5.4 | 164 15.0 | 21 13.1 | 284 6.0 | -3 56.6 |
| | 17 | 296 14.1 | 93 59.3 | -7 44.8 | 60 36.9 | -20 5.9 | 179 17.3 | 21 13.1 | 299 8.6 | -3 56.6 |
| | 18 | 311 16.6 | 108 58.8 | -7 45.9 | 75 37.5 | -20 6.3 | 194 19.7 | 21 13.1 | 314 11.2 | -3 56.6 |
| | 19 | 326 19.0 | 123 58.3 | -7 47.1 | 90 38.1 | -20 6.7 | 209 22.1 | 21 13.1 | 329 13.7 | -3 56.7 |
| | 20 | 341 21.5 | 138 57.9 | -7 48.3 | 105 38.8 | -20 7.1 | 224 24.5 | 21 13.1 | 344 16.3 | -3 56.7 |
| | 21 | 356 24.0 | 153 57.4 | -7 49.5 | 120 39.4 | -20 7.5 | 239 26.8 | 21 13.1 | 359 18.9 | -3 56.8 |
| | 22 | 11 26.4 | 168 57.0 | -7 50.7 | 135 40.0 | -20 8.0 | 254 29.2 | 21 13.1 | 14 21.4 | -3 56.8 |
| | 23 | 26 28.9 | 183 56.5 | -7 51.8 | 150 40.6 | -20 8.4 | 269 31.6 | 21 13.1 | 29 24.0 | -3 56.8 |
| | | MP 21:16 | *v* -0.5 | *d* 1.2 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 Sunday | 0 | 41 31.4 | 198 56.1 | -7 53.0 | 165 41.2 | -20 8.8 | 284 34.0 | 21 13.0 | 44 26.6 | -3 56.9 |
| | 1 | 56 33.8 | 213 55.6 | -7 54.2 | 180 41.8 | -20 9.2 | 299 36.4 | 21 13.0 | 59 29.1 | -3 56.9 |
| | 2 | 71 36.3 | 228 55.1 | -7 55.4 | 195 42.5 | -20 9.7 | 314 38.7 | 21 13.0 | 74 31.7 | -3 56.9 |
| | 3 | 86 38.8 | 243 54.7 | -7 56.6 | 210 43.1 | -20 10.1 | 329 41.1 | 21 13.0 | 89 34.3 | -3 57.0 |
| | 4 | 101 41.2 | 258 54.2 | -7 57.7 | 225 43.7 | -20 10.5 | 344 43.5 | 21 13.0 | 104 36.8 | -3 57.0 |
| | 5 | 116 43.7 | 273 53.8 | -7 58.9 | 240 44.3 | -20 10.9 | 359 45.9 | 21 13.0 | 119 39.4 | -3 57.1 |
| | 6 | 131 46.1 | 288 53.3 | -8 0.1 | 255 44.9 | -20 11.3 | 14 48.3 | 21 13.0 | 134 42.0 | -3 57.1 |
| | 7 | 146 48.6 | 303 52.8 | -8 1.3 | 270 45.5 | -20 11.8 | 29 50.6 | 21 13.0 | 149 44.5 | -3 57.1 |
| | 8 | 161 51.1 | 318 52.4 | -8 2.4 | 285 46.2 | -20 12.2 | 44 53.0 | 21 13.0 | 164 47.1 | -3 57.2 |
| | 9 | 176 53.5 | 333 51.9 | -8 3.6 | 300 46.8 | -20 12.6 | 59 55.4 | 21 13.0 | 179 49.7 | -3 57.2 |
| | 10 | 191 56.0 | 348 51.5 | -8 4.8 | 315 47.4 | -20 13.0 | 74 57.8 | 21 13.0 | 194 52.2 | -3 57.2 |
| | 11 | 206 58.5 | 3 51.0 | -8 6.0 | 330 48.0 | -20 13.4 | 90 0.2 | 21 13.0 | 209 54.8 | -3 57.3 |
| | 12 | 222 0.9 | 18 50.5 | -8 7.1 | 345 48.6 | -20 13.9 | 105 2.6 | 21 12.9 | 224 57.4 | -3 57.3 |
| | 13 | 237 3.4 | 33 50.1 | -8 8.3 | 0 49.2 | -20 14.3 | 120 4.9 | 21 12.9 | 239 59.9 | -3 57.4 |
| | 14 | 252 5.9 | 48 49.6 | -8 9.5 | 15 49.8 | -20 14.7 | 135 7.3 | 21 12.9 | 255 2.5 | -3 57.4 |
| | 15 | 267 8.3 | 63 49.2 | -8 10.7 | 30 50.4 | -20 15.1 | 150 9.7 | 21 12.9 | 270 5.1 | -3 57.4 |
| | 16 | 282 10.8 | 78 48.7 | -8 11.8 | 45 51.1 | -20 15.5 | 165 12.1 | 21 12.9 | 285 7.6 | -3 57.5 |
| | 17 | 297 13.3 | 93 48.2 | -8 13.0 | 60 51.7 | -20 15.9 | 180 14.5 | 21 12.9 | 300 10.2 | -3 57.5 |
| | 18 | 312 15.7 | 108 47.8 | -8 14.2 | 75 52.3 | -20 16.4 | 195 16.9 | 21 12.9 | 315 12.8 | -3 57.5 |
| | 19 | 327 18.2 | 123 47.3 | -8 15.3 | 90 52.9 | -20 16.8 | 210 19.3 | 21 12.9 | 330 15.3 | -3 57.6 |
| | 20 | 342 20.6 | 138 46.8 | -8 16.5 | 105 53.5 | -20 17.2 | 225 21.6 | 21 12.9 | 345 17.9 | -3 57.6 |
| | 21 | 357 23.1 | 153 46.4 | -8 17.7 | 120 54.1 | -20 17.6 | 240 24.0 | 21 12.9 | 0 20.5 | -3 57.6 |
| | 22 | 12 25.6 | 168 45.9 | -8 18.9 | 135 54.7 | -20 18.0 | 255 26.4 | 21 12.9 | 15 23.0 | -3 57.7 |
| | 23 | 27 28.0 | 183 45.4 | -8 20.0 | 150 55.3 | -20 18.4 | 270 28.8 | 21 12.9 | 30 25.6 | -3 57.7 |
| | | MP 21:12 | *v* -0.5 | *d* 1.2 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 11.9 |
| Achernar | 335 19.1 | -57 6.3 |
| Acrux | 173 0.0 | -63 14.3 |
| Adhara | 255 5.2 | -29 0.1 |
| Aldebaran | 290 38.6 | 16 33.8 |
| Alioth | 166 12.9 | 55 49.1 |
| Alkaid | 152 52.0 | 49 11.0 |
| Alnair | 27 31.9 | -46 50.3 |
| Alnilam | 275 36.8 | -1 11.0 |
| Alphard | 217 47.2 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.7 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.4 | 8 56.3 |
| Ankaa | 353 6.1 | -42 10.0 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.7 | 19 2.9 |
| Atria | 107 9.5 | -69 4.5 |
| Avior | 234 14.4 | -59 35.1 |
| Bellatrix | 278 21.9 | 6 22.5 |
| Betelgeuse | 270 51.2 | 7 24.8 |
| Canopus | 263 51.8 | -52 42.2 |
| Capella | 280 20.6 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.6 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.6 | 61 36.5 |
| Elnath | 278 0.8 | 28 37.7 |
| Eltanin | 90 42.2 | 51 29.3 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.2 |
| Gacrux | 171 51.5 | -57 15.3 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.8 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.9 | 74 2.9 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.7 |
| Miaplacidus | 221 38.3 | -69 49.0 |
| Mirfak | 308 26.8 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.7 | -56 39.3 |
| Pollux | 243 16.4 | 27 57.8 |
| Procyon | 244 50.1 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 33.9 | 11 50.5 |
| Rigel | 281 3.0 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 41.0 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.5 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 31.9 |
| Vega | 80 33.0 | 38 48.7 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 31 Fri | SHA | MP |
|---|---|---|
| Venus | 159 44.6 | 10:43 |
| Mars | 125 38.2 | 12:59 |
| Jupiter | 243 7.1 | 05:09 |
| Saturn | 2 50.1 | 21:07 |

| 01 Sat | SHA | MP |
|---|---|---|
| Venus | 158 34.7 | 10:44 |
| Mars | 124 54.1 | 12:58 |
| Jupiter | 243 4.7 | 05:05 |
| Saturn | 2 52.7 | 21:03 |

| 02 Sun | SHA | MP |
|---|---|---|
| Venus | 157 24.7 | 10:45 |
| Mars | 124 9.9 | 12:57 |
| Jupiter | 243 2.6 | 05:01 |
| Saturn | 2 55.2 | 20:59 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **31 Friday** | 0 | 184 5.5 | -14 7.1 | 73 1.3 | 12.2 | -15 37.4 | -13.5 | 57.2 |
| | 1 | 199 5.5 | -14 7.9 | 87 32.6 | 12.3 | -15 23.9 | -13.6 | 57.3 |
| | 2 | 214 5.5 | -14 8.7 | 102 3.8 | 12.3 | -15 10.3 | -13.7 | 57.3 |
| | 3 | 229 5.6 | -14 9.5 | 116 35.1 | 12.3 | -14 56.6 | -13.8 | 57.3 |
| | 4 | 244 5.6 | -14 10.3 | 131 6.4 | 12.3 | -14 42.8 | -13.9 | 57.4 |
| | 5 | 259 5.6 | -14 11.1 | 145 37.7 | 12.3 | -14 28.9 | -14.0 | 57.4 |
| | 6 | 274 5.6 | -14 11.9 | 160 9.1 | 12.4 | -14 15.0 | -14.0 | 57.5 |
| | 7 | 289 5.7 | -14 12.7 | 174 40.4 | 12.4 | -14 0.9 | -14.1 | 57.5 |
| | 8 | 304 5.7 | -14 13.5 | 189 11.8 | 12.4 | -13 46.8 | -14.2 | 57.5 |
| | 9 | 319 5.7 | -14 14.3 | 203 43.2 | 12.4 | -13 32.6 | -14.3 | 57.6 |
| | 10 | 334 5.7 | -14 15.1 | 218 14.6 | 12.4 | -13 18.3 | -14.4 | 57.6 |
| | 11 | 349 5.8 | -14 15.9 | 232 46.1 | 12.4 | -13 3.9 | -14.5 | 57.7 |
| | 12 | 4 5.8 | -14 16.7 | 247 17.5 | 12.5 | -12 49.5 | -14.5 | 57.7 |
| | 13 | 19 5.8 | -14 17.5 | 261 49.0 | 12.5 | -12 34.9 | -14.6 | 57.7 |
| | 14 | 34 5.8 | -14 18.4 | 276 20.4 | 12.5 | -12 20.3 | -14.7 | 57.8 |
| | 15 | 49 5.8 | -14 19.2 | 290 51.9 | 12.5 | -12 5.6 | -14.8 | 57.8 |
| | 16 | 64 5.9 | -14 20.0 | 305 23.4 | 12.5 | -11 50.8 | -14.9 | 57.9 |
| | 17 | 79 5.9 | -14 20.8 | 319 54.9 | 12.5 | -11 36.0 | -14.9 | 57.9 |
| | 18 | 94 5.9 | -14 21.6 | 334 26.5 | 12.5 | -11 21.0 | -15.0 | 58.0 |
| | 19 | 109 5.9 | -14 22.4 | 348 58.0 | 12.5 | -11 6.0 | -15.1 | 58.0 |
| | 20 | 124 5.9 | -14 23.2 | 3 29.5 | 12.5 | -10 51.0 | -15.2 | 58.0 |
| | 21 | 139 6.0 | -14 24.0 | 18 1.1 | 12.5 | -10 35.8 | -15.2 | 58.1 |
| | 22 | 154 6.0 | -14 24.8 | 32 32.6 | 12.6 | -10 20.6 | -15.3 | 58.1 |
| | 23 | 169 6.0 | -14 25.6 | 47 4.2 | 12.6 | -10 5.3 | -15.4 | 58.2 |
| | *v* | 0.0 | SD 16.1 | *d* 0.8 | | SD 15.6 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **01 Saturday** | 0 | 184 6.0 | -14 26.4 | 61 35.7 | 12.6 | -9 49.9 | -15.4 | 58.2 |
| | 1 | 199 6.0 | -14 27.2 | 76 7.3 | 12.6 | -9 34.4 | -15.5 | 58.2 |
| | 2 | 214 6.1 | -14 28.0 | 90 38.9 | 12.6 | -9 18.9 | -15.6 | 58.3 |
| | 3 | 229 6.1 | -14 28.8 | 105 10.4 | 12.6 | -9 3.4 | -15.6 | 58.3 |
| | 4 | 244 6.1 | -14 29.6 | 119 42.0 | 12.6 | -8 47.7 | -15.7 | 58.4 |
| | 5 | 259 6.1 | -14 30.4 | 134 13.5 | 12.6 | -8 32.0 | -15.8 | 58.4 |
| | 6 | 274 6.1 | -14 31.2 | 148 45.1 | 12.6 | -8 16.2 | -15.8 | 58.4 |
| | 7 | 289 6.1 | -14 32.0 | 163 16.6 | 12.5 | -8 0.4 | -15.9 | 58.5 |
| | 8 | 304 6.2 | -14 32.8 | 177 48.2 | 12.5 | -7 44.5 | -16.0 | 58.5 |
| | 9 | 319 6.2 | -14 33.6 | 192 19.7 | 12.5 | -7 28.6 | -16.0 | 58.6 |
| | 10 | 334 6.2 | -14 34.3 | 206 51.3 | 12.5 | -7 12.5 | -16.1 | 58.6 |
| | 11 | 349 6.2 | -14 35.1 | 221 22.8 | 12.5 | -6 56.5 | -16.1 | 58.6 |
| | 12 | 4 6.2 | -14 35.9 | 235 54.3 | 12.5 | -6 40.3 | -16.2 | 58.7 |
| | 13 | 19 6.2 | -14 36.7 | 250 25.8 | 12.5 | -6 24.2 | -16.2 | 58.7 |
| | 14 | 34 6.2 | -14 37.5 | 264 57.3 | 12.5 | -6 7.9 | -16.3 | 58.8 |
| | 15 | 49 6.3 | -14 38.3 | 279 28.7 | 12.5 | -5 51.6 | -16.3 | 58.8 |
| | 16 | 64 6.3 | -14 39.1 | 294 0.2 | 12.4 | -5 35.3 | -16.4 | 58.9 |
| | 17 | 79 6.3 | -14 39.9 | 308 31.6 | 12.4 | -5 18.9 | -16.4 | 58.9 |
| | 18 | 94 6.3 | -14 40.7 | 323 3.1 | 12.4 | -5 2.4 | -16.5 | 58.9 |
| | 19 | 109 6.3 | -14 41.5 | 337 34.5 | 12.4 | -4 45.9 | -16.5 | 59.0 |
| | 20 | 124 6.3 | -14 42.3 | 352 5.9 | 12.4 | -4 29.4 | -16.6 | 59.0 |
| | 21 | 139 6.3 | -14 43.1 | 6 37.2 | 12.3 | -4 12.8 | -16.6 | 59.1 |
| | 22 | 154 6.3 | -14 43.9 | 21 8.6 | 12.3 | -3 56.2 | -16.7 | 59.1 |
| | 23 | 169 6.4 | -14 44.7 | 35 39.9 | 12.3 | -3 39.5 | -16.7 | 59.1 |
| | *v* | 0.0 | SD 16.1 | *d* 0.8 | | SD 15.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **02 Sunday** | 0 | 184 6.4 | -14 45.4 | 50 11.2 | 12.3 | -3 22.8 | -16.8 | 59.2 |
| | 1 | 199 6.4 | -14 46.2 | 64 42.4 | 12.2 | -3 6.0 | -16.8 | 59.2 |
| | 2 | 214 6.4 | -14 47.0 | 79 13.7 | 12.2 | -2 49.2 | -16.8 | 59.3 |
| | 3 | 229 6.4 | -14 47.8 | 93 44.9 | 12.2 | -2 32.4 | -16.9 | 59.3 |
| | 4 | 244 6.4 | -14 48.6 | 108 16.1 | 12.1 | -2 15.5 | -16.9 | 59.3 |
| | 5 | 259 6.4 | -14 49.4 | 122 47.2 | 12.1 | -1 58.6 | -16.9 | 59.4 |
| | 6 | 274 6.4 | -14 50.2 | 137 18.3 | 12.1 | -1 41.7 | -17.0 | 59.4 |
| | 7 | 289 6.4 | -14 51.0 | 151 49.4 | 12.0 | -1 24.7 | -17.0 | 59.5 |
| | 8 | 304 6.4 | -14 51.8 | 166 20.4 | 12.0 | -1 7.7 | -17.0 | 59.5 |
| | 9 | 319 6.4 | -14 52.5 | 180 51.5 | 12.0 | -0 50.7 | -17.1 | 59.5 |
| | 10 | 334 6.4 | -14 53.3 | 195 22.4 | 11.9 | -0 33.7 | -17.1 | 59.6 |
| | 11 | 349 6.5 | -14 54.1 | 209 53.3 | 11.9 | -0 16.6 | 17.1 | 59.6 |
| | 12 | 4 6.5 | -14 54.9 | 224 24.2 | 11.8 | 0 0.5 | 17.1 | 59.6 |
| | 13 | 19 6.5 | -14 55.7 | 238 55.1 | 11.8 | 0 17.7 | 17.1 | 59.7 |
| | 14 | 34 6.5 | -14 56.5 | 253 25.9 | 11.8 | 0 34.8 | 17.2 | 59.7 |
| | 15 | 49 6.5 | -14 57.3 | 267 56.6 | 11.7 | 0 52.0 | 17.2 | 59.8 |
| | 16 | 64 6.5 | -14 58.0 | 282 27.3 | 11.7 | 1 9.2 | 17.2 | 59.8 |
| | 17 | 79 6.5 | -14 58.8 | 296 58.0 | 11.6 | 1 26.4 | 17.2 | 59.8 |
| | 18 | 94 6.5 | -14 59.6 | 311 28.6 | 11.6 | 1 43.6 | 17.2 | 59.9 |
| | 19 | 109 6.5 | -15 0.4 | 325 59.2 | 11.5 | 2 0.8 | 17.2 | 59.9 |
| | 20 | 124 6.5 | -15 1.2 | 340 29.7 | 11.5 | 2 18.0 | 17.3 | 59.9 |
| | 21 | 139 6.5 | -15 1.9 | 355 0.1 | 11.4 | 2 35.3 | 17.3 | 60.0 |
| | 22 | 154 6.5 | -15 2.7 | 9 30.5 | 11.3 | 2 52.6 | 17.3 | 60.0 |
| | 23 | 169 6.5 | -15 3.5 | 24 0.9 | 11.3 | 3 9.8 | 17.3 | 60.0 |
| | *v* | 0.0 | SD 16.1 | *d* 0.8 | | SD 16.1 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:03 | 07:26 | 08:52 | 14:34 | 16:00 | 17:22 |
| 70 | 05:59 | 07:13 | 08:27 | 14:59 | 16:13 | 17:26 |
| 68 | 05:56 | 07:03 | 08:08 | 15:18 | 16:23 | 17:30 |
| 66 | 05:53 | 06:54 | 07:52 | 15:34 | 16:32 | 17:33 |
| 64 | 05:50 | 06:47 | 07:40 | 15:46 | 16:39 | 17:36 |
| 62 | 05:48 | 06:41 | 07:29 | 15:57 | 16:45 | 17:38 |
| 60 | 05:46 | 06:35 | 07:20 | 16:06 | 16:51 | 17:40 |
| 58 | 05:44 | 06:30 | 07:12 | 16:14 | 16:56 | 17:43 |
| 56 | 05:42 | 06:26 | 07:05 | 16:21 | 17:01 | 17:45 |
| 54 | 05:40 | 06:22 | 06:59 | 16:27 | 17:05 | 17:47 |
| 52 | 05:38 | 06:18 | 06:53 | 16:33 | 17:09 | 17:48 |
| 50 | 05:36 | 06:14 | 06:48 | 16:38 | 17:12 | 17:50 |
| 45 | 05:32 | 06:07 | 06:37 | 16:49 | 17:20 | 17:54 |
| 40 | 05:28 | 06:00 | 06:28 | 16:59 | 17:27 | 17:59 |
| 35 | 05:24 | 05:54 | 06:20 | 17:07 | 17:33 | 18:03 |
| 30 | 05:20 | 05:49 | 06:13 | 17:14 | 17:38 | 18:07 |
| 20 | 05:12 | 05:38 | 06:01 | 17:26 | 17:49 | 18:15 |
| 10 | 05:04 | 05:29 | 05:50 | 17:37 | 17:58 | 18:23 |
| 0 | 04:54 | 05:19 | 05:40 | 17:47 | 18:08 | 18:33 |
| -10 | 04:43 | 05:08 | 05:30 | 17:57 | 18:19 | 18:45 |
| -20 | 04:29 | 04:56 | 05:19 | 18:09 | 18:32 | 18:59 |
| -30 | 04:11 | 04:41 | 05:06 | 18:22 | 18:47 | 19:17 |
| -35 | 04:00 | 04:32 | 04:59 | 18:29 | 18:56 | 19:28 |
| -40 | 03:46 | 04:21 | 04:50 | 18:38 | 19:07 | 19:42 |
| -45 | 03:29 | 04:08 | 04:40 | 18:48 | 19:20 | 20:00 |
| -50 | 03:06 | 03:52 | 04:28 | 19:00 | 19:37 | 20:23 |
| -52 | 02:55 | 03:44 | 04:22 | 19:06 | 19:45 | 20:34 |
| -54 | 02:42 | 03:35 | 04:16 | 19:12 | 19:53 | 20:47 |
| -56 | 02:27 | 03:25 | 04:09 | 19:20 | 20:04 | 21:03 |
| -58 | 02:08 | 03:14 | 04:01 | 19:28 | 20:15 | 21:22 |
| -60 | 01:44 | 03:01 | 03:52 | 19:37 | 20:29 | 21:47 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **31** | **01** | **02** | **31** | **01** | **02** |
| 72 | 16:21 | 15:37 | 15:00 | 23:41 | –:– | 02:07 |
| 70 | 16:01 | 15:29 | 15:01 | 23:58 | –:– | 02:11 |
| 68 | 15:46 | 15:22 | 15:01 | –:– | 00:11 | 02:15 |
| 66 | 15:33 | 15:17 | 15:02 | –:– | 00:22 | 02:17 |
| 64 | 15:22 | 15:12 | 15:03 | –:– | 00:31 | 02:20 |
| 62 | 15:13 | 15:08 | 15:03 | –:– | 00:39 | 02:22 |
| 60 | 15:05 | 15:04 | 15:03 | –:– | 00:45 | 02:24 |
| 58 | 14:58 | 15:01 | 15:04 | –:– | 00:51 | 02:25 |
| 56 | 14:52 | 14:58 | 15:04 | –:– | 00:56 | 02:27 |
| 54 | 14:46 | 14:56 | 15:05 | –:– | 01:01 | 02:28 |
| 52 | 14:41 | 14:53 | 15:05 | –:– | 01:05 | 02:29 |
| 50 | 14:36 | 14:51 | 15:05 | –:– | 01:09 | 02:30 |
| 45 | 14:26 | 14:46 | 15:06 | 00:02 | 01:17 | 02:33 |
| 40 | 14:18 | 14:42 | 15:06 | 00:14 | 01:23 | 02:34 |
| 35 | 14:11 | 14:39 | 15:07 | 00:23 | 01:29 | 02:36 |
| 30 | 14:04 | 14:36 | 15:07 | 00:31 | 01:34 | 02:37 |
| 20 | 13:53 | 14:31 | 15:08 | 00:46 | 01:42 | 02:40 |
| 10 | 13:44 | 14:26 | 15:09 | 00:58 | 01:50 | 02:42 |
| 0 | 13:34 | 14:21 | 15:09 | 01:10 | 01:57 | 02:44 |
| -10 | 13:25 | 14:17 | 15:10 | 01:21 | 02:04 | 02:46 |
| -20 | 13:15 | 14:12 | 15:11 | 01:33 | 02:11 | 02:48 |
| -30 | 13:04 | 14:07 | 15:11 | 01:47 | 02:19 | 02:50 |
| -35 | 12:57 | 14:04 | 15:12 | 01:55 | 02:24 | 02:51 |
| -40 | 12:50 | 14:00 | 15:13 | 02:04 | 02:29 | 02:53 |
| -45 | 12:41 | 13:56 | 15:13 | 02:14 | 02:35 | 02:54 |
| -50 | 12:30 | 13:51 | 15:14 | 02:27 | 02:42 | 02:56 |
| -52 | 12:25 | 13:49 | 15:15 | 02:32 | 02:45 | 02:57 |
| -54 | 12:20 | 13:46 | 15:15 | 02:39 | 02:49 | 02:58 |
| -56 | 12:14 | 13:44 | 15:15 | 02:46 | 02:53 | 02:59 |
| -58 | 12:07 | 13:41 | 15:16 | 02:54 | 02:57 | 03:00 |
| -60 | 11:59 | 13:37 | 15:17 | 03:03 | 03:02 | 03:01 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **31** | 16:22 | 16:23 | 11:44 | 19:46 | 07:22 | 9 | 64 |
| **01** | 16:24 | 16:25 | 11:44 | 20:33 | 08:09 | 10 | 74 |
| **02** | 16:25 | 16:26 | 11:44 | 21:21 | 08:56 | 11 | 83 |

## 2025 November 03, 04, 05 (Mon, Tue, Wed)

| | | Aries | Venus -3.9 | | Mars 1.4 | | Jupiter -2.3 | | Saturn 0.8 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 03 Monday | 0 | 42 30.5 | 198 45.0 | -8 21.2 | 165 56.0 | -20 18.9 | 285 31.2 | 21 12.9 | 45 28.2 | -3 57.7 |
| | 1 | 57 33.0 | 213 44.5 | -8 22.4 | 180 56.6 | -20 19.3 | 300 33.6 | 21 12.9 | 60 30.7 | -3 57.8 |
| | 2 | 72 35.4 | 228 44.1 | -8 23.5 | 195 57.2 | -20 19.7 | 315 36.0 | 21 12.8 | 75 33.3 | -3 57.8 |
| | 3 | 87 37.9 | 243 43.6 | -8 24.7 | 210 57.8 | -20 20.1 | 330 38.4 | 21 12.8 | 90 35.8 | -3 57.9 |
| | 4 | 102 40.4 | 258 43.1 | -8 25.9 | 225 58.4 | -20 20.5 | 345 40.7 | 21 12.8 | 105 38.4 | -3 57.9 |
| | 5 | 117 42.8 | 273 42.7 | -8 27.1 | 240 59.0 | -20 20.9 | 0 43.1 | 21 12.8 | 120 41.0 | -3 57.9 |
| | 6 | 132 45.3 | 288 42.2 | -8 28.2 | 255 59.6 | -20 21.3 | 15 45.5 | 21 12.8 | 135 43.5 | -3 58.0 |
| | 7 | 147 47.7 | 303 41.7 | -8 29.4 | 271 0.2 | -20 21.8 | 30 47.9 | 21 12.8 | 150 46.1 | -3 58.0 |
| | 8 | 162 50.2 | 318 41.3 | -8 30.6 | 286 0.8 | -20 22.2 | 45 50.3 | 21 12.8 | 165 48.7 | -3 58.0 |
| | 9 | 177 52.7 | 333 40.8 | -8 31.7 | 301 1.4 | -20 22.6 | 60 52.7 | 21 12.8 | 180 51.2 | -3 58.1 |
| | 10 | 192 55.1 | 348 40.3 | -8 32.9 | 316 2.1 | -20 23.0 | 75 55.1 | 21 12.8 | 195 53.8 | -3 58.1 |
| | 11 | 207 57.6 | 3 39.8 | -8 34.1 | 331 2.7 | -20 23.4 | 90 57.5 | 21 12.8 | 210 56.4 | -3 58.1 |
| | 12 | 223 0.1 | 18 39.4 | -8 35.2 | 346 3.3 | -20 23.8 | 105 59.9 | 21 12.8 | 225 58.9 | -3 58.2 |
| | 13 | 238 2.5 | 33 38.9 | -8 36.4 | 1 3.9 | -20 24.2 | 121 2.3 | 21 12.8 | 241 1.5 | -3 58.2 |
| | 14 | 253 5.0 | 48 38.4 | -8 37.6 | 16 4.5 | -20 24.6 | 136 4.7 | 21 12.8 | 256 4.0 | -3 58.2 |
| | 15 | 268 7.5 | 63 38.0 | -8 38.7 | 31 5.1 | -20 25.0 | 151 7.0 | 21 12.8 | 271 6.6 | -3 58.3 |
| | 16 | 283 9.9 | 78 37.5 | -8 39.9 | 46 5.7 | -20 25.5 | 166 9.4 | 21 12.8 | 286 9.2 | -3 58.3 |
| | 17 | 298 12.4 | 93 37.0 | -8 41.1 | 61 6.3 | -20 25.9 | 181 11.8 | 21 12.7 | 301 11.7 | -3 58.4 |
| | 18 | 313 14.9 | 108 36.6 | -8 42.2 | 76 6.9 | -20 26.3 | 196 14.2 | 21 12.7 | 316 14.3 | -3 58.4 |
| | 19 | 328 17.3 | 123 36.1 | -8 43.4 | 91 7.5 | -20 26.7 | 211 16.6 | 21 12.7 | 331 16.8 | -3 58.4 |
| | 20 | 343 19.8 | 138 35.6 | -8 44.6 | 106 8.1 | -20 27.1 | 226 19.0 | 21 12.7 | 346 19.4 | -3 58.5 |
| | 21 | 358 22.2 | 153 35.1 | -8 45.7 | 121 8.7 | -20 27.5 | 241 21.4 | 21 12.7 | 1 22.0 | -3 58.5 |
| | 22 | 13 24.7 | 168 34.7 | -8 46.9 | 136 9.3 | -20 27.9 | 256 23.8 | 21 12.7 | 16 24.5 | -3 58.5 |
| | 23 | 28 27.2 | 183 34.2 | -8 48.1 | 151 9.9 | -20 28.3 | 271 26.2 | 21 12.7 | 31 27.1 | -3 58.6 |
| | | MP 21:08 | *v* -0.5 | *d* 1.2 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 04 Tuesday | 0 | 43 29.6 | 198 33.7 | -8 49.2 | 166 10.5 | -20 28.7 | 286 28.6 | 21 12.7 | 46 29.7 | -3 58.6 |
| | 1 | 58 32.1 | 213 33.3 | -8 50.4 | 181 11.1 | -20 29.1 | 301 31.0 | 21 12.7 | 61 32.2 | -3 58.6 |
| | 2 | 73 34.6 | 228 32.8 | -8 51.5 | 196 11.7 | -20 29.5 | 316 33.4 | 21 12.7 | 76 34.8 | -3 58.7 |
| | 3 | 88 37.0 | 243 32.3 | -8 52.7 | 211 12.3 | -20 29.9 | 331 35.8 | 21 12.7 | 91 37.3 | -3 58.7 |
| | 4 | 103 39.5 | 258 31.8 | -8 53.9 | 226 13.0 | -20 30.4 | 346 38.2 | 21 12.7 | 106 39.9 | -3 58.7 |
| | 5 | 118 42.0 | 273 31.4 | -8 55.0 | 241 13.6 | -20 30.8 | 1 40.6 | 21 12.7 | 121 42.5 | -3 58.8 |
| | 6 | 133 44.4 | 288 30.9 | -8 56.2 | 256 14.2 | -20 31.2 | 16 43.0 | 21 12.7 | 136 45.0 | -3 58.8 |
| | 7 | 148 46.9 | 303 30.4 | -8 57.3 | 271 14.8 | -20 31.6 | 31 45.4 | 21 12.7 | 151 47.6 | -3 58.8 |
| | 8 | 163 49.3 | 318 29.9 | -8 58.5 | 286 15.4 | -20 32.0 | 46 47.8 | 21 12.7 | 166 50.1 | -3 58.9 |
| | 9 | 178 51.8 | 333 29.5 | -8 59.7 | 301 16.0 | -20 32.4 | 61 50.2 | 21 12.7 | 181 52.7 | -3 58.9 |
| | 10 | 193 54.3 | 348 29.0 | -9 0.8 | 316 16.6 | -20 32.8 | 76 52.6 | 21 12.6 | 196 55.3 | -3 58.9 |
| | 11 | 208 56.7 | 3 28.5 | -9 2.0 | 331 17.2 | -20 33.2 | 91 55.0 | 21 12.6 | 211 57.8 | -3 59.0 |
| | 12 | 223 59.2 | 18 28.0 | -9 3.1 | 346 17.8 | -20 33.6 | 106 57.4 | 21 12.6 | 227 0.4 | -3 59.0 |
| | 13 | 239 1.7 | 33 27.6 | -9 4.3 | 1 18.4 | -20 34.0 | 121 59.8 | 21 12.6 | 242 2.9 | -3 59.0 |
| | 14 | 254 4.1 | 48 27.1 | -9 5.5 | 16 19.0 | -20 34.4 | 137 2.2 | 21 12.6 | 257 5.5 | -3 59.1 |
| | 15 | 269 6.6 | 63 26.6 | -9 6.6 | 31 19.6 | -20 34.8 | 152 4.6 | 21 12.6 | 272 8.1 | -3 59.1 |
| | 16 | 284 9.1 | 78 26.1 | -9 7.8 | 46 20.2 | -20 35.2 | 167 7.0 | 21 12.6 | 287 10.6 | -3 59.1 |
| | 17 | 299 11.5 | 93 25.6 | -9 8.9 | 61 20.8 | -20 35.6 | 182 9.4 | 21 12.6 | 302 13.2 | -3 59.2 |
| | 18 | 314 14.0 | 108 25.2 | -9 10.1 | 76 21.4 | -20 36.0 | 197 11.8 | 21 12.6 | 317 15.7 | -3 59.2 |
| | 19 | 329 16.5 | 123 24.7 | -9 11.3 | 91 22.0 | -20 36.4 | 212 14.2 | 21 12.6 | 332 18.3 | -3 59.2 |
| | 20 | 344 18.9 | 138 24.2 | -9 12.4 | 106 22.6 | -20 36.8 | 227 16.6 | 21 12.6 | 347 20.8 | -3 59.3 |
| | 21 | 359 21.4 | 153 23.7 | -9 13.6 | 121 23.2 | -20 37.2 | 242 19.0 | 21 12.6 | 2 23.4 | -3 59.3 |
| | 22 | 14 23.8 | 168 23.2 | -9 14.7 | 136 23.8 | -20 37.6 | 257 21.4 | 21 12.6 | 17 26.0 | -3 59.3 |
| | 23 | 29 26.3 | 183 22.8 | -9 15.9 | 151 24.4 | -20 38.0 | 272 23.8 | 21 12.6 | 32 28.5 | -3 59.4 |
| | | MP 21:04 | *v* -0.5 | *d* 1.2 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Wednesday | 0 | 44 28.8 | 198 22.3 | -9 17.0 | 166 25.0 | -20 38.4 | 287 26.2 | 21 12.6 | 47 31.1 | -3 59.4 |
| | 1 | 59 31.2 | 213 21.8 | -9 18.2 | 181 25.6 | -20 38.8 | 302 28.6 | 21 12.6 | 62 33.6 | -3 59.4 |
| | 2 | 74 33.7 | 228 21.3 | -9 19.3 | 196 26.2 | -20 39.2 | 317 31.0 | 21 12.6 | 77 36.2 | -3 59.5 |
| | 3 | 89 36.2 | 243 20.8 | -9 20.5 | 211 26.8 | -20 39.6 | 332 33.4 | 21 12.6 | 92 38.7 | -3 59.5 |
| | 4 | 104 38.6 | 258 20.4 | -9 21.7 | 226 27.3 | -20 40.0 | 347 35.8 | 21 12.6 | 107 41.3 | -3 59.5 |
| | 5 | 119 41.1 | 273 19.9 | -9 22.8 | 241 27.9 | -20 40.4 | 2 38.2 | 21 12.6 | 122 43.9 | -3 59.6 |
| | 6 | 134 43.6 | 288 19.4 | -9 24.0 | 256 28.5 | -20 40.8 | 17 40.7 | 21 12.6 | 137 46.4 | -3 59.6 |
| | 7 | 149 46.0 | 303 18.9 | -9 25.1 | 271 29.1 | -20 41.2 | 32 43.1 | 21 12.6 | 152 49.0 | -3 59.6 |
| | 8 | 164 48.5 | 318 18.4 | -9 26.3 | 286 29.7 | -20 41.6 | 47 45.5 | 21 12.6 | 167 51.5 | -3 59.7 |
| | 9 | 179 51.0 | 333 17.9 | -9 27.4 | 301 30.3 | -20 42.0 | 62 47.9 | 21 12.5 | 182 54.1 | -3 59.7 |
| | 10 | 194 53.4 | 348 17.5 | -9 28.6 | 316 30.9 | -20 42.4 | 77 50.3 | 21 12.5 | 197 56.6 | -3 59.7 |
| | 11 | 209 55.9 | 3 17.0 | -9 29.7 | 331 31.5 | -20 42.8 | 92 52.7 | 21 12.5 | 212 59.2 | -3 59.8 |
| | 12 | 224 58.3 | 18 16.5 | -9 30.9 | 346 32.1 | -20 43.2 | 107 55.1 | 21 12.5 | 228 1.8 | -3 59.8 |
| | 13 | 240 0.8 | 33 16.0 | -9 32.0 | 1 32.7 | -20 43.6 | 122 57.5 | 21 12.5 | 243 4.3 | -3 59.8 |
| | 14 | 255 3.3 | 48 15.5 | -9 33.2 | 16 33.3 | -20 44.0 | 137 59.9 | 21 12.5 | 258 6.9 | -3 59.8 |
| | 15 | 270 5.7 | 63 15.0 | -9 34.3 | 31 33.9 | -20 44.4 | 153 2.3 | 21 12.5 | 273 9.4 | -3 59.9 |
| | 16 | 285 8.2 | 78 14.5 | -9 35.5 | 46 34.5 | -20 44.8 | 168 4.7 | 21 12.5 | 288 12.0 | -3 59.9 |
| | 17 | 300 10.7 | 93 14.1 | -9 36.6 | 61 35.1 | -20 45.2 | 183 7.2 | 21 12.5 | 303 14.5 | -3 59.9 |
| | 18 | 315 13.1 | 108 13.6 | -9 37.8 | 76 35.7 | -20 45.6 | 198 9.6 | 21 12.5 | 318 17.1 | -4 0.0 |
| | 19 | 330 15.6 | 123 13.1 | -9 38.9 | 91 36.3 | -20 46.0 | 213 12.0 | 21 12.5 | 333 19.6 | -4 0.0 |
| | 20 | 345 18.1 | 138 12.6 | -9 40.1 | 106 36.9 | -20 46.4 | 228 14.4 | 21 12.5 | 348 22.2 | -4 0.0 |
| | 21 | 0 20.5 | 153 12.1 | -9 41.2 | 121 37.5 | -20 46.7 | 243 16.8 | 21 12.5 | 3 24.8 | -4 0.1 |
| | 22 | 15 23.0 | 168 11.6 | -9 42.4 | 136 38.0 | -20 47.1 | 258 19.2 | 21 12.5 | 18 27.3 | -4 0.1 |
| | 23 | 30 25.5 | 183 11.1 | -9 43.5 | 151 38.6 | -20 47.5 | 273 21.6 | 21 12.5 | 33 29.9 | -4 0.1 |
| | | MP 21:00 | *v* -0.5 | *d* 1.2 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 11.9 |
| Achernar | 335 19.1 | -57 6.3 |
| Acrux | 173 0.0 | -63 14.3 |
| Adhara | 255 5.2 | -29 0.2 |
| Aldebaran | 290 38.6 | 16 33.8 |
| Alioth | 166 12.9 | 55 49.1 |
| Alkaid | 152 51.9 | 49 11.0 |
| Alnair | 27 31.9 | -46 50.3 |
| Alnilam | 275 36.8 | -1 11.0 |
| Alphard | 217 47.2 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.7 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.4 | 8 56.3 |
| Ankaa | 353 6.1 | -42 10.0 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.7 | 19 2.9 |
| Atria | 107 9.5 | -69 4.5 |
| Avior | 234 14.4 | -59 35.2 |
| Bellatrix | 278 21.9 | 6 22.5 |
| Betelgeuse | 270 51.1 | 7 24.8 |
| Canopus | 263 51.8 | -52 42.2 |
| Capella | 280 20.5 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.6 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.6 | 61 36.5 |
| Elnath | 278 0.8 | 28 37.8 |
| Eltanin | 90 42.2 | 51 29.3 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.2 |
| Gacrux | 171 51.4 | -57 15.3 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.8 | -60 29.8 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 21.0 | 74 2.9 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.3 | -36 29.7 |
| Miaplacidus | 221 38.3 | -69 49.0 |
| Mirfak | 308 26.8 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.8 | -56 39.3 |
| Pollux | 243 16.4 | 27 57.8 |
| Procyon | 244 50.0 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 33.9 | 11 50.5 |
| Rigel | 281 3.0 | -8 10.1 |
| Rigil Kent. | 139 40.1 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 41.0 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.5 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 31.9 |
| Vega | 80 33.0 | 38 48.6 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 03 Mon | SHA | MP |
|---|---|---|
| Venus | 156 14.5 | 10:45 |
| Mars | 123 25.5 | 12:56 |
| Jupiter | 243 0.7 | 04:57 |
| Saturn | 2 57.7 | 20:55 |

| 04 Tue | SHA | MP |
|---|---|---|
| Venus | 155 4.1 | 10:46 |
| Mars | 122 40.9 | 12:55 |
| Jupiter | 242 59.0 | 04:53 |
| Saturn | 3 0.0 | 20:50 |

| 05 Wed | SHA | MP |
|---|---|---|
| Venus | 153 53.5 | 10:47 |
| Mars | 121 56.2 | 12:54 |
| Jupiter | 242 57.4 | 04:49 |
| Saturn | 3 2.3 | 20:46 |

| | | Sun | | | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | | Dec | | GHA | *v* | Dec | *d* | HP |
| **03 Monday** | 0 | 184 | 6.5 | -15 | 4.3 | 38 31.1 | 11.2 | 3 27.1 | 17.3 | 60.1 |
| | 1 | 199 | 6.5 | -15 | 5.1 | 53 1.4 | 11.2 | 3 44.4 | 17.3 | 60.1 |
| | 2 | 214 | 6.5 | -15 | 5.8 | 67 31.5 | 11.1 | 4 1.6 | 17.3 | 60.2 |
| | 3 | 229 | 6.5 | -15 | 6.6 | 82 1.6 | 11.0 | 4 18.9 | 17.3 | 60.2 |
| | 4 | 244 | 6.5 | -15 | 7.4 | 96 31.7 | 11.0 | 4 36.2 | 17.3 | 60.2 |
| | 5 | 259 | 6.5 | -15 | 8.2 | 111 1.6 | 10.9 | 4 53.4 | 17.3 | 60.3 |
| | 6 | 274 | 6.5 | -15 | 9.0 | 125 31.5 | 10.8 | 5 10.7 | 17.3 | 60.3 |
| | 7 | 289 | 6.5 | -15 | 9.7 | 140 1.4 | 10.8 | 5 27.9 | 17.2 | 60.3 |
| | 8 | 304 | 6.5 | -15 | 10.5 | 154 31.1 | 10.7 | 5 45.2 | 17.2 | 60.4 |
| | 9 | 319 | 6.5 | -15 | 11.3 | 169 0.8 | 10.6 | 6 2.4 | 17.2 | 60.4 |
| | 10 | 334 | 6.5 | -15 | 12.1 | 183 30.5 | 10.6 | 6 19.6 | 17.2 | 60.4 |
| | 11 | 349 | 6.5 | -15 | 12.8 | 198 0.0 | 10.5 | 6 36.8 | 17.2 | 60.4 |
| | 12 | 4 | 6.5 | -15 | 13.6 | 212 29.5 | 10.4 | 6 54.0 | 17.2 | 60.5 |
| | 13 | 19 | 6.5 | -15 | 14.4 | 226 58.9 | 10.3 | 7 11.2 | 17.1 | 60.5 |
| | 14 | 34 | 6.5 | -15 | 15.2 | 241 28.2 | 10.2 | 7 28.3 | 17.1 | 60.5 |
| | 15 | 49 | 6.5 | -15 | 15.9 | 255 57.5 | 10.2 | 7 45.4 | 17.1 | 60.6 |
| | 16 | 64 | 6.5 | -15 | 16.7 | 270 26.7 | 10.1 | 8 2.5 | 17.1 | 60.6 |
| | 17 | 79 | 6.5 | -15 | 17.5 | 284 55.8 | 10.0 | 8 19.6 | 17.0 | 60.6 |
| | 18 | 94 | 6.5 | -15 | 18.3 | 299 24.8 | 9.9 | 8 36.6 | 17.0 | 60.7 |
| | 19 | 109 | 6.5 | -15 | 19.0 | 313 53.7 | 9.8 | 8 53.6 | 17.0 | 60.7 |
| | 20 | 124 | 6.5 | -15 | 19.8 | 328 22.5 | 9.8 | 9 10.6 | 16.9 | 60.7 |
| | 21 | 139 | 6.5 | -15 | 20.6 | 342 51.3 | 9.7 | 9 27.5 | 16.9 | 60.7 |
| | 22 | 154 | 6.5 | -15 | 21.3 | 357 19.9 | 9.6 | 9 44.4 | 16.9 | 60.8 |
| | 23 | 169 | 6.5 | -15 | 22.1 | 11 48.5 | 9.5 | 10 1.3 | 16.8 | 60.8 |
| | | *v* 0.0 | | SD 16.1 | *d* 0.8 | | | SD 16.4 | | |
| **04 Tuesday** | 0 | 184 | 6.5 | -15 | 22.9 | 26 17.0 | 9.4 | 10 18.1 | 16.8 | 60.8 |
| | 1 | 199 | 6.4 | -15 | 23.7 | 40 45.4 | 9.3 | 10 34.9 | 16.7 | 60.8 |
| | 2 | 214 | 6.4 | -15 | 24.4 | 55 13.7 | 9.2 | 10 51.6 | 16.7 | 60.9 |
| | 3 | 229 | 6.4 | -15 | 25.2 | 69 41.9 | 9.1 | 11 8.3 | 16.6 | 60.9 |
| | 4 | 244 | 6.4 | -15 | 26.0 | 84 10.0 | 9.0 | 11 24.9 | 16.6 | 60.9 |
| | 5 | 259 | 6.4 | -15 | 26.7 | 98 38.0 | 8.9 | 11 41.4 | 16.5 | 60.9 |
| | 6 | 274 | 6.4 | -15 | 27.5 | 113 6.0 | 8.8 | 11 58.0 | 16.5 | 61.0 |
| | 7 | 289 | 6.4 | -15 | 28.3 | 127 33.8 | 8.7 | 12 14.4 | 16.4 | 61.0 |
| | 8 | 304 | 6.4 | -15 | 29.0 | 142 1.5 | 8.6 | 12 30.8 | 16.3 | 61.0 |
| | 9 | 319 | 6.4 | -15 | 29.8 | 156 29.1 | 8.5 | 12 47.1 | 16.3 | 61.0 |
| | 10 | 334 | 6.4 | -15 | 30.6 | 170 56.7 | 8.4 | 13 3.4 | 16.2 | 61.1 |
| | 11 | 349 | 6.4 | -15 | 31.3 | 185 24.1 | 8.3 | 13 19.6 | 16.1 | 61.1 |
| | 12 | 4 | 6.3 | -15 | 32.1 | 199 51.4 | 8.2 | 13 35.7 | 16.1 | 61.1 |
| | 13 | 19 | 6.3 | -15 | 32.8 | 214 18.6 | 8.1 | 13 51.8 | 16.0 | 61.1 |
| | 14 | 34 | 6.3 | -15 | 33.6 | 228 45.7 | 8.0 | 14 7.8 | 15.9 | 61.1 |
| | 15 | 49 | 6.3 | -15 | 34.4 | 243 12.7 | 7.9 | 14 23.7 | 15.8 | 61.1 |
| | 16 | 64 | 6.3 | -15 | 35.1 | 257 39.6 | 7.8 | 14 39.5 | 15.7 | 61.2 |
| | 17 | 79 | 6.3 | -15 | 35.9 | 272 6.4 | 7.7 | 14 55.3 | 15.7 | 61.2 |
| | 18 | 94 | 6.3 | -15 | 36.7 | 286 33.1 | 7.6 | 15 10.9 | 15.6 | 61.2 |
| | 19 | 109 | 6.3 | -15 | 37.4 | 300 59.7 | 7.5 | 15 26.5 | 15.5 | 61.2 |
| | 20 | 124 | 6.2 | -15 | 38.2 | 315 26.1 | 7.4 | 15 42.0 | 15.4 | 61.2 |
| | 21 | 139 | 6.2 | -15 | 38.9 | 329 52.5 | 7.2 | 15 57.4 | 15.3 | 61.2 |
| | 22 | 154 | 6.2 | -15 | 39.7 | 344 18.7 | 7.1 | 16 12.7 | 15.2 | 61.3 |
| | 23 | 169 | 6.2 | -15 | 40.5 | 358 44.9 | 7.0 | 16 27.9 | 15.1 | 61.3 |
| | | *v* 0.0 | | SD 16.1 | *d* 0.8 | | | SD 16.6 | | |
| **05 Wednesday** | 0 | 184 | 6.2 | -15 | 41.2 | 13 10.9 | 6.9 | 16 43.0 | 15.0 | 61.3 |
| | 1 | 199 | 6.2 | -15 | 42.0 | 27 36.8 | 6.8 | 16 58.1 | 14.9 | 61.3 |
| | 2 | 214 | 6.2 | -15 | 42.7 | 42 2.6 | 6.7 | 17 13.0 | 14.8 | 61.3 |
| | 3 | 229 | 6.1 | -15 | 43.5 | 56 28.2 | 6.6 | 17 27.8 | 14.7 | 61.3 |
| | 4 | 244 | 6.1 | -15 | 44.3 | 70 53.8 | 6.4 | 17 42.5 | 14.6 | 61.3 |
| | 5 | 259 | 6.1 | -15 | 45.0 | 85 19.3 | 6.3 | 17 57.1 | 14.5 | 61.4 |
| | 6 | 274 | 6.1 | -15 | 45.8 | 99 44.6 | 6.2 | 18 11.5 | 14.4 | 61.4 |
| | 7 | 289 | 6.1 | -15 | 46.5 | 114 9.8 | 6.1 | 18 25.9 | 14.2 | 61.4 |
| | 8 | 304 | 6.1 | -15 | 47.3 | 128 34.9 | 6.0 | 18 40.1 | 14.1 | 61.4 |
| | 9 | 319 | 6.0 | -15 | 48.0 | 142 59.9 | 5.9 | 18 54.3 | 14.0 | 61.4 |
| | 10 | 334 | 6.0 | -15 | 48.8 | 157 24.8 | 5.8 | 19 8.3 | 13.9 | 61.4 |
| | 11 | 349 | 6.0 | -15 | 49.5 | 171 49.5 | 5.6 | 19 22.1 | 13.8 | 61.4 |
| | 12 | 4 | 6.0 | -15 | 50.3 | 186 14.2 | 5.5 | 19 35.9 | 13.6 | 61.4 |
| | 13 | 19 | 6.0 | -15 | 51.0 | 200 38.7 | 5.4 | 19 49.5 | 13.5 | 61.4 |
| | 14 | 34 | 5.9 | -15 | 51.8 | 215 3.1 | 5.3 | 20 3.0 | 13.4 | 61.4 |
| | 15 | 49 | 5.9 | -15 | 52.6 | 229 27.4 | 5.2 | 20 16.4 | 13.2 | 61.4 |
| | 16 | 64 | 5.9 | -15 | 53.3 | 243 51.6 | 5.1 | 20 29.6 | 13.1 | 61.4 |
| | 17 | 79 | 5.9 | -15 | 54.1 | 258 15.7 | 5.0 | 20 42.7 | 12.9 | 61.4 |
| | 18 | 94 | 5.9 | -15 | 54.8 | 272 39.6 | 4.8 | 20 55.6 | 12.8 | 61.4 |
| | 19 | 109 | 5.8 | -15 | 55.6 | 287 3.5 | 4.7 | 21 8.4 | 12.6 | 61.4 |
| | 20 | 124 | 5.8 | -15 | 56.3 | 301 27.2 | 4.6 | 21 21.0 | 12.5 | 61.4 |
| | 21 | 139 | 5.8 | -15 | 57.1 | 315 50.8 | 4.5 | 21 33.5 | 12.3 | 61.4 |
| | 22 | 154 | 5.8 | -15 | 57.8 | 330 14.3 | 4.4 | 21 45.9 | 12.2 | 61.4 |
| | 23 | 169 | 5.7 | -15 | 58.6 | 344 37.7 | 4.3 | 21 58.1 | 12.0 | 61.4 |
| | | *v* 0.0 | | SD 16.1 | *d* 0.8 | | | SD 16.7 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:15 | 07:39 | 09:11 | 14:15 | 15:46 | 17:10 |
| 70 | 06:10 | 07:25 | 08:42 | 14:44 | 16:01 | 17:16 |
| 68 | 06:05 | 07:13 | 08:20 | 15:06 | 16:12 | 17:20 |
| 66 | 06:02 | 07:04 | 08:03 | 15:23 | 16:22 | 17:24 |
| 64 | 05:58 | 06:55 | 07:49 | 15:37 | 16:31 | 17:28 |
| 62 | 05:55 | 06:48 | 07:38 | 15:48 | 16:38 | 17:31 |
| 60 | 05:52 | 06:42 | 07:28 | 15:58 | 16:44 | 17:34 |
| 58 | 05:50 | 06:37 | 07:19 | 16:07 | 16:50 | 17:36 |
| 56 | 05:47 | 06:32 | 07:12 | 16:15 | 16:55 | 17:39 |
| 54 | 05:45 | 06:27 | 07:05 | 16:21 | 16:59 | 17:41 |
| 52 | 05:43 | 06:23 | 06:59 | 16:28 | 17:03 | 17:44 |
| 50 | 05:41 | 06:19 | 06:53 | 16:33 | 17:07 | 17:46 |
| 45 | 05:36 | 06:11 | 06:41 | 16:45 | 17:16 | 17:51 |
| 40 | 05:31 | 06:03 | 06:32 | 16:55 | 17:23 | 17:55 |
| 35 | 05:27 | 05:57 | 06:23 | 17:04 | 17:30 | 18:00 |
| 30 | 05:22 | 05:51 | 06:16 | 17:11 | 17:36 | 18:04 |
| 20 | 05:14 | 05:40 | 06:03 | 17:24 | 17:47 | 18:13 |
| 10 | 05:04 | 05:29 | 05:51 | 17:36 | 17:58 | 18:23 |
| 0 | 04:54 | 05:19 | 05:40 | 17:47 | 18:08 | 18:33 |
| -10 | 04:42 | 05:07 | 05:29 | 17:58 | 18:20 | 18:46 |
| -20 | 04:27 | 04:54 | 05:17 | 18:10 | 18:33 | 19:00 |
| -30 | 04:08 | 04:38 | 05:04 | 18:24 | 18:49 | 19:20 |
| -35 | 03:56 | 04:29 | 04:56 | 18:32 | 18:59 | 19:32 |
| -40 | 03:41 | 04:17 | 04:46 | 18:41 | 19:11 | 19:47 |
| -45 | 03:23 | 04:03 | 04:36 | 18:52 | 19:25 | 20:05 |
| -50 | 02:59 | 03:46 | 04:23 | 19:05 | 19:42 | 20:29 |
| -52 | 02:47 | 03:38 | 04:17 | 19:12 | 19:51 | 20:42 |
| -54 | 02:33 | 03:28 | 04:10 | 19:19 | 20:00 | 20:56 |
| -56 | 02:17 | 03:18 | 04:02 | 19:26 | 20:11 | 21:13 |
| -58 | 01:56 | 03:05 | 03:54 | 19:35 | 20:24 | 21:35 |
| -60 | 01:28 | 02:51 | 03:44 | 19:45 | 20:39 | 22:04 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **03** | **04** | **05** | **03** | **04** | **05** |
| 72 | 14:21 | 13:27 | | 04:32 | 07:16 | |
| 70 | 14:31 | 13:53 | 12:28 | 04:25 | 06:53 | 10:16 |
| 68 | 14:40 | 14:13 | 13:28 | 04:20 | 06:35 | 09:18 |
| 66 | 14:47 | 14:29 | 14:03 | 04:15 | 06:21 | 08:45 |
| 64 | 14:53 | 14:42 | 14:28 | 04:11 | 06:10 | 08:21 |
| 62 | 14:58 | 14:53 | 14:48 | 04:08 | 06:00 | 08:02 |
| 60 | 15:03 | 15:03 | 15:05 | 04:05 | 05:52 | 07:46 |
| 58 | 15:07 | 15:12 | 15:19 | 04:02 | 05:44 | 07:33 |
| 56 | 15:11 | 15:19 | 15:31 | 04:00 | 05:38 | 07:22 |
| 54 | 15:14 | 15:26 | 15:42 | 03:58 | 05:32 | 07:12 |
| 52 | 15:17 | 15:32 | 15:51 | 03:56 | 05:27 | 07:03 |
| 50 | 15:20 | 15:38 | 16:00 | 03:55 | 05:23 | 06:55 |
| 45 | 15:26 | 15:50 | 16:18 | 03:51 | 05:13 | 06:39 |
| 40 | 15:31 | 16:00 | 16:33 | 03:48 | 05:05 | 06:25 |
| 35 | 15:36 | 16:08 | 16:46 | 03:45 | 04:58 | 06:14 |
| 30 | 15:40 | 16:16 | 16:57 | 03:43 | 04:52 | 06:04 |
| 20 | 15:47 | 16:29 | 17:17 | 03:39 | 04:41 | 05:47 |
| 10 | 15:53 | 16:41 | 17:34 | 03:36 | 04:32 | 05:32 |
| 0 | 15:59 | 16:52 | 17:50 | 03:32 | 04:23 | 05:19 |
| -10 | 16:05 | 17:03 | 18:06 | 03:29 | 04:15 | 05:05 |
| -20 | 16:11 | 17:15 | 18:23 | 03:26 | 04:06 | 04:51 |
| -30 | 16:19 | 17:29 | 18:43 | 03:22 | 03:56 | 04:34 |
| -35 | 16:23 | 17:37 | 18:55 | 03:19 | 03:50 | 04:24 |
| -40 | 16:28 | 17:47 | 19:09 | 03:17 | 03:43 | 04:14 |
| -45 | 16:34 | 17:58 | 19:25 | 03:14 | 03:35 | 04:01 |
| -50 | 16:40 | 18:11 | 19:46 | 03:10 | 03:26 | 03:46 |
| -52 | 16:44 | 18:17 | 19:55 | 03:09 | 03:22 | 03:38 |
| -54 | 16:47 | 18:24 | 20:06 | 03:07 | 03:17 | 03:30 |
| -56 | 16:51 | 18:32 | 20:19 | 03:05 | 03:12 | 03:22 |
| -58 | 16:55 | 18:41 | 20:33 | 03:03 | 03:06 | 03:12 |
| -60 | 17:00 | 18:51 | 20:51 | 03:01 | 03:00 | 03:00 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **03** | 16:26 | 16:26 | 11:44 | 22:11 | 09:45 | 12 | 91 |
| **04** | 16:26 | 16:25 | 11:44 | 23:05 | 10:38 | 13 | 96 |
| **05** | 16:25 | 16:24 | 11:44 | –:– | 11:34 | 14 | 100 |

## 2025 November 06, 07, 08 (Thu, Fri, Saturday)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.4 GHA | Mars 1.4 Dec | Jupiter -2.4 GHA | Jupiter -2.4 Dec | Saturn 0.8 GHA | Saturn 0.8 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 06 Thursday | 0 | 45 27.9 | 198 10.6 | -9 44.7 | 166 39.2 | -20 47.9 | 288 24.0 | 21 12.5 | 48 32.4 | -4 0.2 |
| | 1 | 60 30.4 | 213 10.2 | -9 45.8 | 181 39.8 | -20 48.3 | 303 26.5 | 21 12.5 | 63 35.0 | -4 0.2 |
| | 2 | 75 32.8 | 228 9.7 | -9 46.9 | 196 40.4 | -20 48.7 | 318 28.9 | 21 12.5 | 78 37.5 | -4 0.2 |
| | 3 | 90 35.3 | 243 9.2 | -9 48.1 | 211 41.0 | -20 49.1 | 333 31.3 | 21 12.5 | 93 40.1 | -4 0.3 |
| | 4 | 105 37.8 | 258 8.7 | -9 49.2 | 226 41.6 | -20 49.5 | 348 33.7 | 21 12.5 | 108 42.6 | -4 0.3 |
| | 5 | 120 40.2 | 273 8.2 | -9 50.4 | 241 42.2 | -20 49.9 | 3 36.1 | 21 12.5 | 123 45.2 | -4 0.3 |
| | 6 | 135 42.7 | 288 7.7 | -9 51.5 | 256 42.8 | -20 50.3 | 18 38.5 | 21 12.5 | 138 47.7 | -4 0.3 |
| | 7 | 150 45.2 | 303 7.2 | -9 52.7 | 271 43.4 | -20 50.7 | 33 40.9 | 21 12.5 | 153 50.3 | -4 0.4 |
| | 8 | 165 47.6 | 318 6.7 | -9 53.8 | 286 43.9 | -20 51.1 | 48 43.4 | 21 12.5 | 168 52.8 | -4 0.4 |
| | 9 | 180 50.1 | 333 6.2 | -9 55.0 | 301 44.5 | -20 51.4 | 63 45.8 | 21 12.5 | 183 55.4 | -4 0.4 |
| | 10 | 195 52.6 | 348 5.7 | -9 56.1 | 316 45.1 | -20 51.8 | 78 48.2 | 21 12.5 | 198 57.9 | -4 0.5 |
| | 11 | 210 55.0 | 3 5.2 | -9 57.2 | 331 45.7 | -20 52.2 | 93 50.6 | 21 12.5 | 214 0.5 | -4 0.5 |
| | 12 | 225 57.5 | 18 4.7 | -9 58.4 | 346 46.3 | -20 52.6 | 108 53.0 | 21 12.5 | 229 3.1 | -4 0.5 |
| | 13 | 240 59.9 | 33 4.2 | -9 59.5 | 1 46.9 | -20 53.0 | 123 55.4 | 21 12.5 | 244 5.6 | -4 0.6 |
| | 14 | 256 2.4 | 48 3.8 | -10 0.7 | 16 47.5 | -20 53.4 | 138 57.9 | 21 12.5 | 259 8.2 | -4 0.6 |
| | 15 | 271 4.9 | 63 3.3 | -10 1.8 | 31 48.1 | -20 53.8 | 154 0.3 | 21 12.5 | 274 10.7 | -4 0.6 |
| | 16 | 286 7.3 | 78 2.8 | -10 2.9 | 46 48.7 | -20 54.2 | 169 2.7 | 21 12.5 | 289 13.3 | -4 0.6 |
| | 17 | 301 9.8 | 93 2.3 | -10 4.1 | 61 49.2 | -20 54.6 | 184 5.1 | 21 12.5 | 304 15.8 | -4 0.7 |
| | 18 | 316 12.3 | 108 1.8 | -10 5.2 | 76 49.8 | -20 54.9 | 199 7.5 | 21 12.5 | 319 18.4 | -4 0.7 |
| | 19 | 331 14.7 | 123 1.3 | -10 6.4 | 91 50.4 | -20 55.3 | 214 10.0 | 21 12.5 | 334 20.9 | -4 0.7 |
| | 20 | 346 17.2 | 138 0.8 | -10 7.5 | 106 51.0 | -20 55.7 | 229 12.4 | 21 12.5 | 349 23.5 | -4 0.8 |
| | 21 | 1 19.7 | 153 0.3 | -10 8.6 | 121 51.6 | -20 56.1 | 244 14.8 | 21 12.5 | 4 26.0 | -4 0.8 |
| | 22 | 16 22.1 | 167 59.8 | -10 9.8 | 136 52.2 | -20 56.5 | 259 17.2 | 21 12.5 | 19 28.6 | -4 0.8 |
| | 23 | 31 24.6 | 182 59.3 | -10 10.9 | 151 52.8 | -20 56.9 | 274 19.6 | 21 12.5 | 34 31.1 | -4 0.9 |
| | | MP 20:56 | *v* -0.5 | *d* 1.1 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 07 Friday | 0 | 46 27.1 | 197 58.8 | -10 12.1 | 166 53.3 | -20 57.3 | 289 22.1 | 21 12.5 | 49 33.7 | -4 0.9 |
| | 1 | 61 29.5 | 212 58.3 | -10 13.2 | 181 53.9 | -20 57.6 | 304 24.5 | 21 12.5 | 64 36.2 | -4 0.9 |
| | 2 | 76 32.0 | 227 57.8 | -10 14.3 | 196 54.5 | -20 58.0 | 319 26.9 | 21 12.4 | 79 38.8 | -4 0.9 |
| | 3 | 91 34.4 | 242 57.3 | -10 15.5 | 211 55.1 | -20 58.4 | 334 29.3 | 21 12.4 | 94 41.3 | -4 1.0 |
| | 4 | 106 36.9 | 257 56.8 | -10 16.6 | 226 55.7 | -20 58.8 | 349 31.8 | 21 12.4 | 109 43.9 | -4 1.0 |
| | 5 | 121 39.4 | 272 56.3 | -10 17.7 | 241 56.3 | -20 59.2 | 4 34.2 | 21 12.4 | 124 46.4 | -4 1.0 |
| | 6 | 136 41.8 | 287 55.8 | -10 18.9 | 256 56.8 | -20 59.6 | 19 36.6 | 21 12.4 | 139 49.0 | -4 1.1 |
| | 7 | 151 44.3 | 302 55.3 | -10 20.0 | 271 57.4 | -20 59.9 | 34 39.0 | 21 12.4 | 154 51.5 | -4 1.1 |
| | 8 | 166 46.8 | 317 54.8 | -10 21.1 | 286 58.0 | -21 0.3 | 49 41.5 | 21 12.4 | 169 54.1 | -4 1.1 |
| | 9 | 181 49.2 | 332 54.3 | -10 22.3 | 301 58.6 | -21 0.7 | 64 43.9 | 21 12.4 | 184 56.6 | -4 1.1 |
| | 10 | 196 51.7 | 347 53.8 | -10 23.4 | 316 59.2 | -21 1.1 | 79 46.3 | 21 12.4 | 199 59.2 | -4 1.2 |
| | 11 | 211 54.2 | 2 53.3 | -10 24.5 | 331 59.8 | -21 1.5 | 94 48.7 | 21 12.4 | 215 1.7 | -4 1.2 |
| | 12 | 226 56.6 | 17 52.8 | -10 25.7 | 347 0.3 | -21 1.9 | 109 51.2 | 21 12.4 | 230 4.3 | -4 1.2 |
| | 13 | 241 59.1 | 32 52.3 | -10 26.8 | 2 0.9 | -21 2.2 | 124 53.6 | 21 12.4 | 245 6.8 | -4 1.3 |
| | 14 | 257 1.6 | 47 51.8 | -10 27.9 | 17 1.5 | -21 2.6 | 139 56.0 | 21 12.4 | 260 9.4 | -4 1.3 |
| | 15 | 272 4.0 | 62 51.3 | -10 29.1 | 32 2.1 | -21 3.0 | 154 58.4 | 21 12.4 | 275 11.9 | -4 1.3 |
| | 16 | 287 6.5 | 77 50.8 | -10 30.2 | 47 2.7 | -21 3.4 | 170 0.9 | 21 12.4 | 290 14.5 | -4 1.3 |
| | 17 | 302 8.9 | 92 50.3 | -10 31.3 | 62 3.2 | -21 3.8 | 185 3.3 | 21 12.4 | 305 17.0 | -4 1.4 |
| | 18 | 317 11.4 | 107 49.8 | -10 32.5 | 77 3.8 | -21 4.1 | 200 5.7 | 21 12.4 | 320 19.6 | -4 1.4 |
| | 19 | 332 13.9 | 122 49.2 | -10 33.6 | 92 4.4 | -21 4.5 | 215 8.2 | 21 12.4 | 335 22.1 | -4 1.4 |
| | 20 | 347 16.3 | 137 48.7 | -10 34.7 | 107 5.0 | -21 4.9 | 230 10.6 | 21 12.4 | 350 24.7 | -4 1.5 |
| | 21 | 2 18.8 | 152 48.2 | -10 35.8 | 122 5.6 | -21 5.3 | 245 13.0 | 21 12.4 | 5 27.2 | -4 1.5 |
| | 22 | 17 21.3 | 167 47.7 | -10 37.0 | 137 6.1 | -21 5.7 | 260 15.4 | 21 12.4 | 20 29.7 | -4 1.5 |
| | 23 | 32 23.7 | 182 47.2 | -10 38.1 | 152 6.7 | -21 6.0 | 275 17.9 | 21 12.4 | 35 32.3 | -4 1.5 |
| | | MP 20:52 | *v* -0.5 | *d* 1.1 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.6 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Saturday | 0 | 47 26.2 | 197 46.7 | -10 39.2 | 167 7.3 | -21 6.4 | 290 20.3 | 21 12.4 | 50 34.8 | -4 1.6 |
| | 1 | 62 28.7 | 212 46.2 | -10 40.4 | 182 7.9 | -21 6.8 | 305 22.7 | 21 12.4 | 65 37.4 | -4 1.6 |
| | 2 | 77 31.1 | 227 45.7 | -10 41.5 | 197 8.5 | -21 7.2 | 320 25.2 | 21 12.4 | 80 39.9 | -4 1.6 |
| | 3 | 92 33.6 | 242 45.2 | -10 42.6 | 212 9.0 | -21 7.5 | 335 27.6 | 21 12.4 | 95 42.5 | -4 1.7 |
| | 4 | 107 36.1 | 257 44.7 | -10 43.7 | 227 9.6 | -21 7.9 | 350 30.0 | 21 12.4 | 110 45.0 | -4 1.7 |
| | 5 | 122 38.5 | 272 44.2 | -10 44.9 | 242 10.2 | -21 8.3 | 5 32.5 | 21 12.4 | 125 47.6 | -4 1.7 |
| | 6 | 137 41.0 | 287 43.7 | -10 46.0 | 257 10.8 | -21 8.7 | 20 34.9 | 21 12.4 | 140 50.1 | -4 1.7 |
| | 7 | 152 43.4 | 302 43.2 | -10 47.1 | 272 11.3 | -21 9.0 | 35 37.3 | 21 12.4 | 155 52.7 | -4 1.8 |
| | 8 | 167 45.9 | 317 42.6 | -10 48.2 | 287 11.9 | -21 9.4 | 50 39.8 | 21 12.4 | 170 55.2 | -4 1.8 |
| | 9 | 182 48.4 | 332 42.1 | -10 49.4 | 302 12.5 | -21 9.8 | 65 42.2 | 21 12.4 | 185 57.8 | -4 1.8 |
| | 10 | 197 50.8 | 347 41.6 | -10 50.5 | 317 13.1 | -21 10.2 | 80 44.6 | 21 12.4 | 201 0.3 | -4 1.8 |
| | 11 | 212 53.3 | 2 41.1 | -10 51.6 | 332 13.6 | -21 10.5 | 95 47.1 | 21 12.4 | 216 2.8 | -4 1.9 |
| | 12 | 227 55.8 | 17 40.6 | -10 52.7 | 347 14.2 | -21 10.9 | 110 49.5 | 21 12.4 | 231 5.4 | -4 1.9 |
| | 13 | 242 58.2 | 32 40.1 | -10 53.8 | 2 14.8 | -21 11.3 | 125 51.9 | 21 12.4 | 246 7.9 | -4 1.9 |
| | 14 | 258 0.7 | 47 39.6 | -10 55.0 | 17 15.4 | -21 11.7 | 140 54.4 | 21 12.4 | 261 10.5 | -4 2.0 |
| | 15 | 273 3.2 | 62 39.1 | -10 56.1 | 32 15.9 | -21 12.0 | 155 56.8 | 21 12.5 | 276 13.0 | -4 2.0 |
| | 16 | 288 5.6 | 77 38.5 | -10 57.2 | 47 16.5 | -21 12.4 | 170 59.2 | 21 12.5 | 291 15.6 | -4 2.0 |
| | 17 | 303 8.1 | 92 38.0 | -10 58.3 | 62 17.1 | -21 12.8 | 186 1.7 | 21 12.5 | 306 18.1 | -4 2.0 |
| | 18 | 318 10.6 | 107 37.5 | -10 59.4 | 77 17.7 | -21 13.2 | 201 4.1 | 21 12.5 | 321 20.7 | -4 2.1 |
| | 19 | 333 13.0 | 122 37.0 | -11 0.6 | 92 18.2 | -21 13.5 | 216 6.5 | 21 12.5 | 336 23.2 | -4 2.1 |
| | 20 | 348 15.5 | 137 36.5 | -11 1.7 | 107 18.8 | -21 13.9 | 231 9.0 | 21 12.5 | 351 25.7 | -4 2.1 |
| | 21 | 3 17.9 | 152 36.0 | -11 2.8 | 122 19.4 | -21 14.3 | 246 11.4 | 21 12.5 | 6 28.3 | -4 2.1 |
| | 22 | 18 20.4 | 167 35.5 | -11 3.9 | 137 20.0 | -21 14.6 | 261 13.9 | 21 12.5 | 21 30.8 | -4 2.2 |
| | 23 | 33 22.9 | 182 34.9 | -11 5.0 | 152 20.5 | -21 15.0 | 276 16.3 | 21 12.5 | 36 33.4 | -4 2.2 |
| | | MP 20:48 | *v* -0.5 | *d* 1.1 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.0 |
| Achernar | 335 19.1 | -57 6.3 |
| Acrux | 173 0.0 | -63 14.3 |
| Adhara | 255 5.2 | -29 0.2 |
| Aldebaran | 290 38.5 | 16 33.7 |
| Alioth | 166 12.9 | 55 49.0 |
| Alkaid | 152 51.9 | 49 11.0 |
| Alnair | 27 31.9 | -46 50.3 |
| Alnilam | 275 36.8 | -1 11.0 |
| Alphard | 217 47.1 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.7 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.4 | 8 56.3 |
| Ankaa | 353 6.1 | -42 10.0 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.9 |
| Atria | 107 9.5 | -69 4.5 |
| Avior | 234 14.4 | -59 35.2 |
| Bellatrix | 278 21.9 | 6 22.5 |
| Betelgeuse | 270 51.1 | 7 24.8 |
| Canopus | 263 51.8 | -52 42.2 |
| Capella | 280 20.5 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.6 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 46.4 | -17 50.6 |
| Dubhe | 193 40.5 | 61 36.5 |
| Elnath | 278 0.7 | 28 37.7 |
| Eltanin | 90 42.3 | 51 29.3 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.2 |
| Gacrux | 171 51.4 | -57 15.3 |
| Gienah | 175 43.2 | -17 41.0 |
| Hadar | 148 35.7 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 21.0 | 74 2.9 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.7 |
| Miaplacidus | 221 38.2 | -69 49.0 |
| Mirfak | 308 26.8 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.8 | -56 39.3 |
| Pollux | 243 16.4 | 27 57.8 |
| Procyon | 244 50.0 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 33.8 | 11 50.5 |
| Rigel | 281 3.0 | -8 10.2 |
| Rigil Kent. | 139 40.1 | -60 56.5 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 41.0 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.5 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.9 | -43 31.9 |
| Vega | 80 33.0 | 38 48.6 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 06 Thu | SHA | MP |
|---|---|---|
| Venus | 152 42.7 | 10:48 |
| Mars | 121 11.3 | 12:53 |
| Jupiter | 242 56.1 | 04:46 |
| Saturn | 3 4.5 | 20:42 |

| 07 Fri | SHA | MP |
|---|---|---|
| Venus | 151 31.7 | 10:48 |
| Mars | 120 26.3 | 12:52 |
| Jupiter | 242 55.0 | 04:42 |
| Saturn | 3 6.6 | 20:38 |

| 08 Sat | SHA | MP |
|---|---|---|
| Venus | 150 20.5 | 10:49 |
| Mars | 119 41.1 | 12:51 |
| Jupiter | 242 54.1 | 04:38 |
| Saturn | 3 8.6 | 20:34 |

| | | Sun | | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | | Dec | GHA | *v* | Dec | *d* | HP |
| **06 Thursday** | 0 | 184 5.7 | -15 | 59.3 | 359 1.0 | 4.2 | 22 10.1 | 11.9 | 61.4 |
| | 1 | 199 5.7 | -16 | 0.1 | 13 24.2 | 4.1 | 22 22.0 | 11.7 | 61.4 |
| | 2 | 214 5.7 | -16 | 0.8 | 27 47.2 | 4.0 | 22 33.7 | 11.6 | 61.4 |
| | 3 | 229 5.7 | -16 | 1.5 | 42 10.2 | 3.8 | 22 45.3 | 11.4 | 61.4 |
| | 4 | 244 5.6 | -16 | 2.3 | 56 33.0 | 3.7 | 22 56.7 | 11.2 | 61.4 |
| | 5 | 259 5.6 | -16 | 3.0 | 70 55.8 | 3.6 | 23 7.9 | 11.1 | 61.4 |
| | 6 | 274 5.6 | -16 | 3.8 | 85 18.4 | 3.5 | 23 19.0 | 10.9 | 61.4 |
| | 7 | 289 5.5 | -16 | 4.5 | 99 40.9 | 3.4 | 23 29.9 | 10.7 | 61.4 |
| | 8 | 304 5.5 | -16 | 5.3 | 114 3.4 | 3.3 | 23 40.6 | 10.5 | 61.4 |
| | 9 | 319 5.5 | -16 | 6.0 | 128 25.7 | 3.2 | 23 51.1 | 10.4 | 61.4 |
| | 10 | 334 5.5 | -16 | 6.8 | 142 47.9 | 3.1 | 24 1.5 | 10.2 | 61.4 |
| | 11 | 349 5.4 | -16 | 7.5 | 157 10.1 | 3.0 | 24 11.7 | 10.0 | 61.4 |
| | 12 | 4 5.4 | -16 | 8.2 | 171 32.1 | 2.9 | 24 21.7 | 9.8 | 61.4 |
| | 13 | 19 5.4 | -16 | 9.0 | 185 54.1 | 2.9 | 24 31.5 | 9.6 | 61.4 |
| | 14 | 34 5.4 | -16 | 9.7 | 200 15.9 | 2.8 | 24 41.2 | 9.5 | 61.4 |
| | 15 | 49 5.3 | -16 | 10.5 | 214 37.7 | 2.7 | 24 50.6 | 9.3 | 61.4 |
| | 16 | 64 5.3 | -16 | 11.2 | 228 59.4 | 2.6 | 24 59.9 | 9.1 | 61.4 |
| | 17 | 79 5.3 | -16 | 12.0 | 243 21.0 | 2.5 | 25 9.0 | 8.9 | 61.3 |
| | 18 | 94 5.2 | -16 | 12.7 | 257 42.5 | 2.4 | 25 17.9 | 8.7 | 61.3 |
| | 19 | 109 5.2 | -16 | 13.4 | 272 3.9 | 2.3 | 25 26.6 | 8.5 | 61.3 |
| | 20 | 124 5.2 | -16 | 14.2 | 286 25.2 | 2.3 | 25 35.1 | 8.3 | 61.3 |
| | 21 | 139 5.1 | -16 | 14.9 | 300 46.5 | 2.2 | 25 43.4 | 8.1 | 61.3 |
| | 22 | 154 5.1 | -16 | 15.6 | 315 7.7 | 2.1 | 25 51.5 | 7.9 | 61.3 |
| | 23 | 169 5.1 | -16 | 16.4 | 329 28.8 | 2.0 | 25 59.4 | 7.7 | 61.3 |
| | | *v* 0.0 | SD | 16.1 *d* 0.7 | | SD | 16.8 | | |

| d | h | GHA | | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|---|
| **07 Friday** | 0 | 184 5.0 | -16 | 17.1 | 343 49.9 | 2.0 | 26 7.1 | 7.5 | 61.3 |
| | 1 | 199 5.0 | -16 | 17.9 | 358 10.8 | 1.9 | 26 14.6 | 7.3 | 61.2 |
| | 2 | 214 5.0 | -16 | 18.6 | 12 31.8 | 1.9 | 26 21.9 | 7.1 | 61.2 |
| | 3 | 229 4.9 | -16 | 19.3 | 26 52.6 | 1.8 | 26 29.0 | 6.9 | 61.2 |
| | 4 | 244 4.9 | -16 | 20.1 | 41 13.4 | 1.7 | 26 35.9 | 6.7 | 61.2 |
| | 5 | 259 4.9 | -16 | 20.8 | 55 34.1 | 1.7 | 26 42.6 | 6.5 | 61.2 |
| | 6 | 274 4.8 | -16 | 21.5 | 69 54.8 | 1.6 | 26 49.1 | 6.3 | 61.2 |
| | 7 | 289 4.8 | -16 | 22.3 | 84 15.4 | 1.6 | 26 55.4 | 6.1 | 61.1 |
| | 8 | 304 4.8 | -16 | 23.0 | 98 36.0 | 1.5 | 27 1.4 | 5.8 | 61.1 |
| | 9 | 319 4.7 | -16 | 23.7 | 112 56.6 | 1.5 | 27 7.3 | 5.6 | 61.1 |
| | 10 | 334 4.7 | -16 | 24.5 | 127 17.0 | 1.5 | 27 12.9 | 5.4 | 61.1 |
| | 11 | 349 4.7 | -16 | 25.2 | 141 37.5 | 1.4 | 27 18.3 | 5.2 | 61.1 |
| | 12 | 4 4.6 | -16 | 25.9 | 155 57.9 | 1.4 | 27 23.5 | 5.0 | 61.0 |
| | 13 | 19 4.6 | -16 | 26.7 | 170 18.3 | 1.4 | 27 28.5 | 4.8 | 61.0 |
| | 14 | 34 4.6 | -16 | 27.4 | 184 38.6 | 1.3 | 27 33.3 | 4.6 | 61.0 |
| | 15 | 49 4.5 | -16 | 28.1 | 198 59.0 | 1.3 | 27 37.9 | 4.3 | 61.0 |
| | 16 | 64 4.5 | -16 | 28.9 | 213 19.3 | 1.3 | 27 42.2 | 4.1 | 61.0 |
| | 17 | 79 4.4 | -16 | 29.6 | 227 39.5 | 1.3 | 27 46.3 | 3.9 | 60.9 |
| | 18 | 94 4.4 | -16 | 30.3 | 241 59.8 | 1.2 | 27 50.3 | 3.7 | 60.9 |
| | 19 | 109 4.4 | -16 | 31.0 | 256 20.0 | 1.2 | 27 53.9 | 3.5 | 60.9 |
| | 20 | 124 4.3 | -16 | 31.8 | 270 40.3 | 1.2 | 27 57.4 | 3.3 | 60.9 |
| | 21 | 139 4.3 | -16 | 32.5 | 285 0.5 | 1.2 | 28 0.7 | 3.0 | 60.8 |
| | 22 | 154 4.2 | -16 | 33.2 | 299 20.7 | 1.2 | 28 3.7 | 2.8 | 60.8 |
| | 23 | 169 4.2 | -16 | 33.9 | 313 41.0 | 1.2 | 28 6.5 | 2.6 | 60.8 |
| | | *v* 0.0 | SD | 16.1 *d* 0.7 | | SD | 16.7 | | |

| d | h | GHA | | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|---|
| **08 Saturday** | 0 | 184 4.2 | -16 | 34.7 | 328 1.2 | 1.2 | 28 9.2 | 2.4 | 60.8 |
| | 1 | 199 4.1 | -16 | 35.4 | 342 21.4 | 1.2 | 28 11.5 | 2.2 | 60.7 |
| | 2 | 214 4.1 | -16 | 36.1 | 356 41.7 | 1.3 | 28 13.7 | 1.9 | 60.7 |
| | 3 | 229 4.0 | -16 | 36.8 | 11 1.9 | 1.3 | 28 15.7 | 1.7 | 60.7 |
| | 4 | 244 4.0 | -16 | 37.6 | 25 22.2 | 1.3 | 28 17.4 | 1.5 | 60.6 |
| | 5 | 259 4.0 | -16 | 38.3 | 39 42.5 | 1.3 | 28 18.9 | 1.3 | 60.6 |
| | 6 | 274 3.9 | -16 | 39.0 | 54 2.8 | 1.3 | 28 20.2 | 1.1 | 60.6 |
| | 7 | 289 3.9 | -16 | 39.7 | 68 23.2 | 1.4 | 28 21.3 | 0.9 | 60.6 |
| | 8 | 304 3.8 | -16 | 40.5 | 82 43.6 | 1.4 | 28 22.1 | 0.6 | 60.5 |
| | 9 | 319 3.8 | -16 | 41.2 | 97 4.0 | 1.4 | 28 22.8 | 0.4 | 60.5 |
| | 10 | 334 3.7 | -16 | 41.9 | 111 24.4 | 1.5 | 28 23.2 | 0.2 | 60.5 |
| | 11 | 349 3.7 | -16 | 42.6 | 125 44.9 | 1.5 | 28 23.4 | 0.0 | 60.4 |
| | 12 | 4 3.6 | -16 | 43.3 | 140 5.4 | 1.6 | 28 23.4 | -0.2 | 60.4 |
| | 13 | 19 3.6 | -16 | 44.1 | 154 26.0 | 1.6 | 28 23.2 | -0.4 | 60.4 |
| | 14 | 34 3.5 | -16 | 44.8 | 168 46.7 | 1.7 | 28 22.8 | -0.6 | 60.4 |
| | 15 | 49 3.5 | -16 | 45.5 | 183 7.3 | 1.7 | 28 22.1 | -0.9 | 60.3 |
| | 16 | 64 3.5 | -16 | 46.2 | 197 28.1 | 1.8 | 28 21.3 | -1.1 | 60.3 |
| | 17 | 79 3.4 | -16 | 46.9 | 211 48.9 | 1.9 | 28 20.2 | -1.3 | 60.3 |
| | 18 | 94 3.4 | -16 | 47.6 | 226 9.7 | 1.9 | 28 19.0 | -1.5 | 60.2 |
| | 19 | 109 3.3 | -16 | 48.4 | 240 30.7 | 2.0 | 28 17.5 | -1.7 | 60.2 |
| | 20 | 124 3.3 | -16 | 49.1 | 254 51.7 | 2.1 | 28 15.8 | -1.9 | 60.2 |
| | 21 | 139 3.2 | -16 | 49.8 | 269 12.7 | 2.1 | 28 13.9 | -2.1 | 60.1 |
| | 22 | 154 3.2 | -16 | 50.5 | 283 33.9 | 2.2 | 28 11.8 | -2.3 | 60.1 |
| | 23 | 169 3.1 | -16 | 51.2 | 297 55.1 | 2.3 | 28 9.5 | -2.5 | 60.1 |
| | | *v* 0.0 | SD | 16.1 *d* 0.7 | | SD | 16.6 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:27 | 07:53 | 09:32 | 13:54 | 15:33 | 16:59 |
| 70 | 06:20 | 07:37 | 08:58 | 14:28 | 15:49 | 17:06 |
| 68 | 06:15 | 07:24 | 08:33 | 14:53 | 16:02 | 17:11 |
| 66 | 06:10 | 07:13 | 08:14 | 15:12 | 16:13 | 17:16 |
| 64 | 06:06 | 07:04 | 07:59 | 15:27 | 16:22 | 17:20 |
| 62 | 06:02 | 06:56 | 07:46 | 15:40 | 16:30 | 17:24 |
| 60 | 05:59 | 06:49 | 07:36 | 15:51 | 16:37 | 17:27 |
| 58 | 05:56 | 06:43 | 07:26 | 16:00 | 16:43 | 17:31 |
| 56 | 05:53 | 06:37 | 07:18 | 16:08 | 16:49 | 17:34 |
| 54 | 05:50 | 06:32 | 07:11 | 16:16 | 16:54 | 17:36 |
| 52 | 05:48 | 06:28 | 07:04 | 16:22 | 16:59 | 17:39 |
| 50 | 05:45 | 06:24 | 06:58 | 16:28 | 17:03 | 17:41 |
| 45 | 05:39 | 06:14 | 06:46 | 16:41 | 17:12 | 17:47 |
| 40 | 05:34 | 06:07 | 06:35 | 16:52 | 17:20 | 17:53 |
| 35 | 05:29 | 05:59 | 06:26 | 17:01 | 17:27 | 17:58 |
| 30 | 05:24 | 05:53 | 06:18 | 17:09 | 17:34 | 18:02 |
| 20 | 05:15 | 05:41 | 06:04 | 17:23 | 17:46 | 18:12 |
| 10 | 05:05 | 05:30 | 05:52 | 17:35 | 17:57 | 18:22 |
| 0 | 04:54 | 05:19 | 05:40 | 17:47 | 18:09 | 18:34 |
| -10 | 04:41 | 05:07 | 05:28 | 17:59 | 18:21 | 18:47 |
| -20 | 04:25 | 04:53 | 05:16 | 18:12 | 18:35 | 19:02 |
| -30 | 04:05 | 04:36 | 05:01 | 18:26 | 18:52 | 19:23 |
| -35 | 03:53 | 04:26 | 04:53 | 18:35 | 19:02 | 19:35 |
| -40 | 03:37 | 04:13 | 04:43 | 18:45 | 19:15 | 19:51 |
| -45 | 03:18 | 03:59 | 04:32 | 18:56 | 19:29 | 20:10 |
| -50 | 02:53 | 03:41 | 04:18 | 19:11 | 19:48 | 20:36 |
| -52 | 02:40 | 03:32 | 04:11 | 19:17 | 19:57 | 20:49 |
| -54 | 02:25 | 03:22 | 04:04 | 19:25 | 20:07 | 21:05 |
| -56 | 02:06 | 03:10 | 03:56 | 19:33 | 20:19 | 21:24 |
| -58 | 01:43 | 02:57 | 03:47 | 19:42 | 20:32 | 21:48 |
| -60 | 01:10 | 02:41 | 03:36 | 19:53 | 20:49 | 22:23 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **06** | **07** | **08** | **06** | **07** | **08** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | | | | |
| 66 | | | | | | |
| 64 | 14:02 | | | 10:55 | | |
| 62 | 14:43 | 14:33 | | 10:15 | 12:42 | |
| 60 | 15:11 | 15:28 | 16:18 | 09:48 | 11:47 | 13:16 |
| 58 | 15:33 | 16:01 | 16:57 | 09:26 | 11:15 | 12:38 |
| 56 | 15:51 | 16:25 | 17:24 | 09:09 | 10:51 | 12:11 |
| 54 | 16:06 | 16:45 | 17:45 | 08:54 | 10:31 | 11:50 |
| 52 | 16:19 | 17:02 | 18:03 | 08:41 | 10:15 | 11:32 |
| 50 | 16:31 | 17:16 | 18:18 | 08:30 | 10:01 | 11:17 |
| 45 | 16:56 | 17:45 | 18:48 | 08:07 | 09:32 | 10:46 |
| 40 | 17:15 | 18:08 | 19:12 | 07:48 | 09:09 | 10:22 |
| 35 | 17:32 | 18:27 | 19:32 | 07:33 | 08:51 | 10:02 |
| 30 | 17:46 | 18:44 | 19:49 | 07:19 | 08:35 | 09:46 |
| 20 | 18:11 | 19:12 | 20:17 | 06:57 | 08:08 | 09:17 |
| 10 | 18:32 | 19:36 | 20:41 | 06:37 | 07:45 | 08:53 |
| 0 | 18:52 | 19:58 | 21:04 | 06:19 | 07:23 | 08:30 |
| -10 | 19:12 | 20:20 | 21:27 | 06:01 | 07:02 | 08:07 |
| -20 | 19:34 | 20:45 | 21:51 | 05:41 | 06:39 | 07:42 |
| -30 | 19:59 | 21:13 | 22:20 | 05:19 | 06:12 | 07:13 |
| -35 | 20:14 | 21:30 | 22:36 | 05:06 | 05:56 | 06:56 |
| -40 | 20:32 | 21:49 | 22:56 | 04:51 | 05:38 | 06:37 |
| -45 | 20:53 | 22:13 | 23:20 | 04:33 | 05:16 | 06:13 |
| -50 | 21:20 | 22:44 | 23:50 | 04:11 | 04:49 | 05:42 |
| -52 | 21:33 | 22:59 | –:– | 04:01 | 04:35 | 05:26 |
| -54 | 21:48 | 23:17 | –:– | 03:49 | 04:20 | 05:08 |
| -56 | 22:06 | 23:39 | –:– | 03:36 | 04:01 | 04:46 |
| -58 | 22:27 | –:– | 00:07 | 03:21 | 03:39 | 04:19 |
| -60 | 22:55 | –:– | 00:47 | 03:03 | 03:11 | 03:38 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **06** | 16:23 | 16:22 | 11:44 | 00:04 | 12:35 | 15 | 100 |
| **07** | 16:20 | 16:19 | 11:44 | 01:08 | 13:41 | 16 | 97 |
| **08** | 16:17 | 16:15 | 11:44 | 02:14 | 14:47 | 17 | 91 |

## 2025 November 09, 10, 11 (Sun, Monday, Tue)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.4 GHA | Mars 1.4 Dec | Jupiter -2.4 GHA | Jupiter -2.4 Dec | Saturn 0.8 GHA | Saturn 0.8 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 09 Sunday | 0 | 48 25.3 | 197 34.4 | -11 6.2 | 167 21.1 | -21 15.4 | 291 18.7 | 21 12.5 | 51 35.9 | -4 2.2 |
| | 1 | 63 27.8 | 212 33.9 | -11 7.3 | 182 21.7 | -21 15.7 | 306 21.2 | 21 12.5 | 66 38.5 | -4 2.2 |
| | 2 | 78 30.3 | 227 33.4 | -11 8.4 | 197 22.2 | -21 16.1 | 321 23.6 | 21 12.5 | 81 41.0 | -4 2.3 |
| | 3 | 93 32.7 | 242 32.9 | -11 9.5 | 212 22.8 | -21 16.5 | 336 26.1 | 21 12.5 | 96 43.6 | -4 2.3 |
| | 4 | 108 35.2 | 257 32.3 | -11 10.6 | 227 23.4 | -21 16.8 | 351 28.5 | 21 12.5 | 111 46.1 | -4 2.3 |
| | 5 | 123 37.7 | 272 31.8 | -11 11.7 | 242 24.0 | -21 17.2 | 6 30.9 | 21 12.5 | 126 48.6 | -4 2.3 |
| | 6 | 138 40.1 | 287 31.3 | -11 12.8 | 257 24.5 | -21 17.6 | 21 33.4 | 21 12.5 | 141 51.2 | -4 2.4 |
| | 7 | 153 42.6 | 302 30.8 | -11 14.0 | 272 25.1 | -21 18.0 | 36 35.8 | 21 12.5 | 156 53.7 | -4 2.4 |
| | 8 | 168 45.1 | 317 30.3 | -11 15.1 | 287 25.7 | -21 18.3 | 51 38.3 | 21 12.5 | 171 56.3 | -4 2.4 |
| | 9 | 183 47.5 | 332 29.7 | -11 16.2 | 302 26.2 | -21 18.7 | 66 40.7 | 21 12.5 | 186 58.8 | -4 2.4 |
| | 10 | 198 50.0 | 347 29.2 | -11 17.3 | 317 26.8 | -21 19.1 | 81 43.2 | 21 12.5 | 202 1.3 | -4 2.5 |
| | 11 | 213 52.4 | 2 28.7 | -11 18.4 | 332 27.4 | -21 19.4 | 96 45.6 | 21 12.5 | 217 3.9 | -4 2.5 |
| | 12 | 228 54.9 | 17 28.2 | -11 19.5 | 347 27.9 | -21 19.8 | 111 48.0 | 21 12.5 | 232 6.4 | -4 2.5 |
| | 13 | 243 57.4 | 32 27.7 | -11 20.6 | 2 28.5 | -21 20.2 | 126 50.5 | 21 12.5 | 247 9.0 | -4 2.5 |
| | 14 | 258 59.8 | 47 27.1 | -11 21.7 | 17 29.1 | -21 20.5 | 141 52.9 | 21 12.5 | 262 11.5 | -4 2.6 |
| | 15 | 274 2.3 | 62 26.6 | -11 22.9 | 32 29.7 | -21 20.9 | 156 55.4 | 21 12.5 | 277 14.1 | -4 2.6 |
| | 16 | 289 4.8 | 77 26.1 | -11 24.0 | 47 30.2 | -21 21.2 | 171 57.8 | 21 12.5 | 292 16.6 | -4 2.6 |
| | 17 | 304 7.2 | 92 25.6 | -11 25.1 | 62 30.8 | -21 21.6 | 187 0.3 | 21 12.5 | 307 19.1 | -4 2.6 |
| | 18 | 319 9.7 | 107 25.0 | -11 26.2 | 77 31.4 | -21 22.0 | 202 2.7 | 21 12.5 | 322 21.7 | -4 2.7 |
| | 19 | 334 12.2 | 122 24.5 | -11 27.3 | 92 31.9 | -21 22.3 | 217 5.2 | 21 12.5 | 337 24.2 | -4 2.7 |
| | 20 | 349 14.6 | 137 24.0 | -11 28.4 | 107 32.5 | -21 22.7 | 232 7.6 | 21 12.5 | 352 26.8 | -4 2.7 |
| | 21 | 4 17.1 | 152 23.5 | -11 29.5 | 122 33.1 | -21 23.1 | 247 10.0 | 21 12.5 | 7 29.3 | -4 2.7 |
| | 22 | 19 19.6 | 167 22.9 | -11 30.6 | 137 33.6 | -21 23.4 | 262 12.5 | 21 12.5 | 22 31.8 | -4 2.8 |
| | 23 | 34 22.0 | 182 22.4 | -11 31.7 | 152 34.2 | -21 23.8 | 277 14.9 | 21 12.5 | 37 34.4 | -4 2.8 |
| | | MP 20:44 | *v* -0.5 | *d* 1.1 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.4 GHA | Mars 1.4 Dec | Jupiter -2.4 GHA | Jupiter -2.4 Dec | Saturn 0.8 GHA | Saturn 0.8 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 Monday | 0 | 49 24.5 | 197 21.9 | -11 32.8 | 167 34.8 | -21 24.1 | 292 17.4 | 21 12.5 | 52 36.9 | -4 2.8 |
| | 1 | 64 26.9 | 212 21.4 | -11 33.9 | 182 35.3 | -21 24.5 | 307 19.8 | 21 12.5 | 67 39.5 | -4 2.8 |
| | 2 | 79 29.4 | 227 20.8 | -11 35.0 | 197 35.9 | -21 24.9 | 322 22.3 | 21 12.5 | 82 42.0 | -4 2.9 |
| | 3 | 94 31.9 | 242 20.3 | -11 36.1 | 212 36.4 | -21 25.2 | 337 24.7 | 21 12.5 | 97 44.5 | -4 2.9 |
| | 4 | 109 34.3 | 257 19.8 | -11 37.2 | 227 37.0 | -21 25.6 | 352 27.2 | 21 12.5 | 112 47.1 | -4 2.9 |
| | 5 | 124 36.8 | 272 19.2 | -11 38.4 | 242 37.6 | -21 26.0 | 7 29.6 | 21 12.5 | 127 49.6 | -4 2.9 |
| | 6 | 139 39.3 | 287 18.7 | -11 39.5 | 257 38.1 | -21 26.3 | 22 32.1 | 21 12.5 | 142 52.2 | -4 3.0 |
| | 7 | 154 41.7 | 302 18.2 | -11 40.6 | 272 38.7 | -21 26.7 | 37 34.5 | 21 12.6 | 157 54.7 | -4 3.0 |
| | 8 | 169 44.2 | 317 17.7 | -11 41.7 | 287 39.3 | -21 27.0 | 52 37.0 | 21 12.6 | 172 57.2 | -4 3.0 |
| | 9 | 184 46.7 | 332 17.1 | -11 42.8 | 302 39.8 | -21 27.4 | 67 39.4 | 21 12.6 | 187 59.8 | -4 3.0 |
| | 10 | 199 49.1 | 347 16.6 | -11 43.9 | 317 40.4 | -21 27.7 | 82 41.9 | 21 12.6 | 203 2.3 | -4 3.1 |
| | 11 | 214 51.6 | 2 16.1 | -11 45.0 | 332 41.0 | -21 28.1 | 97 44.3 | 21 12.6 | 218 4.8 | -4 3.1 |
| | 12 | 229 54.1 | 17 15.5 | -11 46.1 | 347 41.5 | -21 28.5 | 112 46.8 | 21 12.6 | 233 7.4 | -4 3.1 |
| | 13 | 244 56.5 | 32 15.0 | -11 47.2 | 2 42.1 | -21 28.8 | 127 49.2 | 21 12.6 | 248 9.9 | -4 3.1 |
| | 14 | 259 59.0 | 47 14.5 | -11 48.3 | 17 42.6 | -21 29.2 | 142 51.7 | 21 12.6 | 263 12.5 | -4 3.2 |
| | 15 | 275 1.4 | 62 13.9 | -11 49.4 | 32 43.2 | -21 29.5 | 157 54.2 | 21 12.6 | 278 15.0 | -4 3.2 |
| | 16 | 290 3.9 | 77 13.4 | -11 50.5 | 47 43.8 | -21 29.9 | 172 56.6 | 21 12.6 | 293 17.5 | -4 3.2 |
| | 17 | 305 6.4 | 92 12.9 | -11 51.6 | 62 44.3 | -21 30.2 | 187 59.1 | 21 12.6 | 308 20.1 | -4 3.2 |
| | 18 | 320 8.8 | 107 12.3 | -11 52.7 | 77 44.9 | -21 30.6 | 203 1.5 | 21 12.6 | 323 22.6 | -4 3.2 |
| | 19 | 335 11.3 | 122 11.8 | -11 53.8 | 92 45.4 | -21 31.0 | 218 4.0 | 21 12.6 | 338 25.1 | -4 3.3 |
| | 20 | 350 13.8 | 137 11.3 | -11 54.9 | 107 46.0 | -21 31.3 | 233 6.4 | 21 12.6 | 353 27.7 | -4 3.3 |
| | 21 | 5 16.2 | 152 10.7 | -11 55.9 | 122 46.6 | -21 31.7 | 248 8.9 | 21 12.6 | 8 30.2 | -4 3.3 |
| | 22 | 20 18.7 | 167 10.2 | -11 57.0 | 137 47.1 | -21 32.0 | 263 11.3 | 21 12.6 | 23 32.8 | -4 3.3 |
| | 23 | 35 21.2 | 182 9.7 | -11 58.1 | 152 47.7 | -21 32.4 | 278 13.8 | 21 12.6 | 38 35.3 | -4 3.4 |
| | | MP 20:40 | *v* -0.5 | *d* 1.1 | *v* 0.6 | *d* 0.4 | *v* 2.4 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.4 GHA | Mars 1.4 Dec | Jupiter -2.4 GHA | Jupiter -2.4 Dec | Saturn 0.8 GHA | Saturn 0.8 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 Tuesday | 0 | 50 23.6 | 197 9.1 | -11 59.2 | 167 48.2 | -21 32.7 | 293 16.2 | 21 12.6 | 53 37.8 | -4 3.4 |
| | 1 | 65 26.1 | 212 8.6 | -12 0.3 | 182 48.8 | -21 33.1 | 308 18.7 | 21 12.6 | 68 40.4 | -4 3.4 |
| | 2 | 80 28.5 | 227 8.0 | -12 1.4 | 197 49.4 | -21 33.4 | 323 21.2 | 21 12.6 | 83 42.9 | -4 3.4 |
| | 3 | 95 31.0 | 242 7.5 | -12 2.5 | 212 49.9 | -21 33.8 | 338 23.6 | 21 12.6 | 98 45.4 | -4 3.4 |
| | 4 | 110 33.5 | 257 7.0 | -12 3.6 | 227 50.5 | -21 34.1 | 353 26.1 | 21 12.6 | 113 48.0 | -4 3.5 |
| | 5 | 125 35.9 | 272 6.4 | -12 4.7 | 242 51.0 | -21 34.5 | 8 28.5 | 21 12.7 | 128 50.5 | -4 3.5 |
| | 6 | 140 38.4 | 287 5.9 | -12 5.8 | 257 51.6 | -21 34.8 | 23 31.0 | 21 12.7 | 143 53.0 | -4 3.5 |
| | 7 | 155 40.9 | 302 5.3 | -12 6.9 | 272 52.2 | -21 35.2 | 38 33.5 | 21 12.7 | 158 55.6 | -4 3.5 |
| | 8 | 170 43.3 | 317 4.8 | -12 8.0 | 287 52.7 | -21 35.6 | 53 35.9 | 21 12.7 | 173 58.1 | -4 3.6 |
| | 9 | 185 45.8 | 332 4.3 | -12 9.1 | 302 53.3 | -21 35.9 | 68 38.4 | 21 12.7 | 189 0.6 | -4 3.6 |
| | 10 | 200 48.3 | 347 3.7 | -12 10.2 | 317 53.8 | -21 36.3 | 83 40.8 | 21 12.7 | 204 3.2 | -4 3.6 |
| | 11 | 215 50.7 | 2 3.2 | -12 11.2 | 332 54.4 | -21 36.6 | 98 43.3 | 21 12.7 | 219 5.7 | -4 3.6 |
| | 12 | 230 53.2 | 17 2.6 | -12 12.3 | 347 54.9 | -21 37.0 | 113 45.8 | 21 12.7 | 234 8.2 | -4 3.6 |
| | 13 | 245 55.7 | 32 2.1 | -12 13.4 | 2 55.5 | -21 37.3 | 128 48.2 | 21 12.7 | 249 10.8 | -4 3.7 |
| | 14 | 260 58.1 | 47 1.6 | -12 14.5 | 17 56.0 | -21 37.7 | 143 50.7 | 21 12.7 | 264 13.3 | -4 3.7 |
| | 15 | 276 0.6 | 62 1.0 | -12 15.6 | 32 56.6 | -21 38.0 | 158 53.1 | 21 12.7 | 279 15.8 | -4 3.7 |
| | 16 | 291 3.0 | 77 0.5 | -12 16.7 | 47 57.2 | -21 38.3 | 173 55.6 | 21 12.7 | 294 18.4 | -4 3.7 |
| | 17 | 306 5.5 | 91 59.9 | -12 17.8 | 62 57.7 | -21 38.7 | 188 58.1 | 21 12.7 | 309 20.9 | -4 3.8 |
| | 18 | 321 8.0 | 106 59.4 | -12 18.9 | 77 58.3 | -21 39.0 | 204 0.5 | 21 12.7 | 324 23.4 | -4 3.8 |
| | 19 | 336 10.4 | 121 58.8 | -12 19.9 | 92 58.8 | -21 39.4 | 219 3.0 | 21 12.7 | 339 26.0 | -4 3.8 |
| | 20 | 351 12.9 | 136 58.3 | -12 21.0 | 107 59.4 | -21 39.7 | 234 5.5 | 21 12.7 | 354 28.5 | -4 3.8 |
| | 21 | 6 15.4 | 151 57.7 | -12 22.1 | 122 59.9 | -21 40.1 | 249 7.9 | 21 12.7 | 9 31.0 | -4 3.8 |
| | 22 | 21 17.8 | 166 57.2 | -12 23.2 | 138 0.5 | -21 40.4 | 264 10.4 | 21 12.7 | 24 33.6 | -4 3.9 |
| | 23 | 36 20.3 | 181 56.6 | -12 24.3 | 153 1.0 | -21 40.8 | 279 12.9 | 21 12.8 | 39 36.1 | -4 3.9 |
| | | MP 20:36 | *v* -0.5 | *d* 1.1 | *v* 0.6 | *d* 0.4 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.0 |
| Achernar | 335 19.1 | -57 6.4 |
| Acrux | 172 59.9 | -63 14.3 |
| Adhara | 255 5.1 | -29 0.2 |
| Aldebaran | 290 38.5 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.0 |
| Alkaid | 152 51.9 | 49 11.0 |
| Alnair | 27 32.0 | -46 50.3 |
| Alnilam | 275 36.8 | -1 11.0 |
| Alphard | 217 47.1 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.7 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.4 | 8 56.3 |
| Ankaa | 353 6.1 | -42 10.0 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.9 |
| Atria | 107 9.5 | -69 4.5 |
| Avior | 234 14.3 | -59 35.2 |
| Bellatrix | 278 21.9 | 6 22.5 |
| Betelgeuse | 270 51.1 | 7 24.8 |
| Canopus | 263 51.7 | -52 42.3 |
| Capella | 280 20.5 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.6 |
| Denebola | 182 24.5 | 14 25.7 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.5 | 61 36.5 |
| Elnath | 278 0.7 | 28 37.7 |
| Eltanin | 90 42.3 | 51 29.3 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.2 |
| Gacrux | 171 51.4 | -57 15.3 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.7 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 21.0 | 74 2.9 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.7 |
| Miaplacidus | 221 38.2 | -69 49.0 |
| Mirfak | 308 26.8 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.8 | -56 39.3 |
| Pollux | 243 16.3 | 27 57.8 |
| Procyon | 244 50.0 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 33.8 | 11 50.5 |
| Rigel | 281 2.9 | -8 10.2 |
| Rigil Kent. | 139 40.1 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 41.0 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.4 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.8 | -43 31.9 |
| Vega | 80 33.0 | 38 48.6 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 09 Sun | SHA | MP |
|---|---|---|
| Venus | 149 9.1 | 10:50 |
| Mars | 118 55.8 | 12:50 |
| Jupiter | 242 53.4 | 04:34 |
| Saturn | 3 10.6 | 20:30 |

| 10 Mon | SHA | MP |
|---|---|---|
| Venus | 147 57.4 | 10:51 |
| Mars | 118 10.3 | 12:49 |
| Jupiter | 242 52.9 | 04:30 |
| Saturn | 3 12.4 | 20:26 |

| 11 Tue | SHA | MP |
|---|---|---|
| Venus | 146 45.5 | 10:52 |
| Mars | 117 24.6 | 12:48 |
| Jupiter | 242 52.6 | 04:26 |
| Saturn | 3 14.2 | 20:22 |

| | | Sun | | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | | Dec | GHA | *v* | Dec | *d* | HP |
| **09 Sunday** | 0 | 184 | 3.1 | -16 51.9 | 312 16.4 | 2.4 | 28 7.0 | -2.7 | 60.0 |
| | 1 | 199 | 3.0 | -16 52.7 | 326 37.8 | 2.5 | 28 4.3 | -2.9 | 60.0 |
| | 2 | 214 | 3.0 | -16 53.4 | 340 59.3 | 2.6 | 28 1.4 | -3.1 | 60.0 |
| | 3 | 229 | 2.9 | -16 54.1 | 355 20.8 | 2.7 | 27 58.3 | -3.3 | 59.9 |
| | 4 | 244 | 2.9 | -16 54.8 | 9 42.5 | 2.7 | 27 55.0 | -3.5 | 59.9 |
| | 5 | 259 | 2.8 | -16 55.5 | 24 4.2 | 2.8 | 27 51.5 | -3.7 | 59.8 |
| | 6 | 274 | 2.8 | -16 56.2 | 38 26.1 | 2.9 | 27 47.8 | -3.9 | 59.8 |
| | 7 | 289 | 2.7 | -16 56.9 | 52 48.0 | 3.0 | 27 43.9 | -4.1 | 59.8 |
| | 8 | 304 | 2.6 | -16 57.6 | 67 10.1 | 3.1 | 27 39.8 | -4.3 | 59.7 |
| | 9 | 319 | 2.6 | -16 58.3 | 81 32.2 | 3.2 | 27 35.5 | -4.5 | 59.7 |
| | 10 | 334 | 2.5 | -16 59.1 | 95 54.4 | 3.4 | 27 31.1 | -4.6 | 59.7 |
| | 11 | 349 | 2.5 | -16 59.8 | 110 16.8 | 3.5 | 27 26.4 | -4.8 | 59.6 |
| | 12 | 4 | 2.4 | -17 0.5 | 124 39.3 | 3.6 | 27 21.6 | -5.0 | 59.6 |
| | 13 | 19 | 2.4 | -17 1.2 | 139 1.8 | 3.7 | 27 16.6 | -5.2 | 59.6 |
| | 14 | 34 | 2.3 | -17 1.9 | 153 24.5 | 3.8 | 27 11.4 | -5.4 | 59.5 |
| | 15 | 49 | 2.3 | -17 2.6 | 167 47.3 | 3.9 | 27 6.0 | -5.6 | 59.5 |
| | 16 | 64 | 2.2 | -17 3.3 | 182 10.3 | 4.0 | 27 0.5 | -5.7 | 59.5 |
| | 17 | 79 | 2.2 | -17 4.0 | 196 33.3 | 4.2 | 26 54.7 | -5.9 | 59.4 |
| | 18 | 94 | 2.1 | -17 4.7 | 210 56.5 | 4.3 | 26 48.8 | -6.1 | 59.4 |
| | 19 | 109 | 2.0 | -17 5.4 | 225 19.7 | 4.4 | 26 42.8 | -6.2 | 59.3 |
| | 20 | 124 | 2.0 | -17 6.1 | 239 43.1 | 4.5 | 26 36.5 | -6.4 | 59.3 |
| | 21 | 139 | 1.9 | -17 6.8 | 254 6.7 | 4.7 | 26 30.1 | -6.6 | 59.3 |
| | 22 | 154 | 1.9 | -17 7.5 | 268 30.3 | 4.8 | 26 23.5 | -6.7 | 59.2 |
| | 23 | 169 | 1.8 | -17 8.2 | 282 54.1 | 4.9 | 26 16.8 | -6.9 | 59.2 |
| | | *v* -0.1 | | SD 16.1 *d* 0.7 | | | SD 16.4 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | | Dec | GHA | *v* | Dec | *d* | HP |
| **10 Monday** | 0 | 184 | 1.7 | -17 8.9 | 297 18.0 | 5.0 | 26 9.9 | -7.1 | 59.1 |
| | 1 | 199 | 1.7 | -17 9.6 | 311 42.0 | 5.2 | 26 2.8 | -7.2 | 59.1 |
| | 2 | 214 | 1.6 | -17 10.3 | 326 6.2 | 5.3 | 25 55.6 | -7.4 | 59.1 |
| | 3 | 229 | 1.6 | -17 11.0 | 340 30.5 | 5.4 | 25 48.2 | -7.5 | 59.0 |
| | 4 | 244 | 1.5 | -17 11.7 | 354 54.9 | 5.6 | 25 40.6 | -7.7 | 59.0 |
| | 5 | 259 | 1.4 | -17 12.4 | 9 19.5 | 5.7 | 25 32.9 | -7.8 | 59.0 |
| | 6 | 274 | 1.4 | -17 13.1 | 23 44.2 | 5.8 | 25 25.1 | -8.0 | 58.9 |
| | 7 | 289 | 1.3 | -17 13.8 | 38 9.0 | 6.0 | 25 17.1 | -8.1 | 58.9 |
| | 8 | 304 | 1.3 | -17 14.5 | 52 34.0 | 6.1 | 25 8.9 | -8.3 | 58.8 |
| | 9 | 319 | 1.2 | -17 15.2 | 66 59.1 | 6.2 | 25 0.7 | -8.4 | 58.8 |
| | 10 | 334 | 1.1 | -17 15.9 | 81 24.3 | 6.4 | 24 52.2 | -8.6 | 58.8 |
| | 11 | 349 | 1.1 | -17 16.6 | 95 49.7 | 6.5 | 24 43.6 | -8.7 | 58.7 |
| | 12 | 4 | 1.0 | -17 17.3 | 110 15.2 | 6.6 | 24 34.9 | -8.9 | 58.7 |
| | 13 | 19 | 0.9 | -17 18.0 | 124 40.9 | 6.8 | 24 26.1 | -9.0 | 58.6 |
| | 14 | 34 | 0.9 | -17 18.7 | 139 6.6 | 6.9 | 24 17.1 | -9.1 | 58.6 |
| | 15 | 49 | 0.8 | -17 19.4 | 153 32.6 | 7.1 | 24 8.0 | -9.3 | 58.6 |
| | 16 | 64 | 0.7 | -17 20.1 | 167 58.6 | 7.2 | 23 58.7 | -9.4 | 58.5 |
| | 17 | 79 | 0.7 | -17 20.8 | 182 24.8 | 7.3 | 23 49.3 | -9.5 | 58.5 |
| | 18 | 94 | 0.6 | -17 21.5 | 196 51.2 | 7.5 | 23 39.8 | -9.6 | 58.5 |
| | 19 | 109 | 0.5 | -17 22.2 | 211 17.6 | 7.6 | 23 30.2 | -9.8 | 58.4 |
| | 20 | 124 | 0.5 | -17 22.9 | 225 44.2 | 7.7 | 23 20.4 | -9.9 | 58.4 |
| | 21 | 139 | 0.4 | -17 23.5 | 240 11.0 | 7.9 | 23 10.5 | -10.0 | 58.3 |
| | 22 | 154 | 0.3 | -17 24.2 | 254 37.9 | 8.0 | 23 0.5 | -10.1 | 58.3 |
| | 23 | 169 | 0.3 | -17 24.9 | 269 4.9 | 8.2 | 22 50.4 | -10.2 | 58.3 |
| | | *v* -0.1 | | SD 16.1 *d* 0.7 | | | SD 16.1 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | | Dec | GHA | *v* | Dec | *d* | HP |
| **11 Tuesday** | 0 | 184 | 0.2 | -17 25.6 | 283 32.0 | 8.3 | 22 40.1 | -10.4 | 58.2 |
| | 1 | 199 | 0.1 | -17 26.3 | 297 59.3 | 8.4 | 22 29.8 | -10.5 | 58.2 |
| | 2 | 214 | 0.1 | -17 27.0 | 312 26.8 | 8.6 | 22 19.3 | -10.6 | 58.1 |
| | 3 | 229 | 0.0 | -17 27.7 | 326 54.3 | 8.7 | 22 8.7 | -10.7 | 58.1 |
| | 4 | 243 | 59.9 | -17 28.4 | 341 22.0 | 8.8 | 21 58.0 | -10.8 | 58.1 |
| | 5 | 258 | 59.9 | -17 29.1 | 355 49.9 | 9.0 | 21 47.3 | -10.9 | 58.0 |
| | 6 | 273 | 59.8 | -17 29.7 | 10 17.8 | 9.1 | 21 36.4 | -11.0 | 58.0 |
| | 7 | 288 | 59.7 | -17 30.4 | 24 45.9 | 9.2 | 21 25.3 | -11.1 | 58.0 |
| | 8 | 303 | 59.7 | -17 31.1 | 39 14.2 | 9.4 | 21 14.2 | -11.2 | 57.9 |
| | 9 | 318 | 59.6 | -17 31.8 | 53 42.5 | 9.5 | 21 3.0 | -11.3 | 57.9 |
| | 10 | 333 | 59.5 | -17 32.5 | 68 11.0 | 9.6 | 20 51.7 | -11.4 | 57.8 |
| | 11 | 348 | 59.4 | -17 33.2 | 82 39.7 | 9.8 | 20 40.3 | -11.5 | 57.8 |
| | 12 | 3 | 59.4 | -17 33.9 | 97 8.4 | 9.9 | 20 28.8 | -11.6 | 57.8 |
| | 13 | 18 | 59.3 | -17 34.5 | 111 37.3 | 10.0 | 20 17.3 | -11.7 | 57.7 |
| | 14 | 33 | 59.2 | -17 35.2 | 126 6.3 | 10.1 | 20 5.6 | -11.8 | 57.7 |
| | 15 | 48 | 59.1 | -17 35.9 | 140 35.5 | 10.3 | 19 53.8 | -11.9 | 57.7 |
| | 16 | 63 | 59.1 | -17 36.6 | 155 4.8 | 10.4 | 19 42.0 | -11.9 | 57.6 |
| | 17 | 78 | 59.0 | -17 37.3 | 169 34.2 | 10.5 | 19 30.0 | -12.0 | 57.6 |
| | 18 | 93 | 58.9 | -17 37.9 | 184 3.7 | 10.6 | 19 18.0 | -12.1 | 57.5 |
| | 19 | 108 | 58.8 | -17 38.6 | 198 33.3 | 10.8 | 19 5.9 | -12.2 | 57.5 |
| | 20 | 123 | 58.8 | -17 39.3 | 213 3.1 | 10.9 | 18 53.7 | -12.3 | 57.5 |
| | 21 | 138 | 58.7 | -17 40.0 | 227 33.0 | 11.0 | 18 41.4 | -12.3 | 57.4 |
| | 22 | 153 | 58.6 | -17 40.7 | 242 3.0 | 11.1 | 18 29.1 | -12.4 | 57.4 |
| | 23 | 168 | 58.5 | -17 41.3 | 256 33.1 | 11.2 | 18 16.7 | -12.5 | 57.4 |
| | | *v* -0.1 | | SD 16.2 *d* 0.7 | | | SD 15.9 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:38 | 08:07 | 09:56 | 13:31 | 15:19 | 16:48 |
| 70 | 06:30 | 07:49 | 09:14 | 14:12 | 15:38 | 16:56 |
| 68 | 06:24 | 07:34 | 08:46 | 14:40 | 15:52 | 17:03 |
| 66 | 06:18 | 07:22 | 08:25 | 15:01 | 16:04 | 17:08 |
| 64 | 06:13 | 07:12 | 08:09 | 15:18 | 16:15 | 17:13 |
| 62 | 06:09 | 07:03 | 07:55 | 15:32 | 16:23 | 17:18 |
| 60 | 06:05 | 06:56 | 07:43 | 15:44 | 16:31 | 17:22 |
| 58 | 06:02 | 06:49 | 07:33 | 15:54 | 16:38 | 17:25 |
| 56 | 05:58 | 06:43 | 07:24 | 16:03 | 16:44 | 17:29 |
| 54 | 05:55 | 06:38 | 07:17 | 16:10 | 16:49 | 17:32 |
| 52 | 05:52 | 06:33 | 07:10 | 16:17 | 16:54 | 17:35 |
| 50 | 05:50 | 06:28 | 07:03 | 16:24 | 16:59 | 17:38 |
| 45 | 05:43 | 06:18 | 06:50 | 16:38 | 17:09 | 17:44 |
| 40 | 05:37 | 06:10 | 06:38 | 16:49 | 17:17 | 17:50 |
| 35 | 05:32 | 06:02 | 06:29 | 16:59 | 17:25 | 17:55 |
| 30 | 05:27 | 05:55 | 06:20 | 17:07 | 17:32 | 18:01 |
| 20 | 05:16 | 05:43 | 06:06 | 17:22 | 17:45 | 18:11 |
| 10 | 05:05 | 05:31 | 05:53 | 17:35 | 17:57 | 18:22 |
| 0 | 04:54 | 05:19 | 05:40 | 17:47 | 18:09 | 18:34 |
| -10 | 04:40 | 05:06 | 05:28 | 18:00 | 18:22 | 18:48 |
| -20 | 04:24 | 04:51 | 05:15 | 18:13 | 18:37 | 19:04 |
| -30 | 04:03 | 04:34 | 04:59 | 18:29 | 18:55 | 19:25 |
| -35 | 03:50 | 04:23 | 04:50 | 18:38 | 19:05 | 19:39 |
| -40 | 03:33 | 04:10 | 04:40 | 18:48 | 19:18 | 19:55 |
| -45 | 03:13 | 03:55 | 04:28 | 19:01 | 19:34 | 20:16 |
| -50 | 02:46 | 03:35 | 04:13 | 19:16 | 19:54 | 20:43 |
| -52 | 02:32 | 03:26 | 04:06 | 19:23 | 20:03 | 20:57 |
| -54 | 02:16 | 03:15 | 03:58 | 19:31 | 20:14 | 21:14 |
| -56 | 01:56 | 03:03 | 03:50 | 19:39 | 20:27 | 21:35 |
| -58 | 01:29 | 02:49 | 03:40 | 19:49 | 20:41 | 22:02 |
| -60 | 00:49 | 02:31 | 03:28 | 20:01 | 20:59 | 22:47 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **09** | **10** | **11** | **09** | **10** | **11** |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | 19:03 | ▭ | ▭ | 16:44 |
| 68 | ▭ | ▭ | 19:59 | ▭ | ▭ | 15:47 |
| 66 | ▭ | 17:37 | 20:32 | ▭ | 16:17 | 15:13 |
| 64 | ▭ | 18:44 | 20:55 | ▭ | 15:09 | 14:48 |
| 62 | 17:08 | 19:19 | 21:14 | 14:41 | 14:33 | 14:28 |
| 60 | 17:54 | 19:44 | 21:30 | 13:55 | 14:07 | 14:11 |
| 58 | 18:24 | 20:04 | 21:42 | 13:25 | 13:47 | 13:58 |
| 56 | 18:47 | 20:21 | 21:54 | 13:01 | 13:30 | 13:46 |
| 54 | 19:05 | 20:35 | 22:03 | 12:43 | 13:15 | 13:35 |
| 52 | 19:21 | 20:47 | 22:12 | 12:27 | 13:02 | 13:26 |
| 50 | 19:34 | 20:57 | 22:20 | 12:13 | 12:51 | 13:17 |
| 45 | 20:02 | 21:20 | 22:36 | 11:44 | 12:28 | 12:59 |
| 40 | 20:24 | 21:38 | 22:50 | 11:22 | 12:09 | 12:45 |
| 35 | 20:42 | 21:53 | 23:01 | 11:03 | 11:53 | 12:32 |
| 30 | 20:57 | 22:06 | 23:11 | 10:47 | 11:39 | 12:21 |
| 20 | 21:23 | 22:28 | 23:28 | 10:20 | 11:15 | 12:02 |
| 10 | 21:46 | 22:47 | 23:42 | 09:57 | 10:54 | 11:45 |
| 0 | 22:07 | 23:04 | 23:56 | 09:35 | 10:35 | 11:30 |
| -10 | 22:28 | 23:22 | –:– | 09:13 | 10:16 | 11:14 |
| -20 | 22:50 | 23:41 | –:– | 08:49 | 09:55 | 10:57 |
| -30 | 23:16 | –:– | 00:02 | 08:21 | 09:30 | 10:37 |
| -35 | 23:31 | –:– | 00:15 | 08:04 | 09:16 | 10:26 |
| -40 | 23:49 | –:– | 00:29 | 07:45 | 08:59 | 10:12 |
| -45 | –:– | 00:10 | 00:47 | 07:22 | 08:39 | 09:57 |
| -50 | –:– | 00:36 | 01:08 | 06:52 | 08:13 | 09:37 |
| -52 | 00:05 | 00:49 | 01:17 | 06:37 | 08:01 | 09:28 |
| -54 | 00:23 | 01:04 | 01:29 | 06:20 | 07:47 | 09:17 |
| -56 | 00:44 | 01:21 | 01:41 | 05:59 | 07:30 | 09:05 |
| -58 | 01:11 | 01:42 | 01:56 | 05:32 | 07:10 | 08:51 |
| -60 | 01:48 | 02:07 | 02:13 | 04:55 | 06:44 | 08:35 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **09** | 16:12 | 16:10 | 11:44 | 03:19 | 15:51 | 18 | 83 |
| **10** | 16:07 | 16:04 | 11:44 | 04:21 | 16:50 | 19 | 74 |
| **11** | 16:01 | 15:57 | 11:44 | 05:17 | 17:43 | 20 | 63 |

## 2025 November 12, 13, 14 (Wed, Thu, Fri)

| | | Aries | Venus -3.9 | | Mars 1.4 | | Jupiter -2.4 | | Saturn 0.8 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 12 Wednesday | 0 | 51 22.8 | 196 56.1 | -12 25.4 | 168 1.6 | -21 41.1 | 294 15.3 | 21 12.8 | 54 38.6 | -4 3.9 |
| | 1 | 66 25.2 | 211 55.5 | -12 26.4 | 183 2.1 | -21 41.5 | 309 17.8 | 21 12.8 | 69 41.2 | -4 3.9 |
| | 2 | 81 27.7 | 226 55.0 | -12 27.5 | 198 2.7 | -21 41.8 | 324 20.3 | 21 12.8 | 84 43.7 | -4 3.9 |
| | 3 | 96 30.2 | 241 54.4 | -12 28.6 | 213 3.2 | -21 42.2 | 339 22.7 | 21 12.8 | 99 46.2 | -4 4.0 |
| | 4 | 111 32.6 | 256 53.9 | -12 29.7 | 228 3.8 | -21 42.5 | 354 25.2 | 21 12.8 | 114 48.8 | -4 4.0 |
| | 5 | 126 35.1 | 271 53.4 | -12 30.8 | 243 4.4 | -21 42.8 | 9 27.7 | 21 12.8 | 129 51.3 | -4 4.0 |
| | 6 | 141 37.5 | 286 52.8 | -12 31.8 | 258 4.9 | -21 43.2 | 24 30.1 | 21 12.8 | 144 53.8 | -4 4.0 |
| | 7 | 156 40.0 | 301 52.3 | -12 32.9 | 273 5.5 | -21 43.5 | 39 32.6 | 21 12.8 | 159 56.4 | -4 4.0 |
| | 8 | 171 42.5 | 316 51.7 | -12 34.0 | 288 6.0 | -21 43.9 | 54 35.1 | 21 12.8 | 174 58.9 | -4 4.1 |
| | 9 | 186 44.9 | 331 51.1 | -12 35.1 | 303 6.6 | -21 44.2 | 69 37.5 | 21 12.8 | 190 1.4 | -4 4.1 |
| | 10 | 201 47.4 | 346 50.6 | -12 36.2 | 318 7.1 | -21 44.6 | 84 40.0 | 21 12.8 | 205 4.0 | -4 4.1 |
| | 11 | 216 49.9 | 1 50.0 | -12 37.2 | 333 7.7 | -21 44.9 | 99 42.5 | 21 12.8 | 220 6.5 | -4 4.1 |
| | 12 | 231 52.3 | 16 49.5 | -12 38.3 | 348 8.2 | -21 45.2 | 114 44.9 | 21 12.8 | 235 9.0 | -4 4.1 |
| | 13 | 246 54.8 | 31 48.9 | -12 39.4 | 3 8.8 | -21 45.6 | 129 47.4 | 21 12.8 | 250 11.5 | -4 4.2 |
| | 14 | 261 57.3 | 46 48.4 | -12 40.5 | 18 9.3 | -21 45.9 | 144 49.9 | 21 12.9 | 265 14.1 | -4 4.2 |
| | 15 | 276 59.7 | 61 47.8 | -12 41.5 | 33 9.9 | -21 46.3 | 159 52.3 | 21 12.9 | 280 16.6 | -4 4.2 |
| | 16 | 292 2.2 | 76 47.3 | -12 42.6 | 48 10.4 | -21 46.6 | 174 54.8 | 21 12.9 | 295 19.1 | -4 4.2 |
| | 17 | 307 4.6 | 91 46.7 | -12 43.7 | 63 10.9 | -21 46.9 | 189 57.3 | 21 12.9 | 310 21.7 | -4 4.2 |
| | 18 | 322 7.1 | 106 46.2 | -12 44.8 | 78 11.5 | -21 47.3 | 204 59.8 | 21 12.9 | 325 24.2 | -4 4.3 |
| | 19 | 337 9.6 | 121 45.6 | -12 45.8 | 93 12.0 | -21 47.6 | 220 2.2 | 21 12.9 | 340 26.7 | -4 4.3 |
| | 20 | 352 12.0 | 136 45.1 | -12 46.9 | 108 12.6 | -21 48.0 | 235 4.7 | 21 12.9 | 355 29.3 | -4 4.3 |
| | 21 | 7 14.5 | 151 44.5 | -12 48.0 | 123 13.1 | -21 48.3 | 250 7.2 | 21 12.9 | 10 31.8 | -4 4.3 |
| | 22 | 22 17.0 | 166 43.9 | -12 49.0 | 138 13.7 | -21 48.6 | 265 9.7 | 21 12.9 | 25 34.3 | -4 4.3 |
| | 23 | 37 19.4 | 181 43.4 | -12 50.1 | 153 14.2 | -21 49.0 | 280 12.1 | 21 12.9 | 40 36.8 | -4 4.4 |
| | | MP 20:32 | *v* -0.5 | *d* 1.1 | *v* 0.6 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |
| 13 Thursday | 0 | 52 21.9 | 196 42.8 | -12 51.2 | 168 14.8 | -21 49.3 | 295 14.6 | 21 12.9 | 55 39.4 | -4 4.4 |
| | 1 | 67 24.4 | 211 42.3 | -12 52.3 | 183 15.3 | -21 49.7 | 310 17.1 | 21 12.9 | 70 41.9 | -4 4.4 |
| | 2 | 82 26.8 | 226 41.7 | -12 53.3 | 198 15.9 | -21 50.0 | 325 19.6 | 21 12.9 | 85 44.4 | -4 4.4 |
| | 3 | 97 29.3 | 241 41.1 | -12 54.4 | 213 16.4 | -21 50.3 | 340 22.0 | 21 13.0 | 100 47.0 | -4 4.4 |
| | 4 | 112 31.8 | 256 40.6 | -12 55.5 | 228 17.0 | -21 50.7 | 355 24.5 | 21 13.0 | 115 49.5 | -4 4.5 |
| | 5 | 127 34.2 | 271 40.0 | -12 56.5 | 243 17.5 | -21 51.0 | 10 27.0 | 21 13.0 | 130 52.0 | -4 4.5 |
| | 6 | 142 36.7 | 286 39.5 | -12 57.6 | 258 18.1 | -21 51.3 | 25 29.5 | 21 13.0 | 145 54.5 | -4 4.5 |
| | 7 | 157 39.1 | 301 38.9 | -12 58.7 | 273 18.6 | -21 51.7 | 40 31.9 | 21 13.0 | 160 57.1 | -4 4.5 |
| | 8 | 172 41.6 | 316 38.3 | -12 59.7 | 288 19.1 | -21 52.0 | 55 34.4 | 21 13.0 | 175 59.6 | -4 4.5 |
| | 9 | 187 44.1 | 331 37.8 | -13 0.8 | 303 19.7 | -21 52.3 | 70 36.9 | 21 13.0 | 191 2.1 | -4 4.6 |
| | 10 | 202 46.5 | 346 37.2 | -13 1.9 | 318 20.2 | -21 52.7 | 85 39.4 | 21 13.0 | 206 4.6 | -4 4.6 |
| | 11 | 217 49.0 | 1 36.6 | -13 2.9 | 333 20.8 | -21 53.0 | 100 41.8 | 21 13.0 | 221 7.2 | -4 4.6 |
| | 12 | 232 51.5 | 16 36.1 | -13 4.0 | 348 21.3 | -21 53.3 | 115 44.3 | 21 13.0 | 236 9.7 | -4 4.6 |
| | 13 | 247 53.9 | 31 35.5 | -13 5.0 | 3 21.9 | -21 53.7 | 130 46.8 | 21 13.0 | 251 12.2 | -4 4.6 |
| | 14 | 262 56.4 | 46 35.0 | -13 6.1 | 18 22.4 | -21 54.0 | 145 49.3 | 21 13.1 | 266 14.8 | -4 4.6 |
| | 15 | 277 58.9 | 61 34.4 | -13 7.2 | 33 22.9 | -21 54.3 | 160 51.8 | 21 13.1 | 281 17.3 | -4 4.7 |
| | 16 | 293 1.3 | 76 33.8 | -13 8.2 | 48 23.5 | -21 54.7 | 175 54.2 | 21 13.1 | 296 19.8 | -4 4.7 |
| | 17 | 308 3.8 | 91 33.3 | -13 9.3 | 63 24.0 | -21 55.0 | 190 56.7 | 21 13.1 | 311 22.3 | -4 4.7 |
| | 18 | 323 6.3 | 106 32.7 | -13 10.4 | 78 24.6 | -21 55.3 | 205 59.2 | 21 13.1 | 326 24.9 | -4 4.7 |
| | 19 | 338 8.7 | 121 32.1 | -13 11.4 | 93 25.1 | -21 55.7 | 221 1.7 | 21 13.1 | 341 27.4 | -4 4.7 |
| | 20 | 353 11.2 | 136 31.6 | -13 12.5 | 108 25.7 | -21 56.0 | 236 4.2 | 21 13.1 | 356 29.9 | -4 4.8 |
| | 21 | 8 13.6 | 151 31.0 | -13 13.5 | 123 26.2 | -21 56.3 | 251 6.6 | 21 13.1 | 11 32.4 | -4 4.8 |
| | 22 | 23 16.1 | 166 30.4 | -13 14.6 | 138 26.7 | -21 56.6 | 266 9.1 | 21 13.1 | 26 35.0 | -4 4.8 |
| | 23 | 38 18.6 | 181 29.9 | -13 15.6 | 153 27.3 | -21 57.0 | 281 11.6 | 21 13.1 | 41 37.5 | -4 4.8 |
| | | MP 20:29 | *v* -0.6 | *d* 1.1 | *v* 0.5 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |
| 14 Friday | 0 | 53 21.0 | 196 29.3 | -13 16.7 | 168 27.8 | -21 57.3 | 296 14.1 | 21 13.1 | 56 40.0 | -4 4.8 |
| | 1 | 68 23.5 | 211 28.7 | -13 17.8 | 183 28.4 | -21 57.6 | 311 16.6 | 21 13.2 | 71 42.5 | -4 4.8 |
| | 2 | 83 26.0 | 226 28.1 | -13 18.8 | 198 28.9 | -21 58.0 | 326 19.1 | 21 13.2 | 86 45.1 | -4 4.9 |
| | 3 | 98 28.4 | 241 27.6 | -13 19.9 | 213 29.4 | -21 58.3 | 341 21.5 | 21 13.2 | 101 47.6 | -4 4.9 |
| | 4 | 113 30.9 | 256 27.0 | -13 20.9 | 228 30.0 | -21 58.6 | 356 24.0 | 21 13.2 | 116 50.1 | -4 4.9 |
| | 5 | 128 33.4 | 271 26.4 | -13 22.0 | 243 30.5 | -21 58.9 | 11 26.5 | 21 13.2 | 131 52.6 | -4 4.9 |
| | 6 | 143 35.8 | 286 25.9 | -13 23.0 | 258 31.1 | -21 59.3 | 26 29.0 | 21 13.2 | 146 55.2 | -4 4.9 |
| | 7 | 158 38.3 | 301 25.3 | -13 24.1 | 273 31.6 | -21 59.6 | 41 31.5 | 21 13.2 | 161 57.7 | -4 4.9 |
| | 8 | 173 40.7 | 316 24.7 | -13 25.1 | 288 32.1 | -21 59.9 | 56 34.0 | 21 13.2 | 177 0.2 | -4 5.0 |
| | 9 | 188 43.2 | 331 24.1 | -13 26.2 | 303 32.7 | -22 0.3 | 71 36.5 | 21 13.2 | 192 2.7 | -4 5.0 |
| | 10 | 203 45.7 | 346 23.6 | -13 27.2 | 318 33.2 | -22 0.6 | 86 38.9 | 21 13.2 | 207 5.2 | -4 5.0 |
| | 11 | 218 48.1 | 1 23.0 | -13 28.3 | 333 33.7 | -22 0.9 | 101 41.4 | 21 13.3 | 222 7.8 | -4 5.0 |
| | 12 | 233 50.6 | 16 22.4 | -13 29.3 | 348 34.3 | -22 1.2 | 116 43.9 | 21 13.3 | 237 10.3 | -4 5.0 |
| | 13 | 248 53.1 | 31 21.8 | -13 30.4 | 3 34.8 | -22 1.6 | 131 46.4 | 21 13.3 | 252 12.8 | -4 5.0 |
| | 14 | 263 55.5 | 46 21.3 | -13 31.4 | 18 35.4 | -22 1.9 | 146 48.9 | 21 13.3 | 267 15.3 | -4 5.1 |
| | 15 | 278 58.0 | 61 20.7 | -13 32.5 | 33 35.9 | -22 2.2 | 161 51.4 | 21 13.3 | 282 17.9 | -4 5.1 |
| | 16 | 294 0.5 | 76 20.1 | -13 33.5 | 48 36.4 | -22 2.5 | 176 53.9 | 21 13.3 | 297 20.4 | -4 5.1 |
| | 17 | 309 2.9 | 91 19.5 | -13 34.6 | 63 37.0 | -22 2.8 | 191 56.4 | 21 13.3 | 312 22.9 | -4 5.1 |
| | 18 | 324 5.4 | 106 19.0 | -13 35.6 | 78 37.5 | -22 3.2 | 206 58.9 | 21 13.3 | 327 25.4 | -4 5.1 |
| | 19 | 339 7.9 | 121 18.4 | -13 36.7 | 93 38.0 | -22 3.5 | 222 1.3 | 21 13.3 | 342 27.9 | -4 5.1 |
| | 20 | 354 10.3 | 136 17.8 | -13 37.7 | 108 38.6 | -22 3.8 | 237 3.8 | 21 13.3 | 357 30.5 | -4 5.2 |
| | 21 | 9 12.8 | 151 17.2 | -13 38.8 | 123 39.1 | -22 4.1 | 252 6.3 | 21 13.4 | 12 33.0 | -4 5.2 |
| | 22 | 24 15.2 | 166 16.6 | -13 39.8 | 138 39.6 | -22 4.5 | 267 8.8 | 21 13.4 | 27 35.5 | -4 5.2 |
| | 23 | 39 17.7 | 181 16.1 | -13 40.9 | 153 40.2 | -22 4.8 | 282 11.3 | 21 13.4 | 42 38.0 | -4 5.2 |
| | | MP 20:25 | *v* -0.6 | *d* 1.1 | *v* 0.5 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.0 |
| Achernar | 335 19.1 | -57 6.4 |
| Acrux | 172 59.9 | -63 14.3 |
| Adhara | 255 5.1 | -29 0.2 |
| Aldebaran | 290 38.5 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.0 |
| Alkaid | 152 51.9 | 49 11.0 |
| Alnair | 27 32.0 | -46 50.3 |
| Alnilam | 275 36.8 | -1 11.0 |
| Alphard | 217 47.1 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.7 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.4 | 8 56.3 |
| Ankaa | 353 6.1 | -42 10.0 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.9 |
| Atria | 107 9.5 | -69 4.5 |
| Avior | 234 14.3 | -59 35.2 |
| Bellatrix | 278 21.9 | 6 22.5 |
| Betelgeuse | 270 51.1 | 7 24.8 |
| Canopus | 263 51.7 | -52 42.3 |
| Capella | 280 20.5 | 46 1.4 |
| Deneb | 49 25.4 | 45 22.6 |
| Denebola | 182 24.5 | 14 25.6 |
| Diphda | 348 46.3 | -17 50.6 |
| Dubhe | 193 40.4 | 61 36.4 |
| Elnath | 278 0.7 | 28 37.8 |
| Eltanin | 90 42.3 | 51 29.3 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.2 |
| Gacrux | 171 51.4 | -57 15.3 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.7 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 21.0 | 74 2.8 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.7 |
| Miaplacidus | 221 38.1 | -69 49.0 |
| Mirfak | 308 26.8 | 49 57.2 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 4.8 | -56 39.3 |
| Pollux | 243 16.3 | 27 57.8 |
| Procyon | 244 50.0 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 33.8 | 11 50.5 |
| Rigel | 281 2.9 | -8 10.2 |
| Rigil Kent. | 139 40.0 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 41.0 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.4 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.8 | -43 31.9 |
| Vega | 80 33.1 | 38 48.6 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 12 Wed | SHA | MP |
|---|---|---|
| Venus | 145 33.3 | 10:53 |
| Mars | 116 38.8 | 12:47 |
| Jupiter | 242 52.6 | 04:22 |
| Saturn | 3 15.9 | 20:18 |

| 13 Thu | SHA | MP |
|---|---|---|
| Venus | 144 20.9 | 10:54 |
| Mars | 115 52.9 | 12:47 |
| Jupiter | 242 52.7 | 04:18 |
| Saturn | 3 17.5 | 20:14 |

| 14 Fri | SHA | MP |
|---|---|---|
| Venus | 143 8.2 | 10:54 |
| Mars | 115 6.8 | 12:46 |
| Jupiter | 242 53.1 | 04:14 |
| Saturn | 3 19.0 | 20:10 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **12 Wednesday** | 0 | 183 58.5 | -17 42.0 | 271 3.4 | 11.4 | 18 4.2 | -12.6 | 57.3 |
| | 1 | 198 58.4 | -17 42.7 | 285 33.7 | 11.5 | 17 51.6 | -12.6 | 57.3 |
| | 2 | 213 58.3 | -17 43.4 | 300 4.2 | 11.6 | 17 39.0 | -12.7 | 57.2 |
| | 3 | 228 58.2 | -17 44.0 | 314 34.8 | 11.7 | 17 26.3 | -12.8 | 57.2 |
| | 4 | 243 58.2 | -17 44.7 | 329 5.5 | 11.8 | 17 13.5 | -12.8 | 57.2 |
| | 5 | 258 58.1 | -17 45.4 | 343 36.4 | 11.9 | 17 0.7 | -12.9 | 57.1 |
| | 6 | 273 58.0 | -17 46.1 | 358 7.3 | 12.0 | 16 47.8 | -13.0 | 57.1 |
| | 7 | 288 57.9 | -17 46.7 | 12 38.3 | 12.2 | 16 34.8 | -13.0 | 57.1 |
| | 8 | 303 57.8 | -17 47.4 | 27 9.5 | 12.3 | 16 21.8 | -13.1 | 57.0 |
| | 9 | 318 57.8 | -17 48.1 | 41 40.8 | 12.4 | 16 8.7 | -13.2 | 57.0 |
| | 10 | 333 57.7 | -17 48.8 | 56 12.1 | 12.5 | 15 55.5 | -13.2 | 57.0 |
| | 11 | 348 57.6 | -17 49.4 | 70 43.6 | 12.6 | 15 42.3 | -13.3 | 56.9 |
| | 12 | 3 57.5 | -17 50.1 | 85 15.2 | 12.7 | 15 29.0 | -13.3 | 56.9 |
| | 13 | 18 57.4 | -17 50.8 | 99 46.9 | 12.8 | 15 15.7 | -13.4 | 56.9 |
| | 14 | 33 57.3 | -17 51.4 | 114 18.7 | 12.9 | 15 2.3 | -13.4 | 56.8 |
| | 15 | 48 57.3 | -17 52.1 | 128 50.6 | 13.0 | 14 48.9 | -13.5 | 56.8 |
| | 16 | 63 57.2 | -17 52.8 | 143 22.5 | 13.1 | 14 35.4 | -13.5 | 56.8 |
| | 17 | 78 57.1 | -17 53.4 | 157 54.6 | 13.2 | 14 21.9 | -13.6 | 56.7 |
| | 18 | 93 57.0 | -17 54.1 | 172 26.8 | 13.3 | 14 8.3 | -13.6 | 56.7 |
| | 19 | 108 56.9 | -17 54.8 | 186 59.1 | 13.4 | 13 54.7 | -13.7 | 56.7 |
| | 20 | 123 56.8 | -17 55.4 | 201 31.5 | 13.5 | 13 41.0 | -13.7 | 56.6 |
| | 21 | 138 56.8 | -17 56.1 | 216 3.9 | 13.6 | 13 27.3 | -13.8 | 56.6 |
| | 22 | 153 56.7 | -17 56.8 | 230 36.5 | 13.6 | 13 13.6 | -13.8 | 56.6 |
| | 23 | 168 56.6 | -17 57.4 | 245 9.1 | 13.7 | 12 59.8 | -13.8 | 56.5 |
| | | *v* -0.1 | SD 16.2 | *d* 0.7 | | SD 15.6 | | |
| **13 Thursday** | 0 | 183 56.5 | -17 58.1 | 259 41.9 | 13.8 | 12 45.9 | -13.9 | 56.5 |
| | 1 | 198 56.4 | -17 58.8 | 274 14.7 | 13.9 | 12 32.1 | -13.9 | 56.5 |
| | 2 | 213 56.3 | -17 59.4 | 288 47.6 | 14.0 | 12 18.1 | -14.0 | 56.4 |
| | 3 | 228 56.2 | -18 0.1 | 303 20.6 | 14.1 | 12 4.2 | -14.0 | 56.4 |
| | 4 | 243 56.1 | -18 0.8 | 317 53.7 | 14.2 | 11 50.2 | -14.0 | 56.4 |
| | 5 | 258 56.1 | -18 1.4 | 332 26.8 | 14.2 | 11 36.2 | -14.1 | 56.3 |
| | 6 | 273 56.0 | -18 2.1 | 347 0.1 | 14.3 | 11 22.1 | -14.1 | 56.3 |
| | 7 | 288 55.9 | -18 2.7 | 1 33.4 | 14.4 | 11 8.0 | -14.1 | 56.3 |
| | 8 | 303 55.8 | -18 3.4 | 16 6.8 | 14.5 | 10 53.9 | -14.2 | 56.2 |
| | 9 | 318 55.7 | -18 4.1 | 30 40.2 | 14.5 | 10 39.7 | -14.2 | 56.2 |
| | 10 | 333 55.6 | -18 4.7 | 45 13.8 | 14.6 | 10 25.5 | -14.2 | 56.2 |
| | 11 | 348 55.5 | -18 5.4 | 59 47.4 | 14.7 | 10 11.3 | -14.2 | 56.1 |
| | 12 | 3 55.4 | -18 6.0 | 74 21.1 | 14.8 | 9 57.1 | -14.3 | 56.1 |
| | 13 | 18 55.3 | -18 6.7 | 88 54.9 | 14.8 | 9 42.8 | -14.3 | 56.1 |
| | 14 | 33 55.2 | -18 7.4 | 103 28.7 | 14.9 | 9 28.5 | -14.3 | 56.1 |
| | 15 | 48 55.2 | -18 8.0 | 118 2.6 | 15.0 | 9 14.2 | -14.3 | 56.0 |
| | 16 | 63 55.1 | -18 8.7 | 132 36.6 | 15.0 | 8 59.9 | -14.4 | 56.0 |
| | 17 | 78 55.0 | -18 9.3 | 147 10.6 | 15.1 | 8 45.5 | -14.4 | 56.0 |
| | 18 | 93 54.9 | -18 10.0 | 161 44.7 | 15.2 | 8 31.1 | -14.4 | 55.9 |
| | 19 | 108 54.8 | -18 10.6 | 176 18.9 | 15.2 | 8 16.7 | -14.4 | 55.9 |
| | 20 | 123 54.7 | -18 11.3 | 190 53.1 | 15.3 | 8 2.3 | -14.4 | 55.9 |
| | 21 | 138 54.6 | -18 11.9 | 205 27.4 | 15.3 | 7 47.9 | -14.5 | 55.9 |
| | 22 | 153 54.5 | -18 12.6 | 220 1.8 | 15.4 | 7 33.4 | -14.5 | 55.8 |
| | 23 | 168 54.4 | -18 13.2 | 234 36.2 | 15.5 | 7 18.9 | -14.5 | 55.8 |
| | | *v* -0.1 | SD 16.2 | *d* 0.7 | | SD 15.4 | | |
| **14 Friday** | 0 | 183 54.3 | -18 13.9 | 249 10.6 | 15.5 | 7 4.5 | -14.5 | 55.8 |
| | 1 | 198 54.2 | -18 14.5 | 263 45.1 | 15.6 | 6 49.9 | -14.5 | 55.7 |
| | 2 | 213 54.1 | -18 15.2 | 278 19.7 | 15.6 | 6 35.4 | -14.5 | 55.7 |
| | 3 | 228 54.0 | -18 15.8 | 292 54.3 | 15.7 | 6 20.9 | -14.5 | 55.7 |
| | 4 | 243 53.9 | -18 16.5 | 307 29.0 | 15.7 | 6 6.4 | -14.5 | 55.7 |
| | 5 | 258 53.8 | -18 17.1 | 322 3.7 | 15.8 | 5 51.8 | -14.6 | 55.6 |
| | 6 | 273 53.7 | -18 17.8 | 336 38.5 | 15.8 | 5 37.3 | -14.6 | 55.6 |
| | 7 | 288 53.6 | -18 18.4 | 351 13.3 | 15.9 | 5 22.7 | -14.6 | 55.6 |
| | 8 | 303 53.5 | -18 19.1 | 5 48.2 | 15.9 | 5 8.1 | -14.6 | 55.6 |
| | 9 | 318 53.4 | -18 19.7 | 20 23.1 | 16.0 | 4 53.5 | -14.6 | 55.5 |
| | 10 | 333 53.3 | -18 20.4 | 34 58.0 | 16.0 | 4 38.9 | -14.6 | 55.5 |
| | 11 | 348 53.2 | -18 21.0 | 49 33.0 | 16.0 | 4 24.3 | -14.6 | 55.5 |
| | 12 | 3 53.1 | -18 21.7 | 64 8.1 | 16.1 | 4 9.7 | -14.6 | 55.5 |
| | 13 | 18 53.0 | -18 22.3 | 78 43.1 | 16.1 | 3 55.1 | -14.6 | 55.4 |
| | 14 | 33 52.9 | -18 22.9 | 93 18.2 | 16.1 | 3 40.5 | -14.6 | 55.4 |
| | 15 | 48 52.8 | -18 23.6 | 107 53.4 | 16.2 | 3 25.9 | -14.6 | 55.4 |
| | 16 | 63 52.7 | -18 24.2 | 122 28.6 | 16.2 | 3 11.3 | -14.6 | 55.4 |
| | 17 | 78 52.6 | -18 24.9 | 137 3.8 | 16.3 | 2 56.7 | -14.6 | 55.3 |
| | 18 | 93 52.5 | -18 25.5 | 151 39.0 | 16.3 | 2 42.1 | -14.6 | 55.3 |
| | 19 | 108 52.4 | -18 26.2 | 166 14.3 | 16.3 | 2 27.5 | -14.6 | 55.3 |
| | 20 | 123 52.3 | -18 26.8 | 180 49.6 | 16.3 | 2 12.9 | -14.6 | 55.3 |
| | 21 | 138 52.2 | -18 27.4 | 195 25.0 | 16.4 | 1 58.3 | -14.6 | 55.2 |
| | 22 | 153 52.1 | -18 28.1 | 210 0.4 | 16.4 | 1 43.7 | -14.6 | 55.2 |
| | 23 | 168 52.0 | -18 28.7 | 224 35.8 | 16.4 | 1 29.1 | -14.6 | 55.2 |
| | | *v* -0.1 | SD 16.2 | *d* 0.7 | | SD 15.2 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 06:49 | 08:21 | 10:24 | 13:03 | 15:06 | 16:38 |
| 70 | 06:40 | 08:01 | 09:32 | 13:55 | 15:27 | 16:47 |
| 68 | 06:33 | 07:44 | 09:00 | 14:27 | 15:43 | 16:54 |
| 66 | 06:26 | 07:31 | 08:37 | 14:51 | 15:56 | 17:01 |
| 64 | 06:21 | 07:20 | 08:18 | 15:09 | 16:07 | 17:07 |
| 62 | 06:16 | 07:11 | 08:03 | 15:24 | 16:17 | 17:12 |
| 60 | 06:11 | 07:03 | 07:51 | 15:37 | 16:25 | 17:16 |
| 58 | 06:07 | 06:55 | 07:40 | 15:47 | 16:32 | 17:20 |
| 56 | 06:04 | 06:49 | 07:31 | 15:57 | 16:39 | 17:24 |
| 54 | 06:00 | 06:43 | 07:22 | 16:05 | 16:45 | 17:27 |
| 52 | 05:57 | 06:38 | 07:15 | 16:13 | 16:50 | 17:31 |
| 50 | 05:54 | 06:33 | 07:08 | 16:20 | 16:55 | 17:34 |
| 45 | 05:47 | 06:22 | 06:54 | 16:34 | 17:06 | 17:41 |
| 40 | 05:40 | 06:13 | 06:42 | 16:46 | 17:15 | 17:47 |
| 35 | 05:34 | 06:05 | 06:32 | 16:56 | 17:23 | 17:53 |
| 30 | 05:29 | 05:57 | 06:23 | 17:05 | 17:31 | 17:59 |
| 20 | 05:18 | 05:44 | 06:07 | 17:21 | 17:44 | 18:11 |
| 10 | 05:06 | 05:32 | 05:54 | 17:35 | 17:57 | 18:22 |
| 0 | 04:54 | 05:19 | 05:41 | 17:48 | 18:09 | 18:35 |
| -10 | 04:40 | 05:05 | 05:28 | 18:01 | 18:23 | 18:49 |
| -20 | 04:22 | 04:50 | 05:14 | 18:15 | 18:38 | 19:06 |
| -30 | 04:01 | 04:32 | 04:57 | 18:31 | 18:57 | 19:28 |
| -35 | 03:47 | 04:20 | 04:48 | 18:41 | 19:09 | 19:42 |
| -40 | 03:30 | 04:07 | 04:37 | 18:52 | 19:22 | 20:00 |
| -45 | 03:08 | 03:51 | 04:24 | 19:05 | 19:39 | 20:21 |
| -50 | 02:40 | 03:30 | 04:09 | 19:21 | 19:59 | 20:50 |
| -52 | 02:25 | 03:20 | 04:01 | 19:28 | 20:10 | 21:05 |
| -54 | 02:07 | 03:09 | 03:53 | 19:37 | 20:21 | 21:23 |
| -56 | 01:45 | 02:56 | 03:44 | 19:46 | 20:34 | 21:46 |
| -58 | 01:15 | 02:40 | 03:33 | 19:57 | 20:50 | 22:18 |
| -60 | 00:18 | 02:22 | 03:21 | 20:09 | 21:09 | 23:32 |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **12** | **13** | **14** | **12** | **13** | **14** |
| 72 | 21:31 | 23:54 | –:– | 15:57 | 15:06 | 14:30 |
| 70 | 21:58 | –:– | 00:05 | 15:28 | 14:53 | 14:26 |
| 68 | 22:18 | –:– | 00:14 | 15:06 | 14:42 | 14:22 |
| 66 | 22:34 | –:– | 00:21 | 14:49 | 14:33 | 14:19 |
| 64 | 22:47 | –:– | 00:27 | 14:35 | 14:25 | 14:16 |
| 62 | 22:57 | –:– | 00:32 | 14:23 | 14:18 | 14:14 |
| 60 | 23:07 | –:– | 00:37 | 14:13 | 14:12 | 14:12 |
| 58 | 23:14 | –:– | 00:41 | 14:04 | 14:07 | 14:10 |
| 56 | 23:21 | –:– | 00:44 | 13:56 | 14:03 | 14:08 |
| 54 | 23:28 | –:– | 00:47 | 13:49 | 13:58 | 14:06 |
| 52 | 23:33 | –:– | 00:50 | 13:42 | 13:55 | 14:05 |
| 50 | 23:38 | –:– | 00:52 | 13:36 | 13:51 | 14:04 |
| 45 | 23:49 | –:– | 00:58 | 13:24 | 13:44 | 14:01 |
| 40 | 23:58 | –:– | 01:03 | 13:13 | 13:37 | 13:59 |
| 35 | –:– | 00:06 | 01:07 | 13:04 | 13:32 | 13:57 |
| 30 | –:– | 00:12 | 01:10 | 12:56 | 13:27 | 13:55 |
| 20 | –:– | 00:24 | 01:16 | 12:43 | 13:19 | 13:52 |
| 10 | –:– | 00:34 | 01:21 | 12:31 | 13:11 | 13:49 |
| 0 | –:– | 00:43 | 01:26 | 12:19 | 13:04 | 13:46 |
| -10 | 00:10 | 00:52 | 01:31 | 12:08 | 12:57 | 13:43 |
| -20 | 00:24 | 01:02 | 01:36 | 11:55 | 12:49 | 13:40 |
| -30 | 00:41 | 01:13 | 01:42 | 11:41 | 12:40 | 13:37 |
| -35 | 00:50 | 01:20 | 01:46 | 11:32 | 12:35 | 13:35 |
| -40 | 01:01 | 01:27 | 01:49 | 11:23 | 12:29 | 13:33 |
| -45 | 01:14 | 01:36 | 01:54 | 11:12 | 12:23 | 13:30 |
| -50 | 01:29 | 01:46 | 01:59 | 10:58 | 12:14 | 13:27 |
| -52 | 01:37 | 01:50 | 02:01 | 10:51 | 12:10 | 13:26 |
| -54 | 01:44 | 01:56 | 02:04 | 10:44 | 12:06 | 13:24 |
| -56 | 01:53 | 02:01 | 02:07 | 10:36 | 12:02 | 13:22 |
| -58 | 02:03 | 02:08 | 02:10 | 10:27 | 11:56 | 13:20 |
| -60 | 02:15 | 02:15 | 02:14 | 10:17 | 11:50 | 13:18 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **12** | 15:54 | 15:50 | 11:44 | 06:08 | 18:31 | 21 | 52 |
| **13** | 15:46 | 15:42 | 11:44 | 06:54 | 19:15 | 22 | 42 |
| **14** | 15:37 | 15:33 | 11:44 | 07:36 | 19:57 | 23 | 32 |

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.4 GHA | Mars 1.4 Dec | Jupiter -2.4 GHA | Jupiter -2.4 Dec | Saturn 0.8 GHA | Saturn 0.8 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **15 Saturday** | 0 | 54 20.2 | 196 15.5 | -13 41.9 | 168 40.7 | -22 5.1 | 297 13.8 | 21 13.4 | 57 40.6 | -4 5.2 |
| | 1 | 69 22.6 | 211 14.9 | -13 42.9 | 183 41.2 | -22 5.4 | 312 16.3 | 21 13.4 | 72 43.1 | -4 5.2 |
| | 2 | 84 25.1 | 226 14.3 | -13 44.0 | 198 41.8 | -22 5.7 | 327 18.8 | 21 13.4 | 87 45.6 | -4 5.3 |
| | 3 | 99 27.6 | 241 13.7 | -13 45.0 | 213 42.3 | -22 6.1 | 342 21.3 | 21 13.4 | 102 48.1 | -4 5.3 |
| | 4 | 114 30.0 | 256 13.2 | -13 46.1 | 228 42.8 | -22 6.4 | 357 23.8 | 21 13.4 | 117 50.6 | -4 5.3 |
| | 5 | 129 32.5 | 271 12.6 | -13 47.1 | 243 43.4 | -22 6.7 | 12 26.3 | 21 13.4 | 132 53.2 | -4 5.3 |
| | 6 | 144 35.0 | 286 12.0 | -13 48.1 | 258 43.9 | -22 7.0 | 27 28.8 | 21 13.5 | 147 55.7 | -4 5.3 |
| | 7 | 159 37.4 | 301 11.4 | -13 49.2 | 273 44.4 | -22 7.3 | 42 31.3 | 21 13.5 | 162 58.2 | -4 5.3 |
| | 8 | 174 39.9 | 316 10.8 | -13 50.2 | 288 45.0 | -22 7.6 | 57 33.7 | 21 13.5 | 178 0.7 | -4 5.3 |
| | 9 | 189 42.4 | 331 10.2 | -13 51.3 | 303 45.5 | -22 8.0 | 72 36.2 | 21 13.5 | 193 3.2 | -4 5.4 |
| | 10 | 204 44.8 | 346 9.7 | -13 52.3 | 318 46.0 | -22 8.3 | 87 38.7 | 21 13.5 | 208 5.8 | -4 5.4 |
| | 11 | 219 47.3 | 1 9.1 | -13 53.3 | 333 46.6 | -22 8.6 | 102 41.2 | 21 13.5 | 223 8.3 | -4 5.4 |
| | 12 | 234 49.7 | 16 8.5 | -13 54.4 | 348 47.1 | -22 8.9 | 117 43.7 | 21 13.5 | 238 10.8 | -4 5.4 |
| | 13 | 249 52.2 | 31 7.9 | -13 55.4 | 3 47.6 | -22 9.2 | 132 46.2 | 21 13.5 | 253 13.3 | -4 5.4 |
| | 14 | 264 54.7 | 46 7.3 | -13 56.4 | 18 48.2 | -22 9.5 | 147 48.7 | 21 13.6 | 268 15.8 | -4 5.4 |
| | 15 | 279 57.1 | 61 6.7 | -13 57.5 | 33 48.7 | -22 9.9 | 162 51.2 | 21 13.6 | 283 18.3 | -4 5.4 |
| | 16 | 294 59.6 | 76 6.1 | -13 58.5 | 48 49.2 | -22 10.2 | 177 53.7 | 21 13.6 | 298 20.9 | -4 5.5 |
| | 17 | 310 2.1 | 91 5.5 | -13 59.5 | 63 49.8 | -22 10.5 | 192 56.2 | 21 13.6 | 313 23.4 | -4 5.5 |
| | 18 | 325 4.5 | 106 5.0 | -14 0.6 | 78 50.3 | -22 10.8 | 207 58.7 | 21 13.6 | 328 25.9 | -4 5.5 |
| | 19 | 340 7.0 | 121 4.4 | -14 1.6 | 93 50.8 | -22 11.1 | 223 1.2 | 21 13.6 | 343 28.4 | -4 5.5 |
| | 20 | 355 9.5 | 136 3.8 | -14 2.6 | 108 51.3 | -22 11.4 | 238 3.7 | 21 13.6 | 358 30.9 | -4 5.5 |
| | 21 | 10 11.9 | 151 3.2 | -14 3.7 | 123 51.9 | -22 11.7 | 253 6.2 | 21 13.6 | 13 33.5 | -4 5.5 |
| | 22 | 25 14.4 | 166 2.6 | -14 4.7 | 138 52.4 | -22 12.1 | 268 8.7 | 21 13.6 | 28 36.0 | -4 5.5 |
| | 23 | 40 16.8 | 181 2.0 | -14 5.7 | 153 52.9 | -22 12.4 | 283 11.2 | 21 13.7 | 43 38.5 | -4 5.6 |
| | | MP 20:21 | *v* -0.6 | *d* 1.0 | *v* 0.5 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **16 Sunday** | 0 | 55 19.3 | 196 1.4 | -14 6.8 | 168 53.5 | -22 12.7 | 298 13.7 | 21 13.7 | 58 41.0 | -4 5.6 |
| | 1 | 70 21.8 | 211 0.8 | -14 7.8 | 183 54.0 | -22 13.0 | 313 16.2 | 21 13.7 | 73 43.5 | -4 5.6 |
| | 2 | 85 24.2 | 226 0.2 | -14 8.8 | 198 54.5 | -22 13.3 | 328 18.7 | 21 13.7 | 88 46.0 | -4 5.6 |
| | 3 | 100 26.7 | 240 59.6 | -14 9.8 | 213 55.0 | -22 13.6 | 343 21.2 | 21 13.7 | 103 48.6 | -4 5.6 |
| | 4 | 115 29.2 | 255 59.0 | -14 10.9 | 228 55.6 | -22 13.9 | 358 23.7 | 21 13.7 | 118 51.1 | -4 5.6 |
| | 5 | 130 31.6 | 270 58.4 | -14 11.9 | 243 56.1 | -22 14.2 | 13 26.2 | 21 13.7 | 133 53.6 | -4 5.6 |
| | 6 | 145 34.1 | 285 57.8 | -14 12.9 | 258 56.6 | -22 14.5 | 28 28.7 | 21 13.7 | 148 56.1 | -4 5.7 |
| | 7 | 160 36.6 | 300 57.3 | -14 13.9 | 273 57.1 | -22 14.9 | 43 31.2 | 21 13.8 | 163 58.6 | -4 5.7 |
| | 8 | 175 39.0 | 315 56.7 | -14 15.0 | 288 57.7 | -22 15.2 | 58 33.7 | 21 13.8 | 179 1.1 | -4 5.7 |
| | 9 | 190 41.5 | 330 56.1 | -14 16.0 | 303 58.2 | -22 15.5 | 73 36.2 | 21 13.8 | 194 3.6 | -4 5.7 |
| | 10 | 205 44.0 | 345 55.5 | -14 17.0 | 318 58.7 | -22 15.8 | 88 38.7 | 21 13.8 | 209 6.2 | -4 5.7 |
| | 11 | 220 46.4 | 0 54.9 | -14 18.0 | 333 59.3 | -22 16.1 | 103 41.2 | 21 13.8 | 224 8.7 | -4 5.7 |
| | 12 | 235 48.9 | 15 54.3 | -14 19.1 | 348 59.8 | -22 16.4 | 118 43.8 | 21 13.8 | 239 11.2 | -4 5.7 |
| | 13 | 250 51.3 | 30 53.7 | -14 20.1 | 4 0.3 | -22 16.7 | 133 46.3 | 21 13.8 | 254 13.7 | -4 5.8 |
| | 14 | 265 53.8 | 45 53.1 | -14 21.1 | 19 0.8 | -22 17.0 | 148 48.8 | 21 13.9 | 269 16.2 | -4 5.8 |
| | 15 | 280 56.3 | 60 52.5 | -14 22.1 | 34 1.4 | -22 17.3 | 163 51.3 | 21 13.9 | 284 18.7 | -4 5.8 |
| | 16 | 295 58.7 | 75 51.9 | -14 23.1 | 49 1.9 | -22 17.6 | 178 53.8 | 21 13.9 | 299 21.3 | -4 5.8 |
| | 17 | 311 1.2 | 90 51.3 | -14 24.2 | 64 2.4 | -22 17.9 | 193 56.3 | 21 13.9 | 314 23.8 | -4 5.8 |
| | 18 | 326 3.7 | 105 50.7 | -14 25.2 | 79 2.9 | -22 18.2 | 208 58.8 | 21 13.9 | 329 26.3 | -4 5.8 |
| | 19 | 341 6.1 | 120 50.1 | -14 26.2 | 94 3.4 | -22 18.5 | 224 1.3 | 21 13.9 | 344 28.8 | -4 5.8 |
| | 20 | 356 8.6 | 135 49.5 | -14 27.2 | 109 4.0 | -22 18.8 | 239 3.8 | 21 13.9 | 359 31.3 | -4 5.8 |
| | 21 | 11 11.1 | 150 48.9 | -14 28.2 | 124 4.5 | -22 19.1 | 254 6.3 | 21 14.0 | 14 33.8 | -4 5.9 |
| | 22 | 26 13.5 | 165 48.3 | -14 29.2 | 139 5.0 | -22 19.4 | 269 8.8 | 21 14.0 | 29 36.3 | -4 5.9 |
| | 23 | 41 16.0 | 180 47.7 | -14 30.3 | 154 5.5 | -22 19.8 | 284 11.3 | 21 14.0 | 44 38.8 | -4 5.9 |
| | | MP 20:17 | *v* -0.6 | *d* 1.0 | *v* 0.5 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **17 Monday** | 0 | 56 18.4 | 195 47.1 | -14 31.3 | 169 6.1 | -22 20.1 | 299 13.8 | 21 14.0 | 59 41.4 | -4 5.9 |
| | 1 | 71 20.9 | 210 46.5 | -14 32.3 | 184 6.6 | -22 20.4 | 314 16.4 | 21 14.0 | 74 43.9 | -4 5.9 |
| | 2 | 86 23.4 | 225 45.8 | -14 33.3 | 199 7.1 | -22 20.7 | 329 18.9 | 21 14.0 | 89 46.4 | -4 5.9 |
| | 3 | 101 25.8 | 240 45.2 | -14 34.3 | 214 7.6 | -22 21.0 | 344 21.4 | 21 14.0 | 104 48.9 | -4 5.9 |
| | 4 | 116 28.3 | 255 44.6 | -14 35.3 | 229 8.1 | -22 21.3 | 359 23.9 | 21 14.1 | 119 51.4 | -4 5.9 |
| | 5 | 131 30.8 | 270 44.0 | -14 36.3 | 244 8.7 | -22 21.6 | 14 26.4 | 21 14.1 | 134 53.9 | -4 5.9 |
| | 6 | 146 33.2 | 285 43.4 | -14 37.3 | 259 9.2 | -22 21.9 | 29 28.9 | 21 14.1 | 149 56.4 | -4 6.0 |
| | 7 | 161 35.7 | 300 42.8 | -14 38.4 | 274 9.7 | -22 22.2 | 44 31.4 | 21 14.1 | 164 58.9 | -4 6.0 |
| | 8 | 176 38.2 | 315 42.2 | -14 39.4 | 289 10.2 | -22 22.5 | 59 33.9 | 21 14.1 | 180 1.5 | -4 6.0 |
| | 9 | 191 40.6 | 330 41.6 | -14 40.4 | 304 10.7 | -22 22.8 | 74 36.4 | 21 14.1 | 195 4.0 | -4 6.0 |
| | 10 | 206 43.1 | 345 41.0 | -14 41.4 | 319 11.3 | -22 23.1 | 89 39.0 | 21 14.1 | 210 6.5 | -4 6.0 |
| | 11 | 221 45.6 | 0 40.4 | -14 42.4 | 334 11.8 | -22 23.4 | 104 41.5 | 21 14.2 | 225 9.0 | -4 6.0 |
| | 12 | 236 48.0 | 15 39.8 | -14 43.4 | 349 12.3 | -22 23.7 | 119 44.0 | 21 14.2 | 240 11.5 | -4 6.0 |
| | 13 | 251 50.5 | 30 39.2 | -14 44.4 | 4 12.8 | -22 24.0 | 134 46.5 | 21 14.2 | 255 14.0 | -4 6.0 |
| | 14 | 266 52.9 | 45 38.6 | -14 45.4 | 19 13.3 | -22 24.3 | 149 49.0 | 21 14.2 | 270 16.5 | -4 6.1 |
| | 15 | 281 55.4 | 60 37.9 | -14 46.4 | 34 13.9 | -22 24.6 | 164 51.5 | 21 14.2 | 285 19.0 | -4 6.1 |
| | 16 | 296 57.9 | 75 37.3 | -14 47.4 | 49 14.4 | -22 24.9 | 179 54.0 | 21 14.2 | 300 21.5 | -4 6.1 |
| | 17 | 312 0.3 | 90 36.7 | -14 48.4 | 64 14.9 | -22 25.2 | 194 56.6 | 21 14.2 | 315 24.1 | -4 6.1 |
| | 18 | 327 2.8 | 105 36.1 | -14 49.4 | 79 15.4 | -22 25.4 | 209 59.1 | 21 14.3 | 330 26.6 | -4 6.1 |
| | 19 | 342 5.3 | 120 35.5 | -14 50.4 | 94 15.9 | -22 25.7 | 225 1.6 | 21 14.3 | 345 29.1 | -4 6.1 |
| | 20 | 357 7.7 | 135 34.9 | -14 51.4 | 109 16.4 | -22 26.0 | 240 4.1 | 21 14.3 | 0 31.6 | -4 6.1 |
| | 21 | 12 10.2 | 150 34.3 | -14 52.4 | 124 17.0 | -22 26.3 | 255 6.6 | 21 14.3 | 15 34.1 | -4 6.1 |
| | 22 | 27 12.7 | 165 33.7 | -14 53.4 | 139 17.5 | -22 26.6 | 270 9.1 | 21 14.3 | 30 36.6 | -4 6.1 |
| | 23 | 42 15.1 | 180 33.0 | -14 54.4 | 154 18.0 | -22 26.9 | 285 11.7 | 21 14.3 | 45 39.1 | -4 6.1 |
| | | MP 20:13 | *v* -0.6 | *d* 1.0 | *v* 0.5 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

## Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.0 |
| Achernar | 335 19.1 | -57 6.4 |
| Acrux | 172 59.9 | -63 14.3 |
| Adhara | 255 5.1 | -29 0.2 |
| Aldebaran | 290 38.5 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.0 |
| Alkaid | 152 51.9 | 49 10.9 |
| Alnair | 27 32.0 | -46 50.3 |
| Alnilam | 275 36.7 | -1 11.0 |
| Alphard | 217 47.1 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.7 |
| Alpheratz | 357 33.8 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.2 | -42 10.0 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.9 |
| Atria | 107 9.5 | -69 4.5 |
| Avior | 234 14.3 | -59 35.2 |
| Bellatrix | 278 21.8 | 6 22.5 |
| Betelgeuse | 270 51.1 | 7 24.8 |
| Canopus | 263 51.7 | -52 42.3 |
| Capella | 280 20.4 | 46 1.4 |
| Deneb | 49 25.5 | 45 22.6 |
| Denebola | 182 24.4 | 14 25.6 |
| Diphda | 348 46.4 | -17 50.6 |
| Dubhe | 193 40.4 | 61 36.4 |
| Elnath | 278 0.7 | 28 37.8 |
| Eltanin | 90 42.3 | 51 29.3 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.2 |
| Gacrux | 171 51.3 | -57 15.3 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.7 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 21.0 | 74 2.8 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.7 |
| Miaplacidus | 221 38.1 | -69 49.0 |
| Mirfak | 308 26.8 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 4.8 | -56 39.3 |
| Pollux | 243 16.3 | 27 57.7 |
| Procyon | 244 49.9 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.6 |
| Regulus | 207 33.8 | 11 50.4 |
| Rigel | 281 2.9 | -8 10.2 |
| Rigil Kent. | 139 40.0 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.8 | 56 41.0 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.4 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.8 | -43 31.9 |
| Vega | 80 33.1 | 38 48.6 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| **15 Sat** | SHA | MP |
|---|---|---|
| Venus | 141 55.3 | 10:55 |
| Mars | 114 20.5 | 12:45 |
| Jupiter | 242 53.6 | 04:10 |
| Saturn | 3 20.4 | 20:06 |

| **16 Sun** | SHA | MP |
|---|---|---|
| Venus | 140 42.1 | 10:56 |
| Mars | 113 34.1 | 12:44 |
| Jupiter | 242 54.4 | 04:06 |
| Saturn | 3 21.7 | 20:02 |

| **17 Mon** | SHA | MP |
|---|---|---|
| Venus | 139 28.6 | 10:57 |
| Mars | 112 47.6 | 12:43 |
| Jupiter | 242 55.4 | 04:02 |
| Saturn | 3 22.9 | 19:58 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **15 Saturday** | 0 | 183 51.9 | -18 29.4 | 239 11.2 | 16.4 | 1 14.5 | -14.6 | 55.2 |
| | 1 | 198 51.8 | -18 30.0 | 253 46.6 | 16.5 | 0 59.9 | -14.6 | 55.2 |
| | 2 | 213 51.7 | -18 30.6 | 268 22.1 | 16.5 | 0 45.3 | -14.6 | 55.1 |
| | 3 | 228 51.6 | -18 31.3 | 282 57.6 | 16.5 | 0 30.8 | -14.6 | 55.1 |
| | 4 | 243 51.5 | -18 31.9 | 297 33.1 | 16.5 | 0 16.2 | -14.5 | 55.1 |
| | 5 | 258 51.4 | -18 32.5 | 312 8.6 | 16.6 | 0 1.7 | -14.5 | 55.1 |
| | 6 | 273 51.3 | -18 33.2 | 326 44.2 | 16.6 | -0 12.9 | 14.5 | 55.0 |
| | 7 | 288 51.2 | -18 33.8 | 341 19.8 | 16.6 | -0 27.4 | 14.5 | 55.0 |
| | 8 | 303 51.1 | -18 34.4 | 355 55.3 | 16.6 | -0 41.9 | 14.5 | 55.0 |
| | 9 | 318 51.0 | -18 35.1 | 10 30.9 | 16.6 | -0 56.4 | 14.5 | 55.0 |
| | 10 | 333 50.8 | -18 35.7 | 25 6.6 | 16.6 | -1 10.9 | 14.5 | 55.0 |
| | 11 | 348 50.7 | -18 36.3 | 39 42.2 | 16.6 | -1 25.4 | 14.5 | 54.9 |
| | 12 | 3 50.6 | -18 37.0 | 54 17.8 | 16.6 | -1 39.9 | 14.4 | 54.9 |
| | 13 | 18 50.5 | -18 37.6 | 68 53.5 | 16.7 | -1 54.3 | 14.4 | 54.9 |
| | 14 | 33 50.4 | -18 38.2 | 83 29.1 | 16.7 | -2 8.7 | 14.4 | 54.9 |
| | 15 | 48 50.3 | -18 38.9 | 98 4.8 | 16.7 | -2 23.1 | 14.4 | 54.9 |
| | 16 | 63 50.2 | -18 39.5 | 112 40.5 | 16.7 | -2 37.5 | 14.4 | 54.9 |
| | 17 | 78 50.1 | -18 40.1 | 127 16.1 | 16.7 | -2 51.9 | 14.4 | 54.8 |
| | 18 | 93 50.0 | -18 40.7 | 141 51.8 | 16.7 | -3 6.3 | 14.3 | 54.8 |
| | 19 | 108 49.9 | -18 41.4 | 156 27.5 | 16.7 | -3 20.6 | 14.3 | 54.8 |
| | 20 | 123 49.7 | -18 42.0 | 171 3.2 | 16.7 | -3 34.9 | 14.3 | 54.8 |
| | 21 | 138 49.6 | -18 42.6 | 185 38.9 | 16.7 | -3 49.2 | 14.3 | 54.8 |
| | 22 | 153 49.5 | -18 43.2 | 200 14.6 | 16.7 | -4 3.5 | 14.3 | 54.7 |
| | 23 | 168 49.4 | -18 43.9 | 214 50.3 | 16.7 | -4 17.8 | 14.2 | 54.7 |
| | | *v* -0.1 | SD 16.2 | *d* 0.6 | | SD 15.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **16 Sunday** | 0 | 183 49.3 | -18 44.5 | 229 25.9 | 16.7 | -4 32.0 | 14.2 | 54.7 |
| | 1 | 198 49.2 | -18 45.1 | 244 1.6 | 16.7 | -4 46.2 | 14.2 | 54.7 |
| | 2 | 213 49.1 | -18 45.7 | 258 37.3 | 16.7 | -5 0.4 | 14.2 | 54.7 |
| | 3 | 228 49.0 | -18 46.4 | 273 13.0 | 16.7 | -5 14.5 | 14.1 | 54.7 |
| | 4 | 243 48.8 | -18 47.0 | 287 48.6 | 16.7 | -5 28.7 | 14.1 | 54.6 |
| | 5 | 258 48.7 | -18 47.6 | 302 24.3 | 16.6 | -5 42.8 | 14.1 | 54.6 |
| | 6 | 273 48.6 | -18 48.2 | 316 59.9 | 16.6 | -5 56.8 | 14.0 | 54.6 |
| | 7 | 288 48.5 | -18 48.8 | 331 35.6 | 16.6 | -6 10.9 | 14.0 | 54.6 |
| | 8 | 303 48.4 | -18 49.5 | 346 11.2 | 16.6 | -6 24.9 | 14.0 | 54.6 |
| | 9 | 318 48.3 | -18 50.1 | 0 46.8 | 16.6 | -6 38.9 | 14.0 | 54.6 |
| | 10 | 333 48.1 | -18 50.7 | 15 22.4 | 16.6 | -6 52.8 | 13.9 | 54.5 |
| | 11 | 348 48.0 | -18 51.3 | 29 58.0 | 16.6 | -7 6.8 | 13.9 | 54.5 |
| | 12 | 3 47.9 | -18 51.9 | 44 33.6 | 16.6 | -7 20.7 | 13.9 | 54.5 |
| | 13 | 18 47.8 | -18 52.5 | 59 9.1 | 16.5 | -7 34.5 | 13.8 | 54.5 |
| | 14 | 33 47.7 | -18 53.2 | 73 44.7 | 16.5 | -7 48.3 | 13.8 | 54.5 |
| | 15 | 48 47.6 | -18 53.8 | 88 20.2 | 16.5 | -8 2.1 | 13.8 | 54.5 |
| | 16 | 63 47.4 | -18 54.4 | 102 55.7 | 16.5 | -8 15.9 | 13.7 | 54.5 |
| | 17 | 78 47.3 | -18 55.0 | 117 31.2 | 16.5 | -8 29.6 | 13.7 | 54.4 |
| | 18 | 93 47.2 | -18 55.6 | 132 6.6 | 16.4 | -8 43.3 | 13.6 | 54.4 |
| | 19 | 108 47.1 | -18 56.2 | 146 42.1 | 16.4 | -8 56.9 | 13.6 | 54.4 |
| | 20 | 123 47.0 | -18 56.8 | 161 17.5 | 16.4 | -9 10.5 | 13.6 | 54.4 |
| | 21 | 138 46.8 | -18 57.5 | 175 52.9 | 16.4 | -9 24.1 | 13.5 | 54.4 |
| | 22 | 153 46.7 | -18 58.1 | 190 28.2 | 16.3 | -9 37.6 | 13.5 | 54.4 |
| | 23 | 168 46.6 | -18 58.7 | 205 3.6 | 16.3 | -9 51.1 | 13.4 | 54.4 |
| | | *v* -0.1 | SD 16.2 | *d* 0.6 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **17 Monday** | 0 | 183 46.5 | -18 59.3 | 219 38.9 | 16.3 | -10 4.5 | 13.4 | 54.4 |
| | 1 | 198 46.3 | -18 59.9 | 234 14.2 | 16.3 | -10 17.9 | 13.4 | 54.3 |
| | 2 | 213 46.2 | -19 0.5 | 248 49.4 | 16.2 | -10 31.3 | 13.3 | 54.3 |
| | 3 | 228 46.1 | -19 1.1 | 263 24.7 | 16.2 | -10 44.6 | 13.3 | 54.3 |
| | 4 | 243 46.0 | -19 1.7 | 277 59.8 | 16.2 | -10 57.9 | 13.2 | 54.3 |
| | 5 | 258 45.9 | -19 2.3 | 292 35.0 | 16.1 | -11 11.1 | 13.2 | 54.3 |
| | 6 | 273 45.7 | -19 2.9 | 307 10.1 | 16.1 | -11 24.3 | 13.1 | 54.3 |
| | 7 | 288 45.6 | -19 3.5 | 321 45.2 | 16.1 | -11 37.4 | 13.1 | 54.3 |
| | 8 | 303 45.5 | -19 4.2 | 336 20.3 | 16.0 | -11 50.5 | 13.0 | 54.3 |
| | 9 | 318 45.4 | -19 4.8 | 350 55.3 | 16.0 | -12 3.5 | 13.0 | 54.3 |
| | 10 | 333 45.2 | -19 5.4 | 5 30.3 | 16.0 | -12 16.5 | 12.9 | 54.2 |
| | 11 | 348 45.1 | -19 6.0 | 20 5.3 | 15.9 | -12 29.4 | 12.9 | 54.2 |
| | 12 | 3 45.0 | -19 6.6 | 34 40.2 | 15.9 | -12 42.3 | 12.8 | 54.2 |
| | 13 | 18 44.8 | -19 7.2 | 49 15.1 | 15.8 | -12 55.1 | 12.8 | 54.2 |
| | 14 | 33 44.7 | -19 7.8 | 63 49.9 | 15.8 | -13 7.9 | 12.7 | 54.2 |
| | 15 | 48 44.6 | -19 8.4 | 78 24.7 | 15.8 | -13 20.7 | 12.7 | 54.2 |
| | 16 | 63 44.5 | -19 9.0 | 92 59.5 | 15.7 | -13 33.3 | 12.6 | 54.2 |
| | 17 | 78 44.3 | -19 9.6 | 107 34.2 | 15.7 | -13 45.9 | 12.6 | 54.2 |
| | 18 | 93 44.2 | -19 10.2 | 122 8.9 | 15.6 | -13 58.5 | 12.5 | 54.2 |
| | 19 | 108 44.1 | -19 10.8 | 136 43.5 | 15.6 | -14 11.0 | 12.4 | 54.2 |
| | 20 | 123 43.9 | -19 11.4 | 151 18.1 | 15.5 | -14 23.5 | 12.4 | 54.1 |
| | 21 | 138 43.8 | -19 12.0 | 165 52.6 | 15.5 | -14 35.9 | 12.3 | 54.1 |
| | 22 | 153 43.7 | -19 12.6 | 180 27.1 | 15.4 | -14 48.2 | 12.3 | 54.1 |
| | 23 | 168 43.6 | -19 13.2 | 195 1.6 | 15.4 | -15 0.5 | 12.2 | 54.1 |
| | | *v* -0.1 | SD 16.2 | *d* 0.6 | | SD 14.8 | | |

| | Twilight | | | Twilight | | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:00 | 08:35 | 11:07 | 12:21 | 14:53 | 16:28 |
| 70 | 06:50 | 08:12 | 09:51 | 13:37 | 15:16 | 16:38 |
| 68 | 06:41 | 07:55 | 09:14 | 14:14 | 15:34 | 16:47 |
| 66 | 06:34 | 07:40 | 08:48 | 14:40 | 15:48 | 16:54 |
| 64 | 06:28 | 07:28 | 08:28 | 15:00 | 16:00 | 17:00 |
| 62 | 06:22 | 07:18 | 08:12 | 15:17 | 16:10 | 17:06 |
| 60 | 06:17 | 07:09 | 07:58 | 15:30 | 16:19 | 17:11 |
| 58 | 06:13 | 07:02 | 07:47 | 15:42 | 16:27 | 17:16 |
| 56 | 06:09 | 06:55 | 07:37 | 15:52 | 16:34 | 17:20 |
| 54 | 06:05 | 06:48 | 07:28 | 16:01 | 16:40 | 17:24 |
| 52 | 06:01 | 06:43 | 07:20 | 16:08 | 16:46 | 17:27 |
| 50 | 05:58 | 06:37 | 07:13 | 16:16 | 16:51 | 17:31 |
| 45 | 05:50 | 06:26 | 06:58 | 16:31 | 17:03 | 17:38 |
| 40 | 05:44 | 06:16 | 06:45 | 16:44 | 17:13 | 17:45 |
| 35 | 05:37 | 06:08 | 06:35 | 16:54 | 17:21 | 17:52 |
| 30 | 05:31 | 06:00 | 06:25 | 17:04 | 17:29 | 17:58 |
| 20 | 05:19 | 05:46 | 06:09 | 17:20 | 17:43 | 18:10 |
| 10 | 05:07 | 05:32 | 05:55 | 17:35 | 17:57 | 18:22 |
| 0 | 04:54 | 05:19 | 05:41 | 17:48 | 18:10 | 18:35 |
| -10 | 04:39 | 05:05 | 05:27 | 18:02 | 18:24 | 18:50 |
| -20 | 04:21 | 04:49 | 05:13 | 18:17 | 18:40 | 19:08 |
| -30 | 03:58 | 04:30 | 04:56 | 18:34 | 19:00 | 19:31 |
| -35 | 03:44 | 04:18 | 04:46 | 18:44 | 19:12 | 19:46 |
| -40 | 03:26 | 04:04 | 04:34 | 18:55 | 19:26 | 20:04 |
| -45 | 03:04 | 03:47 | 04:21 | 19:09 | 19:43 | 20:27 |
| -50 | 02:34 | 03:25 | 04:04 | 19:26 | 20:05 | 20:57 |
| -52 | 02:18 | 03:15 | 03:57 | 19:34 | 20:16 | 21:13 |
| -54 | 01:59 | 03:03 | 03:48 | 19:43 | 20:28 | 21:33 |
| -56 | 01:34 | 02:49 | 03:38 | 19:52 | 20:42 | 21:59 |
| -58 | 00:58 | 02:32 | 03:27 | 20:04 | 20:59 | 22:37 |
| -60 | //// | 02:12 | 03:14 | 20:17 | 21:20 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **15** | **16** | **17** | **15** | **16** | **17** |
| 72 | 01:58 | 03:59 | 06:07 | 13:58 | 13:25 | 12:42 |
| 70 | 01:59 | 03:50 | 05:46 | 14:01 | 13:36 | 13:05 |
| 68 | 02:00 | 03:44 | 05:30 | 14:04 | 13:45 | 13:23 |
| 66 | 02:01 | 03:38 | 05:17 | 14:06 | 13:52 | 13:38 |
| 64 | 02:01 | 03:33 | 05:07 | 14:08 | 13:59 | 13:50 |
| 62 | 02:02 | 03:29 | 04:58 | 14:09 | 14:04 | 14:00 |
| 60 | 02:02 | 03:26 | 04:50 | 14:10 | 14:09 | 14:09 |
| 58 | 02:03 | 03:23 | 04:43 | 14:12 | 14:14 | 14:16 |
| 56 | 02:03 | 03:20 | 04:37 | 14:13 | 14:18 | 14:23 |
| 54 | 02:03 | 03:18 | 04:32 | 14:14 | 14:21 | 14:29 |
| 52 | 02:03 | 03:15 | 04:27 | 14:15 | 14:24 | 14:35 |
| 50 | 02:04 | 03:13 | 04:23 | 14:15 | 14:27 | 14:40 |
| 45 | 02:04 | 03:09 | 04:14 | 14:17 | 14:33 | 14:51 |
| 40 | 02:05 | 03:06 | 04:06 | 14:19 | 14:39 | 15:00 |
| 35 | 02:05 | 03:02 | 04:00 | 14:20 | 14:43 | 15:08 |
| 30 | 02:05 | 03:00 | 03:54 | 14:21 | 14:47 | 15:15 |
| 20 | 02:06 | 02:55 | 03:44 | 14:23 | 14:54 | 15:27 |
| 10 | 02:07 | 02:51 | 03:35 | 14:25 | 15:01 | 15:37 |
| 0 | 02:07 | 02:47 | 03:27 | 14:26 | 15:06 | 15:47 |
| -10 | 02:08 | 02:43 | 03:20 | 14:28 | 15:12 | 15:57 |
| -20 | 02:08 | 02:39 | 03:11 | 14:30 | 15:19 | 16:08 |
| -30 | 02:09 | 02:35 | 03:02 | 14:32 | 15:26 | 16:20 |
| -35 | 02:09 | 02:32 | 02:56 | 14:33 | 15:30 | 16:28 |
| -40 | 02:10 | 02:30 | 02:50 | 14:34 | 15:35 | 16:36 |
| -45 | 02:10 | 02:26 | 02:43 | 14:36 | 15:40 | 16:45 |
| -50 | 02:11 | 02:22 | 02:34 | 14:37 | 15:47 | 16:57 |
| -52 | 02:11 | 02:21 | 02:31 | 14:38 | 15:50 | 17:02 |
| -54 | 02:11 | 02:19 | 02:26 | 14:39 | 15:53 | 17:08 |
| -56 | 02:12 | 02:16 | 02:22 | 14:40 | 15:57 | 17:15 |
| -58 | 02:12 | 02:14 | 02:16 | 14:41 | 16:01 | 17:23 |
| -60 | 02:13 | 02:11 | 02:10 | 14:43 | 16:06 | 17:31 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **15** | 15:28 | 15:23 | 11:45 | 08:17 | 20:37 | 24 | 23 |
| **16** | 15:17 | 15:12 | 11:45 | 08:57 | 21:17 | 25 | 16 |
| **17** | 15:06 | 15:00 | 11:45 | 09:37 | 21:58 | 26 | 9 |

| | | Aries | Venus -3.9 | | Mars 1.4 | | Jupiter -2.4 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 18 Tuesday | 0 | 57 17.6 | 195 32.4 | -14 55.4 | 169 18.5 | -22 27.2 | 300 14.2 | 21 14.3 | 60 41.6 | -4 6.2 |
| | 1 | 72 20.1 | 210 31.8 | -14 56.4 | 184 19.0 | -22 27.5 | 315 16.7 | 21 14.4 | 75 44.1 | -4 6.2 |
| | 2 | 87 22.5 | 225 31.2 | -14 57.4 | 199 19.5 | -22 27.8 | 330 19.2 | 21 14.4 | 90 46.6 | -4 6.2 |
| | 3 | 102 25.0 | 240 30.6 | -14 58.4 | 214 20.1 | -22 28.1 | 345 21.7 | 21 14.4 | 105 49.2 | -4 6.2 |
| | 4 | 117 27.4 | 255 30.0 | -14 59.4 | 229 20.6 | -22 28.4 | 0 24.3 | 21 14.4 | 120 51.7 | -4 6.2 |
| | 5 | 132 29.9 | 270 29.3 | -15 0.4 | 244 21.1 | -22 28.7 | 15 26.8 | 21 14.4 | 135 54.2 | -4 6.2 |
| | 6 | 147 32.4 | 285 28.7 | -15 1.4 | 259 21.6 | -22 29.0 | 30 29.3 | 21 14.4 | 150 56.7 | -4 6.2 |
| | 7 | 162 34.8 | 300 28.1 | -15 2.4 | 274 22.1 | -22 29.3 | 45 31.8 | 21 14.5 | 165 59.2 | -4 6.2 |
| | 8 | 177 37.3 | 315 27.5 | -15 3.4 | 289 22.6 | -22 29.6 | 60 34.3 | 21 14.5 | 181 1.7 | -4 6.2 |
| | 9 | 192 39.8 | 330 26.9 | -15 4.4 | 304 23.1 | -22 29.9 | 75 36.9 | 21 14.5 | 196 4.2 | -4 6.2 |
| | 10 | 207 42.2 | 345 26.2 | -15 5.4 | 319 23.7 | -22 30.1 | 90 39.4 | 21 14.5 | 211 6.7 | -4 6.3 |
| | 11 | 222 44.7 | 0 25.6 | -15 6.4 | 334 24.2 | -22 30.4 | 105 41.9 | 21 14.5 | 226 9.2 | -4 6.3 |
| | 12 | 237 47.2 | 15 25.0 | -15 7.3 | 349 24.7 | -22 30.7 | 120 44.4 | 21 14.5 | 241 11.7 | -4 6.3 |
| | 13 | 252 49.6 | 30 24.4 | -15 8.3 | 4 25.2 | -22 31.0 | 135 47.0 | 21 14.6 | 256 14.2 | -4 6.3 |
| | 14 | 267 52.1 | 45 23.8 | -15 9.3 | 19 25.7 | -22 31.3 | 150 49.5 | 21 14.6 | 271 16.7 | -4 6.3 |
| | 15 | 282 54.5 | 60 23.1 | -15 10.3 | 34 26.2 | -22 31.6 | 165 52.0 | 21 14.6 | 286 19.2 | -4 6.3 |
| | 16 | 297 57.0 | 75 22.5 | -15 11.3 | 49 26.7 | -22 31.9 | 180 54.5 | 21 14.6 | 301 21.7 | -4 6.3 |
| | 17 | 312 59.5 | 90 21.9 | -15 12.3 | 64 27.2 | -22 32.2 | 195 57.1 | 21 14.6 | 316 24.3 | -4 6.3 |
| | 18 | 328 1.9 | 105 21.3 | -15 13.3 | 79 27.8 | -22 32.5 | 210 59.6 | 21 14.6 | 331 26.8 | -4 6.3 |
| | 19 | 343 4.4 | 120 20.6 | -15 14.3 | 94 28.3 | -22 32.7 | 226 2.1 | 21 14.7 | 346 29.3 | -4 6.3 |
| | 20 | 358 6.9 | 135 20.0 | -15 15.2 | 109 28.8 | -22 33.0 | 241 4.6 | 21 14.7 | 1 31.8 | -4 6.3 |
| | 21 | 13 9.3 | 150 19.4 | -15 16.2 | 124 29.3 | -22 33.3 | 256 7.2 | 21 14.7 | 16 34.3 | -4 6.4 |
| | 22 | 28 11.8 | 165 18.8 | -15 17.2 | 139 29.8 | -22 33.6 | 271 9.7 | 21 14.7 | 31 36.8 | -4 6.4 |
| | 23 | 43 14.3 | 180 18.1 | -15 18.2 | 154 30.3 | -22 33.9 | 286 12.2 | 21 14.7 | 46 39.3 | -4 6.4 |
| | | MP 20:09 | *v* -0.6 | *d* 1.0 | *v* 0.5 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 Wednesday | 0 | 58 16.7 | 195 17.5 | -15 19.2 | 169 30.8 | -22 34.2 | 301 14.7 | 21 14.7 | 61 41.8 | -4 6.4 |
| | 1 | 73 19.2 | 210 16.9 | -15 20.2 | 184 31.3 | -22 34.5 | 316 17.3 | 21 14.8 | 76 44.3 | -4 6.4 |
| | 2 | 88 21.7 | 225 16.3 | -15 21.1 | 199 31.8 | -22 34.7 | 331 19.8 | 21 14.8 | 91 46.8 | -4 6.4 |
| | 3 | 103 24.1 | 240 15.6 | -15 22.1 | 214 32.4 | -22 35.0 | 346 22.3 | 21 14.8 | 106 49.3 | -4 6.4 |
| | 4 | 118 26.6 | 255 15.0 | -15 23.1 | 229 32.9 | -22 35.3 | 1 24.8 | 21 14.8 | 121 51.8 | -4 6.4 |
| | 5 | 133 29.0 | 270 14.4 | -15 24.1 | 244 33.4 | -22 35.6 | 16 27.4 | 21 14.8 | 136 54.3 | -4 6.4 |
| | 6 | 148 31.5 | 285 13.7 | -15 25.1 | 259 33.9 | -22 35.9 | 31 29.9 | 21 14.8 | 151 56.8 | -4 6.4 |
| | 7 | 163 34.0 | 300 13.1 | -15 26.0 | 274 34.4 | -22 36.2 | 46 32.4 | 21 14.9 | 166 59.3 | -4 6.4 |
| | 8 | 178 36.4 | 315 12.5 | -15 27.0 | 289 34.9 | -22 36.4 | 61 35.0 | 21 14.9 | 182 1.8 | -4 6.4 |
| | 9 | 193 38.9 | 330 11.8 | -15 28.0 | 304 35.4 | -22 36.7 | 76 37.5 | 21 14.9 | 197 4.3 | -4 6.5 |
| | 10 | 208 41.4 | 345 11.2 | -15 29.0 | 319 35.9 | -22 37.0 | 91 40.0 | 21 14.9 | 212 6.8 | -4 6.5 |
| | 11 | 223 43.8 | 0 10.6 | -15 29.9 | 334 36.4 | -22 37.3 | 106 42.6 | 21 14.9 | 227 9.3 | -4 6.5 |
| | 12 | 238 46.3 | 15 9.9 | -15 30.9 | 349 36.9 | -22 37.6 | 121 45.1 | 21 15.0 | 242 11.8 | -4 6.5 |
| | 13 | 253 48.8 | 30 9.3 | -15 31.9 | 4 37.4 | -22 37.8 | 136 47.6 | 21 15.0 | 257 14.3 | -4 6.5 |
| | 14 | 268 51.2 | 45 8.7 | -15 32.9 | 19 37.9 | -22 38.1 | 151 50.2 | 21 15.0 | 272 16.8 | -4 6.5 |
| | 15 | 283 53.7 | 60 8.0 | -15 33.8 | 34 38.5 | -22 38.4 | 166 52.7 | 21 15.0 | 287 19.3 | -4 6.5 |
| | 16 | 298 56.2 | 75 7.4 | -15 34.8 | 49 39.0 | -22 38.7 | 181 55.2 | 21 15.0 | 302 21.9 | -4 6.5 |
| | 17 | 313 58.6 | 90 6.8 | -15 35.8 | 64 39.5 | -22 39.0 | 196 57.8 | 21 15.0 | 317 24.4 | -4 6.5 |
| | 18 | 329 1.1 | 105 6.1 | -15 36.8 | 79 40.0 | -22 39.2 | 212 0.3 | 21 15.1 | 332 26.9 | -4 6.5 |
| | 19 | 344 3.5 | 120 5.5 | -15 37.7 | 94 40.5 | -22 39.5 | 227 2.8 | 21 15.1 | 347 29.4 | -4 6.5 |
| | 20 | 359 6.0 | 135 4.9 | -15 38.7 | 109 41.0 | -22 39.8 | 242 5.4 | 21 15.1 | 2 31.9 | -4 6.5 |
| | 21 | 14 8.5 | 150 4.2 | -15 39.7 | 124 41.5 | -22 40.1 | 257 7.9 | 21 15.1 | 17 34.4 | -4 6.5 |
| | 22 | 29 10.9 | 165 3.6 | -15 40.6 | 139 42.0 | -22 40.4 | 272 10.4 | 21 15.1 | 32 36.9 | -4 6.6 |
| | 23 | 44 13.4 | 180 2.9 | -15 41.6 | 154 42.5 | -22 40.6 | 287 13.0 | 21 15.2 | 47 39.4 | -4 6.6 |
| | | MP 20:05 | *v* -0.6 | *d* 1.0 | *v* 0.5 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Thursday | 0 | 59 15.9 | 195 2.3 | -15 42.6 | 169 43.0 | -22 40.9 | 302 15.5 | 21 15.2 | 62 41.9 | -4 6.6 |
| | 1 | 74 18.3 | 210 1.7 | -15 43.5 | 184 43.5 | -22 41.2 | 317 18.0 | 21 15.2 | 77 44.4 | -4 6.6 |
| | 2 | 89 20.8 | 225 1.0 | -15 44.5 | 199 44.0 | -22 41.5 | 332 20.6 | 21 15.2 | 92 46.9 | -4 6.6 |
| | 3 | 104 23.3 | 240 0.4 | -15 45.5 | 214 44.5 | -22 41.7 | 347 23.1 | 21 15.2 | 107 49.4 | -4 6.6 |
| | 4 | 119 25.7 | 254 59.7 | -15 46.4 | 229 45.0 | -22 42.0 | 2 25.6 | 21 15.2 | 122 51.9 | -4 6.6 |
| | 5 | 134 28.2 | 269 59.1 | -15 47.4 | 244 45.5 | -22 42.3 | 17 28.2 | 21 15.3 | 137 54.4 | -4 6.6 |
| | 6 | 149 30.7 | 284 58.5 | -15 48.3 | 259 46.0 | -22 42.6 | 32 30.7 | 21 15.3 | 152 56.9 | -4 6.6 |
| | 7 | 164 33.1 | 299 57.8 | -15 49.3 | 274 46.5 | -22 42.8 | 47 33.3 | 21 15.3 | 167 59.4 | -4 6.6 |
| | 8 | 179 35.6 | 314 57.2 | -15 50.3 | 289 47.0 | -22 43.1 | 62 35.8 | 21 15.3 | 183 1.9 | -4 6.6 |
| | 9 | 194 38.0 | 329 56.5 | -15 51.2 | 304 47.5 | -22 43.4 | 77 38.3 | 21 15.3 | 198 4.4 | -4 6.6 |
| | 10 | 209 40.5 | 344 55.9 | -15 52.2 | 319 48.0 | -22 43.7 | 92 40.9 | 21 15.4 | 213 6.9 | -4 6.6 |
| | 11 | 224 43.0 | 359 55.2 | -15 53.1 | 334 48.5 | -22 43.9 | 107 43.4 | 21 15.4 | 228 9.4 | -4 6.6 |
| | 12 | 239 45.4 | 14 54.6 | -15 54.1 | 349 49.0 | -22 44.2 | 122 46.0 | 21 15.4 | 243 11.9 | -4 6.6 |
| | 13 | 254 47.9 | 29 53.9 | -15 55.1 | 4 49.5 | -22 44.5 | 137 48.5 | 21 15.4 | 258 14.4 | -4 6.6 |
| | 14 | 269 50.4 | 44 53.3 | -15 56.0 | 19 50.0 | -22 44.7 | 152 51.0 | 21 15.4 | 273 16.9 | -4 6.7 |
| | 15 | 284 52.8 | 59 52.6 | -15 57.0 | 34 50.5 | -22 45.0 | 167 53.6 | 21 15.5 | 288 19.4 | -4 6.7 |
| | 16 | 299 55.3 | 74 52.0 | -15 57.9 | 49 51.0 | -22 45.3 | 182 56.1 | 21 15.5 | 303 21.9 | -4 6.7 |
| | 17 | 314 57.8 | 89 51.4 | -15 58.9 | 64 51.5 | -22 45.5 | 197 58.7 | 21 15.5 | 318 24.4 | -4 6.7 |
| | 18 | 330 0.2 | 104 50.7 | -15 59.8 | 79 52.0 | -22 45.8 | 213 1.2 | 21 15.5 | 333 26.9 | -4 6.7 |
| | 19 | 345 2.7 | 119 50.1 | -16 0.8 | 94 52.5 | -22 46.1 | 228 3.8 | 21 15.5 | 348 29.4 | -4 6.7 |
| | 20 | 0 5.1 | 134 49.4 | -16 1.7 | 109 53.0 | -22 46.4 | 243 6.3 | 21 15.6 | 3 31.9 | -4 6.7 |
| | 21 | 15 7.6 | 149 48.8 | -16 2.7 | 124 53.5 | -22 46.6 | 258 8.8 | 21 15.6 | 18 34.3 | -4 6.7 |
| | 22 | 30 10.1 | 164 48.1 | -16 3.6 | 139 54.0 | -22 46.9 | 273 11.4 | 21 15.6 | 33 36.8 | -4 6.7 |
| | 23 | 45 12.5 | 179 47.5 | -16 4.6 | 154 54.5 | -22 47.2 | 288 13.9 | 21 15.6 | 48 39.3 | -4 6.7 |
| | | MP 20:01 | *v* -0.6 | *d* 1.0 | *v* 0.5 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

## Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.0 |
| Achernar | 335 19.1 | -57 6.4 |
| Acrux | 172 59.8 | -63 14.3 |
| Adhara | 255 5.1 | -29 0.2 |
| Aldebaran | 290 38.5 | 16 33.7 |
| Alioth | 166 12.8 | 55 49.0 |
| Alkaid | 152 51.9 | 49 10.9 |
| Alnair | 27 32.0 | -46 50.3 |
| Alnilam | 275 36.7 | -1 11.0 |
| Alphard | 217 47.0 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.7 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.2 | -42 10.0 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.8 |
| Atria | 107 9.5 | -69 4.5 |
| Avior | 234 14.2 | -59 35.2 |
| Bellatrix | 278 21.8 | 6 22.5 |
| Betelgeuse | 270 51.1 | 7 24.8 |
| Canopus | 263 51.7 | -52 42.3 |
| Capella | 280 20.4 | 46 1.4 |
| Deneb | 49 25.5 | 45 22.6 |
| Denebola | 182 24.4 | 14 25.6 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.4 | 61 36.4 |
| Elnath | 278 0.6 | 28 37.8 |
| Eltanin | 90 42.3 | 51 29.2 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.6 | -29 29.2 |
| Gacrux | 171 51.3 | -57 15.2 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.7 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 21.0 | 74 2.8 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.7 |
| Miaplacidus | 221 38.0 | -69 49.0 |
| Mirfak | 308 26.8 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 4.9 | -56 39.3 |
| Pollux | 243 16.3 | 27 57.7 |
| Procyon | 244 49.9 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.7 | 11 50.4 |
| Rigel | 281 2.9 | -8 10.2 |
| Rigil Kent. | 139 40.0 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.9 | 56 41.0 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.4 | -16 44.9 |
| Spica | 158 21.9 | -11 17.7 |
| Suhail | 222 45.7 | -43 31.9 |
| Vega | 80 33.1 | 38 48.6 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| **18 Tue** | SHA | MP |
|---|---|---|
| Venus | 138 14.8 | 10:58 |
| Mars | 112 0.9 | 12:42 |
| Jupiter | 242 56.6 | 03:58 |
| Saturn | 3 24.0 | 19:54 |

| **19 Wed** | SHA | MP |
|---|---|---|
| Venus | 137 0.8 | 10:59 |
| Mars | 111 14.1 | 12:42 |
| Jupiter | 242 58.0 | 03:54 |
| Saturn | 3 25.1 | 19:50 |

| **20 Thu** | SHA | MP |
|---|---|---|
| Venus | 135 46.4 | 11:00 |
| Mars | 110 27.1 | 12:41 |
| Jupiter | 242 59.6 | 03:50 |
| Saturn | 3 26.0 | 19:46 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **18 Tuesday** | 0 | 183 43.4 | -19 13.8 | 209 36.0 | 15.4 | -15 12.7 | 12.2 | 54.1 |
| | 1 | 198 43.3 | -19 14.4 | 224 10.3 | 15.3 | -15 24.8 | 12.1 | 54.1 |
| | 2 | 213 43.2 | -19 15.0 | 238 44.6 | 15.3 | -15 36.9 | 12.0 | 54.1 |
| | 3 | 228 43.0 | -19 15.5 | 253 18.9 | 15.2 | -15 48.9 | 12.0 | 54.1 |
| | 4 | 243 42.9 | -19 16.1 | 267 53.1 | 15.2 | -16 0.9 | 11.9 | 54.1 |
| | 5 | 258 42.8 | -19 16.7 | 282 27.2 | 15.1 | -16 12.8 | 11.8 | 54.1 |
| | 6 | 273 42.6 | -19 17.3 | 297 1.3 | 15.1 | -16 24.6 | 11.8 | 54.1 |
| | 7 | 288 42.5 | -19 17.9 | 311 35.4 | 15.0 | -16 36.4 | 11.7 | 54.1 |
| | 8 | 303 42.4 | -19 18.5 | 326 9.4 | 14.9 | -16 48.1 | 11.6 | 54.1 |
| | 9 | 318 42.2 | -19 19.1 | 340 43.3 | 14.9 | -16 59.7 | 11.6 | 54.0 |
| | 10 | 333 42.1 | -19 19.7 | 355 17.2 | 14.8 | -17 11.3 | 11.5 | 54.0 |
| | 11 | 348 42.0 | -19 20.3 | 9 51.1 | 14.8 | -17 22.8 | 11.4 | 54.0 |
| | 12 | 3 41.8 | -19 20.9 | 24 24.9 | 14.7 | -17 34.2 | 11.4 | 54.0 |
| | 13 | 18 41.7 | -19 21.5 | 38 58.6 | 14.7 | -17 45.6 | 11.3 | 54.0 |
| | 14 | 33 41.6 | -19 22.0 | 53 32.2 | 14.6 | -17 56.9 | 11.2 | 54.0 |
| | 15 | 48 41.4 | -19 22.6 | 68 5.9 | 14.6 | -18 8.1 | 11.1 | 54.0 |
| | 16 | 63 41.3 | -19 23.2 | 82 39.4 | 14.5 | -18 19.2 | 11.1 | 54.0 |
| | 17 | 78 41.1 | -19 23.8 | 97 12.9 | 14.4 | -18 30.2 | 11.0 | 54.0 |
| | 18 | 93 41.0 | -19 24.4 | 111 46.4 | 14.4 | -18 41.2 | 10.9 | 54.0 |
| | 19 | 108 40.9 | -19 25.0 | 126 19.7 | 14.3 | -18 52.1 | 10.8 | 54.0 |
| | 20 | 123 40.7 | -19 25.6 | 140 53.1 | 14.3 | -19 3.0 | 10.8 | 54.0 |
| | 21 | 138 40.6 | -19 26.1 | 155 26.3 | 14.2 | -19 13.7 | 10.7 | 54.0 |
| | 22 | 153 40.5 | -19 26.7 | 169 59.5 | 14.1 | -19 24.4 | 10.6 | 54.0 |
| | 23 | 168 40.3 | -19 27.3 | 184 32.7 | 14.1 | -19 35.0 | 10.5 | 54.0 |
| | | *v* -0.1 | SD 16.2 | *d* 0.6 | | SD 14.8 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **19 Wednesday** | 0 | 183 40.2 | -19 27.9 | 199 5.7 | 14.0 | -19 45.5 | 10.4 | 54.0 |
| | 1 | 198 40.0 | -19 28.5 | 213 38.8 | 14.0 | -19 55.9 | 10.3 | 54.0 |
| | 2 | 213 39.9 | -19 29.0 | 228 11.7 | 13.9 | -20 6.3 | 10.3 | 54.0 |
| | 3 | 228 39.8 | -19 29.6 | 242 44.6 | 13.8 | -20 16.5 | 10.2 | 54.0 |
| | 4 | 243 39.6 | -19 30.2 | 257 17.4 | 13.8 | -20 26.7 | 10.1 | 54.0 |
| | 5 | 258 39.5 | -19 30.8 | 271 50.2 | 13.7 | -20 36.8 | 10.0 | 53.9 |
| | 6 | 273 39.3 | -19 31.4 | 286 22.9 | 13.6 | -20 46.8 | 9.9 | 53.9 |
| | 7 | 288 39.2 | -19 31.9 | 300 55.6 | 13.6 | -20 56.7 | 9.8 | 53.9 |
| | 8 | 303 39.0 | -19 32.5 | 315 28.1 | 13.5 | -21 6.6 | 9.7 | 53.9 |
| | 9 | 318 38.9 | -19 33.1 | 330 0.7 | 13.5 | -21 16.3 | 9.7 | 53.9 |
| | 10 | 333 38.8 | -19 33.7 | 344 33.1 | 13.4 | -21 26.0 | 9.6 | 53.9 |
| | 11 | 348 38.6 | -19 34.2 | 359 5.5 | 13.3 | -21 35.5 | 9.5 | 53.9 |
| | 12 | 3 38.5 | -19 34.8 | 13 37.8 | 13.3 | -21 45.0 | 9.4 | 53.9 |
| | 13 | 18 38.3 | -19 35.4 | 28 10.1 | 13.2 | -21 54.4 | 9.3 | 53.9 |
| | 14 | 33 38.2 | -19 36.0 | 42 42.3 | 13.1 | -22 3.7 | 9.2 | 53.9 |
| | 15 | 48 38.0 | -19 36.5 | 57 14.4 | 13.1 | -22 12.9 | 9.1 | 53.9 |
| | 16 | 63 37.9 | -19 37.1 | 71 46.5 | 13.0 | -22 22.0 | 9.0 | 53.9 |
| | 17 | 78 37.8 | -19 37.7 | 86 18.5 | 12.9 | -22 31.0 | 8.9 | 53.9 |
| | 18 | 93 37.6 | -19 38.2 | 100 50.4 | 12.9 | -22 39.9 | 8.8 | 53.9 |
| | 19 | 108 37.5 | -19 38.8 | 115 22.3 | 12.8 | -22 48.7 | 8.7 | 53.9 |
| | 20 | 123 37.3 | -19 39.4 | 129 54.1 | 12.7 | -22 57.4 | 8.6 | 53.9 |
| | 21 | 138 37.2 | -19 40.0 | 144 25.8 | 12.7 | -23 6.0 | 8.5 | 53.9 |
| | 22 | 153 37.0 | -19 40.5 | 158 57.5 | 12.6 | -23 14.6 | 8.4 | 53.9 |
| | 23 | 168 36.9 | -19 41.1 | 173 29.1 | 12.5 | -23 23.0 | 8.3 | 53.9 |
| | | *v* -0.1 | SD 16.2 | *d* 0.6 | | SD 14.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Thursday** | 0 | 183 36.7 | -19 41.7 | 188 0.7 | 12.5 | -23 31.3 | 8.2 | 53.9 |
| | 1 | 198 36.6 | -19 42.2 | 202 32.1 | 12.4 | -23 39.5 | 8.1 | 53.9 |
| | 2 | 213 36.4 | -19 42.8 | 217 3.5 | 12.4 | -23 47.6 | 8.0 | 53.9 |
| | 3 | 228 36.3 | -19 43.4 | 231 34.9 | 12.3 | -23 55.6 | 7.9 | 53.9 |
| | 4 | 243 36.1 | -19 43.9 | 246 6.2 | 12.2 | -24 3.5 | 7.8 | 53.9 |
| | 5 | 258 36.0 | -19 44.5 | 260 37.4 | 12.2 | -24 11.3 | 7.7 | 53.9 |
| | 6 | 273 35.8 | -19 45.0 | 275 8.6 | 12.1 | -24 19.0 | 7.6 | 53.9 |
| | 7 | 288 35.7 | -19 45.6 | 289 39.7 | 12.0 | -24 26.5 | 7.5 | 53.9 |
| | 8 | 303 35.5 | -19 46.2 | 304 10.7 | 12.0 | -24 34.0 | 7.4 | 53.9 |
| | 9 | 318 35.4 | -19 46.7 | 318 41.7 | 11.9 | -24 41.4 | 7.2 | 53.9 |
| | 10 | 333 35.2 | -19 47.3 | 333 12.6 | 11.8 | -24 48.6 | 7.1 | 53.9 |
| | 11 | 348 35.1 | -19 47.9 | 347 43.4 | 11.8 | -24 55.8 | 7.0 | 53.9 |
| | 12 | 3 34.9 | -19 48.4 | 2 14.2 | 11.7 | -25 2.8 | 6.9 | 53.9 |
| | 13 | 18 34.8 | -19 49.0 | 16 44.9 | 11.7 | -25 9.7 | 6.8 | 53.9 |
| | 14 | 33 34.6 | -19 49.5 | 31 15.6 | 11.6 | -25 16.5 | 6.7 | 53.9 |
| | 15 | 48 34.5 | -19 50.1 | 45 46.2 | 11.5 | -25 23.2 | 6.6 | 53.9 |
| | 16 | 63 34.3 | -19 50.6 | 60 16.7 | 11.5 | -25 29.8 | 6.5 | 53.9 |
| | 17 | 78 34.1 | -19 51.2 | 74 47.2 | 11.4 | -25 36.2 | 6.3 | 53.9 |
| | 18 | 93 34.0 | -19 51.8 | 89 17.6 | 11.4 | -25 42.6 | 6.2 | 53.9 |
| | 19 | 108 33.8 | -19 52.3 | 103 48.0 | 11.3 | -25 48.8 | 6.1 | 53.9 |
| | 20 | 123 33.7 | -19 52.9 | 118 18.3 | 11.2 | -25 54.9 | 6.0 | 53.9 |
| | 21 | 138 33.5 | -19 53.4 | 132 48.5 | 11.2 | -26 0.9 | 5.9 | 53.9 |
| | 22 | 153 33.4 | -19 54.0 | 147 18.7 | 11.1 | -26 6.8 | 5.7 | 53.9 |
| | 23 | 168 33.2 | -19 54.5 | 161 48.9 | 11.1 | -26 12.5 | 5.6 | 53.9 |
| | | *v* -0.1 | SD 16.2 | *d* 0.6 | | SD 14.7 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:11 | 08:50 | ▬ | ▬ | 14:40 | 16:18 |
| 70 | 06:59 | 08:24 | 10:12 | 13:17 | 15:05 | 16:30 |
| 68 | 06:50 | 08:05 | 09:28 | 14:01 | 15:25 | 16:40 |
| 66 | 06:42 | 07:49 | 08:59 | 14:30 | 15:40 | 16:48 |
| 64 | 06:35 | 07:36 | 08:38 | 14:52 | 15:53 | 16:55 |
| 62 | 06:29 | 07:25 | 08:20 | 15:09 | 16:04 | 17:01 |
| 60 | 06:23 | 07:16 | 08:06 | 15:24 | 16:14 | 17:06 |
| 58 | 06:18 | 07:07 | 07:54 | 15:36 | 16:22 | 17:11 |
| 56 | 06:14 | 07:00 | 07:43 | 15:47 | 16:30 | 17:16 |
| 54 | 06:10 | 06:53 | 07:34 | 15:56 | 16:36 | 17:20 |
| 52 | 06:06 | 06:47 | 07:25 | 16:05 | 16:42 | 17:24 |
| 50 | 06:02 | 06:42 | 07:18 | 16:12 | 16:48 | 17:28 |
| 45 | 05:54 | 06:30 | 07:02 | 16:28 | 17:00 | 17:36 |
| 40 | 05:47 | 06:19 | 06:49 | 16:41 | 17:11 | 17:43 |
| 35 | 05:40 | 06:10 | 06:38 | 16:53 | 17:20 | 17:50 |
| 30 | 05:33 | 06:02 | 06:28 | 17:02 | 17:28 | 17:57 |
| 20 | 05:21 | 05:47 | 06:11 | 17:20 | 17:43 | 18:10 |
| 10 | 05:08 | 05:34 | 05:56 | 17:35 | 17:57 | 18:22 |
| 0 | 04:54 | 05:20 | 05:42 | 17:49 | 18:11 | 18:36 |
| -10 | 04:39 | 05:05 | 05:27 | 18:03 | 18:26 | 18:52 |
| -20 | 04:20 | 04:48 | 05:12 | 18:19 | 18:42 | 19:10 |
| -30 | 03:57 | 04:28 | 04:54 | 18:36 | 19:03 | 19:34 |
| -35 | 03:42 | 04:16 | 04:44 | 18:47 | 19:15 | 19:50 |
| -40 | 03:23 | 04:01 | 04:32 | 18:59 | 19:30 | 20:08 |
| -45 | 03:00 | 03:44 | 04:18 | 19:13 | 19:48 | 20:32 |
| -50 | 02:28 | 03:21 | 04:01 | 19:31 | 20:11 | 21:04 |
| -52 | 02:11 | 03:10 | 03:52 | 19:39 | 20:22 | 21:22 |
| -54 | 01:50 | 02:57 | 03:43 | 19:48 | 20:35 | 21:43 |
| -56 | 01:22 | 02:42 | 03:33 | 19:59 | 20:50 | 22:12 |
| -58 | 00:38 | 02:24 | 03:21 | 20:11 | 21:08 | 23:01 |
| -60 | //// | 02:02 | 03:07 | 20:25 | 21:31 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **18** | **19** | **20** | **18** | **19** | **20** |
| 72 | 09:02 | ▬ | ▬ | 11:16 | ▬ | ▬ |
| 70 | 08:02 | ▬ | ▬ | 12:17 | ▬ | ▬ |
| 68 | 07:28 | 10:14 | ▬ | 12:53 | 11:39 | ▬ |
| 66 | 07:03 | 09:06 | ▬ | 13:19 | 12:47 | ▬ |
| 64 | 06:44 | 08:31 | 10:39 | 13:38 | 13:23 | 12:53 |
| 62 | 06:29 | 08:06 | 09:50 | 13:55 | 13:49 | 13:43 |
| 60 | 06:16 | 07:46 | 09:19 | 14:08 | 14:10 | 14:14 |
| 58 | 06:05 | 07:30 | 08:55 | 14:20 | 14:27 | 14:38 |
| 56 | 05:56 | 07:16 | 08:37 | 14:30 | 14:41 | 14:57 |
| 54 | 05:48 | 07:04 | 08:21 | 14:40 | 14:53 | 15:13 |
| 52 | 05:40 | 06:54 | 08:08 | 14:48 | 15:04 | 15:27 |
| 50 | 05:33 | 06:45 | 07:56 | 14:55 | 15:14 | 15:39 |
| 45 | 05:19 | 06:25 | 07:31 | 15:11 | 15:35 | 16:04 |
| 40 | 05:07 | 06:10 | 07:12 | 15:24 | 15:51 | 16:25 |
| 35 | 04:58 | 05:56 | 06:56 | 15:35 | 16:06 | 16:41 |
| 30 | 04:49 | 05:45 | 06:42 | 15:45 | 16:18 | 16:56 |
| 20 | 04:34 | 05:25 | 06:18 | 16:01 | 16:39 | 17:21 |
| 10 | 04:21 | 05:09 | 05:58 | 16:16 | 16:58 | 17:42 |
| 0 | 04:09 | 04:53 | 05:39 | 16:30 | 17:15 | 18:03 |
| -10 | 03:57 | 04:37 | 05:20 | 16:44 | 17:32 | 18:23 |
| -20 | 03:45 | 04:21 | 05:00 | 16:59 | 17:51 | 18:44 |
| -30 | 03:30 | 04:02 | 04:37 | 17:16 | 18:12 | 19:10 |
| -35 | 03:22 | 03:51 | 04:24 | 17:26 | 18:25 | 19:24 |
| -40 | 03:12 | 03:38 | 04:08 | 17:37 | 18:40 | 19:42 |
| -45 | 03:01 | 03:23 | 03:50 | 17:51 | 18:57 | 20:03 |
| -50 | 02:48 | 03:05 | 03:27 | 18:08 | 19:19 | 20:29 |
| -52 | 02:42 | 02:57 | 03:16 | 18:16 | 19:30 | 20:42 |
| -54 | 02:35 | 02:47 | 03:04 | 18:24 | 19:41 | 20:57 |
| -56 | 02:28 | 02:37 | 02:50 | 18:34 | 19:55 | 21:14 |
| -58 | 02:20 | 02:25 | 02:34 | 18:46 | 20:11 | 21:35 |
| -60 | 02:10 | 02:11 | 02:14 | 18:59 | 20:30 | 22:02 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **18** | 14:54 | 14:47 | 11:45 | 10:19 | 22:41 | 27 | 5 |
| **19** | 14:41 | 14:34 | 11:45 | 11:04 | 23:27 | 28 | 1 |
| **20** | 14:27 | 14:20 | 11:46 | 11:51 | –:– | 29 | 0 |

## 2025 November 21, 22, 23 (Fri, Sat, Sun)

| | | Aries | Venus -3.9 | | Mars 1.4 | | Jupiter -2.5 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 21 Friday | 0 | 60 15.0 | 194 46.8 | -16 5.5 | 169 55.0 | -22 47.4 | 303 16.5 | 21 15.6 | 63 41.8 | -4 6.7 |
| | 1 | 75 17.5 | 209 46.2 | -16 6.5 | 184 55.5 | -22 47.7 | 318 19.0 | 21 15.7 | 78 44.3 | -4 6.7 |
| | 2 | 90 19.9 | 224 45.5 | -16 7.4 | 199 56.0 | -22 48.0 | 333 21.6 | 21 15.7 | 93 46.8 | -4 6.7 |
| | 3 | 105 22.4 | 239 44.8 | -16 8.4 | 214 56.5 | -22 48.2 | 348 24.1 | 21 15.7 | 108 49.3 | -4 6.7 |
| | 4 | 120 24.9 | 254 44.2 | -16 9.3 | 229 57.0 | -22 48.5 | 3 26.7 | 21 15.7 | 123 51.8 | -4 6.7 |
| | 5 | 135 27.3 | 269 43.5 | -16 10.3 | 244 57.5 | -22 48.8 | 18 29.2 | 21 15.7 | 138 54.3 | -4 6.7 |
| | 6 | 150 29.8 | 284 42.9 | -16 11.2 | 259 58.0 | -22 49.0 | 33 31.7 | 21 15.8 | 153 56.8 | -4 6.7 |
| | 7 | 165 32.3 | 299 42.2 | -16 12.2 | 274 58.5 | -22 49.3 | 48 34.3 | 21 15.8 | 168 59.3 | -4 6.7 |
| | 8 | 180 34.7 | 314 41.6 | -16 13.1 | 289 59.0 | -22 49.6 | 63 36.8 | 21 15.8 | 184 1.8 | -4 6.7 |
| | 9 | 195 37.2 | 329 40.9 | -16 14.0 | 304 59.5 | -22 49.8 | 78 39.4 | 21 15.8 | 199 4.3 | -4 6.7 |
| | 10 | 210 39.6 | 344 40.3 | -16 15.0 | 320 0.0 | -22 50.1 | 93 41.9 | 21 15.8 | 214 6.8 | -4 6.7 |
| | 11 | 225 42.1 | 359 39.6 | -16 15.9 | 335 0.5 | -22 50.3 | 108 44.5 | 21 15.9 | 229 9.3 | -4 6.8 |
| | 12 | 240 44.6 | 14 38.9 | -16 16.9 | 350 1.0 | -22 50.6 | 123 47.0 | 21 15.9 | 244 11.8 | -4 6.8 |
| | 13 | 255 47.0 | 29 38.3 | -16 17.8 | 5 1.5 | -22 50.9 | 138 49.6 | 21 15.9 | 259 14.3 | -4 6.8 |
| | 14 | 270 49.5 | 44 37.6 | -16 18.7 | 20 2.0 | -22 51.1 | 153 52.1 | 21 15.9 | 274 16.8 | -4 6.8 |
| | 15 | 285 52.0 | 59 37.0 | -16 19.7 | 35 2.5 | -22 51.4 | 168 54.7 | 21 15.9 | 289 19.3 | -4 6.8 |
| | 16 | 300 54.4 | 74 36.3 | -16 20.6 | 50 3.0 | -22 51.6 | 183 57.2 | 21 16.0 | 304 21.8 | -4 6.8 |
| | 17 | 315 56.9 | 89 35.6 | -16 21.6 | 65 3.5 | -22 51.9 | 198 59.8 | 21 16.0 | 319 24.3 | -4 6.8 |
| | 18 | 330 59.4 | 104 35.0 | -16 22.5 | 80 4.0 | -22 52.2 | 214 2.3 | 21 16.0 | 334 26.8 | -4 6.8 |
| | 19 | 346 1.8 | 119 34.3 | -16 23.4 | 95 4.5 | -22 52.4 | 229 4.9 | 21 16.0 | 349 29.3 | -4 6.8 |
| | 20 | 1 4.3 | 134 33.7 | -16 24.4 | 110 5.0 | -22 52.7 | 244 7.4 | 21 16.1 | 4 31.7 | -4 6.8 |
| | 21 | 16 6.8 | 149 33.0 | -16 25.3 | 125 5.5 | -22 52.9 | 259 10.0 | 21 16.1 | 19 34.2 | -4 6.8 |
| | 22 | 31 9.2 | 164 32.3 | -16 26.2 | 140 6.0 | -22 53.2 | 274 12.5 | 21 16.1 | 34 36.7 | -4 6.8 |
| | 23 | 46 11.7 | 179 31.7 | -16 27.2 | 155 6.4 | -22 53.5 | 289 15.1 | 21 16.1 | 49 39.2 | -4 6.8 |
| | | MP 19:57 | *v* -0.7 | *d* 0.9 | *v* 0.5 | *d* 0.3 | *v* 2.5 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 Saturday | 0 | 61 14.1 | 194 31.0 | -16 28.1 | 170 6.9 | -22 53.7 | 304 17.7 | 21 16.1 | 64 41.7 | -4 6.8 |
| | 1 | 76 16.6 | 209 30.3 | -16 29.0 | 185 7.4 | -22 54.0 | 319 20.2 | 21 16.2 | 79 44.2 | -4 6.8 |
| | 2 | 91 19.1 | 224 29.7 | -16 30.0 | 200 7.9 | -22 54.2 | 334 22.8 | 21 16.2 | 94 46.7 | -4 6.8 |
| | 3 | 106 21.5 | 239 29.0 | -16 30.9 | 215 8.4 | -22 54.5 | 349 25.3 | 21 16.2 | 109 49.2 | -4 6.8 |
| | 4 | 121 24.0 | 254 28.4 | -16 31.8 | 230 8.9 | -22 54.8 | 4 27.9 | 21 16.2 | 124 51.7 | -4 6.8 |
| | 5 | 136 26.5 | 269 27.7 | -16 32.7 | 245 9.4 | -22 55.0 | 19 30.4 | 21 16.3 | 139 54.2 | -4 6.8 |
| | 6 | 151 28.9 | 284 27.0 | -16 33.7 | 260 9.9 | -22 55.3 | 34 33.0 | 21 16.3 | 154 56.7 | -4 6.8 |
| | 7 | 166 31.4 | 299 26.3 | -16 34.6 | 275 10.4 | -22 55.5 | 49 35.5 | 21 16.3 | 169 59.2 | -4 6.8 |
| | 8 | 181 33.9 | 314 25.7 | -16 35.5 | 290 10.9 | -22 55.8 | 64 38.1 | 21 16.3 | 185 1.7 | -4 6.8 |
| | 9 | 196 36.3 | 329 25.0 | -16 36.4 | 305 11.4 | -22 56.0 | 79 40.7 | 21 16.3 | 200 4.1 | -4 6.8 |
| | 10 | 211 38.8 | 344 24.3 | -16 37.4 | 320 11.9 | -22 56.3 | 94 43.2 | 21 16.4 | 215 6.6 | -4 6.8 |
| | 11 | 226 41.3 | 359 23.7 | -16 38.3 | 335 12.4 | -22 56.5 | 109 45.8 | 21 16.4 | 230 9.1 | -4 6.8 |
| | 12 | 241 43.7 | 14 23.0 | -16 39.2 | 350 12.8 | -22 56.8 | 124 48.3 | 21 16.4 | 245 11.6 | -4 6.8 |
| | 13 | 256 46.2 | 29 22.3 | -16 40.1 | 5 13.3 | -22 57.0 | 139 50.9 | 21 16.4 | 260 14.1 | -4 6.8 |
| | 14 | 271 48.6 | 44 21.7 | -16 41.1 | 20 13.8 | -22 57.3 | 154 53.4 | 21 16.5 | 275 16.6 | -4 6.8 |
| | 15 | 286 51.1 | 59 21.0 | -16 42.0 | 35 14.3 | -22 57.5 | 169 56.0 | 21 16.5 | 290 19.1 | -4 6.8 |
| | 16 | 301 53.6 | 74 20.3 | -16 42.9 | 50 14.8 | -22 57.8 | 184 58.6 | 21 16.5 | 305 21.6 | -4 6.8 |
| | 17 | 316 56.0 | 89 19.6 | -16 43.8 | 65 15.3 | -22 58.0 | 200 1.1 | 21 16.5 | 320 24.1 | -4 6.8 |
| | 18 | 331 58.5 | 104 19.0 | -16 44.7 | 80 15.8 | -22 58.3 | 215 3.7 | 21 16.5 | 335 26.6 | -4 6.8 |
| | 19 | 347 1.0 | 119 18.3 | -16 45.6 | 95 16.3 | -22 58.6 | 230 6.2 | 21 16.6 | 350 29.1 | -4 6.8 |
| | 20 | 2 3.4 | 134 17.6 | -16 46.6 | 110 16.8 | -22 58.8 | 245 8.8 | 21 16.6 | 5 31.5 | -4 6.8 |
| | 21 | 17 5.9 | 149 17.0 | -16 47.5 | 125 17.2 | -22 59.1 | 260 11.4 | 21 16.6 | 20 34.0 | -4 6.8 |
| | 22 | 32 8.4 | 164 16.3 | -16 48.4 | 140 17.7 | -22 59.3 | 275 13.9 | 21 16.6 | 35 36.5 | -4 6.8 |
| | 23 | 47 10.8 | 179 15.6 | -16 49.3 | 155 18.2 | -22 59.5 | 290 16.5 | 21 16.7 | 50 39.0 | -4 6.8 |
| | | MP 19:53 | *v* -0.7 | *d* 0.9 | *v* 0.5 | *d* 0.3 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Sunday | 0 | 62 13.3 | 194 14.9 | -16 50.2 | 170 18.7 | -22 59.8 | 305 19.0 | 21 16.7 | 65 41.5 | -4 6.8 |
| | 1 | 77 15.8 | 209 14.2 | -16 51.1 | 185 19.2 | -23 0.0 | 320 21.6 | 21 16.7 | 80 44.0 | -4 6.8 |
| | 2 | 92 18.2 | 224 13.6 | -16 52.0 | 200 19.7 | -23 0.3 | 335 24.2 | 21 16.7 | 95 46.5 | -4 6.8 |
| | 3 | 107 20.7 | 239 12.9 | -16 53.0 | 215 20.2 | -23 0.5 | 350 26.7 | 21 16.7 | 110 49.0 | -4 6.9 |
| | 4 | 122 23.1 | 254 12.2 | -16 53.9 | 230 20.7 | -23 0.8 | 5 29.3 | 21 16.8 | 125 51.5 | -4 6.9 |
| | 5 | 137 25.6 | 269 11.5 | -16 54.8 | 245 21.1 | -23 1.0 | 20 31.9 | 21 16.8 | 140 53.9 | -4 6.9 |
| | 6 | 152 28.1 | 284 10.9 | -16 55.7 | 260 21.6 | -23 1.3 | 35 34.4 | 21 16.8 | 155 56.4 | -4 6.9 |
| | 7 | 167 30.5 | 299 10.2 | -16 56.6 | 275 22.1 | -23 1.5 | 50 37.0 | 21 16.8 | 170 58.9 | -4 6.9 |
| | 8 | 182 33.0 | 314 9.5 | -16 57.5 | 290 22.6 | -23 1.8 | 65 39.6 | 21 16.9 | 186 1.4 | -4 6.9 |
| | 9 | 197 35.5 | 329 8.8 | -16 58.4 | 305 23.1 | -23 2.0 | 80 42.1 | 21 16.9 | 201 3.9 | -4 6.9 |
| | 10 | 212 37.9 | 344 8.1 | -16 59.3 | 320 23.6 | -23 2.3 | 95 44.7 | 21 16.9 | 216 6.4 | -4 6.9 |
| | 11 | 227 40.4 | 359 7.4 | -17 0.2 | 335 24.1 | -23 2.5 | 110 47.3 | 21 16.9 | 231 8.9 | -4 6.9 |
| | 12 | 242 42.9 | 14 6.8 | -17 1.1 | 350 24.5 | -23 2.8 | 125 49.8 | 21 17.0 | 246 11.4 | -4 6.9 |
| | 13 | 257 45.3 | 29 6.1 | -17 2.0 | 5 25.0 | -23 3.0 | 140 52.4 | 21 17.0 | 261 13.8 | -4 6.9 |
| | 14 | 272 47.8 | 44 5.4 | -17 2.9 | 20 25.5 | -23 3.2 | 155 55.0 | 21 17.0 | 276 16.3 | -4 6.9 |
| | 15 | 287 50.2 | 59 4.7 | -17 3.8 | 35 26.0 | -23 3.5 | 170 57.5 | 21 17.0 | 291 18.8 | -4 6.9 |
| | 16 | 302 52.7 | 74 4.0 | -17 4.7 | 50 26.5 | -23 3.7 | 186 0.1 | 21 17.1 | 306 21.3 | -4 6.9 |
| | 17 | 317 55.2 | 89 3.3 | -17 5.6 | 65 27.0 | -23 4.0 | 201 2.7 | 21 17.1 | 321 23.8 | -4 6.9 |
| | 18 | 332 57.6 | 104 2.7 | -17 6.5 | 80 27.5 | -23 4.2 | 216 5.2 | 21 17.1 | 336 26.3 | -4 6.9 |
| | 19 | 348 0.1 | 119 2.0 | -17 7.4 | 95 27.9 | -23 4.4 | 231 7.8 | 21 17.1 | 351 28.8 | -4 6.9 |
| | 20 | 3 2.6 | 134 1.3 | -17 8.3 | 110 28.4 | -23 4.7 | 246 10.4 | 21 17.2 | 6 31.2 | -4 6.9 |
| | 21 | 18 5.0 | 149 0.6 | -17 9.2 | 125 28.9 | -23 4.9 | 261 12.9 | 21 17.2 | 21 33.7 | -4 6.9 |
| | 22 | 33 7.5 | 163 59.9 | -17 10.1 | 140 29.4 | -23 5.2 | 276 15.5 | 21 17.2 | 36 36.2 | -4 6.9 |
| | 23 | 48 10.0 | 178 59.2 | -17 11.0 | 155 29.9 | -23 5.4 | 291 18.1 | 21 17.2 | 51 38.7 | -4 6.9 |
| | | MP 19:49 | *v* -0.7 | *d* 0.9 | *v* 0.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.0 |
| Achernar | 335 19.2 | -57 6.4 |
| Acrux | 172 59.8 | -63 14.3 |
| Adhara | 255 5.0 | -29 0.2 |
| Aldebaran | 290 38.5 | 16 33.7 |
| Alioth | 166 12.7 | 55 49.0 |
| Alkaid | 152 51.9 | 49 10.9 |
| Alnair | 27 32.0 | -46 50.3 |
| Alnilam | 275 36.7 | -1 11.0 |
| Alphard | 217 47.0 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.7 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.2 | -42 10.0 |
| Antares | 112 15.4 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.8 |
| Atria | 107 9.5 | -69 4.5 |
| Avior | 234 14.2 | -59 35.2 |
| Bellatrix | 278 21.8 | 6 22.5 |
| Betelgeuse | 270 51.0 | 7 24.8 |
| Canopus | 263 51.6 | -52 42.3 |
| Capella | 280 20.4 | 46 1.4 |
| Deneb | 49 25.5 | 45 22.6 |
| Denebola | 182 24.4 | 14 25.6 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.3 | 61 36.4 |
| Elnath | 278 0.6 | 28 37.8 |
| Eltanin | 90 42.3 | 51 29.2 |
| Enif | 33 38.1 | 9 59.8 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 51.3 | -57 15.2 |
| Gienah | 175 43.1 | -17 41.0 |
| Hadar | 148 35.6 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.9 | 74 2.8 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.2 | -36 29.7 |
| Miaplacidus | 221 37.9 | -69 49.0 |
| Mirfak | 308 26.7 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 4.9 | -56 39.3 |
| Pollux | 243 16.2 | 27 57.7 |
| Procyon | 244 49.9 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.7 | 11 50.4 |
| Rigel | 281 2.9 | -8 10.2 |
| Rigil Kent. | 139 40.0 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.9 | 56 41.0 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.4 | -16 44.9 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 45.7 | -43 31.9 |
| Vega | 80 33.1 | 38 48.6 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 21 Fri | SHA | MP |
|---|---|---|
| Venus | 134 31.8 | 11:01 |
| Mars | 109 40.0 | 12:40 |
| Jupiter | 243 1.5 | 03:46 |
| Saturn | 3 26.8 | 19:42 |

| 22 Sat | SHA | MP |
|---|---|---|
| Venus | 133 16.9 | 11:02 |
| Mars | 108 52.8 | 12:39 |
| Jupiter | 243 3.5 | 03:42 |
| Saturn | 3 27.6 | 19:38 |

| 23 Sun | SHA | MP |
|---|---|---|
| Venus | 132 1.6 | 11:04 |
| Mars | 108 5.4 | 12:38 |
| Jupiter | 243 5.8 | 03:38 |
| Saturn | 3 28.2 | 19:34 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **21 Friday** | 0 | 183 33.1 | -19 55.1 | 176 18.9 | 11.0 | -26 18.1 | 5.5 | 53.9 |
| | 1 | 198 32.9 | -19 55.6 | 190 49.0 | 11.0 | -26 23.6 | 5.4 | 53.9 |
| | 2 | 213 32.7 | -19 56.2 | 205 18.9 | 10.9 | -26 29.0 | 5.3 | 54.0 |
| | 3 | 228 32.6 | -19 56.7 | 219 48.8 | 10.9 | -26 34.3 | 5.1 | 54.0 |
| | 4 | 243 32.4 | -19 57.3 | 234 18.7 | 10.8 | -26 39.4 | 5.0 | 54.0 |
| | 5 | 258 32.3 | -19 57.8 | 248 48.5 | 10.8 | -26 44.4 | 4.9 | 54.0 |
| | 6 | 273 32.1 | -19 58.4 | 263 18.3 | 10.7 | -26 49.3 | 4.8 | 54.0 |
| | 7 | 288 32.0 | -19 58.9 | 277 48.0 | 10.7 | -26 54.1 | 4.6 | 54.0 |
| | 8 | 303 31.8 | -19 59.5 | 292 17.6 | 10.6 | -26 58.7 | 4.5 | 54.0 |
| | 9 | 318 31.6 | -20 0.0 | 306 47.2 | 10.6 | -27 3.2 | 4.4 | 54.0 |
| | 10 | 333 31.5 | -20 0.6 | 321 16.8 | 10.5 | -27 7.6 | 4.3 | 54.0 |
| | 11 | 348 31.3 | -20 1.1 | 335 46.3 | 10.5 | -27 11.9 | 4.1 | 54.0 |
| | 12 | 3 31.2 | -20 1.6 | 350 15.8 | 10.4 | -27 16.0 | 4.0 | 54.0 |
| | 13 | 18 31.0 | -20 2.2 | 4 45.2 | 10.4 | -27 20.0 | 3.9 | 54.0 |
| | 14 | 33 30.8 | -20 2.7 | 19 14.6 | 10.3 | -27 23.9 | 3.7 | 54.0 |
| | 15 | 48 30.7 | -20 3.3 | 33 43.9 | 10.3 | -27 27.6 | 3.6 | 54.0 |
| | 16 | 63 30.5 | -20 3.8 | 48 13.2 | 10.3 | -27 31.2 | 3.5 | 54.0 |
| | 17 | 78 30.3 | -20 4.4 | 62 42.5 | 10.2 | -27 34.7 | 3.3 | 54.0 |
| | 18 | 93 30.2 | -20 4.9 | 77 11.7 | 10.2 | -27 38.1 | 3.2 | 54.0 |
| | 19 | 108 30.0 | -20 5.4 | 91 40.9 | 10.1 | -27 41.3 | 3.1 | 54.0 |
| | 20 | 123 29.9 | -20 6.0 | 106 10.0 | 10.1 | -27 44.4 | 2.9 | 54.0 |
| | 21 | 138 29.7 | -20 6.5 | 120 39.1 | 10.1 | -27 47.3 | 2.8 | 54.0 |
| | 22 | 153 29.5 | -20 7.0 | 135 8.2 | 10.0 | -27 50.1 | 2.7 | 54.0 |
| | 23 | 168 29.4 | -20 7.6 | 149 37.2 | 10.0 | -27 52.8 | 2.5 | 54.1 |
| | | *v* -0.2 | SD 16.2 | *d* 0.6 | | SD 14.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **22 Saturday** | 0 | 183 29.2 | -20 8.1 | 164 6.2 | 10.0 | -27 55.4 | 2.4 | 54.1 |
| | 1 | 198 29.0 | -20 8.7 | 178 35.1 | 9.9 | -27 57.8 | 2.3 | 54.1 |
| | 2 | 213 28.9 | -20 9.2 | 193 4.1 | 9.9 | -28 0.0 | 2.1 | 54.1 |
| | 3 | 228 28.7 | -20 9.7 | 207 33.0 | 9.9 | -28 2.2 | 2.0 | 54.1 |
| | 4 | 243 28.5 | -20 10.3 | 222 1.9 | 9.8 | -28 4.2 | 1.9 | 54.1 |
| | 5 | 258 28.4 | -20 10.8 | 236 30.7 | 9.8 | -28 6.1 | 1.7 | 54.1 |
| | 6 | 273 28.2 | -20 11.3 | 250 59.5 | 9.8 | -28 7.8 | 1.6 | 54.1 |
| | 7 | 288 28.0 | -20 11.9 | 265 28.3 | 9.8 | -28 9.4 | 1.5 | 54.1 |
| | 8 | 303 27.9 | -20 12.4 | 279 57.1 | 9.7 | -28 10.8 | 1.3 | 54.1 |
| | 9 | 318 27.7 | -20 12.9 | 294 25.8 | 9.7 | -28 12.2 | 1.2 | 54.1 |
| | 10 | 333 27.5 | -20 13.5 | 308 54.6 | 9.7 | -28 13.3 | 1.0 | 54.1 |
| | 11 | 348 27.4 | -20 14.0 | 323 23.3 | 9.7 | -28 14.4 | 0.9 | 54.1 |
| | 12 | 3 27.2 | -20 14.5 | 337 52.0 | 9.7 | -28 15.3 | 0.8 | 54.2 |
| | 13 | 18 27.0 | -20 15.0 | 352 20.6 | 9.7 | -28 16.1 | 0.6 | 54.2 |
| | 14 | 33 26.9 | -20 15.6 | 6 49.3 | 9.6 | -28 16.7 | 0.5 | 54.2 |
| | 15 | 48 26.7 | -20 16.1 | 21 17.9 | 9.6 | -28 17.2 | 0.3 | 54.2 |
| | 16 | 63 26.5 | -20 16.6 | 35 46.6 | 9.6 | -28 17.5 | 0.2 | 54.2 |
| | 17 | 78 26.3 | -20 17.1 | 50 15.2 | 9.6 | -28 17.7 | 0.1 | 54.2 |
| | 18 | 93 26.2 | -20 17.7 | 64 43.8 | 9.6 | -28 17.8 | -0.1 | 54.2 |
| | 19 | 108 26.0 | -20 18.2 | 79 12.4 | 9.6 | -28 17.7 | -0.2 | 54.2 |
| | 20 | 123 25.8 | -20 18.7 | 93 40.9 | 9.6 | -28 17.5 | -0.3 | 54.2 |
| | 21 | 138 25.7 | -20 19.2 | 108 9.5 | 9.6 | -28 17.2 | -0.5 | 54.2 |
| | 22 | 153 25.5 | -20 19.8 | 122 38.1 | 9.6 | -28 16.7 | -0.6 | 54.3 |
| | 23 | 168 25.3 | -20 20.3 | 137 6.7 | 9.6 | -28 16.0 | -0.8 | 54.3 |
| | | *v* -0.2 | SD 16.2 | *d* 0.5 | | SD 14.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Sunday** | 0 | 183 25.1 | -20 20.8 | 151 35.2 | 9.6 | -28 15.3 | -0.9 | 54.3 |
| | 1 | 198 25.0 | -20 21.3 | 166 3.8 | 9.6 | -28 14.4 | -1.0 | 54.3 |
| | 2 | 213 24.8 | -20 21.8 | 180 32.3 | 9.6 | -28 13.3 | -1.2 | 54.3 |
| | 3 | 228 24.6 | -20 22.4 | 195 0.9 | 9.6 | -28 12.1 | -1.3 | 54.3 |
| | 4 | 243 24.4 | -20 22.9 | 209 29.5 | 9.6 | -28 10.8 | -1.5 | 54.3 |
| | 5 | 258 24.3 | -20 23.4 | 223 58.0 | 9.6 | -28 9.3 | -1.6 | 54.3 |
| | 6 | 273 24.1 | -20 23.9 | 238 26.6 | 9.6 | -28 7.7 | -1.7 | 54.3 |
| | 7 | 288 23.9 | -20 24.4 | 252 55.2 | 9.6 | -28 6.0 | -1.9 | 54.4 |
| | 8 | 303 23.7 | -20 24.9 | 267 23.8 | 9.6 | -28 4.1 | -2.0 | 54.4 |
| | 9 | 318 23.6 | -20 25.5 | 281 52.4 | 9.6 | -28 2.1 | -2.2 | 54.4 |
| | 10 | 333 23.4 | -20 26.0 | 296 21.0 | 9.6 | -27 59.9 | -2.3 | 54.4 |
| | 11 | 348 23.2 | -20 26.5 | 310 49.6 | 9.6 | -27 57.6 | -2.4 | 54.4 |
| | 12 | 3 23.0 | -20 27.0 | 325 18.2 | 9.6 | -27 55.1 | -2.6 | 54.4 |
| | 13 | 18 22.9 | -20 27.5 | 339 46.8 | 9.6 | -27 52.5 | -2.7 | 54.4 |
| | 14 | 33 22.7 | -20 28.0 | 354 15.5 | 9.7 | -27 49.8 | -2.9 | 54.4 |
| | 15 | 48 22.5 | -20 28.5 | 8 44.1 | 9.7 | -27 47.0 | -3.0 | 54.5 |
| | 16 | 63 22.3 | -20 29.1 | 23 12.8 | 9.7 | -27 43.9 | -3.1 | 54.5 |
| | 17 | 78 22.1 | -20 29.6 | 37 41.5 | 9.7 | -27 40.8 | -3.3 | 54.5 |
| | 18 | 93 22.0 | -20 30.1 | 52 10.2 | 9.7 | -27 37.5 | -3.4 | 54.5 |
| | 19 | 108 21.8 | -20 30.6 | 66 39.0 | 9.8 | -27 34.1 | -3.6 | 54.5 |
| | 20 | 123 21.6 | -20 31.1 | 81 7.7 | 9.8 | -27 30.6 | -3.7 | 54.5 |
| | 21 | 138 21.4 | -20 31.6 | 95 36.5 | 9.8 | -27 26.9 | -3.8 | 54.5 |
| | 22 | 153 21.3 | -20 32.1 | 110 5.3 | 9.8 | -27 23.0 | -4.0 | 54.6 |
| | 23 | 168 21.1 | -20 32.6 | 124 34.1 | 9.9 | -27 19.1 | -4.1 | 54.6 |
| | | *v* -0.2 | SD 16.2 | *d* 0.5 | | SD 14.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:21 | 09:04 | ▬ | ▬ | 14:27 | 16:10 |
| 70 | 07:08 | 08:36 | 10:37 | 12:54 | 14:55 | 16:22 |
| 68 | 06:58 | 08:14 | 09:43 | 13:48 | 15:17 | 16:33 |
| 66 | 06:49 | 07:58 | 09:11 | 14:20 | 15:33 | 16:42 |
| 64 | 06:42 | 07:44 | 08:47 | 14:44 | 15:47 | 16:49 |
| 62 | 06:35 | 07:32 | 08:28 | 15:03 | 15:59 | 16:56 |
| 60 | 06:29 | 07:22 | 08:13 | 15:18 | 16:09 | 17:02 |
| 58 | 06:24 | 07:13 | 08:00 | 15:31 | 16:18 | 17:07 |
| 56 | 06:19 | 07:05 | 07:49 | 15:42 | 16:26 | 17:12 |
| 54 | 06:14 | 06:58 | 07:39 | 15:52 | 16:33 | 17:17 |
| 52 | 06:10 | 06:52 | 07:30 | 16:01 | 16:39 | 17:21 |
| 50 | 06:06 | 06:46 | 07:23 | 16:09 | 16:45 | 17:25 |
| 45 | 05:57 | 06:33 | 07:06 | 16:26 | 16:58 | 17:34 |
| 40 | 05:50 | 06:23 | 06:52 | 16:39 | 17:09 | 17:42 |
| 35 | 05:42 | 06:13 | 06:40 | 16:51 | 17:18 | 17:49 |
| 30 | 05:35 | 06:05 | 06:30 | 17:01 | 17:27 | 17:56 |
| 20 | 05:22 | 05:49 | 06:12 | 17:19 | 17:43 | 18:10 |
| 10 | 05:09 | 05:35 | 05:57 | 17:35 | 17:57 | 18:23 |
| 0 | 04:55 | 05:20 | 05:42 | 17:50 | 18:12 | 18:37 |
| -10 | 04:39 | 05:05 | 05:28 | 18:04 | 18:27 | 18:53 |
| -20 | 04:20 | 04:48 | 05:12 | 18:20 | 18:44 | 19:13 |
| -30 | 03:55 | 04:27 | 04:53 | 18:39 | 19:05 | 19:37 |
| -35 | 03:39 | 04:14 | 04:42 | 18:50 | 19:18 | 19:53 |
| -40 | 03:20 | 03:59 | 04:30 | 19:02 | 19:34 | 20:12 |
| -45 | 02:56 | 03:40 | 04:15 | 19:17 | 19:52 | 20:37 |
| -50 | 02:22 | 03:17 | 03:57 | 19:36 | 20:16 | 21:11 |
| -52 | 02:04 | 03:05 | 03:49 | 19:44 | 20:28 | 21:30 |
| -54 | 01:41 | 02:52 | 03:39 | 19:54 | 20:42 | 21:53 |
| -56 | 01:10 | 02:36 | 03:28 | 20:05 | 20:58 | 22:26 |
| -58 | 00:03 | 02:17 | 03:15 | 20:18 | 21:17 | //// |
| -60 | //// | 01:53 | 03:01 | 20:33 | 21:42 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **21** | **22** | **23** | **21** | **22** | **23** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 68 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 66 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 64 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 62 | 11:44 | ▬ | 14:04 | 13:31 | ▬ | 14:47 |
| 60 | 10:50 | 12:05 | 12:48 | 14:26 | 14:57 | 16:03 |
| 58 | 10:17 | 11:26 | 12:13 | 14:59 | 15:37 | 16:38 |
| 56 | 09:53 | 10:59 | 11:47 | 15:23 | 16:04 | 17:04 |
| 54 | 09:34 | 10:37 | 11:26 | 15:42 | 16:26 | 17:24 |
| 52 | 09:18 | 10:20 | 11:09 | 15:59 | 16:43 | 17:41 |
| 50 | 09:04 | 10:04 | 10:54 | 16:13 | 16:58 | 17:56 |
| 45 | 08:35 | 09:34 | 10:25 | 16:42 | 17:29 | 18:25 |
| 40 | 08:13 | 09:10 | 10:01 | 17:05 | 17:53 | 18:48 |
| 35 | 07:55 | 08:51 | 09:42 | 17:24 | 18:12 | 19:07 |
| 30 | 07:39 | 08:34 | 09:25 | 17:40 | 18:29 | 19:24 |
| 20 | 07:12 | 08:06 | 08:58 | 18:07 | 18:57 | 19:51 |
| 10 | 06:49 | 07:42 | 08:34 | 18:31 | 19:22 | 20:14 |
| 0 | 06:28 | 07:19 | 08:11 | 18:53 | 19:44 | 20:36 |
| -10 | 06:07 | 06:57 | 07:49 | 19:15 | 20:07 | 20:58 |
| -20 | 05:44 | 06:33 | 07:25 | 19:38 | 20:31 | 21:21 |
| -30 | 05:18 | 06:05 | 06:57 | 20:06 | 20:59 | 21:48 |
| -35 | 05:03 | 05:48 | 06:40 | 20:22 | 21:16 | 22:04 |
| -40 | 04:45 | 05:29 | 06:21 | 20:41 | 21:35 | 22:23 |
| -45 | 04:23 | 05:06 | 05:58 | 21:04 | 21:59 | 22:45 |
| -50 | 03:56 | 04:36 | 05:27 | 21:34 | 22:29 | 23:13 |
| -52 | 03:43 | 04:21 | 05:13 | 21:48 | 22:44 | 23:27 |
| -54 | 03:28 | 04:04 | 04:55 | 22:05 | 23:02 | 23:43 |
| -56 | 03:11 | 03:44 | 04:34 | 22:26 | 23:23 | –:– |
| -58 | 02:49 | 03:18 | 04:08 | 22:51 | 23:49 | –:– |
| -60 | 02:22 | 02:42 | 03:30 | 23:26 | –:– | 00:27 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **21** | 14:12 | 14:05 | 11:46 | 12:40 | 00:15 | 1 | 0 |
| **22** | 13:57 | 13:49 | 11:46 | 13:32 | 01:06 | 2 | 3 |
| **23** | 13:41 | 13:32 | 11:46 | 14:24 | 01:58 | 3 | 7 |

## 2025 November 24, 25, 26 (Mon, Tue, Wed)

| | | Aries | Venus -3.9 | | Mars 1.3 | | Jupiter -2.5 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 24 Monday | 0 | 63 12.4 | 193 58.5 | -17 11.9 | 170 30.4 | -23 5.6 | 306 20.6 | 21 17.3 | 66 41.2 | -4 6.9 |
| | 1 | 78 14.9 | 208 57.8 | -17 12.8 | 185 30.8 | -23 5.9 | 321 23.2 | 21 17.3 | 81 43.7 | -4 6.9 |
| | 2 | 93 17.4 | 223 57.2 | -17 13.7 | 200 31.3 | -23 6.1 | 336 25.8 | 21 17.3 | 96 46.2 | -4 6.9 |
| | 3 | 108 19.8 | 238 56.5 | -17 14.6 | 215 31.8 | -23 6.4 | 351 28.4 | 21 17.3 | 111 48.6 | -4 6.9 |
| | 4 | 123 22.3 | 253 55.8 | -17 15.5 | 230 32.3 | -23 6.6 | 6 30.9 | 21 17.4 | 126 51.1 | -4 6.9 |
| | 5 | 138 24.7 | 268 55.1 | -17 16.4 | 245 32.8 | -23 6.8 | 21 33.5 | 21 17.4 | 141 53.6 | -4 6.9 |
| | 6 | 153 27.2 | 283 54.4 | -17 17.2 | 260 33.2 | -23 7.1 | 36 36.1 | 21 17.4 | 156 56.1 | -4 6.8 |
| | 7 | 168 29.7 | 298 53.7 | -17 18.1 | 275 33.7 | -23 7.3 | 51 38.7 | 21 17.4 | 171 58.6 | -4 6.8 |
| | 8 | 183 32.1 | 313 53.0 | -17 19.0 | 290 34.2 | -23 7.5 | 66 41.2 | 21 17.5 | 187 1.1 | -4 6.8 |
| | 9 | 198 34.6 | 328 52.3 | -17 19.9 | 305 34.7 | -23 7.8 | 81 43.8 | 21 17.5 | 202 3.5 | -4 6.8 |
| | 10 | 213 37.1 | 343 51.6 | -17 20.8 | 320 35.2 | -23 8.0 | 96 46.4 | 21 17.5 | 217 6.0 | -4 6.8 |
| | 11 | 228 39.5 | 358 50.9 | -17 21.7 | 335 35.6 | -23 8.3 | 111 48.9 | 21 17.5 | 232 8.5 | -4 6.8 |
| | 12 | 243 42.0 | 13 50.2 | -17 22.6 | 350 36.1 | -23 8.5 | 126 51.5 | 21 17.6 | 247 11.0 | -4 6.8 |
| | 13 | 258 44.5 | 28 49.5 | -17 23.5 | 5 36.6 | -23 8.7 | 141 54.1 | 21 17.6 | 262 13.5 | -4 6.8 |
| | 14 | 273 46.9 | 43 48.8 | -17 24.3 | 20 37.1 | -23 9.0 | 156 56.7 | 21 17.6 | 277 16.0 | -4 6.8 |
| | 15 | 288 49.4 | 58 48.1 | -17 25.2 | 35 37.6 | -23 9.2 | 171 59.3 | 21 17.6 | 292 18.4 | -4 6.8 |
| | 16 | 303 51.9 | 73 47.4 | -17 26.1 | 50 38.0 | -23 9.4 | 187 1.8 | 21 17.7 | 307 20.9 | -4 6.8 |
| | 17 | 318 54.3 | 88 46.7 | -17 27.0 | 65 38.5 | -23 9.7 | 202 4.4 | 21 17.7 | 322 23.4 | -4 6.8 |
| | 18 | 333 56.8 | 103 46.1 | -17 27.9 | 80 39.0 | -23 9.9 | 217 7.0 | 21 17.7 | 337 25.9 | -4 6.8 |
| | 19 | 348 59.2 | 118 45.4 | -17 28.7 | 95 39.5 | -23 10.1 | 232 9.6 | 21 17.7 | 352 28.4 | -4 6.8 |
| | 20 | 4 1.7 | 133 44.7 | -17 29.6 | 110 40.0 | -23 10.3 | 247 12.1 | 21 17.8 | 7 30.8 | -4 6.8 |
| | 21 | 19 4.2 | 148 44.0 | -17 30.5 | 125 40.4 | -23 10.6 | 262 14.7 | 21 17.8 | 22 33.3 | -4 6.8 |
| | 22 | 34 6.6 | 163 43.3 | -17 31.4 | 140 40.9 | -23 10.8 | 277 17.3 | 21 17.8 | 37 35.8 | -4 6.8 |
| | 23 | 49 9.1 | 178 42.6 | -17 32.2 | 155 41.4 | -23 11.0 | 292 19.9 | 21 17.8 | 52 38.3 | -4 6.8 |
| | | MP 19:45 | *v* -0.7 | *d* 0.9 | *v* 0.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Tuesday | 0 | 64 11.6 | 193 41.9 | -17 33.1 | 170 41.9 | -23 11.3 | 307 22.5 | 21 17.9 | 67 40.8 | -4 6.8 |
| | 1 | 79 14.0 | 208 41.1 | -17 34.0 | 185 42.3 | -23 11.5 | 322 25.0 | 21 17.9 | 82 43.2 | -4 6.8 |
| | 2 | 94 16.5 | 223 40.4 | -17 34.9 | 200 42.8 | -23 11.7 | 337 27.6 | 21 17.9 | 97 45.7 | -4 6.8 |
| | 3 | 109 19.0 | 238 39.7 | -17 35.7 | 215 43.3 | -23 12.0 | 352 30.2 | 21 17.9 | 112 48.2 | -4 6.8 |
| | 4 | 124 21.4 | 253 39.0 | -17 36.6 | 230 43.8 | -23 12.2 | 7 32.8 | 21 18.0 | 127 50.7 | -4 6.8 |
| | 5 | 139 23.9 | 268 38.3 | -17 37.5 | 245 44.3 | -23 12.4 | 22 35.4 | 21 18.0 | 142 53.2 | -4 6.8 |
| | 6 | 154 26.4 | 283 37.6 | -17 38.4 | 260 44.7 | -23 12.6 | 37 37.9 | 21 18.0 | 157 55.6 | -4 6.8 |
| | 7 | 169 28.8 | 298 36.9 | -17 39.2 | 275 45.2 | -23 12.9 | 52 40.5 | 21 18.0 | 172 58.1 | -4 6.8 |
| | 8 | 184 31.3 | 313 36.2 | -17 40.1 | 290 45.7 | -23 13.1 | 67 43.1 | 21 18.1 | 188 0.6 | -4 6.8 |
| | 9 | 199 33.7 | 328 35.5 | -17 41.0 | 305 46.2 | -23 13.3 | 82 45.7 | 21 18.1 | 203 3.1 | -4 6.8 |
| | 10 | 214 36.2 | 343 34.8 | -17 41.8 | 320 46.6 | -23 13.5 | 97 48.3 | 21 18.1 | 218 5.6 | -4 6.8 |
| | 11 | 229 38.7 | 358 34.1 | -17 42.7 | 335 47.1 | -23 13.8 | 112 50.9 | 21 18.2 | 233 8.0 | -4 6.8 |
| | 12 | 244 41.1 | 13 33.4 | -17 43.6 | 350 47.6 | -23 14.0 | 127 53.4 | 21 18.2 | 248 10.5 | -4 6.8 |
| | 13 | 259 43.6 | 28 32.7 | -17 44.4 | 5 48.1 | -23 14.2 | 142 56.0 | 21 18.2 | 263 13.0 | -4 6.8 |
| | 14 | 274 46.1 | 43 32.0 | -17 45.3 | 20 48.5 | -23 14.4 | 157 58.6 | 21 18.2 | 278 15.5 | -4 6.8 |
| | 15 | 289 48.5 | 58 31.3 | -17 46.2 | 35 49.0 | -23 14.7 | 173 1.2 | 21 18.3 | 293 18.0 | -4 6.8 |
| | 16 | 304 51.0 | 73 30.6 | -17 47.0 | 50 49.5 | -23 14.9 | 188 3.8 | 21 18.3 | 308 20.4 | -4 6.8 |
| | 17 | 319 53.5 | 88 29.9 | -17 47.9 | 65 49.9 | -23 15.1 | 203 6.4 | 21 18.3 | 323 22.9 | -4 6.8 |
| | 18 | 334 55.9 | 103 29.1 | -17 48.7 | 80 50.4 | -23 15.3 | 218 8.9 | 21 18.3 | 338 25.4 | -4 6.8 |
| | 19 | 349 58.4 | 118 28.4 | -17 49.6 | 95 50.9 | -23 15.6 | 233 11.5 | 21 18.4 | 353 27.9 | -4 6.8 |
| | 20 | 5 0.9 | 133 27.7 | -17 50.5 | 110 51.4 | -23 15.8 | 248 14.1 | 21 18.4 | 8 30.3 | -4 6.8 |
| | 21 | 20 3.3 | 148 27.0 | -17 51.3 | 125 51.8 | -23 16.0 | 263 16.7 | 21 18.4 | 23 32.8 | -4 6.7 |
| | 22 | 35 5.8 | 163 26.3 | -17 52.2 | 140 52.3 | -23 16.2 | 278 19.3 | 21 18.5 | 38 35.3 | -4 6.7 |
| | 23 | 50 8.2 | 178 25.6 | -17 53.0 | 155 52.8 | -23 16.4 | 293 21.9 | 21 18.5 | 53 37.8 | -4 6.7 |
| | | MP 19:41 | *v* -0.7 | *d* 0.9 | *v* 0.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 Wednesday | 0 | 65 10.7 | 193 24.9 | -17 53.9 | 170 53.3 | -23 16.7 | 308 24.5 | 21 18.5 | 68 40.3 | -4 6.7 |
| | 1 | 80 13.2 | 208 24.2 | -17 54.7 | 185 53.7 | -23 16.9 | 323 27.1 | 21 18.5 | 83 42.7 | -4 6.7 |
| | 2 | 95 15.6 | 223 23.4 | -17 55.6 | 200 54.2 | -23 17.1 | 338 29.6 | 21 18.6 | 98 45.2 | -4 6.7 |
| | 3 | 110 18.1 | 238 22.7 | -17 56.4 | 215 54.7 | -23 17.3 | 353 32.2 | 21 18.6 | 113 47.7 | -4 6.7 |
| | 4 | 125 20.6 | 253 22.0 | -17 57.3 | 230 55.1 | -23 17.5 | 8 34.8 | 21 18.6 | 128 50.2 | -4 6.7 |
| | 5 | 140 23.0 | 268 21.3 | -17 58.1 | 245 55.6 | -23 17.8 | 23 37.4 | 21 18.6 | 143 52.6 | -4 6.7 |
| | 6 | 155 25.5 | 283 20.6 | -17 59.0 | 260 56.1 | -23 18.0 | 38 40.0 | 21 18.7 | 158 55.1 | -4 6.7 |
| | 7 | 170 28.0 | 298 19.9 | -17 59.8 | 275 56.6 | -23 18.2 | 53 42.6 | 21 18.7 | 173 57.6 | -4 6.7 |
| | 8 | 185 30.4 | 313 19.1 | -18 0.7 | 290 57.0 | -23 18.4 | 68 45.2 | 21 18.7 | 189 0.1 | -4 6.7 |
| | 9 | 200 32.9 | 328 18.4 | -18 1.5 | 305 57.5 | -23 18.6 | 83 47.8 | 21 18.8 | 204 2.5 | -4 6.7 |
| | 10 | 215 35.3 | 343 17.7 | -18 2.4 | 320 58.0 | -23 18.8 | 98 50.4 | 21 18.8 | 219 5.0 | -4 6.7 |
| | 11 | 230 37.8 | 358 17.0 | -18 3.2 | 335 58.4 | -23 19.1 | 113 53.0 | 21 18.8 | 234 7.5 | -4 6.7 |
| | 12 | 245 40.3 | 13 16.3 | -18 4.1 | 350 58.9 | -23 19.3 | 128 55.5 | 21 18.8 | 249 10.0 | -4 6.7 |
| | 13 | 260 42.7 | 28 15.5 | -18 4.9 | 5 59.4 | -23 19.5 | 143 58.1 | 21 18.9 | 264 12.4 | -4 6.7 |
| | 14 | 275 45.2 | 43 14.8 | -18 5.8 | 20 59.8 | -23 19.7 | 159 0.7 | 21 18.9 | 279 14.9 | -4 6.7 |
| | 15 | 290 47.7 | 58 14.1 | -18 6.6 | 36 0.3 | -23 19.9 | 174 3.3 | 21 18.9 | 294 17.4 | -4 6.7 |
| | 16 | 305 50.1 | 73 13.4 | -18 7.4 | 51 0.8 | -23 20.1 | 189 5.9 | 21 19.0 | 309 19.9 | -4 6.7 |
| | 17 | 320 52.6 | 88 12.7 | -18 8.3 | 66 1.3 | -23 20.3 | 204 8.5 | 21 19.0 | 324 22.3 | -4 6.7 |
| | 18 | 335 55.1 | 103 11.9 | -18 9.1 | 81 1.7 | -23 20.5 | 219 11.1 | 21 19.0 | 339 24.8 | -4 6.6 |
| | 19 | 350 57.5 | 118 11.2 | -18 10.0 | 96 2.2 | -23 20.8 | 234 13.7 | 21 19.0 | 354 27.3 | -4 6.6 |
| | 20 | 6 0.0 | 133 10.5 | -18 10.8 | 111 2.7 | -23 21.0 | 249 16.3 | 21 19.1 | 9 29.7 | -4 6.6 |
| | 21 | 21 2.5 | 148 9.8 | -18 11.6 | 126 3.1 | -23 21.2 | 264 18.9 | 21 19.1 | 24 32.2 | -4 6.6 |
| | 22 | 36 4.9 | 163 9.0 | -18 12.5 | 141 3.6 | -23 21.4 | 279 21.5 | 21 19.1 | 39 34.7 | -4 6.6 |
| | 23 | 51 7.4 | 178 8.3 | -18 13.3 | 156 4.1 | -23 21.6 | 294 24.1 | 21 19.2 | 54 37.2 | -4 6.6 |
| | | MP 19:37 | *v* -0.7 | *d* 0.9 | *v* 0.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.0 |
| Achernar | 335 19.2 | -57 6.4 |
| Acrux | 172 59.7 | -63 14.3 |
| Adhara | 255 5.0 | -29 0.2 |
| Aldebaran | 290 38.5 | 16 33.7 |
| Alioth | 166 12.7 | 55 48.9 |
| Alkaid | 152 51.9 | 49 10.9 |
| Alnair | 27 32.0 | -46 50.3 |
| Alnilam | 275 36.7 | -1 11.0 |
| Alphard | 217 47.0 | -8 46.1 |
| Alphecca | 126 3.5 | 26 37.6 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.2 | -42 10.0 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.8 |
| Atria | 107 9.5 | -69 4.4 |
| Avior | 234 14.1 | -59 35.2 |
| Bellatrix | 278 21.8 | 6 22.5 |
| Betelgeuse | 270 51.0 | 7 24.8 |
| Canopus | 263 51.6 | -52 42.3 |
| Capella | 280 20.4 | 46 1.4 |
| Deneb | 49 25.5 | 45 22.6 |
| Denebola | 182 24.4 | 14 25.6 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.3 | 61 36.4 |
| Elnath | 278 0.6 | 28 37.8 |
| Eltanin | 90 42.3 | 51 29.2 |
| Enif | 33 38.2 | 9 59.8 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 51.2 | -57 15.2 |
| Gienah | 175 43.0 | -17 41.0 |
| Hadar | 148 35.6 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.9 | 74 2.8 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.9 | -69 49.0 |
| Mirfak | 308 26.7 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 4.9 | -56 39.3 |
| Pollux | 243 16.2 | 27 57.7 |
| Procyon | 244 49.9 | 5 9.6 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.7 | 11 50.4 |
| Rigel | 281 2.9 | -8 10.2 |
| Rigil Kent. | 139 40.0 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.9 | 56 41.0 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.3 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 45.7 | -43 31.9 |
| Vega | 80 33.1 | 38 48.6 |
| Zuben'ubi | 136 55.6 | -16 8.9 |

| 24 Mon | SHA | MP |
|---|---|---|
| Venus | 130 46.1 | 11:05 |
| Mars | 107 17.9 | 12:38 |
| Jupiter | 243 8.2 | 03:34 |
| Saturn | 3 28.8 | 19:30 |

| 25 Tue | SHA | MP |
|---|---|---|
| Venus | 129 30.3 | 11:06 |
| Mars | 106 30.3 | 12:37 |
| Jupiter | 243 10.9 | 03:30 |
| Saturn | 3 29.2 | 19:26 |

| 26 Wed | SHA | MP |
|---|---|---|
| Venus | 128 14.2 | 11:07 |
| Mars | 105 42.6 | 12:36 |
| Jupiter | 243 13.8 | 03:26 |
| Saturn | 3 29.5 | 19:22 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **24 Monday** | 0 | 183 20.9 | -20 33.1 | 139 3.0 | 9.9 | -27 15.0 | -4.2 | 54.6 |
| | 1 | 198 20.7 | -20 33.6 | 153 31.9 | 9.9 | -27 10.7 | -4.4 | 54.6 |
| | 2 | 213 20.5 | -20 34.1 | 168 0.8 | 9.9 | -27 6.4 | -4.5 | 54.6 |
| | 3 | 228 20.3 | -20 34.6 | 182 29.7 | 10.0 | -27 1.8 | -4.6 | 54.6 |
| | 4 | 243 20.2 | -20 35.1 | 196 58.7 | 10.0 | -26 57.2 | -4.8 | 54.6 |
| | 5 | 258 20.0 | -20 35.6 | 211 27.7 | 10.0 | -26 52.4 | -4.9 | 54.7 |
| | 6 | 273 19.8 | -20 36.1 | 225 56.7 | 10.1 | -26 47.5 | -5.0 | 54.7 |
| | 7 | 288 19.6 | -20 36.6 | 240 25.8 | 10.1 | -26 42.5 | -5.2 | 54.7 |
| | 8 | 303 19.4 | -20 37.1 | 254 54.8 | 10.1 | -26 37.3 | -5.3 | 54.7 |
| | 9 | 318 19.2 | -20 37.6 | 269 24.0 | 10.2 | -26 32.0 | -5.4 | 54.7 |
| | 10 | 333 19.1 | -20 38.1 | 283 53.1 | 10.2 | -26 26.5 | -5.6 | 54.7 |
| | 11 | 348 18.9 | -20 38.6 | 298 22.3 | 10.2 | -26 21.0 | -5.7 | 54.8 |
| | 12 | 3 18.7 | -20 39.1 | 312 51.6 | 10.3 | -26 15.2 | -5.8 | 54.8 |
| | 13 | 18 18.5 | -20 39.6 | 327 20.8 | 10.3 | -26 9.4 | -6.0 | 54.8 |
| | 14 | 33 18.3 | -20 40.1 | 341 50.1 | 10.3 | -26 3.4 | -6.1 | 54.8 |
| | 15 | 48 18.1 | -20 40.6 | 356 19.5 | 10.4 | -25 57.3 | -6.2 | 54.8 |
| | 16 | 63 18.0 | -20 41.1 | 10 48.8 | 10.4 | -25 51.1 | -6.4 | 54.9 |
| | 17 | 78 17.8 | -20 41.6 | 25 18.3 | 10.5 | -25 44.8 | -6.5 | 54.9 |
| | 18 | 93 17.6 | -20 42.1 | 39 47.7 | 10.5 | -25 38.3 | -6.6 | 54.9 |
| | 19 | 108 17.4 | -20 42.6 | 54 17.2 | 10.5 | -25 31.7 | -6.7 | 54.9 |
| | 20 | 123 17.2 | -20 43.1 | 68 46.8 | 10.6 | -25 24.9 | -6.9 | 54.9 |
| | 21 | 138 17.0 | -20 43.6 | 83 16.3 | 10.6 | -25 18.1 | -7.0 | 55.0 |
| | 22 | 153 16.8 | -20 44.1 | 97 46.0 | 10.7 | -25 11.1 | -7.1 | 55.0 |
| | 23 | 168 16.6 | -20 44.5 | 112 15.6 | 10.7 | -25 3.9 | -7.2 | 55.0 |
| | | *v* -0.2 | SD 16.2 | *d* 0.5 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **25 Tuesday** | 0 | 183 16.4 | -20 45.0 | 126 45.3 | 10.8 | -24 56.7 | -7.4 | 55.0 |
| | 1 | 198 16.3 | -20 45.5 | 141 15.1 | 10.8 | -24 49.3 | -7.5 | 55.0 |
| | 2 | 213 16.1 | -20 46.0 | 155 44.9 | 10.8 | -24 41.8 | -7.6 | 55.1 |
| | 3 | 228 15.9 | -20 46.5 | 170 14.7 | 10.9 | -24 34.2 | -7.7 | 55.1 |
| | 4 | 243 15.7 | -20 47.0 | 184 44.6 | 10.9 | -24 26.5 | -7.9 | 55.1 |
| | 5 | 258 15.5 | -20 47.5 | 199 14.6 | 11.0 | -24 18.6 | -8.0 | 55.1 |
| | 6 | 273 15.3 | -20 48.0 | 213 44.5 | 11.0 | -24 10.7 | -8.1 | 55.1 |
| | 7 | 288 15.1 | -20 48.4 | 228 14.6 | 11.1 | -24 2.6 | -8.2 | 55.2 |
| | 8 | 303 14.9 | -20 48.9 | 242 44.6 | 11.1 | -23 54.4 | -8.3 | 55.2 |
| | 9 | 318 14.7 | -20 49.4 | 257 14.8 | 11.2 | -23 46.0 | -8.5 | 55.2 |
| | 10 | 333 14.5 | -20 49.9 | 271 44.9 | 11.2 | -23 37.6 | -8.6 | 55.2 |
| | 11 | 348 14.4 | -20 50.4 | 286 15.1 | 11.3 | -23 29.0 | -8.7 | 55.2 |
| | 12 | 3 14.2 | -20 50.9 | 300 45.4 | 11.3 | -23 20.3 | -8.8 | 55.3 |
| | 13 | 18 14.0 | -20 51.3 | 315 15.7 | 11.4 | -23 11.5 | -8.9 | 55.3 |
| | 14 | 33 13.8 | -20 51.8 | 329 46.0 | 11.4 | -23 2.6 | -9.0 | 55.3 |
| | 15 | 48 13.6 | -20 52.3 | 344 16.4 | 11.4 | -22 53.5 | -9.2 | 55.3 |
| | 16 | 63 13.4 | -20 52.8 | 358 46.9 | 11.5 | -22 44.4 | -9.3 | 55.4 |
| | 17 | 78 13.2 | -20 53.2 | 13 17.4 | 11.5 | -22 35.1 | -9.4 | 55.4 |
| | 18 | 93 13.0 | -20 53.7 | 27 47.9 | 11.6 | -22 25.7 | -9.5 | 55.4 |
| | 19 | 108 12.8 | -20 54.2 | 42 18.5 | 11.6 | -22 16.3 | -9.6 | 55.4 |
| | 20 | 123 12.6 | -20 54.7 | 56 49.1 | 11.7 | -22 6.7 | -9.7 | 55.5 |
| | 21 | 138 12.4 | -20 55.2 | 71 19.8 | 11.7 | -21 56.9 | -9.8 | 55.5 |
| | 22 | 153 12.2 | -20 55.6 | 85 50.5 | 11.8 | -21 47.1 | -9.9 | 55.5 |
| | 23 | 168 12.0 | -20 56.1 | 100 21.3 | 11.8 | -21 37.2 | -10.0 | 55.5 |
| | | *v* -0.2 | SD 16.2 | *d* 0.5 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **26 Wednesday** | 0 | 183 11.8 | -20 56.6 | 114 52.1 | 11.9 | -21 27.2 | -10.1 | 55.6 |
| | 1 | 198 11.6 | -20 57.0 | 129 23.0 | 11.9 | -21 17.0 | -10.3 | 55.6 |
| | 2 | 213 11.4 | -20 57.5 | 143 53.9 | 12.0 | -21 6.8 | -10.4 | 55.6 |
| | 3 | 228 11.2 | -20 58.0 | 158 24.9 | 12.0 | -20 56.4 | -10.5 | 55.6 |
| | 4 | 243 11.0 | -20 58.5 | 172 55.9 | 12.1 | -20 45.9 | -10.6 | 55.7 |
| | 5 | 258 10.8 | -20 58.9 | 187 27.0 | 12.1 | -20 35.4 | -10.7 | 55.7 |
| | 6 | 273 10.6 | -20 59.4 | 201 58.1 | 12.1 | -20 24.7 | -10.8 | 55.7 |
| | 7 | 288 10.4 | -20 59.9 | 216 29.2 | 12.2 | -20 13.9 | -10.9 | 55.7 |
| | 8 | 303 10.2 | -21 0.3 | 231 0.4 | 12.2 | -20 3.0 | -11.0 | 55.8 |
| | 9 | 318 10.0 | -21 0.8 | 245 31.6 | 12.3 | -19 52.1 | -11.1 | 55.8 |
| | 10 | 333 9.8 | -21 1.3 | 260 2.9 | 12.3 | -19 41.0 | -11.2 | 55.8 |
| | 11 | 348 9.6 | -21 1.7 | 274 34.2 | 12.4 | -19 29.8 | -11.3 | 55.8 |
| | 12 | 3 9.4 | -21 2.2 | 289 5.6 | 12.4 | -19 18.5 | -11.4 | 55.9 |
| | 13 | 18 9.2 | -21 2.7 | 303 37.0 | 12.4 | -19 7.1 | -11.5 | 55.9 |
| | 14 | 33 9.0 | -21 3.1 | 318 8.4 | 12.5 | -18 55.7 | -11.6 | 55.9 |
| | 15 | 48 8.8 | -21 3.6 | 332 39.9 | 12.5 | -18 44.1 | -11.7 | 56.0 |
| | 16 | 63 8.6 | -21 4.0 | 347 11.5 | 12.6 | -18 32.4 | -11.8 | 56.0 |
| | 17 | 78 8.4 | -21 4.5 | 1 43.0 | 12.6 | -18 20.7 | -11.9 | 56.0 |
| | 18 | 93 8.2 | -21 5.0 | 16 14.7 | 12.7 | -18 8.8 | -12.0 | 56.0 |
| | 19 | 108 8.0 | -21 5.4 | 30 46.3 | 12.7 | -17 56.9 | -12.0 | 56.1 |
| | 20 | 123 7.8 | -21 5.9 | 45 18.0 | 12.7 | -17 44.8 | -12.1 | 56.1 |
| | 21 | 138 7.6 | -21 6.3 | 59 49.7 | 12.8 | -17 32.7 | -12.2 | 56.1 |
| | 22 | 153 7.4 | -21 6.8 | 74 21.5 | 12.8 | -17 20.4 | -12.3 | 56.2 |
| | 23 | 168 7.2 | -21 7.3 | 88 53.3 | 12.8 | -17 8.1 | -12.4 | 56.2 |
| | | *v* -0.2 | SD 16.2 | *d* 0.5 | | SD 15.2 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:31 | 09:18 | ▬ | ▬ | 14:14 | 16:02 |
| 70 | 07:17 | 08:47 | 11:14 | 12:19 | 14:46 | 16:16 |
| 68 | 07:06 | 08:24 | 09:59 | 13:34 | 15:09 | 16:27 |
| 66 | 06:56 | 08:06 | 09:22 | 14:11 | 15:27 | 16:37 |
| 64 | 06:48 | 07:51 | 08:56 | 14:36 | 15:42 | 16:45 |
| 62 | 06:41 | 07:39 | 08:36 | 14:56 | 15:54 | 16:52 |
| 60 | 06:35 | 07:28 | 08:20 | 15:13 | 16:05 | 16:58 |
| 58 | 06:29 | 07:19 | 08:07 | 15:26 | 16:14 | 17:04 |
| 56 | 06:24 | 07:11 | 07:55 | 15:38 | 16:22 | 17:09 |
| 54 | 06:19 | 07:03 | 07:44 | 15:49 | 16:30 | 17:14 |
| 52 | 06:14 | 06:57 | 07:35 | 15:58 | 16:37 | 17:19 |
| 50 | 06:10 | 06:50 | 07:27 | 16:06 | 16:43 | 17:23 |
| 45 | 06:01 | 06:37 | 07:10 | 16:23 | 16:56 | 17:32 |
| 40 | 05:53 | 06:26 | 06:55 | 16:38 | 17:07 | 17:41 |
| 35 | 05:45 | 06:16 | 06:43 | 16:50 | 17:17 | 17:48 |
| 30 | 05:38 | 06:07 | 06:33 | 17:01 | 17:26 | 17:56 |
| 20 | 05:24 | 05:51 | 06:14 | 17:19 | 17:43 | 18:10 |
| 10 | 05:10 | 05:36 | 05:58 | 17:35 | 17:58 | 18:23 |
| 0 | 04:55 | 05:21 | 05:43 | 17:50 | 18:12 | 18:38 |
| -10 | 04:39 | 05:05 | 05:28 | 18:06 | 18:28 | 18:55 |
| -20 | 04:19 | 04:47 | 05:11 | 18:22 | 18:46 | 19:15 |
| -30 | 03:54 | 04:26 | 04:52 | 18:41 | 19:08 | 19:40 |
| -35 | 03:38 | 04:13 | 04:41 | 18:53 | 19:21 | 19:57 |
| -40 | 03:18 | 03:57 | 04:28 | 19:06 | 19:37 | 20:16 |
| -45 | 02:52 | 03:38 | 04:13 | 19:21 | 19:57 | 20:42 |
| -50 | 02:17 | 03:13 | 03:54 | 19:40 | 20:21 | 21:18 |
| -52 | 01:58 | 03:01 | 03:45 | 19:49 | 20:34 | 21:38 |
| -54 | 01:33 | 02:47 | 03:35 | 19:59 | 20:48 | 22:03 |
| -56 | 00:57 | 02:30 | 03:24 | 20:11 | 21:05 | 22:41 |
| -58 | //// | 02:10 | 03:10 | 20:24 | 21:26 | //// |
| -60 | //// | 01:43 | 02:55 | 20:40 | 21:53 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **24** | **25** | **26** | **24** | **25** | **26** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | 15:26 | ▬ | ▬ | 18:40 |
| 68 | ▬ | ▬ | 14:41 | ▬ | ▬ | 19:24 |
| 66 | ▬ | 14:53 | 14:11 | ▬ | 17:31 | 19:53 |
| 64 | ▬ | 14:06 | 13:48 | ▬ | 18:17 | 20:14 |
| 62 | 13:43 | 13:35 | 13:30 | 16:56 | 18:47 | 20:32 |
| 60 | 13:05 | 13:12 | 13:14 | 17:33 | 19:09 | 20:46 |
| 58 | 12:39 | 12:53 | 13:01 | 17:59 | 19:27 | 20:58 |
| 56 | 12:18 | 12:37 | 12:50 | 18:19 | 19:43 | 21:08 |
| 54 | 12:01 | 12:24 | 12:40 | 18:36 | 19:56 | 21:18 |
| 52 | 11:46 | 12:12 | 12:31 | 18:51 | 20:07 | 21:26 |
| 50 | 11:33 | 12:02 | 12:23 | 19:03 | 20:17 | 21:33 |
| 45 | 11:06 | 11:39 | 12:06 | 19:29 | 20:38 | 21:49 |
| 40 | 10:45 | 11:22 | 11:53 | 19:50 | 20:55 | 22:01 |
| 35 | 10:27 | 11:07 | 11:41 | 20:07 | 21:09 | 22:12 |
| 30 | 10:12 | 10:53 | 11:30 | 20:22 | 21:21 | 22:21 |
| 20 | 09:46 | 10:31 | 11:12 | 20:46 | 21:42 | 22:37 |
| 10 | 09:24 | 10:12 | 10:56 | 21:08 | 22:00 | 22:51 |
| 0 | 09:03 | 09:53 | 10:42 | 21:27 | 22:17 | 23:04 |
| -10 | 08:42 | 09:35 | 10:27 | 21:47 | 22:33 | 23:17 |
| -20 | 08:19 | 09:15 | 10:11 | 22:08 | 22:51 | 23:30 |
| -30 | 07:53 | 08:52 | 09:52 | 22:32 | 23:11 | 23:46 |
| -35 | 07:38 | 08:39 | 09:42 | 22:46 | 23:23 | 23:55 |
| -40 | 07:20 | 08:23 | 09:29 | 23:03 | 23:36 | –:– |
| -45 | 06:58 | 08:05 | 09:15 | 23:22 | 23:52 | –:– |
| -50 | 06:30 | 07:41 | 08:56 | 23:47 | –:– | 00:12 |
| -52 | 06:17 | 07:30 | 08:48 | 23:58 | –:– | 00:21 |
| -54 | 06:01 | 07:17 | 08:38 | –:– | 00:11 | 00:31 |
| -56 | 05:43 | 07:03 | 08:27 | 00:02 | 00:27 | 00:42 |
| -58 | 05:20 | 06:45 | 08:15 | 00:25 | 00:45 | 00:56 |
| -60 | 04:50 | 06:24 | 08:00 | 00:55 | 01:07 | 01:11 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **24** | 13:24 | 13:15 | 11:47 | 15:15 | 02:50 | 4 | 12 |
| **25** | 13:06 | 12:57 | 11:47 | 16:05 | 03:40 | 5 | 19 |
| **26** | 12:47 | 12:38 | 11:47 | 16:53 | 04:29 | 6 | 27 |

| | | Aries | Venus -3.9 | | Mars 1.3 | | Jupiter -2.5 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| **27 Thursday** | 0 | 66 9.8 | 193 7.6 | -18 14.1 | 171 4.5 | -23 21.8 | 309 26.7 | 21 19.2 | 69 39.6 | -4 6.6 |
| | 1 | 81 12.3 | 208 6.9 | -18 15.0 | 186 5.0 | -23 22.0 | 324 29.3 | 21 19.2 | 84 42.1 | -4 6.6 |
| | 2 | 96 14.8 | 223 6.1 | -18 15.8 | 201 5.5 | -23 22.2 | 339 31.9 | 21 19.2 | 99 44.6 | -4 6.6 |
| | 3 | 111 17.2 | 238 5.4 | -18 16.6 | 216 5.9 | -23 22.4 | 354 34.5 | 21 19.3 | 114 47.1 | -4 6.6 |
| | 4 | 126 19.7 | 253 4.7 | -18 17.5 | 231 6.4 | -23 22.7 | 9 37.1 | 21 19.3 | 129 49.5 | -4 6.6 |
| | 5 | 141 22.2 | 268 3.9 | -18 18.3 | 246 6.9 | -23 22.9 | 24 39.7 | 21 19.3 | 144 52.0 | -4 6.6 |
| | 6 | 156 24.6 | 283 3.2 | -18 19.1 | 261 7.3 | -23 23.1 | 39 42.3 | 21 19.4 | 159 54.5 | -4 6.6 |
| | 7 | 171 27.1 | 298 2.5 | -18 20.0 | 276 7.8 | -23 23.3 | 54 44.9 | 21 19.4 | 174 56.9 | -4 6.6 |
| | 8 | 186 29.6 | 313 1.8 | -18 20.8 | 291 8.3 | -23 23.5 | 69 47.5 | 21 19.4 | 189 59.4 | -4 6.6 |
| | 9 | 201 32.0 | 328 1.0 | -18 21.6 | 306 8.7 | -23 23.7 | 84 50.1 | 21 19.4 | 205 1.9 | -4 6.6 |
| | 10 | 216 34.5 | 343 0.3 | -18 22.4 | 321 9.2 | -23 23.9 | 99 52.7 | 21 19.5 | 220 4.4 | -4 6.5 |
| | 11 | 231 37.0 | 357 59.6 | -18 23.3 | 336 9.7 | -23 24.1 | 114 55.3 | 21 19.5 | 235 6.8 | -4 6.5 |
| | 12 | 246 39.4 | 12 58.8 | -18 24.1 | 351 10.1 | -23 24.3 | 129 57.9 | 21 19.5 | 250 9.3 | -4 6.5 |
| | 13 | 261 41.9 | 27 58.1 | -18 24.9 | 6 10.6 | -23 24.5 | 145 0.5 | 21 19.6 | 265 11.8 | -4 6.5 |
| | 14 | 276 44.3 | 42 57.4 | -18 25.7 | 21 11.0 | -23 24.7 | 160 3.1 | 21 19.6 | 280 14.2 | -4 6.5 |
| | 15 | 291 46.8 | 57 56.6 | -18 26.6 | 36 11.5 | -23 24.9 | 175 5.7 | 21 19.6 | 295 16.7 | -4 6.5 |
| | 16 | 306 49.3 | 72 55.9 | -18 27.4 | 51 12.0 | -23 25.1 | 190 8.3 | 21 19.7 | 310 19.2 | -4 6.5 |
| | 17 | 321 51.7 | 87 55.2 | -18 28.2 | 66 12.4 | -23 25.3 | 205 10.9 | 21 19.7 | 325 21.6 | -4 6.5 |
| | 18 | 336 54.2 | 102 54.4 | -18 29.0 | 81 12.9 | -23 25.5 | 220 13.5 | 21 19.7 | 340 24.1 | -4 6.5 |
| | 19 | 351 56.7 | 117 53.7 | -18 29.8 | 96 13.4 | -23 25.7 | 235 16.1 | 21 19.7 | 355 26.6 | -4 6.5 |
| | 20 | 6 59.1 | 132 53.0 | -18 30.7 | 111 13.8 | -23 25.9 | 250 18.7 | 21 19.8 | 10 29.1 | -4 6.5 |
| | 21 | 22 1.6 | 147 52.2 | -18 31.5 | 126 14.3 | -23 26.1 | 265 21.3 | 21 19.8 | 25 31.5 | -4 6.5 |
| | 22 | 37 4.1 | 162 51.5 | -18 32.3 | 141 14.8 | -23 26.3 | 280 23.9 | 21 19.8 | 40 34.0 | -4 6.5 |
| | 23 | 52 6.5 | 177 50.7 | -18 33.1 | 156 15.2 | -23 26.5 | 295 26.5 | 21 19.9 | 55 36.5 | -4 6.5 |
| | | MP 19:33 | *v* -0.7 | *d* 0.8 | *v* 0.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **28 Friday** | 0 | 67 9.0 | 192 50.0 | -18 33.9 | 171 15.7 | -23 26.7 | 310 29.1 | 21 19.9 | 70 38.9 | -4 6.4 |
| | 1 | 82 11.5 | 207 49.3 | -18 34.7 | 186 16.1 | -23 26.9 | 325 31.7 | 21 19.9 | 85 41.4 | -4 6.4 |
| | 2 | 97 13.9 | 222 48.5 | -18 35.5 | 201 16.6 | -23 27.1 | 340 34.3 | 21 20.0 | 100 43.9 | -4 6.4 |
| | 3 | 112 16.4 | 237 47.8 | -18 36.4 | 216 17.1 | -23 27.3 | 355 36.9 | 21 20.0 | 115 46.3 | -4 6.4 |
| | 4 | 127 18.8 | 252 47.0 | -18 37.2 | 231 17.5 | -23 27.5 | 10 39.5 | 21 20.0 | 130 48.8 | -4 6.4 |
| | 5 | 142 21.3 | 267 46.3 | -18 38.0 | 246 18.0 | -23 27.7 | 25 42.1 | 21 20.1 | 145 51.3 | -4 6.4 |
| | 6 | 157 23.8 | 282 45.6 | -18 38.8 | 261 18.5 | -23 27.9 | 40 44.7 | 21 20.1 | 160 53.7 | -4 6.4 |
| | 7 | 172 26.2 | 297 44.8 | -18 39.6 | 276 18.9 | -23 28.1 | 55 47.3 | 21 20.1 | 175 56.2 | -4 6.4 |
| | 8 | 187 28.7 | 312 44.1 | -18 40.4 | 291 19.4 | -23 28.3 | 70 50.0 | 21 20.1 | 190 58.7 | -4 6.4 |
| | 9 | 202 31.2 | 327 43.3 | -18 41.2 | 306 19.8 | -23 28.5 | 85 52.6 | 21 20.2 | 206 1.1 | -4 6.4 |
| | 10 | 217 33.6 | 342 42.6 | -18 42.0 | 321 20.3 | -23 28.7 | 100 55.2 | 21 20.2 | 221 3.6 | -4 6.4 |
| | 11 | 232 36.1 | 357 41.8 | -18 42.8 | 336 20.8 | -23 28.9 | 115 57.8 | 21 20.2 | 236 6.1 | -4 6.4 |
| | 12 | 247 38.6 | 12 41.1 | -18 43.6 | 351 21.2 | -23 29.1 | 131 0.4 | 21 20.3 | 251 8.5 | -4 6.3 |
| | 13 | 262 41.0 | 27 40.4 | -18 44.4 | 6 21.7 | -23 29.3 | 146 3.0 | 21 20.3 | 266 11.0 | -4 6.3 |
| | 14 | 277 43.5 | 42 39.6 | -18 45.2 | 21 22.1 | -23 29.5 | 161 5.6 | 21 20.3 | 281 13.5 | -4 6.3 |
| | 15 | 292 45.9 | 57 38.9 | -18 46.0 | 36 22.6 | -23 29.7 | 176 8.2 | 21 20.4 | 296 15.9 | -4 6.3 |
| | 16 | 307 48.4 | 72 38.1 | -18 46.8 | 51 23.1 | -23 29.9 | 191 10.8 | 21 20.4 | 311 18.4 | -4 6.3 |
| | 17 | 322 50.9 | 87 37.4 | -18 47.6 | 66 23.5 | -23 30.1 | 206 13.4 | 21 20.4 | 326 20.9 | -4 6.3 |
| | 18 | 337 53.3 | 102 36.6 | -18 48.4 | 81 24.0 | -23 30.3 | 221 16.0 | 21 20.5 | 341 23.3 | -4 6.3 |
| | 19 | 352 55.8 | 117 35.9 | -18 49.2 | 96 24.4 | -23 30.5 | 236 18.7 | 21 20.5 | 356 25.8 | -4 6.3 |
| | 20 | 7 58.3 | 132 35.1 | -18 50.0 | 111 24.9 | -23 30.7 | 251 21.3 | 21 20.5 | 11 28.3 | -4 6.3 |
| | 21 | 23 0.7 | 147 34.4 | -18 50.8 | 126 25.3 | -23 30.9 | 266 23.9 | 21 20.5 | 26 30.7 | -4 6.3 |
| | 22 | 38 3.2 | 162 33.6 | -18 51.6 | 141 25.8 | -23 31.0 | 281 26.5 | 21 20.6 | 41 33.2 | -4 6.3 |
| | 23 | 53 5.7 | 177 32.9 | -18 52.4 | 156 26.3 | -23 31.2 | 296 29.1 | 21 20.6 | 56 35.7 | -4 6.2 |
| | | MP 19:30 | *v* -0.7 | *d* 0.8 | *v* 0.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| **29 Saturday** | 0 | 68 8.1 | 192 32.1 | -18 53.2 | 171 26.7 | -23 31.4 | 311 31.7 | 21 20.6 | 71 38.1 | -4 6.2 |
| | 1 | 83 10.6 | 207 31.4 | -18 54.0 | 186 27.2 | -23 31.6 | 326 34.3 | 21 20.7 | 86 40.6 | -4 6.2 |
| | 2 | 98 13.1 | 222 30.6 | -18 54.8 | 201 27.6 | -23 31.8 | 341 36.9 | 21 20.7 | 101 43.0 | -4 6.2 |
| | 3 | 113 15.5 | 237 29.9 | -18 55.6 | 216 28.1 | -23 32.0 | 356 39.6 | 21 20.7 | 116 45.5 | -4 6.2 |
| | 4 | 128 18.0 | 252 29.1 | -18 56.4 | 231 28.5 | -23 32.2 | 11 42.2 | 21 20.8 | 131 48.0 | -4 6.2 |
| | 5 | 143 20.4 | 267 28.4 | -18 57.1 | 246 29.0 | -23 32.4 | 26 44.8 | 21 20.8 | 146 50.4 | -4 6.2 |
| | 6 | 158 22.9 | 282 27.6 | -18 57.9 | 261 29.5 | -23 32.6 | 41 47.4 | 21 20.8 | 161 52.9 | -4 6.2 |
| | 7 | 173 25.4 | 297 26.8 | -18 58.7 | 276 29.9 | -23 32.7 | 56 50.0 | 21 20.9 | 176 55.4 | -4 6.2 |
| | 8 | 188 27.8 | 312 26.1 | -18 59.5 | 291 30.4 | -23 32.9 | 71 52.6 | 21 20.9 | 191 57.8 | -4 6.2 |
| | 9 | 203 30.3 | 327 25.3 | -19 0.3 | 306 30.8 | -23 33.1 | 86 55.3 | 21 20.9 | 207 0.3 | -4 6.1 |
| | 10 | 218 32.8 | 342 24.6 | -19 1.1 | 321 31.3 | -23 33.3 | 101 57.9 | 21 21.0 | 222 2.8 | -4 6.1 |
| | 11 | 233 35.2 | 357 23.8 | -19 1.8 | 336 31.7 | -23 33.5 | 117 0.5 | 21 21.0 | 237 5.2 | -4 6.1 |
| | 12 | 248 37.7 | 12 23.1 | -19 2.6 | 351 32.2 | -23 33.7 | 132 3.1 | 21 21.0 | 252 7.7 | -4 6.1 |
| | 13 | 263 40.2 | 27 22.3 | -19 3.4 | 6 32.7 | -23 33.9 | 147 5.7 | 21 21.1 | 267 10.1 | -4 6.1 |
| | 14 | 278 42.6 | 42 21.6 | -19 4.2 | 21 33.1 | -23 34.0 | 162 8.3 | 21 21.1 | 282 12.6 | -4 6.1 |
| | 15 | 293 45.1 | 57 20.8 | -19 5.0 | 36 33.6 | -23 34.2 | 177 11.0 | 21 21.1 | 297 15.1 | -4 6.1 |
| | 16 | 308 47.5 | 72 20.0 | -19 5.7 | 51 34.0 | -23 34.4 | 192 13.6 | 21 21.2 | 312 17.5 | -4 6.1 |
| | 17 | 323 50.0 | 87 19.3 | -19 6.5 | 66 34.5 | -23 34.6 | 207 16.2 | 21 21.2 | 327 20.0 | -4 6.1 |
| | 18 | 338 52.5 | 102 18.5 | -19 7.3 | 81 34.9 | -23 34.8 | 222 18.8 | 21 21.2 | 342 22.4 | -4 6.0 |
| | 19 | 353 54.9 | 117 17.8 | -19 8.1 | 96 35.4 | -23 35.0 | 237 21.4 | 21 21.3 | 357 24.9 | -4 6.0 |
| | 20 | 8 57.4 | 132 17.0 | -19 8.8 | 111 35.8 | -23 35.1 | 252 24.1 | 21 21.3 | 12 27.4 | -4 6.0 |
| | 21 | 23 59.9 | 147 16.2 | -19 9.6 | 126 36.3 | -23 35.3 | 267 26.7 | 21 21.3 | 27 29.8 | -4 6.0 |
| | 22 | 39 2.3 | 162 15.5 | -19 10.4 | 141 36.7 | -23 35.5 | 282 29.3 | 21 21.4 | 42 32.3 | -4 6.0 |
| | 23 | 54 4.8 | 177 14.7 | -19 11.2 | 156 37.2 | -23 35.7 | 297 31.9 | 21 21.4 | 57 34.7 | -4 6.0 |
| | | MP 19:26 | *v* -0.8 | *d* 0.8 | *v* 0.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

## Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.0 |
| Achernar | 335 19.2 | -57 6.4 |
| Acrux | 172 59.7 | -63 14.3 |
| Adhara | 255 5.0 | -29 0.3 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.7 | 55 48.9 |
| Alkaid | 152 51.8 | 49 10.9 |
| Alnair | 27 32.0 | -46 50.3 |
| Alnilam | 275 36.7 | -1 11.0 |
| Alphard | 217 47.0 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.6 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.2 | -42 10.0 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.6 | 19 2.8 |
| Atria | 107 9.5 | -69 4.4 |
| Avior | 234 14.1 | -59 35.2 |
| Bellatrix | 278 21.8 | 6 22.5 |
| Betelgeuse | 270 51.0 | 7 24.8 |
| Canopus | 263 51.6 | -52 42.3 |
| Capella | 280 20.4 | 46 1.4 |
| Deneb | 49 25.5 | 45 22.6 |
| Denebola | 182 24.3 | 14 25.6 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.2 | 61 36.4 |
| Elnath | 278 0.6 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.2 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 51.2 | -57 15.2 |
| Gienah | 175 43.0 | -17 41.0 |
| Hadar | 148 35.6 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.9 | 74 2.7 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.8 | -69 49.1 |
| Mirfak | 308 26.7 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 4.9 | -56 39.3 |
| Pollux | 243 16.2 | 27 57.7 |
| Procyon | 244 49.9 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.7 | 11 50.4 |
| Rigel | 281 2.8 | -8 10.2 |
| Rigil Kent. | 139 39.9 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.9 | 56 41.1 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.3 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 45.6 | -43 31.9 |
| Vega | 80 33.1 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| **27 Thu** | SHA | MP |
|---|---|---|
| Venus | 126 57.7 | 11:08 |
| Mars | 104 54.7 | 12:35 |
| Jupiter | 243 16.8 | 03:22 |
| Saturn | 3 29.8 | 19:18 |

| **28 Fri** | SHA | MP |
|---|---|---|
| Venus | 125 41.0 | 11:09 |
| Mars | 104 6.7 | 12:35 |
| Jupiter | 243 20.1 | 03:17 |
| Saturn | 3 29.9 | 19:14 |

| **29 Sat** | SHA | MP |
|---|---|---|
| Venus | 124 24.0 | 11:10 |
| Mars | 103 18.6 | 12:34 |
| Jupiter | 243 23.6 | 03:13 |
| Saturn | 3 30.0 | 19:10 |

| | | Sun | | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | | Dec | GHA | v | Dec | d | HP |
| **27 Thursday** | 0 | 183 | 7.0 | -21 7.7 | 103 25.2 | 12.9 | -16 55.7 | -12.5 | 56.2 |
| | 1 | 198 | 6.8 | -21 8.2 | 117 57.0 | 12.9 | -16 43.2 | -12.6 | 56.2 |
| | 2 | 213 | 6.6 | -21 8.6 | 132 29.0 | 13.0 | -16 30.6 | -12.7 | 56.3 |
| | 3 | 228 | 6.4 | -21 9.1 | 147 0.9 | 13.0 | -16 18.0 | -12.8 | 56.3 |
| | 4 | 243 | 6.2 | -21 9.5 | 161 32.9 | 13.0 | -16 5.2 | -12.8 | 56.3 |
| | 5 | 258 | 6.0 | -21 10.0 | 176 4.9 | 13.0 | -15 52.4 | -12.9 | 56.4 |
| | 6 | 273 | 5.8 | -21 10.4 | 190 37.0 | 13.1 | -15 39.4 | -13.0 | 56.4 |
| | 7 | 288 | 5.6 | -21 10.9 | 205 9.0 | 13.1 | -15 26.4 | -13.1 | 56.4 |
| | 8 | 303 | 5.4 | -21 11.3 | 219 41.1 | 13.1 | -15 13.3 | -13.2 | 56.5 |
| | 9 | 318 | 5.2 | -21 11.8 | 234 13.3 | 13.2 | -15 0.2 | -13.3 | 56.5 |
| | 10 | 333 | 5.0 | -21 12.2 | 248 45.5 | 13.2 | -14 46.9 | -13.3 | 56.5 |
| | 11 | 348 | 4.8 | -21 12.7 | 263 17.7 | 13.2 | -14 33.6 | -13.4 | 56.6 |
| | 12 | 3 | 4.5 | -21 13.1 | 277 49.9 | 13.3 | -14 20.1 | -13.5 | 56.6 |
| | 13 | 18 | 4.3 | -21 13.6 | 292 22.1 | 13.3 | -14 6.6 | -13.6 | 56.6 |
| | 14 | 33 | 4.1 | -21 14.0 | 306 54.4 | 13.3 | -13 53.1 | -13.7 | 56.7 |
| | 15 | 48 | 3.9 | -21 14.5 | 321 26.7 | 13.3 | -13 39.4 | -13.7 | 56.7 |
| | 16 | 63 | 3.7 | -21 14.9 | 335 59.1 | 13.4 | -13 25.7 | -13.8 | 56.7 |
| | 17 | 78 | 3.5 | -21 15.4 | 350 31.4 | 13.4 | -13 11.9 | -13.9 | 56.8 |
| | 18 | 93 | 3.3 | -21 15.8 | 5 3.8 | 13.4 | -12 58.0 | -14.0 | 56.8 |
| | 19 | 108 | 3.1 | -21 16.3 | 19 36.2 | 13.4 | -12 44.0 | -14.0 | 56.8 |
| | 20 | 123 | 2.9 | -21 16.7 | 34 8.6 | 13.4 | -12 30.0 | -14.1 | 56.9 |
| | 21 | 138 | 2.7 | -21 17.1 | 48 41.0 | 13.5 | -12 15.9 | -14.2 | 56.9 |
| | 22 | 153 | 2.5 | -21 17.6 | 63 13.5 | 13.5 | -12 1.8 | -14.2 | 56.9 |
| | 23 | 168 | 2.2 | -21 18.0 | 77 46.0 | 13.5 | -11 47.5 | -14.3 | 57.0 |
| | | v -0.2 | | SD 16.2 d 0.5 | | | SD 15.3 | | |

| d | h | GHA | | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|---|
| **28 Friday** | 0 | 183 | 2.0 | -21 18.5 | 92 18.4 | 13.5 | -11 33.2 | -14.4 | 57.0 |
| | 1 | 198 | 1.8 | -21 18.9 | 106 50.9 | 13.5 | -11 18.8 | -14.4 | 57.0 |
| | 2 | 213 | 1.6 | -21 19.3 | 121 23.5 | 13.5 | -11 4.4 | -14.5 | 57.1 |
| | 3 | 228 | 1.4 | -21 19.8 | 135 56.0 | 13.5 | -10 49.9 | -14.6 | 57.1 |
| | 4 | 243 | 1.2 | -21 20.2 | 150 28.5 | 13.6 | -10 35.3 | -14.6 | 57.1 |
| | 5 | 258 | 1.0 | -21 20.7 | 165 1.1 | 13.6 | -10 20.6 | -14.7 | 57.2 |
| | 6 | 273 | 0.8 | -21 21.1 | 179 33.6 | 13.6 | -10 5.9 | -14.8 | 57.2 |
| | 7 | 288 | 0.6 | -21 21.5 | 194 6.2 | 13.6 | -9 51.2 | -14.8 | 57.2 |
| | 8 | 303 | 0.3 | -21 22.0 | 208 38.8 | 13.6 | -9 36.3 | -14.9 | 57.3 |
| | 9 | 318 | 0.1 | -21 22.4 | 223 11.4 | 13.6 | -9 21.4 | -15.0 | 57.3 |
| | 10 | 332 | 59.9 | -21 22.8 | 237 44.0 | 13.6 | -9 6.5 | -15.0 | 57.3 |
| | 11 | 347 | 59.7 | -21 23.3 | 252 16.6 | 13.6 | -8 51.5 | -15.1 | 57.4 |
| | 12 | 2 | 59.5 | -21 23.7 | 266 49.2 | 13.6 | -8 36.4 | -15.1 | 57.4 |
| | 13 | 17 | 59.3 | -21 24.1 | 281 21.8 | 13.6 | -8 21.3 | -15.2 | 57.5 |
| | 14 | 32 | 59.1 | -21 24.5 | 295 54.4 | 13.6 | -8 6.1 | -15.2 | 57.5 |
| | 15 | 47 | 58.8 | -21 25.0 | 310 27.0 | 13.6 | -7 50.9 | -15.3 | 57.5 |
| | 16 | 62 | 58.6 | -21 25.4 | 324 59.6 | 13.6 | -7 35.6 | -15.3 | 57.6 |
| | 17 | 77 | 58.4 | -21 25.8 | 339 32.1 | 13.6 | -7 20.2 | -15.4 | 57.6 |
| | 18 | 92 | 58.2 | -21 26.3 | 354 4.7 | 13.6 | -7 4.8 | -15.5 | 57.6 |
| | 19 | 107 | 58.0 | -21 26.7 | 8 37.3 | 13.6 | -6 49.4 | -15.5 | 57.7 |
| | 20 | 122 | 57.8 | -21 27.1 | 23 9.9 | 13.6 | -6 33.9 | -15.6 | 57.7 |
| | 21 | 137 | 57.5 | -21 27.5 | 37 42.5 | 13.6 | -6 18.3 | -15.6 | 57.7 |
| | 22 | 152 | 57.3 | -21 28.0 | 52 15.0 | 13.6 | -6 2.7 | -15.7 | 57.8 |
| | 23 | 167 | 57.1 | -21 28.4 | 66 47.6 | 13.5 | -5 47.0 | -15.7 | 57.8 |
| | | v -0.2 | | SD 16.2 d 0.4 | | | SD 15.5 | | |

| d | h | GHA | | Dec | GHA | v | Dec | d | HP |
|---|---|---|---|---|---|---|---|---|---|
| **29 Saturday** | 0 | 182 | 56.9 | -21 28.8 | 81 20.1 | 13.5 | -5 31.3 | -15.7 | 57.9 |
| | 1 | 197 | 56.7 | -21 29.2 | 95 52.6 | 13.5 | -5 15.6 | -15.8 | 57.9 |
| | 2 | 212 | 56.4 | -21 29.6 | 110 25.2 | 13.5 | -4 59.8 | -15.8 | 57.9 |
| | 3 | 227 | 56.2 | -21 30.1 | 124 57.7 | 13.5 | -4 44.0 | -15.9 | 58.0 |
| | 4 | 242 | 56.0 | -21 30.5 | 139 30.1 | 13.5 | -4 28.1 | -15.9 | 58.0 |
| | 5 | 257 | 55.8 | -21 30.9 | 154 2.6 | 13.4 | -4 12.2 | -16.0 | 58.0 |
| | 6 | 272 | 55.6 | -21 31.3 | 168 35.0 | 13.4 | -3 56.2 | -16.0 | 58.1 |
| | 7 | 287 | 55.3 | -21 31.7 | 183 7.5 | 13.4 | -3 40.2 | -16.0 | 58.1 |
| | 8 | 302 | 55.1 | -21 32.2 | 197 39.8 | 13.4 | -3 24.2 | -16.1 | 58.2 |
| | 9 | 317 | 54.9 | -21 32.6 | 212 12.2 | 13.3 | -3 8.1 | -16.1 | 58.2 |
| | 10 | 332 | 54.7 | -21 33.0 | 226 44.6 | 13.3 | -2 52.0 | -16.1 | 58.2 |
| | 11 | 347 | 54.5 | -21 33.4 | 241 16.9 | 13.3 | -2 35.9 | -16.2 | 58.3 |
| | 12 | 2 | 54.2 | -21 33.8 | 255 49.2 | 13.3 | -2 19.7 | -16.2 | 58.3 |
| | 13 | 17 | 54.0 | -21 34.2 | 270 21.5 | 13.2 | -2 3.5 | -16.2 | 58.4 |
| | 14 | 32 | 53.8 | -21 34.7 | 284 53.7 | 13.2 | -1 47.3 | -16.3 | 58.4 |
| | 15 | 47 | 53.6 | -21 35.1 | 299 25.9 | 13.2 | -1 31.0 | -16.3 | 58.4 |
| | 16 | 62 | 53.4 | -21 35.5 | 313 58.1 | 13.1 | -1 14.7 | -16.3 | 58.5 |
| | 17 | 77 | 53.1 | -21 35.9 | 328 30.2 | 13.1 | -0 58.4 | -16.4 | 58.5 |
| | 18 | 92 | 52.9 | -21 36.3 | 343 2.3 | 13.1 | -0 42.0 | -16.4 | 58.5 |
| | 19 | 107 | 52.7 | -21 36.7 | 357 34.3 | 13.0 | -0 25.7 | -16.4 | 58.6 |
| | 20 | 122 | 52.5 | -21 37.1 | 12 6.4 | 13.0 | -0 9.3 | 16.4 | 58.6 |
| | 21 | 137 | 52.2 | -21 37.5 | 26 38.3 | 12.9 | 0 7.2 | 16.4 | 58.7 |
| | 22 | 152 | 52.0 | -21 37.9 | 41 10.3 | 12.9 | 0 23.6 | 16.5 | 58.7 |
| | 23 | 167 | 51.8 | -21 38.3 | 55 42.2 | 12.8 | 0 40.1 | 16.5 | 58.7 |
| | | v -0.2 | | SD 16.2 d 0.4 | | | SD 15.8 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:40 | 09:33 | | | 14:02 | 15:54 |
| 70 | 07:25 | 08:58 | | | 14:37 | 16:09 |
| 68 | 07:13 | 08:33 | 10:15 | 13:20 | 15:02 | 16:22 |
| 66 | 07:03 | 08:14 | 09:33 | 14:01 | 15:21 | 16:32 |
| 64 | 06:54 | 07:58 | 09:05 | 14:29 | 15:37 | 16:41 |
| 62 | 06:46 | 07:45 | 08:44 | 14:51 | 15:50 | 16:48 |
| 60 | 06:40 | 07:34 | 08:27 | 15:08 | 16:01 | 16:55 |
| 58 | 06:34 | 07:24 | 08:13 | 15:22 | 16:11 | 17:01 |
| 56 | 06:28 | 07:16 | 08:00 | 15:35 | 16:19 | 17:07 |
| 54 | 06:23 | 07:08 | 07:50 | 15:45 | 16:27 | 17:12 |
| 52 | 06:18 | 07:01 | 07:40 | 15:55 | 16:34 | 17:17 |
| 50 | 06:14 | 06:54 | 07:31 | 16:04 | 16:41 | 17:21 |
| 45 | 06:04 | 06:41 | 07:13 | 16:22 | 16:54 | 17:31 |
| 40 | 05:55 | 06:29 | 06:59 | 16:36 | 17:06 | 17:40 |
| 35 | 05:47 | 06:19 | 06:46 | 16:49 | 17:17 | 17:48 |
| 30 | 05:40 | 06:09 | 06:35 | 17:00 | 17:26 | 17:55 |
| 20 | 05:26 | 05:53 | 06:16 | 17:19 | 17:43 | 18:10 |
| 10 | 05:11 | 05:37 | 06:00 | 17:36 | 17:58 | 18:24 |
| 0 | 04:56 | 05:22 | 05:44 | 17:51 | 18:14 | 18:39 |
| -10 | 04:39 | 05:06 | 05:28 | 18:07 | 18:30 | 18:56 |
| -20 | 04:19 | 04:47 | 05:11 | 18:24 | 18:48 | 19:17 |
| -30 | 03:53 | 04:25 | 04:52 | 18:44 | 19:11 | 19:43 |
| -35 | 03:36 | 04:11 | 04:40 | 18:56 | 19:25 | 20:00 |
| -40 | 03:16 | 03:55 | 04:27 | 19:09 | 19:41 | 20:20 |
| -45 | 02:49 | 03:35 | 04:11 | 19:25 | 20:01 | 20:47 |
| -50 | 02:12 | 03:10 | 03:51 | 19:45 | 20:27 | 21:25 |
| -52 | 01:52 | 02:57 | 03:42 | 19:54 | 20:39 | 21:46 |
| -54 | 01:25 | 02:42 | 03:32 | 20:05 | 20:54 | 22:13 |
| -56 | 00:42 | 02:25 | 03:20 | 20:17 | 21:12 | 22:59 |
| -58 | //// | 02:03 | 03:06 | 20:31 | 21:34 | //// |
| -60 | //// | 01:34 | 02:49 | 20:47 | 22:04 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **27** | **28** | **29** | **27** | **28** | **29** |
| 72 | 14:51 | 14:02 | 13:25 | 20:55 | 23:20 | –:– |
| 70 | 14:25 | 13:50 | 13:22 | 21:18 | 23:29 | –:– |
| 68 | 14:05 | 13:41 | 13:20 | 21:36 | 23:36 | –:– |
| 66 | 13:49 | 13:33 | 13:18 | 21:51 | 23:42 | –:– |
| 64 | 13:36 | 13:26 | 13:17 | 22:02 | 23:47 | –:– |
| 62 | 13:24 | 13:20 | 13:15 | 22:12 | 23:51 | –:– |
| 60 | 13:15 | 13:15 | 13:14 | 22:21 | 23:55 | –:– |
| 58 | 13:06 | 13:10 | 13:13 | 22:28 | 23:58 | –:– |
| 56 | 12:59 | 13:06 | 13:12 | 22:34 | –:– | 00:01 |
| 54 | 12:52 | 13:02 | 13:11 | 22:40 | –:– | 00:03 |
| 52 | 12:46 | 12:59 | 13:10 | 22:45 | –:– | 00:06 |
| 50 | 12:41 | 12:56 | 13:09 | 22:50 | –:– | 00:08 |
| 45 | 12:29 | 12:49 | 13:08 | 23:00 | –:– | 00:12 |
| 40 | 12:19 | 12:43 | 13:06 | 23:08 | –:– | 00:16 |
| 35 | 12:11 | 12:38 | 13:05 | 23:15 | –:– | 00:19 |
| 30 | 12:03 | 12:34 | 13:04 | 23:22 | –:– | 00:22 |
| 20 | 11:50 | 12:27 | 13:02 | 23:32 | –:– | 00:27 |
| 10 | 11:39 | 12:20 | 13:01 | 23:41 | –:– | 00:31 |
| 0 | 11:28 | 12:14 | 12:59 | 23:50 | –:– | 00:35 |
| -10 | 11:17 | 12:07 | 12:58 | 23:58 | –:– | 00:39 |
| -20 | 11:06 | 12:01 | 12:56 | –:– | 00:07 | 00:43 |
| -30 | 10:53 | 11:53 | 12:54 | –:– | 00:18 | 00:48 |
| -35 | 10:45 | 11:49 | 12:53 | –:– | 00:24 | 00:50 |
| -40 | 10:36 | 11:43 | 12:52 | 00:05 | 00:30 | 00:53 |
| -45 | 10:26 | 11:38 | 12:51 | 00:17 | 00:38 | 00:57 |
| -50 | 10:13 | 11:30 | 12:49 | 00:31 | 00:47 | 01:01 |
| -52 | 10:07 | 11:27 | 12:48 | 00:38 | 00:51 | 01:03 |
| -54 | 10:01 | 11:24 | 12:47 | 00:45 | 00:56 | 01:05 |
| -56 | 09:53 | 11:20 | 12:47 | 00:53 | 01:01 | 01:07 |
| -58 | 09:45 | 11:15 | 12:46 | 01:02 | 01:06 | 01:09 |
| -60 | 09:36 | 11:10 | 12:44 | 01:13 | 01:13 | 01:12 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **27** | 12:28 | 12:18 | 11:48 | 17:39 | 05:16 | 7 | 37 |
| **28** | 12:08 | 11:58 | 11:48 | 18:24 | 06:02 | 8 | 47 |
| **29** | 11:48 | 11:37 | 11:48 | 19:10 | 06:47 | 9 | 58 |

## 2025 November 30, December 01, 02 (Sun, Monday, Tue)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.3 GHA | Mars 1.3 Dec | Jupiter -2.5 GHA | Jupiter -2.5 Dec | Saturn 0.9 GHA | Saturn 0.9 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Sunday | 0 | 69 7.3 | 192 13.9 | -19 11.9 | 171 37.6 | -23 35.9 | 312 34.5 | 21 21.4 | 72 37.2 | -4 6.0 |
| | 1 | 84 9.7 | 207 13.2 | -19 12.7 | 186 38.1 | -23 36.1 | 327 37.2 | 21 21.5 | 87 39.7 | -4 6.0 |
| | 2 | 99 12.2 | 222 12.4 | -19 13.5 | 201 38.6 | -23 36.2 | 342 39.8 | 21 21.5 | 102 42.1 | -4 6.0 |
| | 3 | 114 14.7 | 237 11.6 | -19 14.2 | 216 39.0 | -23 36.4 | 357 42.4 | 21 21.5 | 117 44.6 | -4 5.9 |
| | 4 | 129 17.1 | 252 10.9 | -19 15.0 | 231 39.5 | -23 36.6 | 12 45.0 | 21 21.6 | 132 47.0 | -4 5.9 |
| | 5 | 144 19.6 | 267 10.1 | -19 15.8 | 246 39.9 | -23 36.8 | 27 47.7 | 21 21.6 | 147 49.5 | -4 5.9 |
| | 6 | 159 22.0 | 282 9.4 | -19 16.5 | 261 40.4 | -23 36.9 | 42 50.3 | 21 21.6 | 162 52.0 | -4 5.9 |
| | 7 | 174 24.5 | 297 8.6 | -19 17.3 | 276 40.8 | -23 37.1 | 57 52.9 | 21 21.7 | 177 54.4 | -4 5.9 |
| | 8 | 189 27.0 | 312 7.8 | -19 18.1 | 291 41.3 | -23 37.3 | 72 55.5 | 21 21.7 | 192 56.9 | -4 5.9 |
| | 9 | 204 29.4 | 327 7.0 | -19 18.8 | 306 41.7 | -23 37.5 | 87 58.1 | 21 21.7 | 207 59.3 | -4 5.9 |
| | 10 | 219 31.9 | 342 6.3 | -19 19.6 | 321 42.2 | -23 37.7 | 103 0.8 | 21 21.8 | 223 1.8 | -4 5.9 |
| | 11 | 234 34.4 | 357 5.5 | -19 20.4 | 336 42.6 | -23 37.8 | 118 3.4 | 21 21.8 | 238 4.3 | -4 5.9 |
| | 12 | 249 36.8 | 12 4.7 | -19 21.1 | 351 43.1 | -23 38.0 | 133 6.0 | 21 21.8 | 253 6.7 | -4 5.8 |
| | 13 | 264 39.3 | 27 4.0 | -19 21.9 | 6 43.5 | -23 38.2 | 148 8.6 | 21 21.9 | 268 9.2 | -4 5.8 |
| | 14 | 279 41.8 | 42 3.2 | -19 22.6 | 21 44.0 | -23 38.4 | 163 11.3 | 21 21.9 | 283 11.6 | -4 5.8 |
| | 15 | 294 44.2 | 57 2.4 | -19 23.4 | 36 44.4 | -23 38.5 | 178 13.9 | 21 21.9 | 298 14.1 | -4 5.8 |
| | 16 | 309 46.7 | 72 1.7 | -19 24.1 | 51 44.9 | -23 38.7 | 193 16.5 | 21 22.0 | 313 16.5 | -4 5.8 |
| | 17 | 324 49.2 | 87 0.9 | -19 24.9 | 66 45.3 | -23 38.9 | 208 19.2 | 21 22.0 | 328 19.0 | -4 5.8 |
| | 18 | 339 51.6 | 102 0.1 | -19 25.6 | 81 45.8 | -23 39.0 | 223 21.8 | 21 22.0 | 343 21.5 | -4 5.8 |
| | 19 | 354 54.1 | 116 59.3 | -19 26.4 | 96 46.2 | -23 39.2 | 238 24.4 | 21 22.1 | 358 23.9 | -4 5.8 |
| | 20 | 9 56.5 | 131 58.6 | -19 27.2 | 111 46.7 | -23 39.4 | 253 27.0 | 21 22.1 | 13 26.4 | -4 5.7 |
| | 21 | 24 59.0 | 146 57.8 | -19 27.9 | 126 47.1 | -23 39.6 | 268 29.7 | 21 22.1 | 28 28.8 | -4 5.7 |
| | 22 | 40 1.5 | 161 57.0 | -19 28.7 | 141 47.6 | -23 39.7 | 283 32.3 | 21 22.2 | 43 31.3 | -4 5.7 |
| | 23 | 55 3.9 | 176 56.2 | -19 29.4 | 156 48.0 | -23 39.9 | 298 34.9 | 21 22.2 | 58 33.7 | -4 5.7 |
| | | MP 19:22 | *v* -0.8 | *d* 0.8 | *v* 0.5 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 Monday | 0 | 70 6.4 | 191 55.5 | -19 30.1 | 171 48.5 | -23 40.1 | 313 37.6 | 21 22.2 | 73 36.2 | -4 5.7 |
| | 1 | 85 8.9 | 206 54.7 | -19 30.9 | 186 48.9 | -23 40.2 | 328 40.2 | 21 22.3 | 88 38.7 | -4 5.7 |
| | 2 | 100 11.3 | 221 53.9 | -19 31.6 | 201 49.4 | -23 40.4 | 343 42.8 | 21 22.3 | 103 41.1 | -4 5.7 |
| | 3 | 115 13.8 | 236 53.1 | -19 32.4 | 216 49.8 | -23 40.6 | 358 45.4 | 21 22.3 | 118 43.6 | -4 5.6 |
| | 4 | 130 16.3 | 251 52.4 | -19 33.1 | 231 50.3 | -23 40.8 | 13 48.1 | 21 22.4 | 133 46.0 | -4 5.6 |
| | 5 | 145 18.7 | 266 51.6 | -19 33.9 | 246 50.7 | -23 40.9 | 28 50.7 | 21 22.4 | 148 48.5 | -4 5.6 |
| | 6 | 160 21.2 | 281 50.8 | -19 34.6 | 261 51.1 | -23 41.1 | 43 53.3 | 21 22.4 | 163 50.9 | -4 5.6 |
| | 7 | 175 23.6 | 296 50.0 | -19 35.4 | 276 51.6 | -23 41.3 | 58 56.0 | 21 22.5 | 178 53.4 | -4 5.6 |
| | 8 | 190 26.1 | 311 49.2 | -19 36.1 | 291 52.0 | -23 41.4 | 73 58.6 | 21 22.5 | 193 55.8 | -4 5.6 |
| | 9 | 205 28.6 | 326 48.5 | -19 36.8 | 306 52.5 | -23 41.6 | 89 1.2 | 21 22.5 | 208 58.3 | -4 5.6 |
| | 10 | 220 31.0 | 341 47.7 | -19 37.6 | 321 52.9 | -23 41.8 | 104 3.9 | 21 22.6 | 224 0.8 | -4 5.5 |
| | 11 | 235 33.5 | 356 46.9 | -19 38.3 | 336 53.4 | -23 41.9 | 119 6.5 | 21 22.6 | 239 3.2 | -4 5.5 |
| | 12 | 250 36.0 | 11 46.1 | -19 39.1 | 351 53.8 | -23 42.1 | 134 9.1 | 21 22.6 | 254 5.7 | -4 5.5 |
| | 13 | 265 38.4 | 26 45.3 | -19 39.8 | 6 54.3 | -23 42.3 | 149 11.8 | 21 22.7 | 269 8.1 | -4 5.5 |
| | 14 | 280 40.9 | 41 44.6 | -19 40.5 | 21 54.7 | -23 42.4 | 164 14.4 | 21 22.7 | 284 10.6 | -4 5.5 |
| | 15 | 295 43.4 | 56 43.8 | -19 41.3 | 36 55.2 | -23 42.6 | 179 17.0 | 21 22.8 | 299 13.0 | -4 5.5 |
| | 16 | 310 45.8 | 71 43.0 | -19 42.0 | 51 55.6 | -23 42.7 | 194 19.7 | 21 22.8 | 314 15.5 | -4 5.5 |
| | 17 | 325 48.3 | 86 42.2 | -19 42.7 | 66 56.1 | -23 42.9 | 209 22.3 | 21 22.8 | 329 17.9 | -4 5.4 |
| | 18 | 340 50.8 | 101 41.4 | -19 43.5 | 81 56.5 | -23 43.1 | 224 24.9 | 21 22.9 | 344 20.4 | -4 5.4 |
| | 19 | 355 53.2 | 116 40.6 | -19 44.2 | 96 56.9 | -23 43.2 | 239 27.6 | 21 22.9 | 359 22.8 | -4 5.4 |
| | 20 | 10 55.7 | 131 39.9 | -19 44.9 | 111 57.4 | -23 43.4 | 254 30.2 | 21 22.9 | 14 25.3 | -4 5.4 |
| | 21 | 25 58.1 | 146 39.1 | -19 45.6 | 126 57.8 | -23 43.6 | 269 32.9 | 21 23.0 | 29 27.7 | -4 5.4 |
| | 22 | 41 0.6 | 161 38.3 | -19 46.4 | 141 58.3 | -23 43.7 | 284 35.5 | 21 23.0 | 44 30.2 | -4 5.4 |
| | 23 | 56 3.1 | 176 37.5 | -19 47.1 | 156 58.7 | -23 43.9 | 299 38.1 | 21 23.0 | 59 32.6 | -4 5.4 |
| | | MP 19:18 | *v* -0.8 | *d* 0.7 | *v* 0.4 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 02 Tuesday | 0 | 71 5.5 | 191 36.7 | -19 47.8 | 171 59.2 | -23 44.0 | 314 40.8 | 21 23.1 | 74 35.1 | -4 5.3 |
| | 1 | 86 8.0 | 206 35.9 | -19 48.5 | 186 59.6 | -23 44.2 | 329 43.4 | 21 23.1 | 89 37.5 | -4 5.3 |
| | 2 | 101 10.5 | 221 35.1 | -19 49.3 | 202 0.1 | -23 44.4 | 344 46.0 | 21 23.1 | 104 40.0 | -4 5.3 |
| | 3 | 116 12.9 | 236 34.3 | -19 50.0 | 217 0.5 | -23 44.5 | 359 48.7 | 21 23.2 | 119 42.4 | -4 5.3 |
| | 4 | 131 15.4 | 251 33.5 | -19 50.7 | 232 0.9 | -23 44.7 | 14 51.3 | 21 23.2 | 134 44.9 | -4 5.3 |
| | 5 | 146 17.9 | 266 32.8 | -19 51.4 | 247 1.4 | -23 44.8 | 29 54.0 | 21 23.3 | 149 47.4 | -4 5.3 |
| | 6 | 161 20.3 | 281 32.0 | -19 52.1 | 262 1.8 | -23 45.0 | 44 56.6 | 21 23.3 | 164 49.8 | -4 5.3 |
| | 7 | 176 22.8 | 296 31.2 | -19 52.9 | 277 2.3 | -23 45.2 | 59 59.2 | 21 23.3 | 179 52.3 | -4 5.2 |
| | 8 | 191 25.3 | 311 30.4 | -19 53.6 | 292 2.7 | -23 45.3 | 75 1.9 | 21 23.4 | 194 54.7 | -4 5.2 |
| | 9 | 206 27.7 | 326 29.6 | -19 54.3 | 307 3.2 | -23 45.5 | 90 4.5 | 21 23.4 | 209 57.2 | -4 5.2 |
| | 10 | 221 30.2 | 341 28.8 | -19 55.0 | 322 3.6 | -23 45.6 | 105 7.2 | 21 23.4 | 224 59.6 | -4 5.2 |
| | 11 | 236 32.6 | 356 28.0 | -19 55.7 | 337 4.0 | -23 45.8 | 120 9.8 | 21 23.5 | 240 2.1 | -4 5.2 |
| | 12 | 251 35.1 | 11 27.2 | -19 56.4 | 352 4.5 | -23 45.9 | 135 12.4 | 21 23.5 | 255 4.5 | -4 5.2 |
| | 13 | 266 37.6 | 26 26.4 | -19 57.2 | 7 4.9 | -23 46.1 | 150 15.1 | 21 23.5 | 270 7.0 | -4 5.1 |
| | 14 | 281 40.0 | 41 25.6 | -19 57.9 | 22 5.4 | -23 46.2 | 165 17.7 | 21 23.6 | 285 9.4 | -4 5.1 |
| | 15 | 296 42.5 | 56 24.8 | -19 58.6 | 37 5.8 | -23 46.4 | 180 20.4 | 21 23.6 | 300 11.9 | -4 5.1 |
| | 16 | 311 45.0 | 71 24.0 | -19 59.3 | 52 6.3 | -23 46.5 | 195 23.0 | 21 23.6 | 315 14.3 | -4 5.1 |
| | 17 | 326 47.4 | 86 23.2 | -20 0.0 | 67 6.7 | -23 46.7 | 210 25.7 | 21 23.7 | 330 16.8 | -4 5.1 |
| | 18 | 341 49.9 | 101 22.4 | -20 0.7 | 82 7.1 | -23 46.9 | 225 28.3 | 21 23.7 | 345 19.2 | -4 5.1 |
| | 19 | 356 52.4 | 116 21.6 | -20 1.4 | 97 7.6 | -23 47.0 | 240 30.9 | 21 23.8 | 0 21.6 | -4 5.0 |
| | 20 | 11 54.8 | 131 20.8 | -20 2.1 | 112 8.0 | -23 47.2 | 255 33.6 | 21 23.8 | 15 24.1 | -4 5.0 |
| | 21 | 26 57.3 | 146 20.0 | -20 2.8 | 127 8.5 | -23 47.3 | 270 36.2 | 21 23.8 | 30 26.5 | -4 5.0 |
| | 22 | 41 59.7 | 161 19.3 | -20 3.5 | 142 8.9 | -23 47.5 | 285 38.9 | 21 23.9 | 45 29.0 | -4 5.0 |
| | 23 | 57 2.2 | 176 18.5 | -20 4.2 | 157 9.3 | -23 47.6 | 300 41.5 | 21 23.9 | 60 31.4 | -4 5.0 |
| | | MP 19:14 | *v* -0.8 | *d* 0.7 | *v* 0.4 | *d* 0.2 | *v* 2.6 | *d* 0.0 | *v* 2.5 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.1 |
| Achernar | 335 19.2 | -57 6.4 |
| Acrux | 172 59.7 | -63 14.3 |
| Adhara | 255 5.0 | -29 0.3 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.7 | 55 48.9 |
| Alkaid | 152 51.8 | 49 10.8 |
| Alnair | 27 32.1 | -46 50.3 |
| Alnilam | 275 36.7 | -1 11.0 |
| Alphard | 217 46.9 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.6 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.2 | -42 10.0 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.5 | -69 4.4 |
| Avior | 234 14.1 | -59 35.2 |
| Bellatrix | 278 21.8 | 6 22.4 |
| Betelgeuse | 270 51.0 | 7 24.8 |
| Canopus | 263 51.6 | -52 42.4 |
| Capella | 280 20.3 | 46 1.4 |
| Deneb | 49 25.6 | 45 22.6 |
| Denebola | 182 24.3 | 14 25.6 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.2 | 61 36.4 |
| Elnath | 278 0.6 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.2 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 51.2 | -57 15.2 |
| Gienah | 175 43.0 | -17 41.0 |
| Hadar | 148 35.5 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.9 | 74 2.7 |
| Markab | 13 29.1 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.8 | -69 49.1 |
| Mirfak | 308 26.7 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 4.9 | -56 39.3 |
| Pollux | 243 16.2 | 27 57.7 |
| Procyon | 244 49.8 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.6 | 11 50.4 |
| Rigel | 281 2.8 | -8 10.2 |
| Rigil Kent. | 139 39.9 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.9 | 56 41.1 |
| Shaula | 96 9.8 | -37 7.4 |
| Sirius | 258 25.3 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 45.6 | -43 32.0 |
| Vega | 80 33.1 | 38 48.6 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 30 Sun | SHA | MP |
|---|---|---|
| Venus | 123 6.7 | 11:12 |
| Mars | 102 30.4 | 12:33 |
| Jupiter | 243 27.3 | 03:09 |
| Saturn | 3 29.9 | 19:06 |

| 01 Mon | SHA | MP |
|---|---|---|
| Venus | 121 49.1 | 11:13 |
| Mars | 101 42.1 | 12:32 |
| Jupiter | 243 31.2 | 03:05 |
| Saturn | 3 29.8 | 19:02 |

| 02 Tue | SHA | MP |
|---|---|---|
| Venus | 120 31.2 | 11:14 |
| Mars | 100 53.6 | 12:32 |
| Jupiter | 243 35.2 | 03:01 |
| Saturn | 3 29.6 | 18:59 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **30 Sunday** | 0 | 182 51.6 | -21 38.7 | 70 14.0 | 12.8 | 0 56.6 | 16.5 | 58.8 |
| | 1 | 197 51.3 | -21 39.1 | 84 45.8 | 12.8 | 1 13.1 | 16.5 | 58.8 |
| | 2 | 212 51.1 | -21 39.5 | 99 17.6 | 12.7 | 1 29.6 | 16.5 | 58.9 |
| | 3 | 227 50.9 | -21 40.0 | 113 49.3 | 12.7 | 1 46.1 | 16.5 | 58.9 |
| | 4 | 242 50.7 | -21 40.4 | 128 20.9 | 12.6 | 2 2.7 | 16.6 | 58.9 |
| | 5 | 257 50.4 | -21 40.8 | 142 52.5 | 12.5 | 2 19.2 | 16.6 | 59.0 |
| | 6 | 272 50.2 | -21 41.2 | 157 24.1 | 12.5 | 2 35.8 | 16.6 | 59.0 |
| | 7 | 287 50.0 | -21 41.6 | 171 55.6 | 12.4 | 2 52.4 | 16.6 | 59.0 |
| | 8 | 302 49.8 | -21 42.0 | 186 27.0 | 12.4 | 3 9.0 | 16.6 | 59.1 |
| | 9 | 317 49.5 | -21 42.4 | 200 58.4 | 12.3 | 3 25.5 | 16.6 | 59.1 |
| | 10 | 332 49.3 | -21 42.8 | 215 29.7 | 12.3 | 3 42.1 | 16.6 | 59.2 |
| | 11 | 347 49.1 | -21 43.2 | 230 1.0 | 12.2 | 3 58.8 | 16.6 | 59.2 |
| | 12 | 2 48.8 | -21 43.6 | 244 32.2 | 12.1 | 4 15.4 | 16.6 | 59.2 |
| | 13 | 17 48.6 | -21 43.9 | 259 3.3 | 12.1 | 4 32.0 | 16.6 | 59.3 |
| | 14 | 32 48.4 | -21 44.3 | 273 34.4 | 12.0 | 4 48.6 | 16.6 | 59.3 |
| | 15 | 47 48.2 | -21 44.7 | 288 5.4 | 11.9 | 5 5.2 | 16.6 | 59.3 |
| | 16 | 62 47.9 | -21 45.1 | 302 36.3 | 11.9 | 5 21.8 | 16.6 | 59.4 |
| | 17 | 77 47.7 | -21 45.5 | 317 7.2 | 11.8 | 5 38.4 | 16.6 | 59.4 |
| | 18 | 92 47.5 | -21 45.9 | 331 37.9 | 11.7 | 5 55.0 | 16.6 | 59.5 |
| | 19 | 107 47.2 | -21 46.3 | 346 8.7 | 11.6 | 6 11.5 | 16.6 | 59.5 |
| | 20 | 122 47.0 | -21 46.7 | 0 39.3 | 11.6 | 6 28.1 | 16.6 | 59.5 |
| | 21 | 137 46.8 | -21 47.1 | 15 9.9 | 11.5 | 6 44.7 | 16.5 | 59.6 |
| | 22 | 152 46.5 | -21 47.5 | 29 40.4 | 11.4 | 7 1.2 | 16.5 | 59.6 |
| | 23 | 167 46.3 | -21 47.9 | 44 10.8 | 11.3 | 7 17.7 | 16.5 | 59.6 |
| | | *v* -0.2 | SD 16.2 | *d* 0.4 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **01 Monday** | 0 | 182 46.1 | -21 48.3 | 58 41.1 | 11.2 | 7 34.2 | 16.5 | 59.7 |
| | 1 | 197 45.9 | -21 48.6 | 73 11.3 | 11.2 | 7 50.7 | 16.5 | 59.7 |
| | 2 | 212 45.6 | -21 49.0 | 87 41.5 | 11.1 | 8 7.2 | 16.5 | 59.7 |
| | 3 | 227 45.4 | -21 49.4 | 102 11.6 | 11.0 | 8 23.7 | 16.4 | 59.8 |
| | 4 | 242 45.2 | -21 49.8 | 116 41.6 | 10.9 | 8 40.1 | 16.4 | 59.8 |
| | 5 | 257 44.9 | -21 50.2 | 131 11.5 | 10.8 | 8 56.5 | 16.4 | 59.8 |
| | 6 | 272 44.7 | -21 50.6 | 145 41.3 | 10.7 | 9 12.9 | 16.3 | 59.9 |
| | 7 | 287 44.5 | -21 51.0 | 160 11.0 | 10.6 | 9 29.2 | 16.3 | 59.9 |
| | 8 | 302 44.2 | -21 51.3 | 174 40.6 | 10.5 | 9 45.5 | 16.3 | 60.0 |
| | 9 | 317 44.0 | -21 51.7 | 189 10.1 | 10.4 | 10 1.8 | 16.2 | 60.0 |
| | 10 | 332 43.8 | -21 52.1 | 203 39.6 | 10.3 | 10 18.0 | 16.2 | 60.0 |
| | 11 | 347 43.5 | -21 52.5 | 218 8.9 | 10.2 | 10 34.3 | 16.2 | 60.1 |
| | 12 | 2 43.3 | -21 52.9 | 232 38.2 | 10.1 | 10 50.4 | 16.1 | 60.1 |
| | 13 | 17 43.1 | -21 53.2 | 247 7.3 | 10.0 | 11 6.5 | 16.1 | 60.1 |
| | 14 | 32 42.8 | -21 53.6 | 261 36.4 | 9.9 | 11 22.6 | 16.0 | 60.2 |
| | 15 | 47 42.6 | -21 54.0 | 276 5.3 | 9.8 | 11 38.7 | 16.0 | 60.2 |
| | 16 | 62 42.3 | -21 54.4 | 290 34.1 | 9.7 | 11 54.7 | 15.9 | 60.2 |
| | 17 | 77 42.1 | -21 54.8 | 305 2.9 | 9.6 | 12 10.6 | 15.9 | 60.2 |
| | 18 | 92 41.9 | -21 55.1 | 319 31.5 | 9.5 | 12 26.5 | 15.8 | 60.3 |
| | 19 | 107 41.6 | -21 55.5 | 334 0.0 | 9.4 | 12 42.4 | 15.8 | 60.3 |
| | 20 | 122 41.4 | -21 55.9 | 348 28.5 | 9.3 | 12 58.1 | 15.7 | 60.3 |
| | 21 | 137 41.2 | -21 56.2 | 2 56.8 | 9.2 | 13 13.9 | 15.7 | 60.4 |
| | 22 | 152 40.9 | -21 56.6 | 17 24.9 | 9.1 | 13 29.5 | 15.6 | 60.4 |
| | 23 | 167 40.7 | -21 57.0 | 31 53.0 | 9.0 | 13 45.2 | 15.5 | 60.4 |
| | | *v* -0.2 | SD 16.2 | *d* 0.4 | | SD 16.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **02 Tuesday** | 0 | 182 40.4 | -21 57.4 | 46 21.0 | 8.9 | 14 0.7 | 15.5 | 60.5 |
| | 1 | 197 40.2 | -21 57.7 | 60 48.9 | 8.7 | 14 16.2 | 15.4 | 60.5 |
| | 2 | 212 40.0 | -21 58.1 | 75 16.6 | 8.6 | 14 31.6 | 15.3 | 60.5 |
| | 3 | 227 39.7 | -21 58.5 | 89 44.2 | 8.5 | 14 46.9 | 15.3 | 60.6 |
| | 4 | 242 39.5 | -21 58.8 | 104 11.7 | 8.4 | 15 2.2 | 15.2 | 60.6 |
| | 5 | 257 39.3 | -21 59.2 | 118 39.1 | 8.3 | 15 17.4 | 15.1 | 60.6 |
| | 6 | 272 39.0 | -21 59.6 | 133 6.4 | 8.1 | 15 32.5 | 15.0 | 60.6 |
| | 7 | 287 38.8 | -21 59.9 | 147 33.5 | 8.0 | 15 47.6 | 15.0 | 60.7 |
| | 8 | 302 38.5 | -22 0.3 | 162 0.5 | 7.9 | 16 2.5 | 14.9 | 60.7 |
| | 9 | 317 38.3 | -22 0.7 | 176 27.4 | 7.8 | 16 17.4 | 14.8 | 60.7 |
| | 10 | 332 38.1 | -22 1.0 | 190 54.2 | 7.7 | 16 32.2 | 14.7 | 60.7 |
| | 11 | 347 37.8 | -22 1.4 | 205 20.9 | 7.5 | 16 46.9 | 14.6 | 60.8 |
| | 12 | 2 37.6 | -22 1.8 | 219 47.4 | 7.4 | 17 1.5 | 14.5 | 60.8 |
| | 13 | 17 37.3 | -22 2.1 | 234 13.8 | 7.3 | 17 16.0 | 14.4 | 60.8 |
| | 14 | 32 37.1 | -22 2.5 | 248 40.1 | 7.1 | 17 30.5 | 14.3 | 60.8 |
| | 15 | 47 36.8 | -22 2.8 | 263 6.2 | 7.0 | 17 44.8 | 14.2 | 60.9 |
| | 16 | 62 36.6 | -22 3.2 | 277 32.2 | 6.9 | 17 59.0 | 14.1 | 60.9 |
| | 17 | 77 36.4 | -22 3.6 | 291 58.1 | 6.8 | 18 13.1 | 14.0 | 60.9 |
| | 18 | 92 36.1 | -22 3.9 | 306 23.9 | 6.6 | 18 27.1 | 13.9 | 60.9 |
| | 19 | 107 35.9 | -22 4.3 | 320 49.5 | 6.5 | 18 41.1 | 13.8 | 61.0 |
| | 20 | 122 35.6 | -22 4.6 | 335 15.0 | 6.4 | 18 54.9 | 13.7 | 61.0 |
| | 21 | 137 35.4 | -22 5.0 | 349 40.4 | 6.2 | 19 8.5 | 13.6 | 61.0 |
| | 22 | 152 35.1 | -22 5.3 | 4 5.7 | 6.1 | 19 22.1 | 13.5 | 61.0 |
| | 23 | 167 34.9 | -22 5.7 | 18 30.8 | 6.0 | 19 35.6 | 13.3 | 61.0 |
| | | *v* -0.2 | SD 16.2 | *d* 0.4 | | SD 16.5 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:49 | 09:47 | ▬ | ▬ | 13:50 | 15:48 |
| 70 | 07:33 | 09:08 | ▬ | ▬ | 14:28 | 16:04 |
| 68 | 07:20 | 08:42 | 10:32 | 13:05 | 14:55 | 16:17 |
| 66 | 07:09 | 08:21 | 09:44 | 13:53 | 15:16 | 16:28 |
| 64 | 07:00 | 08:05 | 09:14 | 14:23 | 15:32 | 16:37 |
| 62 | 06:52 | 07:51 | 08:51 | 14:46 | 15:46 | 16:45 |
| 60 | 06:45 | 07:39 | 08:33 | 15:04 | 15:58 | 16:52 |
| 58 | 06:38 | 07:29 | 08:18 | 15:19 | 16:08 | 16:59 |
| 56 | 06:32 | 07:20 | 08:05 | 15:32 | 16:17 | 17:05 |
| 54 | 06:27 | 07:12 | 07:54 | 15:43 | 16:25 | 17:10 |
| 52 | 06:22 | 07:05 | 07:44 | 15:53 | 16:32 | 17:15 |
| 50 | 06:18 | 06:58 | 07:36 | 16:02 | 16:39 | 17:20 |
| 45 | 06:07 | 06:44 | 07:17 | 16:20 | 16:53 | 17:30 |
| 40 | 05:58 | 06:32 | 07:02 | 16:35 | 17:05 | 17:39 |
| 35 | 05:50 | 06:21 | 06:49 | 16:48 | 17:16 | 17:47 |
| 30 | 05:42 | 06:12 | 06:38 | 17:00 | 17:26 | 17:55 |
| 20 | 05:27 | 05:54 | 06:18 | 17:19 | 17:43 | 18:10 |
| 10 | 05:12 | 05:39 | 06:01 | 17:36 | 17:59 | 18:25 |
| 0 | 04:57 | 05:23 | 05:45 | 17:52 | 18:15 | 18:41 |
| -10 | 04:39 | 05:06 | 05:29 | 18:09 | 18:31 | 18:58 |
| -20 | 04:19 | 04:47 | 05:12 | 18:26 | 18:50 | 19:19 |
| -30 | 03:52 | 04:24 | 04:51 | 18:46 | 19:13 | 19:46 |
| -35 | 03:35 | 04:10 | 04:39 | 18:58 | 19:27 | 20:03 |
| -40 | 03:14 | 03:54 | 04:26 | 19:12 | 19:44 | 20:24 |
| -45 | 02:46 | 03:33 | 04:09 | 19:29 | 20:05 | 20:52 |
| -50 | 02:08 | 03:07 | 03:49 | 19:49 | 20:31 | 21:31 |
| -52 | 01:46 | 02:54 | 03:40 | 19:59 | 20:45 | 21:53 |
| -54 | 01:17 | 02:38 | 03:29 | 20:10 | 21:00 | 22:23 |
| -56 | 00:24 | 02:20 | 03:16 | 20:22 | 21:19 | 23:22 |
| -58 | //// | 01:57 | 03:02 | 20:37 | 21:43 | //// |
| -60 | //// | 01:25 | 02:45 | 20:54 | 22:15 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **30** | **01** | **02** | **30** | **01** | **02** |
| 72 | 12:50 | 12:07 | 10:53 | 01:37 | 04:03 | 07:09 |
| 70 | 12:55 | 12:24 | 11:37 | 01:36 | 03:49 | 06:27 |
| 68 | 13:00 | 12:38 | 12:06 | 01:34 | 03:38 | 05:59 |
| 66 | 13:04 | 12:49 | 12:29 | 01:33 | 03:29 | 05:38 |
| 64 | 13:08 | 12:58 | 12:47 | 01:32 | 03:22 | 05:22 |
| 62 | 13:11 | 13:06 | 13:02 | 01:31 | 03:15 | 05:08 |
| 60 | 13:13 | 13:13 | 13:14 | 01:30 | 03:10 | 04:57 |
| 58 | 13:16 | 13:20 | 13:25 | 01:29 | 03:05 | 04:47 |
| 56 | 13:18 | 13:25 | 13:35 | 01:29 | 03:01 | 04:38 |
| 54 | 13:20 | 13:30 | 13:44 | 01:28 | 02:57 | 04:31 |
| 52 | 13:22 | 13:35 | 13:51 | 01:28 | 02:53 | 04:24 |
| 50 | 13:23 | 13:39 | 13:58 | 01:27 | 02:50 | 04:18 |
| 45 | 13:27 | 13:48 | 14:13 | 01:26 | 02:43 | 04:05 |
| 40 | 13:30 | 13:55 | 14:25 | 01:25 | 02:38 | 03:54 |
| 35 | 13:32 | 14:02 | 14:36 | 01:25 | 02:33 | 03:45 |
| 30 | 13:35 | 14:08 | 14:45 | 01:24 | 02:29 | 03:37 |
| 20 | 13:39 | 14:18 | 15:02 | 01:23 | 02:21 | 03:23 |
| 10 | 13:42 | 14:27 | 15:16 | 01:22 | 02:15 | 03:11 |
| 0 | 13:46 | 14:35 | 15:29 | 01:21 | 02:09 | 03:00 |
| -10 | 13:49 | 14:44 | 15:43 | 01:20 | 02:03 | 02:49 |
| -20 | 13:53 | 14:53 | 15:58 | 01:19 | 01:57 | 02:38 |
| -30 | 13:57 | 15:04 | 16:15 | 01:18 | 01:49 | 02:24 |
| -35 | 14:00 | 15:10 | 16:25 | 01:17 | 01:45 | 02:17 |
| -40 | 14:03 | 15:17 | 16:36 | 01:16 | 01:41 | 02:08 |
| -45 | 14:06 | 15:26 | 16:49 | 01:15 | 01:35 | 01:58 |
| -50 | 14:10 | 15:36 | 17:06 | 01:14 | 01:29 | 01:46 |
| -52 | 14:12 | 15:40 | 17:14 | 01:14 | 01:26 | 01:40 |
| -54 | 14:14 | 15:46 | 17:23 | 01:13 | 01:23 | 01:34 |
| -56 | 14:16 | 15:51 | 17:33 | 01:13 | 01:19 | 01:27 |
| -58 | 14:19 | 15:58 | 17:44 | 01:12 | 01:15 | 01:19 |
| -60 | 14:22 | 16:05 | 17:57 | 01:11 | 01:11 | 01:11 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **30** | 11:26 | 11:15 | 11:49 | 19:57 | 07:33 | 10 | 68 |
| **01** | 11:04 | 10:53 | 11:49 | 20:48 | 08:22 | 11 | 78 |
| **02** | 10:42 | 10:30 | 11:49 | 21:43 | 09:15 | 12 | 87 |

## 2025 December 03, 04, 05 (Wed, Thu, Fri)

| | | Aries | Venus -3.9 | | Mars 1.3 | | Jupiter -2.5 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 03 Wednesday | 0 | 72 4.7 | 191 17.7 | -20 4.9 | 172 9.8 | -23 47.8 | 315 44.2 | 21 23.9 | 75 33.9 | -4 5.0 |
| | 1 | 87 7.1 | 206 16.9 | -20 5.6 | 187 10.2 | -23 47.9 | 330 46.8 | 21 24.0 | 90 36.3 | -4 4.9 |
| | 2 | 102 9.6 | 221 16.1 | -20 6.3 | 202 10.7 | -23 48.1 | 345 49.5 | 21 24.0 | 105 38.8 | -4 4.9 |
| | 3 | 117 12.1 | 236 15.3 | -20 7.0 | 217 11.1 | -23 48.2 | 0 52.1 | 21 24.1 | 120 41.2 | -4 4.9 |
| | 4 | 132 14.5 | 251 14.4 | -20 7.7 | 232 11.5 | -23 48.4 | 15 54.8 | 21 24.1 | 135 43.7 | -4 4.9 |
| | 5 | 147 17.0 | 266 13.6 | -20 8.4 | 247 12.0 | -23 48.5 | 30 57.4 | 21 24.1 | 150 46.1 | -4 4.9 |
| | 6 | 162 19.5 | 281 12.8 | -20 9.1 | 262 12.4 | -23 48.6 | 46 0.0 | 21 24.2 | 165 48.6 | -4 4.9 |
| | 7 | 177 21.9 | 296 12.0 | -20 9.8 | 277 12.9 | -23 48.8 | 61 2.7 | 21 24.2 | 180 51.0 | -4 4.8 |
| | 8 | 192 24.4 | 311 11.2 | -20 10.5 | 292 13.3 | -23 48.9 | 76 5.3 | 21 24.2 | 195 53.5 | -4 4.8 |
| | 9 | 207 26.9 | 326 10.4 | -20 11.2 | 307 13.7 | -23 49.1 | 91 8.0 | 21 24.3 | 210 55.9 | -4 4.8 |
| | 10 | 222 29.3 | 341 9.6 | -20 11.9 | 322 14.2 | -23 49.2 | 106 10.6 | 21 24.3 | 225 58.4 | -4 4.8 |
| | 11 | 237 31.8 | 356 8.8 | -20 12.6 | 337 14.6 | -23 49.4 | 121 13.3 | 21 24.3 | 241 0.8 | -4 4.8 |
| | 12 | 252 34.2 | 11 8.0 | -20 13.3 | 352 15.0 | -23 49.5 | 136 15.9 | 21 24.4 | 256 3.2 | -4 4.8 |
| | 13 | 267 36.7 | 26 7.2 | -20 14.0 | 7 15.5 | -23 49.7 | 151 18.6 | 21 24.4 | 271 5.7 | -4 4.7 |
| | 14 | 282 39.2 | 41 6.4 | -20 14.6 | 22 15.9 | -23 49.8 | 166 21.2 | 21 24.5 | 286 8.1 | -4 4.7 |
| | 15 | 297 41.6 | 56 5.6 | -20 15.3 | 37 16.4 | -23 50.0 | 181 23.9 | 21 24.5 | 301 10.6 | -4 4.7 |
| | 16 | 312 44.1 | 71 4.8 | -20 16.0 | 52 16.8 | -23 50.1 | 196 26.5 | 21 24.5 | 316 13.0 | -4 4.7 |
| | 17 | 327 46.6 | 86 4.0 | -20 16.7 | 67 17.2 | -23 50.2 | 211 29.2 | 21 24.6 | 331 15.5 | -4 4.7 |
| | 18 | 342 49.0 | 101 3.2 | -20 17.4 | 82 17.7 | -23 50.4 | 226 31.8 | 21 24.6 | 346 17.9 | -4 4.6 |
| | 19 | 357 51.5 | 116 2.4 | -20 18.1 | 97 18.1 | -23 50.5 | 241 34.5 | 21 24.7 | 1 20.4 | -4 4.6 |
| | 20 | 12 54.0 | 131 1.6 | -20 18.8 | 112 18.5 | -23 50.7 | 256 37.1 | 21 24.7 | 16 22.8 | -4 4.6 |
| | 21 | 27 56.4 | 146 0.7 | -20 19.4 | 127 19.0 | -23 50.8 | 271 39.8 | 21 24.7 | 31 25.3 | -4 4.6 |
| | 22 | 42 58.9 | 160 59.9 | -20 20.1 | 142 19.4 | -23 51.0 | 286 42.4 | 21 24.8 | 46 27.7 | -4 4.6 |
| | 23 | 58 1.4 | 175 59.1 | -20 20.8 | 157 19.8 | -23 51.1 | 301 45.1 | 21 24.8 | 61 30.1 | -4 4.6 |
| | | MP 19:10 | *v* -0.8 | *d* 0.7 | *v* 0.4 | *d* 0.1 | *v* 2.6 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 04 Thursday | 0 | 73 3.8 | 190 58.3 | -20 21.5 | 172 20.3 | -23 51.2 | 316 47.8 | 21 24.8 | 76 32.6 | -4 4.5 |
| | 1 | 88 6.3 | 205 57.5 | -20 22.1 | 187 20.7 | -23 51.4 | 331 50.4 | 21 24.9 | 91 35.0 | -4 4.5 |
| | 2 | 103 8.7 | 220 56.7 | -20 22.8 | 202 21.2 | -23 51.5 | 346 53.1 | 21 24.9 | 106 37.5 | -4 4.5 |
| | 3 | 118 11.2 | 235 55.9 | -20 23.5 | 217 21.6 | -23 51.6 | 1 55.7 | 21 25.0 | 121 39.9 | -4 4.5 |
| | 4 | 133 13.7 | 250 55.1 | -20 24.2 | 232 22.0 | -23 51.8 | 16 58.4 | 21 25.0 | 136 42.4 | -4 4.5 |
| | 5 | 148 16.1 | 265 54.2 | -20 24.8 | 247 22.5 | -23 51.9 | 32 1.0 | 21 25.0 | 151 44.8 | -4 4.4 |
| | 6 | 163 18.6 | 280 53.4 | -20 25.5 | 262 22.9 | -23 52.1 | 47 3.7 | 21 25.1 | 166 47.2 | -4 4.4 |
| | 7 | 178 21.1 | 295 52.6 | -20 26.2 | 277 23.3 | -23 52.2 | 62 6.3 | 21 25.1 | 181 49.7 | -4 4.4 |
| | 8 | 193 23.5 | 310 51.8 | -20 26.9 | 292 23.8 | -23 52.3 | 77 9.0 | 21 25.1 | 196 52.1 | -4 4.4 |
| | 9 | 208 26.0 | 325 51.0 | -20 27.5 | 307 24.2 | -23 52.5 | 92 11.7 | 21 25.2 | 211 54.6 | -4 4.4 |
| | 10 | 223 28.5 | 340 50.2 | -20 28.2 | 322 24.6 | -23 52.6 | 107 14.3 | 21 25.2 | 226 57.0 | -4 4.3 |
| | 11 | 238 30.9 | 355 49.4 | -20 28.9 | 337 25.1 | -23 52.7 | 122 17.0 | 21 25.3 | 241 59.5 | -4 4.3 |
| | 12 | 253 33.4 | 10 48.5 | -20 29.5 | 352 25.5 | -23 52.9 | 137 19.6 | 21 25.3 | 257 1.9 | -4 4.3 |
| | 13 | 268 35.9 | 25 47.7 | -20 30.2 | 7 25.9 | -23 53.0 | 152 22.3 | 21 25.3 | 272 4.3 | -4 4.3 |
| | 14 | 283 38.3 | 40 46.9 | -20 30.9 | 22 26.4 | -23 53.1 | 167 24.9 | 21 25.4 | 287 6.8 | -4 4.3 |
| | 15 | 298 40.8 | 55 46.1 | -20 31.5 | 37 26.8 | -23 53.3 | 182 27.6 | 21 25.4 | 302 9.2 | -4 4.2 |
| | 16 | 313 43.2 | 70 45.3 | -20 32.2 | 52 27.2 | -23 53.4 | 197 30.3 | 21 25.5 | 317 11.7 | -4 4.2 |
| | 17 | 328 45.7 | 85 44.4 | -20 32.8 | 67 27.7 | -23 53.5 | 212 32.9 | 21 25.5 | 332 14.1 | -4 4.2 |
| | 18 | 343 48.2 | 100 43.6 | -20 33.5 | 82 28.1 | -23 53.7 | 227 35.6 | 21 25.5 | 347 16.5 | -4 4.2 |
| | 19 | 358 50.6 | 115 42.8 | -20 34.2 | 97 28.5 | -23 53.8 | 242 38.2 | 21 25.6 | 2 19.0 | -4 4.2 |
| | 20 | 13 53.1 | 130 42.0 | -20 34.8 | 112 29.0 | -23 53.9 | 257 40.9 | 21 25.6 | 17 21.4 | -4 4.1 |
| | 21 | 28 55.6 | 145 41.2 | -20 35.5 | 127 29.4 | -23 54.1 | 272 43.6 | 21 25.7 | 32 23.9 | -4 4.1 |
| | 22 | 43 58.0 | 160 40.3 | -20 36.1 | 142 29.8 | -23 54.2 | 287 46.2 | 21 25.7 | 47 26.3 | -4 4.1 |
| | 23 | 59 0.5 | 175 39.5 | -20 36.8 | 157 30.3 | -23 54.3 | 302 48.9 | 21 25.7 | 62 28.7 | -4 4.1 |
| | | MP 19:06 | *v* -0.8 | *d* 0.7 | *v* 0.4 | *d* 0.1 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 05 Friday | 0 | 74 3.0 | 190 38.7 | -20 37.4 | 172 30.7 | -23 54.5 | 317 51.5 | 21 25.8 | 77 31.2 | -4 4.1 |
| | 1 | 89 5.4 | 205 37.9 | -20 38.1 | 187 31.1 | -23 54.6 | 332 54.2 | 21 25.8 | 92 33.6 | -4 4.0 |
| | 2 | 104 7.9 | 220 37.0 | -20 38.7 | 202 31.6 | -23 54.7 | 347 56.9 | 21 25.8 | 107 36.1 | -4 4.0 |
| | 3 | 119 10.4 | 235 36.2 | -20 39.4 | 217 32.0 | -23 54.8 | 2 59.5 | 21 25.9 | 122 38.5 | -4 4.0 |
| | 4 | 134 12.8 | 250 35.4 | -20 40.0 | 232 32.4 | -23 55.0 | 18 2.2 | 21 25.9 | 137 40.9 | -4 4.0 |
| | 5 | 149 15.3 | 265 34.6 | -20 40.7 | 247 32.8 | -23 55.1 | 33 4.8 | 21 26.0 | 152 43.4 | -4 4.0 |
| | 6 | 164 17.7 | 280 33.7 | -20 41.3 | 262 33.3 | -23 55.2 | 48 7.5 | 21 26.0 | 167 45.8 | -4 3.9 |
| | 7 | 179 20.2 | 295 32.9 | -20 42.0 | 277 33.7 | -23 55.3 | 63 10.2 | 21 26.0 | 182 48.3 | -4 3.9 |
| | 8 | 194 22.7 | 310 32.1 | -20 42.6 | 292 34.1 | -23 55.5 | 78 12.8 | 21 26.1 | 197 50.7 | -4 3.9 |
| | 9 | 209 25.1 | 325 31.3 | -20 43.3 | 307 34.6 | -23 55.6 | 93 15.5 | 21 26.1 | 212 53.1 | -4 3.9 |
| | 10 | 224 27.6 | 340 30.4 | -20 43.9 | 322 35.0 | -23 55.7 | 108 18.2 | 21 26.2 | 227 55.6 | -4 3.9 |
| | 11 | 239 30.1 | 355 29.6 | -20 44.6 | 337 35.4 | -23 55.8 | 123 20.8 | 21 26.2 | 242 58.0 | -4 3.8 |
| | 12 | 254 32.5 | 10 28.8 | -20 45.2 | 352 35.9 | -23 56.0 | 138 23.5 | 21 26.2 | 258 0.4 | -4 3.8 |
| | 13 | 269 35.0 | 25 27.9 | -20 45.8 | 7 36.3 | -23 56.1 | 153 26.2 | 21 26.3 | 273 2.9 | -4 3.8 |
| | 14 | 284 37.5 | 40 27.1 | -20 46.5 | 22 36.7 | -23 56.2 | 168 28.8 | 21 26.3 | 288 5.3 | -4 3.8 |
| | 15 | 299 39.9 | 55 26.3 | -20 47.1 | 37 37.1 | -23 56.3 | 183 31.5 | 21 26.4 | 303 7.8 | -4 3.7 |
| | 16 | 314 42.4 | 70 25.5 | -20 47.8 | 52 37.6 | -23 56.5 | 198 34.2 | 21 26.4 | 318 10.2 | -4 3.7 |
| | 17 | 329 44.9 | 85 24.6 | -20 48.4 | 67 38.0 | -23 56.6 | 213 36.8 | 21 26.4 | 333 12.6 | -4 3.7 |
| | 18 | 344 47.3 | 100 23.8 | -20 49.0 | 82 38.4 | -23 56.7 | 228 39.5 | 21 26.5 | 348 15.1 | -4 3.7 |
| | 19 | 359 49.8 | 115 23.0 | -20 49.7 | 97 38.9 | -23 56.8 | 243 42.2 | 21 26.5 | 3 17.5 | -4 3.7 |
| | 20 | 14 52.2 | 130 22.1 | -20 50.3 | 112 39.3 | -23 57.0 | 258 44.8 | 21 26.6 | 18 19.9 | -4 3.6 |
| | 21 | 29 54.7 | 145 21.3 | -20 50.9 | 127 39.7 | -23 57.1 | 273 47.5 | 21 26.6 | 33 22.4 | -4 3.6 |
| | 22 | 44 57.2 | 160 20.5 | -20 51.6 | 142 40.1 | -23 57.2 | 288 50.2 | 21 26.6 | 48 24.8 | -4 3.6 |
| | 23 | 59 59.6 | 175 19.6 | -20 52.2 | 157 40.6 | -23 57.3 | 303 52.8 | 21 26.7 | 63 27.2 | -4 3.6 |
| | | MP 19:02 | *v* -0.8 | *d* 0.7 | *v* 0.4 | *d* 0.1 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.1 |
| Achernar | 335 19.2 | -57 6.5 |
| Acrux | 172 59.6 | -63 14.3 |
| Adhara | 255 5.0 | -29 0.3 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.6 | 55 48.9 |
| Alkaid | 152 51.8 | 49 10.8 |
| Alnair | 27 32.1 | -46 50.3 |
| Alnilam | 275 36.7 | -1 11.1 |
| Alphard | 217 46.9 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.6 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.2 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.5 | -69 4.4 |
| Avior | 234 14.1 | -59 35.3 |
| Bellatrix | 278 21.8 | 6 22.4 |
| Betelgeuse | 270 51.0 | 7 24.8 |
| Canopus | 263 51.6 | -52 42.4 |
| Capella | 280 20.3 | 46 1.4 |
| Deneb | 49 25.6 | 45 22.6 |
| Denebola | 182 24.3 | 14 25.6 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.2 | 61 36.4 |
| Elnath | 278 0.6 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.2 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 51.1 | -57 15.2 |
| Gienah | 175 43.0 | -17 41.0 |
| Hadar | 148 35.5 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.2 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.9 | 74 2.7 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.7 | -69 49.1 |
| Mirfak | 308 26.7 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 4.9 | -56 39.3 |
| Pollux | 243 16.1 | 27 57.7 |
| Procyon | 244 49.8 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.6 | 11 50.4 |
| Rigel | 281 2.8 | -8 10.2 |
| Rigil Kent. | 139 39.9 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.9 | 56 41.1 |
| Shaula | 96 9.8 | -37 7.3 |
| Sirius | 258 25.3 | -16 45.0 |
| Spica | 158 21.8 | -11 17.7 |
| Suhail | 222 45.6 | -43 32.0 |
| Vega | 80 33.1 | 38 48.5 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 03 Wed | SHA | MP |
|---|---|---|
| Venus | 119 13.0 | 11:15 |
| Mars | 100 5.1 | 12:31 |
| Jupiter | 243 39.5 | 02:57 |
| Saturn | 3 29.2 | 18:55 |

| 04 Thu | SHA | MP |
|---|---|---|
| Venus | 117 54.5 | 11:17 |
| Mars | 99 16.5 | 12:30 |
| Jupiter | 243 43.9 | 02:52 |
| Saturn | 3 28.8 | 18:51 |

| 05 Fri | SHA | MP |
|---|---|---|
| Venus | 116 35.7 | 11:18 |
| Mars | 98 27.7 | 12:30 |
| Jupiter | 243 48.6 | 02:48 |
| Saturn | 3 28.2 | 18:47 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **03 Wednesday** | 0 | 182 34.7 | -22 6.0 | 32 55.8 | 5.9 | 19 48.9 | 13.2 | 61.1 |
| | 1 | 197 34.4 | -22 6.4 | 47 20.6 | 5.7 | 20 2.1 | 13.1 | 61.1 |
| | 2 | 212 34.2 | -22 6.8 | 61 45.3 | 5.6 | 20 15.2 | 13.0 | 61.1 |
| | 3 | 227 33.9 | -22 7.1 | 76 9.9 | 5.5 | 20 28.2 | 12.8 | 61.1 |
| | 4 | 242 33.7 | -22 7.5 | 90 34.4 | 5.3 | 20 41.0 | 12.7 | 61.1 |
| | 5 | 257 33.4 | -22 7.8 | 104 58.7 | 5.2 | 20 53.7 | 12.6 | 61.2 |
| | 6 | 272 33.2 | -22 8.2 | 119 22.9 | 5.1 | 21 6.3 | 12.4 | 61.2 |
| | 7 | 287 32.9 | -22 8.5 | 133 47.0 | 4.9 | 21 18.7 | 12.3 | 61.2 |
| | 8 | 302 32.7 | -22 8.8 | 148 10.9 | 4.8 | 21 31.0 | 12.2 | 61.2 |
| | 9 | 317 32.4 | -22 9.2 | 162 34.7 | 4.7 | 21 43.2 | 12.0 | 61.2 |
| | 10 | 332 32.2 | -22 9.5 | 176 58.4 | 4.5 | 21 55.2 | 11.9 | 61.2 |
| | 11 | 347 32.0 | -22 9.9 | 191 22.0 | 4.4 | 22 7.1 | 11.7 | 61.2 |
| | 12 | 2 31.7 | -22 10.2 | 205 45.4 | 4.3 | 22 18.8 | 11.6 | 61.3 |
| | 13 | 17 31.5 | -22 10.6 | 220 8.7 | 4.2 | 22 30.3 | 11.4 | 61.3 |
| | 14 | 32 31.2 | -22 10.9 | 234 31.8 | 4.0 | 22 41.8 | 11.3 | 61.3 |
| | 15 | 47 31.0 | -22 11.3 | 248 54.9 | 3.9 | 22 53.0 | 11.1 | 61.3 |
| | 16 | 62 30.7 | -22 11.6 | 263 17.8 | 3.8 | 23 4.1 | 10.9 | 61.3 |
| | 17 | 77 30.5 | -22 11.9 | 277 40.6 | 3.7 | 23 15.0 | 10.8 | 61.3 |
| | 18 | 92 30.2 | -22 12.3 | 292 3.2 | 3.5 | 23 25.8 | 10.6 | 61.3 |
| | 19 | 107 30.0 | -22 12.6 | 306 25.8 | 3.4 | 23 36.4 | 10.4 | 61.3 |
| | 20 | 122 29.7 | -22 13.0 | 320 48.2 | 3.3 | 23 46.9 | 10.3 | 61.4 |
| | 21 | 137 29.5 | -22 13.3 | 335 10.5 | 3.2 | 23 57.1 | 10.1 | 61.4 |
| | 22 | 152 29.2 | -22 13.6 | 349 32.7 | 3.1 | 24 7.2 | 9.9 | 61.4 |
| | 23 | 167 29.0 | -22 14.0 | 3 54.8 | 3.0 | 24 17.2 | 9.7 | 61.4 |
| | | *v* -0.2 | SD 16.2 | *d* 0.4 | | SD 16.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **04 Thursday** | 0 | 182 28.7 | -22 14.3 | 18 16.7 | 2.8 | 24 26.9 | 9.6 | 61.4 |
| | 1 | 197 28.5 | -22 14.6 | 32 38.6 | 2.7 | 24 36.5 | 9.4 | 61.4 |
| | 2 | 212 28.2 | -22 15.0 | 47 0.3 | 2.6 | 24 45.9 | 9.2 | 61.4 |
| | 3 | 227 28.0 | -22 15.3 | 61 21.9 | 2.5 | 24 55.1 | 9.0 | 61.4 |
| | 4 | 242 27.7 | -22 15.6 | 75 43.4 | 2.4 | 25 4.1 | 8.8 | 61.4 |
| | 5 | 257 27.5 | -22 16.0 | 90 4.8 | 2.3 | 25 12.9 | 8.6 | 61.4 |
| | 6 | 272 27.2 | -22 16.3 | 104 26.1 | 2.2 | 25 21.6 | 8.5 | 61.4 |
| | 7 | 287 27.0 | -22 16.6 | 118 47.3 | 2.1 | 25 30.0 | 8.3 | 61.4 |
| | 8 | 302 26.7 | -22 17.0 | 133 8.4 | 2.0 | 25 38.3 | 8.1 | 61.4 |
| | 9 | 317 26.5 | -22 17.3 | 147 29.4 | 1.9 | 25 46.4 | 7.9 | 61.4 |
| | 10 | 332 26.2 | -22 17.6 | 161 50.3 | 1.8 | 25 54.3 | 7.7 | 61.4 |
| | 11 | 347 26.0 | -22 17.9 | 176 11.1 | 1.7 | 26 1.9 | 7.5 | 61.4 |
| | 12 | 2 25.7 | -22 18.3 | 190 31.8 | 1.6 | 26 9.4 | 7.3 | 61.4 |
| | 13 | 17 25.4 | -22 18.6 | 204 52.4 | 1.5 | 26 16.7 | 7.1 | 61.4 |
| | 14 | 32 25.2 | -22 18.9 | 219 13.0 | 1.5 | 26 23.7 | 6.9 | 61.4 |
| | 15 | 47 24.9 | -22 19.2 | 233 33.4 | 1.4 | 26 30.6 | 6.7 | 61.4 |
| | 16 | 62 24.7 | -22 19.6 | 247 53.8 | 1.3 | 26 37.3 | 6.5 | 61.4 |
| | 17 | 77 24.4 | -22 19.9 | 262 14.1 | 1.2 | 26 43.7 | 6.2 | 61.4 |
| | 18 | 92 24.2 | -22 20.2 | 276 34.3 | 1.2 | 26 50.0 | 6.0 | 61.4 |
| | 19 | 107 23.9 | -22 20.5 | 290 54.5 | 1.1 | 26 56.0 | 5.8 | 61.4 |
| | 20 | 122 23.7 | -22 20.9 | 305 14.6 | 1.0 | 27 1.8 | 5.6 | 61.4 |
| | 21 | 137 23.4 | -22 21.2 | 319 34.6 | 1.0 | 27 7.4 | 5.4 | 61.4 |
| | 22 | 152 23.2 | -22 21.5 | 333 54.6 | 0.9 | 27 12.8 | 5.2 | 61.4 |
| | 23 | 167 22.9 | -22 21.8 | 348 14.5 | 0.8 | 27 18.0 | 5.0 | 61.4 |
| | | *v* -0.3 | SD 16.2 | *d* 0.3 | | SD 16.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **05 Friday** | 0 | 182 22.6 | -22 22.1 | 2 34.3 | 0.8 | 27 23.0 | 4.7 | 61.4 |
| | 1 | 197 22.4 | -22 22.4 | 16 54.1 | 0.7 | 27 27.7 | 4.5 | 61.4 |
| | 2 | 212 22.1 | -22 22.8 | 31 13.9 | 0.7 | 27 32.2 | 4.3 | 61.4 |
| | 3 | 227 21.9 | -22 23.1 | 45 33.6 | 0.7 | 27 36.5 | 4.1 | 61.3 |
| | 4 | 242 21.6 | -22 23.4 | 59 53.2 | 0.6 | 27 40.6 | 3.9 | 61.3 |
| | 5 | 257 21.4 | -22 23.7 | 74 12.9 | 0.6 | 27 44.5 | 3.6 | 61.3 |
| | 6 | 272 21.1 | -22 24.0 | 88 32.5 | 0.6 | 27 48.1 | 3.4 | 61.3 |
| | 7 | 287 20.8 | -22 24.3 | 102 52.0 | 0.5 | 27 51.5 | 3.2 | 61.3 |
| | 8 | 302 20.6 | -22 24.6 | 117 11.6 | 0.5 | 27 54.7 | 3.0 | 61.3 |
| | 9 | 317 20.3 | -22 25.0 | 131 31.1 | 0.5 | 27 57.7 | 2.7 | 61.3 |
| | 10 | 332 20.1 | -22 25.3 | 145 50.6 | 0.5 | 28 0.4 | 2.5 | 61.3 |
| | 11 | 347 19.8 | -22 25.6 | 160 10.0 | 0.5 | 28 3.0 | 2.3 | 61.3 |
| | 12 | 2 19.5 | -22 25.9 | 174 29.5 | 0.5 | 28 5.3 | 2.1 | 61.2 |
| | 13 | 17 19.3 | -22 26.2 | 188 49.0 | 0.5 | 28 7.3 | 1.8 | 61.2 |
| | 14 | 32 19.0 | -22 26.5 | 203 8.4 | 0.5 | 28 9.2 | 1.6 | 61.2 |
| | 15 | 47 18.8 | -22 26.8 | 217 27.9 | 0.5 | 28 10.8 | 1.4 | 61.2 |
| | 16 | 62 18.5 | -22 27.1 | 231 47.3 | 0.5 | 28 12.2 | 1.2 | 61.2 |
| | 17 | 77 18.3 | -22 27.4 | 246 6.8 | 0.5 | 28 13.4 | 0.9 | 61.2 |
| | 18 | 92 18.0 | -22 27.7 | 260 26.3 | 0.5 | 28 14.3 | 0.7 | 61.1 |
| | 19 | 107 17.7 | -22 28.0 | 274 45.7 | 0.5 | 28 15.1 | 0.5 | 61.1 |
| | 20 | 122 17.5 | -22 28.3 | 289 5.3 | 0.5 | 28 15.6 | 0.3 | 61.1 |
| | 21 | 137 17.2 | -22 28.6 | 303 24.8 | 0.6 | 28 15.8 | 0.0 | 61.1 |
| | 22 | 152 16.9 | -22 28.9 | 317 44.3 | 0.6 | 28 15.9 | -0.2 | 61.1 |
| | 23 | 167 16.7 | -22 29.2 | 332 3.9 | 0.6 | 28 15.7 | -0.4 | 61.0 |
| | | *v* -0.3 | SD 16.2 | *d* 0.3 | | SD 16.7 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 07:57 | 10:00 | ▬ | ▬ | 13:39 | 15:42 |
| 70 | 07:40 | 09:18 | ▬ | ▬ | 14:21 | 15:59 |
| 68 | 07:26 | 08:50 | 10:50 | 12:49 | 14:50 | 16:13 |
| 66 | 07:15 | 08:28 | 09:55 | 13:45 | 15:11 | 16:24 |
| 64 | 07:05 | 08:11 | 09:22 | 14:17 | 15:28 | 16:34 |
| 62 | 06:57 | 07:57 | 08:58 | 14:41 | 15:43 | 16:43 |
| 60 | 06:49 | 07:44 | 08:39 | 15:00 | 15:55 | 16:50 |
| 58 | 06:42 | 07:34 | 08:24 | 15:16 | 16:06 | 16:57 |
| 56 | 06:36 | 07:25 | 08:10 | 15:29 | 16:15 | 17:03 |
| 54 | 06:31 | 07:16 | 07:59 | 15:41 | 16:23 | 17:09 |
| 52 | 06:26 | 07:09 | 07:49 | 15:51 | 16:31 | 17:14 |
| 50 | 06:21 | 07:02 | 07:40 | 16:00 | 16:38 | 17:18 |
| 45 | 06:10 | 06:47 | 07:20 | 16:19 | 16:52 | 17:29 |
| 40 | 06:01 | 06:35 | 07:05 | 16:35 | 17:05 | 17:39 |
| 35 | 05:52 | 06:24 | 06:51 | 16:48 | 17:16 | 17:47 |
| 30 | 05:44 | 06:14 | 06:40 | 17:00 | 17:26 | 17:55 |
| 20 | 05:29 | 05:56 | 06:20 | 17:20 | 17:43 | 18:11 |
| 10 | 05:14 | 05:40 | 06:03 | 17:37 | 18:00 | 18:26 |
| 0 | 04:58 | 05:24 | 05:46 | 17:54 | 18:16 | 18:42 |
| -10 | 04:40 | 05:07 | 05:30 | 18:10 | 18:33 | 19:00 |
| -20 | 04:19 | 04:48 | 05:12 | 18:28 | 18:52 | 19:21 |
| -30 | 03:51 | 04:24 | 04:51 | 18:49 | 19:16 | 19:49 |
| -35 | 03:34 | 04:10 | 04:39 | 19:01 | 19:30 | 20:06 |
| -40 | 03:12 | 03:53 | 04:25 | 19:15 | 19:47 | 20:28 |
| -45 | 02:44 | 03:32 | 04:08 | 19:32 | 20:08 | 20:56 |
| -50 | 02:04 | 03:05 | 03:47 | 19:53 | 20:36 | 21:37 |
| -52 | 01:41 | 02:51 | 03:37 | 20:03 | 20:50 | 22:00 |
| -54 | 01:09 | 02:35 | 03:26 | 20:14 | 21:06 | 22:33 |
| -56 | //// | 02:16 | 03:13 | 20:27 | 21:25 | //// |
| -58 | //// | 01:51 | 02:58 | 20:42 | 21:50 | //// |
| -60 | //// | 01:16 | 02:40 | 21:01 | 22:26 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **03** | **04** | **05** | **03** | **04** | **05** |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 68 | 10:39 | ▭ | ▭ | 09:27 | ▭ | ▭ |
| 66 | 11:53 | ▭ | ▭ | 08:14 | ▭ | ▭ |
| 64 | 12:30 | 11:35 | ▭ | 07:38 | 10:46 | ▭ |
| 62 | 12:57 | 12:52 | 12:40 | 07:12 | 09:30 | 12:03 |
| 60 | 13:18 | 13:29 | 14:00 | 06:52 | 08:54 | 10:44 |
| 58 | 13:36 | 13:55 | 14:36 | 06:36 | 08:28 | 10:08 |
| 56 | 13:50 | 14:16 | 15:02 | 06:22 | 08:07 | 09:42 |
| 54 | 14:03 | 14:33 | 15:23 | 06:10 | 07:50 | 09:21 |
| 52 | 14:14 | 14:48 | 15:40 | 05:59 | 07:36 | 09:04 |
| 50 | 14:24 | 15:01 | 15:55 | 05:50 | 07:23 | 08:49 |
| 45 | 14:45 | 15:28 | 16:26 | 05:30 | 06:57 | 08:19 |
| 40 | 15:02 | 15:50 | 16:49 | 05:15 | 06:37 | 07:55 |
| 35 | 15:17 | 16:08 | 17:09 | 05:01 | 06:20 | 07:36 |
| 30 | 15:30 | 16:23 | 17:25 | 04:50 | 06:05 | 07:20 |
| 20 | 15:52 | 16:49 | 17:54 | 04:30 | 05:40 | 06:52 |
| 10 | 16:11 | 17:12 | 18:18 | 04:13 | 05:19 | 06:28 |
| 0 | 16:29 | 17:33 | 18:41 | 03:57 | 04:59 | 06:05 |
| -10 | 16:47 | 17:55 | 19:04 | 03:41 | 04:39 | 05:43 |
| -20 | 17:06 | 18:18 | 19:28 | 03:24 | 04:18 | 05:19 |
| -30 | 17:29 | 18:45 | 19:57 | 03:05 | 03:53 | 04:51 |
| -35 | 17:43 | 19:01 | 20:14 | 02:54 | 03:39 | 04:35 |
| -40 | 17:58 | 19:19 | 20:34 | 02:41 | 03:22 | 04:15 |
| -45 | 18:17 | 19:42 | 20:58 | 02:26 | 03:03 | 03:52 |
| -50 | 18:40 | 20:11 | 21:29 | 02:07 | 02:38 | 03:23 |
| -52 | 18:51 | 20:25 | 21:44 | 01:59 | 02:26 | 03:08 |
| -54 | 19:04 | 20:42 | 22:02 | 01:49 | 02:13 | 02:51 |
| -56 | 19:19 | 21:02 | 22:24 | 01:39 | 01:57 | 02:31 |
| -58 | 19:37 | 21:26 | 22:52 | 01:26 | 01:39 | 02:06 |
| -60 | 19:58 | 22:00 | 23:32 | 01:12 | 01:17 | 01:33 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **03** | 10:19 | 10:07 | 11:50 | 22:44 | 10:13 | 13 | 94 |
| **04** | 09:55 | 09:43 | 11:50 | 23:49 | 11:16 | 14 | 99 |
| **05** | 09:31 | 09:18 | 11:51 | –:– | 12:23 | 15 | 100 |

## 2025 December 06, 07, 08 (Sat, Sun, Mon)

| | | Aries | Venus -3.9 | | Mars 1.3 | | Jupiter -2.6 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 06 Saturday | 0 | 75 2.1 | 190 18.8 | -20 52.8 | 172 41.0 | -23 57.4 | 318 55.5 | 21 26.7 | 78 29.7 | -4 3.5 |
| | 1 | 90 4.6 | 205 18.0 | -20 53.4 | 187 41.4 | -23 57.5 | 333 58.2 | 21 26.8 | 93 32.1 | -4 3.5 |
| | 2 | 105 7.0 | 220 17.1 | -20 54.1 | 202 41.9 | -23 57.7 | 349 0.8 | 21 26.8 | 108 34.6 | -4 3.5 |
| | 3 | 120 9.5 | 235 16.3 | -20 54.7 | 217 42.3 | -23 57.8 | 4 3.5 | 21 26.8 | 123 37.0 | -4 3.5 |
| | 4 | 135 12.0 | 250 15.5 | -20 55.3 | 232 42.7 | -23 57.9 | 19 6.2 | 21 26.9 | 138 39.4 | -4 3.5 |
| | 5 | 150 14.4 | 265 14.6 | -20 55.9 | 247 43.1 | -23 58.0 | 34 8.8 | 21 26.9 | 153 41.9 | -4 3.4 |
| | 6 | 165 16.9 | 280 13.8 | -20 56.6 | 262 43.6 | -23 58.1 | 49 11.5 | 21 27.0 | 168 44.3 | -4 3.4 |
| | 7 | 180 19.4 | 295 12.9 | -20 57.2 | 277 44.0 | -23 58.3 | 64 14.2 | 21 27.0 | 183 46.7 | -4 3.4 |
| | 8 | 195 21.8 | 310 12.1 | -20 57.8 | 292 44.4 | -23 58.4 | 79 16.9 | 21 27.1 | 198 49.2 | -4 3.4 |
| | 9 | 210 24.3 | 325 11.3 | -20 58.4 | 307 44.8 | -23 58.5 | 94 19.5 | 21 27.1 | 213 51.6 | -4 3.3 |
| | 10 | 225 26.7 | 340 10.4 | -20 59.0 | 322 45.3 | -23 58.6 | 109 22.2 | 21 27.1 | 228 54.0 | -4 3.3 |
| | 11 | 240 29.2 | 355 9.6 | -20 59.7 | 337 45.7 | -23 58.7 | 124 24.9 | 21 27.2 | 243 56.5 | -4 3.3 |
| | 12 | 255 31.7 | 10 8.7 | -21 0.3 | 352 46.1 | -23 58.8 | 139 27.6 | 21 27.2 | 258 58.9 | -4 3.3 |
| | 13 | 270 34.1 | 25 7.9 | -21 0.9 | 7 46.5 | -23 58.9 | 154 30.2 | 21 27.3 | 274 1.3 | -4 3.2 |
| | 14 | 285 36.6 | 40 7.1 | -21 1.5 | 22 47.0 | -23 59.1 | 169 32.9 | 21 27.3 | 289 3.8 | -4 3.2 |
| | 15 | 300 39.1 | 55 6.2 | -21 2.1 | 37 47.4 | -23 59.2 | 184 35.6 | 21 27.3 | 304 6.2 | -4 3.2 |
| | 16 | 315 41.5 | 70 5.4 | -21 2.7 | 52 47.8 | -23 59.3 | 199 38.2 | 21 27.4 | 319 8.6 | -4 3.2 |
| | 17 | 330 44.0 | 85 4.5 | -21 3.3 | 67 48.2 | -23 59.4 | 214 40.9 | 21 27.4 | 334 11.1 | -4 3.2 |
| | 18 | 345 46.5 | 100 3.7 | -21 4.0 | 82 48.7 | -23 59.5 | 229 43.6 | 21 27.5 | 349 13.5 | -4 3.1 |
| | 19 | 0 48.9 | 115 2.8 | -21 4.6 | 97 49.1 | -23 59.6 | 244 46.3 | 21 27.5 | 4 15.9 | -4 3.1 |
| | 20 | 15 51.4 | 130 2.0 | -21 5.2 | 112 49.5 | -23 59.7 | 259 48.9 | 21 27.5 | 19 18.4 | -4 3.1 |
| | 21 | 30 53.9 | 145 1.2 | -21 5.8 | 127 49.9 | -23 59.8 | 274 51.6 | 21 27.6 | 34 20.8 | -4 3.1 |
| | 22 | 45 56.3 | 160 0.3 | -21 6.4 | 142 50.4 | -23 59.9 | 289 54.3 | 21 27.6 | 49 23.2 | -4 3.0 |
| | 23 | 60 58.8 | 174 59.5 | -21 7.0 | 157 50.8 | -24 0.0 | 304 57.0 | 21 27.7 | 64 25.6 | -4 3.0 |
| | | MP 18:58 | *v* -0.8 | *d* 0.6 | *v* 0.4 | *d* 0.1 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 07 Sunday | 0 | 76 1.2 | 189 58.6 | -21 7.6 | 172 51.2 | -24 0.2 | 319 59.6 | 21 27.7 | 79 28.1 | -4 3.0 |
| | 1 | 91 3.7 | 204 57.8 | -21 8.2 | 187 51.6 | -24 0.3 | 335 2.3 | 21 27.8 | 94 30.5 | -4 3.0 |
| | 2 | 106 6.2 | 219 56.9 | -21 8.8 | 202 52.1 | -24 0.4 | 350 5.0 | 21 27.8 | 109 32.9 | -4 2.9 |
| | 3 | 121 8.6 | 234 56.1 | -21 9.4 | 217 52.5 | -24 0.5 | 5 7.7 | 21 27.8 | 124 35.4 | -4 2.9 |
| | 4 | 136 11.1 | 249 55.2 | -21 10.0 | 232 52.9 | -24 0.6 | 20 10.4 | 21 27.9 | 139 37.8 | -4 2.9 |
| | 5 | 151 13.6 | 264 54.4 | -21 10.6 | 247 53.3 | -24 0.7 | 35 13.0 | 21 27.9 | 154 40.2 | -4 2.9 |
| | 6 | 166 16.0 | 279 53.5 | -21 11.2 | 262 53.8 | -24 0.8 | 50 15.7 | 21 28.0 | 169 42.7 | -4 2.8 |
| | 7 | 181 18.5 | 294 52.7 | -21 11.8 | 277 54.2 | -24 0.9 | 65 18.4 | 21 28.0 | 184 45.1 | -4 2.8 |
| | 8 | 196 21.0 | 309 51.8 | -21 12.4 | 292 54.6 | -24 1.0 | 80 21.1 | 21 28.0 | 199 47.5 | -4 2.8 |
| | 9 | 211 23.4 | 324 51.0 | -21 13.0 | 307 55.0 | -24 1.1 | 95 23.7 | 21 28.1 | 214 50.0 | -4 2.8 |
| | 10 | 226 25.9 | 339 50.1 | -21 13.6 | 322 55.4 | -24 1.2 | 110 26.4 | 21 28.1 | 229 52.4 | -4 2.7 |
| | 11 | 241 28.4 | 354 49.3 | -21 14.2 | 337 55.9 | -24 1.3 | 125 29.1 | 21 28.2 | 244 54.8 | -4 2.7 |
| | 12 | 256 30.8 | 9 48.4 | -21 14.7 | 352 56.3 | -24 1.4 | 140 31.8 | 21 28.2 | 259 57.2 | -4 2.7 |
| | 13 | 271 33.3 | 24 47.6 | -21 15.3 | 7 56.7 | -24 1.5 | 155 34.5 | 21 28.3 | 274 59.7 | -4 2.7 |
| | 14 | 286 35.7 | 39 46.7 | -21 15.9 | 22 57.1 | -24 1.6 | 170 37.2 | 21 28.3 | 290 2.1 | -4 2.6 |
| | 15 | 301 38.2 | 54 45.9 | -21 16.5 | 37 57.6 | -24 1.7 | 185 39.8 | 21 28.3 | 305 4.5 | -4 2.6 |
| | 16 | 316 40.7 | 69 45.0 | -21 17.1 | 52 58.0 | -24 1.8 | 200 42.5 | 21 28.4 | 320 7.0 | -4 2.6 |
| | 17 | 331 43.1 | 84 44.2 | -21 17.7 | 67 58.4 | -24 1.9 | 215 45.2 | 21 28.4 | 335 9.4 | -4 2.6 |
| | 18 | 346 45.6 | 99 43.3 | -21 18.3 | 82 58.8 | -24 2.0 | 230 47.9 | 21 28.5 | 350 11.8 | -4 2.5 |
| | 19 | 1 48.1 | 114 42.5 | -21 18.9 | 97 59.2 | -24 2.1 | 245 50.6 | 21 28.5 | 5 14.2 | -4 2.5 |
| | 20 | 16 50.5 | 129 41.6 | -21 19.4 | 112 59.7 | -24 2.2 | 260 53.2 | 21 28.6 | 20 16.7 | -4 2.5 |
| | 21 | 31 53.0 | 144 40.8 | -21 20.0 | 128 0.1 | -24 2.3 | 275 55.9 | 21 28.6 | 35 19.1 | -4 2.5 |
| | 22 | 46 55.5 | 159 39.9 | -21 20.6 | 143 0.5 | -24 2.4 | 290 58.6 | 21 28.6 | 50 21.5 | -4 2.4 |
| | 23 | 61 57.9 | 174 39.0 | -21 21.2 | 158 0.9 | -24 2.5 | 306 1.3 | 21 28.7 | 65 24.0 | -4 2.4 |
| | | MP 18:54 | *v* -0.8 | *d* 0.6 | *v* 0.4 | *d* 0.1 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 08 Monday | 0 | 77 0.4 | 189 38.2 | -21 21.8 | 173 1.3 | -24 2.6 | 321 4.0 | 21 28.7 | 80 26.4 | -4 2.4 |
| | 1 | 92 2.9 | 204 37.3 | -21 22.3 | 188 1.8 | -24 2.7 | 336 6.7 | 21 28.8 | 95 28.8 | -4 2.4 |
| | 2 | 107 5.3 | 219 36.5 | -21 22.9 | 203 2.2 | -24 2.8 | 351 9.3 | 21 28.8 | 110 31.2 | -4 2.3 |
| | 3 | 122 7.8 | 234 35.6 | -21 23.5 | 218 2.6 | -24 2.9 | 6 12.0 | 21 28.9 | 125 33.7 | -4 2.3 |
| | 4 | 137 10.2 | 249 34.8 | -21 24.1 | 233 3.0 | -24 3.0 | 21 14.7 | 21 28.9 | 140 36.1 | -4 2.3 |
| | 5 | 152 12.7 | 264 33.9 | -21 24.6 | 248 3.4 | -24 3.1 | 36 17.4 | 21 28.9 | 155 38.5 | -4 2.3 |
| | 6 | 167 15.2 | 279 33.0 | -21 25.2 | 263 3.9 | -24 3.2 | 51 20.1 | 21 29.0 | 170 40.9 | -4 2.2 |
| | 7 | 182 17.6 | 294 32.2 | -21 25.8 | 278 4.3 | -24 3.3 | 66 22.8 | 21 29.0 | 185 43.4 | -4 2.2 |
| | 8 | 197 20.1 | 309 31.3 | -21 26.3 | 293 4.7 | -24 3.4 | 81 25.5 | 21 29.1 | 200 45.8 | -4 2.2 |
| | 9 | 212 22.6 | 324 30.5 | -21 26.9 | 308 5.1 | -24 3.5 | 96 28.1 | 21 29.1 | 215 48.2 | -4 2.2 |
| | 10 | 227 25.0 | 339 29.6 | -21 27.5 | 323 5.5 | -24 3.6 | 111 30.8 | 21 29.2 | 230 50.6 | -4 2.1 |
| | 11 | 242 27.5 | 354 28.7 | -21 28.0 | 338 6.0 | -24 3.7 | 126 33.5 | 21 29.2 | 245 53.1 | -4 2.1 |
| | 12 | 257 30.0 | 9 27.9 | -21 28.6 | 353 6.4 | -24 3.8 | 141 36.2 | 21 29.2 | 260 55.5 | -4 2.1 |
| | 13 | 272 32.4 | 24 27.0 | -21 29.2 | 8 6.8 | -24 3.9 | 156 38.9 | 21 29.3 | 275 57.9 | -4 2.0 |
| | 14 | 287 34.9 | 39 26.2 | -21 29.7 | 23 7.2 | -24 4.0 | 171 41.6 | 21 29.3 | 291 0.3 | -4 2.0 |
| | 15 | 302 37.3 | 54 25.3 | -21 30.3 | 38 7.6 | -24 4.0 | 186 44.3 | 21 29.4 | 306 2.8 | -4 2.0 |
| | 16 | 317 39.8 | 69 24.4 | -21 30.9 | 53 8.0 | -24 4.1 | 201 47.0 | 21 29.4 | 321 5.2 | -4 2.0 |
| | 17 | 332 42.3 | 84 23.6 | -21 31.4 | 68 8.5 | -24 4.2 | 216 49.7 | 21 29.5 | 336 7.6 | -4 1.9 |
| | 18 | 347 44.7 | 99 22.7 | -21 32.0 | 83 8.9 | -24 4.3 | 231 52.3 | 21 29.5 | 351 10.0 | -4 1.9 |
| | 19 | 2 47.2 | 114 21.8 | -21 32.5 | 98 9.3 | -24 4.4 | 246 55.0 | 21 29.5 | 6 12.5 | -4 1.9 |
| | 20 | 17 49.7 | 129 21.0 | -21 33.1 | 113 9.7 | -24 4.5 | 261 57.7 | 21 29.6 | 21 14.9 | -4 1.9 |
| | 21 | 32 52.1 | 144 20.1 | -21 33.6 | 128 10.1 | -24 4.6 | 277 0.4 | 21 29.6 | 36 17.3 | -4 1.8 |
| | 22 | 47 54.6 | 159 19.2 | -21 34.2 | 143 10.6 | -24 4.7 | 292 3.1 | 21 29.7 | 51 19.7 | -4 1.8 |
| | 23 | 62 57.1 | 174 18.4 | -21 34.7 | 158 11.0 | -24 4.8 | 307 5.8 | 21 29.7 | 66 22.2 | -4 1.8 |
| | | MP 18:50 | *v* -0.9 | *d* 0.6 | *v* 0.4 | *d* 0.1 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.1 |
| Achernar | 335 19.2 | -57 6.5 |
| Acrux | 172 59.6 | -63 14.3 |
| Adhara | 255 4.9 | -29 0.3 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.6 | 55 48.9 |
| Alkaid | 152 51.8 | 49 10.8 |
| Alnair | 27 32.1 | -46 50.3 |
| Alnilam | 275 36.6 | -1 11.1 |
| Alphard | 217 46.9 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.6 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.2 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.4 | -69 4.4 |
| Avior | 234 14.0 | -59 35.3 |
| Bellatrix | 278 21.7 | 6 22.4 |
| Betelgeuse | 270 50.9 | 7 24.7 |
| Canopus | 263 51.5 | -52 42.4 |
| Capella | 280 20.3 | 46 1.4 |
| Deneb | 49 25.6 | 45 22.6 |
| Denebola | 182 24.3 | 14 25.6 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.1 | 61 36.4 |
| Elnath | 278 0.5 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.2 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 51.1 | -57 15.2 |
| Gienah | 175 42.9 | -17 41.0 |
| Hadar | 148 35.5 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.3 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.8 | 74 2.7 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.1 | -36 29.7 |
| Miaplacidus | 221 37.7 | -69 49.1 |
| Mirfak | 308 26.7 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 4.9 | -56 39.3 |
| Pollux | 243 16.1 | 27 57.7 |
| Procyon | 244 49.8 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.6 | 11 50.4 |
| Rigel | 281 2.8 | -8 10.2 |
| Rigil Kent. | 139 39.8 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 29.9 | 56 41.1 |
| Shaula | 96 9.8 | -37 7.3 |
| Sirius | 258 25.3 | -16 45.0 |
| Spica | 158 21.7 | -11 17.7 |
| Suhail | 222 45.6 | -43 32.0 |
| Vega | 80 33.1 | 38 48.5 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 06 Sat | SHA | MP |
|---|---|---|
| Venus | 115 16.7 | 11:19 |
| Mars | 97 38.9 | 12:29 |
| Jupiter | 243 53.4 | 02:44 |
| Saturn | 3 27.6 | 18:43 |

| 07 Sun | SHA | MP |
|---|---|---|
| Venus | 113 57.4 | 11:21 |
| Mars | 96 50.0 | 12:28 |
| Jupiter | 243 58.4 | 02:40 |
| Saturn | 3 26.8 | 18:39 |

| 08 Mon | SHA | MP |
|---|---|---|
| Venus | 112 37.8 | 11:22 |
| Mars | 96 1.0 | 12:28 |
| Jupiter | 244 3.6 | 02:35 |
| Saturn | 3 26.0 | 18:35 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **06 Saturday** | 0 | 182 16.4 | -22 29.5 | 346 23.6 | 0.7 | 28 15.3 | -0.6 | 61.0 |
| | 1 | 197 16.2 | -22 29.8 | 0 43.2 | 0.7 | 28 14.7 | -0.8 | 61.0 |
| | 2 | 212 15.9 | -22 30.1 | 15 2.9 | 0.7 | 28 13.8 | -1.1 | 61.0 |
| | 3 | 227 15.6 | -22 30.4 | 29 22.7 | 0.8 | 28 12.8 | -1.3 | 61.0 |
| | 4 | 242 15.4 | -22 30.7 | 43 42.5 | 0.9 | 28 11.5 | -1.5 | 60.9 |
| | 5 | 257 15.1 | -22 31.0 | 58 2.3 | 0.9 | 28 10.0 | -1.7 | 60.9 |
| | 6 | 272 14.8 | -22 31.3 | 72 22.2 | 1.0 | 28 8.3 | -1.9 | 60.9 |
| | 7 | 287 14.6 | -22 31.6 | 86 42.2 | 1.0 | 28 6.3 | -2.2 | 60.9 |
| | 8 | 302 14.3 | -22 31.9 | 101 2.2 | 1.1 | 28 4.2 | -2.4 | 60.8 |
| | 9 | 317 14.1 | -22 32.2 | 115 22.3 | 1.2 | 28 1.8 | -2.6 | 60.8 |
| | 10 | 332 13.8 | -22 32.5 | 129 42.5 | 1.2 | 27 59.2 | -2.8 | 60.8 |
| | 11 | 347 13.5 | -22 32.8 | 144 2.7 | 1.3 | 27 56.4 | -3.0 | 60.8 |
| | 12 | 2 13.3 | -22 33.1 | 158 23.0 | 1.4 | 27 53.4 | -3.2 | 60.7 |
| | 13 | 17 13.0 | -22 33.3 | 172 43.4 | 1.5 | 27 50.2 | -3.4 | 60.7 |
| | 14 | 32 12.7 | -22 33.6 | 187 3.9 | 1.6 | 27 46.7 | -3.6 | 60.7 |
| | 15 | 47 12.5 | -22 33.9 | 201 24.5 | 1.7 | 27 43.1 | -3.8 | 60.7 |
| | 16 | 62 12.2 | -22 34.2 | 215 45.1 | 1.7 | 27 39.3 | -4.1 | 60.6 |
| | 17 | 77 11.9 | -22 34.5 | 230 5.9 | 1.8 | 27 35.2 | -4.3 | 60.6 |
| | 18 | 92 11.7 | -22 34.8 | 244 26.7 | 1.9 | 27 30.9 | -4.5 | 60.6 |
| | 19 | 107 11.4 | -22 35.1 | 258 47.7 | 2.0 | 27 26.5 | -4.7 | 60.5 |
| | 20 | 122 11.1 | -22 35.4 | 273 8.7 | 2.1 | 27 21.8 | -4.9 | 60.5 |
| | 21 | 137 10.9 | -22 35.6 | 287 29.8 | 2.2 | 27 17.0 | -5.1 | 60.5 |
| | 22 | 152 10.6 | -22 35.9 | 301 51.1 | 2.4 | 27 11.9 | -5.2 | 60.4 |
| | 23 | 167 10.3 | -22 36.2 | 316 12.4 | 2.5 | 27 6.7 | -5.4 | 60.4 |
| | | *v* -0.3 | SD 16.2 | *d* 0.3 | | SD 16.6 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **07 Sunday** | 0 | 182 10.1 | -22 36.5 | 330 33.9 | 2.6 | 27 1.2 | -5.6 | 60.4 |
| | 1 | 197 9.8 | -22 36.8 | 344 55.5 | 2.7 | 26 55.6 | -5.8 | 60.4 |
| | 2 | 212 9.5 | -22 37.0 | 359 17.2 | 2.8 | 26 49.8 | -6.0 | 60.3 |
| | 3 | 227 9.3 | -22 37.3 | 13 39.0 | 2.9 | 26 43.8 | -6.2 | 60.3 |
| | 4 | 242 9.0 | -22 37.6 | 28 0.9 | 3.1 | 26 37.6 | -6.4 | 60.3 |
| | 5 | 257 8.7 | -22 37.9 | 42 23.0 | 3.2 | 26 31.2 | -6.6 | 60.2 |
| | 6 | 272 8.5 | -22 38.2 | 56 45.1 | 3.3 | 26 24.6 | -6.7 | 60.2 |
| | 7 | 287 8.2 | -22 38.4 | 71 7.4 | 3.4 | 26 17.9 | -6.9 | 60.2 |
| | 8 | 302 7.9 | -22 38.7 | 85 29.9 | 3.6 | 26 11.0 | -7.1 | 60.1 |
| | 9 | 317 7.7 | -22 39.0 | 99 52.4 | 3.7 | 26 3.9 | -7.3 | 60.1 |
| | 10 | 332 7.4 | -22 39.2 | 114 15.1 | 3.8 | 25 56.6 | -7.4 | 60.1 |
| | 11 | 347 7.1 | -22 39.5 | 128 37.9 | 4.0 | 25 49.1 | -7.6 | 60.0 |
| | 12 | 2 6.8 | -22 39.8 | 143 0.9 | 4.1 | 25 41.5 | -7.8 | 60.0 |
| | 13 | 17 6.6 | -22 40.1 | 157 24.0 | 4.2 | 25 33.8 | -7.9 | 59.9 |
| | 14 | 32 6.3 | -22 40.3 | 171 47.2 | 4.4 | 25 25.8 | -8.1 | 59.9 |
| | 15 | 47 6.0 | -22 40.6 | 186 10.6 | 4.5 | 25 17.7 | -8.3 | 59.9 |
| | 16 | 62 5.8 | -22 40.9 | 200 34.0 | 4.6 | 25 9.4 | -8.4 | 59.8 |
| | 17 | 77 5.5 | -22 41.1 | 214 57.7 | 4.8 | 25 1.0 | -8.6 | 59.8 |
| | 18 | 92 5.2 | -22 41.4 | 229 21.5 | 4.9 | 24 52.4 | -8.7 | 59.8 |
| | 19 | 107 5.0 | -22 41.7 | 243 45.4 | 5.1 | 24 43.7 | -8.9 | 59.7 |
| | 20 | 122 4.7 | -22 41.9 | 258 9.4 | 5.2 | 24 34.8 | -9.0 | 59.7 |
| | 21 | 137 4.4 | -22 42.2 | 272 33.6 | 5.3 | 24 25.7 | -9.2 | 59.6 |
| | 22 | 152 4.1 | -22 42.5 | 286 58.0 | 5.5 | 24 16.6 | -9.3 | 59.6 |
| | 23 | 167 3.9 | -22 42.7 | 301 22.5 | 5.6 | 24 7.2 | -9.5 | 59.6 |
| | | *v* -0.3 | SD 16.2 | *d* 0.3 | | SD 16.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **08 Monday** | 0 | 182 3.6 | -22 43.0 | 315 47.1 | 5.8 | 23 57.7 | -9.6 | 59.5 |
| | 1 | 197 3.3 | -22 43.3 | 330 11.9 | 5.9 | 23 48.1 | -9.8 | 59.5 |
| | 2 | 212 3.0 | -22 43.5 | 344 36.8 | 6.1 | 23 38.4 | -9.9 | 59.5 |
| | 3 | 227 2.8 | -22 43.8 | 359 1.9 | 6.2 | 23 28.5 | -10.0 | 59.4 |
| | 4 | 242 2.5 | -22 44.0 | 13 27.1 | 6.4 | 23 18.4 | -10.2 | 59.4 |
| | 5 | 257 2.2 | -22 44.3 | 27 52.5 | 6.5 | 23 8.3 | -10.3 | 59.3 |
| | 6 | 272 2.0 | -22 44.6 | 42 18.0 | 6.7 | 22 58.0 | -10.4 | 59.3 |
| | 7 | 287 1.7 | -22 44.8 | 56 43.6 | 6.8 | 22 47.6 | -10.5 | 59.3 |
| | 8 | 302 1.4 | -22 45.1 | 71 9.5 | 6.9 | 22 37.0 | -10.7 | 59.2 |
| | 9 | 317 1.1 | -22 45.3 | 85 35.4 | 7.1 | 22 26.4 | -10.8 | 59.2 |
| | 10 | 332 0.9 | -22 45.6 | 100 1.5 | 7.2 | 22 15.6 | -10.9 | 59.1 |
| | 11 | 347 0.6 | -22 45.8 | 114 27.7 | 7.4 | 22 4.7 | -11.0 | 59.1 |
| | 12 | 2 0.3 | -22 46.1 | 128 54.1 | 7.5 | 21 53.6 | -11.1 | 59.1 |
| | 13 | 17 0.0 | -22 46.3 | 143 20.7 | 7.7 | 21 42.5 | -11.3 | 59.0 |
| | 14 | 31 59.8 | -22 46.6 | 157 47.3 | 7.8 | 21 31.2 | -11.4 | 59.0 |
| | 15 | 46 59.5 | -22 46.8 | 172 14.2 | 8.0 | 21 19.9 | -11.5 | 58.9 |
| | 16 | 61 59.2 | -22 47.1 | 186 41.1 | 8.1 | 21 8.4 | -11.6 | 58.9 |
| | 17 | 76 58.9 | -22 47.3 | 201 8.2 | 8.3 | 20 56.8 | -11.7 | 58.9 |
| | 18 | 91 58.7 | -22 47.6 | 215 35.5 | 8.4 | 20 45.1 | -11.8 | 58.8 |
| | 19 | 106 58.4 | -22 47.8 | 230 2.9 | 8.5 | 20 33.3 | -11.9 | 58.8 |
| | 20 | 121 58.1 | -22 48.1 | 244 30.4 | 8.7 | 20 21.5 | -12.0 | 58.7 |
| | 21 | 136 57.8 | -22 48.3 | 258 58.1 | 8.8 | 20 9.5 | -12.1 | 58.7 |
| | 22 | 151 57.5 | -22 48.6 | 273 25.9 | 9.0 | 19 57.4 | -12.2 | 58.7 |
| | 23 | 166 57.3 | -22 48.8 | 287 53.9 | 9.1 | 19 45.2 | -12.3 | 58.6 |
| | | *v* -0.3 | SD 16.2 | *d* 0.3 | | SD 16.2 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:04 | 10:14 | | | 13:28 | 15:38 |
| 70 | 07:46 | 09:27 | | | 14:15 | 15:55 |
| 68 | 07:32 | 08:57 | 11:12 | 12:30 | 14:45 | 16:10 |
| 66 | 07:20 | 08:34 | 10:04 | 13:37 | 15:07 | 16:22 |
| 64 | 07:10 | 08:16 | 09:29 | 14:12 | 15:25 | 16:32 |
| 62 | 07:01 | 08:02 | 09:04 | 14:37 | 15:40 | 16:41 |
| 60 | 06:53 | 07:49 | 08:45 | 14:57 | 15:53 | 16:49 |
| 58 | 06:46 | 07:38 | 08:29 | 15:13 | 16:04 | 16:56 |
| 56 | 06:40 | 07:29 | 08:15 | 15:27 | 16:13 | 17:02 |
| 54 | 06:34 | 07:20 | 08:03 | 15:39 | 16:22 | 17:08 |
| 52 | 06:29 | 07:12 | 07:53 | 15:49 | 16:30 | 17:13 |
| 50 | 06:24 | 07:05 | 07:43 | 15:59 | 16:37 | 17:18 |
| 45 | 06:13 | 06:50 | 07:23 | 16:19 | 16:52 | 17:29 |
| 40 | 06:03 | 06:37 | 07:08 | 16:35 | 17:05 | 17:39 |
| 35 | 05:55 | 06:26 | 06:54 | 16:48 | 17:16 | 17:47 |
| 30 | 05:46 | 06:16 | 06:42 | 17:00 | 17:26 | 17:56 |
| 20 | 05:31 | 05:58 | 06:22 | 17:20 | 17:44 | 18:11 |
| 10 | 05:15 | 05:41 | 06:04 | 17:38 | 18:01 | 18:27 |
| 0 | 04:59 | 05:25 | 05:47 | 17:55 | 18:17 | 18:43 |
| -10 | 04:41 | 05:08 | 05:31 | 18:12 | 18:35 | 19:02 |
| -20 | 04:19 | 04:48 | 05:12 | 18:30 | 18:54 | 19:23 |
| -30 | 03:51 | 04:24 | 04:51 | 18:51 | 19:18 | 19:51 |
| -35 | 03:33 | 04:10 | 04:39 | 19:04 | 19:33 | 20:09 |
| -40 | 03:11 | 03:52 | 04:25 | 19:18 | 19:50 | 20:31 |
| -45 | 02:43 | 03:31 | 04:07 | 19:35 | 20:12 | 21:00 |
| -50 | 02:01 | 03:03 | 03:46 | 19:57 | 20:40 | 21:43 |
| -52 | 01:37 | 02:49 | 03:36 | 20:07 | 20:54 | 22:07 |
| -54 | 01:02 | 02:32 | 03:24 | 20:19 | 21:11 | 22:43 |
| -56 | //// | 02:12 | 03:11 | 20:32 | 21:31 | //// |
| -58 | //// | 01:46 | 02:56 | 20:48 | 21:58 | //// |
| -60 | //// | 01:08 | 02:37 | 21:06 | 22:37 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **06** | **07** | **08** | **06** | **07** | **08** |
| 72 | | | | | | |
| 70 | | | | | | |
| 68 | | | 16:54 | | | 14:29 |
| 66 | | | 17:46 | | | 13:36 |
| 64 | | 15:44 | 18:17 | | 13:36 | 13:03 |
| 62 | 14:14 | 16:36 | 18:41 | 12:51 | 12:44 | 12:39 |
| 60 | 15:17 | 17:07 | 18:59 | 11:48 | 12:11 | 12:19 |
| 58 | 15:51 | 17:31 | 19:15 | 11:14 | 11:47 | 12:03 |
| 56 | 16:16 | 17:50 | 19:28 | 10:49 | 11:28 | 11:49 |
| 54 | 16:36 | 18:06 | 19:39 | 10:28 | 11:11 | 11:37 |
| 52 | 16:53 | 18:19 | 19:49 | 10:11 | 10:57 | 11:26 |
| 50 | 17:07 | 18:31 | 19:58 | 09:57 | 10:45 | 11:17 |
| 45 | 17:37 | 18:56 | 20:17 | 09:27 | 10:19 | 10:57 |
| 40 | 18:00 | 19:16 | 20:32 | 09:04 | 09:58 | 10:40 |
| 35 | 18:19 | 19:32 | 20:45 | 08:44 | 09:41 | 10:26 |
| 30 | 18:35 | 19:46 | 20:56 | 08:28 | 09:26 | 10:14 |
| 20 | 19:02 | 20:10 | 21:15 | 08:00 | 09:01 | 09:53 |
| 10 | 19:26 | 20:31 | 21:31 | 07:36 | 08:39 | 09:35 |
| 0 | 19:48 | 20:50 | 21:46 | 07:13 | 08:18 | 09:18 |
| -10 | 20:10 | 21:09 | 22:02 | 06:50 | 07:57 | 09:00 |
| -20 | 20:33 | 21:30 | 22:18 | 06:26 | 07:35 | 08:42 |
| -30 | 21:00 | 21:53 | 22:36 | 05:58 | 07:09 | 08:20 |
| -35 | 21:16 | 22:07 | 22:47 | 05:41 | 06:53 | 08:07 |
| -40 | 21:35 | 22:23 | 22:59 | 05:21 | 06:35 | 07:52 |
| -45 | 21:57 | 22:41 | 23:14 | 04:57 | 06:13 | 07:35 |
| -50 | 22:26 | 23:05 | 23:31 | 04:26 | 05:46 | 07:12 |
| -52 | 22:40 | 23:16 | 23:39 | 04:11 | 05:32 | 07:02 |
| -54 | 22:56 | 23:29 | 23:49 | 03:53 | 05:16 | 06:50 |
| -56 | 23:15 | 23:43 | 23:59 | 03:31 | 04:58 | 06:36 |
| -58 | 23:38 | 24:00 | 00:00 | 03:03 | 04:35 | 06:20 |
| -60 | −:− | 00:09 | 00:20 | 02:23 | 04:04 | 06:00 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **06** | 09:06 | 08:53 | 11:51 | 00:57 | 13:30 | 16 | 98 |
| **07** | 08:40 | 08:27 | 11:52 | 02:03 | 14:34 | 17 | 94 |
| **08** | 08:14 | 08:01 | 11:52 | 03:04 | 15:32 | 18 | 87 |

| | | Aries | Venus -3.9 | | Mars 1.3 | | Jupiter -2.6 | | Saturn 0.9 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 09 Tuesday | 0 | 77 59.5 | 189 17.5 | -21 35.3 | 173 11.4 | -24 4.8 | 322 8.5 | 21 29.8 | 81 24.6 | -4 1.8 |
| | 1 | 93 2.0 | 204 16.6 | -21 35.8 | 188 11.8 | -24 4.9 | 337 11.2 | 21 29.8 | 96 27.0 | -4 1.7 |
| | 2 | 108 4.5 | 219 15.8 | -21 36.4 | 203 12.2 | -24 5.0 | 352 13.9 | 21 29.9 | 111 29.4 | -4 1.7 |
| | 3 | 123 6.9 | 234 14.9 | -21 36.9 | 218 12.6 | -24 5.1 | 7 16.6 | 21 29.9 | 126 31.9 | -4 1.7 |
| | 4 | 138 9.4 | 249 14.0 | -21 37.5 | 233 13.1 | -24 5.2 | 22 19.3 | 21 29.9 | 141 34.3 | -4 1.6 |
| | 5 | 153 11.8 | 264 13.2 | -21 38.0 | 248 13.5 | -24 5.3 | 37 21.9 | 21 30.0 | 156 36.7 | -4 1.6 |
| | 6 | 168 14.3 | 279 12.3 | -21 38.6 | 263 13.9 | -24 5.4 | 52 24.6 | 21 30.0 | 171 39.1 | -4 1.6 |
| | 7 | 183 16.8 | 294 11.4 | -21 39.1 | 278 14.3 | -24 5.4 | 67 27.3 | 21 30.1 | 186 41.5 | -4 1.6 |
| | 8 | 198 19.2 | 309 10.5 | -21 39.7 | 293 14.7 | -24 5.5 | 82 30.0 | 21 30.1 | 201 44.0 | -4 1.5 |
| | 9 | 213 21.7 | 324 9.7 | -21 40.2 | 308 15.1 | -24 5.6 | 97 32.7 | 21 30.2 | 216 46.4 | -4 1.5 |
| | 10 | 228 24.2 | 339 8.8 | -21 40.8 | 323 15.5 | -24 5.7 | 112 35.4 | 21 30.2 | 231 48.8 | -4 1.5 |
| | 11 | 243 26.6 | 354 7.9 | -21 41.3 | 338 16.0 | -24 5.8 | 127 38.1 | 21 30.3 | 246 51.2 | -4 1.4 |
| | 12 | 258 29.1 | 9 7.1 | -21 41.8 | 353 16.4 | -24 5.9 | 142 40.8 | 21 30.3 | 261 53.7 | -4 1.4 |
| | 13 | 273 31.6 | 24 6.2 | -21 42.4 | 8 16.8 | -24 5.9 | 157 43.5 | 21 30.3 | 276 56.1 | -4 1.4 |
| | 14 | 288 34.0 | 39 5.3 | -21 42.9 | 23 17.2 | -24 6.0 | 172 46.2 | 21 30.4 | 291 58.5 | -4 1.4 |
| | 15 | 303 36.5 | 54 4.4 | -21 43.4 | 38 17.6 | -24 6.1 | 187 48.9 | 21 30.4 | 307 0.9 | -4 1.3 |
| | 16 | 318 39.0 | 69 3.6 | -21 44.0 | 53 18.0 | -24 6.2 | 202 51.6 | 21 30.5 | 322 3.3 | -4 1.3 |
| | 17 | 333 41.4 | 84 2.7 | -21 44.5 | 68 18.4 | -24 6.3 | 217 54.3 | 21 30.5 | 337 5.8 | -4 1.3 |
| | 18 | 348 43.9 | 99 1.8 | -21 45.0 | 83 18.9 | -24 6.3 | 232 57.0 | 21 30.6 | 352 8.2 | -4 1.2 |
| | 19 | 3 46.3 | 114 0.9 | -21 45.6 | 98 19.3 | -24 6.4 | 247 59.7 | 21 30.6 | 7 10.6 | -4 1.2 |
| | 20 | 18 48.8 | 129 0.1 | -21 46.1 | 113 19.7 | -24 6.5 | 263 2.4 | 21 30.7 | 22 13.0 | -4 1.2 |
| | 21 | 33 51.3 | 143 59.2 | -21 46.6 | 128 20.1 | -24 6.6 | 278 5.1 | 21 30.7 | 37 15.4 | -4 1.2 |
| | 22 | 48 53.7 | 158 58.3 | -21 47.2 | 143 20.5 | -24 6.7 | 293 7.8 | 21 30.7 | 52 17.9 | -4 1.1 |
| | 23 | 63 56.2 | 173 57.4 | -21 47.7 | 158 20.9 | -24 6.7 | 308 10.5 | 21 30.8 | 67 20.3 | -4 1.1 |
| | | MP 18:46 | *v* -0.9 | *d* 0.6 | *v* 0.4 | *d* 0.1 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 Wednesday | 0 | 78 58.7 | 188 56.6 | -21 48.2 | 173 21.3 | -24 6.8 | 323 13.2 | 21 30.8 | 82 22.7 | -4 1.1 |
| | 1 | 94 1.1 | 203 55.7 | -21 48.7 | 188 21.8 | -24 6.9 | 338 15.9 | 21 30.9 | 97 25.1 | -4 1.0 |
| | 2 | 109 3.6 | 218 54.8 | -21 49.3 | 203 22.2 | -24 7.0 | 353 18.6 | 21 30.9 | 112 27.5 | -4 1.0 |
| | 3 | 124 6.1 | 233 53.9 | -21 49.8 | 218 22.6 | -24 7.0 | 8 21.3 | 21 31.0 | 127 29.9 | -4 1.0 |
| | 4 | 139 8.5 | 248 53.0 | -21 50.3 | 233 23.0 | -24 7.1 | 23 24.0 | 21 31.0 | 142 32.4 | -4 1.0 |
| | 5 | 154 11.0 | 263 52.2 | -21 50.8 | 248 23.4 | -24 7.2 | 38 26.7 | 21 31.1 | 157 34.8 | -4 0.9 |
| | 6 | 169 13.5 | 278 51.3 | -21 51.3 | 263 23.8 | -24 7.3 | 53 29.4 | 21 31.1 | 172 37.2 | -4 0.9 |
| | 7 | 184 15.9 | 293 50.4 | -21 51.9 | 278 24.2 | -24 7.3 | 68 32.1 | 21 31.1 | 187 39.6 | -4 0.9 |
| | 8 | 199 18.4 | 308 49.5 | -21 52.4 | 293 24.6 | -24 7.4 | 83 34.8 | 21 31.2 | 202 42.0 | -4 0.8 |
| | 9 | 214 20.8 | 323 48.6 | -21 52.9 | 308 25.1 | -24 7.5 | 98 37.5 | 21 31.2 | 217 44.5 | -4 0.8 |
| | 10 | 229 23.3 | 338 47.8 | -21 53.4 | 323 25.5 | -24 7.5 | 113 40.2 | 21 31.3 | 232 46.9 | -4 0.8 |
| | 11 | 244 25.8 | 353 46.9 | -21 53.9 | 338 25.9 | -24 7.6 | 128 42.9 | 21 31.3 | 247 49.3 | -4 0.7 |
| | 12 | 259 28.2 | 8 46.0 | -21 54.4 | 353 26.3 | -24 7.7 | 143 45.6 | 21 31.4 | 262 51.7 | -4 0.7 |
| | 13 | 274 30.7 | 23 45.1 | -21 54.9 | 8 26.7 | -24 7.8 | 158 48.3 | 21 31.4 | 277 54.1 | -4 0.7 |
| | 14 | 289 33.2 | 38 44.2 | -21 55.4 | 23 27.1 | -24 7.8 | 173 51.0 | 21 31.5 | 292 56.5 | -4 0.7 |
| | 15 | 304 35.6 | 53 43.3 | -21 56.0 | 38 27.5 | -24 7.9 | 188 53.7 | 21 31.5 | 307 59.0 | -4 0.6 |
| | 16 | 319 38.1 | 68 42.5 | -21 56.5 | 53 27.9 | -24 8.0 | 203 56.4 | 21 31.6 | 323 1.4 | -4 0.6 |
| | 17 | 334 40.6 | 83 41.6 | -21 57.0 | 68 28.3 | -24 8.0 | 218 59.1 | 21 31.6 | 338 3.8 | -4 0.6 |
| | 18 | 349 43.0 | 98 40.7 | -21 57.5 | 83 28.8 | -24 8.1 | 234 1.8 | 21 31.6 | 353 6.2 | -4 0.5 |
| | 19 | 4 45.5 | 113 39.8 | -21 58.0 | 98 29.2 | -24 8.2 | 249 4.5 | 21 31.7 | 8 8.6 | -4 0.5 |
| | 20 | 19 47.9 | 128 38.9 | -21 58.5 | 113 29.6 | -24 8.2 | 264 7.2 | 21 31.7 | 23 11.0 | -4 0.5 |
| | 21 | 34 50.4 | 143 38.0 | -21 59.0 | 128 30.0 | -24 8.3 | 279 9.9 | 21 31.8 | 38 13.5 | -4 0.4 |
| | 22 | 49 52.9 | 158 37.1 | -21 59.5 | 143 30.4 | -24 8.4 | 294 12.6 | 21 31.8 | 53 15.9 | -4 0.4 |
| | 23 | 64 55.3 | 173 36.3 | -22 0.0 | 158 30.8 | -24 8.4 | 309 15.3 | 21 31.9 | 68 18.3 | -4 0.4 |
| | | MP 18:42 | *v* -0.9 | *d* 0.5 | *v* 0.4 | *d* 0.1 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 11 Thursday | 0 | 79 57.8 | 188 35.4 | -22 0.5 | 173 31.2 | -24 8.5 | 324 18.0 | 21 31.9 | 83 20.7 | -4 0.3 |
| | 1 | 95 0.3 | 203 34.5 | -22 1.0 | 188 31.6 | -24 8.6 | 339 20.7 | 21 32.0 | 98 23.1 | -4 0.3 |
| | 2 | 110 2.7 | 218 33.6 | -22 1.5 | 203 32.0 | -24 8.6 | 354 23.4 | 21 32.0 | 113 25.5 | -4 0.3 |
| | 3 | 125 5.2 | 233 32.7 | -22 2.0 | 218 32.4 | -24 8.7 | 9 26.1 | 21 32.1 | 128 27.9 | -4 0.3 |
| | 4 | 140 7.7 | 248 31.8 | -22 2.5 | 233 32.9 | -24 8.8 | 24 28.8 | 21 32.1 | 143 30.4 | -4 0.2 |
| | 5 | 155 10.1 | 263 30.9 | -22 2.9 | 248 33.3 | -24 8.8 | 39 31.6 | 21 32.2 | 158 32.8 | -4 0.2 |
| | 6 | 170 12.6 | 278 30.0 | -22 3.4 | 263 33.7 | -24 8.9 | 54 34.3 | 21 32.2 | 173 35.2 | -4 0.2 |
| | 7 | 185 15.1 | 293 29.1 | -22 3.9 | 278 34.1 | -24 9.0 | 69 37.0 | 21 32.2 | 188 37.6 | -4 0.1 |
| | 8 | 200 17.5 | 308 28.3 | -22 4.4 | 293 34.5 | -24 9.0 | 84 39.7 | 21 32.3 | 203 40.0 | -4 0.1 |
| | 9 | 215 20.0 | 323 27.4 | -22 4.9 | 308 34.9 | -24 9.1 | 99 42.4 | 21 32.3 | 218 42.4 | -4 0.1 |
| | 10 | 230 22.4 | 338 26.5 | -22 5.4 | 323 35.3 | -24 9.1 | 114 45.1 | 21 32.4 | 233 44.8 | -4 0.0 |
| | 11 | 245 24.9 | 353 25.6 | -22 5.9 | 338 35.7 | -24 9.2 | 129 47.8 | 21 32.4 | 248 47.3 | -4 0.0 |
| | 12 | 260 27.4 | 8 24.7 | -22 6.4 | 353 36.1 | -24 9.3 | 144 50.5 | 21 32.5 | 263 49.7 | -4 0.0 |
| | 13 | 275 29.8 | 23 23.8 | -22 6.8 | 8 36.5 | -24 9.3 | 159 53.2 | 21 32.5 | 278 52.1 | -3 59.9 |
| | 14 | 290 32.3 | 38 22.9 | -22 7.3 | 23 36.9 | -24 9.4 | 174 55.9 | 21 32.6 | 293 54.5 | -3 59.9 |
| | 15 | 305 34.8 | 53 22.0 | -22 7.8 | 38 37.4 | -24 9.4 | 189 58.6 | 21 32.6 | 308 56.9 | -3 59.9 |
| | 16 | 320 37.2 | 68 21.1 | -22 8.3 | 53 37.8 | -24 9.5 | 205 1.4 | 21 32.7 | 323 59.3 | -3 59.8 |
| | 17 | 335 39.7 | 83 20.2 | -22 8.8 | 68 38.2 | -24 9.6 | 220 4.1 | 21 32.7 | 339 1.7 | -3 59.8 |
| | 18 | 350 42.2 | 98 19.3 | -22 9.3 | 83 38.6 | -24 9.6 | 235 6.8 | 21 32.8 | 354 4.1 | -3 59.8 |
| | 19 | 5 44.6 | 113 18.4 | -22 9.7 | 98 39.0 | -24 9.7 | 250 9.5 | 21 32.8 | 9 6.6 | -3 59.7 |
| | 20 | 20 47.1 | 128 17.5 | -22 10.2 | 113 39.4 | -24 9.7 | 265 12.2 | 21 32.9 | 24 9.0 | -3 59.7 |
| | 21 | 35 49.6 | 143 16.6 | -22 10.7 | 128 39.8 | -24 9.8 | 280 14.9 | 21 32.9 | 39 11.4 | -3 59.7 |
| | 22 | 50 52.0 | 158 15.7 | -22 11.1 | 143 40.2 | -24 9.8 | 295 17.6 | 21 32.9 | 54 13.8 | -3 59.6 |
| | 23 | 65 54.5 | 173 14.8 | -22 11.6 | 158 40.6 | -24 9.9 | 310 20.3 | 21 33.0 | 69 16.2 | -3 59.6 |
| | | MP 18:38 | *v* -0.9 | *d* 0.5 | *v* 0.4 | *d* 0.1 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

## Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.1 |
| Achernar | 335 19.2 | -57 6.5 |
| Acrux | 172 59.5 | -63 14.3 |
| Adhara | 255 4.9 | -29 0.3 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.6 | 55 48.9 |
| Alkaid | 152 51.7 | 49 10.8 |
| Alnair | 27 32.1 | -46 50.3 |
| Alnilam | 275 36.6 | -1 11.1 |
| Alphard | 217 46.9 | -8 46.2 |
| Alphecca | 126 3.5 | 26 37.6 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.2 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.8 |
| Atria | 107 9.4 | -69 4.4 |
| Avior | 234 14.0 | -59 35.3 |
| Bellatrix | 278 21.7 | 6 22.4 |
| Betelgeuse | 270 50.9 | 7 24.7 |
| Canopus | 263 51.5 | -52 42.4 |
| Capella | 280 20.3 | 46 1.4 |
| Deneb | 49 25.6 | 45 22.6 |
| Denebola | 182 24.2 | 14 25.5 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.1 | 61 36.4 |
| Elnath | 278 0.5 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.1 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 51.0 | -57 15.2 |
| Gienah | 175 42.9 | -17 41.1 |
| Hadar | 148 35.4 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.3 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.8 | 74 2.7 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.0 | -36 29.7 |
| Miaplacidus | 221 37.7 | -69 49.1 |
| Mirfak | 308 26.7 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.3 |
| Pollux | 243 16.1 | 27 57.7 |
| Procyon | 244 49.8 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.5 | 11 50.4 |
| Rigel | 281 2.8 | -8 10.2 |
| Rigil Kent. | 139 39.8 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 30.0 | 56 41.1 |
| Shaula | 96 9.8 | -37 7.3 |
| Sirius | 258 25.2 | -16 45.0 |
| Spica | 158 21.7 | -11 17.7 |
| Suhail | 222 45.5 | -43 32.0 |
| Vega | 80 33.1 | 38 48.5 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 09 Tue | SHA | MP |
|---|---|---|
| Venus | 111 18.0 | 11:24 |
| Mars | 95 11.9 | 12:27 |
| Jupiter | 244 9.0 | 02:31 |
| Saturn | 3 25.1 | 18:31 |

| 10 Wed | SHA | MP |
|---|---|---|
| Venus | 109 57.9 | 11:25 |
| Mars | 94 22.7 | 12:26 |
| Jupiter | 244 14.5 | 02:27 |
| Saturn | 3 24.0 | 18:28 |

| 11 Thu | SHA | MP |
|---|---|---|
| Venus | 108 37.6 | 11:26 |
| Mars | 93 33.4 | 12:26 |
| Jupiter | 244 20.2 | 02:22 |
| Saturn | 3 22.9 | 18:24 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **09 Tuesday** | 0 | 181 57.0 | -22 49.1 | 302 22.0 | 9.2 | 19 33.0 | -12.4 | 58.6 |
| | 1 | 196 56.7 | -22 49.3 | 316 50.2 | 9.4 | 19 20.6 | -12.4 | 58.5 |
| | 2 | 211 56.4 | -22 49.6 | 331 18.6 | 9.5 | 19 8.2 | -12.5 | 58.5 |
| | 3 | 226 56.2 | -22 49.8 | 345 47.1 | 9.6 | 18 55.6 | -12.6 | 58.4 |
| | 4 | 241 55.9 | -22 50.0 | 0 15.7 | 9.8 | 18 43.0 | -12.7 | 58.4 |
| | 5 | 256 55.6 | -22 50.3 | 14 44.5 | 9.9 | 18 30.3 | -12.8 | 58.4 |
| | 6 | 271 55.3 | -22 50.5 | 29 13.4 | 10.0 | 18 17.5 | -12.9 | 58.3 |
| | 7 | 286 55.0 | -22 50.8 | 43 42.5 | 10.2 | 18 4.7 | -12.9 | 58.3 |
| | 8 | 301 54.8 | -22 51.0 | 58 11.6 | 10.3 | 17 51.8 | -13.0 | 58.2 |
| | 9 | 316 54.5 | -22 51.2 | 72 40.9 | 10.4 | 17 38.7 | -13.1 | 58.2 |
| | 10 | 331 54.2 | -22 51.5 | 87 10.4 | 10.6 | 17 25.7 | -13.1 | 58.2 |
| | 11 | 346 53.9 | -22 51.7 | 101 39.9 | 10.7 | 17 12.5 | -13.2 | 58.1 |
| | 12 | 1 53.6 | -22 51.9 | 116 9.6 | 10.8 | 16 59.3 | -13.3 | 58.1 |
| | 13 | 16 53.4 | -22 52.2 | 130 39.4 | 10.9 | 16 46.0 | -13.4 | 58.0 |
| | 14 | 31 53.1 | -22 52.4 | 145 9.4 | 11.1 | 16 32.7 | -13.4 | 58.0 |
| | 15 | 46 52.8 | -22 52.6 | 159 39.4 | 11.2 | 16 19.2 | -13.5 | 58.0 |
| | 16 | 61 52.5 | -22 52.9 | 174 9.6 | 11.3 | 16 5.8 | -13.5 | 57.9 |
| | 17 | 76 52.2 | -22 53.1 | 188 39.9 | 11.4 | 15 52.2 | -13.6 | 57.9 |
| | 18 | 91 52.0 | -22 53.3 | 203 10.3 | 11.5 | 15 38.6 | -13.7 | 57.8 |
| | 19 | 106 51.7 | -22 53.6 | 217 40.9 | 11.7 | 15 25.0 | -13.7 | 57.8 |
| | 20 | 121 51.4 | -22 53.8 | 232 11.5 | 11.8 | 15 11.3 | -13.8 | 57.8 |
| | 21 | 136 51.1 | -22 54.0 | 246 42.3 | 11.9 | 14 57.5 | -13.8 | 57.7 |
| | 22 | 151 50.8 | -22 54.2 | 261 13.2 | 12.0 | 14 43.7 | -13.9 | 57.7 |
| | 23 | 166 50.6 | -22 54.5 | 275 44.2 | 12.1 | 14 29.8 | -13.9 | 57.6 |
| | | *v* -0.3 | SD 16.2 | *d* 0.2 | | SD 16.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **10 Wednesday** | 0 | 181 50.3 | -22 54.7 | 290 15.3 | 12.2 | 14 15.9 | -14.0 | 57.6 |
| | 1 | 196 50.0 | -22 54.9 | 304 46.6 | 12.3 | 14 1.9 | -14.0 | 57.6 |
| | 2 | 211 49.7 | -22 55.1 | 319 17.9 | 12.4 | 13 47.9 | -14.1 | 57.5 |
| | 3 | 226 49.4 | -22 55.4 | 333 49.3 | 12.5 | 13 33.9 | -14.1 | 57.5 |
| | 4 | 241 49.1 | -22 55.6 | 348 20.9 | 12.7 | 13 19.8 | -14.1 | 57.4 |
| | 5 | 256 48.9 | -22 55.8 | 2 52.5 | 12.8 | 13 5.6 | -14.2 | 57.4 |
| | 6 | 271 48.6 | -22 56.0 | 17 24.3 | 12.9 | 12 51.4 | -14.2 | 57.4 |
| | 7 | 286 48.3 | -22 56.2 | 31 56.1 | 13.0 | 12 37.2 | -14.3 | 57.3 |
| | 8 | 301 48.0 | -22 56.5 | 46 28.1 | 13.1 | 12 22.9 | -14.3 | 57.3 |
| | 9 | 316 47.7 | -22 56.7 | 61 0.1 | 13.2 | 12 8.6 | -14.3 | 57.2 |
| | 10 | 331 47.4 | -22 56.9 | 75 32.3 | 13.2 | 11 54.3 | -14.4 | 57.2 |
| | 11 | 346 47.2 | -22 57.1 | 90 4.5 | 13.3 | 11 39.9 | -14.4 | 57.2 |
| | 12 | 1 46.9 | -22 57.3 | 104 36.9 | 13.4 | 11 25.5 | -14.4 | 57.1 |
| | 13 | 16 46.6 | -22 57.6 | 119 9.3 | 13.5 | 11 11.1 | -14.5 | 57.1 |
| | 14 | 31 46.3 | -22 57.8 | 133 41.8 | 13.6 | 10 56.7 | -14.5 | 57.0 |
| | 15 | 46 46.0 | -22 58.0 | 148 14.5 | 13.7 | 10 42.2 | -14.5 | 57.0 |
| | 16 | 61 45.7 | -22 58.2 | 162 47.2 | 13.8 | 10 27.7 | -14.5 | 57.0 |
| | 17 | 76 45.5 | -22 58.4 | 177 20.0 | 13.9 | 10 13.1 | -14.6 | 56.9 |
| | 18 | 91 45.2 | -22 58.6 | 191 52.8 | 14.0 | 9 58.5 | -14.6 | 56.9 |
| | 19 | 106 44.9 | -22 58.8 | 206 25.8 | 14.0 | 9 44.0 | -14.6 | 56.9 |
| | 20 | 121 44.6 | -22 59.0 | 220 58.9 | 14.1 | 9 29.3 | -14.6 | 56.8 |
| | 21 | 136 44.3 | -22 59.2 | 235 32.0 | 14.2 | 9 14.7 | -14.7 | 56.8 |
| | 22 | 151 44.0 | -22 59.5 | 250 5.2 | 14.3 | 9 0.1 | -14.7 | 56.7 |
| | 23 | 166 43.7 | -22 59.7 | 264 38.5 | 14.4 | 8 45.4 | -14.7 | 56.7 |
| | | *v* -0.3 | SD 16.2 | *d* 0.2 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **11 Thursday** | 0 | 181 43.5 | -22 59.9 | 279 11.9 | 14.4 | 8 30.7 | -14.7 | 56.7 |
| | 1 | 196 43.2 | -23 0.1 | 293 45.3 | 14.5 | 8 16.0 | -14.7 | 56.6 |
| | 2 | 211 42.9 | -23 0.3 | 308 18.8 | 14.6 | 8 1.3 | -14.7 | 56.6 |
| | 3 | 226 42.6 | -23 0.5 | 322 52.4 | 14.7 | 7 46.5 | -14.7 | 56.6 |
| | 4 | 241 42.3 | -23 0.7 | 337 26.1 | 14.7 | 7 31.8 | -14.8 | 56.5 |
| | 5 | 256 42.0 | -23 0.9 | 351 59.8 | 14.8 | 7 17.0 | -14.8 | 56.5 |
| | 6 | 271 41.7 | -23 1.1 | 6 33.6 | 14.9 | 7 2.3 | -14.8 | 56.4 |
| | 7 | 286 41.4 | -23 1.3 | 21 7.4 | 14.9 | 6 47.5 | -14.8 | 56.4 |
| | 8 | 301 41.2 | -23 1.5 | 35 41.4 | 15.0 | 6 32.7 | -14.8 | 56.4 |
| | 9 | 316 40.9 | -23 1.7 | 50 15.4 | 15.1 | 6 17.9 | -14.8 | 56.3 |
| | 10 | 331 40.6 | -23 1.9 | 64 49.4 | 15.1 | 6 3.1 | -14.8 | 56.3 |
| | 11 | 346 40.3 | -23 2.1 | 79 23.5 | 15.2 | 5 48.3 | -14.8 | 56.3 |
| | 12 | 1 40.0 | -23 2.3 | 93 57.7 | 15.2 | 5 33.4 | -14.8 | 56.2 |
| | 13 | 16 39.7 | -23 2.5 | 108 32.0 | 15.3 | 5 18.6 | -14.8 | 56.2 |
| | 14 | 31 39.4 | -23 2.7 | 123 6.2 | 15.3 | 5 3.8 | -14.8 | 56.2 |
| | 15 | 46 39.1 | -23 2.9 | 137 40.6 | 15.4 | 4 49.0 | -14.8 | 56.1 |
| | 16 | 61 38.8 | -23 3.1 | 152 15.0 | 15.5 | 4 34.1 | -14.8 | 56.1 |
| | 17 | 76 38.6 | -23 3.3 | 166 49.5 | 15.5 | 4 19.3 | -14.8 | 56.1 |
| | 18 | 91 38.3 | -23 3.4 | 181 24.0 | 15.6 | 4 4.5 | -14.8 | 56.0 |
| | 19 | 106 38.0 | -23 3.6 | 195 58.5 | 15.6 | 3 49.7 | -14.8 | 56.0 |
| | 20 | 121 37.7 | -23 3.8 | 210 33.1 | 15.7 | 3 34.8 | -14.8 | 56.0 |
| | 21 | 136 37.4 | -23 4.0 | 225 7.8 | 15.7 | 3 20.0 | -14.8 | 55.9 |
| | 22 | 151 37.1 | -23 4.2 | 239 42.5 | 15.7 | 3 5.2 | -14.8 | 55.9 |
| | 23 | 166 36.8 | -23 4.4 | 254 17.2 | 15.8 | 2 50.4 | -14.8 | 55.9 |
| | | *v* -0.3 | SD 16.2 | *d* 0.2 | | SD 15.5 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:11 | 10:26 | | | 13:18 | 15:34 |
| 70 | 07:52 | 09:35 | | | 14:09 | 15:53 |
| 68 | 07:37 | 09:03 | | | 14:41 | 16:08 |
| 66 | 07:25 | 08:40 | 10:13 | 13:31 | 15:05 | 16:20 |
| 64 | 07:14 | 08:21 | 09:36 | 14:08 | 15:23 | 16:30 |
| 62 | 07:05 | 08:06 | 09:10 | 14:35 | 15:38 | 16:40 |
| 60 | 06:57 | 07:53 | 08:50 | 14:55 | 15:51 | 16:48 |
| 58 | 06:50 | 07:42 | 08:33 | 15:12 | 16:03 | 16:55 |
| 56 | 06:43 | 07:32 | 08:19 | 15:26 | 16:12 | 17:01 |
| 54 | 06:38 | 07:23 | 08:07 | 15:38 | 16:21 | 17:07 |
| 52 | 06:32 | 07:16 | 07:56 | 15:49 | 16:29 | 17:12 |
| 50 | 06:27 | 07:08 | 07:46 | 15:58 | 16:36 | 17:18 |
| 45 | 06:16 | 06:53 | 07:26 | 16:18 | 16:52 | 17:29 |
| 40 | 06:06 | 06:40 | 07:10 | 16:35 | 17:05 | 17:39 |
| 35 | 05:57 | 06:28 | 06:56 | 16:48 | 17:16 | 17:48 |
| 30 | 05:48 | 06:18 | 06:44 | 17:00 | 17:27 | 17:56 |
| 20 | 05:32 | 06:00 | 06:24 | 17:21 | 17:45 | 18:12 |
| 10 | 05:17 | 05:43 | 06:06 | 17:39 | 18:02 | 18:28 |
| 0 | 05:00 | 05:26 | 05:49 | 17:56 | 18:19 | 18:45 |
| -10 | 04:42 | 05:09 | 05:32 | 18:13 | 18:36 | 19:03 |
| -20 | 04:20 | 04:49 | 05:13 | 18:32 | 18:56 | 19:25 |
| -30 | 03:51 | 04:24 | 04:52 | 18:53 | 19:21 | 19:54 |
| -35 | 03:33 | 04:10 | 04:39 | 19:06 | 19:35 | 20:12 |
| -40 | 03:11 | 03:52 | 04:24 | 19:21 | 19:53 | 20:34 |
| -45 | 02:41 | 03:30 | 04:07 | 19:38 | 20:15 | 21:04 |
| -50 | 01:58 | 03:01 | 03:45 | 20:00 | 20:44 | 21:47 |
| -52 | 01:33 | 02:47 | 03:35 | 20:11 | 20:58 | 22:13 |
| -54 | 00:55 | 02:30 | 03:23 | 20:22 | 21:16 | 22:52 |
| -56 | //// | 02:09 | 03:09 | 20:36 | 21:37 | //// |
| -58 | //// | 01:42 | 02:53 | 20:52 | 22:04 | //// |
| -60 | //// | 01:01 | 02:34 | 21:12 | 22:47 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **09** | **10** | **11** | **09** | **10** | **11** |
| 72 | 18:37 | 21:21 | 23:32 | 14:37 | 13:30 | 12:51 |
| 70 | 19:16 | 21:36 | 23:35 | 13:56 | 13:13 | 12:44 |
| 68 | 19:43 | 21:48 | 23:38 | 13:27 | 12:59 | 12:38 |
| 66 | 20:03 | 21:57 | 23:41 | 13:06 | 12:48 | 12:33 |
| 64 | 20:19 | 22:05 | 23:43 | 12:48 | 12:38 | 12:29 |
| 62 | 20:32 | 22:12 | 23:45 | 12:34 | 12:30 | 12:25 |
| 60 | 20:43 | 22:18 | 23:47 | 12:22 | 12:22 | 12:22 |
| 58 | 20:53 | 22:23 | 23:48 | 12:11 | 12:16 | 12:19 |
| 56 | 21:01 | 22:28 | 23:49 | 12:02 | 12:10 | 12:17 |
| 54 | 21:08 | 22:32 | 23:50 | 11:54 | 12:05 | 12:14 |
| 52 | 21:15 | 22:35 | 23:52 | 11:46 | 12:01 | 12:12 |
| 50 | 21:21 | 22:39 | 23:52 | 11:40 | 11:56 | 12:10 |
| 45 | 21:34 | 22:46 | 23:55 | 11:25 | 11:47 | 12:06 |
| 40 | 21:44 | 22:52 | 23:56 | 11:13 | 11:40 | 12:02 |
| 35 | 21:53 | 22:57 | 23:58 | 11:03 | 11:33 | 11:59 |
| 30 | 22:01 | 23:02 | 23:59 | 10:54 | 11:27 | 11:56 |
| 20 | 22:14 | 23:09 | –:– | 10:38 | 11:17 | 11:52 |
| 10 | 22:26 | 23:16 | –:– | 10:24 | 11:08 | 11:47 |
| 0 | 22:37 | 23:23 | –:– | 10:11 | 10:59 | 11:43 |
| -10 | 22:48 | 23:29 | –:– | 09:58 | 10:51 | 11:39 |
| -20 | 22:59 | 23:36 | –:– | 09:44 | 10:41 | 11:35 |
| -30 | 23:12 | 23:43 | –:– | 09:27 | 10:31 | 11:30 |
| -35 | 23:20 | 23:48 | –:– | 09:18 | 10:24 | 11:27 |
| -40 | 23:28 | 23:53 | –:– | 09:07 | 10:17 | 11:23 |
| -45 | 23:38 | 23:58 | –:– | 08:54 | 10:09 | 11:19 |
| -50 | 23:50 | –:– | 00:05 | 08:38 | 09:59 | 11:15 |
| -52 | 23:56 | –:– | 00:08 | 08:30 | 09:54 | 11:12 |
| -54 | –:– | 00:02 | 00:12 | 08:22 | 09:49 | 11:10 |
| -56 | –:– | 00:09 | 00:15 | 08:13 | 09:43 | 11:07 |
| -58 | 00:10 | 00:16 | 00:20 | 08:02 | 09:37 | 11:04 |
| -60 | 00:24 | 00:25 | 00:24 | 07:49 | 09:29 | 11:01 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **09** | 07:48 | 07:35 | 11:52 | 03:59 | 16:24 | 19 | 79 |
| **10** | 07:21 | 07:08 | 11:53 | 04:48 | 17:11 | 20 | 69 |
| **11** | 06:54 | 06:40 | 11:53 | 05:33 | 17:54 | 21 | 59 |

## 2025 December 12, 13, 14 (Fri, Sat, Sun)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.2 GHA | Mars 1.2 Dec | Jupiter -2.6 GHA | Jupiter -2.6 Dec | Saturn 1.0 GHA | Saturn 1.0 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 12 Friday | 0 | 80 56.9 | 188 13.9 | -22 12.1 | 173 41.0 | -24 10.0 | 325 23.0 | 21 33.0 | 84 18.6 | -3 59.6 |
| | 1 | 95 59.4 | 203 13.1 | -22 12.6 | 188 41.4 | -24 10.0 | 340 25.8 | 21 33.1 | 99 21.0 | -3 59.5 |
| | 2 | 111 1.9 | 218 12.2 | -22 13.0 | 203 41.8 | -24 10.1 | 355 28.5 | 21 33.1 | 114 23.4 | -3 59.5 |
| | 3 | 126 4.3 | 233 11.3 | -22 13.5 | 218 42.2 | -24 10.1 | 10 31.2 | 21 33.2 | 129 25.8 | -3 59.5 |
| | 4 | 141 6.8 | 248 10.4 | -22 14.0 | 233 42.6 | -24 10.2 | 25 33.9 | 21 33.2 | 144 28.3 | -3 59.4 |
| | 5 | 156 9.3 | 263 9.5 | -22 14.4 | 248 43.0 | -24 10.2 | 40 36.6 | 21 33.3 | 159 30.7 | -3 59.4 |
| | 6 | 171 11.7 | 278 8.6 | -22 14.9 | 263 43.5 | -24 10.3 | 55 39.3 | 21 33.3 | 174 33.1 | -3 59.4 |
| | 7 | 186 14.2 | 293 7.7 | -22 15.4 | 278 43.9 | -24 10.3 | 70 42.0 | 21 33.4 | 189 35.5 | -3 59.3 |
| | 8 | 201 16.7 | 308 6.8 | -22 15.8 | 293 44.3 | -24 10.4 | 85 44.8 | 21 33.4 | 204 37.9 | -3 59.3 |
| | 9 | 216 19.1 | 323 5.9 | -22 16.3 | 308 44.7 | -24 10.4 | 100 47.5 | 21 33.5 | 219 40.3 | -3 59.3 |
| | 10 | 231 21.6 | 338 5.0 | -22 16.7 | 323 45.1 | -24 10.5 | 115 50.2 | 21 33.5 | 234 42.7 | -3 59.2 |
| | 11 | 246 24.0 | 353 4.1 | -22 17.2 | 338 45.5 | -24 10.5 | 130 52.9 | 21 33.6 | 249 45.1 | -3 59.2 |
| | 12 | 261 26.5 | 8 3.2 | -22 17.7 | 353 45.9 | -24 10.6 | 145 55.6 | 21 33.6 | 264 47.5 | -3 59.2 |
| | 13 | 276 29.0 | 23 2.3 | -22 18.1 | 8 46.3 | -24 10.6 | 160 58.3 | 21 33.7 | 279 49.9 | -3 59.1 |
| | 14 | 291 31.4 | 38 1.4 | -22 18.6 | 23 46.7 | -24 10.7 | 176 1.1 | 21 33.7 | 294 52.3 | -3 59.1 |
| | 15 | 306 33.9 | 53 0.4 | -22 19.0 | 38 47.1 | -24 10.7 | 191 3.8 | 21 33.7 | 309 54.8 | -3 59.1 |
| | 16 | 321 36.4 | 67 59.5 | -22 19.5 | 53 47.5 | -24 10.8 | 206 6.5 | 21 33.8 | 324 57.2 | -3 59.0 |
| | 17 | 336 38.8 | 82 58.6 | -22 19.9 | 68 47.9 | -24 10.8 | 221 9.2 | 21 33.8 | 339 59.6 | -3 59.0 |
| | 18 | 351 41.3 | 97 57.7 | -22 20.4 | 83 48.3 | -24 10.9 | 236 11.9 | 21 33.9 | 355 2.0 | -3 59.0 |
| | 19 | 6 43.8 | 112 56.8 | -22 20.8 | 98 48.7 | -24 10.9 | 251 14.6 | 21 33.9 | 10 4.4 | -3 58.9 |
| | 20 | 21 46.2 | 127 55.9 | -22 21.3 | 113 49.1 | -24 11.0 | 266 17.4 | 21 34.0 | 25 6.8 | -3 58.9 |
| | 21 | 36 48.7 | 142 55.0 | -22 21.7 | 128 49.5 | -24 11.0 | 281 20.1 | 21 34.0 | 40 9.2 | -3 58.9 |
| | 22 | 51 51.2 | 157 54.1 | -22 22.2 | 143 49.9 | -24 11.1 | 296 22.8 | 21 34.1 | 55 11.6 | -3 58.8 |
| | 23 | 66 53.6 | 172 53.2 | -22 22.6 | 158 50.3 | -24 11.1 | 311 25.5 | 21 34.1 | 70 14.0 | -3 58.8 |
| | | MP 18:34 | *v* -0.9 | *d* 0.5 | *v* 0.4 | *d* 0.1 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 13 Saturday | 0 | 81 56.1 | 187 52.3 | -22 23.0 | 173 50.7 | -24 11.1 | 326 28.2 | 21 34.2 | 85 16.4 | -3 58.8 |
| | 1 | 96 58.5 | 202 51.4 | -22 23.5 | 188 51.1 | -24 11.2 | 341 31.0 | 21 34.2 | 100 18.8 | -3 58.7 |
| | 2 | 112 1.0 | 217 50.5 | -22 23.9 | 203 51.5 | -24 11.2 | 356 33.7 | 21 34.3 | 115 21.2 | -3 58.7 |
| | 3 | 127 3.5 | 232 49.6 | -22 24.4 | 218 52.0 | -24 11.3 | 11 36.4 | 21 34.3 | 130 23.6 | -3 58.7 |
| | 4 | 142 5.9 | 247 48.7 | -22 24.8 | 233 52.4 | -24 11.3 | 26 39.1 | 21 34.4 | 145 26.1 | -3 58.6 |
| | 5 | 157 8.4 | 262 47.8 | -22 25.2 | 248 52.8 | -24 11.4 | 41 41.8 | 21 34.4 | 160 28.5 | -3 58.6 |
| | 6 | 172 10.9 | 277 46.9 | -22 25.7 | 263 53.2 | -24 11.4 | 56 44.6 | 21 34.5 | 175 30.9 | -3 58.6 |
| | 7 | 187 13.3 | 292 46.0 | -22 26.1 | 278 53.6 | -24 11.4 | 71 47.3 | 21 34.5 | 190 33.3 | -3 58.5 |
| | 8 | 202 15.8 | 307 45.0 | -22 26.6 | 293 54.0 | -24 11.5 | 86 50.0 | 21 34.6 | 205 35.7 | -3 58.5 |
| | 9 | 217 18.3 | 322 44.1 | -22 27.0 | 308 54.4 | -24 11.5 | 101 52.7 | 21 34.6 | 220 38.1 | -3 58.5 |
| | 10 | 232 20.7 | 337 43.2 | -22 27.4 | 323 54.8 | -24 11.6 | 116 55.4 | 21 34.7 | 235 40.5 | -3 58.4 |
| | 11 | 247 23.2 | 352 42.3 | -22 27.8 | 338 55.2 | -24 11.6 | 131 58.2 | 21 34.7 | 250 42.9 | -3 58.4 |
| | 12 | 262 25.6 | 7 41.4 | -22 28.3 | 353 55.6 | -24 11.6 | 147 0.9 | 21 34.8 | 265 45.3 | -3 58.4 |
| | 13 | 277 28.1 | 22 40.5 | -22 28.7 | 8 56.0 | -24 11.7 | 162 3.6 | 21 34.8 | 280 47.7 | -3 58.3 |
| | 14 | 292 30.6 | 37 39.6 | -22 29.1 | 23 56.4 | -24 11.7 | 177 6.3 | 21 34.8 | 295 50.1 | -3 58.3 |
| | 15 | 307 33.0 | 52 38.7 | -22 29.6 | 38 56.8 | -24 11.8 | 192 9.1 | 21 34.9 | 310 52.5 | -3 58.2 |
| | 16 | 322 35.5 | 67 37.8 | -22 30.0 | 53 57.2 | -24 11.8 | 207 11.8 | 21 34.9 | 325 54.9 | -3 58.2 |
| | 17 | 337 38.0 | 82 36.8 | -22 30.4 | 68 57.6 | -24 11.8 | 222 14.5 | 21 35.0 | 340 57.3 | -3 58.2 |
| | 18 | 352 40.4 | 97 35.9 | -22 30.8 | 83 58.0 | -24 11.9 | 237 17.2 | 21 35.0 | 355 59.7 | -3 58.1 |
| | 19 | 7 42.9 | 112 35.0 | -22 31.3 | 98 58.4 | -24 11.9 | 252 20.0 | 21 35.1 | 11 2.1 | -3 58.1 |
| | 20 | 22 45.4 | 127 34.1 | -22 31.7 | 113 58.8 | -24 11.9 | 267 22.7 | 21 35.1 | 26 4.5 | -3 58.1 |
| | 21 | 37 47.8 | 142 33.2 | -22 32.1 | 128 59.2 | -24 12.0 | 282 25.4 | 21 35.2 | 41 6.9 | -3 58.0 |
| | 22 | 52 50.3 | 157 32.3 | -22 32.5 | 143 59.6 | -24 12.0 | 297 28.1 | 21 35.2 | 56 9.3 | -3 58.0 |
| | 23 | 67 52.8 | 172 31.4 | -22 32.9 | 159 0.0 | -24 12.0 | 312 30.9 | 21 35.3 | 71 11.7 | -3 58.0 |
| | | MP 18:31 | *v* -0.9 | *d* 0.4 | *v* 0.4 | *d* 0.0 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 14 Sunday | 0 | 82 55.2 | 187 30.5 | -22 33.3 | 174 0.4 | -24 12.1 | 327 33.6 | 21 35.3 | 86 14.1 | -3 57.9 |
| | 1 | 97 57.7 | 202 29.5 | -22 33.8 | 189 0.8 | -24 12.1 | 342 36.3 | 21 35.4 | 101 16.5 | -3 57.9 |
| | 2 | 113 0.1 | 217 28.6 | -22 34.2 | 204 1.2 | -24 12.1 | 357 39.0 | 21 35.4 | 116 18.9 | -3 57.8 |
| | 3 | 128 2.6 | 232 27.7 | -22 34.6 | 219 1.6 | -24 12.2 | 12 41.8 | 21 35.5 | 131 21.3 | -3 57.8 |
| | 4 | 143 5.1 | 247 26.8 | -22 35.0 | 234 2.0 | -24 12.2 | 27 44.5 | 21 35.5 | 146 23.7 | -3 57.8 |
| | 5 | 158 7.5 | 262 25.9 | -22 35.4 | 249 2.4 | -24 12.2 | 42 47.2 | 21 35.6 | 161 26.2 | -3 57.7 |
| | 6 | 173 10.0 | 277 25.0 | -22 35.8 | 264 2.8 | -24 12.3 | 57 49.9 | 21 35.6 | 176 28.6 | -3 57.7 |
| | 7 | 188 12.5 | 292 24.0 | -22 36.2 | 279 3.2 | -24 12.3 | 72 52.7 | 21 35.7 | 191 31.0 | -3 57.7 |
| | 8 | 203 14.9 | 307 23.1 | -22 36.6 | 294 3.6 | -24 12.3 | 87 55.4 | 21 35.7 | 206 33.4 | -3 57.6 |
| | 9 | 218 17.4 | 322 22.2 | -22 37.0 | 309 4.0 | -24 12.3 | 102 58.1 | 21 35.8 | 221 35.8 | -3 57.6 |
| | 10 | 233 19.9 | 337 21.3 | -22 37.4 | 324 4.4 | -24 12.4 | 118 0.9 | 21 35.8 | 236 38.2 | -3 57.6 |
| | 11 | 248 22.3 | 352 20.4 | -22 37.8 | 339 4.8 | -24 12.4 | 133 3.6 | 21 35.9 | 251 40.6 | -3 57.5 |
| | 12 | 263 24.8 | 7 19.5 | -22 38.2 | 354 5.2 | -24 12.4 | 148 6.3 | 21 35.9 | 266 43.0 | -3 57.5 |
| | 13 | 278 27.3 | 22 18.5 | -22 38.6 | 9 5.6 | -24 12.5 | 163 9.1 | 21 36.0 | 281 45.4 | -3 57.4 |
| | 14 | 293 29.7 | 37 17.6 | -22 39.0 | 24 6.0 | -24 12.5 | 178 11.8 | 21 36.0 | 296 47.8 | -3 57.4 |
| | 15 | 308 32.2 | 52 16.7 | -22 39.4 | 39 6.4 | -24 12.5 | 193 14.5 | 21 36.1 | 311 50.2 | -3 57.4 |
| | 16 | 323 34.6 | 67 15.8 | -22 39.8 | 54 6.8 | -24 12.5 | 208 17.2 | 21 36.1 | 326 52.6 | -3 57.3 |
| | 17 | 338 37.1 | 82 14.9 | -22 40.2 | 69 7.2 | -24 12.6 | 223 20.0 | 21 36.2 | 341 55.0 | -3 57.3 |
| | 18 | 353 39.6 | 97 13.9 | -22 40.6 | 84 7.6 | -24 12.6 | 238 22.7 | 21 36.2 | 356 57.4 | -3 57.3 |
| | 19 | 8 42.0 | 112 13.0 | -22 41.0 | 99 8.0 | -24 12.6 | 253 25.4 | 21 36.3 | 11 59.8 | -3 57.2 |
| | 20 | 23 44.5 | 127 12.1 | -22 41.4 | 114 8.4 | -24 12.6 | 268 28.2 | 21 36.3 | 27 2.2 | -3 57.2 |
| | 21 | 38 47.0 | 142 11.2 | -22 41.8 | 129 8.8 | -24 12.7 | 283 30.9 | 21 36.4 | 42 4.6 | -3 57.1 |
| | 22 | 53 49.4 | 157 10.2 | -22 42.2 | 144 9.2 | -24 12.7 | 298 33.6 | 21 36.4 | 57 7.0 | -3 57.1 |
| | 23 | 68 51.9 | 172 9.3 | -22 42.6 | 159 9.6 | -24 12.7 | 313 36.4 | 21 36.5 | 72 9.4 | -3 57.1 |
| | | MP 18:27 | *v* -0.9 | *d* 0.4 | *v* 0.4 | *d* 0.0 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.1 |
| Achernar | 335 19.3 | -57 6.5 |
| Acrux | 172 59.5 | -63 14.3 |
| Adhara | 255 4.9 | -29 0.3 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.5 | 55 48.9 |
| Alkaid | 152 51.7 | 49 10.8 |
| Alnair | 27 32.1 | -46 50.3 |
| Alnilam | 275 36.6 | -1 11.1 |
| Alphard | 217 46.8 | -8 46.2 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.3 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.5 | 19 2.7 |
| Atria | 107 9.4 | -69 4.4 |
| Avior | 234 14.0 | -59 35.3 |
| Bellatrix | 278 21.7 | 6 22.4 |
| Betelgeuse | 270 50.9 | 7 24.7 |
| Canopus | 263 51.5 | -52 42.4 |
| Capella | 280 20.3 | 46 1.5 |
| Deneb | 49 25.6 | 45 22.6 |
| Denebola | 182 24.2 | 14 25.5 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.0 | 61 36.3 |
| Elnath | 278 0.5 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.1 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 51.0 | -57 15.2 |
| Gienah | 175 42.9 | -17 41.1 |
| Hadar | 148 35.4 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.3 |
| Kaus Aust. | 83 31.9 | -34 22.4 |
| Kochab | 137 20.8 | 74 2.6 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.6 |
| Menkent | 147 57.0 | -36 29.7 |
| Miaplacidus | 221 37.6 | -69 49.1 |
| Mirfak | 308 26.7 | 49 57.3 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.3 |
| Pollux | 243 16.1 | 27 57.7 |
| Procyon | 244 49.8 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.5 | 11 50.4 |
| Rigel | 281 2.8 | -8 10.3 |
| Rigil Kent. | 139 39.8 | -60 56.4 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 30.0 | 56 41.1 |
| Shaula | 96 9.8 | -37 7.3 |
| Sirius | 258 25.2 | -16 45.0 |
| Spica | 158 21.7 | -11 17.8 |
| Suhail | 222 45.5 | -43 32.0 |
| Vega | 80 33.1 | 38 48.5 |
| Zuben'ubi | 136 55.5 | -16 8.9 |

| 12 Fri | SHA | MP |
|---|---|---|
| Venus | 107 17.0 | 11:28 |
| Mars | 92 44.1 | 12:25 |
| Jupiter | 244 26.1 | 02:18 |
| Saturn | 3 21.7 | 18:20 |

| 13 Sat | SHA | MP |
|---|---|---|
| Venus | 105 56.2 | 11:29 |
| Mars | 91 54.7 | 12:24 |
| Jupiter | 244 32.2 | 02:14 |
| Saturn | 3 20.3 | 18:16 |

| 14 Sun | SHA | MP |
|---|---|---|
| Venus | 104 35.2 | 11:31 |
| Mars | 91 5.2 | 12:24 |
| Jupiter | 244 38.4 | 02:09 |
| Saturn | 3 18.9 | 18:12 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **12 Friday** | 0 | 181 36.5 | -23 4.6 | 268 52.0 | 15.8 | 2 35.6 | -14.8 | 55.8 |
| | 1 | 196 36.2 | -23 4.8 | 283 26.8 | 15.9 | 2 20.8 | -14.8 | 55.8 |
| | 2 | 211 35.9 | -23 5.0 | 298 1.7 | 15.9 | 2 6.0 | -14.8 | 55.8 |
| | 3 | 226 35.7 | -23 5.1 | 312 36.6 | 15.9 | 1 51.2 | -14.8 | 55.8 |
| | 4 | 241 35.4 | -23 5.3 | 327 11.5 | 16.0 | 1 36.4 | -14.8 | 55.7 |
| | 5 | 256 35.1 | -23 5.5 | 341 46.5 | 16.0 | 1 21.6 | -14.8 | 55.7 |
| | 6 | 271 34.8 | -23 5.7 | 356 21.5 | 16.0 | 1 6.9 | -14.7 | 55.7 |
| | 7 | 286 34.5 | -23 5.9 | 10 56.6 | 16.1 | 0 52.1 | -14.7 | 55.6 |
| | 8 | 301 34.2 | -23 6.1 | 25 31.7 | 16.1 | 0 37.4 | -14.7 | 55.6 |
| | 9 | 316 33.9 | -23 6.2 | 40 6.8 | 16.1 | 0 22.7 | -14.7 | 55.6 |
| | 10 | 331 33.6 | -23 6.4 | 54 41.9 | 16.2 | 0 8.0 | -14.7 | 55.5 |
| | 11 | 346 33.3 | -23 6.6 | 69 17.1 | 16.2 | -0 6.7 | 14.7 | 55.5 |
| | 12 | 1 33.0 | -23 6.8 | 83 52.3 | 16.2 | -0 21.4 | 14.7 | 55.5 |
| | 13 | 16 32.7 | -23 6.9 | 98 27.5 | 16.2 | -0 36.1 | 14.6 | 55.5 |
| | 14 | 31 32.4 | -23 7.1 | 113 2.8 | 16.3 | -0 50.7 | 14.6 | 55.4 |
| | 15 | 46 32.1 | -23 7.3 | 127 38.0 | 16.3 | -1 5.3 | 14.6 | 55.4 |
| | 16 | 61 31.9 | -23 7.5 | 142 13.3 | 16.3 | -1 19.9 | 14.6 | 55.4 |
| | 17 | 76 31.6 | -23 7.6 | 156 48.6 | 16.3 | -1 34.5 | 14.6 | 55.4 |
| | 18 | 91 31.3 | -23 7.8 | 171 24.0 | 16.3 | -1 49.1 | 14.5 | 55.3 |
| | 19 | 106 31.0 | -23 8.0 | 185 59.3 | 16.4 | -2 3.7 | 14.5 | 55.3 |
| | 20 | 121 30.7 | -23 8.2 | 200 34.7 | 16.4 | -2 18.2 | 14.5 | 55.3 |
| | 21 | 136 30.4 | -23 8.3 | 215 10.1 | 16.4 | -2 32.7 | 14.5 | 55.2 |
| | 22 | 151 30.1 | -23 8.5 | 229 45.5 | 16.4 | -2 47.2 | 14.5 | 55.2 |
| | 23 | 166 29.8 | -23 8.7 | 244 20.9 | 16.4 | -3 1.6 | 14.4 | 55.2 |
| | | *v* -0.3 | SD 16.2 | *d* 0.2 | | SD 15.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **13 Saturday** | 0 | 181 29.5 | -23 8.8 | 258 56.3 | 16.4 | -3 16.1 | 14.4 | 55.2 |
| | 1 | 196 29.2 | -23 9.0 | 273 31.7 | 16.4 | -3 30.5 | 14.4 | 55.1 |
| | 2 | 211 28.9 | -23 9.2 | 288 7.2 | 16.4 | -3 44.9 | 14.4 | 55.1 |
| | 3 | 226 28.6 | -23 9.3 | 302 42.6 | 16.5 | -3 59.2 | 14.3 | 55.1 |
| | 4 | 241 28.3 | -23 9.5 | 317 18.1 | 16.5 | -4 13.6 | 14.3 | 55.1 |
| | 5 | 256 28.0 | -23 9.7 | 331 53.5 | 16.5 | -4 27.9 | 14.3 | 55.0 |
| | 6 | 271 27.7 | -23 9.8 | 346 29.0 | 16.5 | -4 42.1 | 14.2 | 55.0 |
| | 7 | 286 27.4 | -23 10.0 | 1 4.5 | 16.5 | -4 56.4 | 14.2 | 55.0 |
| | 8 | 301 27.1 | -23 10.2 | 15 39.9 | 16.5 | -5 10.6 | 14.2 | 55.0 |
| | 9 | 316 26.8 | -23 10.3 | 30 15.4 | 16.5 | -5 24.8 | 14.2 | 55.0 |
| | 10 | 331 26.6 | -23 10.5 | 44 50.9 | 16.5 | -5 39.0 | 14.1 | 54.9 |
| | 11 | 346 26.3 | -23 10.6 | 59 26.3 | 16.5 | -5 53.1 | 14.1 | 54.9 |
| | 12 | 1 26.0 | -23 10.8 | 74 1.8 | 16.5 | -6 7.2 | 14.1 | 54.9 |
| | 13 | 16 25.7 | -23 11.0 | 88 37.3 | 16.5 | -6 21.2 | 14.0 | 54.9 |
| | 14 | 31 25.4 | -23 11.1 | 103 12.7 | 16.5 | -6 35.3 | 14.0 | 54.8 |
| | 15 | 46 25.1 | -23 11.3 | 117 48.2 | 16.4 | -6 49.3 | 14.0 | 54.8 |
| | 16 | 61 24.8 | -23 11.4 | 132 23.6 | 16.4 | -7 3.2 | 13.9 | 54.8 |
| | 17 | 76 24.5 | -23 11.6 | 146 59.1 | 16.4 | -7 17.1 | 13.9 | 54.8 |
| | 18 | 91 24.2 | -23 11.7 | 161 34.5 | 16.4 | -7 31.0 | 13.8 | 54.8 |
| | 19 | 106 23.9 | -23 11.9 | 176 9.9 | 16.4 | -7 44.9 | 13.8 | 54.7 |
| | 20 | 121 23.6 | -23 12.0 | 190 45.3 | 16.4 | -7 58.7 | 13.8 | 54.7 |
| | 21 | 136 23.3 | -23 12.2 | 205 20.7 | 16.4 | -8 12.5 | 13.7 | 54.7 |
| | 22 | 151 23.0 | -23 12.3 | 219 56.1 | 16.4 | -8 26.2 | 13.7 | 54.7 |
| | 23 | 166 22.7 | -23 12.5 | 234 31.4 | 16.3 | -8 39.9 | 13.7 | 54.7 |
| | | *v* -0.3 | SD 16.2 | *d* 0.2 | | SD 15.1 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **14 Sunday** | 0 | 181 22.4 | -23 12.6 | 249 6.8 | 16.3 | -8 53.5 | 13.6 | 54.6 |
| | 1 | 196 22.1 | -23 12.8 | 263 42.1 | 16.3 | -9 7.2 | 13.6 | 54.6 |
| | 2 | 211 21.8 | -23 12.9 | 278 17.4 | 16.3 | -9 20.7 | 13.5 | 54.6 |
| | 3 | 226 21.5 | -23 13.1 | 292 52.7 | 16.3 | -9 34.3 | 13.5 | 54.6 |
| | 4 | 241 21.2 | -23 13.2 | 307 28.0 | 16.2 | -9 47.7 | 13.4 | 54.6 |
| | 5 | 256 20.9 | -23 13.4 | 322 3.2 | 16.2 | -10 1.2 | 13.4 | 54.6 |
| | 6 | 271 20.6 | -23 13.5 | 336 38.5 | 16.2 | -10 14.6 | 13.4 | 54.5 |
| | 7 | 286 20.3 | -23 13.7 | 351 13.7 | 16.2 | -10 27.9 | 13.3 | 54.5 |
| | 8 | 301 20.0 | -23 13.8 | 5 48.8 | 16.2 | -10 41.2 | 13.3 | 54.5 |
| | 9 | 316 19.7 | -23 13.9 | 20 24.0 | 16.1 | -10 54.5 | 13.2 | 54.5 |
| | 10 | 331 19.4 | -23 14.1 | 34 59.1 | 16.1 | -11 7.7 | 13.2 | 54.5 |
| | 11 | 346 19.1 | -23 14.2 | 49 34.2 | 16.1 | -11 20.9 | 13.1 | 54.5 |
| | 12 | 1 18.8 | -23 14.4 | 64 9.3 | 16.0 | -11 34.0 | 13.1 | 54.4 |
| | 13 | 16 18.5 | -23 14.5 | 78 44.3 | 16.0 | -11 47.0 | 13.0 | 54.4 |
| | 14 | 31 18.2 | -23 14.6 | 93 19.3 | 16.0 | -12 0.1 | 13.0 | 54.4 |
| | 15 | 46 17.9 | -23 14.8 | 107 54.3 | 15.9 | -12 13.0 | 12.9 | 54.4 |
| | 16 | 61 17.6 | -23 14.9 | 122 29.3 | 15.9 | -12 25.9 | 12.9 | 54.4 |
| | 17 | 76 17.3 | -23 15.1 | 137 4.2 | 15.9 | -12 38.8 | 12.8 | 54.4 |
| | 18 | 91 17.0 | -23 15.2 | 151 39.1 | 15.8 | -12 51.6 | 12.8 | 54.4 |
| | 19 | 106 16.7 | -23 15.3 | 166 13.9 | 15.8 | -13 4.3 | 12.7 | 54.3 |
| | 20 | 121 16.4 | -23 15.5 | 180 48.7 | 15.8 | -13 17.0 | 12.6 | 54.3 |
| | 21 | 136 16.1 | -23 15.6 | 195 23.5 | 15.7 | -13 29.7 | 12.6 | 54.3 |
| | 22 | 151 15.8 | -23 15.7 | 209 58.2 | 15.7 | -13 42.3 | 12.5 | 54.3 |
| | 23 | 166 15.5 | -23 15.9 | 224 32.9 | 15.7 | -13 54.8 | 12.5 | 54.3 |
| | | *v* -0.3 | SD 16.2 | *d* 0.1 | | SD 14.9 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:16 | 10:38 | | | 13:09 | 15:31 |
| 70 | 07:57 | 09:42 | | | 14:05 | 15:51 |
| 68 | 07:41 | 09:09 | | | 14:38 | 16:06 |
| 66 | 07:29 | 08:45 | 10:21 | 13:26 | 15:03 | 16:19 |
| 64 | 07:18 | 08:26 | 09:42 | 14:06 | 15:22 | 16:29 |
| 62 | 07:09 | 08:10 | 09:15 | 14:33 | 15:37 | 16:39 |
| 60 | 07:00 | 07:57 | 08:54 | 14:54 | 15:51 | 16:47 |
| 58 | 06:53 | 07:45 | 08:37 | 15:11 | 16:02 | 16:54 |
| 56 | 06:46 | 07:35 | 08:22 | 15:25 | 16:12 | 17:01 |
| 54 | 06:40 | 07:26 | 08:10 | 15:37 | 16:21 | 17:07 |
| 52 | 06:35 | 07:18 | 07:59 | 15:48 | 16:29 | 17:13 |
| 50 | 06:30 | 07:11 | 07:49 | 15:58 | 16:36 | 17:18 |
| 45 | 06:18 | 06:55 | 07:29 | 16:18 | 16:52 | 17:29 |
| 40 | 06:08 | 06:42 | 07:13 | 16:35 | 17:05 | 17:39 |
| 35 | 05:59 | 06:30 | 06:59 | 16:49 | 17:17 | 17:49 |
| 30 | 05:50 | 06:20 | 06:46 | 17:01 | 17:27 | 17:57 |
| 20 | 05:34 | 06:02 | 06:26 | 17:22 | 17:46 | 18:13 |
| 10 | 05:18 | 05:44 | 06:07 | 17:40 | 18:03 | 18:29 |
| 0 | 05:01 | 05:28 | 05:50 | 17:58 | 18:20 | 18:46 |
| -10 | 04:43 | 05:10 | 05:33 | 18:15 | 18:38 | 19:05 |
| -20 | 04:20 | 04:50 | 05:14 | 18:34 | 18:58 | 19:27 |
| -30 | 03:52 | 04:25 | 04:52 | 18:55 | 19:23 | 19:56 |
| -35 | 03:33 | 04:10 | 04:40 | 19:08 | 19:38 | 20:14 |
| -40 | 03:11 | 03:52 | 04:25 | 19:23 | 19:56 | 20:37 |
| -45 | 02:41 | 03:30 | 04:07 | 19:41 | 20:18 | 21:07 |
| -50 | 01:57 | 03:01 | 03:45 | 20:03 | 20:47 | 21:52 |
| -52 | 01:30 | 02:46 | 03:34 | 20:14 | 21:02 | 22:18 |
| -54 | 00:49 | 02:29 | 03:22 | 20:26 | 21:20 | 23:01 |
| -56 | //// | 02:07 | 03:08 | 20:40 | 21:41 | //// |
| -58 | //// | 01:39 | 02:52 | 20:56 | 22:10 | //// |
| -60 | //// | 00:54 | 02:32 | 21:16 | 22:56 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **12** | **13** | **14** | **12** | **13** | **14** |
| 72 | –:– | 01:33 | 03:38 | 12:18 | 11:46 | 11:07 |
| 70 | –:– | 01:28 | 03:22 | 12:19 | 11:54 | 11:26 |
| 68 | –:– | 01:23 | 03:09 | 12:20 | 12:01 | 11:41 |
| 66 | –:– | 01:20 | 02:58 | 12:20 | 12:07 | 11:53 |
| 64 | –:– | 01:17 | 02:50 | 12:21 | 12:12 | 12:03 |
| 62 | –:– | 01:14 | 02:42 | 12:21 | 12:16 | 12:12 |
| 60 | –:– | 01:12 | 02:36 | 12:21 | 12:20 | 12:20 |
| 58 | –:– | 01:10 | 02:30 | 12:21 | 12:24 | 12:26 |
| 56 | –:– | 01:08 | 02:25 | 12:22 | 12:27 | 12:32 |
| 54 | –:– | 01:06 | 02:21 | 12:22 | 12:29 | 12:38 |
| 52 | –:– | 01:05 | 02:17 | 12:22 | 12:32 | 12:42 |
| 50 | –:– | 01:03 | 02:13 | 12:22 | 12:34 | 12:47 |
| 45 | –:– | 01:01 | 02:06 | 12:23 | 12:39 | 12:56 |
| 40 | –:– | 00:58 | 01:59 | 12:23 | 12:43 | 13:04 |
| 35 | –:– | 00:56 | 01:54 | 12:23 | 12:47 | 13:11 |
| 30 | –:– | 00:54 | 01:49 | 12:24 | 12:50 | 13:17 |
| 20 | 00:01 | 00:51 | 01:40 | 12:24 | 12:56 | 13:28 |
| 10 | 00:03 | 00:48 | 01:33 | 12:24 | 13:01 | 13:37 |
| 0 | 00:05 | 00:46 | 01:26 | 12:25 | 13:05 | 13:46 |
| -10 | 00:07 | 00:43 | 01:20 | 12:25 | 13:10 | 13:55 |
| -20 | 00:09 | 00:41 | 01:12 | 12:25 | 13:15 | 14:04 |
| -30 | 00:11 | 00:38 | 01:04 | 12:26 | 13:21 | 14:15 |
| -35 | 00:13 | 00:36 | 01:00 | 12:26 | 13:24 | 14:21 |
| -40 | 00:14 | 00:34 | 00:55 | 12:26 | 13:28 | 14:28 |
| -45 | 00:16 | 00:32 | 00:49 | 12:27 | 13:32 | 14:37 |
| -50 | 00:18 | 00:30 | 00:42 | 12:27 | 13:37 | 14:47 |
| -52 | 00:19 | 00:28 | 00:38 | 12:27 | 13:40 | 14:52 |
| -54 | 00:20 | 00:27 | 00:35 | 12:27 | 13:42 | 14:57 |
| -56 | 00:21 | 00:26 | 00:31 | 12:27 | 13:45 | 15:03 |
| -58 | 00:22 | 00:24 | 00:26 | 12:28 | 13:48 | 15:09 |
| -60 | 00:23 | 00:22 | 00:21 | 12:28 | 13:52 | 15:17 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **12** | 06:26 | 06:12 | 11:54 | 06:15 | 18:35 | 22 | 49 |
| **13** | 05:58 | 05:44 | 11:54 | 06:56 | 19:16 | 23 | 39 |
| **14** | 05:30 | 05:15 | 11:55 | 07:36 | 19:57 | 24 | 30 |

## 2025 December 15, 16, 17 (Mon, Tue, Wed)

| | | Aries | Venus -3.9 | | Mars 1.2 | | Jupiter -2.6 | | Saturn 1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 15 Monday | 0 | 83 54.4 | 187 8.4 | -22 42.9 | 174 10.0 | -24 12.7 | 328 39.1 | 21 36.5 | 87 11.8 | -3 57.0 |
| | 1 | 98 56.8 | 202 7.5 | -22 43.3 | 189 10.4 | -24 12.8 | 343 41.8 | 21 36.6 | 102 14.2 | -3 57.0 |
| | 2 | 113 59.3 | 217 6.6 | -22 43.7 | 204 10.8 | -24 12.8 | 358 44.6 | 21 36.6 | 117 16.6 | -3 57.0 |
| | 3 | 129 1.7 | 232 5.6 | -22 44.1 | 219 11.2 | -24 12.8 | 13 47.3 | 21 36.7 | 132 19.0 | -3 56.9 |
| | 4 | 144 4.2 | 247 4.7 | -22 44.5 | 234 11.6 | -24 12.8 | 28 50.0 | 21 36.7 | 147 21.4 | -3 56.9 |
| | 5 | 159 6.7 | 262 3.8 | -22 44.9 | 249 12.0 | -24 12.8 | 43 52.8 | 21 36.8 | 162 23.7 | -3 56.8 |
| | 6 | 174 9.1 | 277 2.9 | -22 45.2 | 264 12.4 | -24 12.9 | 58 55.5 | 21 36.8 | 177 26.1 | -3 56.8 |
| | 7 | 189 11.6 | 292 1.9 | -22 45.6 | 279 12.8 | -24 12.9 | 73 58.2 | 21 36.9 | 192 28.5 | -3 56.8 |
| | 8 | 204 14.1 | 307 1.0 | -22 46.0 | 294 13.2 | -24 12.9 | 89 1.0 | 21 36.9 | 207 30.9 | -3 56.7 |
| | 9 | 219 16.5 | 322 0.1 | -22 46.4 | 309 13.6 | -24 12.9 | 104 3.7 | 21 37.0 | 222 33.3 | -3 56.7 |
| | 10 | 234 19.0 | 336 59.2 | -22 46.8 | 324 14.0 | -24 12.9 | 119 6.4 | 21 37.0 | 237 35.7 | -3 56.6 |
| | 11 | 249 21.5 | 351 58.2 | -22 47.1 | 339 14.4 | -24 12.9 | 134 9.2 | 21 37.1 | 252 38.1 | -3 56.6 |
| | 12 | 264 23.9 | 6 57.3 | -22 47.5 | 354 14.8 | -24 13.0 | 149 11.9 | 21 37.1 | 267 40.5 | -3 56.6 |
| | 13 | 279 26.4 | 21 56.4 | -22 47.9 | 9 15.2 | -24 13.0 | 164 14.6 | 21 37.2 | 282 42.9 | -3 56.5 |
| | 14 | 294 28.9 | 36 55.4 | -22 48.2 | 24 15.6 | -24 13.0 | 179 17.4 | 21 37.2 | 297 45.3 | -3 56.5 |
| | 15 | 309 31.3 | 51 54.5 | -22 48.6 | 39 15.9 | -24 13.0 | 194 20.1 | 21 37.3 | 312 47.7 | -3 56.5 |
| | 16 | 324 33.8 | 66 53.6 | -22 49.0 | 54 16.3 | -24 13.0 | 209 22.9 | 21 37.3 | 327 50.1 | -3 56.4 |
| | 17 | 339 36.2 | 81 52.7 | -22 49.3 | 69 16.7 | -24 13.0 | 224 25.6 | 21 37.4 | 342 52.5 | -3 56.4 |
| | 18 | 354 38.7 | 96 51.7 | -22 49.7 | 84 17.1 | -24 13.1 | 239 28.3 | 21 37.4 | 357 54.9 | -3 56.3 |
| | 19 | 9 41.2 | 111 50.8 | -22 50.1 | 99 17.5 | -24 13.1 | 254 31.1 | 21 37.5 | 12 57.3 | -3 56.3 |
| | 20 | 24 43.6 | 126 49.9 | -22 50.4 | 114 17.9 | -24 13.1 | 269 33.8 | 21 37.5 | 27 59.7 | -3 56.3 |
| | 21 | 39 46.1 | 141 48.9 | -22 50.8 | 129 18.3 | -24 13.1 | 284 36.5 | 21 37.6 | 43 2.1 | -3 56.2 |
| | 22 | 54 48.6 | 156 48.0 | -22 51.2 | 144 18.7 | -24 13.1 | 299 39.3 | 21 37.6 | 58 4.5 | -3 56.2 |
| | 23 | 69 51.0 | 171 47.1 | -22 51.5 | 159 19.1 | -24 13.1 | 314 42.0 | 21 37.7 | 73 6.9 | -3 56.1 |
| | | MP 18:23 | *v* -0.9 | *d* 0.4 | *v* 0.4 | *d* 0.0 | *v* 2.7 | *d* 0.0 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 16 Tuesday | 0 | 84 53.5 | 186 46.2 | -22 51.9 | 174 19.5 | -24 13.1 | 329 44.8 | 21 37.7 | 88 9.3 | -3 56.1 |
| | 1 | 99 56.0 | 201 45.2 | -22 52.2 | 189 19.9 | -24 13.1 | 344 47.5 | 21 37.8 | 103 11.7 | -3 56.1 |
| | 2 | 114 58.4 | 216 44.3 | -22 52.6 | 204 20.3 | -24 13.1 | 359 50.2 | 21 37.8 | 118 14.1 | -3 56.0 |
| | 3 | 130 0.9 | 231 43.4 | -22 52.9 | 219 20.7 | -24 13.2 | 14 53.0 | 21 37.9 | 133 16.5 | -3 56.0 |
| | 4 | 145 3.4 | 246 42.4 | -22 53.3 | 234 21.1 | -24 13.2 | 29 55.7 | 21 37.9 | 148 18.9 | -3 55.9 |
| | 5 | 160 5.8 | 261 41.5 | -22 53.6 | 249 21.5 | -24 13.2 | 44 58.5 | 21 38.0 | 163 21.3 | -3 55.9 |
| | 6 | 175 8.3 | 276 40.6 | -22 54.0 | 264 21.9 | -24 13.2 | 60 1.2 | 21 38.0 | 178 23.6 | -3 55.9 |
| | 7 | 190 10.7 | 291 39.6 | -22 54.3 | 279 22.3 | -24 13.2 | 75 3.9 | 21 38.1 | 193 26.0 | -3 55.8 |
| | 8 | 205 13.2 | 306 38.7 | -22 54.7 | 294 22.7 | -24 13.2 | 90 6.7 | 21 38.1 | 208 28.4 | -3 55.8 |
| | 9 | 220 15.7 | 321 37.8 | -22 55.0 | 309 23.1 | -24 13.2 | 105 9.4 | 21 38.2 | 223 30.8 | -3 55.7 |
| | 10 | 235 18.1 | 336 36.8 | -22 55.4 | 324 23.5 | -24 13.2 | 120 12.2 | 21 38.2 | 238 33.2 | -3 55.7 |
| | 11 | 250 20.6 | 351 35.9 | -22 55.7 | 339 23.9 | -24 13.2 | 135 14.9 | 21 38.3 | 253 35.6 | -3 55.7 |
| | 12 | 265 23.1 | 6 35.0 | -22 56.1 | 354 24.3 | -24 13.2 | 150 17.6 | 21 38.3 | 268 38.0 | -3 55.6 |
| | 13 | 280 25.5 | 21 34.0 | -22 56.4 | 9 24.6 | -24 13.2 | 165 20.4 | 21 38.4 | 283 40.4 | -3 55.6 |
| | 14 | 295 28.0 | 36 33.1 | -22 56.8 | 24 25.0 | -24 13.2 | 180 23.1 | 21 38.4 | 298 42.8 | -3 55.5 |
| | 15 | 310 30.5 | 51 32.2 | -22 57.1 | 39 25.4 | -24 13.2 | 195 25.9 | 21 38.5 | 313 45.2 | -3 55.5 |
| | 16 | 325 32.9 | 66 31.2 | -22 57.4 | 54 25.8 | -24 13.2 | 210 28.6 | 21 38.5 | 328 47.6 | -3 55.5 |
| | 17 | 340 35.4 | 81 30.3 | -22 57.8 | 69 26.2 | -24 13.3 | 225 31.4 | 21 38.6 | 343 50.0 | -3 55.4 |
| | 18 | 355 37.9 | 96 29.4 | -22 58.1 | 84 26.6 | -24 13.3 | 240 34.1 | 21 38.6 | 358 52.4 | -3 55.4 |
| | 19 | 10 40.3 | 111 28.4 | -22 58.5 | 99 27.0 | -24 13.3 | 255 36.9 | 21 38.7 | 13 54.7 | -3 55.3 |
| | 20 | 25 42.8 | 126 27.5 | -22 58.8 | 114 27.4 | -24 13.3 | 270 39.6 | 21 38.7 | 28 57.1 | -3 55.3 |
| | 21 | 40 45.2 | 141 26.6 | -22 59.1 | 129 27.8 | -24 13.3 | 285 42.3 | 21 38.8 | 43 59.5 | -3 55.2 |
| | 22 | 55 47.7 | 156 25.6 | -22 59.5 | 144 28.2 | -24 13.3 | 300 45.1 | 21 38.8 | 59 1.9 | -3 55.2 |
| | 23 | 70 50.2 | 171 24.7 | -22 59.8 | 159 28.6 | -24 13.3 | 315 47.8 | 21 38.9 | 74 4.3 | -3 55.2 |
| | | MP 18:19 | *v* -0.9 | *d* 0.4 | *v* 0.4 | *d* 0.0 | *v* 2.7 | *d* 0.1 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 17 Wednesday | 0 | 85 52.6 | 186 23.7 | -23 0.1 | 174 29.0 | -24 13.3 | 330 50.6 | 21 38.9 | 89 6.7 | -3 55.1 |
| | 1 | 100 55.1 | 201 22.8 | -23 0.4 | 189 29.4 | -24 13.3 | 345 53.3 | 21 39.0 | 104 9.1 | -3 55.1 |
| | 2 | 115 57.6 | 216 21.9 | -23 0.8 | 204 29.8 | -24 13.3 | 0 56.1 | 21 39.0 | 119 11.5 | -3 55.0 |
| | 3 | 131 0.0 | 231 20.9 | -23 1.1 | 219 30.2 | -24 13.3 | 15 58.8 | 21 39.1 | 134 13.9 | -3 55.0 |
| | 4 | 146 2.5 | 246 20.0 | -23 1.4 | 234 30.6 | -24 13.3 | 31 1.6 | 21 39.1 | 149 16.3 | -3 55.0 |
| | 5 | 161 5.0 | 261 19.0 | -23 1.7 | 249 30.9 | -24 13.3 | 46 4.3 | 21 39.2 | 164 18.7 | -3 54.9 |
| | 6 | 176 7.4 | 276 18.1 | -23 2.1 | 264 31.3 | -24 13.3 | 61 7.0 | 21 39.2 | 179 21.0 | -3 54.9 |
| | 7 | 191 9.9 | 291 17.2 | -23 2.4 | 279 31.7 | -24 13.3 | 76 9.8 | 21 39.3 | 194 23.4 | -3 54.8 |
| | 8 | 206 12.3 | 306 16.2 | -23 2.7 | 294 32.1 | -24 13.2 | 91 12.5 | 21 39.3 | 209 25.8 | -3 54.8 |
| | 9 | 221 14.8 | 321 15.3 | -23 3.0 | 309 32.5 | -24 13.2 | 106 15.3 | 21 39.4 | 224 28.2 | -3 54.7 |
| | 10 | 236 17.3 | 336 14.3 | -23 3.3 | 324 32.9 | -24 13.2 | 121 18.0 | 21 39.4 | 239 30.6 | -3 54.7 |
| | 11 | 251 19.7 | 351 13.4 | -23 3.7 | 339 33.3 | -24 13.2 | 136 20.8 | 21 39.5 | 254 33.0 | -3 54.7 |
| | 12 | 266 22.2 | 6 12.5 | -23 4.0 | 354 33.7 | -24 13.2 | 151 23.5 | 21 39.5 | 269 35.4 | -3 54.6 |
| | 13 | 281 24.7 | 21 11.5 | -23 4.3 | 9 34.1 | -24 13.2 | 166 26.3 | 21 39.6 | 284 37.8 | -3 54.6 |
| | 14 | 296 27.1 | 36 10.6 | -23 4.6 | 24 34.5 | -24 13.2 | 181 29.0 | 21 39.7 | 299 40.2 | -3 54.5 |
| | 15 | 311 29.6 | 51 9.6 | -23 4.9 | 39 34.9 | -24 13.2 | 196 31.8 | 21 39.7 | 314 42.5 | -3 54.5 |
| | 16 | 326 32.1 | 66 8.7 | -23 5.2 | 54 35.3 | -24 13.2 | 211 34.5 | 21 39.8 | 329 44.9 | -3 54.5 |
| | 17 | 341 34.5 | 81 7.8 | -23 5.5 | 69 35.7 | -24 13.2 | 226 37.3 | 21 39.8 | 344 47.3 | -3 54.4 |
| | 18 | 356 37.0 | 96 6.8 | -23 5.8 | 84 36.0 | -24 13.2 | 241 40.0 | 21 39.9 | 359 49.7 | -3 54.4 |
| | 19 | 11 39.5 | 111 5.9 | -23 6.1 | 99 36.4 | -24 13.2 | 256 42.8 | 21 39.9 | 14 52.1 | -3 54.3 |
| | 20 | 26 41.9 | 126 4.9 | -23 6.4 | 114 36.8 | -24 13.2 | 271 45.5 | 21 40.0 | 29 54.5 | -3 54.3 |
| | 21 | 41 44.4 | 141 4.0 | -23 6.7 | 129 37.2 | -24 13.2 | 286 48.3 | 21 40.0 | 44 56.9 | -3 54.2 |
| | 22 | 56 46.8 | 156 3.0 | -23 7.0 | 144 37.6 | -24 13.2 | 301 51.0 | 21 40.1 | 59 59.3 | -3 54.2 |
| | 23 | 71 49.3 | 171 2.1 | -23 7.3 | 159 38.0 | -24 13.1 | 316 53.8 | 21 40.1 | 75 1.6 | -3 54.2 |
| | | MP 18:15 | *v* -0.9 | *d* 0.3 | *v* 0.4 | *d* 0.0 | *v* 2.7 | *d* 0.1 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.1 |
| Achernar | 335 19.3 | -57 6.5 |
| Acrux | 172 59.4 | -63 14.3 |
| Adhara | 255 4.9 | -29 0.3 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.5 | 55 48.8 |
| Alkaid | 152 51.7 | 49 10.8 |
| Alnair | 27 32.1 | -46 50.3 |
| Alnilam | 275 36.6 | -1 11.1 |
| Alphard | 217 46.8 | -8 46.2 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.3 |
| Ankaa | 353 6.3 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.7 |
| Atria | 107 9.4 | -69 4.4 |
| Avior | 234 13.9 | -59 35.3 |
| Bellatrix | 278 21.7 | 6 22.4 |
| Betelgeuse | 270 50.9 | 7 24.7 |
| Canopus | 263 51.5 | -52 42.4 |
| Capella | 280 20.3 | 46 1.5 |
| Deneb | 49 25.6 | 45 22.6 |
| Denebola | 182 24.2 | 14 25.5 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 40.0 | 61 36.3 |
| Elnath | 278 0.5 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.1 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 51.0 | -57 15.2 |
| Gienah | 175 42.9 | -17 41.1 |
| Hadar | 148 35.4 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.3 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 20.7 | 74 2.6 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.5 |
| Menkent | 147 57.0 | -36 29.7 |
| Miaplacidus | 221 37.6 | -69 49.1 |
| Mirfak | 308 26.7 | 49 57.4 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.2 |
| Pollux | 243 16.0 | 27 57.7 |
| Procyon | 244 49.7 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.5 |
| Regulus | 207 33.5 | 11 50.3 |
| Rigel | 281 2.8 | -8 10.3 |
| Rigil Kent. | 139 39.7 | -60 56.3 |
| Sabik | 102 2.3 | -15 45.4 |
| Schedar | 349 30.0 | 56 41.1 |
| Shaula | 96 9.8 | -37 7.3 |
| Sirius | 258 25.2 | -16 45.0 |
| Spica | 158 21.7 | -11 17.8 |
| Suhail | 222 45.5 | -43 32.0 |
| Vega | 80 33.1 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 15 Mon | SHA | MP |
|---|---|---|
| Venus | 103 14.0 | 11:32 |
| Mars | 90 15.6 | 12:23 |
| Jupiter | 244 44.7 | 02:05 |
| Saturn | 3 17.4 | 18:08 |

| 16 Tue | SHA | MP |
|---|---|---|
| Venus | 101 52.7 | 11:34 |
| Mars | 89 26.0 | 12:22 |
| Jupiter | 244 51.3 | 02:01 |
| Saturn | 3 15.8 | 18:04 |

| 17 Wed | SHA | MP |
|---|---|---|
| Venus | 100 31.1 | 11:35 |
| Mars | 88 36.3 | 12:22 |
| Jupiter | 244 57.9 | 01:56 |
| Saturn | 3 14.1 | 18:01 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **15 Monday** | 0 | 181 15.2 | -23 16.0 | 239 7.5 | 15.6 | -14 7.3 | 12.4 | 54.3 |
| | 1 | 196 14.9 | -23 16.1 | 253 42.2 | 15.6 | -14 19.7 | 12.4 | 54.3 |
| | 2 | 211 14.6 | -23 16.2 | 268 16.7 | 15.5 | -14 32.1 | 12.3 | 54.3 |
| | 3 | 226 14.3 | -23 16.4 | 282 51.3 | 15.5 | -14 44.4 | 12.2 | 54.2 |
| | 4 | 241 14.0 | -23 16.5 | 297 25.7 | 15.4 | -14 56.6 | 12.2 | 54.2 |
| | 5 | 256 13.7 | -23 16.6 | 312 0.2 | 15.4 | -15 8.8 | 12.1 | 54.2 |
| | 6 | 271 13.4 | -23 16.7 | 326 34.6 | 15.3 | -15 20.9 | 12.1 | 54.2 |
| | 7 | 286 13.1 | -23 16.9 | 341 8.9 | 15.3 | -15 32.9 | 12.0 | 54.2 |
| | 8 | 301 12.8 | -23 17.0 | 355 43.2 | 15.3 | -15 44.9 | 11.9 | 54.2 |
| | 9 | 316 12.5 | -23 17.1 | 10 17.5 | 15.2 | -15 56.8 | 11.9 | 54.2 |
| | 10 | 331 12.2 | -23 17.2 | 24 51.7 | 15.2 | -16 8.7 | 11.8 | 54.2 |
| | 11 | 346 11.9 | -23 17.4 | 39 25.9 | 15.1 | -16 20.5 | 11.7 | 54.2 |
| | 12 | 1 11.6 | -23 17.5 | 54 0.0 | 15.1 | -16 32.2 | 11.7 | 54.2 |
| | 13 | 16 11.3 | -23 17.6 | 68 34.0 | 15.0 | -16 43.9 | 11.6 | 54.1 |
| | 14 | 31 11.0 | -23 17.7 | 83 8.0 | 15.0 | -16 55.5 | 11.5 | 54.1 |
| | 15 | 46 10.7 | -23 17.8 | 97 42.0 | 14.9 | -17 7.0 | 11.5 | 54.1 |
| | 16 | 61 10.4 | -23 17.9 | 112 15.9 | 14.8 | -17 18.5 | 11.4 | 54.1 |
| | 17 | 76 10.1 | -23 18.1 | 126 49.7 | 14.8 | -17 29.8 | 11.3 | 54.1 |
| | 18 | 91 9.8 | -23 18.2 | 141 23.5 | 14.7 | -17 41.1 | 11.2 | 54.1 |
| | 19 | 106 9.5 | -23 18.3 | 155 57.3 | 14.7 | -17 52.4 | 11.2 | 54.1 |
| | 20 | 121 9.2 | -23 18.4 | 170 31.0 | 14.6 | -18 3.6 | 11.1 | 54.1 |
| | 21 | 136 8.9 | -23 18.5 | 185 4.6 | 14.6 | -18 14.7 | 11.0 | 54.1 |
| | 22 | 151 8.6 | -23 18.6 | 199 38.2 | 14.5 | -18 25.7 | 10.9 | 54.1 |
| | 23 | 166 8.3 | -23 18.7 | 214 11.7 | 14.5 | -18 36.6 | 10.9 | 54.1 |
| | | *v* -0.3 SD 16.2 *d* 0.1 | | SD 14.8 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **16 Tuesday** | 0 | 181 8.0 | -23 18.9 | 228 45.1 | 14.4 | -18 47.5 | 10.8 | 54.1 |
| | 1 | 196 7.7 | -23 19.0 | 243 18.5 | 14.3 | -18 58.3 | 10.7 | 54.1 |
| | 2 | 211 7.4 | -23 19.1 | 257 51.9 | 14.3 | -19 9.0 | 10.6 | 54.0 |
| | 3 | 226 7.0 | -23 19.2 | 272 25.2 | 14.2 | -19 19.6 | 10.6 | 54.0 |
| | 4 | 241 6.7 | -23 19.3 | 286 58.4 | 14.2 | -19 30.2 | 10.5 | 54.0 |
| | 5 | 256 6.4 | -23 19.4 | 301 31.5 | 14.1 | -19 40.7 | 10.4 | 54.0 |
| | 6 | 271 6.1 | -23 19.5 | 316 4.6 | 14.0 | -19 51.1 | 10.3 | 54.0 |
| | 7 | 286 5.8 | -23 19.6 | 330 37.7 | 14.0 | -20 1.4 | 10.2 | 54.0 |
| | 8 | 301 5.5 | -23 19.7 | 345 10.7 | 13.9 | -20 11.6 | 10.2 | 54.0 |
| | 9 | 316 5.2 | -23 19.8 | 359 43.6 | 13.9 | -20 21.8 | 10.1 | 54.0 |
| | 10 | 331 4.9 | -23 19.9 | 14 16.4 | 13.8 | -20 31.8 | 10.0 | 54.0 |
| | 11 | 346 4.6 | -23 20.0 | 28 49.2 | 13.7 | -20 41.8 | 9.9 | 54.0 |
| | 12 | 1 4.3 | -23 20.1 | 43 21.9 | 13.7 | -20 51.7 | 9.8 | 54.0 |
| | 13 | 16 4.0 | -23 20.2 | 57 54.6 | 13.6 | -21 1.5 | 9.7 | 54.0 |
| | 14 | 31 3.7 | -23 20.3 | 72 27.2 | 13.5 | -21 11.3 | 9.6 | 54.0 |
| | 15 | 46 3.4 | -23 20.4 | 86 59.7 | 13.5 | -21 20.9 | 9.5 | 54.0 |
| | 16 | 61 3.1 | -23 20.5 | 101 32.2 | 13.4 | -21 30.4 | 9.5 | 54.0 |
| | 17 | 76 2.8 | -23 20.6 | 116 4.6 | 13.3 | -21 39.9 | 9.4 | 54.0 |
| | 18 | 91 2.5 | -23 20.7 | 130 36.9 | 13.3 | -21 49.2 | 9.3 | 54.0 |
| | 19 | 106 2.2 | -23 20.8 | 145 9.2 | 13.2 | -21 58.5 | 9.2 | 54.0 |
| | 20 | 121 1.9 | -23 20.9 | 159 41.4 | 13.1 | -22 7.7 | 9.1 | 54.0 |
| | 21 | 136 1.6 | -23 21.0 | 174 13.6 | 13.1 | -22 16.8 | 9.0 | 54.0 |
| | 22 | 151 1.3 | -23 21.1 | 188 45.6 | 13.0 | -22 25.8 | 8.9 | 54.0 |
| | 23 | 166 1.0 | -23 21.2 | 203 17.7 | 12.9 | -22 34.7 | 8.8 | 54.0 |
| | | *v* -0.3 SD 16.2 *d* 0.1 | | SD 14.7 | | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **17 Wednesday** | 0 | 181 0.6 | -23 21.3 | 217 49.6 | 12.9 | -22 43.5 | 8.7 | 54.0 |
| | 1 | 196 0.3 | -23 21.4 | 232 21.5 | 12.8 | -22 52.2 | 8.6 | 54.0 |
| | 2 | 211 0.0 | -23 21.4 | 246 53.3 | 12.7 | -23 0.8 | 8.5 | 54.0 |
| | 3 | 225 59.7 | -23 21.5 | 261 25.0 | 12.7 | -23 9.3 | 8.4 | 54.0 |
| | 4 | 240 59.4 | -23 21.6 | 275 56.7 | 12.6 | -23 17.7 | 8.3 | 54.0 |
| | 5 | 255 59.1 | -23 21.7 | 290 28.3 | 12.5 | -23 26.0 | 8.2 | 54.0 |
| | 6 | 270 58.8 | -23 21.8 | 304 59.8 | 12.5 | -23 34.2 | 8.1 | 54.0 |
| | 7 | 285 58.5 | -23 21.9 | 319 31.3 | 12.4 | -23 42.3 | 8.0 | 54.0 |
| | 8 | 300 58.2 | -23 22.0 | 334 2.7 | 12.3 | -23 50.3 | 7.9 | 54.0 |
| | 9 | 315 57.9 | -23 22.0 | 348 34.1 | 12.3 | -23 58.2 | 7.8 | 54.0 |
| | 10 | 330 57.6 | -23 22.1 | 3 5.3 | 12.2 | -24 6.0 | 7.7 | 54.0 |
| | 11 | 345 57.3 | -23 22.2 | 17 36.6 | 12.1 | -24 13.7 | 7.6 | 54.0 |
| | 12 | 0 57.0 | -23 22.3 | 32 7.7 | 12.1 | -24 21.3 | 7.5 | 54.0 |
| | 13 | 15 56.7 | -23 22.4 | 46 38.8 | 12.0 | -24 28.8 | 7.4 | 54.0 |
| | 14 | 30 56.4 | -23 22.4 | 61 9.8 | 11.9 | -24 36.1 | 7.3 | 54.0 |
| | 15 | 45 56.0 | -23 22.5 | 75 40.7 | 11.9 | -24 43.4 | 7.2 | 54.0 |
| | 16 | 60 55.7 | -23 22.6 | 90 11.6 | 11.8 | -24 50.6 | 7.0 | 54.0 |
| | 17 | 75 55.4 | -23 22.7 | 104 42.4 | 11.8 | -24 57.6 | 6.9 | 54.0 |
| | 18 | 90 55.1 | -23 22.8 | 119 13.2 | 11.7 | -25 4.5 | 6.8 | 54.0 |
| | 19 | 105 54.8 | -23 22.8 | 133 43.9 | 11.6 | -25 11.3 | 6.7 | 54.0 |
| | 20 | 120 54.5 | -23 22.9 | 148 14.5 | 11.6 | -25 18.1 | 6.6 | 54.0 |
| | 21 | 135 54.2 | -23 23.0 | 162 45.0 | 11.5 | -25 24.6 | 6.5 | 54.0 |
| | 22 | 150 53.9 | -23 23.1 | 177 15.5 | 11.4 | -25 31.1 | 6.4 | 54.0 |
| | 23 | 165 53.6 | -23 23.1 | 191 46.0 | 11.4 | -25 37.5 | 6.2 | 54.0 |
| | | *v* -0.3 SD 16.3 *d* 0.1 | | SD 14.7 | | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:20 | 10:47 | ▬ | ▬ | 13:03 | 15:30 |
| 70 | 08:01 | 09:48 | ▬ | ▬ | 14:02 | 15:50 |
| 68 | 07:45 | 09:14 | ▬ | ▬ | 14:37 | 16:05 |
| 66 | 07:32 | 08:49 | 10:28 | 13:23 | 15:02 | 16:18 |
| 64 | 07:21 | 08:29 | 09:46 | 14:04 | 15:21 | 16:29 |
| 62 | 07:12 | 08:13 | 09:19 | 14:32 | 15:37 | 16:39 |
| 60 | 07:03 | 08:00 | 08:57 | 14:53 | 15:50 | 16:47 |
| 58 | 06:56 | 07:48 | 08:40 | 15:10 | 16:02 | 16:55 |
| 56 | 06:49 | 07:38 | 08:25 | 15:25 | 16:12 | 17:01 |
| 54 | 06:43 | 07:29 | 08:13 | 15:37 | 16:21 | 17:07 |
| 52 | 06:37 | 07:21 | 08:02 | 15:48 | 16:29 | 17:13 |
| 50 | 06:32 | 07:14 | 07:52 | 15:58 | 16:37 | 17:18 |
| 45 | 06:20 | 06:58 | 07:31 | 16:19 | 16:53 | 17:30 |
| 40 | 06:10 | 06:44 | 07:15 | 16:36 | 17:06 | 17:40 |
| 35 | 06:01 | 06:33 | 07:01 | 16:50 | 17:18 | 17:50 |
| 30 | 05:52 | 06:22 | 06:48 | 17:02 | 17:28 | 17:58 |
| 20 | 05:36 | 06:03 | 06:27 | 17:23 | 17:47 | 18:15 |
| 10 | 05:20 | 05:46 | 06:09 | 17:42 | 18:04 | 18:31 |
| 0 | 05:03 | 05:29 | 05:51 | 17:59 | 18:21 | 18:48 |
| -10 | 04:44 | 05:11 | 05:34 | 18:16 | 18:40 | 19:07 |
| -20 | 04:21 | 04:51 | 05:15 | 18:35 | 19:00 | 19:29 |
| -30 | 03:53 | 04:26 | 04:53 | 18:57 | 19:25 | 19:58 |
| -35 | 03:34 | 04:11 | 04:40 | 19:10 | 19:40 | 20:17 |
| -40 | 03:11 | 03:53 | 04:25 | 19:25 | 19:58 | 20:40 |
| -45 | 02:41 | 03:30 | 04:07 | 19:43 | 20:21 | 21:10 |
| -50 | 01:56 | 03:01 | 03:45 | 20:06 | 20:50 | 21:55 |
| -52 | 01:29 | 02:46 | 03:34 | 20:16 | 21:05 | 22:23 |
| -54 | 00:44 | 02:28 | 03:22 | 20:29 | 21:23 | 23:08 |
| -56 | //// | 02:06 | 03:08 | 20:43 | 21:45 | //// |
| -58 | //// | 01:37 | 02:51 | 20:59 | 22:14 | //// |
| -60 | //// | 00:49 | 02:31 | 21:20 | 23:03 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **15** | **16** | **17** | **15** | **16** | **17** |
| 72 | 06:07 | ▬ | ▬ | 10:06 | ▬ | ▬ |
| 70 | 05:28 | ▬ | ▬ | 10:46 | ▬ | ▬ |
| 68 | 05:02 | 07:20 | ▬ | 11:14 | 10:27 | ▬ |
| 66 | 04:42 | 06:37 | ▬ | 11:36 | 11:11 | ▬ |
| 64 | 04:26 | 06:09 | 08:06 | 11:53 | 11:40 | 11:18 |
| 62 | 04:12 | 05:47 | 07:28 | 12:07 | 12:02 | 11:57 |
| 60 | 04:01 | 05:30 | 07:01 | 12:19 | 12:20 | 12:24 |
| 58 | 03:52 | 05:15 | 06:40 | 12:30 | 12:36 | 12:45 |
| 56 | 03:43 | 05:03 | 06:23 | 12:39 | 12:49 | 13:03 |
| 54 | 03:36 | 04:52 | 06:09 | 12:47 | 13:00 | 13:18 |
| 52 | 03:29 | 04:43 | 05:56 | 12:55 | 13:10 | 13:31 |
| 50 | 03:23 | 04:34 | 05:45 | 13:01 | 13:19 | 13:42 |
| 45 | 03:11 | 04:16 | 05:22 | 13:15 | 13:38 | 14:06 |
| 40 | 03:00 | 04:02 | 05:04 | 13:27 | 13:54 | 14:25 |
| 35 | 02:51 | 03:50 | 04:49 | 13:37 | 14:07 | 14:41 |
| 30 | 02:43 | 03:39 | 04:36 | 13:46 | 14:18 | 14:55 |
| 20 | 02:30 | 03:21 | 04:13 | 14:02 | 14:38 | 15:19 |
| 10 | 02:18 | 03:05 | 03:54 | 14:15 | 14:56 | 15:39 |
| 0 | 02:07 | 02:50 | 03:36 | 14:28 | 15:12 | 15:59 |
| -10 | 01:57 | 02:36 | 03:18 | 14:41 | 15:28 | 16:18 |
| -20 | 01:45 | 02:20 | 02:59 | 14:54 | 15:46 | 16:39 |
| -30 | 01:32 | 02:03 | 02:37 | 15:10 | 16:06 | 17:03 |
| -35 | 01:25 | 01:53 | 02:24 | 15:19 | 16:18 | 17:17 |
| -40 | 01:16 | 01:41 | 02:10 | 15:30 | 16:32 | 17:34 |
| -45 | 01:07 | 01:27 | 01:52 | 15:42 | 16:48 | 17:54 |
| -50 | 00:55 | 01:11 | 01:31 | 15:57 | 17:08 | 18:19 |
| -52 | 00:49 | 01:03 | 01:21 | 16:05 | 17:18 | 18:31 |
| -54 | 00:43 | 00:54 | 01:09 | 16:12 | 17:29 | 18:45 |
| -56 | 00:37 | 00:45 | 00:57 | 16:21 | 17:41 | 19:01 |
| -58 | 00:29 | 00:34 | 00:42 | 16:32 | 17:56 | 19:20 |
| -60 | 00:21 | 00:21 | 00:24 | 16:43 | 18:13 | 19:45 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **15** | 05:01 | 04:46 | 11:55 | 08:18 | 20:39 | 25 | 21 |
| **16** | 04:32 | 04:17 | 11:56 | 09:01 | 21:24 | 26 | 14 |
| **17** | 04:03 | 03:48 | 11:56 | 09:47 | 22:11 | 27 | 8 |

## 2025 December 18, 19, 20 (Thu, Fri, Saturday)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.2 GHA | Mars 1.2 Dec | Jupiter -2.6 GHA | Jupiter -2.6 Dec | Saturn 1.0 GHA | Saturn 1.0 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 18 Thursday | 0 | 86 51.8 | 186 1.2 | -23 7.6 | 174 38.4 | -24 13.1 | 331 56.5 | 21 40.2 | 90 4.0 | -3 54.1 |
| | 1 | 101 54.2 | 201 0.2 | -23 7.9 | 189 38.8 | -24 13.1 | 346 59.3 | 21 40.2 | 105 6.4 | -3 54.1 |
| | 2 | 116 56.7 | 215 59.3 | -23 8.2 | 204 39.2 | -24 13.1 | 2 2.0 | 21 40.3 | 120 8.8 | -3 54.0 |
| | 3 | 131 59.2 | 230 58.3 | -23 8.5 | 219 39.6 | -24 13.1 | 17 4.8 | 21 40.3 | 135 11.2 | -3 54.0 |
| | 4 | 147 1.6 | 245 57.4 | -23 8.8 | 234 40.0 | -24 13.1 | 32 7.5 | 21 40.4 | 150 13.6 | -3 53.9 |
| | 5 | 162 4.1 | 260 56.4 | -23 9.1 | 249 40.4 | -24 13.1 | 47 10.3 | 21 40.4 | 165 16.0 | -3 53.9 |
| | 6 | 177 6.6 | 275 55.5 | -23 9.4 | 264 40.7 | -24 13.1 | 62 13.0 | 21 40.5 | 180 18.4 | -3 53.8 |
| | 7 | 192 9.0 | 290 54.5 | -23 9.7 | 279 41.1 | -24 13.0 | 77 15.8 | 21 40.5 | 195 20.7 | -3 53.8 |
| | 8 | 207 11.5 | 305 53.6 | -23 10.0 | 294 41.5 | -24 13.0 | 92 18.5 | 21 40.6 | 210 23.1 | -3 53.8 |
| | 9 | 222 14.0 | 320 52.7 | -23 10.3 | 309 41.9 | -24 13.0 | 107 21.3 | 21 40.6 | 225 25.5 | -3 53.7 |
| | 10 | 237 16.4 | 335 51.7 | -23 10.6 | 324 42.3 | -24 13.0 | 122 24.1 | 21 40.7 | 240 27.9 | -3 53.7 |
| | 11 | 252 18.9 | 350 50.8 | -23 10.9 | 339 42.7 | -24 13.0 | 137 26.8 | 21 40.7 | 255 30.3 | -3 53.6 |
| | 12 | 267 21.3 | 5 49.8 | -23 11.2 | 354 43.1 | -24 13.0 | 152 29.6 | 21 40.8 | 270 32.7 | -3 53.6 |
| | 13 | 282 23.8 | 20 48.9 | -23 11.4 | 9 43.5 | -24 12.9 | 167 32.3 | 21 40.8 | 285 35.0 | -3 53.5 |
| | 14 | 297 26.3 | 35 47.9 | -23 11.7 | 24 43.9 | -24 12.9 | 182 35.1 | 21 40.9 | 300 37.4 | -3 53.5 |
| | 15 | 312 28.7 | 50 47.0 | -23 12.0 | 39 44.3 | -24 12.9 | 197 37.8 | 21 41.0 | 315 39.8 | -3 53.5 |
| | 16 | 327 31.2 | 65 46.0 | -23 12.3 | 54 44.6 | -24 12.9 | 212 40.6 | 21 41.0 | 330 42.2 | -3 53.4 |
| | 17 | 342 33.7 | 80 45.1 | -23 12.6 | 69 45.0 | -24 12.9 | 227 43.3 | 21 41.1 | 345 44.6 | -3 53.4 |
| | 18 | 357 36.1 | 95 44.1 | -23 12.8 | 84 45.4 | -24 12.9 | 242 46.1 | 21 41.1 | 0 47.0 | -3 53.3 |
| | 19 | 12 38.6 | 110 43.2 | -23 13.1 | 99 45.8 | -24 12.8 | 257 48.8 | 21 41.2 | 15 49.4 | -3 53.3 |
| | 20 | 27 41.1 | 125 42.2 | -23 13.4 | 114 46.2 | -24 12.8 | 272 51.6 | 21 41.2 | 30 51.7 | -3 53.2 |
| | 21 | 42 43.5 | 140 41.3 | -23 13.7 | 129 46.6 | -24 12.8 | 287 54.4 | 21 41.3 | 45 54.1 | -3 53.2 |
| | 22 | 57 46.0 | 155 40.3 | -23 13.9 | 144 47.0 | -24 12.8 | 302 57.1 | 21 41.3 | 60 56.5 | -3 53.1 |
| | 23 | 72 48.5 | 170 39.4 | -23 14.2 | 159 47.4 | -24 12.8 | 317 59.9 | 21 41.4 | 75 58.9 | -3 53.1 |
| | | MP 18:11 | *v* -0.9 | *d* 0.3 | *v* 0.4 | *d* 0.0 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 19 Friday | 0 | 87 50.9 | 185 38.4 | -23 14.5 | 174 47.8 | -24 12.7 | 333 2.6 | 21 41.4 | 91 1.3 | -3 53.1 |
| | 1 | 102 53.4 | 200 37.5 | -23 14.7 | 189 48.1 | -24 12.7 | 348 5.4 | 21 41.5 | 106 3.7 | -3 53.0 |
| | 2 | 117 55.8 | 215 36.5 | -23 15.0 | 204 48.5 | -24 12.7 | 3 8.1 | 21 41.5 | 121 6.0 | -3 53.0 |
| | 3 | 132 58.3 | 230 35.6 | -23 15.3 | 219 48.9 | -24 12.7 | 18 10.9 | 21 41.6 | 136 8.4 | -3 52.9 |
| | 4 | 148 0.8 | 245 34.6 | -23 15.5 | 234 49.3 | -24 12.6 | 33 13.7 | 21 41.6 | 151 10.8 | -3 52.9 |
| | 5 | 163 3.2 | 260 33.7 | -23 15.8 | 249 49.7 | -24 12.6 | 48 16.4 | 21 41.7 | 166 13.2 | -3 52.8 |
| | 6 | 178 5.7 | 275 32.7 | -23 16.1 | 264 50.1 | -24 12.6 | 63 19.2 | 21 41.7 | 181 15.6 | -3 52.8 |
| | 7 | 193 8.2 | 290 31.8 | -23 16.3 | 279 50.5 | -24 12.6 | 78 21.9 | 21 41.8 | 196 17.9 | -3 52.7 |
| | 8 | 208 10.6 | 305 30.8 | -23 16.6 | 294 50.9 | -24 12.5 | 93 24.7 | 21 41.8 | 211 20.3 | -3 52.7 |
| | 9 | 223 13.1 | 320 29.9 | -23 16.9 | 309 51.3 | -24 12.5 | 108 27.5 | 21 41.9 | 226 22.7 | -3 52.6 |
| | 10 | 238 15.6 | 335 28.9 | -23 17.1 | 324 51.6 | -24 12.5 | 123 30.2 | 21 42.0 | 241 25.1 | -3 52.6 |
| | 11 | 253 18.0 | 350 28.0 | -23 17.4 | 339 52.0 | -24 12.5 | 138 33.0 | 21 42.0 | 256 27.5 | -3 52.6 |
| | 12 | 268 20.5 | 5 27.0 | -23 17.6 | 354 52.4 | -24 12.4 | 153 35.7 | 21 42.1 | 271 29.8 | -3 52.5 |
| | 13 | 283 23.0 | 20 26.1 | -23 17.9 | 9 52.8 | -24 12.4 | 168 38.5 | 21 42.1 | 286 32.2 | -3 52.5 |
| | 14 | 298 25.4 | 35 25.1 | -23 18.1 | 24 53.2 | -24 12.4 | 183 41.3 | 21 42.2 | 301 34.6 | -3 52.4 |
| | 15 | 313 27.9 | 50 24.2 | -23 18.4 | 39 53.6 | -24 12.3 | 198 44.0 | 21 42.2 | 316 37.0 | -3 52.4 |
| | 16 | 328 30.3 | 65 23.2 | -23 18.6 | 54 54.0 | -24 12.3 | 213 46.8 | 21 42.3 | 331 39.4 | -3 52.3 |
| | 17 | 343 32.8 | 80 22.2 | -23 18.9 | 69 54.4 | -24 12.3 | 228 49.5 | 21 42.3 | 346 41.8 | -3 52.3 |
| | 18 | 358 35.3 | 95 21.3 | -23 19.1 | 84 54.8 | -24 12.3 | 243 52.3 | 21 42.4 | 1 44.1 | -3 52.2 |
| | 19 | 13 37.7 | 110 20.3 | -23 19.4 | 99 55.1 | -24 12.2 | 258 55.1 | 21 42.4 | 16 46.5 | -3 52.2 |
| | 20 | 28 40.2 | 125 19.4 | -23 19.6 | 114 55.5 | -24 12.2 | 273 57.8 | 21 42.5 | 31 48.9 | -3 52.1 |
| | 21 | 43 42.7 | 140 18.4 | -23 19.9 | 129 55.9 | -24 12.2 | 289 0.6 | 21 42.5 | 46 51.3 | -3 52.1 |
| | 22 | 58 45.1 | 155 17.5 | -23 20.1 | 144 56.3 | -24 12.1 | 304 3.3 | 21 42.6 | 61 53.6 | -3 52.0 |
| | 23 | 73 47.6 | 170 16.5 | -23 20.4 | 159 56.7 | -24 12.1 | 319 6.1 | 21 42.6 | 76 56.0 | -3 52.0 |
| | | MP 18:07 | *v* -1.0 | *d* 0.3 | *v* 0.4 | *d* 0.0 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 20 Saturday | 0 | 88 50.1 | 185 15.6 | -23 20.6 | 174 57.1 | -24 12.1 | 334 8.9 | 21 42.7 | 91 58.4 | -3 52.0 |
| | 1 | 103 52.5 | 200 14.6 | -23 20.8 | 189 57.5 | -24 12.0 | 349 11.6 | 21 42.7 | 107 0.8 | -3 51.9 |
| | 2 | 118 55.0 | 215 13.7 | -23 21.1 | 204 57.9 | -24 12.0 | 4 14.4 | 21 42.8 | 122 3.2 | -3 51.9 |
| | 3 | 133 57.5 | 230 12.7 | -23 21.3 | 219 58.2 | -24 12.0 | 19 17.2 | 21 42.9 | 137 5.5 | -3 51.8 |
| | 4 | 148 59.9 | 245 11.7 | -23 21.6 | 234 58.6 | -24 11.9 | 34 19.9 | 21 42.9 | 152 7.9 | -3 51.8 |
| | 5 | 164 2.4 | 260 10.8 | -23 21.8 | 249 59.0 | -24 11.9 | 49 22.7 | 21 43.0 | 167 10.3 | -3 51.7 |
| | 6 | 179 4.8 | 275 9.8 | -23 22.0 | 264 59.4 | -24 11.9 | 64 25.4 | 21 43.0 | 182 12.7 | -3 51.7 |
| | 7 | 194 7.3 | 290 8.9 | -23 22.3 | 279 59.8 | -24 11.8 | 79 28.2 | 21 43.1 | 197 15.1 | -3 51.6 |
| | 8 | 209 9.8 | 305 7.9 | -23 22.5 | 295 0.2 | -24 11.8 | 94 31.0 | 21 43.1 | 212 17.4 | -3 51.6 |
| | 9 | 224 12.2 | 320 7.0 | -23 22.7 | 310 0.6 | -24 11.8 | 109 33.7 | 21 43.2 | 227 19.8 | -3 51.5 |
| | 10 | 239 14.7 | 335 6.0 | -23 22.9 | 325 1.0 | -24 11.7 | 124 36.5 | 21 43.2 | 242 22.2 | -3 51.5 |
| | 11 | 254 17.2 | 350 5.0 | -23 23.2 | 340 1.3 | -24 11.7 | 139 39.3 | 21 43.3 | 257 24.6 | -3 51.4 |
| | 12 | 269 19.6 | 5 4.1 | -23 23.4 | 355 1.7 | -24 11.6 | 154 42.0 | 21 43.3 | 272 26.9 | -3 51.4 |
| | 13 | 284 22.1 | 20 3.1 | -23 23.6 | 10 2.1 | -24 11.6 | 169 44.8 | 21 43.4 | 287 29.3 | -3 51.3 |
| | 14 | 299 24.6 | 35 2.2 | -23 23.8 | 25 2.5 | -24 11.6 | 184 47.6 | 21 43.4 | 302 31.7 | -3 51.3 |
| | 15 | 314 27.0 | 50 1.2 | -23 24.1 | 40 2.9 | -24 11.5 | 199 50.3 | 21 43.5 | 317 34.1 | -3 51.2 |
| | 16 | 329 29.5 | 65 0.3 | -23 24.3 | 55 3.3 | -24 11.5 | 214 53.1 | 21 43.5 | 332 36.4 | -3 51.2 |
| | 17 | 344 31.9 | 79 59.3 | -23 24.5 | 70 3.7 | -24 11.4 | 229 55.9 | 21 43.6 | 347 38.8 | -3 51.2 |
| | 18 | 359 34.4 | 94 58.3 | -23 24.7 | 85 4.0 | -24 11.4 | 244 58.6 | 21 43.7 | 2 41.2 | -3 51.1 |
| | 19 | 14 36.9 | 109 57.4 | -23 24.9 | 100 4.4 | -24 11.4 | 260 1.4 | 21 43.7 | 17 43.6 | -3 51.1 |
| | 20 | 29 39.3 | 124 56.4 | -23 25.2 | 115 4.8 | -24 11.3 | 275 4.2 | 21 43.8 | 32 46.0 | -3 51.0 |
| | 21 | 44 41.8 | 139 55.5 | -23 25.4 | 130 5.2 | -24 11.3 | 290 6.9 | 21 43.8 | 47 48.3 | -3 51.0 |
| | 22 | 59 44.3 | 154 54.5 | -23 25.6 | 145 5.6 | -24 11.2 | 305 9.7 | 21 43.9 | 62 50.7 | -3 50.9 |
| | 23 | 74 46.7 | 169 53.5 | -23 25.8 | 160 6.0 | -24 11.2 | 320 12.5 | 21 43.9 | 77 53.1 | -3 50.9 |
| | | MP 18:03 | *v* -1.0 | *d* 0.2 | *v* 0.4 | *d* 0.0 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* 0.0 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.8 | -40 12.1 |
| Achernar | 335 19.3 | -57 6.5 |
| Acrux | 172 59.4 | -63 14.3 |
| Adhara | 255 4.9 | -29 0.4 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.5 | 55 48.8 |
| Alkaid | 152 51.7 | 49 10.8 |
| Alnair | 27 32.1 | -46 50.3 |
| Alnilam | 275 36.6 | -1 11.1 |
| Alphard | 217 46.8 | -8 46.2 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.2 |
| Ankaa | 353 6.3 | -42 10.1 |
| Antares | 112 15.3 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.7 |
| Atria | 107 9.3 | -69 4.3 |
| Avior | 234 13.9 | -59 35.3 |
| Bellatrix | 278 21.7 | 6 22.4 |
| Betelgeuse | 270 50.9 | 7 24.7 |
| Canopus | 263 51.5 | -52 42.5 |
| Capella | 280 20.3 | 46 1.5 |
| Deneb | 49 25.6 | 45 22.5 |
| Denebola | 182 24.2 | 14 25.5 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 39.9 | 61 36.3 |
| Elnath | 278 0.5 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.1 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.7 | -29 29.2 |
| Gacrux | 171 50.9 | -57 15.3 |
| Gienah | 175 42.8 | -17 41.1 |
| Hadar | 148 35.3 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.3 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 20.7 | 74 2.6 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.5 |
| Menkent | 147 57.0 | -36 29.7 |
| Miaplacidus | 221 37.5 | -69 49.1 |
| Mirfak | 308 26.7 | 49 57.4 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.2 |
| Pollux | 243 16.0 | 27 57.7 |
| Procyon | 244 49.7 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.4 |
| Regulus | 207 33.5 | 11 50.3 |
| Rigel | 281 2.8 | -8 10.3 |
| Rigil Kent. | 139 39.7 | -60 56.3 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 30.0 | 56 41.1 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 25.2 | -16 45.1 |
| Spica | 158 21.6 | -11 17.8 |
| Suhail | 222 45.5 | -43 32.0 |
| Vega | 80 33.1 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 18 Thu | SHA | MP |
|---|---|---|
| Venus | 99 9.4 | 11:37 |
| Mars | 87 46.6 | 12:21 |
| Jupiter | 245 4.8 | 01:52 |
| Saturn | 3 12.3 | 17:57 |

| 19 Fri | SHA | MP |
|---|---|---|
| Venus | 97 47.5 | 11:38 |
| Mars | 86 56.8 | 12:21 |
| Jupiter | 245 11.7 | 01:47 |
| Saturn | 3 10.4 | 17:53 |

| 20 Sat | SHA | MP |
|---|---|---|
| Venus | 96 25.5 | 11:40 |
| Mars | 86 7.0 | 12:20 |
| Jupiter | 245 18.8 | 01:43 |
| Saturn | 3 8.3 | 17:49 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **18 Thursday** | 0 | 180 53.3 | -23 23.2 | 206 16.3 | 11.3 | -25 43.7 | 6.1 | 54.0 |
| | 1 | 195 53.0 | -23 23.3 | 220 46.7 | 11.2 | -25 49.9 | 6.0 | 54.0 |
| | 2 | 210 52.7 | -23 23.3 | 235 16.9 | 11.2 | -25 55.9 | 5.9 | 54.0 |
| | 3 | 225 52.4 | -23 23.4 | 249 47.1 | 11.1 | -26 1.8 | 5.8 | 54.0 |
| | 4 | 240 52.1 | -23 23.5 | 264 17.2 | 11.1 | -26 7.5 | 5.7 | 54.0 |
| | 5 | 255 51.7 | -23 23.5 | 278 47.3 | 11.0 | -26 13.2 | 5.5 | 54.0 |
| | 6 | 270 51.4 | -23 23.6 | 293 17.3 | 10.9 | -26 18.7 | 5.4 | 54.0 |
| | 7 | 285 51.1 | -23 23.7 | 307 47.2 | 10.9 | -26 24.1 | 5.3 | 54.0 |
| | 8 | 300 50.8 | -23 23.7 | 322 17.1 | 10.8 | -26 29.4 | 5.2 | 54.0 |
| | 9 | 315 50.5 | -23 23.8 | 336 47.0 | 10.8 | -26 34.6 | 5.0 | 54.0 |
| | 10 | 330 50.2 | -23 23.9 | 351 16.7 | 10.7 | -26 39.7 | 4.9 | 54.0 |
| | 11 | 345 49.9 | -23 23.9 | 5 46.5 | 10.7 | -26 44.6 | 4.8 | 54.0 |
| | 12 | 0 49.6 | -23 24.0 | 20 16.1 | 10.6 | -26 49.4 | 4.7 | 54.0 |
| | 13 | 15 49.3 | -23 24.1 | 34 45.7 | 10.6 | -26 54.0 | 4.5 | 54.0 |
| | 14 | 30 49.0 | -23 24.1 | 49 15.3 | 10.5 | -26 58.6 | 4.4 | 54.1 |
| | 15 | 45 48.7 | -23 24.2 | 63 44.8 | 10.5 | -27 3.0 | 4.3 | 54.1 |
| | 16 | 60 48.3 | -23 24.2 | 78 14.3 | 10.4 | -27 7.3 | 4.2 | 54.1 |
| | 17 | 75 48.0 | -23 24.3 | 92 43.7 | 10.4 | -27 11.5 | 4.0 | 54.1 |
| | 18 | 90 47.7 | -23 24.3 | 107 13.0 | 10.3 | -27 15.5 | 3.9 | 54.1 |
| | 19 | 105 47.4 | -23 24.4 | 121 42.3 | 10.3 | -27 19.4 | 3.8 | 54.1 |
| | 20 | 120 47.1 | -23 24.5 | 136 11.6 | 10.2 | -27 23.2 | 3.6 | 54.1 |
| | 21 | 135 46.8 | -23 24.5 | 150 40.8 | 10.2 | -27 26.8 | 3.5 | 54.1 |
| | 22 | 150 46.5 | -23 24.6 | 165 10.0 | 10.1 | -27 30.3 | 3.4 | 54.1 |
| | 23 | 165 46.2 | -23 24.6 | 179 39.1 | 10.1 | -27 33.7 | 3.2 | 54.1 |
| | | *v* -0.3 | SD 16.3 *d* 0.1 | | SD 14.7 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **19 Friday** | 0 | 180 45.9 | -23 24.7 | 194 8.2 | 10.0 | -27 37.0 | 3.1 | 54.1 |
| | 1 | 195 45.6 | -23 24.7 | 208 37.2 | 10.0 | -27 40.1 | 3.0 | 54.1 |
| | 2 | 210 45.3 | -23 24.8 | 223 6.2 | 10.0 | -27 43.1 | 2.8 | 54.1 |
| | 3 | 225 44.9 | -23 24.8 | 237 35.2 | 9.9 | -27 45.9 | 2.7 | 54.1 |
| | 4 | 240 44.6 | -23 24.9 | 252 4.1 | 9.9 | -27 48.6 | 2.6 | 54.1 |
| | 5 | 255 44.3 | -23 24.9 | 266 33.0 | 9.8 | -27 51.2 | 2.4 | 54.2 |
| | 6 | 270 44.0 | -23 25.0 | 281 1.9 | 9.8 | -27 53.6 | 2.3 | 54.2 |
| | 7 | 285 43.7 | -23 25.0 | 295 30.7 | 9.8 | -27 55.9 | 2.2 | 54.2 |
| | 8 | 300 43.4 | -23 25.1 | 309 59.4 | 9.7 | -27 58.1 | 2.0 | 54.2 |
| | 9 | 315 43.1 | -23 25.1 | 324 28.2 | 9.7 | -28 0.2 | 1.9 | 54.2 |
| | 10 | 330 42.8 | -23 25.1 | 338 56.9 | 9.7 | -28 2.1 | 1.8 | 54.2 |
| | 11 | 345 42.5 | -23 25.2 | 353 25.6 | 9.7 | -28 3.8 | 1.6 | 54.2 |
| | 12 | 0 42.2 | -23 25.2 | 7 54.2 | 9.6 | -28 5.4 | 1.5 | 54.2 |
| | 13 | 15 41.9 | -23 25.3 | 22 22.9 | 9.6 | -28 6.9 | 1.3 | 54.2 |
| | 14 | 30 41.5 | -23 25.3 | 36 51.4 | 9.6 | -28 8.3 | 1.2 | 54.2 |
| | 15 | 45 41.2 | -23 25.4 | 51 20.0 | 9.5 | -28 9.5 | 1.1 | 54.2 |
| | 16 | 60 40.9 | -23 25.4 | 65 48.6 | 9.5 | -28 10.5 | 0.9 | 54.2 |
| | 17 | 75 40.6 | -23 25.4 | 80 17.1 | 9.5 | -28 11.5 | 0.8 | 54.3 |
| | 18 | 90 40.3 | -23 25.5 | 94 45.6 | 9.5 | -28 12.3 | 0.6 | 54.3 |
| | 19 | 105 40.0 | -23 25.5 | 109 14.1 | 9.5 | -28 12.9 | 0.5 | 54.3 |
| | 20 | 120 39.7 | -23 25.5 | 123 42.6 | 9.4 | -28 13.4 | 0.4 | 54.3 |
| | 21 | 135 39.4 | -23 25.6 | 138 11.0 | 9.4 | -28 13.8 | 0.2 | 54.3 |
| | 22 | 150 39.1 | -23 25.6 | 152 39.4 | 9.4 | -28 14.0 | 0.1 | 54.3 |
| | 23 | 165 38.7 | -23 25.6 | 167 7.9 | 9.4 | -28 14.1 | -0.1 | 54.3 |
| | | *v* -0.3 | SD 16.3 *d* 0.1 | | SD 14.8 | | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **20 Saturday** | 0 | 180 38.4 | -23 25.7 | 181 36.3 | 9.4 | -28 14.1 | -0.2 | 54.3 |
| | 1 | 195 38.1 | -23 25.7 | 196 4.7 | 9.4 | -28 13.9 | -0.3 | 54.3 |
| | 2 | 210 37.8 | -23 25.7 | 210 33.0 | 9.4 | -28 13.5 | -0.5 | 54.3 |
| | 3 | 225 37.5 | -23 25.8 | 225 1.4 | 9.4 | -28 13.0 | -0.6 | 54.4 |
| | 4 | 240 37.2 | -23 25.8 | 239 29.8 | 9.4 | -28 12.4 | -0.8 | 54.4 |
| | 5 | 255 36.9 | -23 25.8 | 253 58.1 | 9.4 | -28 11.7 | -0.9 | 54.4 |
| | 6 | 270 36.6 | -23 25.8 | 268 26.5 | 9.4 | -28 10.8 | -1.0 | 54.4 |
| | 7 | 285 36.3 | -23 25.9 | 282 54.9 | 9.4 | -28 9.7 | -1.2 | 54.4 |
| | 8 | 300 36.0 | -23 25.9 | 297 23.2 | 9.4 | -28 8.5 | -1.3 | 54.4 |
| | 9 | 315 35.6 | -23 25.9 | 311 51.6 | 9.4 | -28 7.2 | -1.5 | 54.4 |
| | 10 | 330 35.3 | -23 26.0 | 326 19.9 | 9.4 | -28 5.7 | -1.6 | 54.4 |
| | 11 | 345 35.0 | -23 26.0 | 340 48.3 | 9.4 | -28 4.1 | -1.8 | 54.4 |
| | 12 | 0 34.7 | -23 26.0 | 355 16.6 | 9.4 | -28 2.4 | -1.9 | 54.5 |
| | 13 | 15 34.4 | -23 26.0 | 9 45.0 | 9.4 | -28 0.5 | -2.0 | 54.5 |
| | 14 | 30 34.1 | -23 26.0 | 24 13.4 | 9.4 | -27 58.4 | -2.2 | 54.5 |
| | 15 | 45 33.8 | -23 26.1 | 38 41.7 | 9.4 | -27 56.3 | -2.3 | 54.5 |
| | 16 | 60 33.5 | -23 26.1 | 53 10.1 | 9.4 | -27 53.9 | -2.5 | 54.5 |
| | 17 | 75 33.2 | -23 26.1 | 67 38.5 | 9.4 | -27 51.5 | -2.6 | 54.5 |
| | 18 | 90 32.8 | -23 26.1 | 82 6.9 | 9.4 | -27 48.9 | -2.7 | 54.5 |
| | 19 | 105 32.5 | -23 26.1 | 96 35.4 | 9.4 | -27 46.1 | -2.9 | 54.5 |
| | 20 | 120 32.2 | -23 26.1 | 111 3.8 | 9.5 | -27 43.3 | -3.0 | 54.5 |
| | 21 | 135 31.9 | -23 26.2 | 125 32.3 | 9.5 | -27 40.2 | -3.2 | 54.6 |
| | 22 | 150 31.6 | -23 26.2 | 140 0.7 | 9.5 | -27 37.1 | -3.3 | 54.6 |
| | 23 | 165 31.3 | -23 26.2 | 154 29.2 | 9.5 | -27 33.8 | -3.4 | 54.6 |
| | | *v* -0.3 | SD 16.3 *d* 0.0 | | SD 14.8 | | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:24 | 10:54 | ▬ | ▬ | 12:59 | 15:30 |
| 70 | 08:04 | 09:52 | ▬ | ▬ | 14:01 | 15:50 |
| 68 | 07:48 | 09:17 | ▬ | ▬ | 14:36 | 16:06 |
| 66 | 07:35 | 08:52 | 10:32 | 13:21 | 15:02 | 16:19 |
| 64 | 07:24 | 08:32 | 09:50 | 14:03 | 15:21 | 16:30 |
| 62 | 07:14 | 08:16 | 09:22 | 14:32 | 15:37 | 16:39 |
| 60 | 07:06 | 08:02 | 09:00 | 14:53 | 15:51 | 16:48 |
| 58 | 06:58 | 07:51 | 08:43 | 15:11 | 16:03 | 16:55 |
| 56 | 06:51 | 07:40 | 08:28 | 15:25 | 16:13 | 17:02 |
| 54 | 06:45 | 07:31 | 08:15 | 15:38 | 16:22 | 17:08 |
| 52 | 06:39 | 07:23 | 08:04 | 15:49 | 16:30 | 17:14 |
| 50 | 06:34 | 07:16 | 07:54 | 15:59 | 16:38 | 17:19 |
| 45 | 06:22 | 07:00 | 07:34 | 16:20 | 16:54 | 17:31 |
| 40 | 06:12 | 06:46 | 07:17 | 16:37 | 17:07 | 17:41 |
| 35 | 06:03 | 06:34 | 07:03 | 16:51 | 17:19 | 17:51 |
| 30 | 05:54 | 06:24 | 06:50 | 17:03 | 17:30 | 17:59 |
| 20 | 05:37 | 06:05 | 06:29 | 17:24 | 17:48 | 18:16 |
| 10 | 05:21 | 05:48 | 06:10 | 17:43 | 18:06 | 18:32 |
| 0 | 05:04 | 05:30 | 05:53 | 18:00 | 18:23 | 18:49 |
| -10 | 04:45 | 05:12 | 05:35 | 18:18 | 18:41 | 19:08 |
| -20 | 04:23 | 04:52 | 05:16 | 18:37 | 19:02 | 19:31 |
| -30 | 03:54 | 04:27 | 04:54 | 18:59 | 19:27 | 20:00 |
| -35 | 03:35 | 04:12 | 04:41 | 19:12 | 19:42 | 20:19 |
| -40 | 03:12 | 03:53 | 04:26 | 19:27 | 20:00 | 20:42 |
| -45 | 02:41 | 03:31 | 04:08 | 19:45 | 20:23 | 21:12 |
| -50 | 01:56 | 03:01 | 03:46 | 20:08 | 20:52 | 21:58 |
| -52 | 01:28 | 02:46 | 03:35 | 20:19 | 21:07 | 22:26 |
| -54 | 00:42 | 02:28 | 03:23 | 20:31 | 21:25 | 23:13 |
| -56 | //// | 02:06 | 03:08 | 20:45 | 21:48 | //// |
| -58 | //// | 01:36 | 02:52 | 21:02 | 22:18 | //// |
| -60 | //// | 00:46 | 02:31 | 21:22 | 23:08 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **18** | **19** | **20** | **18** | **19** | **20** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 68 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 66 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 64 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 62 | 09:17 | ▬ | ▬ | 11:48 | ▬ | ▬ |
| 60 | 08:33 | 09:55 | 10:49 | 12:33 | 12:57 | 13:53 |
| 58 | 08:04 | 09:18 | 10:11 | 13:03 | 13:35 | 14:30 |
| 56 | 07:41 | 08:51 | 09:45 | 13:25 | 14:02 | 14:57 |
| 54 | 07:23 | 08:30 | 09:24 | 13:44 | 14:23 | 15:17 |
| 52 | 07:08 | 08:13 | 09:06 | 14:00 | 14:40 | 15:35 |
| 50 | 06:54 | 07:58 | 08:51 | 14:13 | 14:55 | 15:50 |
| 45 | 06:27 | 07:28 | 08:21 | 14:41 | 15:25 | 16:20 |
| 40 | 06:06 | 07:04 | 07:58 | 15:03 | 15:49 | 16:43 |
| 35 | 05:48 | 06:45 | 07:38 | 15:21 | 16:08 | 17:02 |
| 30 | 05:33 | 06:29 | 07:22 | 15:37 | 16:25 | 17:19 |
| 20 | 05:07 | 06:01 | 06:54 | 16:04 | 16:53 | 17:46 |
| 10 | 04:45 | 05:37 | 06:29 | 16:27 | 17:17 | 18:10 |
| 0 | 04:24 | 05:15 | 06:07 | 16:48 | 17:40 | 18:32 |
| -10 | 04:04 | 04:53 | 05:44 | 17:10 | 18:02 | 18:54 |
| -20 | 03:42 | 04:29 | 05:20 | 17:33 | 18:26 | 19:18 |
| -30 | 03:16 | 04:01 | 04:52 | 18:00 | 18:55 | 19:45 |
| -35 | 03:01 | 03:45 | 04:36 | 18:16 | 19:11 | 20:02 |
| -40 | 02:44 | 03:26 | 04:16 | 18:34 | 19:31 | 20:20 |
| -45 | 02:24 | 03:03 | 03:53 | 18:57 | 19:54 | 20:43 |
| -50 | 01:58 | 02:34 | 03:23 | 19:26 | 20:24 | 21:12 |
| -52 | 01:45 | 02:20 | 03:08 | 19:40 | 20:39 | 21:26 |
| -54 | 01:31 | 02:03 | 02:50 | 19:56 | 20:57 | 21:43 |
| -56 | 01:15 | 01:44 | 02:29 | 20:16 | 21:18 | 22:02 |
| -58 | 00:55 | 01:19 | 02:03 | 20:40 | 21:44 | 22:26 |
| -60 | 00:30 | 00:46 | 01:25 | 21:13 | 22:22 | 22:59 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **18** | 03:33 | 03:18 | 11:57 | 10:36 | 23:01 | 28 | 4 |
| **19** | 03:04 | 02:49 | 11:57 | 11:27 | 23:53 | 29 | 1 |
| **20** | 02:34 | 02:19 | 11:58 | 12:20 | –:– | 30 | 0 |

## 2025 December 21, 22, 23 (Sun, Mon, Tue)

| | | Aries | Venus -3.9 | | Mars 1.2 | | Jupiter -2.6 | | Saturn 1.0 | |
|---|---|---|---|---|---|---|---|---|---|---|
| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
| 21 Sunday | 0 | 89 49.2 | 184 52.6 | -23 26.0 | 175 6.4 | -24 11.1 | 335 15.2 | 21 44.0 | 92 55.5 | -3 50.8 |
| | 1 | 104 51.7 | 199 51.6 | -23 26.2 | 190 6.7 | -24 11.1 | 350 18.0 | 21 44.0 | 107 57.8 | -3 50.8 |
| | 2 | 119 54.1 | 214 50.7 | -23 26.4 | 205 7.1 | -24 11.0 | 5 20.8 | 21 44.1 | 123 0.2 | -3 50.7 |
| | 3 | 134 56.6 | 229 49.7 | -23 26.6 | 220 7.5 | -24 11.0 | 20 23.5 | 21 44.1 | 138 2.6 | -3 50.7 |
| | 4 | 149 59.1 | 244 48.7 | -23 26.8 | 235 7.9 | -24 11.0 | 35 26.3 | 21 44.2 | 153 4.9 | -3 50.6 |
| | 5 | 165 1.5 | 259 47.8 | -23 27.0 | 250 8.3 | -24 10.9 | 50 29.1 | 21 44.2 | 168 7.3 | -3 50.6 |
| | 6 | 180 4.0 | 274 46.8 | -23 27.2 | 265 8.7 | -24 10.9 | 65 31.8 | 21 44.3 | 183 9.7 | -3 50.5 |
| | 7 | 195 6.4 | 289 45.9 | -23 27.4 | 280 9.1 | -24 10.8 | 80 34.6 | 21 44.4 | 198 12.1 | -3 50.5 |
| | 8 | 210 8.9 | 304 44.9 | -23 27.6 | 295 9.4 | -24 10.8 | 95 37.4 | 21 44.4 | 213 14.4 | -3 50.4 |
| | 9 | 225 11.4 | 319 43.9 | -23 27.8 | 310 9.8 | -24 10.7 | 110 40.1 | 21 44.5 | 228 16.8 | -3 50.4 |
| | 10 | 240 13.8 | 334 43.0 | -23 28.0 | 325 10.2 | -24 10.7 | 125 42.9 | 21 44.5 | 243 19.2 | -3 50.3 |
| | 11 | 255 16.3 | 349 42.0 | -23 28.2 | 340 10.6 | -24 10.6 | 140 45.7 | 21 44.6 | 258 21.6 | -3 50.3 |
| | 12 | 270 18.8 | 4 41.0 | -23 28.4 | 355 11.0 | -24 10.6 | 155 48.5 | 21 44.6 | 273 23.9 | -3 50.2 |
| | 13 | 285 21.2 | 19 40.1 | -23 28.6 | 10 11.4 | -24 10.5 | 170 51.2 | 21 44.7 | 288 26.3 | -3 50.2 |
| | 14 | 300 23.7 | 34 39.1 | -23 28.8 | 25 11.8 | -24 10.5 | 185 54.0 | 21 44.7 | 303 28.7 | -3 50.1 |
| | 15 | 315 26.2 | 49 38.2 | -23 29.0 | 40 12.1 | -24 10.4 | 200 56.8 | 21 44.8 | 318 31.1 | -3 50.1 |
| | 16 | 330 28.6 | 64 37.2 | -23 29.2 | 55 12.5 | -24 10.4 | 215 59.5 | 21 44.8 | 333 33.4 | -3 50.0 |
| | 17 | 345 31.1 | 79 36.2 | -23 29.4 | 70 12.9 | -24 10.3 | 231 2.3 | 21 44.9 | 348 35.8 | -3 50.0 |
| | 18 | 0 33.6 | 94 35.3 | -23 29.6 | 85 13.3 | -24 10.3 | 246 5.1 | 21 45.0 | 3 38.2 | -3 49.9 |
| | 19 | 15 36.0 | 109 34.3 | -23 29.8 | 100 13.7 | -24 10.2 | 261 7.9 | 21 45.0 | 18 40.5 | -3 49.9 |
| | 20 | 30 38.5 | 124 33.3 | -23 30.0 | 115 14.1 | -24 10.2 | 276 10.6 | 21 45.1 | 33 42.9 | -3 49.8 |
| | 21 | 45 40.9 | 139 32.4 | -23 30.1 | 130 14.4 | -24 10.1 | 291 13.4 | 21 45.1 | 48 45.3 | -3 49.8 |
| | 22 | 60 43.4 | 154 31.4 | -23 30.3 | 145 14.8 | -24 10.1 | 306 16.2 | 21 45.2 | 63 47.7 | -3 49.7 |
| | 23 | 75 45.9 | 169 30.5 | -23 30.5 | 160 15.2 | -24 10.0 | 321 18.9 | 21 45.2 | 78 50.0 | -3 49.7 |
| | | MP 17:59 | *v* -1.0 | *d* 0.2 | *v* 0.4 | *d* 0.0 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 22 Monday | 0 | 90 48.3 | 184 29.5 | -23 30.7 | 175 15.6 | -24 9.9 | 336 21.7 | 21 45.3 | 93 52.4 | -3 49.6 |
| | 1 | 105 50.8 | 199 28.5 | -23 30.9 | 190 16.0 | -24 9.9 | 351 24.5 | 21 45.3 | 108 54.8 | -3 49.6 |
| | 2 | 120 53.3 | 214 27.6 | -23 31.0 | 205 16.4 | -24 9.8 | 6 27.3 | 21 45.4 | 123 57.1 | -3 49.5 |
| | 3 | 135 55.7 | 229 26.6 | -23 31.2 | 220 16.8 | -24 9.8 | 21 30.0 | 21 45.4 | 138 59.5 | -3 49.5 |
| | 4 | 150 58.2 | 244 25.6 | -23 31.4 | 235 17.1 | -24 9.7 | 36 32.8 | 21 45.5 | 154 1.9 | -3 49.4 |
| | 5 | 166 0.7 | 259 24.7 | -23 31.6 | 250 17.5 | -24 9.7 | 51 35.6 | 21 45.6 | 169 4.3 | -3 49.4 |
| | 6 | 181 3.1 | 274 23.7 | -23 31.8 | 265 17.9 | -24 9.6 | 66 38.4 | 21 45.6 | 184 6.6 | -3 49.3 |
| | 7 | 196 5.6 | 289 22.7 | -23 31.9 | 280 18.3 | -24 9.5 | 81 41.1 | 21 45.7 | 199 9.0 | -3 49.3 |
| | 8 | 211 8.1 | 304 21.8 | -23 32.1 | 295 18.7 | -24 9.5 | 96 43.9 | 21 45.7 | 214 11.4 | -3 49.2 |
| | 9 | 226 10.5 | 319 20.8 | -23 32.3 | 310 19.1 | -24 9.4 | 111 46.7 | 21 45.8 | 229 13.7 | -3 49.2 |
| | 10 | 241 13.0 | 334 19.8 | -23 32.4 | 325 19.4 | -24 9.4 | 126 49.5 | 21 45.8 | 244 16.1 | -3 49.1 |
| | 11 | 256 15.4 | 349 18.9 | -23 32.6 | 340 19.8 | -24 9.3 | 141 52.2 | 21 45.9 | 259 18.5 | -3 49.1 |
| | 12 | 271 17.9 | 4 17.9 | -23 32.8 | 355 20.2 | -24 9.2 | 156 55.0 | 21 45.9 | 274 20.8 | -3 49.0 |
| | 13 | 286 20.4 | 19 16.9 | -23 32.9 | 10 20.6 | -24 9.2 | 171 57.8 | 21 46.0 | 289 23.2 | -3 49.0 |
| | 14 | 301 22.8 | 34 16.0 | -23 33.1 | 25 21.0 | -24 9.1 | 187 0.6 | 21 46.0 | 304 25.6 | -3 48.9 |
| | 15 | 316 25.3 | 49 15.0 | -23 33.3 | 40 21.4 | -24 9.1 | 202 3.3 | 21 46.1 | 319 27.9 | -3 48.9 |
| | 16 | 331 27.8 | 64 14.1 | -23 33.4 | 55 21.7 | -24 9.0 | 217 6.1 | 21 46.2 | 334 30.3 | -3 48.8 |
| | 17 | 346 30.2 | 79 13.1 | -23 33.6 | 70 22.1 | -24 8.9 | 232 8.9 | 21 46.2 | 349 32.7 | -3 48.8 |
| | 18 | 1 32.7 | 94 12.1 | -23 33.7 | 85 22.5 | -24 8.9 | 247 11.7 | 21 46.3 | 4 35.1 | -3 48.7 |
| | 19 | 16 35.2 | 109 11.2 | -23 33.9 | 100 22.9 | -24 8.8 | 262 14.4 | 21 46.3 | 19 37.4 | -3 48.7 |
| | 20 | 31 37.6 | 124 10.2 | -23 34.0 | 115 23.3 | -24 8.7 | 277 17.2 | 21 46.4 | 34 39.8 | -3 48.6 |
| | 21 | 46 40.1 | 139 9.2 | -23 34.2 | 130 23.7 | -24 8.7 | 292 20.0 | 21 46.4 | 49 42.2 | -3 48.6 |
| | 22 | 61 42.6 | 154 8.3 | -23 34.4 | 145 24.0 | -24 8.6 | 307 22.8 | 21 46.5 | 64 44.5 | -3 48.5 |
| | 23 | 76 45.0 | 169 7.3 | -23 34.5 | 160 24.4 | -24 8.5 | 322 25.6 | 21 46.5 | 79 46.9 | -3 48.5 |
| | | MP 17:55 | *v* -1.0 | *d* 0.2 | *v* 0.4 | *d* -0.1 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* 0.0 |

| d | h | GHA | GHA | Dec | GHA | Dec | GHA | Dec | GHA | Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 Tuesday | 0 | 91 47.5 | 184 6.3 | -23 34.7 | 175 24.8 | -24 8.5 | 337 28.3 | 21 46.6 | 94 49.3 | -3 48.4 |
| | 1 | 106 49.9 | 199 5.3 | -23 34.8 | 190 25.2 | -24 8.4 | 352 31.1 | 21 46.6 | 109 51.6 | -3 48.4 |
| | 2 | 121 52.4 | 214 4.4 | -23 35.0 | 205 25.6 | -24 8.3 | 7 33.9 | 21 46.7 | 124 54.0 | -3 48.3 |
| | 3 | 136 54.9 | 229 3.4 | -23 35.1 | 220 26.0 | -24 8.3 | 22 36.7 | 21 46.8 | 139 56.4 | -3 48.3 |
| | 4 | 151 57.3 | 244 2.4 | -23 35.2 | 235 26.3 | -24 8.2 | 37 39.4 | 21 46.8 | 154 58.7 | -3 48.2 |
| | 5 | 166 59.8 | 259 1.5 | -23 35.4 | 250 26.7 | -24 8.1 | 52 42.2 | 21 46.9 | 170 1.1 | -3 48.2 |
| | 6 | 182 2.3 | 274 0.5 | -23 35.5 | 265 27.1 | -24 8.1 | 67 45.0 | 21 46.9 | 185 3.5 | -3 48.1 |
| | 7 | 197 4.7 | 288 59.5 | -23 35.7 | 280 27.5 | -24 8.0 | 82 47.8 | 21 47.0 | 200 5.8 | -3 48.1 |
| | 8 | 212 7.2 | 303 58.6 | -23 35.8 | 295 27.9 | -24 7.9 | 97 50.6 | 21 47.0 | 215 8.2 | -3 48.0 |
| | 9 | 227 9.7 | 318 57.6 | -23 36.0 | 310 28.3 | -24 7.9 | 112 53.3 | 21 47.1 | 230 10.6 | -3 48.0 |
| | 10 | 242 12.1 | 333 56.6 | -23 36.1 | 325 28.6 | -24 7.8 | 127 56.1 | 21 47.1 | 245 12.9 | -3 47.9 |
| | 11 | 257 14.6 | 348 55.7 | -23 36.2 | 340 29.0 | -24 7.7 | 142 58.9 | 21 47.2 | 260 15.3 | -3 47.9 |
| | 12 | 272 17.1 | 3 54.7 | -23 36.4 | 355 29.4 | -24 7.6 | 158 1.7 | 21 47.2 | 275 17.7 | -3 47.8 |
| | 13 | 287 19.5 | 18 53.7 | -23 36.5 | 10 29.8 | -24 7.6 | 173 4.5 | 21 47.3 | 290 20.0 | -3 47.8 |
| | 14 | 302 22.0 | 33 52.8 | -23 36.6 | 25 30.2 | -24 7.5 | 188 7.2 | 21 47.4 | 305 22.4 | -3 47.7 |
| | 15 | 317 24.4 | 48 51.8 | -23 36.8 | 40 30.6 | -24 7.4 | 203 10.0 | 21 47.4 | 320 24.7 | -3 47.6 |
| | 16 | 332 26.9 | 63 50.8 | -23 36.9 | 55 30.9 | -24 7.3 | 218 12.8 | 21 47.5 | 335 27.1 | -3 47.6 |
| | 17 | 347 29.4 | 78 49.9 | -23 37.0 | 70 31.3 | -24 7.3 | 233 15.6 | 21 47.5 | 350 29.5 | -3 47.5 |
| | 18 | 2 31.8 | 93 48.9 | -23 37.1 | 85 31.7 | -24 7.2 | 248 18.4 | 21 47.6 | 5 31.8 | -3 47.5 |
| | 19 | 17 34.3 | 108 47.9 | -23 37.3 | 100 32.1 | -24 7.1 | 263 21.1 | 21 47.6 | 20 34.2 | -3 47.4 |
| | 20 | 32 36.8 | 123 46.9 | -23 37.4 | 115 32.5 | -24 7.0 | 278 23.9 | 21 47.7 | 35 36.6 | -3 47.4 |
| | 21 | 47 39.2 | 138 46.0 | -23 37.5 | 130 32.8 | -24 7.0 | 293 26.7 | 21 47.7 | 50 38.9 | -3 47.3 |
| | 22 | 62 41.7 | 153 45.0 | -23 37.6 | 145 33.2 | -24 6.9 | 308 29.5 | 21 47.8 | 65 41.3 | -3 47.3 |
| | 23 | 77 44.2 | 168 44.0 | -23 37.8 | 160 33.6 | -24 6.8 | 323 32.3 | 21 47.9 | 80 43.7 | -3 47.2 |
| | | MP 17:51 | *v* -1.0 | *d* 0.1 | *v* 0.4 | *d* -0.1 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 12.1 |
| Achernar | 335 19.3 | -57 6.5 |
| Acrux | 172 59.3 | -63 14.3 |
| Adhara | 255 4.9 | -29 0.4 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.4 | 55 48.8 |
| Alkaid | 152 51.6 | 49 10.7 |
| Alnair | 27 32.2 | -46 50.3 |
| Alnilam | 275 36.6 | -1 11.1 |
| Alphard | 217 46.8 | -8 46.2 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.2 |
| Ankaa | 353 6.3 | -42 10.1 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.7 |
| Atria | 107 9.3 | -69 4.3 |
| Avior | 234 13.9 | -59 35.4 |
| Bellatrix | 278 21.7 | 6 22.4 |
| Betelgeuse | 270 50.9 | 7 24.7 |
| Canopus | 263 51.5 | -52 42.5 |
| Capella | 280 20.2 | 46 1.5 |
| Deneb | 49 25.6 | 45 22.5 |
| Denebola | 182 24.1 | 14 25.5 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 39.9 | 61 36.3 |
| Elnath | 278 0.5 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.1 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.8 | -29 29.2 |
| Gacrux | 171 50.9 | -57 15.3 |
| Gienah | 175 42.8 | -17 41.1 |
| Hadar | 148 35.3 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.3 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 20.7 | 74 2.6 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.5 |
| Menkent | 147 56.9 | -36 29.7 |
| Miaplacidus | 221 37.5 | -69 49.2 |
| Mirfak | 308 26.7 | 49 57.4 |
| Nunki | 75 47.2 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.2 |
| Pollux | 243 16.0 | 27 57.7 |
| Procyon | 244 49.7 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.4 |
| Regulus | 207 33.5 | 11 50.3 |
| Rigel | 281 2.8 | -8 10.3 |
| Rigil Kent. | 139 39.7 | -60 56.3 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 30.0 | 56 41.1 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 25.2 | -16 45.1 |
| Spica | 158 21.6 | -11 17.8 |
| Suhail | 222 45.4 | -43 32.1 |
| Vega | 80 33.1 | 38 48.5 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 21 Sun | SHA | MP |
|---|---|---|
| Venus | 95 3.4 | 11:41 |
| Mars | 85 17.2 | 12:19 |
| Jupiter | 245 26.0 | 01:39 |
| Saturn | 3 6.3 | 17:45 |

| 22 Mon | SHA | MP |
|---|---|---|
| Venus | 93 41.2 | 11:43 |
| Mars | 84 27.3 | 12:19 |
| Jupiter | 245 33.4 | 01:34 |
| Saturn | 3 4.1 | 17:42 |

| 23 Tue | SHA | MP |
|---|---|---|
| Venus | 92 18.8 | 11:44 |
| Mars | 83 37.3 | 12:18 |
| Jupiter | 245 40.8 | 01:30 |
| Saturn | 3 1.8 | 17:38 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **21 Sunday** | 0 | 180 31.0 | -23 26.2 | 168 57.7 | 9.5 | -27 30.3 | -3.6 | 54.6 |
| | 1 | 195 30.7 | -23 26.2 | 183 26.3 | 9.6 | -27 26.7 | -3.7 | 54.6 |
| | 2 | 210 30.4 | -23 26.2 | 197 54.8 | 9.6 | -27 23.0 | -3.9 | 54.6 |
| | 3 | 225 30.0 | -23 26.2 | 212 23.4 | 9.6 | -27 19.2 | -4.0 | 54.6 |
| | 4 | 240 29.7 | -23 26.2 | 226 52.0 | 9.6 | -27 15.2 | -4.1 | 54.7 |
| | 5 | 255 29.4 | -23 26.3 | 241 20.6 | 9.7 | -27 11.0 | -4.3 | 54.7 |
| | 6 | 270 29.1 | -23 26.3 | 255 49.3 | 9.7 | -27 6.8 | -4.4 | 54.7 |
| | 7 | 285 28.8 | -23 26.3 | 270 18.0 | 9.7 | -27 2.3 | -4.5 | 54.7 |
| | 8 | 300 28.5 | -23 26.3 | 284 46.7 | 9.7 | -26 57.8 | -4.7 | 54.7 |
| | 9 | 315 28.2 | -23 26.3 | 299 15.4 | 9.8 | -26 53.1 | -4.8 | 54.7 |
| | 10 | 330 27.9 | -23 26.3 | 313 44.2 | 9.8 | -26 48.3 | -5.0 | 54.7 |
| | 11 | 345 27.6 | -23 26.3 | 328 13.0 | 9.8 | -26 43.3 | -5.1 | 54.8 |
| | 12 | 0 27.2 | -23 26.3 | 342 41.8 | 9.9 | -26 38.2 | -5.2 | 54.8 |
| | 13 | 15 26.9 | -23 26.3 | 357 10.7 | 9.9 | -26 33.0 | -5.4 | 54.8 |
| | 14 | 30 26.6 | -23 26.3 | 11 39.6 | 9.9 | -26 27.7 | -5.5 | 54.8 |
| | 15 | 45 26.3 | -23 26.3 | 26 8.6 | 10.0 | -26 22.2 | -5.6 | 54.8 |
| | 16 | 60 26.0 | -23 26.3 | 40 37.5 | 10.0 | -26 16.5 | -5.8 | 54.8 |
| | 17 | 75 25.7 | -23 26.3 | 55 6.6 | 10.1 | -26 10.8 | -5.9 | 54.8 |
| | 18 | 90 25.4 | -23 26.3 | 69 35.6 | 10.1 | -26 4.9 | -6.0 | 54.9 |
| | 19 | 105 25.1 | -23 26.3 | 84 4.7 | 10.1 | -25 58.9 | -6.2 | 54.9 |
| | 20 | 120 24.7 | -23 26.3 | 98 33.9 | 10.2 | -25 52.7 | -6.3 | 54.9 |
| | 21 | 135 24.4 | -23 26.3 | 113 3.0 | 10.2 | -25 46.4 | -6.4 | 54.9 |
| | 22 | 150 24.1 | -23 26.3 | 127 32.3 | 10.3 | -25 40.0 | -6.5 | 54.9 |
| | 23 | 165 23.8 | -23 26.3 | 142 1.5 | 10.3 | -25 33.5 | -6.7 | 54.9 |
| | | *v* -0.3 | SD 16.3 | *d* 0.0 | | SD 14.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **22 Monday** | 0 | 180 23.5 | -23 26.3 | 156 30.9 | 10.4 | -25 26.8 | -6.8 | 54.9 |
| | 1 | 195 23.2 | -23 26.3 | 171 0.2 | 10.4 | -25 20.0 | -6.9 | 55.0 |
| | 2 | 210 22.9 | -23 26.2 | 185 29.6 | 10.4 | -25 13.1 | -7.1 | 55.0 |
| | 3 | 225 22.6 | -23 26.2 | 199 59.1 | 10.5 | -25 6.0 | -7.2 | 55.0 |
| | 4 | 240 22.3 | -23 26.2 | 214 28.6 | 10.5 | -24 58.9 | -7.3 | 55.0 |
| | 5 | 255 21.9 | -23 26.2 | 228 58.1 | 10.6 | -24 51.6 | -7.4 | 55.0 |
| | 6 | 270 21.6 | -23 26.2 | 243 27.7 | 10.6 | -24 44.1 | -7.5 | 55.0 |
| | 7 | 285 21.3 | -23 26.2 | 257 57.3 | 10.7 | -24 36.6 | -7.7 | 55.1 |
| | 8 | 300 21.0 | -23 26.2 | 272 27.0 | 10.7 | -24 28.9 | -7.8 | 55.1 |
| | 9 | 315 20.7 | -23 26.2 | 286 56.8 | 10.8 | -24 21.1 | -7.9 | 55.1 |
| | 10 | 330 20.4 | -23 26.1 | 301 26.5 | 10.8 | -24 13.2 | -8.0 | 55.1 |
| | 11 | 345 20.1 | -23 26.1 | 315 56.4 | 10.9 | -24 5.2 | -8.2 | 55.1 |
| | 12 | 0 19.8 | -23 26.1 | 330 26.3 | 10.9 | -23 57.0 | -8.3 | 55.1 |
| | 13 | 15 19.4 | -23 26.1 | 344 56.2 | 11.0 | -23 48.7 | -8.4 | 55.2 |
| | 14 | 30 19.1 | -23 26.1 | 359 26.2 | 11.0 | -23 40.3 | -8.5 | 55.2 |
| | 15 | 45 18.8 | -23 26.1 | 13 56.3 | 11.1 | -23 31.8 | -8.6 | 55.2 |
| | 16 | 60 18.5 | -23 26.0 | 28 26.4 | 11.2 | -23 23.2 | -8.7 | 55.2 |
| | 17 | 75 18.2 | -23 26.0 | 42 56.5 | 11.2 | -23 14.4 | -8.9 | 55.2 |
| | 18 | 90 17.9 | -23 26.0 | 57 26.7 | 11.3 | -23 5.6 | -9.0 | 55.2 |
| | 19 | 105 17.6 | -23 26.0 | 71 57.0 | 11.3 | -22 56.6 | -9.1 | 55.3 |
| | 20 | 120 17.3 | -23 26.0 | 86 27.3 | 11.4 | -22 47.5 | -9.2 | 55.3 |
| | 21 | 135 17.0 | -23 25.9 | 100 57.6 | 11.4 | -22 38.3 | -9.3 | 55.3 |
| | 22 | 150 16.6 | -23 25.9 | 115 28.1 | 11.5 | -22 29.0 | -9.4 | 55.3 |
| | 23 | 165 16.3 | -23 25.9 | 129 58.5 | 11.5 | -22 19.6 | -9.5 | 55.3 |
| | | *v* -0.3 | SD 16.3 | *d* 0.0 | | SD 15.0 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **23 Tuesday** | 0 | 180 16.0 | -23 25.8 | 144 29.0 | 11.6 | -22 10.0 | -9.6 | 55.4 |
| | 1 | 195 15.7 | -23 25.8 | 158 59.6 | 11.6 | -22 0.4 | -9.8 | 55.4 |
| | 2 | 210 15.4 | -23 25.8 | 173 30.3 | 11.7 | -21 50.6 | -9.9 | 55.4 |
| | 3 | 225 15.1 | -23 25.8 | 188 0.9 | 11.7 | -21 40.8 | -10.0 | 55.4 |
| | 4 | 240 14.8 | -23 25.7 | 202 31.7 | 11.8 | -21 30.8 | -10.1 | 55.4 |
| | 5 | 255 14.5 | -23 25.7 | 217 2.5 | 11.8 | -21 20.7 | -10.2 | 55.5 |
| | 6 | 270 14.2 | -23 25.7 | 231 33.3 | 11.9 | -21 10.6 | -10.3 | 55.5 |
| | 7 | 285 13.8 | -23 25.6 | 246 4.2 | 12.0 | -21 0.3 | -10.4 | 55.5 |
| | 8 | 300 13.5 | -23 25.6 | 260 35.2 | 12.0 | -20 49.9 | -10.5 | 55.5 |
| | 9 | 315 13.2 | -23 25.6 | 275 6.2 | 12.1 | -20 39.4 | -10.6 | 55.5 |
| | 10 | 330 12.9 | -23 25.5 | 289 37.2 | 12.1 | -20 28.8 | -10.7 | 55.5 |
| | 11 | 345 12.6 | -23 25.5 | 304 8.4 | 12.2 | -20 18.1 | -10.8 | 55.6 |
| | 12 | 0 12.3 | -23 25.5 | 318 39.5 | 12.2 | -20 7.3 | -10.9 | 55.6 |
| | 13 | 15 12.0 | -23 25.4 | 333 10.7 | 12.3 | -19 56.4 | -11.0 | 55.6 |
| | 14 | 30 11.7 | -23 25.4 | 347 42.0 | 12.3 | -19 45.4 | -11.1 | 55.6 |
| | 15 | 45 11.4 | -23 25.4 | 2 13.3 | 12.4 | -19 34.3 | -11.2 | 55.6 |
| | 16 | 60 11.0 | -23 25.3 | 16 44.7 | 12.4 | -19 23.2 | -11.3 | 55.7 |
| | 17 | 75 10.7 | -23 25.3 | 31 16.1 | 12.5 | -19 11.9 | -11.4 | 55.7 |
| | 18 | 90 10.4 | -23 25.2 | 45 47.6 | 12.5 | -19 0.5 | -11.5 | 55.7 |
| | 19 | 105 10.1 | -23 25.2 | 60 19.1 | 12.6 | -18 49.0 | -11.6 | 55.7 |
| | 20 | 120 9.8 | -23 25.1 | 74 50.7 | 12.6 | -18 37.5 | -11.7 | 55.8 |
| | 21 | 135 9.5 | -23 25.1 | 89 22.3 | 12.7 | -18 25.8 | -11.7 | 55.8 |
| | 22 | 150 9.2 | -23 25.1 | 103 54.0 | 12.7 | -18 14.1 | -11.8 | 55.8 |
| | 23 | 165 8.9 | -23 25.0 | 118 25.8 | 12.8 | -18 2.2 | -11.9 | 55.8 |
| | | *v* -0.3 | SD 16.3 | *d* 0.0 | | SD 15.1 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:26 | 10:58 | ▬ | ▬ | 12:58 | 15:30 |
| 70 | 08:06 | 09:55 | ▬ | ▬ | 14:02 | 15:51 |
| 68 | 07:50 | 09:19 | ▬ | ▬ | 14:37 | 16:07 |
| 66 | 07:37 | 08:54 | 10:35 | 13:21 | 15:03 | 16:20 |
| 64 | 07:25 | 08:34 | 09:52 | 14:04 | 15:22 | 16:31 |
| 62 | 07:16 | 08:18 | 09:24 | 14:33 | 15:38 | 16:41 |
| 60 | 07:07 | 08:04 | 09:02 | 14:54 | 15:52 | 16:49 |
| 58 | 07:00 | 07:53 | 08:45 | 15:12 | 16:04 | 16:57 |
| 56 | 06:53 | 07:42 | 08:30 | 15:27 | 16:14 | 17:03 |
| 54 | 06:47 | 07:33 | 08:17 | 15:39 | 16:23 | 17:10 |
| 52 | 06:41 | 07:25 | 08:06 | 15:50 | 16:31 | 17:15 |
| 50 | 06:36 | 07:17 | 07:56 | 16:00 | 16:39 | 17:20 |
| 45 | 06:24 | 07:01 | 07:35 | 16:21 | 16:55 | 17:32 |
| 40 | 06:14 | 06:48 | 07:18 | 16:38 | 17:09 | 17:43 |
| 35 | 06:04 | 06:36 | 07:04 | 16:52 | 17:20 | 17:52 |
| 30 | 05:55 | 06:25 | 06:52 | 17:05 | 17:31 | 18:01 |
| 20 | 05:39 | 06:06 | 06:30 | 17:26 | 17:50 | 18:17 |
| 10 | 05:23 | 05:49 | 06:12 | 17:44 | 18:07 | 18:34 |
| 0 | 05:06 | 05:32 | 05:54 | 18:02 | 18:24 | 18:51 |
| -10 | 04:47 | 05:14 | 05:37 | 18:20 | 18:43 | 19:10 |
| -20 | 04:24 | 04:53 | 05:18 | 18:39 | 19:03 | 19:32 |
| -30 | 03:55 | 04:28 | 04:56 | 19:01 | 19:28 | 20:02 |
| -35 | 03:36 | 04:13 | 04:43 | 19:14 | 19:43 | 20:20 |
| -40 | 03:13 | 03:55 | 04:28 | 19:29 | 20:02 | 20:43 |
| -45 | 02:42 | 03:32 | 04:10 | 19:47 | 20:24 | 21:14 |
| -50 | 01:57 | 03:02 | 03:47 | 20:09 | 20:54 | 22:00 |
| -52 | 01:29 | 02:47 | 03:36 | 20:20 | 21:09 | 22:28 |
| -54 | 00:41 | 02:29 | 03:24 | 20:33 | 21:27 | 23:15 |
| -56 | //// | 02:07 | 03:09 | 20:47 | 21:50 | //// |
| -58 | //// | 01:37 | 02:53 | 21:04 | 22:20 | //// |
| -60 | //// | 00:45 | 02:32 | 21:24 | 23:11 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **21** | **22** | **23** | **21** | **22** | **23** |
| 72 | ▬ | ▬ | ▬ | ▬ | ▬ | ▬ |
| 70 | ▬ | ▬ | 14:17 | ▬ | ▬ | 15:44 |
| 68 | ▬ | ▬ | 13:05 | ▬ | ▬ | 16:54 |
| 66 | ▬ | 13:33 | 12:28 | ▬ | 14:44 | 17:30 |
| 64 | ▬ | 12:23 | 12:02 | ▬ | 15:54 | 17:55 |
| 62 | 11:55 | 11:47 | 11:41 | 14:36 | 16:29 | 18:15 |
| 60 | 11:12 | 11:21 | 11:24 | 15:18 | 16:54 | 18:31 |
| 58 | 10:43 | 11:00 | 11:10 | 15:47 | 17:14 | 18:45 |
| 56 | 10:21 | 10:43 | 10:57 | 16:09 | 17:31 | 18:56 |
| 54 | 10:02 | 10:29 | 10:47 | 16:27 | 17:45 | 19:06 |
| 52 | 09:47 | 10:16 | 10:37 | 16:42 | 17:57 | 19:15 |
| 50 | 09:33 | 10:05 | 10:28 | 16:55 | 18:08 | 19:23 |
| 45 | 09:06 | 09:41 | 10:10 | 17:22 | 18:30 | 19:40 |
| 40 | 08:44 | 09:23 | 09:55 | 17:43 | 18:48 | 19:54 |
| 35 | 08:26 | 09:07 | 09:42 | 18:01 | 19:03 | 20:06 |
| 30 | 08:10 | 08:53 | 09:31 | 18:16 | 19:16 | 20:16 |
| 20 | 07:43 | 08:30 | 09:12 | 18:42 | 19:38 | 20:33 |
| 10 | 07:21 | 08:09 | 08:55 | 19:04 | 19:57 | 20:48 |
| 0 | 06:59 | 07:50 | 08:39 | 19:24 | 20:14 | 21:02 |
| -10 | 06:38 | 07:31 | 08:24 | 19:44 | 20:32 | 21:16 |
| -20 | 06:15 | 07:11 | 08:07 | 20:06 | 20:50 | 21:31 |
| -30 | 05:48 | 06:47 | 07:47 | 20:31 | 21:12 | 21:47 |
| -35 | 05:32 | 06:33 | 07:35 | 20:46 | 21:24 | 21:57 |
| -40 | 05:14 | 06:17 | 07:22 | 21:03 | 21:38 | 22:08 |
| -45 | 04:51 | 05:57 | 07:06 | 21:23 | 21:55 | 22:21 |
| -50 | 04:23 | 05:32 | 06:47 | 21:49 | 22:16 | 22:37 |
| -52 | 04:09 | 05:21 | 06:38 | 22:01 | 22:26 | 22:44 |
| -54 | 03:53 | 05:07 | 06:27 | 22:15 | 22:37 | 22:52 |
| -56 | 03:33 | 04:51 | 06:15 | 22:31 | 22:49 | 23:01 |
| -58 | 03:09 | 04:32 | 06:02 | 22:50 | 23:03 | 23:11 |
| -60 | 02:37 | 04:09 | 05:45 | 23:14 | 23:20 | 23:23 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **21** | 02:04 | 01:49 | 11:58 | 13:12 | 00:46 | 1 | 1 |
| **22** | 01:34 | 01:19 | 11:59 | 14:02 | 01:37 | 2 | 3 |
| **23** | 01:04 | 00:49 | 11:59 | 14:51 | 02:27 | 3 | 8 |

## 2025 December 24, 25, 26 (Wed, Thu, Fri)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.2 GHA | Mars 1.2 Dec | Jupiter -2.7 GHA | Jupiter -2.7 Dec | Saturn 1.0 GHA | Saturn 1.0 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 24 Wednesday | 0 | 92 46.6 | 183 43.1 | -23 37.9 | 175 34.0 | -24 6.7 | 338 35.1 | 21 47.9 | 95 46.0 | -3 47.2 |
| | 1 | 107 49.1 | 198 42.1 | -23 38.0 | 190 34.4 | -24 6.7 | 353 37.8 | 21 48.0 | 110 48.4 | -3 47.1 |
| | 2 | 122 51.5 | 213 41.1 | -23 38.1 | 205 34.8 | -24 6.6 | 8 40.6 | 21 48.0 | 125 50.7 | -3 47.1 |
| | 3 | 137 54.0 | 228 40.2 | -23 38.2 | 220 35.1 | -24 6.5 | 23 43.4 | 21 48.1 | 140 53.1 | -3 47.0 |
| | 4 | 152 56.5 | 243 39.2 | -23 38.4 | 235 35.5 | -24 6.4 | 38 46.2 | 21 48.1 | 155 55.5 | -3 47.0 |
| | 5 | 167 58.9 | 258 38.2 | -23 38.5 | 250 35.9 | -24 6.3 | 53 49.0 | 21 48.2 | 170 57.8 | -3 46.9 |
| | 6 | 183 1.4 | 273 37.2 | -23 38.6 | 265 36.3 | -24 6.3 | 68 51.8 | 21 48.2 | 186 0.2 | -3 46.9 |
| | 7 | 198 3.9 | 288 36.3 | -23 38.7 | 280 36.7 | -24 6.2 | 83 54.5 | 21 48.3 | 201 2.6 | -3 46.8 |
| | 8 | 213 6.3 | 303 35.3 | -23 38.8 | 295 37.0 | -24 6.1 | 98 57.3 | 21 48.4 | 216 4.9 | -3 46.7 |
| | 9 | 228 8.8 | 318 34.3 | -23 38.9 | 310 37.4 | -24 6.0 | 114 0.1 | 21 48.4 | 231 7.3 | -3 46.7 |
| | 10 | 243 11.3 | 333 33.4 | -23 39.0 | 325 37.8 | -24 5.9 | 129 2.9 | 21 48.5 | 246 9.6 | -3 46.6 |
| | 11 | 258 13.7 | 348 32.4 | -23 39.1 | 340 38.2 | -24 5.9 | 144 5.7 | 21 48.5 | 261 12.0 | -3 46.6 |
| | 12 | 273 16.2 | 3 31.4 | -23 39.2 | 355 38.6 | -24 5.8 | 159 8.5 | 21 48.6 | 276 14.4 | -3 46.5 |
| | 13 | 288 18.7 | 18 30.4 | -23 39.3 | 10 39.0 | -24 5.7 | 174 11.2 | 21 48.6 | 291 16.7 | -3 46.5 |
| | 14 | 303 21.1 | 33 29.5 | -23 39.4 | 25 39.3 | -24 5.6 | 189 14.0 | 21 48.7 | 306 19.1 | -3 46.4 |
| | 15 | 318 23.6 | 48 28.5 | -23 39.5 | 40 39.7 | -24 5.5 | 204 16.8 | 21 48.7 | 321 21.5 | -3 46.4 |
| | 16 | 333 26.0 | 63 27.5 | -23 39.6 | 55 40.1 | -24 5.4 | 219 19.6 | 21 48.8 | 336 23.8 | -3 46.3 |
| | 17 | 348 28.5 | 78 26.6 | -23 39.7 | 70 40.5 | -24 5.4 | 234 22.4 | 21 48.9 | 351 26.2 | -3 46.3 |
| | 18 | 3 31.0 | 93 25.6 | -23 39.8 | 85 40.9 | -24 5.3 | 249 25.2 | 21 48.9 | 6 28.5 | -3 46.2 |
| | 19 | 18 33.4 | 108 24.6 | -23 39.9 | 100 41.2 | -24 5.2 | 264 28.0 | 21 49.0 | 21 30.9 | -3 46.2 |
| | 20 | 33 35.9 | 123 23.6 | -23 40.0 | 115 41.6 | -24 5.1 | 279 30.7 | 21 49.0 | 36 33.3 | -3 46.1 |
| | 21 | 48 38.4 | 138 22.7 | -23 40.1 | 130 42.0 | -24 5.0 | 294 33.5 | 21 49.1 | 51 35.6 | -3 46.0 |
| | 22 | 63 40.8 | 153 21.7 | -23 40.2 | 145 42.4 | -24 4.9 | 309 36.3 | 21 49.1 | 66 38.0 | -3 46.0 |
| | 23 | 78 43.3 | 168 20.7 | -23 40.3 | 160 42.8 | -24 4.8 | 324 39.1 | 21 49.2 | 81 40.3 | -3 45.9 |
| | | MP 17:47 | *v* -1.0 | *d* 0.1 | *v* 0.4 | *d* -0.1 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 Thursday | 0 | 93 45.8 | 183 19.8 | -23 40.4 | 175 43.1 | -24 4.7 | 339 41.9 | 21 49.2 | 96 42.7 | -3 45.9 |
| | 1 | 108 48.2 | 198 18.8 | -23 40.5 | 190 43.5 | -24 4.6 | 354 44.7 | 21 49.3 | 111 45.1 | -3 45.8 |
| | 2 | 123 50.7 | 213 17.8 | -23 40.6 | 205 43.9 | -24 4.6 | 9 47.5 | 21 49.4 | 126 47.4 | -3 45.8 |
| | 3 | 138 53.2 | 228 16.8 | -23 40.7 | 220 44.3 | -24 4.5 | 24 50.2 | 21 49.4 | 141 49.8 | -3 45.7 |
| | 4 | 153 55.6 | 243 15.9 | -23 40.7 | 235 44.7 | -24 4.4 | 39 53.0 | 21 49.5 | 156 52.1 | -3 45.7 |
| | 5 | 168 58.1 | 258 14.9 | -23 40.8 | 250 45.1 | -24 4.3 | 54 55.8 | 21 49.5 | 171 54.5 | -3 45.6 |
| | 6 | 184 0.5 | 273 13.9 | -23 40.9 | 265 45.4 | -24 4.2 | 69 58.6 | 21 49.6 | 186 56.8 | -3 45.6 |
| | 7 | 199 3.0 | 288 13.0 | -23 41.0 | 280 45.8 | -24 4.1 | 85 1.4 | 21 49.6 | 201 59.2 | -3 45.5 |
| | 8 | 214 5.5 | 303 12.0 | -23 41.1 | 295 46.2 | -24 4.0 | 100 4.2 | 21 49.7 | 217 1.6 | -3 45.4 |
| | 9 | 229 7.9 | 318 11.0 | -23 41.1 | 310 46.6 | -24 3.9 | 115 7.0 | 21 49.7 | 232 3.9 | -3 45.4 |
| | 10 | 244 10.4 | 333 10.0 | -23 41.2 | 325 47.0 | -24 3.8 | 130 9.8 | 21 49.8 | 247 6.3 | -3 45.3 |
| | 11 | 259 12.9 | 348 9.1 | -23 41.3 | 340 47.3 | -24 3.7 | 145 12.6 | 21 49.9 | 262 8.6 | -3 45.3 |
| | 12 | 274 15.3 | 3 8.1 | -23 41.4 | 355 47.7 | -24 3.6 | 160 15.3 | 21 49.9 | 277 11.0 | -3 45.2 |
| | 13 | 289 17.8 | 18 7.1 | -23 41.4 | 10 48.1 | -24 3.5 | 175 18.1 | 21 50.0 | 292 13.4 | -3 45.2 |
| | 14 | 304 20.3 | 33 6.1 | -23 41.5 | 25 48.5 | -24 3.4 | 190 20.9 | 21 50.0 | 307 15.7 | -3 45.1 |
| | 15 | 319 22.7 | 48 5.2 | -23 41.6 | 40 48.9 | -24 3.4 | 205 23.7 | 21 50.1 | 322 18.1 | -3 45.1 |
| | 16 | 334 25.2 | 63 4.2 | -23 41.7 | 55 49.2 | -24 3.3 | 220 26.5 | 21 50.1 | 337 20.4 | -3 45.0 |
| | 17 | 349 27.6 | 78 3.2 | -23 41.7 | 70 49.6 | -24 3.2 | 235 29.3 | 21 50.2 | 352 22.8 | -3 44.9 |
| | 18 | 4 30.1 | 93 2.3 | -23 41.8 | 85 50.0 | -24 3.1 | 250 32.1 | 21 50.3 | 7 25.1 | -3 44.9 |
| | 19 | 19 32.6 | 108 1.3 | -23 41.9 | 100 50.4 | -24 3.0 | 265 34.9 | 21 50.3 | 22 27.5 | -3 44.8 |
| | 20 | 34 35.0 | 123 0.3 | -23 41.9 | 115 50.8 | -24 2.9 | 280 37.7 | 21 50.4 | 37 29.8 | -3 44.8 |
| | 21 | 49 37.5 | 137 59.3 | -23 42.0 | 130 51.1 | -24 2.8 | 295 40.5 | 21 50.4 | 52 32.2 | -3 44.7 |
| | 22 | 64 40.0 | 152 58.4 | -23 42.0 | 145 51.5 | -24 2.7 | 310 43.2 | 21 50.5 | 67 34.6 | -3 44.7 |
| | 23 | 79 42.4 | 167 57.4 | -23 42.1 | 160 51.9 | -24 2.6 | 325 46.0 | 21 50.5 | 82 36.9 | -3 44.6 |
| | | MP 17:43 | *v* -1.0 | *d* 0.1 | *v* 0.4 | *d* -0.1 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 Friday | 0 | 94 44.9 | 182 56.4 | -23 42.2 | 175 52.3 | -24 2.5 | 340 48.8 | 21 50.6 | 97 39.3 | -3 44.5 |
| | 1 | 109 47.4 | 197 55.4 | -23 42.2 | 190 52.7 | -24 2.4 | 355 51.6 | 21 50.6 | 112 41.6 | -3 44.5 |
| | 2 | 124 49.8 | 212 54.5 | -23 42.3 | 205 53.1 | -24 2.3 | 10 54.4 | 21 50.7 | 127 44.0 | -3 44.4 |
| | 3 | 139 52.3 | 227 53.5 | -23 42.3 | 220 53.4 | -24 2.2 | 25 57.2 | 21 50.8 | 142 46.3 | -3 44.4 |
| | 4 | 154 54.8 | 242 52.5 | -23 42.4 | 235 53.8 | -24 2.1 | 41 0.0 | 21 50.8 | 157 48.7 | -3 44.3 |
| | 5 | 169 57.2 | 257 51.5 | -23 42.4 | 250 54.2 | -24 2.0 | 56 2.8 | 21 50.9 | 172 51.0 | -3 44.3 |
| | 6 | 184 59.7 | 272 50.6 | -23 42.5 | 265 54.6 | -24 1.9 | 71 5.6 | 21 50.9 | 187 53.4 | -3 44.2 |
| | 7 | 200 2.1 | 287 49.6 | -23 42.5 | 280 55.0 | -24 1.8 | 86 8.4 | 21 51.0 | 202 55.8 | -3 44.2 |
| | 8 | 215 4.6 | 302 48.6 | -23 42.6 | 295 55.3 | -24 1.7 | 101 11.2 | 21 51.0 | 217 58.1 | -3 44.1 |
| | 9 | 230 7.1 | 317 47.6 | -23 42.6 | 310 55.7 | -24 1.5 | 116 14.0 | 21 51.1 | 233 0.5 | -3 44.0 |
| | 10 | 245 9.5 | 332 46.7 | -23 42.7 | 325 56.1 | -24 1.4 | 131 16.7 | 21 51.1 | 248 2.8 | -3 44.0 |
| | 11 | 260 12.0 | 347 45.7 | -23 42.7 | 340 56.5 | -24 1.3 | 146 19.5 | 21 51.2 | 263 5.2 | -3 43.9 |
| | 12 | 275 14.5 | 2 44.7 | -23 42.8 | 355 56.9 | -24 1.2 | 161 22.3 | 21 51.3 | 278 7.5 | -3 43.9 |
| | 13 | 290 16.9 | 17 43.8 | -23 42.8 | 10 57.2 | -24 1.1 | 176 25.1 | 21 51.3 | 293 9.9 | -3 43.8 |
| | 14 | 305 19.4 | 32 42.8 | -23 42.9 | 25 57.6 | -24 1.0 | 191 27.9 | 21 51.4 | 308 12.2 | -3 43.8 |
| | 15 | 320 21.9 | 47 41.8 | -23 42.9 | 40 58.0 | -24 0.9 | 206 30.7 | 21 51.4 | 323 14.6 | -3 43.7 |
| | 16 | 335 24.3 | 62 40.8 | -23 42.9 | 55 58.4 | -24 0.8 | 221 33.5 | 21 51.5 | 338 16.9 | -3 43.6 |
| | 17 | 350 26.8 | 77 39.9 | -23 43.0 | 70 58.8 | -24 0.7 | 236 36.3 | 21 51.5 | 353 19.3 | -3 43.6 |
| | 18 | 5 29.3 | 92 38.9 | -23 43.0 | 85 59.1 | -24 0.6 | 251 39.1 | 21 51.6 | 8 21.6 | -3 43.5 |
| | 19 | 20 31.7 | 107 37.9 | -23 43.0 | 100 59.5 | -24 0.5 | 266 41.9 | 21 51.7 | 23 24.0 | -3 43.5 |
| | 20 | 35 34.2 | 122 36.9 | -23 43.1 | 115 59.9 | -24 0.4 | 281 44.7 | 21 51.7 | 38 26.4 | -3 43.4 |
| | 21 | 50 36.6 | 137 36.0 | -23 43.1 | 131 0.3 | -24 0.3 | 296 47.5 | 21 51.8 | 53 28.7 | -3 43.4 |
| | 22 | 65 39.1 | 152 35.0 | -23 43.1 | 146 0.7 | -24 0.1 | 311 50.3 | 21 51.8 | 68 31.1 | -3 43.3 |
| | 23 | 80 41.6 | 167 34.0 | -23 43.2 | 161 1.0 | -24 0.0 | 326 53.1 | 21 51.9 | 83 33.4 | -3 43.2 |
| | | MP 17:39 | *v* -1.0 | *d* 0.1 | *v* 0.4 | *d* -0.1 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 12.2 |
| Achernar | 335 19.3 | -57 6.5 |
| Acrux | 172 59.3 | -63 14.3 |
| Adhara | 255 4.9 | -29 0.4 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.4 | 55 48.8 |
| Alkaid | 152 51.6 | 49 10.7 |
| Alnair | 27 32.2 | -46 50.3 |
| Alnilam | 275 36.6 | -1 11.1 |
| Alphard | 217 46.8 | -8 46.3 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 33.9 | 29 14.2 |
| Altair | 61 59.5 | 8 56.2 |
| Ankaa | 353 6.3 | -42 10.1 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.7 |
| Atria | 107 9.3 | -69 4.3 |
| Avior | 234 13.9 | -59 35.4 |
| Bellatrix | 278 21.7 | 6 22.4 |
| Betelgeuse | 270 50.9 | 7 24.7 |
| Canopus | 263 51.5 | -52 42.5 |
| Capella | 280 20.2 | 46 1.5 |
| Deneb | 49 25.6 | 45 22.5 |
| Denebola | 182 24.1 | 14 25.5 |
| Diphda | 348 46.4 | -17 50.7 |
| Dubhe | 193 39.8 | 61 36.3 |
| Elnath | 278 0.5 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.1 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.8 | -29 29.2 |
| Gacrux | 171 50.8 | -57 15.3 |
| Gienah | 175 42.8 | -17 41.1 |
| Hadar | 148 35.2 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.3 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 20.6 | 74 2.6 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.5 |
| Menkent | 147 56.9 | -36 29.7 |
| Miaplacidus | 221 37.4 | -69 49.2 |
| Mirfak | 308 26.7 | 49 57.4 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.2 |
| Pollux | 243 16.0 | 27 57.7 |
| Procyon | 244 49.7 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.4 |
| Regulus | 207 33.4 | 11 50.3 |
| Rigel | 281 2.8 | -8 10.3 |
| Rigil Kent. | 139 39.6 | -60 56.3 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 30.0 | 56 41.1 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 25.2 | -16 45.1 |
| Spica | 158 21.6 | -11 17.8 |
| Suhail | 222 45.4 | -43 32.1 |
| Vega | 80 33.1 | 38 48.4 |
| Zuben'ubi | 136 55.4 | -16 8.9 |

| 24 Wed | SHA | MP |
|---|---|---|
| Venus | 90 56.4 | 11:46 |
| Mars | 82 47.4 | 12:17 |
| Jupiter | 245 48.4 | 01:25 |
| Saturn | 2 59.4 | 17:34 |

| 25 Thu | SHA | MP |
|---|---|---|
| Venus | 89 34.0 | 11:47 |
| Mars | 81 57.4 | 12:17 |
| Jupiter | 245 56.1 | 01:21 |
| Saturn | 2 56.9 | 17:30 |

| 26 Fri | SHA | MP |
|---|---|---|
| Venus | 88 11.5 | 11:49 |
| Mars | 81 7.4 | 12:16 |
| Jupiter | 246 3.9 | 01:16 |
| Saturn | 2 54.4 | 17:27 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **24 Wednesday** | 0 | 180 8.5 | -23 25.0 | 132 57.5 | 12.8 | -17 50.3 | -12.0 | 55.8 |
| | 1 | 195 8.2 | -23 24.9 | 147 29.4 | 12.9 | -17 38.3 | -12.1 | 55.9 |
| | 2 | 210 7.9 | -23 24.9 | 162 1.2 | 12.9 | -17 26.2 | -12.2 | 55.9 |
| | 3 | 225 7.6 | -23 24.8 | 176 33.1 | 13.0 | -17 14.0 | -12.3 | 55.9 |
| | 4 | 240 7.3 | -23 24.8 | 191 5.1 | 13.0 | -17 1.7 | -12.4 | 55.9 |
| | 5 | 255 7.0 | -23 24.7 | 205 37.1 | 13.1 | -16 49.4 | -12.4 | 55.9 |
| | 6 | 270 6.7 | -23 24.7 | 220 9.2 | 13.1 | -16 36.9 | -12.5 | 56.0 |
| | 7 | 285 6.4 | -23 24.6 | 234 41.3 | 13.1 | -16 24.4 | -12.6 | 56.0 |
| | 8 | 300 6.1 | -23 24.6 | 249 13.4 | 13.2 | -16 11.8 | -12.7 | 56.0 |
| | 9 | 315 5.7 | -23 24.5 | 263 45.6 | 13.2 | -15 59.1 | -12.8 | 56.0 |
| | 10 | 330 5.4 | -23 24.5 | 278 17.8 | 13.3 | -15 46.4 | -12.8 | 56.1 |
| | 11 | 345 5.1 | -23 24.4 | 292 50.1 | 13.3 | -15 33.5 | -12.9 | 56.1 |
| | 12 | 0 4.8 | -23 24.3 | 307 22.4 | 13.4 | -15 20.6 | -13.0 | 56.1 |
| | 13 | 15 4.5 | -23 24.3 | 321 54.8 | 13.4 | -15 7.6 | -13.1 | 56.1 |
| | 14 | 30 4.2 | -23 24.2 | 336 27.1 | 13.4 | -14 54.5 | -13.1 | 56.1 |
| | 15 | 45 3.9 | -23 24.2 | 350 59.6 | 13.5 | -14 41.4 | -13.2 | 56.2 |
| | 16 | 60 3.6 | -23 24.1 | 5 32.0 | 13.5 | -14 28.2 | -13.3 | 56.2 |
| | 17 | 75 3.3 | -23 24.1 | 20 4.6 | 13.5 | -14 14.9 | -13.4 | 56.2 |
| | 18 | 90 3.0 | -23 24.0 | 34 37.1 | 13.6 | -14 1.5 | -13.4 | 56.2 |
| | 19 | 105 2.6 | -23 23.9 | 49 9.7 | 13.6 | -13 48.1 | -13.5 | 56.3 |
| | 20 | 120 2.3 | -23 23.9 | 63 42.3 | 13.6 | -13 34.5 | -13.6 | 56.3 |
| | 21 | 135 2.0 | -23 23.8 | 78 14.9 | 13.7 | -13 21.0 | -13.7 | 56.3 |
| | 22 | 150 1.7 | -23 23.7 | 92 47.6 | 13.7 | -13 7.3 | -13.7 | 56.3 |
| | 23 | 165 1.4 | -23 23.7 | 107 20.3 | 13.7 | -12 53.6 | -13.8 | 56.4 |
| | | *v* -0.3 | SD 16.3 | *d* 0.0 | | SD 15.2 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **25 Thursday** | 0 | 180 1.1 | -23 23.6 | 121 53.1 | 13.8 | -12 39.8 | -13.9 | 56.4 |
| | 1 | 195 0.8 | -23 23.5 | 136 25.8 | 13.8 | -12 26.0 | -13.9 | 56.4 |
| | 2 | 210 0.5 | -23 23.5 | 150 58.7 | 13.8 | -12 12.0 | -14.0 | 56.4 |
| | 3 | 225 0.2 | -23 23.4 | 165 31.5 | 13.9 | -11 58.1 | -14.0 | 56.5 |
| | 4 | 239 59.8 | -23 23.3 | 180 4.3 | 13.9 | -11 44.0 | -14.1 | 56.5 |
| | 5 | 254 59.5 | -23 23.3 | 194 37.2 | 13.9 | -11 29.9 | -14.2 | 56.5 |
| | 6 | 269 59.2 | -23 23.2 | 209 10.1 | 13.9 | -11 15.7 | -14.2 | 56.5 |
| | 7 | 284 58.9 | -23 23.1 | 223 43.1 | 14.0 | -11 1.5 | -14.3 | 56.6 |
| | 8 | 299 58.6 | -23 23.1 | 238 16.0 | 14.0 | -10 47.2 | -14.3 | 56.6 |
| | 9 | 314 58.3 | -23 23.0 | 252 49.0 | 14.0 | -10 32.9 | -14.4 | 56.6 |
| | 10 | 329 58.0 | -23 22.9 | 267 22.0 | 14.0 | -10 18.5 | -14.5 | 56.6 |
| | 11 | 344 57.7 | -23 22.8 | 281 55.1 | 14.0 | -10 4.0 | -14.5 | 56.7 |
| | 12 | 359 57.4 | -23 22.8 | 296 28.1 | 14.1 | -9 49.5 | -14.6 | 56.7 |
| | 13 | 14 57.1 | -23 22.7 | 311 1.2 | 14.1 | -9 34.9 | -14.6 | 56.7 |
| | 14 | 29 56.8 | -23 22.6 | 325 34.2 | 14.1 | -9 20.3 | -14.7 | 56.7 |
| | 15 | 44 56.4 | -23 22.5 | 340 7.3 | 14.1 | -9 5.6 | -14.7 | 56.8 |
| | 16 | 59 56.1 | -23 22.4 | 354 40.5 | 14.1 | -8 50.9 | -14.8 | 56.8 |
| | 17 | 74 55.8 | -23 22.4 | 9 13.6 | 14.1 | -8 36.1 | -14.8 | 56.8 |
| | 18 | 89 55.5 | -23 22.3 | 23 46.7 | 14.2 | -8 21.3 | -14.9 | 56.8 |
| | 19 | 104 55.2 | -23 22.2 | 38 19.9 | 14.2 | -8 6.4 | -14.9 | 56.9 |
| | 20 | 119 54.9 | -23 22.1 | 52 53.0 | 14.2 | -7 51.5 | -15.0 | 56.9 |
| | 21 | 134 54.6 | -23 22.0 | 67 26.2 | 14.2 | -7 36.5 | -15.0 | 56.9 |
| | 22 | 149 54.3 | -23 22.0 | 81 59.4 | 14.2 | -7 21.5 | -15.1 | 57.0 |
| | 23 | 164 54.0 | -23 21.9 | 96 32.6 | 14.2 | -7 6.4 | -15.1 | 57.0 |
| | | *v* -0.3 | SD 16.3 | *d* -0.1 | | SD 15.4 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **26 Friday** | 0 | 179 53.7 | -23 21.8 | 111 5.8 | 14.2 | -6 51.3 | -15.2 | 57.0 |
| | 1 | 194 53.3 | -23 21.7 | 125 39.0 | 14.2 | -6 36.2 | -15.2 | 57.0 |
| | 2 | 209 53.0 | -23 21.6 | 140 12.2 | 14.2 | -6 21.0 | -15.2 | 57.1 |
| | 3 | 224 52.7 | -23 21.5 | 154 45.4 | 14.2 | -6 5.7 | -15.3 | 57.1 |
| | 4 | 239 52.4 | -23 21.4 | 169 18.6 | 14.2 | -5 50.5 | -15.3 | 57.1 |
| | 5 | 254 52.1 | -23 21.3 | 183 51.8 | 14.2 | -5 35.1 | -15.4 | 57.1 |
| | 6 | 269 51.8 | -23 21.3 | 198 25.0 | 14.2 | -5 19.8 | -15.4 | 57.2 |
| | 7 | 284 51.5 | -23 21.2 | 212 58.2 | 14.2 | -5 4.4 | -15.4 | 57.2 |
| | 8 | 299 51.2 | -23 21.1 | 227 31.4 | 14.2 | -4 49.0 | -15.5 | 57.2 |
| | 9 | 314 50.9 | -23 21.0 | 242 4.6 | 14.2 | -4 33.5 | -15.5 | 57.3 |
| | 10 | 329 50.6 | -23 20.9 | 256 37.8 | 14.2 | -4 18.0 | -15.5 | 57.3 |
| | 11 | 344 50.3 | -23 20.8 | 271 11.0 | 14.2 | -4 2.5 | -15.6 | 57.3 |
| | 12 | 359 50.0 | -23 20.7 | 285 44.1 | 14.2 | -3 46.9 | -15.6 | 57.3 |
| | 13 | 14 49.6 | -23 20.6 | 300 17.3 | 14.1 | -3 31.3 | -15.6 | 57.4 |
| | 14 | 29 49.3 | -23 20.5 | 314 50.4 | 14.1 | -3 15.7 | -15.7 | 57.4 |
| | 15 | 44 49.0 | -23 20.4 | 329 23.6 | 14.1 | -3 0.0 | -15.7 | 57.4 |
| | 16 | 59 48.7 | -23 20.3 | 343 56.7 | 14.1 | -2 44.4 | -15.7 | 57.5 |
| | 17 | 74 48.4 | -23 20.2 | 358 29.8 | 14.1 | -2 28.7 | -15.7 | 57.5 |
| | 18 | 89 48.1 | -23 20.1 | 13 2.9 | 14.1 | -2 12.9 | -15.8 | 57.5 |
| | 19 | 104 47.8 | -23 20.0 | 27 36.0 | 14.1 | -1 57.2 | -15.8 | 57.5 |
| | 20 | 119 47.5 | -23 19.9 | 42 9.0 | 14.0 | -1 41.4 | -15.8 | 57.6 |
| | 21 | 134 47.2 | -23 19.8 | 56 42.1 | 14.0 | -1 25.6 | -15.8 | 57.6 |
| | 22 | 149 46.9 | -23 19.7 | 71 15.1 | 14.0 | -1 9.7 | -15.8 | 57.6 |
| | 23 | 164 46.6 | -23 19.6 | 85 48.1 | 14.0 | -0 53.9 | -15.9 | 57.7 |
| | | *v* -0.3 | SD 16.3 | *d* -0.1 | | SD 15.6 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:27 | 10:58 | ▬ | ▬ | 13:02 | 15:33 |
| 70 | 08:07 | 09:55 | ▬ | ▬ | 14:04 | 15:53 |
| 68 | 07:51 | 09:20 | ▬ | ▬ | 14:39 | 16:09 |
| 66 | 07:38 | 08:55 | 10:36 | 13:24 | 15:05 | 16:22 |
| 64 | 07:27 | 08:35 | 09:53 | 14:06 | 15:24 | 16:33 |
| 62 | 07:17 | 08:19 | 09:25 | 14:35 | 15:40 | 16:42 |
| 60 | 07:09 | 08:06 | 09:03 | 14:56 | 15:54 | 16:51 |
| 58 | 07:01 | 07:54 | 08:46 | 15:14 | 16:06 | 16:58 |
| 56 | 06:54 | 07:44 | 08:31 | 15:28 | 16:16 | 17:05 |
| 54 | 06:48 | 07:34 | 08:18 | 15:41 | 16:25 | 17:11 |
| 52 | 06:42 | 07:26 | 08:07 | 15:52 | 16:33 | 17:17 |
| 50 | 06:37 | 07:19 | 07:57 | 16:02 | 16:41 | 17:22 |
| 45 | 06:25 | 07:03 | 07:37 | 16:23 | 16:57 | 17:34 |
| 40 | 06:15 | 06:49 | 07:20 | 16:40 | 17:10 | 17:44 |
| 35 | 06:06 | 06:37 | 07:06 | 16:54 | 17:22 | 17:54 |
| 30 | 05:57 | 06:27 | 06:53 | 17:06 | 17:33 | 18:02 |
| 20 | 05:40 | 06:08 | 06:32 | 17:27 | 17:51 | 18:19 |
| 10 | 05:24 | 05:51 | 06:13 | 17:46 | 18:09 | 18:35 |
| 0 | 05:07 | 05:33 | 05:56 | 18:03 | 18:26 | 18:52 |
| -10 | 04:48 | 05:15 | 05:38 | 18:21 | 18:44 | 19:11 |
| -20 | 04:26 | 04:55 | 05:19 | 18:40 | 19:05 | 19:34 |
| -30 | 03:56 | 04:30 | 04:57 | 19:02 | 19:29 | 20:03 |
| -35 | 03:38 | 04:15 | 04:44 | 19:15 | 19:45 | 20:22 |
| -40 | 03:15 | 03:56 | 04:29 | 19:30 | 20:03 | 20:45 |
| -45 | 02:44 | 03:34 | 04:11 | 19:48 | 20:26 | 21:15 |
| -50 | 01:58 | 03:04 | 03:49 | 20:11 | 20:55 | 22:01 |
| -52 | 01:30 | 02:49 | 03:38 | 20:22 | 21:10 | 22:29 |
| -54 | 00:44 | 02:31 | 03:25 | 20:34 | 21:28 | 23:15 |
| -56 | //// | 02:09 | 03:11 | 20:48 | 21:51 | //// |
| -58 | //// | 01:39 | 02:54 | 21:05 | 22:20 | //// |
| -60 | //// | 00:48 | 02:34 | 21:25 | 23:11 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **24** | **25** | **26** | **24** | **25** | **26** |
| 72 | 13:19 | 12:24 | 11:46 | 18:20 | 20:51 | 23:04 |
| 70 | 12:47 | 12:09 | 11:41 | 18:51 | 21:03 | 23:06 |
| 68 | 12:23 | 11:57 | 11:36 | 19:13 | 21:13 | 23:07 |
| 66 | 12:04 | 11:47 | 11:33 | 19:30 | 21:21 | 23:08 |
| 64 | 11:49 | 11:39 | 11:30 | 19:44 | 21:27 | 23:09 |
| 62 | 11:36 | 11:31 | 11:27 | 19:56 | 21:33 | 23:10 |
| 60 | 11:25 | 11:25 | 11:24 | 20:06 | 21:38 | 23:10 |
| 58 | 11:16 | 11:19 | 11:22 | 20:14 | 21:42 | 23:11 |
| 56 | 11:07 | 11:14 | 11:20 | 20:22 | 21:46 | 23:11 |
| 54 | 11:00 | 11:10 | 11:19 | 20:28 | 21:50 | 23:12 |
| 52 | 10:53 | 11:06 | 11:17 | 20:34 | 21:53 | 23:12 |
| 50 | 10:47 | 11:02 | 11:16 | 20:39 | 21:56 | 23:12 |
| 45 | 10:34 | 10:54 | 11:12 | 20:51 | 22:02 | 23:13 |
| 40 | 10:23 | 10:47 | 11:10 | 21:00 | 22:07 | 23:14 |
| 35 | 10:13 | 10:41 | 11:07 | 21:08 | 22:11 | 23:14 |
| 30 | 10:05 | 10:36 | 11:05 | 21:16 | 22:15 | 23:15 |
| 20 | 09:51 | 10:27 | 11:02 | 21:28 | 22:22 | 23:15 |
| 10 | 09:38 | 10:19 | 10:59 | 21:38 | 22:27 | 23:16 |
| 0 | 09:26 | 10:11 | 10:56 | 21:48 | 22:33 | 23:17 |
| -10 | 09:14 | 10:04 | 10:53 | 21:58 | 22:38 | 23:17 |
| -20 | 09:02 | 09:56 | 10:50 | 22:08 | 22:43 | 23:18 |
| -30 | 08:47 | 09:46 | 10:46 | 22:20 | 22:50 | 23:19 |
| -35 | 08:38 | 09:41 | 10:44 | 22:26 | 22:53 | 23:19 |
| -40 | 08:29 | 09:35 | 10:42 | 22:34 | 22:57 | 23:19 |
| -45 | 08:17 | 09:28 | 10:39 | 22:43 | 23:02 | 23:20 |
| -50 | 08:03 | 09:19 | 10:36 | 22:53 | 23:07 | 23:20 |
| -52 | 07:56 | 09:15 | 10:34 | 22:58 | 23:10 | 23:21 |
| -54 | 07:49 | 09:11 | 10:32 | 23:03 | 23:13 | 23:21 |
| -56 | 07:41 | 09:06 | 10:30 | 23:09 | 23:16 | 23:21 |
| -58 | 07:32 | 09:00 | 10:28 | 23:16 | 23:19 | 23:22 |
| -60 | 07:21 | 08:54 | 10:26 | 23:23 | 23:23 | 23:22 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **24** | 00:34 | 00:19 | 12:00 | 15:37 | 03:14 | 4 | 14 |
| **25** | 00:04 | 00:11 | 12:00 | 16:22 | 04:00 | 5 | 22 |
| **26** | 00:25 | 00:40 | 12:01 | 17:06 | 04:44 | 6 | 31 |

## 2025 December 27, 28, 29 (Sat, Sun, Mon)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.2 GHA | Mars 1.2 Dec | Jupiter -2.7 GHA | Jupiter -2.7 Dec | Saturn 1.0 GHA | Saturn 1.0 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 27 Saturday | 0 | 95 44.0 | 182 33.0 | -23 43.2 | 176 1.4 | -23 59.9 | 341 55.9 | 21 51.9 | 98 35.8 | -3 43.2 |
| | 1 | 110 46.5 | 197 32.1 | -23 43.2 | 191 1.8 | -23 59.8 | 356 58.7 | 21 52.0 | 113 38.1 | -3 43.1 |
| | 2 | 125 49.0 | 212 31.1 | -23 43.3 | 206 2.2 | -23 59.7 | 12 1.4 | 21 52.0 | 128 40.5 | -3 43.1 |
| | 3 | 140 51.4 | 227 30.1 | -23 43.3 | 221 2.6 | -23 59.6 | 27 4.2 | 21 52.1 | 143 42.8 | -3 43.0 |
| | 4 | 155 53.9 | 242 29.1 | -23 43.3 | 236 2.9 | -23 59.5 | 42 7.0 | 21 52.2 | 158 45.2 | -3 43.0 |
| | 5 | 170 56.4 | 257 28.2 | -23 43.3 | 251 3.3 | -23 59.4 | 57 9.8 | 21 52.2 | 173 47.5 | -3 42.9 |
| | 6 | 185 58.8 | 272 27.2 | -23 43.3 | 266 3.7 | -23 59.3 | 72 12.6 | 21 52.3 | 188 49.9 | -3 42.8 |
| | 7 | 201 1.3 | 287 26.2 | -23 43.4 | 281 4.1 | -23 59.1 | 87 15.4 | 21 52.3 | 203 52.2 | -3 42.8 |
| | 8 | 216 3.7 | 302 25.2 | -23 43.4 | 296 4.5 | -23 59.0 | 102 18.2 | 21 52.4 | 218 54.6 | -3 42.7 |
| | 9 | 231 6.2 | 317 24.3 | -23 43.4 | 311 4.8 | -23 58.9 | 117 21.0 | 21 52.4 | 233 56.9 | -3 42.7 |
| | 10 | 246 8.7 | 332 23.3 | -23 43.4 | 326 5.2 | -23 58.8 | 132 23.8 | 21 52.5 | 248 59.3 | -3 42.6 |
| | 11 | 261 11.1 | 347 22.3 | -23 43.4 | 341 5.6 | -23 58.7 | 147 26.6 | 21 52.6 | 264 1.6 | -3 42.5 |
| | 12 | 276 13.6 | 2 21.3 | -23 43.4 | 356 6.0 | -23 58.6 | 162 29.4 | 21 52.6 | 279 4.0 | -3 42.5 |
| | 13 | 291 16.1 | 17 20.4 | -23 43.5 | 11 6.4 | -23 58.4 | 177 32.2 | 21 52.7 | 294 6.3 | -3 42.4 |
| | 14 | 306 18.5 | 32 19.4 | -23 43.5 | 26 6.7 | -23 58.3 | 192 35.0 | 21 52.7 | 309 8.7 | -3 42.4 |
| | 15 | 321 21.0 | 47 18.4 | -23 43.5 | 41 7.1 | -23 58.2 | 207 37.8 | 21 52.8 | 324 11.0 | -3 42.3 |
| | 16 | 336 23.5 | 62 17.4 | -23 43.5 | 56 7.5 | -23 58.1 | 222 40.6 | 21 52.8 | 339 13.4 | -3 42.2 |
| | 17 | 351 25.9 | 77 16.5 | -23 43.5 | 71 7.9 | -23 58.0 | 237 43.4 | 21 52.9 | 354 15.7 | -3 42.2 |
| | 18 | 6 28.4 | 92 15.5 | -23 43.5 | 86 8.3 | -23 57.8 | 252 46.2 | 21 53.0 | 9 18.1 | -3 42.1 |
| | 19 | 21 30.9 | 107 14.5 | -23 43.5 | 101 8.6 | -23 57.7 | 267 49.0 | 21 53.0 | 24 20.4 | -3 42.1 |
| | 20 | 36 33.3 | 122 13.5 | -23 43.5 | 116 9.0 | -23 57.6 | 282 51.8 | 21 53.1 | 39 22.8 | -3 42.0 |
| | 21 | 51 35.8 | 137 12.6 | -23 43.5 | 131 9.4 | -23 57.5 | 297 54.6 | 21 53.1 | 54 25.1 | -3 42.0 |
| | 22 | 66 38.2 | 152 11.6 | -23 43.5 | 146 9.8 | -23 57.4 | 312 57.4 | 21 53.2 | 69 27.5 | -3 41.9 |
| | 23 | 81 40.7 | 167 10.6 | -23 43.5 | 161 10.1 | -23 57.2 | 328 0.2 | 21 53.2 | 84 29.8 | -3 41.8 |
| | | MP 17:36 | *v* -1.0 | *d* 0.0 | *v* 0.4 | *d* -0.1 | *v* 2.8 | *d* 0.1 | *v* 2.4 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 28 Sunday | 0 | 96 43.2 | 182 9.7 | -23 43.5 | 176 10.5 | -23 57.1 | 343 3.0 | 21 53.3 | 99 32.2 | -3 41.8 |
| | 1 | 111 45.6 | 197 8.7 | -23 43.5 | 191 10.9 | -23 57.0 | 358 5.8 | 21 53.3 | 114 34.5 | -3 41.7 |
| | 2 | 126 48.1 | 212 7.7 | -23 43.5 | 206 11.3 | -23 56.9 | 13 8.6 | 21 53.4 | 129 36.9 | -3 41.7 |
| | 3 | 141 50.6 | 227 6.7 | -23 43.5 | 221 11.7 | -23 56.7 | 28 11.4 | 21 53.5 | 144 39.2 | -3 41.6 |
| | 4 | 156 53.0 | 242 5.8 | -23 43.5 | 236 12.0 | -23 56.6 | 43 14.2 | 21 53.5 | 159 41.6 | -3 41.5 |
| | 5 | 171 55.5 | 257 4.8 | -23 43.5 | 251 12.4 | -23 56.5 | 58 17.0 | 21 53.6 | 174 43.9 | -3 41.5 |
| | 6 | 186 58.0 | 272 3.8 | -23 43.5 | 266 12.8 | -23 56.4 | 73 19.8 | 21 53.6 | 189 46.2 | -3 41.4 |
| | 7 | 202 0.4 | 287 2.8 | -23 43.5 | 281 13.2 | -23 56.2 | 88 22.6 | 21 53.7 | 204 48.6 | -3 41.4 |
| | 8 | 217 2.9 | 302 1.9 | -23 43.4 | 296 13.6 | -23 56.1 | 103 25.4 | 21 53.7 | 219 50.9 | -3 41.3 |
| | 9 | 232 5.4 | 317 0.9 | -23 43.4 | 311 13.9 | -23 56.0 | 118 28.2 | 21 53.8 | 234 53.3 | -3 41.2 |
| | 10 | 247 7.8 | 331 59.9 | -23 43.4 | 326 14.3 | -23 55.9 | 133 31.0 | 21 53.9 | 249 55.6 | -3 41.2 |
| | 11 | 262 10.3 | 346 58.9 | -23 43.4 | 341 14.7 | -23 55.7 | 148 33.8 | 21 53.9 | 264 58.0 | -3 41.1 |
| | 12 | 277 12.7 | 1 58.0 | -23 43.4 | 356 15.1 | -23 55.6 | 163 36.6 | 21 54.0 | 280 0.3 | -3 41.1 |
| | 13 | 292 15.2 | 16 57.0 | -23 43.4 | 11 15.5 | -23 55.5 | 178 39.4 | 21 54.0 | 295 2.7 | -3 41.0 |
| | 14 | 307 17.7 | 31 56.0 | -23 43.3 | 26 15.8 | -23 55.4 | 193 42.2 | 21 54.1 | 310 5.0 | -3 40.9 |
| | 15 | 322 20.1 | 46 55.0 | -23 43.3 | 41 16.2 | -23 55.2 | 208 45.0 | 21 54.1 | 325 7.4 | -3 40.9 |
| | 16 | 337 22.6 | 61 54.1 | -23 43.3 | 56 16.6 | -23 55.1 | 223 47.8 | 21 54.2 | 340 9.7 | -3 40.8 |
| | 17 | 352 25.1 | 76 53.1 | -23 43.3 | 71 17.0 | -23 55.0 | 238 50.6 | 21 54.3 | 355 12.1 | -3 40.8 |
| | 18 | 7 27.5 | 91 52.1 | -23 43.2 | 86 17.4 | -23 54.8 | 253 53.4 | 21 54.3 | 10 14.4 | -3 40.7 |
| | 19 | 22 30.0 | 106 51.1 | -23 43.2 | 101 17.7 | -23 54.7 | 268 56.2 | 21 54.4 | 25 16.7 | -3 40.6 |
| | 20 | 37 32.5 | 121 50.2 | -23 43.2 | 116 18.1 | -23 54.6 | 283 59.0 | 21 54.4 | 40 19.1 | -3 40.6 |
| | 21 | 52 34.9 | 136 49.2 | -23 43.2 | 131 18.5 | -23 54.4 | 299 1.8 | 21 54.5 | 55 21.4 | -3 40.5 |
| | 22 | 67 37.4 | 151 48.2 | -23 43.1 | 146 18.9 | -23 54.3 | 314 4.6 | 21 54.5 | 70 23.8 | -3 40.5 |
| | 23 | 82 39.8 | 166 47.2 | -23 43.1 | 161 19.3 | -23 54.2 | 329 7.4 | 21 54.6 | 85 26.1 | -3 40.4 |
| | | MP 17:32 | *v* -1.0 | *d* 0.0 | *v* 0.4 | *d* -0.1 | *v* 2.8 | *d* 0.1 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 29 Monday | 0 | 97 42.3 | 181 46.3 | -23 43.1 | 176 19.6 | -23 54.0 | 344 10.2 | 21 54.7 | 100 28.5 | -3 40.3 |
| | 1 | 112 44.8 | 196 45.3 | -23 43.0 | 191 20.0 | -23 53.9 | 359 13.0 | 21 54.7 | 115 30.8 | -3 40.3 |
| | 2 | 127 47.2 | 211 44.3 | -23 43.0 | 206 20.4 | -23 53.8 | 14 15.8 | 21 54.8 | 130 33.2 | -3 40.2 |
| | 3 | 142 49.7 | 226 43.4 | -23 43.0 | 221 20.8 | -23 53.6 | 29 18.6 | 21 54.8 | 145 35.5 | -3 40.2 |
| | 4 | 157 52.2 | 241 42.4 | -23 42.9 | 236 21.2 | -23 53.5 | 44 21.4 | 21 54.9 | 160 37.8 | -3 40.1 |
| | 5 | 172 54.6 | 256 41.4 | -23 42.9 | 251 21.5 | -23 53.4 | 59 24.2 | 21 54.9 | 175 40.2 | -3 40.0 |
| | 6 | 187 57.1 | 271 40.4 | -23 42.8 | 266 21.9 | -23 53.2 | 74 27.0 | 21 55.0 | 190 42.5 | -3 40.0 |
| | 7 | 202 59.6 | 286 39.5 | -23 42.8 | 281 22.3 | -23 53.1 | 89 29.8 | 21 55.0 | 205 44.9 | -3 39.9 |
| | 8 | 218 2.0 | 301 38.5 | -23 42.8 | 296 22.7 | -23 53.0 | 104 32.6 | 21 55.1 | 220 47.2 | -3 39.8 |
| | 9 | 233 4.5 | 316 37.5 | -23 42.7 | 311 23.1 | -23 52.8 | 119 35.4 | 21 55.2 | 235 49.6 | -3 39.8 |
| | 10 | 248 7.0 | 331 36.5 | -23 42.7 | 326 23.4 | -23 52.7 | 134 38.2 | 21 55.2 | 250 51.9 | -3 39.7 |
| | 11 | 263 9.4 | 346 35.6 | -23 42.6 | 341 23.8 | -23 52.5 | 149 41.0 | 21 55.3 | 265 54.2 | -3 39.7 |
| | 12 | 278 11.9 | 1 34.6 | -23 42.6 | 356 24.2 | -23 52.4 | 164 43.8 | 21 55.3 | 280 56.6 | -3 39.6 |
| | 13 | 293 14.3 | 16 33.6 | -23 42.5 | 11 24.6 | -23 52.3 | 179 46.6 | 21 55.4 | 295 58.9 | -3 39.5 |
| | 14 | 308 16.8 | 31 32.6 | -23 42.5 | 26 24.9 | -23 52.1 | 194 49.4 | 21 55.4 | 311 1.3 | -3 39.5 |
| | 15 | 323 19.3 | 46 31.7 | -23 42.4 | 41 25.3 | -23 52.0 | 209 52.2 | 21 55.5 | 326 3.6 | -3 39.4 |
| | 16 | 338 21.7 | 61 30.7 | -23 42.4 | 56 25.7 | -23 51.8 | 224 55.0 | 21 55.6 | 341 6.0 | -3 39.4 |
| | 17 | 353 24.2 | 76 29.7 | -23 42.3 | 71 26.1 | -23 51.7 | 239 57.8 | 21 55.6 | 356 8.3 | -3 39.3 |
| | 18 | 8 26.7 | 91 28.8 | -23 42.3 | 86 26.5 | -23 51.6 | 255 0.7 | 21 55.7 | 11 10.6 | -3 39.2 |
| | 19 | 23 29.1 | 106 27.8 | -23 42.2 | 101 26.8 | -23 51.4 | 270 3.5 | 21 55.7 | 26 13.0 | -3 39.2 |
| | 20 | 38 31.6 | 121 26.8 | -23 42.1 | 116 27.2 | -23 51.3 | 285 6.3 | 21 55.8 | 41 15.3 | -3 39.1 |
| | 21 | 53 34.1 | 136 25.8 | -23 42.1 | 131 27.6 | -23 51.1 | 300 9.1 | 21 55.8 | 56 17.7 | -3 39.0 |
| | 22 | 68 36.5 | 151 24.9 | -23 42.0 | 146 28.0 | -23 51.0 | 315 11.9 | 21 55.9 | 71 20.0 | -3 39.0 |
| | 23 | 83 39.0 | 166 23.9 | -23 42.0 | 161 28.4 | -23 50.8 | 330 14.7 | 21 56.0 | 86 22.4 | -3 38.9 |
| | | MP 17:28 | *v* -1.0 | *d* 0.0 | *v* 0.4 | *d* -0.1 | *v* 2.8 | *d* 0.1 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 12.2 |
| Achernar | 335 19.4 | -57 6.5 |
| Acrux | 172 59.2 | -63 14.3 |
| Adhara | 255 4.9 | -29 0.4 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.3 | 55 48.8 |
| Alkaid | 152 51.6 | 49 10.7 |
| Alnair | 27 32.2 | -46 50.3 |
| Alnilam | 275 36.6 | -1 11.1 |
| Alphard | 217 46.7 | -8 46.3 |
| Alphecca | 126 3.4 | 26 37.5 |
| Alpheratz | 357 34.0 | 29 14.2 |
| Altair | 61 59.5 | 8 56.2 |
| Ankaa | 353 6.3 | -42 10.1 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.4 | 19 2.7 |
| Atria | 107 9.2 | -69 4.3 |
| Avior | 234 13.8 | -59 35.4 |
| Bellatrix | 278 21.7 | 6 22.4 |
| Betelgeuse | 270 50.9 | 7 24.7 |
| Canopus | 263 51.5 | -52 42.5 |
| Capella | 280 20.2 | 46 1.5 |
| Deneb | 49 25.7 | 45 22.5 |
| Denebola | 182 24.1 | 14 25.5 |
| Diphda | 348 46.5 | -17 50.7 |
| Dubhe | 193 39.8 | 61 36.3 |
| Elnath | 278 0.5 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.0 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.8 | -29 29.2 |
| Gacrux | 171 50.8 | -57 15.3 |
| Gienah | 175 42.8 | -17 41.1 |
| Hadar | 148 35.2 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.3 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 20.6 | 74 2.6 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.5 |
| Menkent | 147 56.9 | -36 29.7 |
| Miaplacidus | 221 37.4 | -69 49.2 |
| Mirfak | 308 26.7 | 49 57.4 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.2 |
| Pollux | 243 16.0 | 27 57.7 |
| Procyon | 244 49.7 | 5 9.5 |
| Rasalhague | 95 58.2 | 12 32.4 |
| Regulus | 207 33.4 | 11 50.3 |
| Rigel | 281 2.8 | -8 10.3 |
| Rigil Kent. | 139 39.6 | -60 56.3 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 30.1 | 56 41.1 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 25.2 | -16 45.1 |
| Spica | 158 21.6 | -11 17.8 |
| Suhail | 222 45.4 | -43 32.1 |
| Vega | 80 33.1 | 38 48.4 |
| Zuben'ubi | 136 55.4 | -16 9.0 |

| 27 Sat | SHA | MP |
|---|---|---|
| Venus | 86 49.0 | 11:51 |
| Mars | 80 17.4 | 12:16 |
| Jupiter | 246 11.8 | 01:12 |
| Saturn | 2 51.7 | 17:23 |

| 28 Sun | SHA | MP |
|---|---|---|
| Venus | 85 26.5 | 11:52 |
| Mars | 79 27.4 | 12:15 |
| Jupiter | 246 19.8 | 01:08 |
| Saturn | 2 49.0 | 17:19 |

| 29 Mon | SHA | MP |
|---|---|---|
| Venus | 84 4.0 | 11:54 |
| Mars | 78 37.3 | 12:14 |
| Jupiter | 246 27.9 | 01:03 |
| Saturn | 2 46.2 | 17:15 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **27 Saturday** | 0 | 179 46.3 | -23 19.5 | 100 21.0 | 13.9 | -0 38.0 | -15.9 | 57.7 |
| | 1 | 194 45.9 | -23 19.4 | 114 54.0 | 13.9 | -0 22.1 | -15.9 | 57.7 |
| | 2 | 209 45.6 | -23 19.3 | 129 26.9 | 13.9 | -0 6.2 | 15.9 | 57.7 |
| | 3 | 224 45.3 | -23 19.2 | 143 59.7 | 13.8 | 0 9.7 | 15.9 | 57.8 |
| | 4 | 239 45.0 | -23 19.1 | 158 32.6 | 13.8 | 0 25.6 | 16.0 | 57.8 |
| | 5 | 254 44.7 | -23 19.0 | 173 5.4 | 13.8 | 0 41.6 | 16.0 | 57.8 |
| | 6 | 269 44.4 | -23 18.8 | 187 38.2 | 13.7 | 0 57.5 | 16.0 | 57.9 |
| | 7 | 284 44.1 | -23 18.7 | 202 10.9 | 13.7 | 1 13.5 | 16.0 | 57.9 |
| | 8 | 299 43.8 | -23 18.6 | 216 43.7 | 13.7 | 1 29.5 | 16.0 | 57.9 |
| | 9 | 314 43.5 | -23 18.5 | 231 16.3 | 13.6 | 1 45.5 | 16.0 | 58.0 |
| | 10 | 329 43.2 | -23 18.4 | 245 49.0 | 13.6 | 2 1.5 | 16.0 | 58.0 |
| | 11 | 344 42.9 | -23 18.3 | 260 21.6 | 13.6 | 2 17.5 | 16.0 | 58.0 |
| | 12 | 359 42.6 | -23 18.2 | 274 54.1 | 13.5 | 2 33.5 | 16.0 | 58.0 |
| | 13 | 14 42.3 | -23 18.1 | 289 26.6 | 13.5 | 2 49.6 | 16.0 | 58.1 |
| | 14 | 29 42.0 | -23 17.9 | 303 59.1 | 13.4 | 3 5.6 | 16.0 | 58.1 |
| | 15 | 44 41.7 | -23 17.8 | 318 31.5 | 13.4 | 3 21.6 | 16.0 | 58.1 |
| | 16 | 59 41.3 | -23 17.7 | 333 3.9 | 13.3 | 3 37.6 | 16.0 | 58.2 |
| | 17 | 74 41.0 | -23 17.6 | 347 36.2 | 13.3 | 3 53.7 | 16.0 | 58.2 |
| | 18 | 89 40.7 | -23 17.5 | 2 8.5 | 13.2 | 4 9.7 | 16.0 | 58.2 |
| | 19 | 104 40.4 | -23 17.3 | 16 40.7 | 13.2 | 4 25.7 | 16.0 | 58.3 |
| | 20 | 119 40.1 | -23 17.2 | 31 12.9 | 13.1 | 4 41.8 | 16.0 | 58.3 |
| | 21 | 134 39.8 | -23 17.1 | 45 45.0 | 13.1 | 4 57.8 | 16.0 | 58.3 |
| | 22 | 149 39.5 | -23 17.0 | 60 17.1 | 13.0 | 5 13.8 | 16.0 | 58.3 |
| | 23 | 164 39.2 | -23 16.9 | 74 49.1 | 12.9 | 5 29.8 | 16.0 | 58.4 |
| | | *v* -0.3 | SD 16.3 | *d* -0.1 | | SD 15.7 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **28 Sunday** | 0 | 179 38.9 | -23 16.7 | 89 21.0 | 12.9 | 5 45.8 | 16.0 | 58.4 |
| | 1 | 194 38.6 | -23 16.6 | 103 52.9 | 12.8 | 6 1.8 | 16.0 | 58.4 |
| | 2 | 209 38.3 | -23 16.5 | 118 24.7 | 12.8 | 6 17.7 | 16.0 | 58.5 |
| | 3 | 224 38.0 | -23 16.4 | 132 56.5 | 12.7 | 6 33.7 | 15.9 | 58.5 |
| | 4 | 239 37.7 | -23 16.2 | 147 28.1 | 12.6 | 6 49.6 | 15.9 | 58.5 |
| | 5 | 254 37.4 | -23 16.1 | 161 59.8 | 12.6 | 7 5.6 | 15.9 | 58.6 |
| | 6 | 269 37.1 | -23 16.0 | 176 31.3 | 12.5 | 7 21.5 | 15.9 | 58.6 |
| | 7 | 284 36.8 | -23 15.8 | 191 2.8 | 12.4 | 7 37.4 | 15.9 | 58.6 |
| | 8 | 299 36.5 | -23 15.7 | 205 34.2 | 12.3 | 7 53.2 | 15.9 | 58.7 |
| | 9 | 314 36.2 | -23 15.6 | 220 5.6 | 12.3 | 8 9.1 | 15.8 | 58.7 |
| | 10 | 329 35.8 | -23 15.4 | 234 36.8 | 12.2 | 8 24.9 | 15.8 | 58.7 |
| | 11 | 344 35.5 | -23 15.3 | 249 8.0 | 12.1 | 8 40.7 | 15.8 | 58.7 |
| | 12 | 359 35.2 | -23 15.2 | 263 39.1 | 12.0 | 8 56.5 | 15.8 | 58.8 |
| | 13 | 14 34.9 | -23 15.0 | 278 10.2 | 12.0 | 9 12.3 | 15.7 | 58.8 |
| | 14 | 29 34.6 | -23 14.9 | 292 41.1 | 11.9 | 9 28.0 | 15.7 | 58.8 |
| | 15 | 44 34.3 | -23 14.8 | 307 12.0 | 11.8 | 9 43.7 | 15.7 | 58.9 |
| | 16 | 59 34.0 | -23 14.6 | 321 42.8 | 11.7 | 9 59.3 | 15.6 | 58.9 |
| | 17 | 74 33.7 | -23 14.5 | 336 13.5 | 11.6 | 10 15.0 | 15.6 | 58.9 |
| | 18 | 89 33.4 | -23 14.4 | 350 44.1 | 11.5 | 10 30.5 | 15.6 | 59.0 |
| | 19 | 104 33.1 | -23 14.2 | 5 14.7 | 11.4 | 10 46.1 | 15.5 | 59.0 |
| | 20 | 119 32.8 | -23 14.1 | 19 45.1 | 11.4 | 11 1.6 | 15.5 | 59.0 |
| | 21 | 134 32.5 | -23 13.9 | 34 15.5 | 11.3 | 11 17.1 | 15.4 | 59.0 |
| | 22 | 149 32.2 | -23 13.8 | 48 45.7 | 11.2 | 11 32.5 | 15.4 | 59.1 |
| | 23 | 164 31.9 | -23 13.6 | 63 15.9 | 11.1 | 11 47.9 | 15.3 | 59.1 |
| | | *v* -0.3 | SD 16.3 | *d* -0.1 | | SD 15.9 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **29 Monday** | 0 | 179 31.6 | -23 13.5 | 77 46.0 | 11.0 | 12 3.3 | 15.3 | 59.1 |
| | 1 | 194 31.3 | -23 13.4 | 92 16.0 | 10.9 | 12 18.6 | 15.2 | 59.2 |
| | 2 | 209 31.0 | -23 13.2 | 106 45.8 | 10.8 | 12 33.8 | 15.2 | 59.2 |
| | 3 | 224 30.7 | -23 13.1 | 121 15.6 | 10.7 | 12 49.0 | 15.1 | 59.2 |
| | 4 | 239 30.4 | -23 12.9 | 135 45.3 | 10.6 | 13 4.2 | 15.1 | 59.2 |
| | 5 | 254 30.1 | -23 12.8 | 150 14.9 | 10.5 | 13 19.2 | 15.0 | 59.3 |
| | 6 | 269 29.8 | -23 12.6 | 164 44.4 | 10.4 | 13 34.3 | 15.0 | 59.3 |
| | 7 | 284 29.5 | -23 12.5 | 179 13.8 | 10.3 | 13 49.3 | 14.9 | 59.3 |
| | 8 | 299 29.2 | -23 12.3 | 193 43.0 | 10.2 | 14 4.2 | 14.9 | 59.4 |
| | 9 | 314 28.9 | -23 12.2 | 208 12.2 | 10.1 | 14 19.1 | 14.8 | 59.4 |
| | 10 | 329 28.6 | -23 12.0 | 222 41.3 | 10.0 | 14 33.9 | 14.7 | 59.4 |
| | 11 | 344 28.3 | -23 11.9 | 237 10.2 | 9.8 | 14 48.6 | 14.7 | 59.5 |
| | 12 | 359 28.0 | -23 11.7 | 251 39.1 | 9.7 | 15 3.3 | 14.6 | 59.5 |
| | 13 | 14 27.7 | -23 11.6 | 266 7.8 | 9.6 | 15 17.9 | 14.5 | 59.5 |
| | 14 | 29 27.4 | -23 11.4 | 280 36.4 | 9.5 | 15 32.4 | 14.5 | 59.5 |
| | 15 | 44 27.1 | -23 11.2 | 295 4.9 | 9.4 | 15 46.8 | 14.4 | 59.6 |
| | 16 | 59 26.8 | -23 11.1 | 309 33.3 | 9.3 | 16 1.2 | 14.3 | 59.6 |
| | 17 | 74 26.4 | -23 10.9 | 324 1.6 | 9.2 | 16 15.5 | 14.2 | 59.6 |
| | 18 | 89 26.1 | -23 10.8 | 338 29.8 | 9.0 | 16 29.8 | 14.2 | 59.6 |
| | 19 | 104 25.8 | -23 10.6 | 352 57.8 | 8.9 | 16 43.9 | 14.1 | 59.7 |
| | 20 | 119 25.5 | -23 10.5 | 7 25.8 | 8.8 | 16 58.0 | 14.0 | 59.7 |
| | 21 | 134 25.2 | -23 10.3 | 21 53.6 | 8.7 | 17 12.0 | 13.9 | 59.7 |
| | 22 | 149 24.9 | -23 10.1 | 36 21.3 | 8.6 | 17 25.9 | 13.8 | 59.8 |
| | 23 | 164 24.6 | -23 10.0 | 50 48.8 | 8.4 | 17 39.7 | 13.7 | 59.8 |
| | | *v* -0.3 | SD 16.3 | *d* -0.1 | | SD 16.1 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:27 | 10:54 | | | 13:08 | 15:36 |
| 70 | 08:07 | 09:54 | | | 14:08 | 15:56 |
| 68 | 07:51 | 09:20 | | | 14:43 | 16:11 |
| 66 | 07:38 | 08:55 | 10:34 | 13:28 | 15:08 | 16:24 |
| 64 | 07:27 | 08:35 | 09:53 | 14:10 | 15:27 | 16:35 |
| 62 | 07:18 | 08:20 | 09:25 | 14:38 | 15:43 | 16:45 |
| 60 | 07:09 | 08:06 | 09:04 | 14:59 | 15:56 | 16:53 |
| 58 | 07:02 | 07:54 | 08:46 | 15:16 | 16:08 | 17:01 |
| 56 | 06:55 | 07:44 | 08:32 | 15:31 | 16:18 | 17:07 |
| 54 | 06:49 | 07:35 | 08:19 | 15:43 | 16:27 | 17:13 |
| 52 | 06:43 | 07:27 | 08:08 | 15:54 | 16:35 | 17:19 |
| 50 | 06:38 | 07:20 | 07:58 | 16:04 | 16:43 | 17:24 |
| 45 | 06:26 | 07:04 | 07:38 | 16:25 | 16:59 | 17:36 |
| 40 | 06:16 | 06:50 | 07:21 | 16:42 | 17:12 | 17:46 |
| 35 | 06:07 | 06:39 | 07:07 | 16:56 | 17:24 | 17:56 |
| 30 | 05:58 | 06:28 | 06:54 | 17:08 | 17:34 | 18:04 |
| 20 | 05:42 | 06:09 | 06:33 | 17:29 | 17:53 | 18:21 |
| 10 | 05:26 | 05:52 | 06:15 | 17:48 | 18:10 | 18:37 |
| 0 | 05:09 | 05:35 | 05:57 | 18:05 | 18:27 | 18:54 |
| -10 | 04:50 | 05:17 | 05:40 | 18:22 | 18:45 | 19:13 |
| -20 | 04:27 | 04:56 | 05:21 | 18:41 | 19:06 | 19:35 |
| -30 | 03:58 | 04:32 | 04:59 | 19:03 | 19:31 | 20:04 |
| -35 | 03:40 | 04:16 | 04:46 | 19:16 | 19:46 | 20:22 |
| -40 | 03:17 | 03:58 | 04:31 | 19:31 | 20:04 | 20:45 |
| -45 | 02:46 | 03:36 | 04:13 | 19:49 | 20:26 | 21:16 |
| -50 | 02:01 | 03:06 | 03:51 | 20:11 | 20:56 | 22:01 |
| -52 | 01:34 | 02:51 | 03:40 | 20:22 | 21:11 | 22:28 |
| -54 | 00:48 | 02:33 | 03:28 | 20:34 | 21:29 | 23:12 |
| -56 | //// | 02:11 | 03:14 | 20:48 | 21:51 | //// |
| -58 | //// | 01:42 | 02:57 | 21:05 | 22:20 | //// |
| -60 | //// | 00:53 | 02:37 | 21:25 | 23:08 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **27** | **28** | **29** | **27** | **28** | **29** |
| 72 | 11:12 | 10:34 | 09:41 | –:– | 01:20 | 03:56 |
| 70 | 11:15 | 10:46 | 10:09 | –:– | 01:11 | 03:30 |
| 68 | 11:17 | 10:56 | 10:31 | –:– | 01:04 | 03:11 |
| 66 | 11:19 | 11:05 | 10:48 | –:– | 00:58 | 02:56 |
| 64 | 11:21 | 11:12 | 11:02 | –:– | 00:53 | 02:43 |
| 62 | 11:22 | 11:18 | 11:14 | –:– | 00:48 | 02:33 |
| 60 | 11:24 | 11:23 | 11:24 | –:– | 00:45 | 02:24 |
| 58 | 11:25 | 11:28 | 11:33 | –:– | 00:41 | 02:16 |
| 56 | 11:26 | 11:32 | 11:41 | –:– | 00:38 | 02:10 |
| 54 | 11:27 | 11:36 | 11:48 | –:– | 00:36 | 02:04 |
| 52 | 11:28 | 11:40 | 11:54 | –:– | 00:33 | 01:58 |
| 50 | 11:29 | 11:43 | 12:00 | –:– | 00:31 | 01:53 |
| 45 | 11:31 | 11:50 | 12:12 | –:– | 00:26 | 01:43 |
| 40 | 11:32 | 11:56 | 12:23 | –:– | 00:22 | 01:34 |
| 35 | 11:33 | 12:01 | 12:31 | –:– | 00:19 | 01:27 |
| 30 | 11:35 | 12:05 | 12:39 | –:– | 00:16 | 01:20 |
| 20 | 11:37 | 12:13 | 12:53 | –:– | 00:11 | 01:09 |
| 10 | 11:39 | 12:20 | 13:05 | –:– | 00:06 | 00:59 |
| 0 | 11:40 | 12:27 | 13:17 | –:– | 00:02 | 00:50 |
| -10 | 11:42 | 12:34 | 13:28 | 23:58 | –:– | 00:41 |
| -20 | 11:44 | 12:41 | 13:41 | 23:53 | –:– | 00:31 |
| -30 | 11:46 | 12:49 | 13:55 | 23:48 | –:– | 00:20 |
| -35 | 11:48 | 12:54 | 14:03 | 23:45 | –:– | 00:14 |
| -40 | 11:49 | 12:59 | 14:13 | 23:42 | –:– | 00:07 |
| -45 | 11:51 | 13:06 | 14:24 | 23:38 | 23:59 | –:– |
| -50 | 11:53 | 13:14 | 14:38 | 23:34 | 23:49 | –:– |
| -52 | 11:54 | 13:17 | 14:45 | 23:32 | 23:44 | –:– |
| -54 | 11:55 | 13:21 | 14:52 | 23:29 | 23:39 | 23:52 |
| -56 | 11:56 | 13:26 | 15:00 | 23:27 | 23:34 | 23:43 |
| -58 | 11:58 | 13:30 | 15:09 | 23:24 | 23:28 | 23:33 |
| -60 | 11:59 | 13:36 | 15:20 | 23:21 | 23:21 | 23:21 |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **27** | 00:55 | 01:10 | 12:01 | 17:51 | 05:28 | 7 | 41 |
| **28** | 01:24 | 01:39 | 12:02 | 18:38 | 06:14 | 8 | 52 |
| **29** | 01:54 | 02:08 | 12:02 | 19:29 | 07:03 | 9 | 63 |

## 2025 December 30, 31, January 01 (Tue, Wed, Thu)

| d | h | Aries GHA | Venus -3.9 GHA | Venus -3.9 Dec | Mars 1.1 GHA | Mars 1.1 Dec | Jupiter -2.7 GHA | Jupiter -2.7 Dec | Saturn 1.0 GHA | Saturn 1.0 Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 30 Tuesday | 0 | 98 41.5 | 181 22.9 | -23 41.9 | 176 28.7 | -23 50.7 | 345 17.5 | 21 56.0 | 101 24.7 | -3 38.9 |
| | 1 | 113 43.9 | 196 22.0 | -23 41.8 | 191 29.1 | -23 50.6 | 0 20.3 | 21 56.1 | 116 27.0 | -3 38.8 |
| | 2 | 128 46.4 | 211 21.0 | -23 41.8 | 206 29.5 | -23 50.4 | 15 23.1 | 21 56.1 | 131 29.4 | -3 38.7 |
| | 3 | 143 48.8 | 226 20.0 | -23 41.7 | 221 29.9 | -23 50.3 | 30 25.9 | 21 56.2 | 146 31.7 | -3 38.7 |
| | 4 | 158 51.3 | 241 19.0 | -23 41.6 | 236 30.3 | -23 50.1 | 45 28.7 | 21 56.2 | 161 34.1 | -3 38.6 |
| | 5 | 173 53.8 | 256 18.1 | -23 41.6 | 251 30.6 | -23 50.0 | 60 31.5 | 21 56.3 | 176 36.4 | -3 38.5 |
| | 6 | 188 56.2 | 271 17.1 | -23 41.5 | 266 31.0 | -23 49.8 | 75 34.3 | 21 56.4 | 191 38.7 | -3 38.5 |
| | 7 | 203 58.7 | 286 16.1 | -23 41.4 | 281 31.4 | -23 49.7 | 90 37.1 | 21 56.4 | 206 41.1 | -3 38.4 |
| | 8 | 219 1.2 | 301 15.1 | -23 41.3 | 296 31.8 | -23 49.5 | 105 39.9 | 21 56.5 | 221 43.4 | -3 38.4 |
| | 9 | 234 3.6 | 316 14.2 | -23 41.3 | 311 32.2 | -23 49.4 | 120 42.7 | 21 56.5 | 236 45.8 | -3 38.3 |
| | 10 | 249 6.1 | 331 13.2 | -23 41.2 | 326 32.5 | -23 49.2 | 135 45.5 | 21 56.6 | 251 48.1 | -3 38.2 |
| | 11 | 264 8.6 | 346 12.2 | -23 41.1 | 341 32.9 | -23 49.1 | 150 48.3 | 21 56.6 | 266 50.4 | -3 38.2 |
| | 12 | 279 11.0 | 1 11.3 | -23 41.0 | 356 33.3 | -23 48.9 | 165 51.2 | 21 56.7 | 281 52.8 | -3 38.1 |
| | 13 | 294 13.5 | 16 10.3 | -23 41.0 | 11 33.7 | -23 48.8 | 180 54.0 | 21 56.8 | 296 55.1 | -3 38.0 |
| | 14 | 309 16.0 | 31 9.3 | -23 40.9 | 26 34.1 | -23 48.6 | 195 56.8 | 21 56.8 | 311 57.4 | -3 38.0 |
| | 15 | 324 18.4 | 46 8.3 | -23 40.8 | 41 34.4 | -23 48.5 | 210 59.6 | 21 56.9 | 326 59.8 | -3 37.9 |
| | 16 | 339 20.9 | 61 7.4 | -23 40.7 | 56 34.8 | -23 48.3 | 226 2.4 | 21 56.9 | 342 2.1 | -3 37.8 |
| | 17 | 354 23.3 | 76 6.4 | -23 40.6 | 71 35.2 | -23 48.2 | 241 5.2 | 21 57.0 | 357 4.5 | -3 37.8 |
| | 18 | 9 25.8 | 91 5.4 | -23 40.5 | 86 35.6 | -23 48.0 | 256 8.0 | 21 57.0 | 12 6.8 | -3 37.7 |
| | 19 | 24 28.3 | 106 4.5 | -23 40.4 | 101 35.9 | -23 47.9 | 271 10.8 | 21 57.1 | 27 9.1 | -3 37.7 |
| | 20 | 39 30.7 | 121 3.5 | -23 40.4 | 116 36.3 | -23 47.7 | 286 13.6 | 21 57.2 | 42 11.5 | -3 37.6 |
| | 21 | 54 33.2 | 136 2.5 | -23 40.3 | 131 36.7 | -23 47.5 | 301 16.4 | 21 57.2 | 57 13.8 | -3 37.5 |
| | 22 | 69 35.7 | 151 1.5 | -23 40.2 | 146 37.1 | -23 47.4 | 316 19.2 | 21 57.3 | 72 16.2 | -3 37.5 |
| | 23 | 84 38.1 | 166 0.6 | -23 40.1 | 161 37.5 | -23 47.2 | 331 22.0 | 21 57.3 | 87 18.5 | -3 37.4 |
| | | MP 17:24 | *v* -1.0 | *d* -0.1 | *v* 0.4 | *d* -0.1 | *v* 2.8 | *d* 0.1 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 31 Wednesday | 0 | 99 40.6 | 180 59.6 | -23 40.0 | 176 37.8 | -23 47.1 | 346 24.8 | 21 57.4 | 102 20.8 | -3 37.3 |
| | 1 | 114 43.1 | 195 58.6 | -23 39.9 | 191 38.2 | -23 46.9 | 1 27.7 | 21 57.4 | 117 23.2 | -3 37.3 |
| | 2 | 129 45.5 | 210 57.7 | -23 39.8 | 206 38.6 | -23 46.8 | 16 30.5 | 21 57.5 | 132 25.5 | -3 37.2 |
| | 3 | 144 48.0 | 225 56.7 | -23 39.7 | 221 39.0 | -23 46.6 | 31 33.3 | 21 57.6 | 147 27.8 | -3 37.1 |
| | 4 | 159 50.4 | 240 55.7 | -23 39.6 | 236 39.4 | -23 46.5 | 46 36.1 | 21 57.6 | 162 30.2 | -3 37.1 |
| | 5 | 174 52.9 | 255 54.8 | -23 39.5 | 251 39.7 | -23 46.3 | 61 38.9 | 21 57.7 | 177 32.5 | -3 37.0 |
| | 6 | 189 55.4 | 270 53.8 | -23 39.4 | 266 40.1 | -23 46.1 | 76 41.7 | 21 57.7 | 192 34.8 | -3 37.0 |
| | 7 | 204 57.8 | 285 52.8 | -23 39.3 | 281 40.5 | -23 46.0 | 91 44.5 | 21 57.8 | 207 37.2 | -3 36.9 |
| | 8 | 220 0.3 | 300 51.8 | -23 39.2 | 296 40.9 | -23 45.8 | 106 47.3 | 21 57.8 | 222 39.5 | -3 36.8 |
| | 9 | 235 2.8 | 315 50.9 | -23 39.1 | 311 41.3 | -23 45.7 | 121 50.1 | 21 57.9 | 237 41.9 | -3 36.8 |
| | 10 | 250 5.2 | 330 49.9 | -23 39.0 | 326 41.6 | -23 45.5 | 136 52.9 | 21 58.0 | 252 44.2 | -3 36.7 |
| | 11 | 265 7.7 | 345 48.9 | -23 38.9 | 341 42.0 | -23 45.3 | 151 55.7 | 21 58.0 | 267 46.5 | -3 36.6 |
| | 12 | 280 10.2 | 0 48.0 | -23 38.8 | 356 42.4 | -23 45.2 | 166 58.6 | 21 58.1 | 282 48.9 | -3 36.6 |
| | 13 | 295 12.6 | 15 47.0 | -23 38.6 | 11 42.8 | -23 45.0 | 182 1.4 | 21 58.1 | 297 51.2 | -3 36.5 |
| | 14 | 310 15.1 | 30 46.0 | -23 38.5 | 26 43.2 | -23 44.9 | 197 4.2 | 21 58.2 | 312 53.5 | -3 36.4 |
| | 15 | 325 17.6 | 45 45.1 | -23 38.4 | 41 43.5 | -23 44.7 | 212 7.0 | 21 58.2 | 327 55.9 | -3 36.4 |
| | 16 | 340 20.0 | 60 44.1 | -23 38.3 | 56 43.9 | -23 44.5 | 227 9.8 | 21 58.3 | 342 58.2 | -3 36.3 |
| | 17 | 355 22.5 | 75 43.1 | -23 38.2 | 71 44.3 | -23 44.4 | 242 12.6 | 21 58.3 | 358 0.5 | -3 36.2 |
| | 18 | 10 24.9 | 90 42.2 | -23 38.1 | 86 44.7 | -23 44.2 | 257 15.4 | 21 58.4 | 13 2.9 | -3 36.2 |
| | 19 | 25 27.4 | 105 41.2 | -23 38.0 | 101 45.1 | -23 44.0 | 272 18.2 | 21 58.5 | 28 5.2 | -3 36.1 |
| | 20 | 40 29.9 | 120 40.2 | -23 37.8 | 116 45.4 | -23 43.9 | 287 21.0 | 21 58.5 | 43 7.5 | -3 36.0 |
| | 21 | 55 32.3 | 135 39.2 | -23 37.7 | 131 45.8 | -23 43.7 | 302 23.8 | 21 58.6 | 58 9.9 | -3 36.0 |
| | 22 | 70 34.8 | 150 38.3 | -23 37.6 | 146 46.2 | -23 43.5 | 317 26.7 | 21 58.6 | 73 12.2 | -3 35.9 |
| | 23 | 85 37.3 | 165 37.3 | -23 37.5 | 161 46.6 | -23 43.4 | 332 29.5 | 21 58.7 | 88 14.5 | -3 35.8 |
| | | MP 17:20 | *v* -1.0 | *d* -0.1 | *v* 0.4 | *d* -0.2 | *v* 2.8 | *d* 0.1 | *v* 2.3 | *d* -0.1 |

| d | h | GHA | Venus GHA | Venus Dec | Mars GHA | Mars Dec | Jupiter GHA | Jupiter Dec | Saturn GHA | Saturn Dec |
|---|---|---|---|---|---|---|---|---|---|---|
| 01 Thursday | 0 | 100 39.7 | 180 36.3 | -23 37.3 | 176 47.0 | -23 43.2 | 347 32.3 | 21 58.7 | 103 16.9 | -3 35.8 |
| | 1 | 115 42.2 | 195 35.4 | -23 37.2 | 191 47.3 | -23 43.0 | 2 35.1 | 21 58.8 | 118 19.2 | -3 35.7 |
| | 2 | 130 44.7 | 210 34.4 | -23 37.1 | 206 47.7 | -23 42.9 | 17 37.9 | 21 58.9 | 133 21.5 | -3 35.7 |
| | 3 | 145 47.1 | 225 33.4 | -23 37.0 | 221 48.1 | -23 42.7 | 32 40.7 | 21 58.9 | 148 23.9 | -3 35.6 |
| | 4 | 160 49.6 | 240 32.5 | -23 36.8 | 236 48.5 | -23 42.5 | 47 43.5 | 21 59.0 | 163 26.2 | -3 35.5 |
| | 5 | 175 52.1 | 255 31.5 | -23 36.7 | 251 48.9 | -23 42.4 | 62 46.3 | 21 59.0 | 178 28.5 | -3 35.5 |
| | 6 | 190 54.5 | 270 30.5 | -23 36.6 | 266 49.2 | -23 42.2 | 77 49.1 | 21 59.1 | 193 30.9 | -3 35.4 |
| | 7 | 205 57.0 | 285 29.6 | -23 36.4 | 281 49.6 | -23 42.0 | 92 52.0 | 21 59.1 | 208 33.2 | -3 35.3 |
| | 8 | 220 59.4 | 300 28.6 | -23 36.3 | 296 50.0 | -23 41.8 | 107 54.8 | 21 59.2 | 223 35.5 | -3 35.3 |
| | 9 | 236 1.9 | 315 27.6 | -23 36.2 | 311 50.4 | -23 41.7 | 122 57.6 | 21 59.3 | 238 37.9 | -3 35.2 |
| | 10 | 251 4.4 | 330 26.7 | -23 36.0 | 326 50.8 | -23 41.5 | 138 0.4 | 21 59.3 | 253 40.2 | -3 35.1 |
| | 11 | 266 6.8 | 345 25.7 | -23 35.9 | 341 51.1 | -23 41.3 | 153 3.2 | 21 59.4 | 268 42.5 | -3 35.1 |
| | 12 | 281 9.3 | 0 24.7 | -23 35.7 | 356 51.5 | -23 41.2 | 168 6.0 | 21 59.4 | 283 44.9 | -3 35.0 |
| | 13 | 296 11.8 | 15 23.8 | -23 35.6 | 11 51.9 | -23 41.0 | 183 8.8 | 21 59.5 | 298 47.2 | -3 34.9 |
| | 14 | 311 14.2 | 30 22.8 | -23 35.5 | 26 52.3 | -23 40.8 | 198 11.6 | 21 59.5 | 313 49.5 | -3 34.9 |
| | 15 | 326 16.7 | 45 21.8 | -23 35.3 | 41 52.7 | -23 40.6 | 213 14.4 | 21 59.6 | 328 51.9 | -3 34.8 |
| | 16 | 341 19.2 | 60 20.9 | -23 35.2 | 56 53.0 | -23 40.5 | 228 17.3 | 21 59.7 | 343 54.2 | -3 34.7 |
| | 17 | 356 21.6 | 75 19.9 | -23 35.0 | 71 53.4 | -23 40.3 | 243 20.1 | 21 59.7 | 358 56.5 | -3 34.7 |
| | 18 | 11 24.1 | 90 18.9 | -23 34.9 | 86 53.8 | -23 40.1 | 258 22.9 | 21 59.8 | 13 58.9 | -3 34.6 |
| | 19 | 26 26.6 | 105 18.0 | -23 34.7 | 101 54.2 | -23 39.9 | 273 25.7 | 21 59.8 | 29 1.2 | -3 34.5 |
| | 20 | 41 29.0 | 120 17.0 | -23 34.6 | 116 54.6 | -23 39.8 | 288 28.5 | 21 59.9 | 44 3.5 | -3 34.5 |
| | 21 | 56 31.5 | 135 16.0 | -23 34.4 | 131 54.9 | -23 39.6 | 303 31.3 | 21 59.9 | 59 5.8 | -3 34.4 |
| | 22 | 71 33.9 | 150 15.1 | -23 34.3 | 146 55.3 | -23 39.4 | 318 34.1 | 22 0.0 | 74 8.2 | -3 34.3 |
| | 23 | 86 36.4 | 165 14.1 | -23 34.1 | 161 55.7 | -23 39.2 | 333 37.0 | 22 0.1 | 89 10.5 | -3 34.3 |
| | | MP 17:16 | *v* -1.0 | *d* -0.1 | *v* 0.4 | *d* -0.2 | *v* 2.8 | *d* 0.1 | *v* 2.3 | *d* -0.1 |

### Stars

| Name | SHA | Dec |
|---|---|---|
| Acamar | 315 10.9 | -40 12.2 |
| Achernar | 335 19.4 | -57 6.5 |
| Acrux | 172 59.2 | -63 14.3 |
| Adhara | 255 4.8 | -29 0.4 |
| Aldebaran | 290 38.4 | 16 33.7 |
| Alioth | 166 12.3 | 55 48.8 |
| Alkaid | 152 51.5 | 49 10.7 |
| Alnair | 27 32.2 | -46 50.3 |
| Alnilam | 275 36.6 | -1 11.1 |
| Alphard | 217 46.7 | -8 46.3 |
| Alphecca | 126 3.3 | 26 37.5 |
| Alpheratz | 357 34.0 | 29 14.2 |
| Altair | 61 59.5 | 8 56.2 |
| Ankaa | 353 6.4 | -42 10.1 |
| Antares | 112 15.2 | -26 29.3 |
| Arcturus | 145 47.3 | 19 2.7 |
| Atria | 107 9.2 | -69 4.3 |
| Avior | 234 13.8 | -59 35.4 |
| Bellatrix | 278 21.7 | 6 22.4 |
| Betelgeuse | 270 50.9 | 7 24.7 |
| Canopus | 263 51.5 | -52 42.5 |
| Capella | 280 20.2 | 46 1.5 |
| Deneb | 49 25.7 | 45 22.5 |
| Denebola | 182 24.1 | 14 25.5 |
| Diphda | 348 46.5 | -17 50.7 |
| Dubhe | 193 39.8 | 61 36.3 |
| Elnath | 278 0.5 | 28 37.8 |
| Eltanin | 90 42.4 | 51 29.0 |
| Enif | 33 38.2 | 9 59.7 |
| Fomalhaut | 15 13.8 | -29 29.2 |
| Gacrux | 171 50.8 | -57 15.3 |
| Gienah | 175 42.7 | -17 41.1 |
| Hadar | 148 35.1 | -60 29.7 |
| Hamal | 327 50.1 | 23 35.3 |
| Kaus Aust. | 83 31.9 | -34 22.3 |
| Kochab | 137 20.5 | 74 2.6 |
| Markab | 13 29.2 | 15 20.8 |
| Menkar | 314 5.1 | 4 11.5 |
| Menkent | 147 56.8 | -36 29.7 |
| Miaplacidus | 221 37.4 | -69 49.2 |
| Mirfak | 308 26.7 | 49 57.4 |
| Nunki | 75 47.1 | -26 15.9 |
| Peacock | 53 5.0 | -56 39.2 |
| Pollux | 243 16.0 | 27 57.7 |
| Procyon | 244 49.7 | 5 9.5 |
| Rasalhague | 95 58.1 | 12 32.4 |
| Regulus | 207 33.4 | 11 50.3 |
| Rigel | 281 2.8 | -8 10.3 |
| Rigil Kent. | 139 39.6 | -60 56.3 |
| Sabik | 102 2.2 | -15 45.4 |
| Schedar | 349 30.1 | 56 41.1 |
| Shaula | 96 9.7 | -37 7.3 |
| Sirius | 258 25.2 | -16 45.1 |
| Spica | 158 21.5 | -11 17.8 |
| Suhail | 222 45.4 | -43 32.1 |
| Vega | 80 33.1 | 38 48.4 |
| Zuben'ubi | 136 55.3 | -16 9.0 |

| 30 Tue | SHA | MP |
|---|---|---|
| Venus | 82 41.5 | 11:55 |
| Mars | 77 47.3 | 12:14 |
| Jupiter | 246 36.0 | 00:59 |
| Saturn | 2 43.2 | 17:12 |

| 31 Wed | SHA | MP |
|---|---|---|
| Venus | 81 19.0 | 11:57 |
| Mars | 76 57.3 | 12:13 |
| Jupiter | 246 44.3 | 00:54 |
| Saturn | 2 40.2 | 17:08 |

| 01 Thu | SHA | MP |
|---|---|---|
| Venus | 79 56.6 | 11:58 |
| Mars | 76 7.2 | 12:13 |
| Jupiter | 246 52.5 | 00:50 |
| Saturn | 2 37.1 | 17:04 |

| | | Sun | | Moon | | | | |
|---|---|---|---|---|---|---|---|---|
| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
| **30 Tuesday** | 0 | 179 24.3 | -23 9.8 | 65 16.3 | 8.3 | 17 53.4 | 13.6 | 59.8 |
| | 1 | 194 24.0 | -23 9.6 | 79 43.6 | 8.2 | 18 7.0 | 13.5 | 59.8 |
| | 2 | 209 23.7 | -23 9.5 | 94 10.8 | 8.1 | 18 20.6 | 13.4 | 59.9 |
| | 3 | 224 23.4 | -23 9.3 | 108 37.8 | 7.9 | 18 34.0 | 13.3 | 59.9 |
| | 4 | 239 23.1 | -23 9.1 | 123 4.8 | 7.8 | 18 47.3 | 13.2 | 59.9 |
| | 5 | 254 22.8 | -23 9.0 | 137 31.6 | 7.7 | 19 0.6 | 13.1 | 59.9 |
| | 6 | 269 22.5 | -23 8.8 | 151 58.3 | 7.6 | 19 13.7 | 13.0 | 60.0 |
| | 7 | 284 22.2 | -23 8.6 | 166 24.9 | 7.4 | 19 26.8 | 12.9 | 60.0 |
| | 8 | 299 21.9 | -23 8.5 | 180 51.3 | 7.3 | 19 39.7 | 12.8 | 60.0 |
| | 9 | 314 21.6 | -23 8.3 | 195 17.6 | 7.2 | 19 52.5 | 12.7 | 60.0 |
| | 10 | 329 21.3 | -23 8.1 | 209 43.8 | 7.1 | 20 5.2 | 12.6 | 60.1 |
| | 11 | 344 21.0 | -23 8.0 | 224 9.9 | 6.9 | 20 17.8 | 12.5 | 60.1 |
| | 12 | 359 20.7 | -23 7.8 | 238 35.8 | 6.8 | 20 30.3 | 12.4 | 60.1 |
| | 13 | 14 20.4 | -23 7.6 | 253 1.6 | 6.7 | 20 42.6 | 12.2 | 60.1 |
| | 14 | 29 20.1 | -23 7.4 | 267 27.2 | 6.5 | 20 54.9 | 12.1 | 60.1 |
| | 15 | 44 19.8 | -23 7.3 | 281 52.8 | 6.4 | 21 7.0 | 12.0 | 60.2 |
| | 16 | 59 19.5 | -23 7.1 | 296 18.2 | 6.3 | 21 19.0 | 11.9 | 60.2 |
| | 17 | 74 19.2 | -23 6.9 | 310 43.4 | 6.1 | 21 30.9 | 11.7 | 60.2 |
| | 18 | 89 18.9 | -23 6.7 | 325 8.6 | 6.0 | 21 42.6 | 11.6 | 60.2 |
| | 19 | 104 18.6 | -23 6.6 | 339 33.6 | 5.9 | 21 54.2 | 11.5 | 60.3 |
| | 20 | 119 18.4 | -23 6.4 | 353 58.5 | 5.7 | 22 5.7 | 11.3 | 60.3 |
| | 21 | 134 18.1 | -23 6.2 | 8 23.2 | 5.6 | 22 17.0 | 11.2 | 60.3 |
| | 22 | 149 17.8 | -23 6.0 | 22 47.8 | 5.5 | 22 28.2 | 11.1 | 60.3 |
| | 23 | 164 17.5 | -23 5.8 | 37 12.3 | 5.4 | 22 39.3 | 10.9 | 60.3 |
| | | *v* -0.3 | SD 16.3 *d* -0.2 | | | SD 16.3 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **31 Wednesday** | 0 | 179 17.2 | -23 5.7 | 51 36.7 | 5.2 | 22 50.2 | 10.8 | 60.4 |
| | 1 | 194 16.9 | -23 5.5 | 66 0.9 | 5.1 | 23 1.0 | 10.6 | 60.4 |
| | 2 | 209 16.6 | -23 5.3 | 80 25.0 | 5.0 | 23 11.6 | 10.5 | 60.4 |
| | 3 | 224 16.3 | -23 5.1 | 94 49.0 | 4.8 | 23 22.1 | 10.3 | 60.4 |
| | 4 | 239 16.0 | -23 4.9 | 109 12.8 | 4.7 | 23 32.4 | 10.2 | 60.4 |
| | 5 | 254 15.7 | -23 4.7 | 123 36.5 | 4.6 | 23 42.6 | 10.0 | 60.5 |
| | 6 | 269 15.4 | -23 4.5 | 138 0.1 | 4.5 | 23 52.6 | 9.9 | 60.5 |
| | 7 | 284 15.1 | -23 4.4 | 152 23.6 | 4.3 | 24 2.5 | 9.7 | 60.5 |
| | 8 | 299 14.8 | -23 4.2 | 166 46.9 | 4.2 | 24 12.2 | 9.5 | 60.5 |
| | 9 | 314 14.5 | -23 4.0 | 181 10.2 | 4.1 | 24 21.8 | 9.4 | 60.5 |
| | 10 | 329 14.2 | -23 3.8 | 195 33.2 | 4.0 | 24 31.1 | 9.2 | 60.5 |
| | 11 | 344 13.9 | -23 3.6 | 209 56.2 | 3.9 | 24 40.4 | 9.1 | 60.6 |
| | 12 | 359 13.6 | -23 3.4 | 224 19.1 | 3.7 | 24 49.4 | 8.9 | 60.6 |
| | 13 | 14 13.3 | -23 3.2 | 238 41.8 | 3.6 | 24 58.3 | 8.7 | 60.6 |
| | 14 | 29 13.0 | -23 3.0 | 253 4.4 | 3.5 | 25 7.0 | 8.5 | 60.6 |
| | 15 | 44 12.7 | -23 2.8 | 267 26.9 | 3.4 | 25 15.5 | 8.4 | 60.6 |
| | 16 | 59 12.4 | -23 2.6 | 281 49.3 | 3.3 | 25 23.9 | 8.2 | 60.6 |
| | 17 | 74 12.1 | -23 2.4 | 296 11.6 | 3.2 | 25 32.1 | 8.0 | 60.6 |
| | 18 | 89 11.8 | -23 2.2 | 310 33.8 | 3.1 | 25 40.1 | 7.8 | 60.7 |
| | 19 | 104 11.5 | -23 2.0 | 324 55.8 | 2.9 | 25 47.9 | 7.6 | 60.7 |
| | 20 | 119 11.2 | -23 1.8 | 339 17.8 | 2.8 | 25 55.5 | 7.5 | 60.7 |
| | 21 | 134 10.9 | -23 1.6 | 353 39.6 | 2.7 | 26 3.0 | 7.3 | 60.7 |
| | 22 | 149 10.6 | -23 1.4 | 8 1.3 | 2.6 | 26 10.3 | 7.1 | 60.7 |
| | 23 | 164 10.3 | -23 1.2 | 22 23.0 | 2.5 | 26 17.3 | 6.9 | 60.7 |
| | | *v* -0.3 | SD 16.3 *d* -0.2 | | | SD 16.5 | | |

| d | h | GHA | Dec | GHA | *v* | Dec | *d* | HP |
|---|---|---|---|---|---|---|---|---|
| **01 Thursday** | 0 | 179 10.1 | -23 1.0 | 36 44.5 | 2.4 | 26 24.2 | 6.7 | 60.7 |
| | 1 | 194 9.8 | -23 0.8 | 51 6.0 | 2.3 | 26 30.9 | 6.5 | 60.7 |
| | 2 | 209 9.5 | -23 0.6 | 65 27.3 | 2.3 | 26 37.4 | 6.3 | 60.7 |
| | 3 | 224 9.2 | -23 0.4 | 79 48.6 | 2.2 | 26 43.7 | 6.1 | 60.8 |
| | 4 | 239 8.9 | -23 0.2 | 94 9.7 | 2.1 | 26 49.8 | 5.9 | 60.8 |
| | 5 | 254 8.6 | -23 0.0 | 108 30.8 | 2.0 | 26 55.7 | 5.7 | 60.8 |
| | 6 | 269 8.3 | -22 59.8 | 122 51.8 | 1.9 | 27 1.5 | 5.5 | 60.8 |
| | 7 | 284 8.0 | -22 59.6 | 137 12.7 | 1.8 | 27 7.0 | 5.3 | 60.8 |
| | 8 | 299 7.7 | -22 59.4 | 151 33.5 | 1.8 | 27 12.3 | 5.1 | 60.8 |
| | 9 | 314 7.4 | -22 59.2 | 165 54.3 | 1.7 | 27 17.4 | 4.9 | 60.8 |
| | 10 | 329 7.1 | -22 59.0 | 180 14.9 | 1.6 | 27 22.3 | 4.7 | 60.8 |
| | 11 | 344 6.8 | -22 58.8 | 194 35.6 | 1.5 | 27 27.0 | 4.5 | 60.8 |
| | 12 | 359 6.5 | -22 58.6 | 208 56.1 | 1.5 | 27 31.4 | 4.3 | 60.8 |
| | 13 | 14 6.2 | -22 58.3 | 223 16.6 | 1.4 | 27 35.7 | 4.1 | 60.8 |
| | 14 | 29 5.9 | -22 58.1 | 237 37.0 | 1.4 | 27 39.8 | 3.9 | 60.8 |
| | 15 | 44 5.6 | -22 57.9 | 251 57.3 | 1.3 | 27 43.6 | 3.6 | 60.8 |
| | 16 | 59 5.4 | -22 57.7 | 266 17.6 | 1.2 | 27 47.3 | 3.4 | 60.8 |
| | 17 | 74 5.1 | -22 57.5 | 280 37.9 | 1.2 | 27 50.7 | 3.2 | 60.8 |
| | 18 | 89 4.8 | -22 57.3 | 294 58.1 | 1.2 | 27 53.9 | 3.0 | 60.8 |
| | 19 | 104 4.5 | -22 57.1 | 309 18.2 | 1.1 | 27 56.9 | 2.8 | 60.8 |
| | 20 | 119 4.2 | -22 56.8 | 323 38.3 | 1.1 | 27 59.7 | 2.6 | 60.8 |
| | 21 | 134 3.9 | -22 56.6 | 337 58.4 | 1.0 | 28 2.2 | 2.3 | 60.8 |
| | 22 | 149 3.6 | -22 56.4 | 352 18.5 | 1.0 | 28 4.6 | 2.1 | 60.8 |
| | 23 | 164 3.3 | -22 56.2 | 6 38.5 | 1.0 | 28 6.7 | 1.9 | 60.8 |
| | | *v* -0.3 | SD 16.3 *d* -0.2 | | | SD 16.6 | | |

| | Twilight | | | | Twilight | |
|---|---|---|---|---|---|---|
| Lat | Naut. | Civil | Sunrise | Sunset | Civil | Naut. |
| 72 | 08:25 | 10:48 | ▬ | ▬ | 13:18 | 15:40 |
| 70 | 08:06 | 09:52 | ▬ | ▬ | 14:14 | 15:59 |
| 68 | 07:51 | 09:18 | ▬ | ▬ | 14:47 | 16:15 |
| 66 | 07:38 | 08:54 | 10:31 | 13:35 | 15:11 | 16:28 |
| 64 | 07:27 | 08:35 | 09:51 | 14:14 | 15:31 | 16:38 |
| 62 | 07:18 | 08:19 | 09:24 | 14:41 | 15:46 | 16:48 |
| 60 | 07:10 | 08:06 | 09:03 | 15:02 | 15:59 | 16:56 |
| 58 | 07:02 | 07:55 | 08:46 | 15:19 | 16:11 | 17:03 |
| 56 | 06:56 | 07:45 | 08:32 | 15:34 | 16:21 | 17:10 |
| 54 | 06:50 | 07:36 | 08:19 | 15:46 | 16:30 | 17:16 |
| 52 | 06:44 | 07:28 | 08:08 | 15:57 | 16:38 | 17:21 |
| 50 | 06:39 | 07:20 | 07:59 | 16:07 | 16:45 | 17:27 |
| 45 | 06:27 | 07:04 | 07:38 | 16:27 | 17:01 | 17:38 |
| 40 | 06:17 | 06:51 | 07:22 | 16:44 | 17:14 | 17:48 |
| 35 | 06:08 | 06:39 | 07:08 | 16:58 | 17:26 | 17:57 |
| 30 | 05:59 | 06:29 | 06:55 | 17:10 | 17:36 | 18:06 |
| 20 | 05:43 | 06:10 | 06:34 | 17:31 | 17:55 | 18:22 |
| 10 | 05:27 | 05:53 | 06:16 | 17:49 | 18:12 | 18:38 |
| 0 | 05:10 | 05:36 | 05:59 | 18:06 | 18:29 | 18:55 |
| -10 | 04:51 | 05:18 | 05:42 | 18:24 | 18:47 | 19:14 |
| -20 | 04:29 | 04:58 | 05:23 | 18:42 | 19:07 | 19:36 |
| -30 | 04:00 | 04:34 | 05:01 | 19:04 | 19:31 | 20:05 |
| -35 | 03:42 | 04:19 | 04:48 | 19:17 | 19:47 | 20:23 |
| -40 | 03:19 | 04:01 | 04:33 | 19:32 | 20:04 | 20:46 |
| -45 | 02:49 | 03:38 | 04:16 | 19:49 | 20:27 | 21:16 |
| -50 | 02:04 | 03:09 | 03:53 | 20:12 | 20:56 | 22:00 |
| -52 | 01:38 | 02:54 | 03:43 | 20:22 | 21:11 | 22:26 |
| -54 | 00:55 | 02:37 | 03:31 | 20:34 | 21:28 | 23:08 |
| -56 | //// | 02:15 | 03:17 | 20:48 | 21:49 | //// |
| -58 | //// | 01:46 | 03:00 | 21:05 | 22:18 | //// |
| -60 | //// | 01:00 | 02:40 | 21:24 | 23:03 | //// |

| | Moonrise | | | Moonset | | |
|---|---|---|---|---|---|---|
| Lat | **30** | **31** | **01** | **30** | **31** | **01** |
| 72 | ▭ | ▭ | ▭ | ▭ | ▭ | ▭ |
| 70 | 08:43 | ▭ | ▭ | 06:48 | ▭ | ▭ |
| 68 | 09:47 | ▭ | ▭ | 05:46 | ▭ | ▭ |
| 66 | 10:23 | ▭ | ▭ | 05:11 | ▭ | ▭ |
| 64 | 10:49 | 10:25 | ▭ | 04:46 | 07:12 | ▭ |
| 62 | 11:09 | 11:04 | 10:58 | 04:27 | 06:34 | 08:53 |
| 60 | 11:26 | 11:32 | 11:50 | 04:11 | 06:07 | 08:02 |
| 58 | 11:40 | 11:54 | 12:21 | 03:58 | 05:45 | 07:31 |
| 56 | 11:52 | 12:12 | 12:45 | 03:47 | 05:28 | 07:07 |
| 54 | 12:03 | 12:27 | 13:05 | 03:37 | 05:14 | 06:48 |
| 52 | 12:13 | 12:40 | 13:21 | 03:28 | 05:01 | 06:32 |
| 50 | 12:21 | 12:52 | 13:36 | 03:20 | 04:50 | 06:18 |
| 45 | 12:40 | 13:16 | 14:05 | 03:03 | 04:27 | 05:49 |
| 40 | 12:55 | 13:35 | 14:27 | 02:50 | 04:08 | 05:27 |
| 35 | 13:08 | 13:52 | 14:46 | 02:38 | 03:53 | 05:09 |
| 30 | 13:19 | 14:06 | 15:03 | 02:28 | 03:40 | 04:53 |
| 20 | 13:38 | 14:30 | 15:30 | 02:11 | 03:17 | 04:26 |
| 10 | 13:55 | 14:52 | 15:54 | 01:56 | 02:57 | 04:03 |
| 0 | 14:11 | 15:11 | 16:16 | 01:42 | 02:39 | 03:42 |
| -10 | 14:27 | 15:31 | 16:39 | 01:28 | 02:21 | 03:20 |
| -20 | 14:45 | 15:53 | 17:03 | 01:13 | 02:02 | 02:58 |
| -30 | 15:05 | 16:18 | 17:31 | 00:57 | 01:40 | 02:31 |
| -35 | 15:17 | 16:33 | 17:48 | 00:47 | 01:27 | 02:16 |
| -40 | 15:31 | 16:50 | 18:07 | 00:36 | 01:12 | 01:58 |
| -45 | 15:47 | 17:11 | 18:31 | 00:23 | 00:54 | 01:36 |
| -50 | 16:07 | 17:38 | 19:01 | 00:07 | 00:32 | 01:08 |
| -52 | 16:17 | 17:51 | 19:16 | 00:00 | 00:22 | 00:55 |
| -54 | 16:28 | 18:05 | 19:34 | –:– | 00:11 | 00:40 |
| -56 | 16:40 | 18:23 | 19:55 | 23:57 | –:– | 00:22 |
| -58 | 16:55 | 18:44 | 20:23 | 23:42 | –:– | 00:00 |
| -60 | 17:12 | 19:11 | 21:01 | 23:24 | 23:33 | –:– |

| | Sun | | | Moon | | | |
|---|---|---|---|---|---|---|---|
| | EoT | | | MP | | | |
| d | 00h | 12h | MP | Upper | Lower | Age | Ph |
| **30** | 02:23 | 02:37 | 12:03 | 20:25 | 07:56 | 10 | 74 |
| **31** | 02:51 | 03:06 | 12:03 | 21:26 | 08:55 | 11 | 84 |
| **01** | 03:20 | 03:34 | 12:04 | 22:32 | 09:59 | 12 | 92 |

| m 0 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 0 0.0 | 0 0.0 | 0 0.0 | 0.0 | 0.0 | 6.0 | 0.1 | 12.0 | 0.1 |
| 1 | 0 0.3 | 0 0.3 | 0 0.2 | 0.1 | 0.0 | 6.1 | 0.1 | 12.1 | 0.1 |
| 2 | 0 0.5 | 0 0.5 | 0 0.5 | 0.2 | 0.0 | 6.2 | 0.1 | 12.2 | 0.1 |
| 3 | 0 0.8 | 0 0.8 | 0 0.7 | 0.3 | 0.0 | 6.3 | 0.1 | 12.3 | 0.1 |
| 4 | 0 1.0 | 0 1.0 | 0 1.0 | 0.4 | 0.0 | 6.4 | 0.1 | 12.4 | 0.1 |
| 5 | 0 1.3 | 0 1.3 | 0 1.2 | 0.5 | 0.0 | 6.5 | 0.1 | 12.5 | 0.1 |
| 6 | 0 1.5 | 0 1.5 | 0 1.4 | 0.6 | 0.0 | 6.6 | 0.1 | 12.6 | 0.1 |
| 7 | 0 1.8 | 0 1.8 | 0 1.7 | 0.7 | 0.0 | 6.7 | 0.1 | 12.7 | 0.1 |
| 8 | 0 2.0 | 0 2.0 | 0 1.9 | 0.8 | 0.0 | 6.8 | 0.1 | 12.8 | 0.1 |
| 9 | 0 2.3 | 0 2.3 | 0 2.1 | 0.9 | 0.0 | 6.9 | 0.1 | 12.9 | 0.1 |
| 10 | 0 2.5 | 0 2.5 | 0 2.4 | 1.0 | 0.0 | 7.0 | 0.1 | 13.0 | 0.1 |
| 11 | 0 2.8 | 0 2.8 | 0 2.6 | 1.1 | 0.0 | 7.1 | 0.1 | 13.1 | 0.1 |
| 12 | 0 3.0 | 0 3.0 | 0 2.9 | 1.2 | 0.0 | 7.2 | 0.1 | 13.2 | 0.1 |
| 13 | 0 3.3 | 0 3.3 | 0 3.1 | 1.3 | 0.0 | 7.3 | 0.1 | 13.3 | 0.1 |
| 14 | 0 3.5 | 0 3.5 | 0 3.3 | 1.4 | 0.0 | 7.4 | 0.1 | 13.4 | 0.1 |
| 15 | 0 3.8 | 0 3.8 | 0 3.6 | 1.5 | 0.0 | 7.5 | 0.1 | 13.5 | 0.1 |
| 16 | 0 4.0 | 0 4.0 | 0 3.8 | 1.6 | 0.0 | 7.6 | 0.1 | 13.6 | 0.1 |
| 17 | 0 4.3 | 0 4.3 | 0 4.1 | 1.7 | 0.0 | 7.7 | 0.1 | 13.7 | 0.1 |
| 18 | 0 4.5 | 0 4.5 | 0 4.3 | 1.8 | 0.0 | 7.8 | 0.1 | 13.8 | 0.1 |
| 19 | 0 4.8 | 0 4.8 | 0 4.5 | 1.9 | 0.0 | 7.9 | 0.1 | 13.9 | 0.1 |
| 20 | 0 5.0 | 0 5.0 | 0 4.8 | 2.0 | 0.0 | 8.0 | 0.1 | 14.0 | 0.1 |
| 21 | 0 5.3 | 0 5.3 | 0 5.0 | 2.1 | 0.0 | 8.1 | 0.1 | 14.1 | 0.1 |
| 22 | 0 5.5 | 0 5.5 | 0 5.2 | 2.2 | 0.0 | 8.2 | 0.1 | 14.2 | 0.1 |
| 23 | 0 5.8 | 0 5.8 | 0 5.5 | 2.3 | 0.0 | 8.3 | 0.1 | 14.3 | 0.1 |
| 24 | 0 6.0 | 0 6.0 | 0 5.7 | 2.4 | 0.0 | 8.4 | 0.1 | 14.4 | 0.1 |
| 25 | 0 6.3 | 0 6.3 | 0 6.0 | 2.5 | 0.0 | 8.5 | 0.1 | 14.5 | 0.1 |
| 26 | 0 6.5 | 0 6.5 | 0 6.2 | 2.6 | 0.0 | 8.6 | 0.1 | 14.6 | 0.1 |
| 27 | 0 6.8 | 0 6.8 | 0 6.4 | 2.7 | 0.0 | 8.7 | 0.1 | 14.7 | 0.1 |
| 28 | 0 7.0 | 0 7.0 | 0 6.7 | 2.8 | 0.0 | 8.8 | 0.1 | 14.8 | 0.1 |
| 29 | 0 7.3 | 0 7.3 | 0 6.9 | 2.9 | 0.0 | 8.9 | 0.1 | 14.9 | 0.1 |
| 30 | 0 7.5 | 0 7.5 | 0 7.2 | 3.0 | 0.0 | 9.0 | 0.1 | 15.0 | 0.1 |
| 31 | 0 7.8 | 0 7.8 | 0 7.4 | 3.1 | 0.0 | 9.1 | 0.1 | 15.1 | 0.1 |
| 32 | 0 8.0 | 0 8.0 | 0 7.6 | 3.2 | 0.0 | 9.2 | 0.1 | 15.2 | 0.1 |
| 33 | 0 8.3 | 0 8.3 | 0 7.9 | 3.3 | 0.0 | 9.3 | 0.1 | 15.3 | 0.1 |
| 34 | 0 8.5 | 0 8.5 | 0 8.1 | 3.4 | 0.0 | 9.4 | 0.1 | 15.4 | 0.1 |
| 35 | 0 8.8 | 0 8.8 | 0 8.4 | 3.5 | 0.0 | 9.5 | 0.1 | 15.5 | 0.1 |
| 36 | 0 9.0 | 0 9.0 | 0 8.6 | 3.6 | 0.0 | 9.6 | 0.1 | 15.6 | 0.1 |
| 37 | 0 9.3 | 0 9.3 | 0 8.8 | 3.7 | 0.0 | 9.7 | 0.1 | 15.7 | 0.1 |
| 38 | 0 9.5 | 0 9.5 | 0 9.1 | 3.8 | 0.0 | 9.8 | 0.1 | 15.8 | 0.1 |
| 39 | 0 9.8 | 0 9.8 | 0 9.3 | 3.9 | 0.0 | 9.9 | 0.1 | 15.9 | 0.1 |
| 40 | 0 10.0 | 0 10.0 | 0 9.5 | 4.0 | 0.0 | 10.0 | 0.1 | 16.0 | 0.1 |
| 41 | 0 10.3 | 0 10.3 | 0 9.8 | 4.1 | 0.0 | 10.1 | 0.1 | 16.1 | 0.1 |
| 42 | 0 10.5 | 0 10.5 | 0 10.0 | 4.2 | 0.0 | 10.2 | 0.1 | 16.2 | 0.1 |
| 43 | 0 10.8 | 0 10.8 | 0 10.3 | 4.3 | 0.0 | 10.3 | 0.1 | 16.3 | 0.1 |
| 44 | 0 11.0 | 0 11.0 | 0 10.5 | 4.4 | 0.0 | 10.4 | 0.1 | 16.4 | 0.1 |
| 45 | 0 11.3 | 0 11.3 | 0 10.7 | 4.5 | 0.0 | 10.5 | 0.1 | 16.5 | 0.1 |
| 46 | 0 11.5 | 0 11.5 | 0 11.0 | 4.6 | 0.0 | 10.6 | 0.1 | 16.6 | 0.1 |
| 47 | 0 11.8 | 0 11.8 | 0 11.2 | 4.7 | 0.0 | 10.7 | 0.1 | 16.7 | 0.1 |
| 48 | 0 12.0 | 0 12.0 | 0 11.5 | 4.8 | 0.0 | 10.8 | 0.1 | 16.8 | 0.1 |
| 49 | 0 12.3 | 0 12.3 | 0 11.7 | 4.9 | 0.0 | 10.9 | 0.1 | 16.9 | 0.1 |
| 50 | 0 12.5 | 0 12.5 | 0 11.9 | 5.0 | 0.0 | 11.0 | 0.1 | 17.0 | 0.1 |
| 51 | 0 12.8 | 0 12.8 | 0 12.2 | 5.1 | 0.0 | 11.1 | 0.1 | 17.1 | 0.1 |
| 52 | 0 13.0 | 0 13.0 | 0 12.4 | 5.2 | 0.0 | 11.2 | 0.1 | 17.2 | 0.1 |
| 53 | 0 13.3 | 0 13.3 | 0 12.6 | 5.3 | 0.0 | 11.3 | 0.1 | 17.3 | 0.1 |
| 54 | 0 13.5 | 0 13.5 | 0 12.9 | 5.4 | 0.0 | 11.4 | 0.1 | 17.4 | 0.1 |
| 55 | 0 13.8 | 0 13.8 | 0 13.1 | 5.5 | 0.0 | 11.5 | 0.1 | 17.5 | 0.1 |
| 56 | 0 14.0 | 0 14.0 | 0 13.4 | 5.6 | 0.0 | 11.6 | 0.1 | 17.6 | 0.1 |
| 57 | 0 14.2 | 0 14.3 | 0 13.6 | 5.7 | 0.0 | 11.7 | 0.1 | 17.7 | 0.1 |
| 58 | 0 14.5 | 0 14.5 | 0 13.8 | 5.8 | 0.0 | 11.8 | 0.1 | 17.8 | 0.1 |
| 59 | 0 14.7 | 0 14.8 | 0 14.1 | 5.9 | 0.0 | 11.9 | 0.1 | 17.9 | 0.1 |
| 60 | 0 15.0 | 0 15.0 | 0 14.3 | 6.0 | 0.1 | 12.0 | 0.1 | 18.0 | 0.2 |

| m 1 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 0 15.0 | 0 15.0 | 0 14.3 | 0.0 | 0.0 | 6.0 | 0.2 | 12.0 | 0.3 |
| 1 | 0 15.3 | 0 15.3 | 0 14.6 | 0.1 | 0.0 | 6.1 | 0.2 | 12.1 | 0.3 |
| 2 | 0 15.5 | 0 15.5 | 0 14.8 | 0.2 | 0.0 | 6.2 | 0.2 | 12.2 | 0.3 |
| 3 | 0 15.8 | 0 15.8 | 0 15.0 | 0.3 | 0.0 | 6.3 | 0.2 | 12.3 | 0.3 |
| 4 | 0 16.0 | 0 16.0 | 0 15.3 | 0.4 | 0.0 | 6.4 | 0.2 | 12.4 | 0.3 |
| 5 | 0 16.3 | 0 16.3 | 0 15.5 | 0.5 | 0.0 | 6.5 | 0.2 | 12.5 | 0.3 |
| 6 | 0 16.5 | 0 16.5 | 0 15.7 | 0.6 | 0.0 | 6.6 | 0.2 | 12.6 | 0.3 |
| 7 | 0 16.8 | 0 16.8 | 0 16.0 | 0.7 | 0.0 | 6.7 | 0.2 | 12.7 | 0.3 |
| 8 | 0 17.0 | 0 17.0 | 0 16.2 | 0.8 | 0.0 | 6.8 | 0.2 | 12.8 | 0.3 |
| 9 | 0 17.3 | 0 17.3 | 0 16.5 | 0.9 | 0.0 | 6.9 | 0.2 | 12.9 | 0.3 |
| 10 | 0 17.5 | 0 17.5 | 0 16.7 | 1.0 | 0.0 | 7.0 | 0.2 | 13.0 | 0.3 |
| 11 | 0 17.8 | 0 17.8 | 0 16.9 | 1.1 | 0.0 | 7.1 | 0.2 | 13.1 | 0.3 |
| 12 | 0 18.0 | 0 18.0 | 0 17.2 | 1.2 | 0.0 | 7.2 | 0.2 | 13.2 | 0.3 |
| 13 | 0 18.3 | 0 18.3 | 0 17.4 | 1.3 | 0.0 | 7.3 | 0.2 | 13.3 | 0.3 |
| 14 | 0 18.5 | 0 18.6 | 0 17.7 | 1.4 | 0.0 | 7.4 | 0.2 | 13.4 | 0.3 |
| 15 | 0 18.8 | 0 18.8 | 0 17.9 | 1.5 | 0.0 | 7.5 | 0.2 | 13.5 | 0.3 |
| 16 | 0 19.0 | 0 19.1 | 0 18.1 | 1.6 | 0.0 | 7.6 | 0.2 | 13.6 | 0.3 |
| 17 | 0 19.3 | 0 19.3 | 0 18.4 | 1.7 | 0.0 | 7.7 | 0.2 | 13.7 | 0.3 |
| 18 | 0 19.5 | 0 19.6 | 0 18.6 | 1.8 | 0.0 | 7.8 | 0.2 | 13.8 | 0.3 |
| 19 | 0 19.8 | 0 19.8 | 0 18.9 | 1.9 | 0.0 | 7.9 | 0.2 | 13.9 | 0.3 |
| 20 | 0 20.0 | 0 20.1 | 0 19.1 | 2.0 | 0.1 | 8.0 | 0.2 | 14.0 | 0.4 |
| 21 | 0 20.3 | 0 20.3 | 0 19.3 | 2.1 | 0.1 | 8.1 | 0.2 | 14.1 | 0.4 |
| 22 | 0 20.5 | 0 20.6 | 0 19.6 | 2.2 | 0.1 | 8.2 | 0.2 | 14.2 | 0.4 |
| 23 | 0 20.8 | 0 20.8 | 0 19.8 | 2.3 | 0.1 | 8.3 | 0.2 | 14.3 | 0.4 |
| 24 | 0 21.0 | 0 21.1 | 0 20.0 | 2.4 | 0.1 | 8.4 | 0.2 | 14.4 | 0.4 |
| 25 | 0 21.3 | 0 21.3 | 0 20.3 | 2.5 | 0.1 | 8.5 | 0.2 | 14.5 | 0.4 |
| 26 | 0 21.5 | 0 21.6 | 0 20.5 | 2.6 | 0.1 | 8.6 | 0.2 | 14.6 | 0.4 |
| 27 | 0 21.8 | 0 21.8 | 0 20.8 | 2.7 | 0.1 | 8.7 | 0.2 | 14.7 | 0.4 |
| 28 | 0 22.0 | 0 22.1 | 0 21.0 | 2.8 | 0.1 | 8.8 | 0.2 | 14.8 | 0.4 |
| 29 | 0 22.3 | 0 22.3 | 0 21.2 | 2.9 | 0.1 | 8.9 | 0.2 | 14.9 | 0.4 |
| 30 | 0 22.5 | 0 22.6 | 0 21.5 | 3.0 | 0.1 | 9.0 | 0.2 | 15.0 | 0.4 |
| 31 | 0 22.8 | 0 22.8 | 0 21.7 | 3.1 | 0.1 | 9.1 | 0.2 | 15.1 | 0.4 |
| 32 | 0 23.0 | 0 23.1 | 0 22.0 | 3.2 | 0.1 | 9.2 | 0.2 | 15.2 | 0.4 |
| 33 | 0 23.3 | 0 23.3 | 0 22.2 | 3.3 | 0.1 | 9.3 | 0.2 | 15.3 | 0.4 |
| 34 | 0 23.5 | 0 23.6 | 0 22.4 | 3.4 | 0.1 | 9.4 | 0.2 | 15.4 | 0.4 |
| 35 | 0 23.8 | 0 23.8 | 0 22.7 | 3.5 | 0.1 | 9.5 | 0.2 | 15.5 | 0.4 |
| 36 | 0 24.0 | 0 24.1 | 0 22.9 | 3.6 | 0.1 | 9.6 | 0.2 | 15.6 | 0.4 |
| 37 | 0 24.3 | 0 24.3 | 0 23.1 | 3.7 | 0.1 | 9.7 | 0.2 | 15.7 | 0.4 |
| 38 | 0 24.5 | 0 24.6 | 0 23.4 | 3.8 | 0.1 | 9.8 | 0.2 | 15.8 | 0.4 |
| 39 | 0 24.8 | 0 24.8 | 0 23.6 | 3.9 | 0.1 | 9.9 | 0.2 | 15.9 | 0.4 |
| 40 | 0 25.0 | 0 25.1 | 0 23.9 | 4.0 | 0.1 | 10.0 | 0.3 | 16.0 | 0.4 |
| 41 | 0 25.3 | 0 25.3 | 0 24.1 | 4.1 | 0.1 | 10.1 | 0.3 | 16.1 | 0.4 |
| 42 | 0 25.5 | 0 25.6 | 0 24.3 | 4.2 | 0.1 | 10.2 | 0.3 | 16.2 | 0.4 |
| 43 | 0 25.8 | 0 25.8 | 0 24.6 | 4.3 | 0.1 | 10.3 | 0.3 | 16.3 | 0.4 |
| 44 | 0 26.0 | 0 26.1 | 0 24.8 | 4.4 | 0.1 | 10.4 | 0.3 | 16.4 | 0.4 |
| 45 | 0 26.3 | 0 26.3 | 0 25.1 | 4.5 | 0.1 | 10.5 | 0.3 | 16.5 | 0.4 |
| 46 | 0 26.5 | 0 26.6 | 0 25.3 | 4.6 | 0.1 | 10.6 | 0.3 | 16.6 | 0.4 |
| 47 | 0 26.8 | 0 26.8 | 0 25.5 | 4.7 | 0.1 | 10.7 | 0.3 | 16.7 | 0.4 |
| 48 | 0 27.0 | 0 27.1 | 0 25.8 | 4.8 | 0.1 | 10.8 | 0.3 | 16.8 | 0.4 |
| 49 | 0 27.3 | 0 27.3 | 0 26.0 | 4.9 | 0.1 | 10.9 | 0.3 | 16.9 | 0.4 |
| 50 | 0 27.5 | 0 27.6 | 0 26.2 | 5.0 | 0.1 | 11.0 | 0.3 | 17.0 | 0.4 |
| 51 | 0 27.8 | 0 27.8 | 0 26.5 | 5.1 | 0.1 | 11.1 | 0.3 | 17.1 | 0.4 |
| 52 | 0 28.0 | 0 28.1 | 0 26.7 | 5.2 | 0.1 | 11.2 | 0.3 | 17.2 | 0.4 |
| 53 | 0 28.3 | 0 28.3 | 0 27.0 | 5.3 | 0.1 | 11.3 | 0.3 | 17.3 | 0.4 |
| 54 | 0 28.5 | 0 28.6 | 0 27.2 | 5.4 | 0.1 | 11.4 | 0.3 | 17.4 | 0.4 |
| 55 | 0 28.7 | 0 28.8 | 0 27.4 | 5.5 | 0.1 | 11.5 | 0.3 | 17.5 | 0.4 |
| 56 | 0 29.0 | 0 29.1 | 0 27.7 | 5.6 | 0.1 | 11.6 | 0.3 | 17.6 | 0.4 |
| 57 | 0 29.3 | 0 29.3 | 0 27.9 | 5.7 | 0.1 | 11.7 | 0.3 | 17.7 | 0.4 |
| 58 | 0 29.5 | 0 29.6 | 0 28.2 | 5.8 | 0.1 | 11.8 | 0.3 | 17.8 | 0.4 |
| 59 | 0 29.7 | 0 29.8 | 0 28.4 | 5.9 | 0.1 | 11.9 | 0.3 | 17.9 | 0.4 |
| 60 | 0 30.0 | 0 30.1 | 0 28.6 | 6.0 | 0.2 | 12.0 | 0.3 | 18.0 | 0.5 |

| m 2 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 0 30.0 | 0 30.1 | 0 28.6 | 0.0 | 0.0 | 6.0 | 0.3 | 12.0 | 0.5 |
| 1 | 0 30.3 | 0 30.3 | 0 28.9 | 0.1 | 0.0 | 6.1 | 0.3 | 12.1 | 0.5 |
| 2 | 0 30.5 | 0 30.6 | 0 29.1 | 0.2 | 0.0 | 6.2 | 0.3 | 12.2 | 0.5 |
| 3 | 0 30.7 | 0 30.8 | 0 29.3 | 0.3 | 0.0 | 6.3 | 0.3 | 12.3 | 0.5 |
| 4 | 0 31.0 | 0 31.1 | 0 29.6 | 0.4 | 0.0 | 6.4 | 0.3 | 12.4 | 0.5 |
| 5 | 0 31.3 | 0 31.3 | 0 29.8 | 0.5 | 0.0 | 6.5 | 0.3 | 12.5 | 0.5 |
| 6 | 0 31.5 | 0 31.6 | 0 30.1 | 0.6 | 0.0 | 6.6 | 0.3 | 12.6 | 0.5 |
| 7 | 0 31.8 | 0 31.8 | 0 30.3 | 0.7 | 0.0 | 6.7 | 0.3 | 12.7 | 0.5 |
| 8 | 0 32.0 | 0 32.1 | 0 30.5 | 0.8 | 0.0 | 6.8 | 0.3 | 12.8 | 0.5 |
| 9 | 0 32.3 | 0 32.3 | 0 30.8 | 0.9 | 0.0 | 6.9 | 0.3 | 12.9 | 0.5 |
| 10 | 0 32.5 | 0 32.6 | 0 31.0 | 1.0 | 0.0 | 7.0 | 0.3 | 13.0 | 0.5 |
| 11 | 0 32.8 | 0 32.8 | 0 31.3 | 1.1 | 0.0 | 7.1 | 0.3 | 13.1 | 0.5 |
| 12 | 0 33.0 | 0 33.1 | 0 31.5 | 1.2 | 0.0 | 7.2 | 0.3 | 13.2 | 0.5 |
| 13 | 0 33.3 | 0 33.3 | 0 31.7 | 1.3 | 0.1 | 7.3 | 0.3 | 13.3 | 0.6 |
| 14 | 0 33.5 | 0 33.6 | 0 32.0 | 1.4 | 0.1 | 7.4 | 0.3 | 13.4 | 0.6 |
| 15 | 0 33.8 | 0 33.8 | 0 32.2 | 1.5 | 0.1 | 7.5 | 0.3 | 13.5 | 0.6 |
| 16 | 0 34.0 | 0 34.1 | 0 32.5 | 1.6 | 0.1 | 7.6 | 0.3 | 13.6 | 0.6 |
| 17 | 0 34.3 | 0 34.3 | 0 32.7 | 1.7 | 0.1 | 7.7 | 0.3 | 13.7 | 0.6 |
| 18 | 0 34.5 | 0 34.6 | 0 32.9 | 1.8 | 0.1 | 7.8 | 0.3 | 13.8 | 0.6 |
| 19 | 0 34.8 | 0 34.8 | 0 33.2 | 1.9 | 0.1 | 7.9 | 0.3 | 13.9 | 0.6 |
| 20 | 0 35.0 | 0 35.1 | 0 33.4 | 2.0 | 0.1 | 8.0 | 0.3 | 14.0 | 0.6 |
| 21 | 0 35.3 | 0 35.3 | 0 33.6 | 2.1 | 0.1 | 8.1 | 0.3 | 14.1 | 0.6 |
| 22 | 0 35.5 | 0 35.6 | 0 33.9 | 2.2 | 0.1 | 8.2 | 0.3 | 14.2 | 0.6 |
| 23 | 0 35.8 | 0 35.8 | 0 34.1 | 2.3 | 0.1 | 8.3 | 0.3 | 14.3 | 0.6 |
| 24 | 0 36.0 | 0 36.1 | 0 34.4 | 2.4 | 0.1 | 8.4 | 0.4 | 14.4 | 0.6 |
| 25 | 0 36.3 | 0 36.3 | 0 34.6 | 2.5 | 0.1 | 8.5 | 0.4 | 14.5 | 0.6 |
| 26 | 0 36.5 | 0 36.6 | 0 34.8 | 2.6 | 0.1 | 8.6 | 0.4 | 14.6 | 0.6 |
| 27 | 0 36.8 | 0 36.9 | 0 35.1 | 2.7 | 0.1 | 8.7 | 0.4 | 14.7 | 0.6 |
| 28 | 0 37.0 | 0 37.1 | 0 35.3 | 2.8 | 0.1 | 8.8 | 0.4 | 14.8 | 0.6 |
| 29 | 0 37.3 | 0 37.4 | 0 35.6 | 2.9 | 0.1 | 8.9 | 0.4 | 14.9 | 0.6 |
| 30 | 0 37.5 | 0 37.6 | 0 35.8 | 3.0 | 0.1 | 9.0 | 0.4 | 15.0 | 0.6 |
| 31 | 0 37.8 | 0 37.9 | 0 36.0 | 3.1 | 0.1 | 9.1 | 0.4 | 15.1 | 0.6 |
| 32 | 0 38.0 | 0 38.1 | 0 36.3 | 3.2 | 0.1 | 9.2 | 0.4 | 15.2 | 0.6 |
| 33 | 0 38.3 | 0 38.4 | 0 36.5 | 3.3 | 0.1 | 9.3 | 0.4 | 15.3 | 0.6 |
| 34 | 0 38.5 | 0 38.6 | 0 36.7 | 3.4 | 0.1 | 9.4 | 0.4 | 15.4 | 0.6 |
| 35 | 0 38.8 | 0 38.9 | 0 37.0 | 3.5 | 0.1 | 9.5 | 0.4 | 15.5 | 0.6 |
| 36 | 0 39.0 | 0 39.1 | 0 37.2 | 3.6 | 0.2 | 9.6 | 0.4 | 15.6 | 0.6 |
| 37 | 0 39.3 | 0 39.4 | 0 37.5 | 3.7 | 0.2 | 9.7 | 0.4 | 15.7 | 0.7 |
| 38 | 0 39.5 | 0 39.6 | 0 37.7 | 3.8 | 0.2 | 9.8 | 0.4 | 15.8 | 0.7 |
| 39 | 0 39.8 | 0 39.9 | 0 37.9 | 3.9 | 0.2 | 9.9 | 0.4 | 15.9 | 0.7 |
| 40 | 0 40.0 | 0 40.1 | 0 38.2 | 4.0 | 0.2 | 10.0 | 0.4 | 16.0 | 0.7 |
| 41 | 0 40.3 | 0 40.4 | 0 38.4 | 4.1 | 0.2 | 10.1 | 0.4 | 16.1 | 0.7 |
| 42 | 0 40.5 | 0 40.6 | 0 38.7 | 4.2 | 0.2 | 10.2 | 0.4 | 16.2 | 0.7 |
| 43 | 0 40.8 | 0 40.9 | 0 38.9 | 4.3 | 0.2 | 10.3 | 0.4 | 16.3 | 0.7 |
| 44 | 0 41.0 | 0 41.1 | 0 39.1 | 4.4 | 0.2 | 10.4 | 0.4 | 16.4 | 0.7 |
| 45 | 0 41.3 | 0 41.4 | 0 39.4 | 4.5 | 0.2 | 10.5 | 0.4 | 16.5 | 0.7 |
| 46 | 0 41.5 | 0 41.6 | 0 39.6 | 4.6 | 0.2 | 10.6 | 0.4 | 16.6 | 0.7 |
| 47 | 0 41.8 | 0 41.9 | 0 39.8 | 4.7 | 0.2 | 10.7 | 0.4 | 16.7 | 0.7 |
| 48 | 0 42.0 | 0 42.1 | 0 40.1 | 4.8 | 0.2 | 10.8 | 0.5 | 16.8 | 0.7 |
| 49 | 0 42.3 | 0 42.4 | 0 40.3 | 4.9 | 0.2 | 10.9 | 0.5 | 16.9 | 0.7 |
| 50 | 0 42.5 | 0 42.6 | 0 40.6 | 5.0 | 0.2 | 11.0 | 0.5 | 17.0 | 0.7 |
| 51 | 0 42.8 | 0 42.9 | 0 40.8 | 5.1 | 0.2 | 11.1 | 0.5 | 17.1 | 0.7 |
| 52 | 0 43.0 | 0 43.1 | 0 41.0 | 5.2 | 0.2 | 11.2 | 0.5 | 17.2 | 0.7 |
| 53 | 0 43.3 | 0 43.4 | 0 41.3 | 5.3 | 0.2 | 11.3 | 0.5 | 17.3 | 0.7 |
| 54 | 0 43.5 | 0 43.6 | 0 41.5 | 5.4 | 0.2 | 11.4 | 0.5 | 17.4 | 0.7 |
| 55 | 0 43.8 | 0 43.9 | 0 41.8 | 5.5 | 0.2 | 11.5 | 0.5 | 17.5 | 0.7 |
| 56 | 0 44.0 | 0 44.1 | 0 42.0 | 5.6 | 0.2 | 11.6 | 0.5 | 17.6 | 0.7 |
| 57 | 0 44.3 | 0 44.4 | 0 42.2 | 5.7 | 0.2 | 11.7 | 0.5 | 17.7 | 0.7 |
| 58 | 0 44.5 | 0 44.6 | 0 42.5 | 5.8 | 0.2 | 11.8 | 0.5 | 17.8 | 0.7 |
| 59 | 0 44.8 | 0 44.9 | 0 42.7 | 5.9 | 0.2 | 11.9 | 0.5 | 17.9 | 0.7 |
| 60 | 0 45.0 | 0 45.1 | 0 43.0 | 6.0 | 0.3 | 12.0 | 0.5 | 18.0 | 0.8 |

| m 3 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 0 45.0 | 0 45.1 | 0 43.0 | 0.0 | 0.0 | 6.0 | 0.4 | 12.0 | 0.7 |
| 1 | 0 45.3 | 0 45.4 | 0 43.2 | 0.1 | 0.0 | 6.1 | 0.4 | 12.1 | 0.7 |
| 2 | 0 45.5 | 0 45.6 | 0 43.4 | 0.2 | 0.0 | 6.2 | 0.4 | 12.2 | 0.7 |
| 3 | 0 45.8 | 0 45.9 | 0 43.7 | 0.3 | 0.0 | 6.3 | 0.4 | 12.3 | 0.7 |
| 4 | 0 46.0 | 0 46.1 | 0 43.9 | 0.4 | 0.0 | 6.4 | 0.4 | 12.4 | 0.7 |
| 5 | 0 46.3 | 0 46.4 | 0 44.1 | 0.5 | 0.0 | 6.5 | 0.4 | 12.5 | 0.7 |
| 6 | 0 46.5 | 0 46.6 | 0 44.4 | 0.6 | 0.0 | 6.6 | 0.4 | 12.6 | 0.7 |
| 7 | 0 46.8 | 0 46.9 | 0 44.6 | 0.7 | 0.0 | 6.7 | 0.4 | 12.7 | 0.7 |
| 8 | 0 47.0 | 0 47.1 | 0 44.9 | 0.8 | 0.0 | 6.8 | 0.4 | 12.8 | 0.7 |
| 9 | 0 47.3 | 0 47.4 | 0 45.1 | 0.9 | 0.1 | 6.9 | 0.4 | 12.9 | 0.8 |
| 10 | 0 47.5 | 0 47.6 | 0 45.3 | 1.0 | 0.1 | 7.0 | 0.4 | 13.0 | 0.8 |
| 11 | 0 47.8 | 0 47.9 | 0 45.6 | 1.1 | 0.1 | 7.1 | 0.4 | 13.1 | 0.8 |
| 12 | 0 48.0 | 0 48.1 | 0 45.8 | 1.2 | 0.1 | 7.2 | 0.4 | 13.2 | 0.8 |
| 13 | 0 48.3 | 0 48.4 | 0 46.1 | 1.3 | 0.1 | 7.3 | 0.4 | 13.3 | 0.8 |
| 14 | 0 48.5 | 0 48.6 | 0 46.3 | 1.4 | 0.1 | 7.4 | 0.4 | 13.4 | 0.8 |
| 15 | 0 48.8 | 0 48.9 | 0 46.5 | 1.5 | 0.1 | 7.5 | 0.4 | 13.5 | 0.8 |
| 16 | 0 49.0 | 0 49.1 | 0 46.8 | 1.6 | 0.1 | 7.6 | 0.4 | 13.6 | 0.8 |
| 17 | 0 49.3 | 0 49.4 | 0 47.0 | 1.7 | 0.1 | 7.7 | 0.4 | 13.7 | 0.8 |
| 18 | 0 49.5 | 0 49.6 | 0 47.2 | 1.8 | 0.1 | 7.8 | 0.5 | 13.8 | 0.8 |
| 19 | 0 49.8 | 0 49.9 | 0 47.5 | 1.9 | 0.1 | 7.9 | 0.5 | 13.9 | 0.8 |
| 20 | 0 50.0 | 0 50.1 | 0 47.7 | 2.0 | 0.1 | 8.0 | 0.5 | 14.0 | 0.8 |
| 21 | 0 50.3 | 0 50.4 | 0 48.0 | 2.1 | 0.1 | 8.1 | 0.5 | 14.1 | 0.8 |
| 22 | 0 50.5 | 0 50.6 | 0 48.2 | 2.2 | 0.1 | 8.2 | 0.5 | 14.2 | 0.8 |
| 23 | 0 50.8 | 0 50.9 | 0 48.4 | 2.3 | 0.1 | 8.3 | 0.5 | 14.3 | 0.8 |
| 24 | 0 51.0 | 0 51.1 | 0 48.7 | 2.4 | 0.1 | 8.4 | 0.5 | 14.4 | 0.8 |
| 25 | 0 51.3 | 0 51.4 | 0 48.9 | 2.5 | 0.1 | 8.5 | 0.5 | 14.5 | 0.8 |
| 26 | 0 51.5 | 0 51.6 | 0 49.2 | 2.6 | 0.2 | 8.6 | 0.5 | 14.6 | 0.9 |
| 27 | 0 51.8 | 0 51.9 | 0 49.4 | 2.7 | 0.2 | 8.7 | 0.5 | 14.7 | 0.9 |
| 28 | 0 52.0 | 0 52.1 | 0 49.6 | 2.8 | 0.2 | 8.8 | 0.5 | 14.8 | 0.9 |
| 29 | 0 52.3 | 0 52.4 | 0 49.9 | 2.9 | 0.2 | 8.9 | 0.5 | 14.9 | 0.9 |
| 30 | 0 52.5 | 0 52.6 | 0 50.1 | 3.0 | 0.2 | 9.0 | 0.5 | 15.0 | 0.9 |
| 31 | 0 52.8 | 0 52.9 | 0 50.3 | 3.1 | 0.2 | 9.1 | 0.5 | 15.1 | 0.9 |
| 32 | 0 53.0 | 0 53.1 | 0 50.6 | 3.2 | 0.2 | 9.2 | 0.5 | 15.2 | 0.9 |
| 33 | 0 53.3 | 0 53.4 | 0 50.8 | 3.3 | 0.2 | 9.3 | 0.5 | 15.3 | 0.9 |
| 34 | 0 53.5 | 0 53.6 | 0 51.1 | 3.4 | 0.2 | 9.4 | 0.5 | 15.4 | 0.9 |
| 35 | 0 53.8 | 0 53.9 | 0 51.3 | 3.5 | 0.2 | 9.5 | 0.6 | 15.5 | 0.9 |
| 36 | 0 54.0 | 0 54.1 | 0 51.5 | 3.6 | 0.2 | 9.6 | 0.6 | 15.6 | 0.9 |
| 37 | 0 54.3 | 0 54.4 | 0 51.8 | 3.7 | 0.2 | 9.7 | 0.6 | 15.7 | 0.9 |
| 38 | 0 54.5 | 0 54.6 | 0 52.0 | 3.8 | 0.2 | 9.8 | 0.6 | 15.8 | 0.9 |
| 39 | 0 54.8 | 0 54.9 | 0 52.3 | 3.9 | 0.2 | 9.9 | 0.6 | 15.9 | 0.9 |
| 40 | 0 55.0 | 0 55.2 | 0 52.5 | 4.0 | 0.2 | 10.0 | 0.6 | 16.0 | 0.9 |
| 41 | 0 55.3 | 0 55.4 | 0 52.7 | 4.1 | 0.2 | 10.1 | 0.6 | 16.1 | 0.9 |
| 42 | 0 55.5 | 0 55.7 | 0 53.0 | 4.2 | 0.2 | 10.2 | 0.6 | 16.2 | 0.9 |
| 43 | 0 55.8 | 0 55.9 | 0 53.2 | 4.3 | 0.3 | 10.3 | 0.6 | 16.3 | 1.0 |
| 44 | 0 56.0 | 0 56.2 | 0 53.4 | 4.4 | 0.3 | 10.4 | 0.6 | 16.4 | 1.0 |
| 45 | 0 56.3 | 0 56.4 | 0 53.7 | 4.5 | 0.3 | 10.5 | 0.6 | 16.5 | 1.0 |
| 46 | 0 56.5 | 0 56.7 | 0 53.9 | 4.6 | 0.3 | 10.6 | 0.6 | 16.6 | 1.0 |
| 47 | 0 56.8 | 0 56.9 | 0 54.2 | 4.7 | 0.3 | 10.7 | 0.6 | 16.7 | 1.0 |
| 48 | 0 57.0 | 0 57.2 | 0 54.4 | 4.8 | 0.3 | 10.8 | 0.6 | 16.8 | 1.0 |
| 49 | 0 57.3 | 0 57.4 | 0 54.6 | 4.9 | 0.3 | 10.9 | 0.6 | 16.9 | 1.0 |
| 50 | 0 57.5 | 0 57.7 | 0 54.9 | 5.0 | 0.3 | 11.0 | 0.6 | 17.0 | 1.0 |
| 51 | 0 57.7 | 0 57.9 | 0 55.1 | 5.1 | 0.3 | 11.1 | 0.6 | 17.1 | 1.0 |
| 52 | 0 58.0 | 0 58.2 | 0 55.4 | 5.2 | 0.3 | 11.2 | 0.7 | 17.2 | 1.0 |
| 53 | 0 58.3 | 0 58.4 | 0 55.6 | 5.3 | 0.3 | 11.3 | 0.7 | 17.3 | 1.0 |
| 54 | 0 58.5 | 0 58.7 | 0 55.8 | 5.4 | 0.3 | 11.4 | 0.7 | 17.4 | 1.0 |
| 55 | 0 58.8 | 0 58.9 | 0 56.1 | 5.5 | 0.3 | 11.5 | 0.7 | 17.5 | 1.0 |
| 56 | 0 59.0 | 0 59.2 | 0 56.3 | 5.6 | 0.3 | 11.6 | 0.7 | 17.6 | 1.0 |
| 57 | 0 59.3 | 0 59.4 | 0 56.6 | 5.7 | 0.3 | 11.7 | 0.7 | 17.7 | 1.0 |
| 58 | 0 59.5 | 0 59.7 | 0 56.8 | 5.8 | 0.3 | 11.8 | 0.7 | 17.8 | 1.0 |
| 59 | 0 59.8 | 0 59.9 | 0 57.0 | 5.9 | 0.3 | 11.9 | 0.7 | 17.9 | 1.0 |
| 60 | 1 0.0 | 1 0.2 | 0 57.3 | 6.0 | 0.4 | 12.0 | 0.7 | 18.0 | 1.1 |

| m 4 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 1 0.0 | 1 0.2 | 0 57.3 | 0.0 | 0.0 | 6.0 | 0.4 | 12.0 | 0.9 |
| 1 | 1 0.2 | 1 0.4 | 0 57.5 | 0.1 | 0.0 | 6.1 | 0.5 | 12.1 | 0.9 |
| 2 | 1 0.5 | 1 0.7 | 0 57.7 | 0.2 | 0.0 | 6.2 | 0.5 | 12.2 | 0.9 |
| 3 | 1 0.7 | 1 0.9 | 0 58.0 | 0.3 | 0.0 | 6.3 | 0.5 | 12.3 | 0.9 |
| 4 | 1 1.0 | 1 1.2 | 0 58.2 | 0.4 | 0.0 | 6.4 | 0.5 | 12.4 | 0.9 |
| 5 | 1 1.2 | 1 1.4 | 0 58.5 | 0.5 | 0.0 | 6.5 | 0.5 | 12.5 | 0.9 |
| 6 | 1 1.5 | 1 1.7 | 0 58.7 | 0.6 | 0.0 | 6.6 | 0.5 | 12.6 | 0.9 |
| 7 | 1 1.7 | 1 1.9 | 0 58.9 | 0.7 | 0.1 | 6.7 | 0.5 | 12.7 | 1.0 |
| 8 | 1 2.0 | 1 2.2 | 0 59.2 | 0.8 | 0.1 | 6.8 | 0.5 | 12.8 | 1.0 |
| 9 | 1 2.3 | 1 2.4 | 0 59.4 | 0.9 | 0.1 | 6.9 | 0.5 | 12.9 | 1.0 |
| 10 | 1 2.5 | 1 2.7 | 0 59.7 | 1.0 | 0.1 | 7.0 | 0.5 | 13.0 | 1.0 |
| 11 | 1 2.8 | 1 2.9 | 0 59.9 | 1.1 | 0.1 | 7.1 | 0.5 | 13.1 | 1.0 |
| 12 | 1 3.0 | 1 3.2 | 1 0.1 | 1.2 | 0.1 | 7.2 | 0.5 | 13.2 | 1.0 |
| 13 | 1 3.3 | 1 3.4 | 1 0.4 | 1.3 | 0.1 | 7.3 | 0.5 | 13.3 | 1.0 |
| 14 | 1 3.5 | 1 3.7 | 1 0.6 | 1.4 | 0.1 | 7.4 | 0.6 | 13.4 | 1.0 |
| 15 | 1 3.8 | 1 3.9 | 1 0.8 | 1.5 | 0.1 | 7.5 | 0.6 | 13.5 | 1.0 |
| 16 | 1 4.0 | 1 4.2 | 1 1.1 | 1.6 | 0.1 | 7.6 | 0.6 | 13.6 | 1.0 |
| 17 | 1 4.2 | 1 4.4 | 1 1.3 | 1.7 | 0.1 | 7.7 | 0.6 | 13.7 | 1.0 |
| 18 | 1 4.5 | 1 4.7 | 1 1.6 | 1.8 | 0.1 | 7.8 | 0.6 | 13.8 | 1.0 |
| 19 | 1 4.7 | 1 4.9 | 1 1.8 | 1.9 | 0.1 | 7.9 | 0.6 | 13.9 | 1.0 |
| 20 | 1 5.0 | 1 5.2 | 1 2.0 | 2.0 | 0.2 | 8.0 | 0.6 | 14.0 | 1.1 |
| 21 | 1 5.2 | 1 5.4 | 1 2.3 | 2.1 | 0.2 | 8.1 | 0.6 | 14.1 | 1.1 |
| 22 | 1 5.5 | 1 5.7 | 1 2.5 | 2.2 | 0.2 | 8.2 | 0.6 | 14.2 | 1.1 |
| 23 | 1 5.8 | 1 5.9 | 1 2.8 | 2.3 | 0.2 | 8.3 | 0.6 | 14.3 | 1.1 |
| 24 | 1 6.0 | 1 6.2 | 1 3.0 | 2.4 | 0.2 | 8.4 | 0.6 | 14.4 | 1.1 |
| 25 | 1 6.3 | 1 6.4 | 1 3.2 | 2.5 | 0.2 | 8.5 | 0.6 | 14.5 | 1.1 |
| 26 | 1 6.5 | 1 6.7 | 1 3.5 | 2.6 | 0.2 | 8.6 | 0.6 | 14.6 | 1.1 |
| 27 | 1 6.8 | 1 6.9 | 1 3.7 | 2.7 | 0.2 | 8.7 | 0.7 | 14.7 | 1.1 |
| 28 | 1 7.0 | 1 7.2 | 1 3.9 | 2.8 | 0.2 | 8.8 | 0.7 | 14.8 | 1.1 |
| 29 | 1 7.3 | 1 7.4 | 1 4.2 | 2.9 | 0.2 | 8.9 | 0.7 | 14.9 | 1.1 |
| 30 | 1 7.5 | 1 7.7 | 1 4.4 | 3.0 | 0.2 | 9.0 | 0.7 | 15.0 | 1.1 |
| 31 | 1 7.7 | 1 7.9 | 1 4.7 | 3.1 | 0.2 | 9.1 | 0.7 | 15.1 | 1.1 |
| 32 | 1 8.0 | 1 8.2 | 1 4.9 | 3.2 | 0.2 | 9.2 | 0.7 | 15.2 | 1.1 |
| 33 | 1 8.2 | 1 8.4 | 1 5.1 | 3.3 | 0.2 | 9.3 | 0.7 | 15.3 | 1.1 |
| 34 | 1 8.5 | 1 8.7 | 1 5.4 | 3.4 | 0.3 | 9.4 | 0.7 | 15.4 | 1.2 |
| 35 | 1 8.7 | 1 8.9 | 1 5.6 | 3.5 | 0.3 | 9.5 | 0.7 | 15.5 | 1.2 |
| 36 | 1 9.0 | 1 9.2 | 1 5.9 | 3.6 | 0.3 | 9.6 | 0.7 | 15.6 | 1.2 |
| 37 | 1 9.3 | 1 9.4 | 1 6.1 | 3.7 | 0.3 | 9.7 | 0.7 | 15.7 | 1.2 |
| 38 | 1 9.5 | 1 9.7 | 1 6.3 | 3.8 | 0.3 | 9.8 | 0.7 | 15.8 | 1.2 |
| 39 | 1 9.8 | 1 9.9 | 1 6.6 | 3.9 | 0.3 | 9.9 | 0.7 | 15.9 | 1.2 |
| 40 | 1 10.0 | 1 10.2 | 1 6.8 | 4.0 | 0.3 | 10.0 | 0.8 | 16.0 | 1.2 |
| 41 | 1 10.3 | 1 10.4 | 1 7.0 | 4.1 | 0.3 | 10.1 | 0.8 | 16.1 | 1.2 |
| 42 | 1 10.5 | 1 10.7 | 1 7.3 | 4.2 | 0.3 | 10.2 | 0.8 | 16.2 | 1.2 |
| 43 | 1 10.8 | 1 10.9 | 1 7.5 | 4.3 | 0.3 | 10.3 | 0.8 | 16.3 | 1.2 |
| 44 | 1 11.0 | 1 11.2 | 1 7.8 | 4.4 | 0.3 | 10.4 | 0.8 | 16.4 | 1.2 |
| 45 | 1 11.3 | 1 11.4 | 1 8.0 | 4.5 | 0.3 | 10.5 | 0.8 | 16.5 | 1.2 |
| 46 | 1 11.5 | 1 11.7 | 1 8.2 | 4.6 | 0.3 | 10.6 | 0.8 | 16.6 | 1.2 |
| 47 | 1 11.7 | 1 11.9 | 1 8.5 | 4.7 | 0.4 | 10.7 | 0.8 | 16.7 | 1.3 |
| 48 | 1 12.0 | 1 12.2 | 1 8.7 | 4.8 | 0.4 | 10.8 | 0.8 | 16.8 | 1.3 |
| 49 | 1 12.2 | 1 12.4 | 1 9.0 | 4.9 | 0.4 | 10.9 | 0.8 | 16.9 | 1.3 |
| 50 | 1 12.5 | 1 12.7 | 1 9.2 | 5.0 | 0.4 | 11.0 | 0.8 | 17.0 | 1.3 |
| 51 | 1 12.7 | 1 12.9 | 1 9.4 | 5.1 | 0.4 | 11.1 | 0.8 | 17.1 | 1.3 |
| 52 | 1 13.0 | 1 13.2 | 1 9.7 | 5.2 | 0.4 | 11.2 | 0.8 | 17.2 | 1.3 |
| 53 | 1 13.2 | 1 13.5 | 1 9.9 | 5.3 | 0.4 | 11.3 | 0.8 | 17.3 | 1.3 |
| 54 | 1 13.5 | 1 13.7 | 1 10.2 | 5.4 | 0.4 | 11.4 | 0.9 | 17.4 | 1.3 |
| 55 | 1 13.8 | 1 14.0 | 1 10.4 | 5.5 | 0.4 | 11.5 | 0.9 | 17.5 | 1.3 |
| 56 | 1 14.0 | 1 14.2 | 1 10.6 | 5.6 | 0.4 | 11.6 | 0.9 | 17.6 | 1.3 |
| 57 | 1 14.3 | 1 14.5 | 1 10.9 | 5.7 | 0.4 | 11.7 | 0.9 | 17.7 | 1.3 |
| 58 | 1 14.5 | 1 14.7 | 1 11.1 | 5.8 | 0.4 | 11.8 | 0.9 | 17.8 | 1.3 |
| 59 | 1 14.8 | 1 15.0 | 1 11.3 | 5.9 | 0.4 | 11.9 | 0.9 | 17.9 | 1.3 |
| 60 | 1 15.0 | 1 15.2 | 1 11.6 | 6.0 | 0.4 | 12.0 | 0.9 | 18.0 | 1.3 |

| m 5 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 1 15.0 | 1 15.2 | 1 11.6 | 0.0 | 0.0 | 6.0 | 0.5 | 12.0 | 1.1 |
| 1 | 1 15.3 | 1 15.5 | 1 11.8 | 0.1 | 0.0 | 6.1 | 0.6 | 12.1 | 1.1 |
| 2 | 1 15.5 | 1 15.7 | 1 12.1 | 0.2 | 0.0 | 6.2 | 0.6 | 12.2 | 1.1 |
| 3 | 1 15.7 | 1 16.0 | 1 12.3 | 0.3 | 0.0 | 6.3 | 0.6 | 12.3 | 1.1 |
| 4 | 1 16.0 | 1 16.2 | 1 12.5 | 0.4 | 0.0 | 6.4 | 0.6 | 12.4 | 1.1 |
| 5 | 1 16.2 | 1 16.5 | 1 12.8 | 0.5 | 0.0 | 6.5 | 0.6 | 12.5 | 1.1 |
| 6 | 1 16.5 | 1 16.7 | 1 13.0 | 0.6 | 0.1 | 6.6 | 0.6 | 12.6 | 1.2 |
| 7 | 1 16.7 | 1 17.0 | 1 13.3 | 0.7 | 0.1 | 6.7 | 0.6 | 12.7 | 1.2 |
| 8 | 1 17.0 | 1 17.2 | 1 13.5 | 0.8 | 0.1 | 6.8 | 0.6 | 12.8 | 1.2 |
| 9 | 1 17.3 | 1 17.5 | 1 13.7 | 0.9 | 0.1 | 6.9 | 0.6 | 12.9 | 1.2 |
| 10 | 1 17.5 | 1 17.7 | 1 14.0 | 1.0 | 0.1 | 7.0 | 0.6 | 13.0 | 1.2 |
| 11 | 1 17.8 | 1 18.0 | 1 14.2 | 1.1 | 0.1 | 7.1 | 0.7 | 13.1 | 1.2 |
| 12 | 1 18.0 | 1 18.2 | 1 14.4 | 1.2 | 0.1 | 7.2 | 0.7 | 13.2 | 1.2 |
| 13 | 1 18.3 | 1 18.5 | 1 14.7 | 1.3 | 0.1 | 7.3 | 0.7 | 13.3 | 1.2 |
| 14 | 1 18.5 | 1 18.7 | 1 14.9 | 1.4 | 0.1 | 7.4 | 0.7 | 13.4 | 1.2 |
| 15 | 1 18.8 | 1 19.0 | 1 15.2 | 1.5 | 0.1 | 7.5 | 0.7 | 13.5 | 1.2 |
| 16 | 1 19.0 | 1 19.2 | 1 15.4 | 1.6 | 0.1 | 7.6 | 0.7 | 13.6 | 1.2 |
| 17 | 1 19.3 | 1 19.5 | 1 15.6 | 1.7 | 0.2 | 7.7 | 0.7 | 13.7 | 1.3 |
| 18 | 1 19.5 | 1 19.7 | 1 15.9 | 1.8 | 0.2 | 7.8 | 0.7 | 13.8 | 1.3 |
| 19 | 1 19.7 | 1 20.0 | 1 16.1 | 1.9 | 0.2 | 7.9 | 0.7 | 13.9 | 1.3 |
| 20 | 1 20.0 | 1 20.2 | 1 16.4 | 2.0 | 0.2 | 8.0 | 0.7 | 14.0 | 1.3 |
| 21 | 1 20.2 | 1 20.5 | 1 16.6 | 2.1 | 0.2 | 8.1 | 0.7 | 14.1 | 1.3 |
| 22 | 1 20.5 | 1 20.7 | 1 16.8 | 2.2 | 0.2 | 8.2 | 0.8 | 14.2 | 1.3 |
| 23 | 1 20.8 | 1 21.0 | 1 17.1 | 2.3 | 0.2 | 8.3 | 0.8 | 14.3 | 1.3 |
| 24 | 1 21.0 | 1 21.2 | 1 17.3 | 2.4 | 0.2 | 8.4 | 0.8 | 14.4 | 1.3 |
| 25 | 1 21.3 | 1 21.5 | 1 17.5 | 2.5 | 0.2 | 8.5 | 0.8 | 14.5 | 1.3 |
| 26 | 1 21.5 | 1 21.7 | 1 17.8 | 2.6 | 0.2 | 8.6 | 0.8 | 14.6 | 1.3 |
| 27 | 1 21.8 | 1 22.0 | 1 18.0 | 2.7 | 0.2 | 8.7 | 0.8 | 14.7 | 1.3 |
| 28 | 1 22.0 | 1 22.2 | 1 18.3 | 2.8 | 0.3 | 8.8 | 0.8 | 14.8 | 1.4 |
| 29 | 1 22.3 | 1 22.5 | 1 18.5 | 2.9 | 0.3 | 8.9 | 0.8 | 14.9 | 1.4 |
| 30 | 1 22.5 | 1 22.7 | 1 18.7 | 3.0 | 0.3 | 9.0 | 0.8 | 15.0 | 1.4 |
| 31 | 1 22.8 | 1 23.0 | 1 19.0 | 3.1 | 0.3 | 9.1 | 0.8 | 15.1 | 1.4 |
| 32 | 1 23.0 | 1 23.2 | 1 19.2 | 3.2 | 0.3 | 9.2 | 0.8 | 15.2 | 1.4 |
| 33 | 1 23.2 | 1 23.5 | 1 19.5 | 3.3 | 0.3 | 9.3 | 0.9 | 15.3 | 1.4 |
| 34 | 1 23.5 | 1 23.7 | 1 19.7 | 3.4 | 0.3 | 9.4 | 0.9 | 15.4 | 1.4 |
| 35 | 1 23.7 | 1 24.0 | 1 19.9 | 3.5 | 0.3 | 9.5 | 0.9 | 15.5 | 1.4 |
| 36 | 1 24.0 | 1 24.2 | 1 20.2 | 3.6 | 0.3 | 9.6 | 0.9 | 15.6 | 1.4 |
| 37 | 1 24.3 | 1 24.5 | 1 20.4 | 3.7 | 0.3 | 9.7 | 0.9 | 15.7 | 1.4 |
| 38 | 1 24.5 | 1 24.7 | 1 20.7 | 3.8 | 0.3 | 9.8 | 0.9 | 15.8 | 1.4 |
| 39 | 1 24.8 | 1 25.0 | 1 20.9 | 3.9 | 0.4 | 9.9 | 0.9 | 15.9 | 1.5 |
| 40 | 1 25.0 | 1 25.2 | 1 21.1 | 4.0 | 0.4 | 10.0 | 0.9 | 16.0 | 1.5 |
| 41 | 1 25.3 | 1 25.5 | 1 21.4 | 4.1 | 0.4 | 10.1 | 0.9 | 16.1 | 1.5 |
| 42 | 1 25.5 | 1 25.7 | 1 21.6 | 4.2 | 0.4 | 10.2 | 0.9 | 16.2 | 1.5 |
| 43 | 1 25.8 | 1 26.0 | 1 21.8 | 4.3 | 0.4 | 10.3 | 0.9 | 16.3 | 1.5 |
| 44 | 1 26.0 | 1 26.2 | 1 22.1 | 4.4 | 0.4 | 10.4 | 1.0 | 16.4 | 1.5 |
| 45 | 1 26.3 | 1 26.5 | 1 22.3 | 4.5 | 0.4 | 10.5 | 1.0 | 16.5 | 1.5 |
| 46 | 1 26.5 | 1 26.7 | 1 22.6 | 4.6 | 0.4 | 10.6 | 1.0 | 16.6 | 1.5 |
| 47 | 1 26.8 | 1 27.0 | 1 22.8 | 4.7 | 0.4 | 10.7 | 1.0 | 16.7 | 1.5 |
| 48 | 1 27.0 | 1 27.2 | 1 23.0 | 4.8 | 0.4 | 10.8 | 1.0 | 16.8 | 1.5 |
| 49 | 1 27.2 | 1 27.5 | 1 23.3 | 4.9 | 0.4 | 10.9 | 1.0 | 16.9 | 1.5 |
| 50 | 1 27.5 | 1 27.7 | 1 23.5 | 5.0 | 0.5 | 11.0 | 1.0 | 17.0 | 1.6 |
| 51 | 1 27.7 | 1 28.0 | 1 23.8 | 5.1 | 0.5 | 11.1 | 1.0 | 17.1 | 1.6 |
| 52 | 1 28.0 | 1 28.2 | 1 24.0 | 5.2 | 0.5 | 11.2 | 1.0 | 17.2 | 1.6 |
| 53 | 1 28.2 | 1 28.5 | 1 24.2 | 5.3 | 0.5 | 11.3 | 1.0 | 17.3 | 1.6 |
| 54 | 1 28.5 | 1 28.7 | 1 24.5 | 5.4 | 0.5 | 11.4 | 1.0 | 17.4 | 1.6 |
| 55 | 1 28.8 | 1 29.0 | 1 24.7 | 5.5 | 0.5 | 11.5 | 1.1 | 17.5 | 1.6 |
| 56 | 1 29.0 | 1 29.2 | 1 24.9 | 5.6 | 0.5 | 11.6 | 1.1 | 17.6 | 1.6 |
| 57 | 1 29.3 | 1 29.5 | 1 25.2 | 5.7 | 0.5 | 11.7 | 1.1 | 17.7 | 1.6 |
| 58 | 1 29.5 | 1 29.7 | 1 25.4 | 5.8 | 0.5 | 11.8 | 1.1 | 17.8 | 1.6 |
| 59 | 1 29.8 | 1 30.0 | 1 25.7 | 5.9 | 0.5 | 11.9 | 1.1 | 17.9 | 1.6 |
| 60 | 1 30.0 | 1 30.2 | 1 25.9 | 6.0 | 0.5 | 12.0 | 1.1 | 18.0 | 1.7 |

| m 6 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 1 30.0 | 1 30.2 | 1 25.9 | 0.0 | 0.0 | 6.0 | 0.7 | 12.0 | 1.3 |
| 1 | 1 30.3 | 1 30.5 | 1 26.1 | 0.1 | 0.0 | 6.1 | 0.7 | 12.1 | 1.3 |
| 2 | 1 30.5 | 1 30.7 | 1 26.4 | 0.2 | 0.0 | 6.2 | 0.7 | 12.2 | 1.3 |
| 3 | 1 30.7 | 1 31.0 | 1 26.6 | 0.3 | 0.0 | 6.3 | 0.7 | 12.3 | 1.3 |
| 4 | 1 31.0 | 1 31.2 | 1 26.9 | 0.4 | 0.0 | 6.4 | 0.7 | 12.4 | 1.3 |
| 5 | 1 31.2 | 1 31.5 | 1 27.1 | 0.5 | 0.1 | 6.5 | 0.7 | 12.5 | 1.4 |
| 6 | 1 31.5 | 1 31.8 | 1 27.3 | 0.6 | 0.1 | 6.6 | 0.7 | 12.6 | 1.4 |
| 7 | 1 31.7 | 1 32.0 | 1 27.6 | 0.7 | 0.1 | 6.7 | 0.7 | 12.7 | 1.4 |
| 8 | 1 32.0 | 1 32.3 | 1 27.8 | 0.8 | 0.1 | 6.8 | 0.7 | 12.8 | 1.4 |
| 9 | 1 32.3 | 1 32.5 | 1 28.0 | 0.9 | 0.1 | 6.9 | 0.7 | 12.9 | 1.4 |
| 10 | 1 32.5 | 1 32.8 | 1 28.3 | 1.0 | 0.1 | 7.0 | 0.8 | 13.0 | 1.4 |
| 11 | 1 32.8 | 1 33.0 | 1 28.5 | 1.1 | 0.1 | 7.1 | 0.8 | 13.1 | 1.4 |
| 12 | 1 33.0 | 1 33.3 | 1 28.8 | 1.2 | 0.1 | 7.2 | 0.8 | 13.2 | 1.4 |
| 13 | 1 33.3 | 1 33.5 | 1 29.0 | 1.3 | 0.1 | 7.3 | 0.8 | 13.3 | 1.4 |
| 14 | 1 33.5 | 1 33.8 | 1 29.2 | 1.4 | 0.2 | 7.4 | 0.8 | 13.4 | 1.5 |
| 15 | 1 33.8 | 1 34.0 | 1 29.5 | 1.5 | 0.2 | 7.5 | 0.8 | 13.5 | 1.5 |
| 16 | 1 34.0 | 1 34.3 | 1 29.7 | 1.6 | 0.2 | 7.6 | 0.8 | 13.6 | 1.5 |
| 17 | 1 34.3 | 1 34.5 | 1 30.0 | 1.7 | 0.2 | 7.7 | 0.8 | 13.7 | 1.5 |
| 18 | 1 34.5 | 1 34.8 | 1 30.2 | 1.8 | 0.2 | 7.8 | 0.8 | 13.8 | 1.5 |
| 19 | 1 34.8 | 1 35.0 | 1 30.4 | 1.9 | 0.2 | 7.9 | 0.9 | 13.9 | 1.5 |
| 20 | 1 35.0 | 1 35.3 | 1 30.7 | 2.0 | 0.2 | 8.0 | 0.9 | 14.0 | 1.5 |
| 21 | 1 35.2 | 1 35.5 | 1 30.9 | 2.1 | 0.2 | 8.1 | 0.9 | 14.1 | 1.5 |
| 22 | 1 35.5 | 1 35.8 | 1 31.1 | 2.2 | 0.2 | 8.2 | 0.9 | 14.2 | 1.5 |
| 23 | 1 35.8 | 1 36.0 | 1 31.4 | 2.3 | 0.2 | 8.3 | 0.9 | 14.3 | 1.5 |
| 24 | 1 36.0 | 1 36.3 | 1 31.6 | 2.4 | 0.3 | 8.4 | 0.9 | 14.4 | 1.6 |
| 25 | 1 36.3 | 1 36.5 | 1 31.9 | 2.5 | 0.3 | 8.5 | 0.9 | 14.5 | 1.6 |
| 26 | 1 36.5 | 1 36.8 | 1 32.1 | 2.6 | 0.3 | 8.6 | 0.9 | 14.6 | 1.6 |
| 27 | 1 36.8 | 1 37.0 | 1 32.3 | 2.7 | 0.3 | 8.7 | 0.9 | 14.7 | 1.6 |
| 28 | 1 37.0 | 1 37.3 | 1 32.6 | 2.8 | 0.3 | 8.8 | 1.0 | 14.8 | 1.6 |
| 29 | 1 37.3 | 1 37.5 | 1 32.8 | 2.9 | 0.3 | 8.9 | 1.0 | 14.9 | 1.6 |
| 30 | 1 37.5 | 1 37.8 | 1 33.1 | 3.0 | 0.3 | 9.0 | 1.0 | 15.0 | 1.6 |
| 31 | 1 37.8 | 1 38.0 | 1 33.3 | 3.1 | 0.3 | 9.1 | 1.0 | 15.1 | 1.6 |
| 32 | 1 38.0 | 1 38.3 | 1 33.5 | 3.2 | 0.3 | 9.2 | 1.0 | 15.2 | 1.6 |
| 33 | 1 38.3 | 1 38.5 | 1 33.8 | 3.3 | 0.4 | 9.3 | 1.0 | 15.3 | 1.7 |
| 34 | 1 38.5 | 1 38.8 | 1 34.0 | 3.4 | 0.4 | 9.4 | 1.0 | 15.4 | 1.7 |
| 35 | 1 38.7 | 1 39.0 | 1 34.3 | 3.5 | 0.4 | 9.5 | 1.0 | 15.5 | 1.7 |
| 36 | 1 39.0 | 1 39.3 | 1 34.5 | 3.6 | 0.4 | 9.6 | 1.0 | 15.6 | 1.7 |
| 37 | 1 39.3 | 1 39.5 | 1 34.7 | 3.7 | 0.4 | 9.7 | 1.1 | 15.7 | 1.7 |
| 38 | 1 39.5 | 1 39.8 | 1 35.0 | 3.8 | 0.4 | 9.8 | 1.1 | 15.8 | 1.7 |
| 39 | 1 39.8 | 1 40.0 | 1 35.2 | 3.9 | 0.4 | 9.9 | 1.1 | 15.9 | 1.7 |
| 40 | 1 40.0 | 1 40.3 | 1 35.4 | 4.0 | 0.4 | 10.0 | 1.1 | 16.0 | 1.7 |
| 41 | 1 40.3 | 1 40.5 | 1 35.7 | 4.1 | 0.4 | 10.1 | 1.1 | 16.1 | 1.7 |
| 42 | 1 40.5 | 1 40.8 | 1 35.9 | 4.2 | 0.5 | 10.2 | 1.1 | 16.2 | 1.8 |
| 43 | 1 40.8 | 1 41.0 | 1 36.2 | 4.3 | 0.5 | 10.3 | 1.1 | 16.3 | 1.8 |
| 44 | 1 41.0 | 1 41.3 | 1 36.4 | 4.4 | 0.5 | 10.4 | 1.1 | 16.4 | 1.8 |
| 45 | 1 41.3 | 1 41.5 | 1 36.6 | 4.5 | 0.5 | 10.5 | 1.1 | 16.5 | 1.8 |
| 46 | 1 41.5 | 1 41.8 | 1 36.9 | 4.6 | 0.5 | 10.6 | 1.1 | 16.6 | 1.8 |
| 47 | 1 41.8 | 1 42.0 | 1 37.1 | 4.7 | 0.5 | 10.7 | 1.2 | 16.7 | 1.8 |
| 48 | 1 42.0 | 1 42.3 | 1 37.4 | 4.8 | 0.5 | 10.8 | 1.2 | 16.8 | 1.8 |
| 49 | 1 42.3 | 1 42.5 | 1 37.6 | 4.9 | 0.5 | 10.9 | 1.2 | 16.9 | 1.8 |
| 50 | 1 42.5 | 1 42.8 | 1 37.8 | 5.0 | 0.5 | 11.0 | 1.2 | 17.0 | 1.8 |
| 51 | 1 42.7 | 1 43.0 | 1 38.1 | 5.1 | 0.6 | 11.1 | 1.2 | 17.1 | 1.9 |
| 52 | 1 43.0 | 1 43.3 | 1 38.3 | 5.2 | 0.6 | 11.2 | 1.2 | 17.2 | 1.9 |
| 53 | 1 43.2 | 1 43.5 | 1 38.5 | 5.3 | 0.6 | 11.3 | 1.2 | 17.3 | 1.9 |
| 54 | 1 43.5 | 1 43.8 | 1 38.8 | 5.4 | 0.6 | 11.4 | 1.2 | 17.4 | 1.9 |
| 55 | 1 43.8 | 1 44.0 | 1 39.0 | 5.5 | 0.6 | 11.5 | 1.2 | 17.5 | 1.9 |
| 56 | 1 44.0 | 1 44.3 | 1 39.3 | 5.6 | 0.6 | 11.6 | 1.3 | 17.6 | 1.9 |
| 57 | 1 44.3 | 1 44.5 | 1 39.5 | 5.7 | 0.6 | 11.7 | 1.3 | 17.7 | 1.9 |
| 58 | 1 44.5 | 1 44.8 | 1 39.7 | 5.8 | 0.6 | 11.8 | 1.3 | 17.8 | 1.9 |
| 59 | 1 44.8 | 1 45.0 | 1 40.0 | 5.9 | 0.6 | 11.9 | 1.3 | 17.9 | 1.9 |
| 60 | 1 45.0 | 1 45.3 | 1 40.2 | 6.0 | 0.7 | 12.0 | 1.3 | 18.0 | 2.0 |

| m 7 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 1 45.0 | 1 45.3 | 1 40.2 | 0.0 | 0.0 | 6.0 | 0.8 | 12.0 | 1.5 |
| 1 | 1 45.3 | 1 45.5 | 1 40.5 | 0.1 | 0.0 | 6.1 | 0.8 | 12.1 | 1.5 |
| 2 | 1 45.5 | 1 45.8 | 1 40.7 | 0.2 | 0.0 | 6.2 | 0.8 | 12.2 | 1.5 |
| 3 | 1 45.8 | 1 46.0 | 1 40.9 | 0.3 | 0.0 | 6.3 | 0.8 | 12.3 | 1.5 |
| 4 | 1 46.0 | 1 46.3 | 1 41.2 | 0.4 | 0.1 | 6.4 | 0.8 | 12.4 | 1.6 |
| 5 | 1 46.2 | 1 46.5 | 1 41.4 | 0.5 | 0.1 | 6.5 | 0.8 | 12.5 | 1.6 |
| 6 | 1 46.5 | 1 46.8 | 1 41.6 | 0.6 | 0.1 | 6.6 | 0.8 | 12.6 | 1.6 |
| 7 | 1 46.7 | 1 47.0 | 1 41.9 | 0.7 | 0.1 | 6.7 | 0.8 | 12.7 | 1.6 |
| 8 | 1 47.0 | 1 47.3 | 1 42.1 | 0.8 | 0.1 | 6.8 | 0.9 | 12.8 | 1.6 |
| 9 | 1 47.3 | 1 47.5 | 1 42.4 | 0.9 | 0.1 | 6.9 | 0.9 | 12.9 | 1.6 |
| 10 | 1 47.5 | 1 47.8 | 1 42.6 | 1.0 | 0.1 | 7.0 | 0.9 | 13.0 | 1.6 |
| 11 | 1 47.8 | 1 48.0 | 1 42.8 | 1.1 | 0.1 | 7.1 | 0.9 | 13.1 | 1.6 |
| 12 | 1 48.0 | 1 48.3 | 1 43.1 | 1.2 | 0.2 | 7.2 | 0.9 | 13.2 | 1.7 |
| 13 | 1 48.3 | 1 48.5 | 1 43.3 | 1.3 | 0.2 | 7.3 | 0.9 | 13.3 | 1.7 |
| 14 | 1 48.5 | 1 48.8 | 1 43.6 | 1.4 | 0.2 | 7.4 | 0.9 | 13.4 | 1.7 |
| 15 | 1 48.8 | 1 49.0 | 1 43.8 | 1.5 | 0.2 | 7.5 | 0.9 | 13.5 | 1.7 |
| 16 | 1 49.0 | 1 49.3 | 1 44.0 | 1.6 | 0.2 | 7.6 | 1.0 | 13.6 | 1.7 |
| 17 | 1 49.3 | 1 49.5 | 1 44.3 | 1.7 | 0.2 | 7.7 | 1.0 | 13.7 | 1.7 |
| 18 | 1 49.5 | 1 49.8 | 1 44.5 | 1.8 | 0.2 | 7.8 | 1.0 | 13.8 | 1.7 |
| 19 | 1 49.8 | 1 50.0 | 1 44.8 | 1.9 | 0.2 | 7.9 | 1.0 | 13.9 | 1.7 |
| 20 | 1 50.0 | 1 50.3 | 1 45.0 | 2.0 | 0.3 | 8.0 | 1.0 | 14.0 | 1.8 |
| 21 | 1 50.2 | 1 50.6 | 1 45.2 | 2.1 | 0.3 | 8.1 | 1.0 | 14.1 | 1.8 |
| 22 | 1 50.5 | 1 50.8 | 1 45.5 | 2.2 | 0.3 | 8.2 | 1.0 | 14.2 | 1.8 |
| 23 | 1 50.8 | 1 51.1 | 1 45.7 | 2.3 | 0.3 | 8.3 | 1.0 | 14.3 | 1.8 |
| 24 | 1 51.0 | 1 51.3 | 1 45.9 | 2.4 | 0.3 | 8.4 | 1.1 | 14.4 | 1.8 |
| 25 | 1 51.3 | 1 51.6 | 1 46.2 | 2.5 | 0.3 | 8.5 | 1.1 | 14.5 | 1.8 |
| 26 | 1 51.5 | 1 51.8 | 1 46.4 | 2.6 | 0.3 | 8.6 | 1.1 | 14.6 | 1.8 |
| 27 | 1 51.8 | 1 52.1 | 1 46.7 | 2.7 | 0.3 | 8.7 | 1.1 | 14.7 | 1.8 |
| 28 | 1 52.0 | 1 52.3 | 1 46.9 | 2.8 | 0.4 | 8.8 | 1.1 | 14.8 | 1.9 |
| 29 | 1 52.3 | 1 52.6 | 1 47.1 | 2.9 | 0.4 | 8.9 | 1.1 | 14.9 | 1.9 |
| 30 | 1 52.5 | 1 52.8 | 1 47.4 | 3.0 | 0.4 | 9.0 | 1.1 | 15.0 | 1.9 |
| 31 | 1 52.7 | 1 53.1 | 1 47.6 | 3.1 | 0.4 | 9.1 | 1.1 | 15.1 | 1.9 |
| 32 | 1 53.0 | 1 53.3 | 1 47.9 | 3.2 | 0.4 | 9.2 | 1.2 | 15.2 | 1.9 |
| 33 | 1 53.3 | 1 53.6 | 1 48.1 | 3.3 | 0.4 | 9.3 | 1.2 | 15.3 | 1.9 |
| 34 | 1 53.5 | 1 53.8 | 1 48.3 | 3.4 | 0.4 | 9.4 | 1.2 | 15.4 | 1.9 |
| 35 | 1 53.7 | 1 54.1 | 1 48.6 | 3.5 | 0.4 | 9.5 | 1.2 | 15.5 | 1.9 |
| 36 | 1 54.0 | 1 54.3 | 1 48.8 | 3.6 | 0.5 | 9.6 | 1.2 | 15.6 | 2.0 |
| 37 | 1 54.2 | 1 54.6 | 1 49.0 | 3.7 | 0.5 | 9.7 | 1.2 | 15.7 | 2.0 |
| 38 | 1 54.5 | 1 54.8 | 1 49.3 | 3.8 | 0.5 | 9.8 | 1.2 | 15.8 | 2.0 |
| 39 | 1 54.8 | 1 55.1 | 1 49.5 | 3.9 | 0.5 | 9.9 | 1.2 | 15.9 | 2.0 |
| 40 | 1 55.0 | 1 55.3 | 1 49.8 | 4.0 | 0.5 | 10.0 | 1.3 | 16.0 | 2.0 |
| 41 | 1 55.3 | 1 55.6 | 1 50.0 | 4.1 | 0.5 | 10.1 | 1.3 | 16.1 | 2.0 |
| 42 | 1 55.5 | 1 55.8 | 1 50.2 | 4.2 | 0.5 | 10.2 | 1.3 | 16.2 | 2.0 |
| 43 | 1 55.8 | 1 56.1 | 1 50.5 | 4.3 | 0.5 | 10.3 | 1.3 | 16.3 | 2.0 |
| 44 | 1 56.0 | 1 56.3 | 1 50.7 | 4.4 | 0.6 | 10.4 | 1.3 | 16.4 | 2.1 |
| 45 | 1 56.3 | 1 56.6 | 1 51.0 | 4.5 | 0.6 | 10.5 | 1.3 | 16.5 | 2.1 |
| 46 | 1 56.5 | 1 56.8 | 1 51.2 | 4.6 | 0.6 | 10.6 | 1.3 | 16.6 | 2.1 |
| 47 | 1 56.7 | 1 57.1 | 1 51.4 | 4.7 | 0.6 | 10.7 | 1.3 | 16.7 | 2.1 |
| 48 | 1 57.0 | 1 57.3 | 1 51.7 | 4.8 | 0.6 | 10.8 | 1.4 | 16.8 | 2.1 |
| 49 | 1 57.3 | 1 57.6 | 1 51.9 | 4.9 | 0.6 | 10.9 | 1.4 | 16.9 | 2.1 |
| 50 | 1 57.5 | 1 57.8 | 1 52.1 | 5.0 | 0.6 | 11.0 | 1.4 | 17.0 | 2.1 |
| 51 | 1 57.7 | 1 58.1 | 1 52.4 | 5.1 | 0.6 | 11.1 | 1.4 | 17.1 | 2.1 |
| 52 | 1 58.0 | 1 58.3 | 1 52.6 | 5.2 | 0.7 | 11.2 | 1.4 | 17.2 | 2.2 |
| 53 | 1 58.2 | 1 58.6 | 1 52.9 | 5.3 | 0.7 | 11.3 | 1.4 | 17.3 | 2.2 |
| 54 | 1 58.5 | 1 58.8 | 1 53.1 | 5.4 | 0.7 | 11.4 | 1.4 | 17.4 | 2.2 |
| 55 | 1 58.8 | 1 59.1 | 1 53.3 | 5.5 | 0.7 | 11.5 | 1.4 | 17.5 | 2.2 |
| 56 | 1 59.0 | 1 59.3 | 1 53.6 | 5.6 | 0.7 | 11.6 | 1.5 | 17.6 | 2.2 |
| 57 | 1 59.3 | 1 59.6 | 1 53.8 | 5.7 | 0.7 | 11.7 | 1.5 | 17.7 | 2.2 |
| 58 | 1 59.5 | 1 59.8 | 1 54.1 | 5.8 | 0.7 | 11.8 | 1.5 | 17.8 | 2.2 |
| 59 | 1 59.8 | 2 0.1 | 1 54.3 | 5.9 | 0.7 | 11.9 | 1.5 | 17.9 | 2.2 |
| 60 | 2 0.0 | 2 0.3 | 1 54.5 | 6.0 | 0.8 | 12.0 | 1.5 | 18.0 | 2.3 |

| m 8 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 2 0.0 | 2 0.3 | 1 54.5 | 0.0 | 0.0 | 6.0 | 0.9 | 12.0 | 1.7 |
| 1 | 2 0.3 | 2 0.6 | 1 54.8 | 0.1 | 0.0 | 6.1 | 0.9 | 12.1 | 1.7 |
| 2 | 2 0.5 | 2 0.8 | 1 55.0 | 0.2 | 0.0 | 6.2 | 0.9 | 12.2 | 1.7 |
| 3 | 2 0.8 | 2 1.1 | 1 55.2 | 0.3 | 0.0 | 6.3 | 0.9 | 12.3 | 1.7 |
| 4 | 2 1.0 | 2 1.3 | 1 55.5 | 0.4 | 0.1 | 6.4 | 0.9 | 12.4 | 1.8 |
| 5 | 2 1.3 | 2 1.6 | 1 55.7 | 0.5 | 0.1 | 6.5 | 0.9 | 12.5 | 1.8 |
| 6 | 2 1.5 | 2 1.8 | 1 56.0 | 0.6 | 0.1 | 6.6 | 0.9 | 12.6 | 1.8 |
| 7 | 2 1.8 | 2 2.1 | 1 56.2 | 0.7 | 0.1 | 6.7 | 0.9 | 12.7 | 1.8 |
| 8 | 2 2.0 | 2 2.3 | 1 56.4 | 0.8 | 0.1 | 6.8 | 1.0 | 12.8 | 1.8 |
| 9 | 2 2.3 | 2 2.6 | 1 56.7 | 0.9 | 0.1 | 6.9 | 1.0 | 12.9 | 1.8 |
| 10 | 2 2.5 | 2 2.8 | 1 56.9 | 1.0 | 0.1 | 7.0 | 1.0 | 13.0 | 1.8 |
| 11 | 2 2.8 | 2 3.1 | 1 57.2 | 1.1 | 0.2 | 7.1 | 1.0 | 13.1 | 1.9 |
| 12 | 2 3.0 | 2 3.3 | 1 57.4 | 1.2 | 0.2 | 7.2 | 1.0 | 13.2 | 1.9 |
| 13 | 2 3.3 | 2 3.6 | 1 57.6 | 1.3 | 0.2 | 7.3 | 1.0 | 13.3 | 1.9 |
| 14 | 2 3.5 | 2 3.8 | 1 57.9 | 1.4 | 0.2 | 7.4 | 1.0 | 13.4 | 1.9 |
| 15 | 2 3.8 | 2 4.1 | 1 58.1 | 1.5 | 0.2 | 7.5 | 1.1 | 13.5 | 1.9 |
| 16 | 2 4.0 | 2 4.3 | 1 58.4 | 1.6 | 0.2 | 7.6 | 1.1 | 13.6 | 1.9 |
| 17 | 2 4.2 | 2 4.6 | 1 58.6 | 1.7 | 0.2 | 7.7 | 1.1 | 13.7 | 1.9 |
| 18 | 2 4.5 | 2 4.8 | 1 58.8 | 1.8 | 0.3 | 7.8 | 1.1 | 13.8 | 2.0 |
| 19 | 2 4.7 | 2 5.1 | 1 59.1 | 1.9 | 0.3 | 7.9 | 1.1 | 13.9 | 2.0 |
| 20 | 2 5.0 | 2 5.3 | 1 59.3 | 2.0 | 0.3 | 8.0 | 1.1 | 14.0 | 2.0 |
| 21 | 2 5.2 | 2 5.6 | 1 59.5 | 2.1 | 0.3 | 8.1 | 1.1 | 14.1 | 2.0 |
| 22 | 2 5.5 | 2 5.8 | 1 59.8 | 2.2 | 0.3 | 8.2 | 1.2 | 14.2 | 2.0 |
| 23 | 2 5.7 | 2 6.1 | 2 0.0 | 2.3 | 0.3 | 8.3 | 1.2 | 14.3 | 2.0 |
| 24 | 2 6.0 | 2 6.3 | 2 0.3 | 2.4 | 0.3 | 8.4 | 1.2 | 14.4 | 2.0 |
| 25 | 2 6.2 | 2 6.6 | 2 0.5 | 2.5 | 0.4 | 8.5 | 1.2 | 14.5 | 2.1 |
| 26 | 2 6.5 | 2 6.8 | 2 0.7 | 2.6 | 0.4 | 8.6 | 1.2 | 14.6 | 2.1 |
| 27 | 2 6.7 | 2 7.1 | 2 1.0 | 2.7 | 0.4 | 8.7 | 1.2 | 14.7 | 2.1 |
| 28 | 2 7.0 | 2 7.3 | 2 1.2 | 2.8 | 0.4 | 8.8 | 1.2 | 14.8 | 2.1 |
| 29 | 2 7.2 | 2 7.6 | 2 1.5 | 2.9 | 0.4 | 8.9 | 1.3 | 14.9 | 2.1 |
| 30 | 2 7.5 | 2 7.8 | 2 1.7 | 3.0 | 0.4 | 9.0 | 1.3 | 15.0 | 2.1 |
| 31 | 2 7.8 | 2 8.1 | 2 1.9 | 3.1 | 0.4 | 9.1 | 1.3 | 15.1 | 2.1 |
| 32 | 2 8.0 | 2 8.3 | 2 2.2 | 3.2 | 0.5 | 9.2 | 1.3 | 15.2 | 2.2 |
| 33 | 2 8.3 | 2 8.6 | 2 2.4 | 3.3 | 0.5 | 9.3 | 1.3 | 15.3 | 2.2 |
| 34 | 2 8.5 | 2 8.9 | 2 2.6 | 3.4 | 0.5 | 9.4 | 1.3 | 15.4 | 2.2 |
| 35 | 2 8.8 | 2 9.1 | 2 2.9 | 3.5 | 0.5 | 9.5 | 1.3 | 15.5 | 2.2 |
| 36 | 2 9.0 | 2 9.4 | 2 3.1 | 3.6 | 0.5 | 9.6 | 1.4 | 15.6 | 2.2 |
| 37 | 2 9.3 | 2 9.6 | 2 3.4 | 3.7 | 0.5 | 9.7 | 1.4 | 15.7 | 2.2 |
| 38 | 2 9.5 | 2 9.9 | 2 3.6 | 3.8 | 0.5 | 9.8 | 1.4 | 15.8 | 2.2 |
| 39 | 2 9.8 | 2 10.1 | 2 3.8 | 3.9 | 0.6 | 9.9 | 1.4 | 15.9 | 2.3 |
| 40 | 2 10.0 | 2 10.4 | 2 4.1 | 4.0 | 0.6 | 10.0 | 1.4 | 16.0 | 2.3 |
| 41 | 2 10.3 | 2 10.6 | 2 4.3 | 4.1 | 0.6 | 10.1 | 1.4 | 16.1 | 2.3 |
| 42 | 2 10.5 | 2 10.9 | 2 4.6 | 4.2 | 0.6 | 10.2 | 1.4 | 16.2 | 2.3 |
| 43 | 2 10.8 | 2 11.1 | 2 4.8 | 4.3 | 0.6 | 10.3 | 1.5 | 16.3 | 2.3 |
| 44 | 2 11.0 | 2 11.4 | 2 5.0 | 4.4 | 0.6 | 10.4 | 1.5 | 16.4 | 2.3 |
| 45 | 2 11.3 | 2 11.6 | 2 5.3 | 4.5 | 0.6 | 10.5 | 1.5 | 16.5 | 2.3 |
| 46 | 2 11.5 | 2 11.9 | 2 5.5 | 4.6 | 0.7 | 10.6 | 1.5 | 16.6 | 2.4 |
| 47 | 2 11.7 | 2 12.1 | 2 5.7 | 4.7 | 0.7 | 10.7 | 1.5 | 16.7 | 2.4 |
| 48 | 2 12.0 | 2 12.4 | 2 6.0 | 4.8 | 0.7 | 10.8 | 1.5 | 16.8 | 2.4 |
| 49 | 2 12.2 | 2 12.6 | 2 6.2 | 4.9 | 0.7 | 10.9 | 1.5 | 16.9 | 2.4 |
| 50 | 2 12.5 | 2 12.9 | 2 6.5 | 5.0 | 0.7 | 11.0 | 1.6 | 17.0 | 2.4 |
| 51 | 2 12.7 | 2 13.1 | 2 6.7 | 5.1 | 0.7 | 11.1 | 1.6 | 17.1 | 2.4 |
| 52 | 2 13.0 | 2 13.4 | 2 6.9 | 5.2 | 0.7 | 11.2 | 1.6 | 17.2 | 2.4 |
| 53 | 2 13.2 | 2 13.6 | 2 7.2 | 5.3 | 0.8 | 11.3 | 1.6 | 17.3 | 2.5 |
| 54 | 2 13.5 | 2 13.9 | 2 7.4 | 5.4 | 0.8 | 11.4 | 1.6 | 17.4 | 2.5 |
| 55 | 2 13.7 | 2 14.1 | 2 7.7 | 5.5 | 0.8 | 11.5 | 1.6 | 17.5 | 2.5 |
| 56 | 2 14.0 | 2 14.4 | 2 7.9 | 5.6 | 0.8 | 11.6 | 1.6 | 17.6 | 2.5 |
| 57 | 2 14.2 | 2 14.6 | 2 8.1 | 5.7 | 0.8 | 11.7 | 1.7 | 17.7 | 2.5 |
| 58 | 2 14.5 | 2 14.9 | 2 8.4 | 5.8 | 0.8 | 11.8 | 1.7 | 17.8 | 2.5 |
| 59 | 2 14.7 | 2 15.1 | 2 8.6 | 5.9 | 0.8 | 11.9 | 1.7 | 17.9 | 2.5 |
| 60 | 2 15.0 | 2 15.4 | 2 8.8 | 6.0 | 0.9 | 12.0 | 1.7 | 18.0 | 2.6 |

| m 9 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 2 15.0 | 2 15.4 | 2 8.8 | 0.0 | 0.0 | 6.0 | 1.0 | 12.0 | 1.9 |
| 1 | 2 15.3 | 2 15.6 | 2 9.1 | 0.1 | 0.0 | 6.1 | 1.0 | 12.1 | 1.9 |
| 2 | 2 15.5 | 2 15.9 | 2 9.3 | 0.2 | 0.0 | 6.2 | 1.0 | 12.2 | 1.9 |
| 3 | 2 15.8 | 2 16.1 | 2 9.6 | 0.3 | 0.0 | 6.3 | 1.0 | 12.3 | 1.9 |
| 4 | 2 16.0 | 2 16.4 | 2 9.8 | 0.4 | 0.1 | 6.4 | 1.0 | 12.4 | 2.0 |
| 5 | 2 16.3 | 2 16.6 | 2 10.0 | 0.5 | 0.1 | 6.5 | 1.0 | 12.5 | 2.0 |
| 6 | 2 16.5 | 2 16.9 | 2 10.3 | 0.6 | 0.1 | 6.6 | 1.0 | 12.6 | 2.0 |
| 7 | 2 16.8 | 2 17.1 | 2 10.5 | 0.7 | 0.1 | 6.7 | 1.1 | 12.7 | 2.0 |
| 8 | 2 17.0 | 2 17.4 | 2 10.8 | 0.8 | 0.1 | 6.8 | 1.1 | 12.8 | 2.0 |
| 9 | 2 17.3 | 2 17.6 | 2 11.0 | 0.9 | 0.1 | 6.9 | 1.1 | 12.9 | 2.0 |
| 10 | 2 17.5 | 2 17.9 | 2 11.2 | 1.0 | 0.2 | 7.0 | 1.1 | 13.0 | 2.1 |
| 11 | 2 17.8 | 2 18.1 | 2 11.5 | 1.1 | 0.2 | 7.1 | 1.1 | 13.1 | 2.1 |
| 12 | 2 18.0 | 2 18.4 | 2 11.7 | 1.2 | 0.2 | 7.2 | 1.1 | 13.2 | 2.1 |
| 13 | 2 18.3 | 2 18.6 | 2 12.0 | 1.3 | 0.2 | 7.3 | 1.2 | 13.3 | 2.1 |
| 14 | 2 18.5 | 2 18.9 | 2 12.2 | 1.4 | 0.2 | 7.4 | 1.2 | 13.4 | 2.1 |
| 15 | 2 18.8 | 2 19.1 | 2 12.4 | 1.5 | 0.2 | 7.5 | 1.2 | 13.5 | 2.1 |
| 16 | 2 19.0 | 2 19.4 | 2 12.7 | 1.6 | 0.3 | 7.6 | 1.2 | 13.6 | 2.2 |
| 17 | 2 19.3 | 2 19.6 | 2 12.9 | 1.7 | 0.3 | 7.7 | 1.2 | 13.7 | 2.2 |
| 18 | 2 19.5 | 2 19.9 | 2 13.1 | 1.8 | 0.3 | 7.8 | 1.2 | 13.8 | 2.2 |
| 19 | 2 19.7 | 2 20.1 | 2 13.4 | 1.9 | 0.3 | 7.9 | 1.3 | 13.9 | 2.2 |
| 20 | 2 20.0 | 2 20.4 | 2 13.6 | 2.0 | 0.3 | 8.0 | 1.3 | 14.0 | 2.2 |
| 21 | 2 20.2 | 2 20.6 | 2 13.9 | 2.1 | 0.3 | 8.1 | 1.3 | 14.1 | 2.2 |
| 22 | 2 20.5 | 2 20.9 | 2 14.1 | 2.2 | 0.3 | 8.2 | 1.3 | 14.2 | 2.2 |
| 23 | 2 20.7 | 2 21.1 | 2 14.3 | 2.3 | 0.4 | 8.3 | 1.3 | 14.3 | 2.3 |
| 24 | 2 21.0 | 2 21.4 | 2 14.6 | 2.4 | 0.4 | 8.4 | 1.3 | 14.4 | 2.3 |
| 25 | 2 21.2 | 2 21.6 | 2 14.8 | 2.5 | 0.4 | 8.5 | 1.3 | 14.5 | 2.3 |
| 26 | 2 21.5 | 2 21.9 | 2 15.1 | 2.6 | 0.4 | 8.6 | 1.4 | 14.6 | 2.3 |
| 27 | 2 21.7 | 2 22.1 | 2 15.3 | 2.7 | 0.4 | 8.7 | 1.4 | 14.7 | 2.3 |
| 28 | 2 22.0 | 2 22.4 | 2 15.5 | 2.8 | 0.4 | 8.8 | 1.4 | 14.8 | 2.3 |
| 29 | 2 22.2 | 2 22.6 | 2 15.8 | 2.9 | 0.5 | 8.9 | 1.4 | 14.9 | 2.4 |
| 30 | 2 22.5 | 2 22.9 | 2 16.0 | 3.0 | 0.5 | 9.0 | 1.4 | 15.0 | 2.4 |
| 31 | 2 22.8 | 2 23.1 | 2 16.2 | 3.1 | 0.5 | 9.1 | 1.4 | 15.1 | 2.4 |
| 32 | 2 23.0 | 2 23.4 | 2 16.5 | 3.2 | 0.5 | 9.2 | 1.5 | 15.2 | 2.4 |
| 33 | 2 23.3 | 2 23.6 | 2 16.7 | 3.3 | 0.5 | 9.3 | 1.5 | 15.3 | 2.4 |
| 34 | 2 23.5 | 2 23.9 | 2 17.0 | 3.4 | 0.5 | 9.4 | 1.5 | 15.4 | 2.4 |
| 35 | 2 23.8 | 2 24.1 | 2 17.2 | 3.5 | 0.6 | 9.5 | 1.5 | 15.5 | 2.5 |
| 36 | 2 24.0 | 2 24.4 | 2 17.4 | 3.6 | 0.6 | 9.6 | 1.5 | 15.6 | 2.5 |
| 37 | 2 24.3 | 2 24.6 | 2 17.7 | 3.7 | 0.6 | 9.7 | 1.5 | 15.7 | 2.5 |
| 38 | 2 24.5 | 2 24.9 | 2 17.9 | 3.8 | 0.6 | 9.8 | 1.6 | 15.8 | 2.5 |
| 39 | 2 24.8 | 2 25.1 | 2 18.2 | 3.9 | 0.6 | 9.9 | 1.6 | 15.9 | 2.5 |
| 40 | 2 25.0 | 2 25.4 | 2 18.4 | 4.0 | 0.6 | 10.0 | 1.6 | 16.0 | 2.5 |
| 41 | 2 25.3 | 2 25.6 | 2 18.6 | 4.1 | 0.6 | 10.1 | 1.6 | 16.1 | 2.5 |
| 42 | 2 25.5 | 2 25.9 | 2 18.9 | 4.2 | 0.7 | 10.2 | 1.6 | 16.2 | 2.6 |
| 43 | 2 25.8 | 2 26.1 | 2 19.1 | 4.3 | 0.7 | 10.3 | 1.6 | 16.3 | 2.6 |
| 44 | 2 26.0 | 2 26.4 | 2 19.3 | 4.4 | 0.7 | 10.4 | 1.6 | 16.4 | 2.6 |
| 45 | 2 26.3 | 2 26.6 | 2 19.6 | 4.5 | 0.7 | 10.5 | 1.7 | 16.5 | 2.6 |
| 46 | 2 26.5 | 2 26.9 | 2 19.8 | 4.6 | 0.7 | 10.6 | 1.7 | 16.6 | 2.6 |
| 47 | 2 26.8 | 2 27.2 | 2 20.1 | 4.7 | 0.7 | 10.7 | 1.7 | 16.7 | 2.6 |
| 48 | 2 27.0 | 2 27.4 | 2 20.3 | 4.8 | 0.8 | 10.8 | 1.7 | 16.8 | 2.7 |
| 49 | 2 27.2 | 2 27.7 | 2 20.5 | 4.9 | 0.8 | 10.9 | 1.7 | 16.9 | 2.7 |
| 50 | 2 27.5 | 2 27.9 | 2 20.8 | 5.0 | 0.8 | 11.0 | 1.7 | 17.0 | 2.7 |
| 51 | 2 27.7 | 2 28.2 | 2 21.0 | 5.1 | 0.8 | 11.1 | 1.8 | 17.1 | 2.7 |
| 52 | 2 28.0 | 2 28.4 | 2 21.3 | 5.2 | 0.8 | 11.2 | 1.8 | 17.2 | 2.7 |
| 53 | 2 28.2 | 2 28.7 | 2 21.5 | 5.3 | 0.8 | 11.3 | 1.8 | 17.3 | 2.7 |
| 54 | 2 28.5 | 2 28.9 | 2 21.7 | 5.4 | 0.9 | 11.4 | 1.8 | 17.4 | 2.8 |
| 55 | 2 28.7 | 2 29.2 | 2 22.0 | 5.5 | 0.9 | 11.5 | 1.8 | 17.5 | 2.8 |
| 56 | 2 29.0 | 2 29.4 | 2 22.2 | 5.6 | 0.9 | 11.6 | 1.8 | 17.6 | 2.8 |
| 57 | 2 29.2 | 2 29.7 | 2 22.5 | 5.7 | 0.9 | 11.7 | 1.9 | 17.7 | 2.8 |
| 58 | 2 29.5 | 2 29.9 | 2 22.7 | 5.8 | 0.9 | 11.8 | 1.9 | 17.8 | 2.8 |
| 59 | 2 29.7 | 2 30.2 | 2 22.9 | 5.9 | 0.9 | 11.9 | 1.9 | 17.9 | 2.8 |
| 60 | 2 30.0 | 2 30.4 | 2 23.2 | 6.0 | 1.0 | 12.0 | 1.9 | 18.0 | 2.8 |

| m 10 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 2 30.0 | 2 30.4 | 2 23.2 | 0.0 | 0.0 | 6.0 | 1.0 | 12.0 | 2.1 |
| 1 | 2 30.3 | 2 30.7 | 2 23.4 | 0.1 | 0.0 | 6.1 | 1.1 | 12.1 | 2.1 |
| 2 | 2 30.5 | 2 30.9 | 2 23.6 | 0.2 | 0.0 | 6.2 | 1.1 | 12.2 | 2.1 |
| 3 | 2 30.8 | 2 31.2 | 2 23.9 | 0.3 | 0.1 | 6.3 | 1.1 | 12.3 | 2.2 |
| 4 | 2 31.0 | 2 31.4 | 2 24.1 | 0.4 | 0.1 | 6.4 | 1.1 | 12.4 | 2.2 |
| 5 | 2 31.3 | 2 31.7 | 2 24.4 | 0.5 | 0.1 | 6.5 | 1.1 | 12.5 | 2.2 |
| 6 | 2 31.5 | 2 31.9 | 2 24.6 | 0.6 | 0.1 | 6.6 | 1.2 | 12.6 | 2.2 |
| 7 | 2 31.8 | 2 32.2 | 2 24.8 | 0.7 | 0.1 | 6.7 | 1.2 | 12.7 | 2.2 |
| 8 | 2 32.0 | 2 32.4 | 2 25.1 | 0.8 | 0.1 | 6.8 | 1.2 | 12.8 | 2.2 |
| 9 | 2 32.3 | 2 32.7 | 2 25.3 | 0.9 | 0.2 | 6.9 | 1.2 | 12.9 | 2.3 |
| 10 | 2 32.5 | 2 32.9 | 2 25.6 | 1.0 | 0.2 | 7.0 | 1.2 | 13.0 | 2.3 |
| 11 | 2 32.8 | 2 33.2 | 2 25.8 | 1.1 | 0.2 | 7.1 | 1.2 | 13.1 | 2.3 |
| 12 | 2 33.0 | 2 33.4 | 2 26.0 | 1.2 | 0.2 | 7.2 | 1.3 | 13.2 | 2.3 |
| 13 | 2 33.3 | 2 33.7 | 2 26.3 | 1.3 | 0.2 | 7.3 | 1.3 | 13.3 | 2.3 |
| 14 | 2 33.5 | 2 33.9 | 2 26.5 | 1.4 | 0.2 | 7.4 | 1.3 | 13.4 | 2.3 |
| 15 | 2 33.8 | 2 34.2 | 2 26.7 | 1.5 | 0.3 | 7.5 | 1.3 | 13.5 | 2.4 |
| 16 | 2 34.0 | 2 34.4 | 2 27.0 | 1.6 | 0.3 | 7.6 | 1.3 | 13.6 | 2.4 |
| 17 | 2 34.3 | 2 34.7 | 2 27.2 | 1.7 | 0.3 | 7.7 | 1.3 | 13.7 | 2.4 |
| 18 | 2 34.5 | 2 34.9 | 2 27.5 | 1.8 | 0.3 | 7.8 | 1.4 | 13.8 | 2.4 |
| 19 | 2 34.8 | 2 35.2 | 2 27.7 | 1.9 | 0.3 | 7.9 | 1.4 | 13.9 | 2.4 |
| 20 | 2 35.0 | 2 35.4 | 2 27.9 | 2.0 | 0.4 | 8.0 | 1.4 | 14.0 | 2.4 |
| 21 | 2 35.2 | 2 35.7 | 2 28.2 | 2.1 | 0.4 | 8.1 | 1.4 | 14.1 | 2.5 |
| 22 | 2 35.5 | 2 35.9 | 2 28.4 | 2.2 | 0.4 | 8.2 | 1.4 | 14.2 | 2.5 |
| 23 | 2 35.7 | 2 36.2 | 2 28.7 | 2.3 | 0.4 | 8.3 | 1.5 | 14.3 | 2.5 |
| 24 | 2 36.0 | 2 36.4 | 2 28.9 | 2.4 | 0.4 | 8.4 | 1.5 | 14.4 | 2.5 |
| 25 | 2 36.2 | 2 36.7 | 2 29.1 | 2.5 | 0.4 | 8.5 | 1.5 | 14.5 | 2.5 |
| 26 | 2 36.5 | 2 36.9 | 2 29.4 | 2.6 | 0.5 | 8.6 | 1.5 | 14.6 | 2.6 |
| 27 | 2 36.7 | 2 37.2 | 2 29.6 | 2.7 | 0.5 | 8.7 | 1.5 | 14.7 | 2.6 |
| 28 | 2 37.0 | 2 37.4 | 2 29.8 | 2.8 | 0.5 | 8.8 | 1.5 | 14.8 | 2.6 |
| 29 | 2 37.2 | 2 37.7 | 2 30.1 | 2.9 | 0.5 | 8.9 | 1.6 | 14.9 | 2.6 |
| 30 | 2 37.5 | 2 37.9 | 2 30.3 | 3.0 | 0.5 | 9.0 | 1.6 | 15.0 | 2.6 |
| 31 | 2 37.8 | 2 38.2 | 2 30.6 | 3.1 | 0.5 | 9.1 | 1.6 | 15.1 | 2.6 |
| 32 | 2 38.0 | 2 38.4 | 2 30.8 | 3.2 | 0.6 | 9.2 | 1.6 | 15.2 | 2.7 |
| 33 | 2 38.3 | 2 38.7 | 2 31.0 | 3.3 | 0.6 | 9.3 | 1.6 | 15.3 | 2.7 |
| 34 | 2 38.5 | 2 38.9 | 2 31.3 | 3.4 | 0.6 | 9.4 | 1.6 | 15.4 | 2.7 |
| 35 | 2 38.8 | 2 39.2 | 2 31.5 | 3.5 | 0.6 | 9.5 | 1.7 | 15.5 | 2.7 |
| 36 | 2 39.0 | 2 39.4 | 2 31.8 | 3.6 | 0.6 | 9.6 | 1.7 | 15.6 | 2.7 |
| 37 | 2 39.3 | 2 39.7 | 2 32.0 | 3.7 | 0.6 | 9.7 | 1.7 | 15.7 | 2.7 |
| 38 | 2 39.5 | 2 39.9 | 2 32.2 | 3.8 | 0.7 | 9.8 | 1.7 | 15.8 | 2.8 |
| 39 | 2 39.8 | 2 40.2 | 2 32.5 | 3.9 | 0.7 | 9.9 | 1.7 | 15.9 | 2.8 |
| 40 | 2 40.0 | 2 40.4 | 2 32.7 | 4.0 | 0.7 | 10.0 | 1.8 | 16.0 | 2.8 |
| 41 | 2 40.3 | 2 40.7 | 2 32.9 | 4.1 | 0.7 | 10.1 | 1.8 | 16.1 | 2.8 |
| 42 | 2 40.5 | 2 40.9 | 2 33.2 | 4.2 | 0.7 | 10.2 | 1.8 | 16.2 | 2.8 |
| 43 | 2 40.8 | 2 41.2 | 2 33.4 | 4.3 | 0.8 | 10.3 | 1.8 | 16.3 | 2.9 |
| 44 | 2 41.0 | 2 41.4 | 2 33.7 | 4.4 | 0.8 | 10.4 | 1.8 | 16.4 | 2.9 |
| 45 | 2 41.3 | 2 41.7 | 2 33.9 | 4.5 | 0.8 | 10.5 | 1.8 | 16.5 | 2.9 |
| 46 | 2 41.5 | 2 41.9 | 2 34.1 | 4.6 | 0.8 | 10.6 | 1.9 | 16.6 | 2.9 |
| 47 | 2 41.8 | 2 42.2 | 2 34.4 | 4.7 | 0.8 | 10.7 | 1.9 | 16.7 | 2.9 |
| 48 | 2 42.0 | 2 42.4 | 2 34.6 | 4.8 | 0.8 | 10.8 | 1.9 | 16.8 | 2.9 |
| 49 | 2 42.3 | 2 42.7 | 2 34.9 | 4.9 | 0.9 | 10.9 | 1.9 | 16.9 | 3.0 |
| 50 | 2 42.5 | 2 42.9 | 2 35.1 | 5.0 | 0.9 | 11.0 | 1.9 | 17.0 | 3.0 |
| 51 | 2 42.7 | 2 43.2 | 2 35.3 | 5.1 | 0.9 | 11.1 | 1.9 | 17.1 | 3.0 |
| 52 | 2 43.0 | 2 43.4 | 2 35.6 | 5.2 | 0.9 | 11.2 | 2.0 | 17.2 | 3.0 |
| 53 | 2 43.2 | 2 43.7 | 2 35.8 | 5.3 | 0.9 | 11.3 | 2.0 | 17.3 | 3.0 |
| 54 | 2 43.5 | 2 43.9 | 2 36.1 | 5.4 | 0.9 | 11.4 | 2.0 | 17.4 | 3.0 |
| 55 | 2 43.7 | 2 44.2 | 2 36.3 | 5.5 | 1.0 | 11.5 | 2.0 | 17.5 | 3.1 |
| 56 | 2 44.0 | 2 44.4 | 2 36.5 | 5.6 | 1.0 | 11.6 | 2.0 | 17.6 | 3.1 |
| 57 | 2 44.2 | 2 44.7 | 2 36.8 | 5.7 | 1.0 | 11.7 | 2.0 | 17.7 | 3.1 |
| 58 | 2 44.5 | 2 44.9 | 2 37.0 | 5.8 | 1.0 | 11.8 | 2.1 | 17.8 | 3.1 |
| 59 | 2 44.7 | 2 45.2 | 2 37.2 | 5.9 | 1.0 | 11.9 | 2.1 | 17.9 | 3.1 |
| 60 | 2 45.0 | 2 45.5 | 2 37.5 | 6.0 | 1.0 | 12.0 | 2.1 | 18.0 | 3.2 |

| m 11 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 2 45.0 | 2 45.5 | 2 37.5 | 0.0 | 0.0 | 6.0 | 1.2 | 12.0 | 2.3 |
| 1 | 2 45.3 | 2 45.7 | 2 37.7 | 0.1 | 0.0 | 6.1 | 1.2 | 12.1 | 2.3 |
| 2 | 2 45.5 | 2 46.0 | 2 38.0 | 0.2 | 0.0 | 6.2 | 1.2 | 12.2 | 2.3 |
| 3 | 2 45.8 | 2 46.2 | 2 38.2 | 0.3 | 0.1 | 6.3 | 1.2 | 12.3 | 2.4 |
| 4 | 2 46.0 | 2 46.5 | 2 38.4 | 0.4 | 0.1 | 6.4 | 1.2 | 12.4 | 2.4 |
| 5 | 2 46.3 | 2 46.7 | 2 38.7 | 0.5 | 0.1 | 6.5 | 1.2 | 12.5 | 2.4 |
| 6 | 2 46.5 | 2 47.0 | 2 38.9 | 0.6 | 0.1 | 6.6 | 1.3 | 12.6 | 2.4 |
| 7 | 2 46.8 | 2 47.2 | 2 39.2 | 0.7 | 0.1 | 6.7 | 1.3 | 12.7 | 2.4 |
| 8 | 2 47.0 | 2 47.5 | 2 39.4 | 0.8 | 0.2 | 6.8 | 1.3 | 12.8 | 2.5 |
| 9 | 2 47.3 | 2 47.7 | 2 39.6 | 0.9 | 0.2 | 6.9 | 1.3 | 12.9 | 2.5 |
| 10 | 2 47.5 | 2 48.0 | 2 39.9 | 1.0 | 0.2 | 7.0 | 1.3 | 13.0 | 2.5 |
| 11 | 2 47.8 | 2 48.2 | 2 40.1 | 1.1 | 0.2 | 7.1 | 1.4 | 13.1 | 2.5 |
| 12 | 2 48.0 | 2 48.5 | 2 40.3 | 1.2 | 0.2 | 7.2 | 1.4 | 13.2 | 2.5 |
| 13 | 2 48.3 | 2 48.7 | 2 40.6 | 1.3 | 0.2 | 7.3 | 1.4 | 13.3 | 2.5 |
| 14 | 2 48.5 | 2 49.0 | 2 40.8 | 1.4 | 0.3 | 7.4 | 1.4 | 13.4 | 2.6 |
| 15 | 2 48.8 | 2 49.2 | 2 41.1 | 1.5 | 0.3 | 7.5 | 1.4 | 13.5 | 2.6 |
| 16 | 2 49.0 | 2 49.5 | 2 41.3 | 1.6 | 0.3 | 7.6 | 1.5 | 13.6 | 2.6 |
| 17 | 2 49.3 | 2 49.7 | 2 41.5 | 1.7 | 0.3 | 7.7 | 1.5 | 13.7 | 2.6 |
| 18 | 2 49.5 | 2 50.0 | 2 41.8 | 1.8 | 0.3 | 7.8 | 1.5 | 13.8 | 2.6 |
| 19 | 2 49.8 | 2 50.2 | 2 42.0 | 1.9 | 0.4 | 7.9 | 1.5 | 13.9 | 2.7 |
| 20 | 2 50.0 | 2 50.5 | 2 42.3 | 2.0 | 0.4 | 8.0 | 1.5 | 14.0 | 2.7 |
| 21 | 2 50.2 | 2 50.7 | 2 42.5 | 2.1 | 0.4 | 8.1 | 1.6 | 14.1 | 2.7 |
| 22 | 2 50.5 | 2 51.0 | 2 42.7 | 2.2 | 0.4 | 8.2 | 1.6 | 14.2 | 2.7 |
| 23 | 2 50.7 | 2 51.2 | 2 43.0 | 2.3 | 0.4 | 8.3 | 1.6 | 14.3 | 2.7 |
| 24 | 2 51.0 | 2 51.5 | 2 43.2 | 2.4 | 0.5 | 8.4 | 1.6 | 14.4 | 2.8 |
| 25 | 2 51.2 | 2 51.7 | 2 43.4 | 2.5 | 0.5 | 8.5 | 1.6 | 14.5 | 2.8 |
| 26 | 2 51.5 | 2 52.0 | 2 43.7 | 2.6 | 0.5 | 8.6 | 1.6 | 14.6 | 2.8 |
| 27 | 2 51.7 | 2 52.2 | 2 43.9 | 2.7 | 0.5 | 8.7 | 1.7 | 14.7 | 2.8 |
| 28 | 2 52.0 | 2 52.5 | 2 44.2 | 2.8 | 0.5 | 8.8 | 1.7 | 14.8 | 2.8 |
| 29 | 2 52.2 | 2 52.7 | 2 44.4 | 2.9 | 0.6 | 8.9 | 1.7 | 14.9 | 2.9 |
| 30 | 2 52.5 | 2 53.0 | 2 44.6 | 3.0 | 0.6 | 9.0 | 1.7 | 15.0 | 2.9 |
| 31 | 2 52.8 | 2 53.2 | 2 44.9 | 3.1 | 0.6 | 9.1 | 1.7 | 15.1 | 2.9 |
| 32 | 2 53.0 | 2 53.5 | 2 45.1 | 3.2 | 0.6 | 9.2 | 1.8 | 15.2 | 2.9 |
| 33 | 2 53.3 | 2 53.7 | 2 45.4 | 3.3 | 0.6 | 9.3 | 1.8 | 15.3 | 2.9 |
| 34 | 2 53.5 | 2 54.0 | 2 45.6 | 3.4 | 0.7 | 9.4 | 1.8 | 15.4 | 3.0 |
| 35 | 2 53.8 | 2 54.2 | 2 45.8 | 3.5 | 0.7 | 9.5 | 1.8 | 15.5 | 3.0 |
| 36 | 2 54.0 | 2 54.5 | 2 46.1 | 3.6 | 0.7 | 9.6 | 1.8 | 15.6 | 3.0 |
| 37 | 2 54.3 | 2 54.7 | 2 46.3 | 3.7 | 0.7 | 9.7 | 1.9 | 15.7 | 3.0 |
| 38 | 2 54.5 | 2 55.0 | 2 46.6 | 3.8 | 0.7 | 9.8 | 1.9 | 15.8 | 3.0 |
| 39 | 2 54.8 | 2 55.2 | 2 46.8 | 3.9 | 0.7 | 9.9 | 1.9 | 15.9 | 3.0 |
| 40 | 2 55.0 | 2 55.5 | 2 47.0 | 4.0 | 0.8 | 10.0 | 1.9 | 16.0 | 3.1 |
| 41 | 2 55.3 | 2 55.7 | 2 47.3 | 4.1 | 0.8 | 10.1 | 1.9 | 16.1 | 3.1 |
| 42 | 2 55.5 | 2 56.0 | 2 47.5 | 4.2 | 0.8 | 10.2 | 2.0 | 16.2 | 3.1 |
| 43 | 2 55.8 | 2 56.2 | 2 47.7 | 4.3 | 0.8 | 10.3 | 2.0 | 16.3 | 3.1 |
| 44 | 2 56.0 | 2 56.5 | 2 48.0 | 4.4 | 0.8 | 10.4 | 2.0 | 16.4 | 3.1 |
| 45 | 2 56.3 | 2 56.7 | 2 48.2 | 4.5 | 0.9 | 10.5 | 2.0 | 16.5 | 3.2 |
| 46 | 2 56.5 | 2 57.0 | 2 48.5 | 4.6 | 0.9 | 10.6 | 2.0 | 16.6 | 3.2 |
| 47 | 2 56.8 | 2 57.2 | 2 48.7 | 4.7 | 0.9 | 10.7 | 2.1 | 16.7 | 3.2 |
| 48 | 2 57.0 | 2 57.5 | 2 48.9 | 4.8 | 0.9 | 10.8 | 2.1 | 16.8 | 3.2 |
| 49 | 2 57.3 | 2 57.7 | 2 49.2 | 4.9 | 0.9 | 10.9 | 2.1 | 16.9 | 3.2 |
| 50 | 2 57.5 | 2 58.0 | 2 49.4 | 5.0 | 1.0 | 11.0 | 2.1 | 17.0 | 3.3 |
| 51 | 2 57.7 | 2 58.2 | 2 49.7 | 5.1 | 1.0 | 11.1 | 2.1 | 17.1 | 3.3 |
| 52 | 2 58.0 | 2 58.5 | 2 49.9 | 5.2 | 1.0 | 11.2 | 2.1 | 17.2 | 3.3 |
| 53 | 2 58.2 | 2 58.7 | 2 50.1 | 5.3 | 1.0 | 11.3 | 2.2 | 17.3 | 3.3 |
| 54 | 2 58.5 | 2 59.0 | 2 50.4 | 5.4 | 1.0 | 11.4 | 2.2 | 17.4 | 3.3 |
| 55 | 2 58.7 | 2 59.2 | 2 50.6 | 5.5 | 1.1 | 11.5 | 2.2 | 17.5 | 3.4 |
| 56 | 2 59.0 | 2 59.5 | 2 50.8 | 5.6 | 1.1 | 11.6 | 2.2 | 17.6 | 3.4 |
| 57 | 2 59.2 | 2 59.7 | 2 51.1 | 5.7 | 1.1 | 11.7 | 2.2 | 17.7 | 3.4 |
| 58 | 2 59.5 | 3 0.0 | 2 51.3 | 5.8 | 1.1 | 11.8 | 2.3 | 17.8 | 3.4 |
| 59 | 2 59.7 | 3 0.2 | 2 51.6 | 5.9 | 1.1 | 11.9 | 2.3 | 17.9 | 3.4 |
| 60 | 3 0.0 | 3 0.5 | 2 51.8 | 6.0 | 1.2 | 12.0 | 2.3 | 18.0 | 3.5 |

| m 12 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 3 0.0 | 3 0.5 | 2 51.8 | 0.0 | 0.0 | 6.0 | 1.3 | 12.0 | 2.5 |
| 1 | 3 0.3 | 3 0.7 | 2 52.0 | 0.1 | 0.0 | 6.1 | 1.3 | 12.1 | 2.5 |
| 2 | 3 0.5 | 3 1.0 | 2 52.3 | 0.2 | 0.0 | 6.2 | 1.3 | 12.2 | 2.5 |
| 3 | 3 0.8 | 3 1.2 | 2 52.5 | 0.3 | 0.1 | 6.3 | 1.3 | 12.3 | 2.6 |
| 4 | 3 1.0 | 3 1.5 | 2 52.8 | 0.4 | 0.1 | 6.4 | 1.3 | 12.4 | 2.6 |
| 5 | 3 1.3 | 3 1.7 | 2 53.0 | 0.5 | 0.1 | 6.5 | 1.4 | 12.5 | 2.6 |
| 6 | 3 1.5 | 3 2.0 | 2 53.2 | 0.6 | 0.1 | 6.6 | 1.4 | 12.6 | 2.6 |
| 7 | 3 1.8 | 3 2.2 | 2 53.5 | 0.7 | 0.1 | 6.7 | 1.4 | 12.7 | 2.6 |
| 8 | 3 2.0 | 3 2.5 | 2 53.7 | 0.8 | 0.2 | 6.8 | 1.4 | 12.8 | 2.7 |
| 9 | 3 2.3 | 3 2.7 | 2 53.9 | 0.9 | 0.2 | 6.9 | 1.4 | 12.9 | 2.7 |
| 10 | 3 2.5 | 3 3.0 | 2 54.2 | 1.0 | 0.2 | 7.0 | 1.5 | 13.0 | 2.7 |
| 11 | 3 2.8 | 3 3.2 | 2 54.4 | 1.1 | 0.2 | 7.1 | 1.5 | 13.1 | 2.7 |
| 12 | 3 3.0 | 3 3.5 | 2 54.7 | 1.2 | 0.3 | 7.2 | 1.5 | 13.2 | 2.8 |
| 13 | 3 3.3 | 3 3.8 | 2 54.9 | 1.3 | 0.3 | 7.3 | 1.5 | 13.3 | 2.8 |
| 14 | 3 3.5 | 3 4.0 | 2 55.1 | 1.4 | 0.3 | 7.4 | 1.5 | 13.4 | 2.8 |
| 15 | 3 3.8 | 3 4.3 | 2 55.4 | 1.5 | 0.3 | 7.5 | 1.6 | 13.5 | 2.8 |
| 16 | 3 4.0 | 3 4.5 | 2 55.6 | 1.6 | 0.3 | 7.6 | 1.6 | 13.6 | 2.8 |
| 17 | 3 4.2 | 3 4.8 | 2 55.9 | 1.7 | 0.4 | 7.7 | 1.6 | 13.7 | 2.9 |
| 18 | 3 4.5 | 3 5.0 | 2 56.1 | 1.8 | 0.4 | 7.8 | 1.6 | 13.8 | 2.9 |
| 19 | 3 4.7 | 3 5.3 | 2 56.3 | 1.9 | 0.4 | 7.9 | 1.6 | 13.9 | 2.9 |
| 20 | 3 5.0 | 3 5.5 | 2 56.6 | 2.0 | 0.4 | 8.0 | 1.7 | 14.0 | 2.9 |
| 21 | 3 5.2 | 3 5.8 | 2 56.8 | 2.1 | 0.4 | 8.1 | 1.7 | 14.1 | 2.9 |
| 22 | 3 5.5 | 3 6.0 | 2 57.0 | 2.2 | 0.5 | 8.2 | 1.7 | 14.2 | 3.0 |
| 23 | 3 5.7 | 3 6.3 | 2 57.3 | 2.3 | 0.5 | 8.3 | 1.7 | 14.3 | 3.0 |
| 24 | 3 6.0 | 3 6.5 | 2 57.5 | 2.4 | 0.5 | 8.4 | 1.8 | 14.4 | 3.0 |
| 25 | 3 6.2 | 3 6.8 | 2 57.8 | 2.5 | 0.5 | 8.5 | 1.8 | 14.5 | 3.0 |
| 26 | 3 6.5 | 3 7.0 | 2 58.0 | 2.6 | 0.5 | 8.6 | 1.8 | 14.6 | 3.0 |
| 27 | 3 6.7 | 3 7.3 | 2 58.2 | 2.7 | 0.6 | 8.7 | 1.8 | 14.7 | 3.1 |
| 28 | 3 7.0 | 3 7.5 | 2 58.5 | 2.8 | 0.6 | 8.8 | 1.8 | 14.8 | 3.1 |
| 29 | 3 7.2 | 3 7.8 | 2 58.7 | 2.9 | 0.6 | 8.9 | 1.9 | 14.9 | 3.1 |
| 30 | 3 7.5 | 3 8.0 | 2 59.0 | 3.0 | 0.6 | 9.0 | 1.9 | 15.0 | 3.1 |
| 31 | 3 7.8 | 3 8.3 | 2 59.2 | 3.1 | 0.6 | 9.1 | 1.9 | 15.1 | 3.1 |
| 32 | 3 8.0 | 3 8.5 | 2 59.4 | 3.2 | 0.7 | 9.2 | 1.9 | 15.2 | 3.2 |
| 33 | 3 8.3 | 3 8.8 | 2 59.7 | 3.3 | 0.7 | 9.3 | 1.9 | 15.3 | 3.2 |
| 34 | 3 8.5 | 3 9.0 | 2 59.9 | 3.4 | 0.7 | 9.4 | 2.0 | 15.4 | 3.2 |
| 35 | 3 8.8 | 3 9.3 | 3 0.2 | 3.5 | 0.7 | 9.5 | 2.0 | 15.5 | 3.2 |
| 36 | 3 9.0 | 3 9.5 | 3 0.4 | 3.6 | 0.8 | 9.6 | 2.0 | 15.6 | 3.3 |
| 37 | 3 9.3 | 3 9.8 | 3 0.6 | 3.7 | 0.8 | 9.7 | 2.0 | 15.7 | 3.3 |
| 38 | 3 9.5 | 3 10.0 | 3 0.9 | 3.8 | 0.8 | 9.8 | 2.0 | 15.8 | 3.3 |
| 39 | 3 9.8 | 3 10.3 | 3 1.1 | 3.9 | 0.8 | 9.9 | 2.1 | 15.9 | 3.3 |
| 40 | 3 10.0 | 3 10.5 | 3 1.3 | 4.0 | 0.8 | 10.0 | 2.1 | 16.0 | 3.3 |
| 41 | 3 10.3 | 3 10.8 | 3 1.6 | 4.1 | 0.9 | 10.1 | 2.1 | 16.1 | 3.4 |
| 42 | 3 10.5 | 3 11.0 | 3 1.8 | 4.2 | 0.9 | 10.2 | 2.1 | 16.2 | 3.4 |
| 43 | 3 10.8 | 3 11.3 | 3 2.1 | 4.3 | 0.9 | 10.3 | 2.1 | 16.3 | 3.4 |
| 44 | 3 11.0 | 3 11.5 | 3 2.3 | 4.4 | 0.9 | 10.4 | 2.2 | 16.4 | 3.4 |
| 45 | 3 11.3 | 3 11.8 | 3 2.5 | 4.5 | 0.9 | 10.5 | 2.2 | 16.5 | 3.4 |
| 46 | 3 11.5 | 3 12.0 | 3 2.8 | 4.6 | 1.0 | 10.6 | 2.2 | 16.6 | 3.5 |
| 47 | 3 11.7 | 3 12.3 | 3 3.0 | 4.7 | 1.0 | 10.7 | 2.2 | 16.7 | 3.5 |
| 48 | 3 12.0 | 3 12.5 | 3 3.3 | 4.8 | 1.0 | 10.8 | 2.3 | 16.8 | 3.5 |
| 49 | 3 12.2 | 3 12.8 | 3 3.5 | 4.9 | 1.0 | 10.9 | 2.3 | 16.9 | 3.5 |
| 50 | 3 12.5 | 3 13.0 | 3 3.7 | 5.0 | 1.0 | 11.0 | 2.3 | 17.0 | 3.5 |
| 51 | 3 12.7 | 3 13.3 | 3 4.0 | 5.1 | 1.1 | 11.1 | 2.3 | 17.1 | 3.6 |
| 52 | 3 13.0 | 3 13.5 | 3 4.2 | 5.2 | 1.1 | 11.2 | 2.3 | 17.2 | 3.6 |
| 53 | 3 13.2 | 3 13.8 | 3 4.4 | 5.3 | 1.1 | 11.3 | 2.4 | 17.3 | 3.6 |
| 54 | 3 13.5 | 3 14.0 | 3 4.7 | 5.4 | 1.1 | 11.4 | 2.4 | 17.4 | 3.6 |
| 55 | 3 13.7 | 3 14.3 | 3 4.9 | 5.5 | 1.1 | 11.5 | 2.4 | 17.5 | 3.6 |
| 56 | 3 14.0 | 3 14.5 | 3 5.2 | 5.6 | 1.2 | 11.6 | 2.4 | 17.6 | 3.7 |
| 57 | 3 14.2 | 3 14.8 | 3 5.4 | 5.7 | 1.2 | 11.7 | 2.4 | 17.7 | 3.7 |
| 58 | 3 14.5 | 3 15.0 | 3 5.6 | 5.8 | 1.2 | 11.8 | 2.5 | 17.8 | 3.7 |
| 59 | 3 14.7 | 3 15.3 | 3 5.9 | 5.9 | 1.2 | 11.9 | 2.5 | 17.9 | 3.7 |
| 60 | 3 15.0 | 3 15.5 | 3 6.1 | 6.0 | 1.3 | 12.0 | 2.5 | 18.0 | 3.8 |

| m 13 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 3 15.0 | 3 15.5 | 3 6.1 | 0.0 | 0.0 | 6.0 | 1.4 | 12.0 | 2.7 |
| 1 | 3 15.3 | 3 15.8 | 3 6.4 | 0.1 | 0.0 | 6.1 | 1.4 | 12.1 | 2.7 |
| 2 | 3 15.5 | 3 16.0 | 3 6.6 | 0.2 | 0.0 | 6.2 | 1.4 | 12.2 | 2.7 |
| 3 | 3 15.8 | 3 16.3 | 3 6.8 | 0.3 | 0.1 | 6.3 | 1.4 | 12.3 | 2.8 |
| 4 | 3 16.0 | 3 16.5 | 3 7.1 | 0.4 | 0.1 | 6.4 | 1.4 | 12.4 | 2.8 |
| 5 | 3 16.3 | 3 16.8 | 3 7.3 | 0.5 | 0.1 | 6.5 | 1.5 | 12.5 | 2.8 |
| 6 | 3 16.5 | 3 17.0 | 3 7.5 | 0.6 | 0.1 | 6.6 | 1.5 | 12.6 | 2.8 |
| 7 | 3 16.8 | 3 17.3 | 3 7.8 | 0.7 | 0.2 | 6.7 | 1.5 | 12.7 | 2.9 |
| 8 | 3 17.0 | 3 17.5 | 3 8.0 | 0.8 | 0.2 | 6.8 | 1.5 | 12.8 | 2.9 |
| 9 | 3 17.3 | 3 17.8 | 3 8.3 | 0.9 | 0.2 | 6.9 | 1.6 | 12.9 | 2.9 |
| 10 | 3 17.5 | 3 18.0 | 3 8.5 | 1.0 | 0.2 | 7.0 | 1.6 | 13.0 | 2.9 |
| 11 | 3 17.8 | 3 18.3 | 3 8.7 | 1.1 | 0.2 | 7.1 | 1.6 | 13.1 | 2.9 |
| 12 | 3 18.0 | 3 18.5 | 3 9.0 | 1.2 | 0.3 | 7.2 | 1.6 | 13.2 | 3.0 |
| 13 | 3 18.3 | 3 18.8 | 3 9.2 | 1.3 | 0.3 | 7.3 | 1.6 | 13.3 | 3.0 |
| 14 | 3 18.5 | 3 19.0 | 3 9.5 | 1.4 | 0.3 | 7.4 | 1.7 | 13.4 | 3.0 |
| 15 | 3 18.8 | 3 19.3 | 3 9.7 | 1.5 | 0.3 | 7.5 | 1.7 | 13.5 | 3.0 |
| 16 | 3 19.0 | 3 19.5 | 3 9.9 | 1.6 | 0.4 | 7.6 | 1.7 | 13.6 | 3.1 |
| 17 | 3 19.3 | 3 19.8 | 3 10.2 | 1.7 | 0.4 | 7.7 | 1.7 | 13.7 | 3.1 |
| 18 | 3 19.5 | 3 20.0 | 3 10.4 | 1.8 | 0.4 | 7.8 | 1.8 | 13.8 | 3.1 |
| 19 | 3 19.7 | 3 20.3 | 3 10.7 | 1.9 | 0.4 | 7.9 | 1.8 | 13.9 | 3.1 |
| 20 | 3 20.0 | 3 20.5 | 3 10.9 | 2.0 | 0.5 | 8.0 | 1.8 | 14.0 | 3.2 |
| 21 | 3 20.2 | 3 20.8 | 3 11.1 | 2.1 | 0.5 | 8.1 | 1.8 | 14.1 | 3.2 |
| 22 | 3 20.5 | 3 21.0 | 3 11.4 | 2.2 | 0.5 | 8.2 | 1.8 | 14.2 | 3.2 |
| 23 | 3 20.7 | 3 21.3 | 3 11.6 | 2.3 | 0.5 | 8.3 | 1.9 | 14.3 | 3.2 |
| 24 | 3 21.0 | 3 21.5 | 3 11.8 | 2.4 | 0.5 | 8.4 | 1.9 | 14.4 | 3.2 |
| 25 | 3 21.2 | 3 21.8 | 3 12.1 | 2.5 | 0.6 | 8.5 | 1.9 | 14.5 | 3.3 |
| 26 | 3 21.5 | 3 22.1 | 3 12.3 | 2.6 | 0.6 | 8.6 | 1.9 | 14.6 | 3.3 |
| 27 | 3 21.7 | 3 22.3 | 3 12.6 | 2.7 | 0.6 | 8.7 | 2.0 | 14.7 | 3.3 |
| 28 | 3 22.0 | 3 22.6 | 3 12.8 | 2.8 | 0.6 | 8.8 | 2.0 | 14.8 | 3.3 |
| 29 | 3 22.2 | 3 22.8 | 3 13.0 | 2.9 | 0.7 | 8.9 | 2.0 | 14.9 | 3.4 |
| 30 | 3 22.5 | 3 23.1 | 3 13.3 | 3.0 | 0.7 | 9.0 | 2.0 | 15.0 | 3.4 |
| 31 | 3 22.8 | 3 23.3 | 3 13.5 | 3.1 | 0.7 | 9.1 | 2.0 | 15.1 | 3.4 |
| 32 | 3 23.0 | 3 23.6 | 3 13.8 | 3.2 | 0.7 | 9.2 | 2.1 | 15.2 | 3.4 |
| 33 | 3 23.3 | 3 23.8 | 3 14.0 | 3.3 | 0.7 | 9.3 | 2.1 | 15.3 | 3.4 |
| 34 | 3 23.5 | 3 24.1 | 3 14.2 | 3.4 | 0.8 | 9.4 | 2.1 | 15.4 | 3.5 |
| 35 | 3 23.8 | 3 24.3 | 3 14.5 | 3.5 | 0.8 | 9.5 | 2.1 | 15.5 | 3.5 |
| 36 | 3 24.0 | 3 24.6 | 3 14.7 | 3.6 | 0.8 | 9.6 | 2.2 | 15.6 | 3.5 |
| 37 | 3 24.3 | 3 24.8 | 3 14.9 | 3.7 | 0.8 | 9.7 | 2.2 | 15.7 | 3.5 |
| 38 | 3 24.5 | 3 25.1 | 3 15.2 | 3.8 | 0.9 | 9.8 | 2.2 | 15.8 | 3.6 |
| 39 | 3 24.8 | 3 25.3 | 3 15.4 | 3.9 | 0.9 | 9.9 | 2.2 | 15.9 | 3.6 |
| 40 | 3 25.0 | 3 25.6 | 3 15.7 | 4.0 | 0.9 | 10.0 | 2.3 | 16.0 | 3.6 |
| 41 | 3 25.3 | 3 25.8 | 3 15.9 | 4.1 | 0.9 | 10.1 | 2.3 | 16.1 | 3.6 |
| 42 | 3 25.5 | 3 26.1 | 3 16.1 | 4.2 | 0.9 | 10.2 | 2.3 | 16.2 | 3.6 |
| 43 | 3 25.8 | 3 26.3 | 3 16.4 | 4.3 | 1.0 | 10.3 | 2.3 | 16.3 | 3.7 |
| 44 | 3 26.0 | 3 26.6 | 3 16.6 | 4.4 | 1.0 | 10.4 | 2.3 | 16.4 | 3.7 |
| 45 | 3 26.3 | 3 26.8 | 3 16.9 | 4.5 | 1.0 | 10.5 | 2.4 | 16.5 | 3.7 |
| 46 | 3 26.5 | 3 27.1 | 3 17.1 | 4.6 | 1.0 | 10.6 | 2.4 | 16.6 | 3.7 |
| 47 | 3 26.8 | 3 27.3 | 3 17.3 | 4.7 | 1.1 | 10.7 | 2.4 | 16.7 | 3.8 |
| 48 | 3 27.0 | 3 27.6 | 3 17.6 | 4.8 | 1.1 | 10.8 | 2.4 | 16.8 | 3.8 |
| 49 | 3 27.2 | 3 27.8 | 3 17.8 | 4.9 | 1.1 | 10.9 | 2.5 | 16.9 | 3.8 |
| 50 | 3 27.5 | 3 28.1 | 3 18.0 | 5.0 | 1.1 | 11.0 | 2.5 | 17.0 | 3.8 |
| 51 | 3 27.7 | 3 28.3 | 3 18.3 | 5.1 | 1.1 | 11.1 | 2.5 | 17.1 | 3.8 |
| 52 | 3 28.0 | 3 28.6 | 3 18.5 | 5.2 | 1.2 | 11.2 | 2.5 | 17.2 | 3.9 |
| 53 | 3 28.2 | 3 28.8 | 3 18.8 | 5.3 | 1.2 | 11.3 | 2.5 | 17.3 | 3.9 |
| 54 | 3 28.5 | 3 29.1 | 3 19.0 | 5.4 | 1.2 | 11.4 | 2.6 | 17.4 | 3.9 |
| 55 | 3 28.7 | 3 29.3 | 3 19.2 | 5.5 | 1.2 | 11.5 | 2.6 | 17.5 | 3.9 |
| 56 | 3 29.0 | 3 29.6 | 3 19.5 | 5.6 | 1.3 | 11.6 | 2.6 | 17.6 | 4.0 |
| 57 | 3 29.2 | 3 29.8 | 3 19.7 | 5.7 | 1.3 | 11.7 | 2.6 | 17.7 | 4.0 |
| 58 | 3 29.5 | 3 30.1 | 3 20.0 | 5.8 | 1.3 | 11.8 | 2.7 | 17.8 | 4.0 |
| 59 | 3 29.7 | 3 30.3 | 3 20.2 | 5.9 | 1.3 | 11.9 | 2.7 | 17.9 | 4.0 |
| 60 | 3 30.0 | 3 30.6 | 3 20.4 | 6.0 | 1.4 | 12.0 | 2.7 | 18.0 | 4.1 |

| m 14 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 3 30.0 | 3 30.6 | 3 20.4 | 0.0 | 0.0 | 6.0 | 1.5 | 12.0 | 2.9 |
| 1 | 3 30.3 | 3 30.8 | 3 20.7 | 0.1 | 0.0 | 6.1 | 1.5 | 12.1 | 2.9 |
| 2 | 3 30.5 | 3 31.1 | 3 20.9 | 0.2 | 0.0 | 6.2 | 1.5 | 12.2 | 2.9 |
| 3 | 3 30.8 | 3 31.3 | 3 21.1 | 0.3 | 0.1 | 6.3 | 1.5 | 12.3 | 3.0 |
| 4 | 3 31.0 | 3 31.6 | 3 21.4 | 0.4 | 0.1 | 6.4 | 1.5 | 12.4 | 3.0 |
| 5 | 3 31.3 | 3 31.8 | 3 21.6 | 0.5 | 0.1 | 6.5 | 1.6 | 12.5 | 3.0 |
| 6 | 3 31.5 | 3 32.1 | 3 21.9 | 0.6 | 0.1 | 6.6 | 1.6 | 12.6 | 3.0 |
| 7 | 3 31.8 | 3 32.3 | 3 22.1 | 0.7 | 0.2 | 6.7 | 1.6 | 12.7 | 3.1 |
| 8 | 3 32.0 | 3 32.6 | 3 22.3 | 0.8 | 0.2 | 6.8 | 1.6 | 12.8 | 3.1 |
| 9 | 3 32.3 | 3 32.8 | 3 22.6 | 0.9 | 0.2 | 6.9 | 1.7 | 12.9 | 3.1 |
| 10 | 3 32.5 | 3 33.1 | 3 22.8 | 1.0 | 0.2 | 7.0 | 1.7 | 13.0 | 3.1 |
| 11 | 3 32.8 | 3 33.3 | 3 23.1 | 1.1 | 0.3 | 7.1 | 1.7 | 13.1 | 3.2 |
| 12 | 3 33.0 | 3 33.6 | 3 23.3 | 1.2 | 0.3 | 7.2 | 1.7 | 13.2 | 3.2 |
| 13 | 3 33.3 | 3 33.8 | 3 23.5 | 1.3 | 0.3 | 7.3 | 1.8 | 13.3 | 3.2 |
| 14 | 3 33.5 | 3 34.1 | 3 23.8 | 1.4 | 0.3 | 7.4 | 1.8 | 13.4 | 3.2 |
| 15 | 3 33.8 | 3 34.3 | 3 24.0 | 1.5 | 0.4 | 7.5 | 1.8 | 13.5 | 3.3 |
| 16 | 3 34.0 | 3 34.6 | 3 24.3 | 1.6 | 0.4 | 7.6 | 1.8 | 13.6 | 3.3 |
| 17 | 3 34.3 | 3 34.8 | 3 24.5 | 1.7 | 0.4 | 7.7 | 1.9 | 13.7 | 3.3 |
| 18 | 3 34.5 | 3 35.1 | 3 24.7 | 1.8 | 0.4 | 7.8 | 1.9 | 13.8 | 3.3 |
| 19 | 3 34.8 | 3 35.3 | 3 25.0 | 1.9 | 0.5 | 7.9 | 1.9 | 13.9 | 3.4 |
| 20 | 3 35.0 | 3 35.6 | 3 25.2 | 2.0 | 0.5 | 8.0 | 1.9 | 14.0 | 3.4 |
| 21 | 3 35.2 | 3 35.8 | 3 25.4 | 2.1 | 0.5 | 8.1 | 2.0 | 14.1 | 3.4 |
| 22 | 3 35.5 | 3 36.1 | 3 25.7 | 2.2 | 0.5 | 8.2 | 2.0 | 14.2 | 3.4 |
| 23 | 3 35.7 | 3 36.3 | 3 25.9 | 2.3 | 0.6 | 8.3 | 2.0 | 14.3 | 3.5 |
| 24 | 3 36.0 | 3 36.6 | 3 26.2 | 2.4 | 0.6 | 8.4 | 2.0 | 14.4 | 3.5 |
| 25 | 3 36.2 | 3 36.8 | 3 26.4 | 2.5 | 0.6 | 8.5 | 2.1 | 14.5 | 3.5 |
| 26 | 3 36.5 | 3 37.1 | 3 26.6 | 2.6 | 0.6 | 8.6 | 2.1 | 14.6 | 3.5 |
| 27 | 3 36.7 | 3 37.3 | 3 26.9 | 2.7 | 0.7 | 8.7 | 2.1 | 14.7 | 3.6 |
| 28 | 3 37.0 | 3 37.6 | 3 27.1 | 2.8 | 0.7 | 8.8 | 2.1 | 14.8 | 3.6 |
| 29 | 3 37.2 | 3 37.8 | 3 27.4 | 2.9 | 0.7 | 8.9 | 2.2 | 14.9 | 3.6 |
| 30 | 3 37.5 | 3 38.1 | 3 27.6 | 3.0 | 0.7 | 9.0 | 2.2 | 15.0 | 3.6 |
| 31 | 3 37.8 | 3 38.3 | 3 27.8 | 3.1 | 0.7 | 9.1 | 2.2 | 15.1 | 3.6 |
| 32 | 3 38.0 | 3 38.6 | 3 28.1 | 3.2 | 0.8 | 9.2 | 2.2 | 15.2 | 3.7 |
| 33 | 3 38.3 | 3 38.8 | 3 28.3 | 3.3 | 0.8 | 9.3 | 2.2 | 15.3 | 3.7 |
| 34 | 3 38.5 | 3 39.1 | 3 28.5 | 3.4 | 0.8 | 9.4 | 2.3 | 15.4 | 3.7 |
| 35 | 3 38.8 | 3 39.3 | 3 28.8 | 3.5 | 0.8 | 9.5 | 2.3 | 15.5 | 3.7 |
| 36 | 3 39.0 | 3 39.6 | 3 29.0 | 3.6 | 0.9 | 9.6 | 2.3 | 15.6 | 3.8 |
| 37 | 3 39.3 | 3 39.8 | 3 29.3 | 3.7 | 0.9 | 9.7 | 2.3 | 15.7 | 3.8 |
| 38 | 3 39.5 | 3 40.1 | 3 29.5 | 3.8 | 0.9 | 9.8 | 2.4 | 15.8 | 3.8 |
| 39 | 3 39.8 | 3 40.4 | 3 29.7 | 3.9 | 0.9 | 9.9 | 2.4 | 15.9 | 3.8 |
| 40 | 3 40.0 | 3 40.6 | 3 30.0 | 4.0 | 1.0 | 10.0 | 2.4 | 16.0 | 3.9 |
| 41 | 3 40.3 | 3 40.9 | 3 30.2 | 4.1 | 1.0 | 10.1 | 2.4 | 16.1 | 3.9 |
| 42 | 3 40.5 | 3 41.1 | 3 30.5 | 4.2 | 1.0 | 10.2 | 2.5 | 16.2 | 3.9 |
| 43 | 3 40.8 | 3 41.4 | 3 30.7 | 4.3 | 1.0 | 10.3 | 2.5 | 16.3 | 3.9 |
| 44 | 3 41.0 | 3 41.6 | 3 30.9 | 4.4 | 1.1 | 10.4 | 2.5 | 16.4 | 4.0 |
| 45 | 3 41.3 | 3 41.9 | 3 31.2 | 4.5 | 1.1 | 10.5 | 2.5 | 16.5 | 4.0 |
| 46 | 3 41.5 | 3 42.1 | 3 31.4 | 4.6 | 1.1 | 10.6 | 2.6 | 16.6 | 4.0 |
| 47 | 3 41.8 | 3 42.4 | 3 31.6 | 4.7 | 1.1 | 10.7 | 2.6 | 16.7 | 4.0 |
| 48 | 3 42.0 | 3 42.6 | 3 31.9 | 4.8 | 1.2 | 10.8 | 2.6 | 16.8 | 4.1 |
| 49 | 3 42.3 | 3 42.9 | 3 32.1 | 4.9 | 1.2 | 10.9 | 2.6 | 16.9 | 4.1 |
| 50 | 3 42.5 | 3 43.1 | 3 32.4 | 5.0 | 1.2 | 11.0 | 2.7 | 17.0 | 4.1 |
| 51 | 3 42.7 | 3 43.4 | 3 32.6 | 5.1 | 1.2 | 11.1 | 2.7 | 17.1 | 4.1 |
| 52 | 3 43.0 | 3 43.6 | 3 32.8 | 5.2 | 1.3 | 11.2 | 2.7 | 17.2 | 4.2 |
| 53 | 3 43.2 | 3 43.9 | 3 33.1 | 5.3 | 1.3 | 11.3 | 2.7 | 17.3 | 4.2 |
| 54 | 3 43.5 | 3 44.1 | 3 33.3 | 5.4 | 1.3 | 11.4 | 2.8 | 17.4 | 4.2 |
| 55 | 3 43.7 | 3 44.4 | 3 33.6 | 5.5 | 1.3 | 11.5 | 2.8 | 17.5 | 4.2 |
| 56 | 3 44.0 | 3 44.6 | 3 33.8 | 5.6 | 1.4 | 11.6 | 2.8 | 17.6 | 4.3 |
| 57 | 3 44.2 | 3 44.9 | 3 34.0 | 5.7 | 1.4 | 11.7 | 2.8 | 17.7 | 4.3 |
| 58 | 3 44.5 | 3 45.1 | 3 34.3 | 5.8 | 1.4 | 11.8 | 2.9 | 17.8 | 4.3 |
| 59 | 3 44.7 | 3 45.4 | 3 34.5 | 5.9 | 1.4 | 11.9 | 2.9 | 17.9 | 4.3 |
| 60 | 3 45.0 | 3 45.6 | 3 34.8 | 6.0 | 1.5 | 12.0 | 2.9 | 18.0 | 4.4 |

| m 15 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 3 45.0 | 3 45.6 | 3 34.8 | 0.0 | 0.0 | 6.0 | 1.6 | 12.0 | 3.1 |
| 1 | 3 45.2 | 3 45.9 | 3 35.0 | 0.1 | 0.0 | 6.1 | 1.6 | 12.1 | 3.1 |
| 2 | 3 45.5 | 3 46.1 | 3 35.2 | 0.2 | 0.1 | 6.2 | 1.6 | 12.2 | 3.2 |
| 3 | 3 45.8 | 3 46.4 | 3 35.5 | 0.3 | 0.1 | 6.3 | 1.6 | 12.3 | 3.2 |
| 4 | 3 46.0 | 3 46.6 | 3 35.7 | 0.4 | 0.1 | 6.4 | 1.7 | 12.4 | 3.2 |
| 5 | 3 46.2 | 3 46.9 | 3 35.9 | 0.5 | 0.1 | 6.5 | 1.7 | 12.5 | 3.2 |
| 6 | 3 46.5 | 3 47.1 | 3 36.2 | 0.6 | 0.2 | 6.6 | 1.7 | 12.6 | 3.3 |
| 7 | 3 46.8 | 3 47.4 | 3 36.4 | 0.7 | 0.2 | 6.7 | 1.7 | 12.7 | 3.3 |
| 8 | 3 47.0 | 3 47.6 | 3 36.7 | 0.8 | 0.2 | 6.8 | 1.8 | 12.8 | 3.3 |
| 9 | 3 47.3 | 3 47.9 | 3 36.9 | 0.9 | 0.2 | 6.9 | 1.8 | 12.9 | 3.3 |
| 10 | 3 47.5 | 3 48.1 | 3 37.1 | 1.0 | 0.3 | 7.0 | 1.8 | 13.0 | 3.4 |
| 11 | 3 47.7 | 3 48.4 | 3 37.4 | 1.1 | 0.3 | 7.1 | 1.8 | 13.1 | 3.4 |
| 12 | 3 48.0 | 3 48.6 | 3 37.6 | 1.2 | 0.3 | 7.2 | 1.9 | 13.2 | 3.4 |
| 13 | 3 48.3 | 3 48.9 | 3 37.9 | 1.3 | 0.3 | 7.3 | 1.9 | 13.3 | 3.4 |
| 14 | 3 48.5 | 3 49.1 | 3 38.1 | 1.4 | 0.4 | 7.4 | 1.9 | 13.4 | 3.5 |
| 15 | 3 48.8 | 3 49.4 | 3 38.3 | 1.5 | 0.4 | 7.5 | 1.9 | 13.5 | 3.5 |
| 16 | 3 49.0 | 3 49.6 | 3 38.6 | 1.6 | 0.4 | 7.6 | 2.0 | 13.6 | 3.5 |
| 17 | 3 49.3 | 3 49.9 | 3 38.8 | 1.7 | 0.4 | 7.7 | 2.0 | 13.7 | 3.5 |
| 18 | 3 49.5 | 3 50.1 | 3 39.0 | 1.8 | 0.5 | 7.8 | 2.0 | 13.8 | 3.6 |
| 19 | 3 49.8 | 3 50.4 | 3 39.3 | 1.9 | 0.5 | 7.9 | 2.0 | 13.9 | 3.6 |
| 20 | 3 50.0 | 3 50.6 | 3 39.5 | 2.0 | 0.5 | 8.0 | 2.1 | 14.0 | 3.6 |
| 21 | 3 50.2 | 3 50.9 | 3 39.8 | 2.1 | 0.5 | 8.1 | 2.1 | 14.1 | 3.6 |
| 22 | 3 50.5 | 3 51.1 | 3 40.0 | 2.2 | 0.6 | 8.2 | 2.1 | 14.2 | 3.7 |
| 23 | 3 50.7 | 3 51.4 | 3 40.2 | 2.3 | 0.6 | 8.3 | 2.1 | 14.3 | 3.7 |
| 24 | 3 51.0 | 3 51.6 | 3 40.5 | 2.4 | 0.6 | 8.4 | 2.2 | 14.4 | 3.7 |
| 25 | 3 51.2 | 3 51.9 | 3 40.7 | 2.5 | 0.6 | 8.5 | 2.2 | 14.5 | 3.7 |
| 26 | 3 51.5 | 3 52.1 | 3 41.0 | 2.6 | 0.7 | 8.6 | 2.2 | 14.6 | 3.8 |
| 27 | 3 51.8 | 3 52.4 | 3 41.2 | 2.7 | 0.7 | 8.7 | 2.2 | 14.7 | 3.8 |
| 28 | 3 52.0 | 3 52.6 | 3 41.4 | 2.8 | 0.7 | 8.8 | 2.3 | 14.8 | 3.8 |
| 29 | 3 52.2 | 3 52.9 | 3 41.7 | 2.9 | 0.7 | 8.9 | 2.3 | 14.9 | 3.8 |
| 30 | 3 52.5 | 3 53.1 | 3 41.9 | 3.0 | 0.8 | 9.0 | 2.3 | 15.0 | 3.9 |
| 31 | 3 52.8 | 3 53.4 | 3 42.1 | 3.1 | 0.8 | 9.1 | 2.4 | 15.1 | 3.9 |
| 32 | 3 53.0 | 3 53.6 | 3 42.4 | 3.2 | 0.8 | 9.2 | 2.4 | 15.2 | 3.9 |
| 33 | 3 53.2 | 3 53.9 | 3 42.6 | 3.3 | 0.9 | 9.3 | 2.4 | 15.3 | 4.0 |
| 34 | 3 53.5 | 3 54.1 | 3 42.9 | 3.4 | 0.9 | 9.4 | 2.4 | 15.4 | 4.0 |
| 35 | 3 53.8 | 3 54.4 | 3 43.1 | 3.5 | 0.9 | 9.5 | 2.5 | 15.5 | 4.0 |
| 36 | 3 54.0 | 3 54.6 | 3 43.3 | 3.6 | 0.9 | 9.6 | 2.5 | 15.6 | 4.0 |
| 37 | 3 54.3 | 3 54.9 | 3 43.6 | 3.7 | 1.0 | 9.7 | 2.5 | 15.7 | 4.1 |
| 38 | 3 54.5 | 3 55.1 | 3 43.8 | 3.8 | 1.0 | 9.8 | 2.5 | 15.8 | 4.1 |
| 39 | 3 54.8 | 3 55.4 | 3 44.1 | 3.9 | 1.0 | 9.9 | 2.6 | 15.9 | 4.1 |
| 40 | 3 55.0 | 3 55.6 | 3 44.3 | 4.0 | 1.0 | 10.0 | 2.6 | 16.0 | 4.1 |
| 41 | 3 55.3 | 3 55.9 | 3 44.5 | 4.1 | 1.1 | 10.1 | 2.6 | 16.1 | 4.2 |
| 42 | 3 55.5 | 3 56.1 | 3 44.8 | 4.2 | 1.1 | 10.2 | 2.6 | 16.2 | 4.2 |
| 43 | 3 55.7 | 3 56.4 | 3 45.0 | 4.3 | 1.1 | 10.3 | 2.7 | 16.3 | 4.2 |
| 44 | 3 56.0 | 3 56.6 | 3 45.2 | 4.4 | 1.1 | 10.4 | 2.7 | 16.4 | 4.2 |
| 45 | 3 56.3 | 3 56.9 | 3 45.5 | 4.5 | 1.2 | 10.5 | 2.7 | 16.5 | 4.3 |
| 46 | 3 56.5 | 3 57.1 | 3 45.7 | 4.6 | 1.2 | 10.6 | 2.7 | 16.6 | 4.3 |
| 47 | 3 56.8 | 3 57.4 | 3 46.0 | 4.7 | 1.2 | 10.7 | 2.8 | 16.7 | 4.3 |
| 48 | 3 57.0 | 3 57.6 | 3 46.2 | 4.8 | 1.2 | 10.8 | 2.8 | 16.8 | 4.3 |
| 49 | 3 57.3 | 3 57.9 | 3 46.4 | 4.9 | 1.3 | 10.9 | 2.8 | 16.9 | 4.4 |
| 50 | 3 57.5 | 3 58.1 | 3 46.7 | 5.0 | 1.3 | 11.0 | 2.8 | 17.0 | 4.4 |
| 51 | 3 57.7 | 3 58.4 | 3 46.9 | 5.1 | 1.3 | 11.1 | 2.9 | 17.1 | 4.4 |
| 52 | 3 58.0 | 3 58.7 | 3 47.2 | 5.2 | 1.3 | 11.2 | 2.9 | 17.2 | 4.4 |
| 53 | 3 58.2 | 3 58.9 | 3 47.4 | 5.3 | 1.4 | 11.3 | 2.9 | 17.3 | 4.5 |
| 54 | 3 58.5 | 3 59.2 | 3 47.6 | 5.4 | 1.4 | 11.4 | 2.9 | 17.4 | 4.5 |
| 55 | 3 58.7 | 3 59.4 | 3 47.9 | 5.5 | 1.4 | 11.5 | 3.0 | 17.5 | 4.5 |
| 56 | 3 59.0 | 3 59.7 | 3 48.1 | 5.6 | 1.4 | 11.6 | 3.0 | 17.6 | 4.5 |
| 57 | 3 59.2 | 3 59.9 | 3 48.4 | 5.7 | 1.5 | 11.7 | 3.0 | 17.7 | 4.6 |
| 58 | 3 59.5 | 4 0.2 | 3 48.6 | 5.8 | 1.5 | 11.8 | 3.0 | 17.8 | 4.6 |
| 59 | 3 59.8 | 4 0.4 | 3 48.8 | 5.9 | 1.5 | 11.9 | 3.1 | 17.9 | 4.6 |
| 60 | 4 0.0 | 4 0.7 | 3 49.1 | 6.0 | 1.6 | 12.0 | 3.1 | 18.0 | 4.7 |

| m 16 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 4 0.0 | 4 0.7 | 3 49.1 | 0.0 | 0.0 | 6.0 | 1.7 | 12.0 | 3.3 |
| 1 | 4 0.2 | 4 0.9 | 3 49.3 | 0.1 | 0.0 | 6.1 | 1.7 | 12.1 | 3.3 |
| 2 | 4 0.5 | 4 1.2 | 3 49.5 | 0.2 | 0.1 | 6.2 | 1.7 | 12.2 | 3.4 |
| 3 | 4 0.8 | 4 1.4 | 3 49.8 | 0.3 | 0.1 | 6.3 | 1.7 | 12.3 | 3.4 |
| 4 | 4 1.0 | 4 1.7 | 3 50.0 | 0.4 | 0.1 | 6.4 | 1.8 | 12.4 | 3.4 |
| 5 | 4 1.2 | 4 1.9 | 3 50.3 | 0.5 | 0.1 | 6.5 | 1.8 | 12.5 | 3.4 |
| 6 | 4 1.5 | 4 2.2 | 3 50.5 | 0.6 | 0.2 | 6.6 | 1.8 | 12.6 | 3.5 |
| 7 | 4 1.8 | 4 2.4 | 3 50.7 | 0.7 | 0.2 | 6.7 | 1.8 | 12.7 | 3.5 |
| 8 | 4 2.0 | 4 2.7 | 3 51.0 | 0.8 | 0.2 | 6.8 | 1.9 | 12.8 | 3.5 |
| 9 | 4 2.2 | 4 2.9 | 3 51.2 | 0.9 | 0.2 | 6.9 | 1.9 | 12.9 | 3.5 |
| 10 | 4 2.5 | 4 3.2 | 3 51.5 | 1.0 | 0.3 | 7.0 | 1.9 | 13.0 | 3.6 |
| 11 | 4 2.8 | 4 3.4 | 3 51.7 | 1.1 | 0.3 | 7.1 | 2.0 | 13.1 | 3.6 |
| 12 | 4 3.0 | 4 3.7 | 3 51.9 | 1.2 | 0.3 | 7.2 | 2.0 | 13.2 | 3.6 |
| 13 | 4 3.2 | 4 3.9 | 3 52.2 | 1.3 | 0.4 | 7.3 | 2.0 | 13.3 | 3.7 |
| 14 | 4 3.5 | 4 4.2 | 3 52.4 | 1.4 | 0.4 | 7.4 | 2.0 | 13.4 | 3.7 |
| 15 | 4 3.8 | 4 4.4 | 3 52.6 | 1.5 | 0.4 | 7.5 | 2.1 | 13.5 | 3.7 |
| 16 | 4 4.0 | 4 4.7 | 3 52.9 | 1.6 | 0.4 | 7.6 | 2.1 | 13.6 | 3.7 |
| 17 | 4 4.3 | 4 4.9 | 3 53.1 | 1.7 | 0.5 | 7.7 | 2.1 | 13.7 | 3.8 |
| 18 | 4 4.5 | 4 5.2 | 3 53.4 | 1.8 | 0.5 | 7.8 | 2.1 | 13.8 | 3.8 |
| 19 | 4 4.7 | 4 5.4 | 3 53.6 | 1.9 | 0.5 | 7.9 | 2.2 | 13.9 | 3.8 |
| 20 | 4 5.0 | 4 5.7 | 3 53.8 | 2.0 | 0.6 | 8.0 | 2.2 | 14.0 | 3.9 |
| 21 | 4 5.3 | 4 5.9 | 3 54.1 | 2.1 | 0.6 | 8.1 | 2.2 | 14.1 | 3.9 |
| 22 | 4 5.5 | 4 6.2 | 3 54.3 | 2.2 | 0.6 | 8.2 | 2.3 | 14.2 | 3.9 |
| 23 | 4 5.7 | 4 6.4 | 3 54.6 | 2.3 | 0.6 | 8.3 | 2.3 | 14.3 | 3.9 |
| 24 | 4 6.0 | 4 6.7 | 3 54.8 | 2.4 | 0.7 | 8.4 | 2.3 | 14.4 | 4.0 |
| 25 | 4 6.3 | 4 6.9 | 3 55.0 | 2.5 | 0.7 | 8.5 | 2.3 | 14.5 | 4.0 |
| 26 | 4 6.5 | 4 7.2 | 3 55.3 | 2.6 | 0.7 | 8.6 | 2.4 | 14.6 | 4.0 |
| 27 | 4 6.7 | 4 7.4 | 3 55.5 | 2.7 | 0.7 | 8.7 | 2.4 | 14.7 | 4.0 |
| 28 | 4 7.0 | 4 7.7 | 3 55.7 | 2.8 | 0.8 | 8.8 | 2.4 | 14.8 | 4.1 |
| 29 | 4 7.3 | 4 7.9 | 3 56.0 | 2.9 | 0.8 | 8.9 | 2.4 | 14.9 | 4.1 |
| 30 | 4 7.5 | 4 8.2 | 3 56.2 | 3.0 | 0.8 | 9.0 | 2.5 | 15.0 | 4.1 |
| 31 | 4 7.7 | 4 8.4 | 3 56.5 | 3.1 | 0.9 | 9.1 | 2.5 | 15.1 | 4.2 |
| 32 | 4 8.0 | 4 8.7 | 3 56.7 | 3.2 | 0.9 | 9.2 | 2.5 | 15.2 | 4.2 |
| 33 | 4 8.3 | 4 8.9 | 3 56.9 | 3.3 | 0.9 | 9.3 | 2.6 | 15.3 | 4.2 |
| 34 | 4 8.5 | 4 9.2 | 3 57.2 | 3.4 | 0.9 | 9.4 | 2.6 | 15.4 | 4.2 |
| 35 | 4 8.7 | 4 9.4 | 3 57.4 | 3.5 | 1.0 | 9.5 | 2.6 | 15.5 | 4.3 |
| 36 | 4 9.0 | 4 9.7 | 3 57.7 | 3.6 | 1.0 | 9.6 | 2.6 | 15.6 | 4.3 |
| 37 | 4 9.3 | 4 9.9 | 3 57.9 | 3.7 | 1.0 | 9.7 | 2.7 | 15.7 | 4.3 |
| 38 | 4 9.5 | 4 10.2 | 3 58.1 | 3.8 | 1.0 | 9.8 | 2.7 | 15.8 | 4.3 |
| 39 | 4 9.7 | 4 10.4 | 3 58.4 | 3.9 | 1.1 | 9.9 | 2.7 | 15.9 | 4.4 |
| 40 | 4 10.0 | 4 10.7 | 3 58.6 | 4.0 | 1.1 | 10.0 | 2.8 | 16.0 | 4.4 |
| 41 | 4 10.3 | 4 10.9 | 3 58.8 | 4.1 | 1.1 | 10.1 | 2.8 | 16.1 | 4.4 |
| 42 | 4 10.5 | 4 11.2 | 3 59.1 | 4.2 | 1.2 | 10.2 | 2.8 | 16.2 | 4.5 |
| 43 | 4 10.7 | 4 11.4 | 3 59.3 | 4.3 | 1.2 | 10.3 | 2.8 | 16.3 | 4.5 |
| 44 | 4 11.0 | 4 11.7 | 3 59.6 | 4.4 | 1.2 | 10.4 | 2.9 | 16.4 | 4.5 |
| 45 | 4 11.3 | 4 11.9 | 3 59.8 | 4.5 | 1.2 | 10.5 | 2.9 | 16.5 | 4.5 |
| 46 | 4 11.5 | 4 12.2 | 4 0.0 | 4.6 | 1.3 | 10.6 | 2.9 | 16.6 | 4.6 |
| 47 | 4 11.8 | 4 12.4 | 4 0.3 | 4.7 | 1.3 | 10.7 | 2.9 | 16.7 | 4.6 |
| 48 | 4 12.0 | 4 12.7 | 4 0.5 | 4.8 | 1.3 | 10.8 | 3.0 | 16.8 | 4.6 |
| 49 | 4 12.2 | 4 12.9 | 4 0.8 | 4.9 | 1.3 | 10.9 | 3.0 | 16.9 | 4.6 |
| 50 | 4 12.5 | 4 13.2 | 4 1.0 | 5.0 | 1.4 | 11.0 | 3.0 | 17.0 | 4.7 |
| 51 | 4 12.8 | 4 13.4 | 4 1.2 | 5.1 | 1.4 | 11.1 | 3.1 | 17.1 | 4.7 |
| 52 | 4 13.0 | 4 13.7 | 4 1.5 | 5.2 | 1.4 | 11.2 | 3.1 | 17.2 | 4.7 |
| 53 | 4 13.2 | 4 13.9 | 4 1.7 | 5.3 | 1.5 | 11.3 | 3.1 | 17.3 | 4.8 |
| 54 | 4 13.5 | 4 14.2 | 4 2.0 | 5.4 | 1.5 | 11.4 | 3.1 | 17.4 | 4.8 |
| 55 | 4 13.8 | 4 14.4 | 4 2.2 | 5.5 | 1.5 | 11.5 | 3.2 | 17.5 | 4.8 |
| 56 | 4 14.0 | 4 14.7 | 4 2.4 | 5.6 | 1.5 | 11.6 | 3.2 | 17.6 | 4.8 |
| 57 | 4 14.2 | 4 14.9 | 4 2.7 | 5.7 | 1.6 | 11.7 | 3.2 | 17.7 | 4.9 |
| 58 | 4 14.5 | 4 15.2 | 4 2.9 | 5.8 | 1.6 | 11.8 | 3.2 | 17.8 | 4.9 |
| 59 | 4 14.8 | 4 15.4 | 4 3.1 | 5.9 | 1.6 | 11.9 | 3.3 | 17.9 | 4.9 |
| 60 | 4 15.0 | 4 15.7 | 4 3.4 | 6.0 | 1.7 | 12.0 | 3.3 | 18.0 | 5.0 |

| m 17 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 4 15.0 | 4 15.7 | 4 3.4 | 0.0 | 0.0 | 6.0 | 1.8 | 12.0 | 3.5 |
| 1 | 4 15.2 | 4 15.9 | 4 3.6 | 0.1 | 0.0 | 6.1 | 1.8 | 12.1 | 3.5 |
| 2 | 4 15.5 | 4 16.2 | 4 3.9 | 0.2 | 0.1 | 6.2 | 1.8 | 12.2 | 3.6 |
| 3 | 4 15.8 | 4 16.4 | 4 4.1 | 0.3 | 0.1 | 6.3 | 1.8 | 12.3 | 3.6 |
| 4 | 4 16.0 | 4 16.7 | 4 4.3 | 0.4 | 0.1 | 6.4 | 1.9 | 12.4 | 3.6 |
| 5 | 4 16.2 | 4 17.0 | 4 4.6 | 0.5 | 0.1 | 6.5 | 1.9 | 12.5 | 3.6 |
| 6 | 4 16.5 | 4 17.2 | 4 4.8 | 0.6 | 0.2 | 6.6 | 1.9 | 12.6 | 3.7 |
| 7 | 4 16.8 | 4 17.5 | 4 5.1 | 0.7 | 0.2 | 6.7 | 2.0 | 12.7 | 3.7 |
| 8 | 4 17.0 | 4 17.7 | 4 5.3 | 0.8 | 0.2 | 6.8 | 2.0 | 12.8 | 3.7 |
| 9 | 4 17.2 | 4 18.0 | 4 5.5 | 0.9 | 0.3 | 6.9 | 2.0 | 12.9 | 3.8 |
| 10 | 4 17.5 | 4 18.2 | 4 5.8 | 1.0 | 0.3 | 7.0 | 2.0 | 13.0 | 3.8 |
| 11 | 4 17.8 | 4 18.5 | 4 6.0 | 1.1 | 0.3 | 7.1 | 2.1 | 13.1 | 3.8 |
| 12 | 4 18.0 | 4 18.7 | 4 6.2 | 1.2 | 0.4 | 7.2 | 2.1 | 13.2 | 3.9 |
| 13 | 4 18.2 | 4 19.0 | 4 6.5 | 1.3 | 0.4 | 7.3 | 2.1 | 13.3 | 3.9 |
| 14 | 4 18.5 | 4 19.2 | 4 6.7 | 1.4 | 0.4 | 7.4 | 2.2 | 13.4 | 3.9 |
| 15 | 4 18.8 | 4 19.5 | 4 7.0 | 1.5 | 0.4 | 7.5 | 2.2 | 13.5 | 3.9 |
| 16 | 4 19.0 | 4 19.7 | 4 7.2 | 1.6 | 0.5 | 7.6 | 2.2 | 13.6 | 4.0 |
| 17 | 4 19.3 | 4 20.0 | 4 7.4 | 1.7 | 0.5 | 7.7 | 2.2 | 13.7 | 4.0 |
| 18 | 4 19.5 | 4 20.2 | 4 7.7 | 1.8 | 0.5 | 7.8 | 2.3 | 13.8 | 4.0 |
| 19 | 4 19.7 | 4 20.5 | 4 7.9 | 1.9 | 0.6 | 7.9 | 2.3 | 13.9 | 4.1 |
| 20 | 4 20.0 | 4 20.7 | 4 8.2 | 2.0 | 0.6 | 8.0 | 2.3 | 14.0 | 4.1 |
| 21 | 4 20.3 | 4 21.0 | 4 8.4 | 2.1 | 0.6 | 8.1 | 2.4 | 14.1 | 4.1 |
| 22 | 4 20.5 | 4 21.2 | 4 8.6 | 2.2 | 0.6 | 8.2 | 2.4 | 14.2 | 4.1 |
| 23 | 4 20.7 | 4 21.5 | 4 8.9 | 2.3 | 0.7 | 8.3 | 2.4 | 14.3 | 4.2 |
| 24 | 4 21.0 | 4 21.7 | 4 9.1 | 2.4 | 0.7 | 8.4 | 2.5 | 14.4 | 4.2 |
| 25 | 4 21.3 | 4 22.0 | 4 9.3 | 2.5 | 0.7 | 8.5 | 2.5 | 14.5 | 4.2 |
| 26 | 4 21.5 | 4 22.2 | 4 9.6 | 2.6 | 0.8 | 8.6 | 2.5 | 14.6 | 4.3 |
| 27 | 4 21.7 | 4 22.5 | 4 9.8 | 2.7 | 0.8 | 8.7 | 2.5 | 14.7 | 4.3 |
| 28 | 4 22.0 | 4 22.7 | 4 10.1 | 2.8 | 0.8 | 8.8 | 2.6 | 14.8 | 4.3 |
| 29 | 4 22.3 | 4 23.0 | 4 10.3 | 2.9 | 0.8 | 8.9 | 2.6 | 14.9 | 4.3 |
| 30 | 4 22.5 | 4 23.2 | 4 10.5 | 3.0 | 0.9 | 9.0 | 2.6 | 15.0 | 4.4 |
| 31 | 4 22.7 | 4 23.5 | 4 10.8 | 3.1 | 0.9 | 9.1 | 2.7 | 15.1 | 4.4 |
| 32 | 4 23.0 | 4 23.7 | 4 11.0 | 3.2 | 0.9 | 9.2 | 2.7 | 15.2 | 4.4 |
| 33 | 4 23.3 | 4 24.0 | 4 11.3 | 3.3 | 1.0 | 9.3 | 2.7 | 15.3 | 4.5 |
| 34 | 4 23.5 | 4 24.2 | 4 11.5 | 3.4 | 1.0 | 9.4 | 2.7 | 15.4 | 4.5 |
| 35 | 4 23.7 | 4 24.5 | 4 11.7 | 3.5 | 1.0 | 9.5 | 2.8 | 15.5 | 4.5 |
| 36 | 4 24.0 | 4 24.7 | 4 12.0 | 3.6 | 1.1 | 9.6 | 2.8 | 15.6 | 4.6 |
| 37 | 4 24.3 | 4 25.0 | 4 12.2 | 3.7 | 1.1 | 9.7 | 2.8 | 15.7 | 4.6 |
| 38 | 4 24.5 | 4 25.2 | 4 12.5 | 3.8 | 1.1 | 9.8 | 2.9 | 15.8 | 4.6 |
| 39 | 4 24.7 | 4 25.5 | 4 12.7 | 3.9 | 1.1 | 9.9 | 2.9 | 15.9 | 4.6 |
| 40 | 4 25.0 | 4 25.7 | 4 12.9 | 4.0 | 1.2 | 10.0 | 2.9 | 16.0 | 4.7 |
| 41 | 4 25.3 | 4 26.0 | 4 13.2 | 4.1 | 1.2 | 10.1 | 2.9 | 16.1 | 4.7 |
| 42 | 4 25.5 | 4 26.2 | 4 13.4 | 4.2 | 1.2 | 10.2 | 3.0 | 16.2 | 4.7 |
| 43 | 4 25.7 | 4 26.5 | 4 13.6 | 4.3 | 1.3 | 10.3 | 3.0 | 16.3 | 4.8 |
| 44 | 4 26.0 | 4 26.7 | 4 13.9 | 4.4 | 1.3 | 10.4 | 3.0 | 16.4 | 4.8 |
| 45 | 4 26.3 | 4 27.0 | 4 14.1 | 4.5 | 1.3 | 10.5 | 3.1 | 16.5 | 4.8 |
| 46 | 4 26.5 | 4 27.2 | 4 14.4 | 4.6 | 1.3 | 10.6 | 3.1 | 16.6 | 4.8 |
| 47 | 4 26.8 | 4 27.5 | 4 14.6 | 4.7 | 1.4 | 10.7 | 3.1 | 16.7 | 4.9 |
| 48 | 4 27.0 | 4 27.7 | 4 14.8 | 4.8 | 1.4 | 10.8 | 3.2 | 16.8 | 4.9 |
| 49 | 4 27.2 | 4 28.0 | 4 15.1 | 4.9 | 1.4 | 10.9 | 3.2 | 16.9 | 4.9 |
| 50 | 4 27.5 | 4 28.2 | 4 15.3 | 5.0 | 1.5 | 11.0 | 3.2 | 17.0 | 5.0 |
| 51 | 4 27.8 | 4 28.5 | 4 15.6 | 5.1 | 1.5 | 11.1 | 3.2 | 17.1 | 5.0 |
| 52 | 4 28.0 | 4 28.7 | 4 15.8 | 5.2 | 1.5 | 11.2 | 3.3 | 17.2 | 5.0 |
| 53 | 4 28.2 | 4 29.0 | 4 16.0 | 5.3 | 1.5 | 11.3 | 3.3 | 17.3 | 5.0 |
| 54 | 4 28.5 | 4 29.2 | 4 16.3 | 5.4 | 1.6 | 11.4 | 3.3 | 17.4 | 5.1 |
| 55 | 4 28.8 | 4 29.5 | 4 16.5 | 5.5 | 1.6 | 11.5 | 3.4 | 17.5 | 5.1 |
| 56 | 4 29.0 | 4 29.7 | 4 16.7 | 5.6 | 1.6 | 11.6 | 3.4 | 17.6 | 5.1 |
| 57 | 4 29.2 | 4 30.0 | 4 17.0 | 5.7 | 1.7 | 11.7 | 3.4 | 17.7 | 5.2 |
| 58 | 4 29.5 | 4 30.2 | 4 17.2 | 5.8 | 1.7 | 11.8 | 3.4 | 17.8 | 5.2 |
| 59 | 4 29.8 | 4 30.5 | 4 17.5 | 5.9 | 1.7 | 11.9 | 3.5 | 17.9 | 5.2 |
| 60 | 4 30.0 | 4 30.7 | 4 17.7 | 6.0 | 1.8 | 12.0 | 3.5 | 18.0 | 5.3 |

| m 18 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 4 30.0 | 4 30.7 | 4 17.7 | 0.0 | 0.0 | 6.0 | 1.9 | 12.0 | 3.7 |
| 1 | 4 30.2 | 4 31.0 | 4 17.9 | 0.1 | 0.0 | 6.1 | 1.9 | 12.1 | 3.7 |
| 2 | 4 30.5 | 4 31.2 | 4 18.2 | 0.2 | 0.1 | 6.2 | 1.9 | 12.2 | 3.8 |
| 3 | 4 30.8 | 4 31.5 | 4 18.4 | 0.3 | 0.1 | 6.3 | 1.9 | 12.3 | 3.8 |
| 4 | 4 31.0 | 4 31.7 | 4 18.7 | 0.4 | 0.1 | 6.4 | 2.0 | 12.4 | 3.8 |
| 5 | 4 31.2 | 4 32.0 | 4 18.9 | 0.5 | 0.2 | 6.5 | 2.0 | 12.5 | 3.9 |
| 6 | 4 31.5 | 4 32.2 | 4 19.1 | 0.6 | 0.2 | 6.6 | 2.0 | 12.6 | 3.9 |
| 7 | 4 31.8 | 4 32.5 | 4 19.4 | 0.7 | 0.2 | 6.7 | 2.1 | 12.7 | 3.9 |
| 8 | 4 32.0 | 4 32.7 | 4 19.6 | 0.8 | 0.2 | 6.8 | 2.1 | 12.8 | 3.9 |
| 9 | 4 32.2 | 4 33.0 | 4 19.8 | 0.9 | 0.3 | 6.9 | 2.1 | 12.9 | 4.0 |
| 10 | 4 32.5 | 4 33.2 | 4 20.1 | 1.0 | 0.3 | 7.0 | 2.2 | 13.0 | 4.0 |
| 11 | 4 32.8 | 4 33.5 | 4 20.3 | 1.1 | 0.3 | 7.1 | 2.2 | 13.1 | 4.0 |
| 12 | 4 33.0 | 4 33.7 | 4 20.6 | 1.2 | 0.4 | 7.2 | 2.2 | 13.2 | 4.1 |
| 13 | 4 33.2 | 4 34.0 | 4 20.8 | 1.3 | 0.4 | 7.3 | 2.3 | 13.3 | 4.1 |
| 14 | 4 33.5 | 4 34.2 | 4 21.0 | 1.4 | 0.4 | 7.4 | 2.3 | 13.4 | 4.1 |
| 15 | 4 33.8 | 4 34.5 | 4 21.3 | 1.5 | 0.5 | 7.5 | 2.3 | 13.5 | 4.2 |
| 16 | 4 34.0 | 4 34.7 | 4 21.5 | 1.6 | 0.5 | 7.6 | 2.3 | 13.6 | 4.2 |
| 17 | 4 34.3 | 4 35.0 | 4 21.8 | 1.7 | 0.5 | 7.7 | 2.4 | 13.7 | 4.2 |
| 18 | 4 34.5 | 4 35.3 | 4 22.0 | 1.8 | 0.6 | 7.8 | 2.4 | 13.8 | 4.3 |
| 19 | 4 34.8 | 4 35.5 | 4 22.2 | 1.9 | 0.6 | 7.9 | 2.4 | 13.9 | 4.3 |
| 20 | 4 35.0 | 4 35.8 | 4 22.5 | 2.0 | 0.6 | 8.0 | 2.5 | 14.0 | 4.3 |
| 21 | 4 35.3 | 4 36.0 | 4 22.7 | 2.1 | 0.6 | 8.1 | 2.5 | 14.1 | 4.3 |
| 22 | 4 35.5 | 4 36.3 | 4 22.9 | 2.2 | 0.7 | 8.2 | 2.5 | 14.2 | 4.4 |
| 23 | 4 35.7 | 4 36.5 | 4 23.2 | 2.3 | 0.7 | 8.3 | 2.6 | 14.3 | 4.4 |
| 24 | 4 36.0 | 4 36.8 | 4 23.4 | 2.4 | 0.7 | 8.4 | 2.6 | 14.4 | 4.4 |
| 25 | 4 36.3 | 4 37.0 | 4 23.7 | 2.5 | 0.8 | 8.5 | 2.6 | 14.5 | 4.5 |
| 26 | 4 36.5 | 4 37.3 | 4 23.9 | 2.6 | 0.8 | 8.6 | 2.7 | 14.6 | 4.5 |
| 27 | 4 36.7 | 4 37.5 | 4 24.1 | 2.7 | 0.8 | 8.7 | 2.7 | 14.7 | 4.5 |
| 28 | 4 37.0 | 4 37.8 | 4 24.4 | 2.8 | 0.9 | 8.8 | 2.7 | 14.8 | 4.6 |
| 29 | 4 37.3 | 4 38.0 | 4 24.6 | 2.9 | 0.9 | 8.9 | 2.7 | 14.9 | 4.6 |
| 30 | 4 37.5 | 4 38.3 | 4 24.9 | 3.0 | 0.9 | 9.0 | 2.8 | 15.0 | 4.6 |
| 31 | 4 37.7 | 4 38.5 | 4 25.1 | 3.1 | 1.0 | 9.1 | 2.8 | 15.1 | 4.7 |
| 32 | 4 38.0 | 4 38.8 | 4 25.3 | 3.2 | 1.0 | 9.2 | 2.8 | 15.2 | 4.7 |
| 33 | 4 38.3 | 4 39.0 | 4 25.6 | 3.3 | 1.0 | 9.3 | 2.9 | 15.3 | 4.7 |
| 34 | 4 38.5 | 4 39.3 | 4 25.8 | 3.4 | 1.0 | 9.4 | 2.9 | 15.4 | 4.7 |
| 35 | 4 38.7 | 4 39.5 | 4 26.1 | 3.5 | 1.1 | 9.5 | 2.9 | 15.5 | 4.8 |
| 36 | 4 39.0 | 4 39.8 | 4 26.3 | 3.6 | 1.1 | 9.6 | 3.0 | 15.6 | 4.8 |
| 37 | 4 39.3 | 4 40.0 | 4 26.5 | 3.7 | 1.1 | 9.7 | 3.0 | 15.7 | 4.8 |
| 38 | 4 39.5 | 4 40.3 | 4 26.8 | 3.8 | 1.2 | 9.8 | 3.0 | 15.8 | 4.9 |
| 39 | 4 39.7 | 4 40.5 | 4 27.0 | 3.9 | 1.2 | 9.9 | 3.1 | 15.9 | 4.9 |
| 40 | 4 40.0 | 4 40.8 | 4 27.2 | 4.0 | 1.2 | 10.0 | 3.1 | 16.0 | 4.9 |
| 41 | 4 40.3 | 4 41.0 | 4 27.5 | 4.1 | 1.3 | 10.1 | 3.1 | 16.1 | 5.0 |
| 42 | 4 40.5 | 4 41.3 | 4 27.7 | 4.2 | 1.3 | 10.2 | 3.1 | 16.2 | 5.0 |
| 43 | 4 40.7 | 4 41.5 | 4 28.0 | 4.3 | 1.3 | 10.3 | 3.2 | 16.3 | 5.0 |
| 44 | 4 41.0 | 4 41.8 | 4 28.2 | 4.4 | 1.4 | 10.4 | 3.2 | 16.4 | 5.1 |
| 45 | 4 41.3 | 4 42.0 | 4 28.4 | 4.5 | 1.4 | 10.5 | 3.2 | 16.5 | 5.1 |
| 46 | 4 41.5 | 4 42.3 | 4 28.7 | 4.6 | 1.4 | 10.6 | 3.3 | 16.6 | 5.1 |
| 47 | 4 41.8 | 4 42.5 | 4 28.9 | 4.7 | 1.4 | 10.7 | 3.3 | 16.7 | 5.1 |
| 48 | 4 42.0 | 4 42.8 | 4 29.2 | 4.8 | 1.5 | 10.8 | 3.3 | 16.8 | 5.2 |
| 49 | 4 42.3 | 4 43.0 | 4 29.4 | 4.9 | 1.5 | 10.9 | 3.4 | 16.9 | 5.2 |
| 50 | 4 42.5 | 4 43.3 | 4 29.6 | 5.0 | 1.5 | 11.0 | 3.4 | 17.0 | 5.2 |
| 51 | 4 42.8 | 4 43.5 | 4 29.9 | 5.1 | 1.6 | 11.1 | 3.4 | 17.1 | 5.3 |
| 52 | 4 43.0 | 4 43.8 | 4 30.1 | 5.2 | 1.6 | 11.2 | 3.5 | 17.2 | 5.3 |
| 53 | 4 43.2 | 4 44.0 | 4 30.3 | 5.3 | 1.6 | 11.3 | 3.5 | 17.3 | 5.3 |
| 54 | 4 43.5 | 4 44.3 | 4 30.6 | 5.4 | 1.7 | 11.4 | 3.5 | 17.4 | 5.4 |
| 55 | 4 43.8 | 4 44.5 | 4 30.8 | 5.5 | 1.7 | 11.5 | 3.5 | 17.5 | 5.4 |
| 56 | 4 44.0 | 4 44.8 | 4 31.1 | 5.6 | 1.7 | 11.6 | 3.6 | 17.6 | 5.4 |
| 57 | 4 44.2 | 4 45.0 | 4 31.3 | 5.7 | 1.8 | 11.7 | 3.6 | 17.7 | 5.5 |
| 58 | 4 44.5 | 4 45.3 | 4 31.5 | 5.8 | 1.8 | 11.8 | 3.6 | 17.8 | 5.5 |
| 59 | 4 44.8 | 4 45.5 | 4 31.8 | 5.9 | 1.8 | 11.9 | 3.7 | 17.9 | 5.5 |
| 60 | 4 45.0 | 4 45.8 | 4 32.0 | 6.0 | 1.9 | 12.0 | 3.7 | 18.0 | 5.6 |

| m 19 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 4 45.0 | 4 45.8 | 4 32.0 | 0.0 | 0.0 | 6.0 | 2.0 | 12.0 | 3.9 |
| 1 | 4 45.2 | 4 46.0 | 4 32.3 | 0.1 | 0.0 | 6.1 | 2.0 | 12.1 | 3.9 |
| 2 | 4 45.5 | 4 46.3 | 4 32.5 | 0.2 | 0.1 | 6.2 | 2.0 | 12.2 | 4.0 |
| 3 | 4 45.8 | 4 46.5 | 4 32.7 | 0.3 | 0.1 | 6.3 | 2.0 | 12.3 | 4.0 |
| 4 | 4 46.0 | 4 46.8 | 4 33.0 | 0.4 | 0.1 | 6.4 | 2.1 | 12.4 | 4.0 |
| 5 | 4 46.2 | 4 47.0 | 4 33.2 | 0.5 | 0.2 | 6.5 | 2.1 | 12.5 | 4.1 |
| 6 | 4 46.5 | 4 47.3 | 4 33.4 | 0.6 | 0.2 | 6.6 | 2.1 | 12.6 | 4.1 |
| 7 | 4 46.8 | 4 47.5 | 4 33.7 | 0.7 | 0.2 | 6.7 | 2.2 | 12.7 | 4.1 |
| 8 | 4 47.0 | 4 47.8 | 4 33.9 | 0.8 | 0.3 | 6.8 | 2.2 | 12.8 | 4.2 |
| 9 | 4 47.2 | 4 48.0 | 4 34.2 | 0.9 | 0.3 | 6.9 | 2.2 | 12.9 | 4.2 |
| 10 | 4 47.5 | 4 48.3 | 4 34.4 | 1.0 | 0.3 | 7.0 | 2.3 | 13.0 | 4.2 |
| 11 | 4 47.8 | 4 48.5 | 4 34.6 | 1.1 | 0.4 | 7.1 | 2.3 | 13.1 | 4.3 |
| 12 | 4 48.0 | 4 48.8 | 4 34.9 | 1.2 | 0.4 | 7.2 | 2.3 | 13.2 | 4.3 |
| 13 | 4 48.2 | 4 49.0 | 4 35.1 | 1.3 | 0.4 | 7.3 | 2.4 | 13.3 | 4.3 |
| 14 | 4 48.5 | 4 49.3 | 4 35.4 | 1.4 | 0.5 | 7.4 | 2.4 | 13.4 | 4.4 |
| 15 | 4 48.8 | 4 49.5 | 4 35.6 | 1.5 | 0.5 | 7.5 | 2.4 | 13.5 | 4.4 |
| 16 | 4 49.0 | 4 49.8 | 4 35.8 | 1.6 | 0.5 | 7.6 | 2.5 | 13.6 | 4.4 |
| 17 | 4 49.3 | 4 50.0 | 4 36.1 | 1.7 | 0.6 | 7.7 | 2.5 | 13.7 | 4.5 |
| 18 | 4 49.5 | 4 50.3 | 4 36.3 | 1.8 | 0.6 | 7.8 | 2.5 | 13.8 | 4.5 |
| 19 | 4 49.8 | 4 50.5 | 4 36.6 | 1.9 | 0.6 | 7.9 | 2.6 | 13.9 | 4.5 |
| 20 | 4 50.0 | 4 50.8 | 4 36.8 | 2.0 | 0.7 | 8.0 | 2.6 | 14.0 | 4.6 |
| 21 | 4 50.3 | 4 51.0 | 4 37.0 | 2.1 | 0.7 | 8.1 | 2.6 | 14.1 | 4.6 |
| 22 | 4 50.5 | 4 51.3 | 4 37.3 | 2.2 | 0.7 | 8.2 | 2.7 | 14.2 | 4.6 |
| 23 | 4 50.7 | 4 51.5 | 4 37.5 | 2.3 | 0.7 | 8.3 | 2.7 | 14.3 | 4.6 |
| 24 | 4 51.0 | 4 51.8 | 4 37.7 | 2.4 | 0.8 | 8.4 | 2.7 | 14.4 | 4.7 |
| 25 | 4 51.3 | 4 52.0 | 4 38.0 | 2.5 | 0.8 | 8.5 | 2.8 | 14.5 | 4.7 |
| 26 | 4 51.5 | 4 52.3 | 4 38.2 | 2.6 | 0.8 | 8.6 | 2.8 | 14.6 | 4.7 |
| 27 | 4 51.7 | 4 52.5 | 4 38.5 | 2.7 | 0.9 | 8.7 | 2.8 | 14.7 | 4.8 |
| 28 | 4 52.0 | 4 52.8 | 4 38.7 | 2.8 | 0.9 | 8.8 | 2.9 | 14.8 | 4.8 |
| 29 | 4 52.3 | 4 53.0 | 4 38.9 | 2.9 | 0.9 | 8.9 | 2.9 | 14.9 | 4.8 |
| 30 | 4 52.5 | 4 53.3 | 4 39.2 | 3.0 | 1.0 | 9.0 | 2.9 | 15.0 | 4.9 |
| 31 | 4 52.7 | 4 53.6 | 4 39.4 | 3.1 | 1.0 | 9.1 | 3.0 | 15.1 | 4.9 |
| 32 | 4 53.0 | 4 53.8 | 4 39.7 | 3.2 | 1.0 | 9.2 | 3.0 | 15.2 | 4.9 |
| 33 | 4 53.3 | 4 54.1 | 4 39.9 | 3.3 | 1.1 | 9.3 | 3.0 | 15.3 | 5.0 |
| 34 | 4 53.5 | 4 54.3 | 4 40.1 | 3.4 | 1.1 | 9.4 | 3.1 | 15.4 | 5.0 |
| 35 | 4 53.7 | 4 54.6 | 4 40.4 | 3.5 | 1.1 | 9.5 | 3.1 | 15.5 | 5.0 |
| 36 | 4 54.0 | 4 54.8 | 4 40.6 | 3.6 | 1.2 | 9.6 | 3.1 | 15.6 | 5.1 |
| 37 | 4 54.3 | 4 55.1 | 4 40.8 | 3.7 | 1.2 | 9.7 | 3.2 | 15.7 | 5.1 |
| 38 | 4 54.5 | 4 55.3 | 4 41.1 | 3.8 | 1.2 | 9.8 | 3.2 | 15.8 | 5.1 |
| 39 | 4 54.7 | 4 55.6 | 4 41.3 | 3.9 | 1.3 | 9.9 | 3.2 | 15.9 | 5.2 |
| 40 | 4 55.0 | 4 55.8 | 4 41.6 | 4.0 | 1.3 | 10.0 | 3.3 | 16.0 | 5.2 |
| 41 | 4 55.3 | 4 56.1 | 4 41.8 | 4.1 | 1.3 | 10.1 | 3.3 | 16.1 | 5.2 |
| 42 | 4 55.5 | 4 56.3 | 4 42.0 | 4.2 | 1.4 | 10.2 | 3.3 | 16.2 | 5.3 |
| 43 | 4 55.7 | 4 56.6 | 4 42.3 | 4.3 | 1.4 | 10.3 | 3.3 | 16.3 | 5.3 |
| 44 | 4 56.0 | 4 56.8 | 4 42.5 | 4.4 | 1.4 | 10.4 | 3.4 | 16.4 | 5.3 |
| 45 | 4 56.3 | 4 57.1 | 4 42.8 | 4.5 | 1.5 | 10.5 | 3.4 | 16.5 | 5.4 |
| 46 | 4 56.5 | 4 57.3 | 4 43.0 | 4.6 | 1.5 | 10.6 | 3.4 | 16.6 | 5.4 |
| 47 | 4 56.8 | 4 57.6 | 4 43.2 | 4.7 | 1.5 | 10.7 | 3.5 | 16.7 | 5.4 |
| 48 | 4 57.0 | 4 57.8 | 4 43.5 | 4.8 | 1.6 | 10.8 | 3.5 | 16.8 | 5.5 |
| 49 | 4 57.3 | 4 58.1 | 4 43.7 | 4.9 | 1.6 | 10.9 | 3.5 | 16.9 | 5.5 |
| 50 | 4 57.5 | 4 58.3 | 4 43.9 | 5.0 | 1.6 | 11.0 | 3.6 | 17.0 | 5.5 |
| 51 | 4 57.8 | 4 58.6 | 4 44.2 | 5.1 | 1.7 | 11.1 | 3.6 | 17.1 | 5.6 |
| 52 | 4 58.0 | 4 58.8 | 4 44.4 | 5.2 | 1.7 | 11.2 | 3.6 | 17.2 | 5.6 |
| 53 | 4 58.2 | 4 59.1 | 4 44.7 | 5.3 | 1.7 | 11.3 | 3.7 | 17.3 | 5.6 |
| 54 | 4 58.5 | 4 59.3 | 4 44.9 | 5.4 | 1.8 | 11.4 | 3.7 | 17.4 | 5.7 |
| 55 | 4 58.8 | 4 59.6 | 4 45.1 | 5.5 | 1.8 | 11.5 | 3.7 | 17.5 | 5.7 |
| 56 | 4 59.0 | 4 59.8 | 4 45.4 | 5.6 | 1.8 | 11.6 | 3.8 | 17.6 | 5.7 |
| 57 | 4 59.2 | 5 0.1 | 4 45.6 | 5.7 | 1.9 | 11.7 | 3.8 | 17.7 | 5.8 |
| 58 | 4 59.5 | 5 0.3 | 4 45.9 | 5.8 | 1.9 | 11.8 | 3.8 | 17.8 | 5.8 |
| 59 | 4 59.8 | 5 0.6 | 4 46.1 | 5.9 | 1.9 | 11.9 | 3.9 | 17.9 | 5.8 |
| 60 | 5 0.0 | 5 0.8 | 4 46.3 | 6.0 | 2.0 | 12.0 | 3.9 | 18.0 | 5.9 |

| m 20 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 5 0.0 | 5 0.8 | 4 46.3 | 0.0 | 0.0 | 6.0 | 2.1 | 12.0 | 4.1 |
| 1 | 5 0.2 | 5 1.1 | 4 46.6 | 0.1 | 0.0 | 6.1 | 2.1 | 12.1 | 4.1 |
| 2 | 5 0.5 | 5 1.3 | 4 46.8 | 0.2 | 0.1 | 6.2 | 2.1 | 12.2 | 4.2 |
| 3 | 5 0.8 | 5 1.6 | 4 47.0 | 0.3 | 0.1 | 6.3 | 2.2 | 12.3 | 4.2 |
| 4 | 5 1.0 | 5 1.8 | 4 47.3 | 0.4 | 0.1 | 6.4 | 2.2 | 12.4 | 4.2 |
| 5 | 5 1.2 | 5 2.1 | 4 47.5 | 0.5 | 0.2 | 6.5 | 2.2 | 12.5 | 4.3 |
| 6 | 5 1.5 | 5 2.3 | 4 47.8 | 0.6 | 0.2 | 6.6 | 2.3 | 12.6 | 4.3 |
| 7 | 5 1.8 | 5 2.6 | 4 48.0 | 0.7 | 0.2 | 6.7 | 2.3 | 12.7 | 4.3 |
| 8 | 5 2.0 | 5 2.8 | 4 48.2 | 0.8 | 0.3 | 6.8 | 2.3 | 12.8 | 4.4 |
| 9 | 5 2.2 | 5 3.1 | 4 48.5 | 0.9 | 0.3 | 6.9 | 2.4 | 12.9 | 4.4 |
| 10 | 5 2.5 | 5 3.3 | 4 48.7 | 1.0 | 0.3 | 7.0 | 2.4 | 13.0 | 4.4 |
| 11 | 5 2.8 | 5 3.6 | 4 49.0 | 1.1 | 0.4 | 7.1 | 2.4 | 13.1 | 4.5 |
| 12 | 5 3.0 | 5 3.8 | 4 49.2 | 1.2 | 0.4 | 7.2 | 2.5 | 13.2 | 4.5 |
| 13 | 5 3.2 | 5 4.1 | 4 49.4 | 1.3 | 0.4 | 7.3 | 2.5 | 13.3 | 4.5 |
| 14 | 5 3.5 | 5 4.3 | 4 49.7 | 1.4 | 0.5 | 7.4 | 2.5 | 13.4 | 4.6 |
| 15 | 5 3.8 | 5 4.6 | 4 49.9 | 1.5 | 0.5 | 7.5 | 2.6 | 13.5 | 4.6 |
| 16 | 5 4.0 | 5 4.8 | 4 50.2 | 1.6 | 0.5 | 7.6 | 2.6 | 13.6 | 4.6 |
| 17 | 5 4.3 | 5 5.1 | 4 50.4 | 1.7 | 0.6 | 7.7 | 2.6 | 13.7 | 4.7 |
| 18 | 5 4.5 | 5 5.3 | 4 50.6 | 1.8 | 0.6 | 7.8 | 2.7 | 13.8 | 4.7 |
| 19 | 5 4.7 | 5 5.6 | 4 50.9 | 1.9 | 0.6 | 7.9 | 2.7 | 13.9 | 4.7 |
| 20 | 5 5.0 | 5 5.8 | 4 51.1 | 2.0 | 0.7 | 8.0 | 2.7 | 14.0 | 4.8 |
| 21 | 5 5.3 | 5 6.1 | 4 51.3 | 2.1 | 0.7 | 8.1 | 2.8 | 14.1 | 4.8 |
| 22 | 5 5.5 | 5 6.3 | 4 51.6 | 2.2 | 0.8 | 8.2 | 2.8 | 14.2 | 4.9 |
| 23 | 5 5.7 | 5 6.6 | 4 51.8 | 2.3 | 0.8 | 8.3 | 2.8 | 14.3 | 4.9 |
| 24 | 5 6.0 | 5 6.8 | 4 52.1 | 2.4 | 0.8 | 8.4 | 2.9 | 14.4 | 4.9 |
| 25 | 5 6.3 | 5 7.1 | 4 52.3 | 2.5 | 0.9 | 8.5 | 2.9 | 14.5 | 5.0 |
| 26 | 5 6.5 | 5 7.3 | 4 52.5 | 2.6 | 0.9 | 8.6 | 2.9 | 14.6 | 5.0 |
| 27 | 5 6.7 | 5 7.6 | 4 52.8 | 2.7 | 0.9 | 8.7 | 3.0 | 14.7 | 5.0 |
| 28 | 5 7.0 | 5 7.8 | 4 53.0 | 2.8 | 1.0 | 8.8 | 3.0 | 14.8 | 5.1 |
| 29 | 5 7.3 | 5 8.1 | 4 53.3 | 2.9 | 1.0 | 8.9 | 3.0 | 14.9 | 5.1 |
| 30 | 5 7.5 | 5 8.3 | 4 53.5 | 3.0 | 1.0 | 9.0 | 3.1 | 15.0 | 5.1 |
| 31 | 5 7.7 | 5 8.6 | 4 53.7 | 3.1 | 1.1 | 9.1 | 3.1 | 15.1 | 5.2 |
| 32 | 5 8.0 | 5 8.8 | 4 54.0 | 3.2 | 1.1 | 9.2 | 3.1 | 15.2 | 5.2 |
| 33 | 5 8.3 | 5 9.1 | 4 54.2 | 3.3 | 1.1 | 9.3 | 3.2 | 15.3 | 5.2 |
| 34 | 5 8.5 | 5 9.3 | 4 54.4 | 3.4 | 1.2 | 9.4 | 3.2 | 15.4 | 5.3 |
| 35 | 5 8.7 | 5 9.6 | 4 54.7 | 3.5 | 1.2 | 9.5 | 3.2 | 15.5 | 5.3 |
| 36 | 5 9.0 | 5 9.8 | 4 54.9 | 3.6 | 1.2 | 9.6 | 3.3 | 15.6 | 5.3 |
| 37 | 5 9.3 | 5 10.1 | 4 55.2 | 3.7 | 1.3 | 9.7 | 3.3 | 15.7 | 5.4 |
| 38 | 5 9.5 | 5 10.3 | 4 55.4 | 3.8 | 1.3 | 9.8 | 3.3 | 15.8 | 5.4 |
| 39 | 5 9.7 | 5 10.6 | 4 55.6 | 3.9 | 1.3 | 9.9 | 3.4 | 15.9 | 5.4 |
| 40 | 5 10.0 | 5 10.8 | 4 55.9 | 4.0 | 1.4 | 10.0 | 3.4 | 16.0 | 5.5 |
| 41 | 5 10.3 | 5 11.1 | 4 56.1 | 4.1 | 1.4 | 10.1 | 3.5 | 16.1 | 5.5 |
| 42 | 5 10.5 | 5 11.3 | 4 56.4 | 4.2 | 1.4 | 10.2 | 3.5 | 16.2 | 5.5 |
| 43 | 5 10.7 | 5 11.6 | 4 56.6 | 4.3 | 1.5 | 10.3 | 3.5 | 16.3 | 5.6 |
| 44 | 5 11.0 | 5 11.9 | 4 56.8 | 4.4 | 1.5 | 10.4 | 3.6 | 16.4 | 5.6 |
| 45 | 5 11.3 | 5 12.1 | 4 57.1 | 4.5 | 1.5 | 10.5 | 3.6 | 16.5 | 5.6 |
| 46 | 5 11.5 | 5 12.4 | 4 57.3 | 4.6 | 1.6 | 10.6 | 3.6 | 16.6 | 5.7 |
| 47 | 5 11.8 | 5 12.6 | 4 57.5 | 4.7 | 1.6 | 10.7 | 3.7 | 16.7 | 5.7 |
| 48 | 5 12.0 | 5 12.9 | 4 57.8 | 4.8 | 1.6 | 10.8 | 3.7 | 16.8 | 5.7 |
| 49 | 5 12.2 | 5 13.1 | 4 58.0 | 4.9 | 1.7 | 10.9 | 3.7 | 16.9 | 5.8 |
| 50 | 5 12.5 | 5 13.4 | 4 58.3 | 5.0 | 1.7 | 11.0 | 3.8 | 17.0 | 5.8 |
| 51 | 5 12.8 | 5 13.6 | 4 58.5 | 5.1 | 1.7 | 11.1 | 3.8 | 17.1 | 5.8 |
| 52 | 5 13.0 | 5 13.9 | 4 58.7 | 5.2 | 1.8 | 11.2 | 3.8 | 17.2 | 5.9 |
| 53 | 5 13.2 | 5 14.1 | 4 59.0 | 5.3 | 1.8 | 11.3 | 3.9 | 17.3 | 5.9 |
| 54 | 5 13.5 | 5 14.4 | 4 59.2 | 5.4 | 1.8 | 11.4 | 3.9 | 17.4 | 5.9 |
| 55 | 5 13.8 | 5 14.6 | 4 59.5 | 5.5 | 1.9 | 11.5 | 3.9 | 17.5 | 6.0 |
| 56 | 5 14.0 | 5 14.9 | 4 59.7 | 5.6 | 1.9 | 11.6 | 4.0 | 17.6 | 6.0 |
| 57 | 5 14.2 | 5 15.1 | 4 59.9 | 5.7 | 1.9 | 11.7 | 4.0 | 17.7 | 6.0 |
| 58 | 5 14.5 | 5 15.4 | 5 0.2 | 5.8 | 2.0 | 11.8 | 4.0 | 17.8 | 6.1 |
| 59 | 5 14.8 | 5 15.6 | 5 0.4 | 5.9 | 2.0 | 11.9 | 4.1 | 17.9 | 6.1 |
| 60 | 5 15.0 | 5 15.9 | 5 0.6 | 6.0 | 2.1 | 12.0 | 4.1 | 18.0 | 6.2 |

| m 21 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 5 15.0 | 5 15.9 | 5 0.6 | 0.0 | 0.0 | 6.0 | 2.2 | 12.0 | 4.3 |
| 1 | 5 15.2 | 5 16.1 | 5 0.9 | 0.1 | 0.0 | 6.1 | 2.2 | 12.1 | 4.3 |
| 2 | 5 15.5 | 5 16.4 | 5 1.1 | 0.2 | 0.1 | 6.2 | 2.2 | 12.2 | 4.4 |
| 3 | 5 15.8 | 5 16.6 | 5 1.4 | 0.3 | 0.1 | 6.3 | 2.3 | 12.3 | 4.4 |
| 4 | 5 16.0 | 5 16.9 | 5 1.6 | 0.4 | 0.1 | 6.4 | 2.3 | 12.4 | 4.4 |
| 5 | 5 16.2 | 5 17.1 | 5 1.8 | 0.5 | 0.2 | 6.5 | 2.3 | 12.5 | 4.5 |
| 6 | 5 16.5 | 5 17.4 | 5 2.1 | 0.6 | 0.2 | 6.6 | 2.4 | 12.6 | 4.5 |
| 7 | 5 16.8 | 5 17.6 | 5 2.3 | 0.7 | 0.3 | 6.7 | 2.4 | 12.7 | 4.6 |
| 8 | 5 17.0 | 5 17.9 | 5 2.6 | 0.8 | 0.3 | 6.8 | 2.4 | 12.8 | 4.6 |
| 9 | 5 17.2 | 5 18.1 | 5 2.8 | 0.9 | 0.3 | 6.9 | 2.5 | 12.9 | 4.6 |
| 10 | 5 17.5 | 5 18.4 | 5 3.0 | 1.0 | 0.4 | 7.0 | 2.5 | 13.0 | 4.7 |
| 11 | 5 17.8 | 5 18.6 | 5 3.3 | 1.1 | 0.4 | 7.1 | 2.5 | 13.1 | 4.7 |
| 12 | 5 18.0 | 5 18.9 | 5 3.5 | 1.2 | 0.4 | 7.2 | 2.6 | 13.2 | 4.7 |
| 13 | 5 18.2 | 5 19.1 | 5 3.8 | 1.3 | 0.5 | 7.3 | 2.6 | 13.3 | 4.8 |
| 14 | 5 18.5 | 5 19.4 | 5 4.0 | 1.4 | 0.5 | 7.4 | 2.7 | 13.4 | 4.8 |
| 15 | 5 18.8 | 5 19.6 | 5 4.2 | 1.5 | 0.5 | 7.5 | 2.7 | 13.5 | 4.8 |
| 16 | 5 19.0 | 5 19.9 | 5 4.5 | 1.6 | 0.6 | 7.6 | 2.7 | 13.6 | 4.9 |
| 17 | 5 19.3 | 5 20.1 | 5 4.7 | 1.7 | 0.6 | 7.7 | 2.8 | 13.7 | 4.9 |
| 18 | 5 19.5 | 5 20.4 | 5 4.9 | 1.8 | 0.6 | 7.8 | 2.8 | 13.8 | 4.9 |
| 19 | 5 19.7 | 5 20.6 | 5 5.2 | 1.9 | 0.7 | 7.9 | 2.8 | 13.9 | 5.0 |
| 20 | 5 20.0 | 5 20.9 | 5 5.4 | 2.0 | 0.7 | 8.0 | 2.9 | 14.0 | 5.0 |
| 21 | 5 20.3 | 5 21.1 | 5 5.7 | 2.1 | 0.8 | 8.1 | 2.9 | 14.1 | 5.1 |
| 22 | 5 20.5 | 5 21.4 | 5 5.9 | 2.2 | 0.8 | 8.2 | 2.9 | 14.2 | 5.1 |
| 23 | 5 20.7 | 5 21.6 | 5 6.1 | 2.3 | 0.8 | 8.3 | 3.0 | 14.3 | 5.1 |
| 24 | 5 21.0 | 5 21.9 | 5 6.4 | 2.4 | 0.9 | 8.4 | 3.0 | 14.4 | 5.2 |
| 25 | 5 21.3 | 5 22.1 | 5 6.6 | 2.5 | 0.9 | 8.5 | 3.0 | 14.5 | 5.2 |
| 26 | 5 21.5 | 5 22.4 | 5 6.9 | 2.6 | 0.9 | 8.6 | 3.1 | 14.6 | 5.2 |
| 27 | 5 21.7 | 5 22.6 | 5 7.1 | 2.7 | 1.0 | 8.7 | 3.1 | 14.7 | 5.3 |
| 28 | 5 22.0 | 5 22.9 | 5 7.3 | 2.8 | 1.0 | 8.8 | 3.2 | 14.8 | 5.3 |
| 29 | 5 22.3 | 5 23.1 | 5 7.6 | 2.9 | 1.0 | 8.9 | 3.2 | 14.9 | 5.3 |
| 30 | 5 22.5 | 5 23.4 | 5 7.8 | 3.0 | 1.1 | 9.0 | 3.2 | 15.0 | 5.4 |
| 31 | 5 22.7 | 5 23.6 | 5 8.0 | 3.1 | 1.1 | 9.1 | 3.3 | 15.1 | 5.4 |
| 32 | 5 23.0 | 5 23.9 | 5 8.3 | 3.2 | 1.1 | 9.2 | 3.3 | 15.2 | 5.4 |
| 33 | 5 23.3 | 5 24.1 | 5 8.5 | 3.3 | 1.2 | 9.3 | 3.3 | 15.3 | 5.5 |
| 34 | 5 23.5 | 5 24.4 | 5 8.8 | 3.4 | 1.2 | 9.4 | 3.4 | 15.4 | 5.5 |
| 35 | 5 23.7 | 5 24.6 | 5 9.0 | 3.5 | 1.3 | 9.5 | 3.4 | 15.5 | 5.6 |
| 36 | 5 24.0 | 5 24.9 | 5 9.2 | 3.6 | 1.3 | 9.6 | 3.4 | 15.6 | 5.6 |
| 37 | 5 24.3 | 5 25.1 | 5 9.5 | 3.7 | 1.3 | 9.7 | 3.5 | 15.7 | 5.6 |
| 38 | 5 24.5 | 5 25.4 | 5 9.7 | 3.8 | 1.4 | 9.8 | 3.5 | 15.8 | 5.7 |
| 39 | 5 24.7 | 5 25.6 | 5 10.0 | 3.9 | 1.4 | 9.9 | 3.5 | 15.9 | 5.7 |
| 40 | 5 25.0 | 5 25.9 | 5 10.2 | 4.0 | 1.4 | 10.0 | 3.6 | 16.0 | 5.7 |
| 41 | 5 25.3 | 5 26.1 | 5 10.4 | 4.1 | 1.5 | 10.1 | 3.6 | 16.1 | 5.8 |
| 42 | 5 25.5 | 5 26.4 | 5 10.7 | 4.2 | 1.5 | 10.2 | 3.7 | 16.2 | 5.8 |
| 43 | 5 25.7 | 5 26.6 | 5 10.9 | 4.3 | 1.5 | 10.3 | 3.7 | 16.3 | 5.8 |
| 44 | 5 26.0 | 5 26.9 | 5 11.1 | 4.4 | 1.6 | 10.4 | 3.7 | 16.4 | 5.9 |
| 45 | 5 26.3 | 5 27.1 | 5 11.4 | 4.5 | 1.6 | 10.5 | 3.8 | 16.5 | 5.9 |
| 46 | 5 26.5 | 5 27.4 | 5 11.6 | 4.6 | 1.6 | 10.6 | 3.8 | 16.6 | 5.9 |
| 47 | 5 26.8 | 5 27.6 | 5 11.9 | 4.7 | 1.7 | 10.7 | 3.8 | 16.7 | 6.0 |
| 48 | 5 27.0 | 5 27.9 | 5 12.1 | 4.8 | 1.7 | 10.8 | 3.9 | 16.8 | 6.0 |
| 49 | 5 27.2 | 5 28.1 | 5 12.3 | 4.9 | 1.8 | 10.9 | 3.9 | 16.9 | 6.1 |
| 50 | 5 27.5 | 5 28.4 | 5 12.6 | 5.0 | 1.8 | 11.0 | 3.9 | 17.0 | 6.1 |
| 51 | 5 27.8 | 5 28.6 | 5 12.8 | 5.1 | 1.8 | 11.1 | 4.0 | 17.1 | 6.1 |
| 52 | 5 28.0 | 5 28.9 | 5 13.1 | 5.2 | 1.9 | 11.2 | 4.0 | 17.2 | 6.2 |
| 53 | 5 28.2 | 5 29.1 | 5 13.3 | 5.3 | 1.9 | 11.3 | 4.0 | 17.3 | 6.2 |
| 54 | 5 28.5 | 5 29.4 | 5 13.5 | 5.4 | 1.9 | 11.4 | 4.1 | 17.4 | 6.2 |
| 55 | 5 28.8 | 5 29.6 | 5 13.8 | 5.5 | 2.0 | 11.5 | 4.1 | 17.5 | 6.3 |
| 56 | 5 29.0 | 5 29.9 | 5 14.0 | 5.6 | 2.0 | 11.6 | 4.2 | 17.6 | 6.3 |
| 57 | 5 29.2 | 5 30.1 | 5 14.3 | 5.7 | 2.0 | 11.7 | 4.2 | 17.7 | 6.3 |
| 58 | 5 29.5 | 5 30.4 | 5 14.5 | 5.8 | 2.1 | 11.8 | 4.2 | 17.8 | 6.4 |
| 59 | 5 29.8 | 5 30.7 | 5 14.7 | 5.9 | 2.1 | 11.9 | 4.3 | 17.9 | 6.4 |
| 60 | 5 30.0 | 5 30.9 | 5 15.0 | 6.0 | 2.2 | 12.0 | 4.3 | 18.0 | 6.5 |

| m 22 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 5 30.0 | 5 30.9 | 5 15.0 | 0.0 | 0.0 | 6.0 | 2.3 | 12.0 | 4.5 |
| 1 | 5 30.2 | 5 31.2 | 5 15.2 | 0.1 | 0.0 | 6.1 | 2.3 | 12.1 | 4.5 |
| 2 | 5 30.5 | 5 31.4 | 5 15.4 | 0.2 | 0.1 | 6.2 | 2.3 | 12.2 | 4.6 |
| 3 | 5 30.8 | 5 31.7 | 5 15.7 | 0.3 | 0.1 | 6.3 | 2.4 | 12.3 | 4.6 |
| 4 | 5 31.0 | 5 31.9 | 5 15.9 | 0.4 | 0.2 | 6.4 | 2.4 | 12.4 | 4.7 |
| 5 | 5 31.2 | 5 32.2 | 5 16.2 | 0.5 | 0.2 | 6.5 | 2.4 | 12.5 | 4.7 |
| 6 | 5 31.5 | 5 32.4 | 5 16.4 | 0.6 | 0.2 | 6.6 | 2.5 | 12.6 | 4.7 |
| 7 | 5 31.8 | 5 32.7 | 5 16.6 | 0.7 | 0.3 | 6.7 | 2.5 | 12.7 | 4.8 |
| 8 | 5 32.0 | 5 32.9 | 5 16.9 | 0.8 | 0.3 | 6.8 | 2.6 | 12.8 | 4.8 |
| 9 | 5 32.2 | 5 33.2 | 5 17.1 | 0.9 | 0.3 | 6.9 | 2.6 | 12.9 | 4.8 |
| 10 | 5 32.5 | 5 33.4 | 5 17.4 | 1.0 | 0.4 | 7.0 | 2.6 | 13.0 | 4.9 |
| 11 | 5 32.8 | 5 33.7 | 5 17.6 | 1.1 | 0.4 | 7.1 | 2.7 | 13.1 | 4.9 |
| 12 | 5 33.0 | 5 33.9 | 5 17.8 | 1.2 | 0.4 | 7.2 | 2.7 | 13.2 | 4.9 |
| 13 | 5 33.2 | 5 34.2 | 5 18.1 | 1.3 | 0.5 | 7.3 | 2.7 | 13.3 | 5.0 |
| 14 | 5 33.5 | 5 34.4 | 5 18.3 | 1.4 | 0.5 | 7.4 | 2.8 | 13.4 | 5.0 |
| 15 | 5 33.8 | 5 34.7 | 5 18.5 | 1.5 | 0.6 | 7.5 | 2.8 | 13.5 | 5.1 |
| 16 | 5 34.0 | 5 34.9 | 5 18.8 | 1.6 | 0.6 | 7.6 | 2.8 | 13.6 | 5.1 |
| 17 | 5 34.3 | 5 35.2 | 5 19.0 | 1.7 | 0.6 | 7.7 | 2.9 | 13.7 | 5.1 |
| 18 | 5 34.5 | 5 35.4 | 5 19.3 | 1.8 | 0.7 | 7.8 | 2.9 | 13.8 | 5.2 |
| 19 | 5 34.8 | 5 35.7 | 5 19.5 | 1.9 | 0.7 | 7.9 | 3.0 | 13.9 | 5.2 |
| 20 | 5 35.0 | 5 35.9 | 5 19.7 | 2.0 | 0.8 | 8.0 | 3.0 | 14.0 | 5.3 |
| 21 | 5 35.3 | 5 36.2 | 5 20.0 | 2.1 | 0.8 | 8.1 | 3.0 | 14.1 | 5.3 |
| 22 | 5 35.5 | 5 36.4 | 5 20.2 | 2.2 | 0.8 | 8.2 | 3.1 | 14.2 | 5.3 |
| 23 | 5 35.7 | 5 36.7 | 5 20.5 | 2.3 | 0.9 | 8.3 | 3.1 | 14.3 | 5.4 |
| 24 | 5 36.0 | 5 36.9 | 5 20.7 | 2.4 | 0.9 | 8.4 | 3.2 | 14.4 | 5.4 |
| 25 | 5 36.3 | 5 37.2 | 5 20.9 | 2.5 | 0.9 | 8.5 | 3.2 | 14.5 | 5.4 |
| 26 | 5 36.5 | 5 37.4 | 5 21.2 | 2.6 | 1.0 | 8.6 | 3.2 | 14.6 | 5.5 |
| 27 | 5 36.7 | 5 37.7 | 5 21.4 | 2.7 | 1.0 | 8.7 | 3.3 | 14.7 | 5.5 |
| 28 | 5 37.0 | 5 37.9 | 5 21.6 | 2.8 | 1.0 | 8.8 | 3.3 | 14.8 | 5.6 |
| 29 | 5 37.3 | 5 38.2 | 5 21.9 | 2.9 | 1.1 | 8.9 | 3.3 | 14.9 | 5.6 |
| 30 | 5 37.5 | 5 38.4 | 5 22.1 | 3.0 | 1.1 | 9.0 | 3.4 | 15.0 | 5.6 |
| 31 | 5 37.7 | 5 38.7 | 5 22.4 | 3.1 | 1.2 | 9.1 | 3.4 | 15.1 | 5.7 |
| 32 | 5 38.0 | 5 38.9 | 5 22.6 | 3.2 | 1.2 | 9.2 | 3.4 | 15.2 | 5.7 |
| 33 | 5 38.3 | 5 39.2 | 5 22.8 | 3.3 | 1.2 | 9.3 | 3.5 | 15.3 | 5.7 |
| 34 | 5 38.5 | 5 39.4 | 5 23.1 | 3.4 | 1.3 | 9.4 | 3.5 | 15.4 | 5.8 |
| 35 | 5 38.7 | 5 39.7 | 5 23.3 | 3.5 | 1.3 | 9.5 | 3.6 | 15.5 | 5.8 |
| 36 | 5 39.0 | 5 39.9 | 5 23.6 | 3.6 | 1.4 | 9.6 | 3.6 | 15.6 | 5.9 |
| 37 | 5 39.3 | 5 40.2 | 5 23.8 | 3.7 | 1.4 | 9.7 | 3.6 | 15.7 | 5.9 |
| 38 | 5 39.5 | 5 40.4 | 5 24.0 | 3.8 | 1.4 | 9.8 | 3.7 | 15.8 | 5.9 |
| 39 | 5 39.7 | 5 40.7 | 5 24.3 | 3.9 | 1.5 | 9.9 | 3.7 | 15.9 | 6.0 |
| 40 | 5 40.0 | 5 40.9 | 5 24.5 | 4.0 | 1.5 | 10.0 | 3.8 | 16.0 | 6.0 |
| 41 | 5 40.3 | 5 41.2 | 5 24.7 | 4.1 | 1.5 | 10.1 | 3.8 | 16.1 | 6.0 |
| 42 | 5 40.5 | 5 41.4 | 5 25.0 | 4.2 | 1.6 | 10.2 | 3.8 | 16.2 | 6.1 |
| 43 | 5 40.7 | 5 41.7 | 5 25.2 | 4.3 | 1.6 | 10.3 | 3.9 | 16.3 | 6.1 |
| 44 | 5 41.0 | 5 41.9 | 5 25.5 | 4.4 | 1.7 | 10.4 | 3.9 | 16.4 | 6.1 |
| 45 | 5 41.3 | 5 42.2 | 5 25.7 | 4.5 | 1.7 | 10.5 | 3.9 | 16.5 | 6.2 |
| 46 | 5 41.5 | 5 42.4 | 5 25.9 | 4.6 | 1.7 | 10.6 | 4.0 | 16.6 | 6.2 |
| 47 | 5 41.8 | 5 42.7 | 5 26.2 | 4.7 | 1.8 | 10.7 | 4.0 | 16.7 | 6.3 |
| 48 | 5 42.0 | 5 42.9 | 5 26.4 | 4.8 | 1.8 | 10.8 | 4.1 | 16.8 | 6.3 |
| 49 | 5 42.3 | 5 43.2 | 5 26.7 | 4.9 | 1.8 | 10.9 | 4.1 | 16.9 | 6.3 |
| 50 | 5 42.5 | 5 43.4 | 5 26.9 | 5.0 | 1.9 | 11.0 | 4.1 | 17.0 | 6.4 |
| 51 | 5 42.8 | 5 43.7 | 5 27.1 | 5.1 | 1.9 | 11.1 | 4.2 | 17.1 | 6.4 |
| 52 | 5 43.0 | 5 43.9 | 5 27.4 | 5.2 | 2.0 | 11.2 | 4.2 | 17.2 | 6.4 |
| 53 | 5 43.2 | 5 44.2 | 5 27.6 | 5.3 | 2.0 | 11.3 | 4.2 | 17.3 | 6.5 |
| 54 | 5 43.5 | 5 44.4 | 5 27.9 | 5.4 | 2.0 | 11.4 | 4.3 | 17.4 | 6.5 |
| 55 | 5 43.8 | 5 44.7 | 5 28.1 | 5.5 | 2.1 | 11.5 | 4.3 | 17.5 | 6.6 |
| 56 | 5 44.0 | 5 44.9 | 5 28.3 | 5.6 | 2.1 | 11.6 | 4.4 | 17.6 | 6.6 |
| 57 | 5 44.2 | 5 45.2 | 5 28.6 | 5.7 | 2.1 | 11.7 | 4.4 | 17.7 | 6.6 |
| 58 | 5 44.5 | 5 45.4 | 5 28.8 | 5.8 | 2.2 | 11.8 | 4.4 | 17.8 | 6.7 |
| 59 | 5 44.8 | 5 45.7 | 5 29.0 | 5.9 | 2.2 | 11.9 | 4.5 | 17.9 | 6.7 |
| 60 | 5 45.0 | 5 45.9 | 5 29.3 | 6.0 | 2.3 | 12.0 | 4.5 | 18.0 | 6.8 |

| m 23 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 5 45.0 | 5 45.9 | 5 29.3 | 0.0 | 0.0 | 6.0 | 2.4 | 12.0 | 4.7 |
| 1 | 5 45.2 | 5 46.2 | 5 29.5 | 0.1 | 0.0 | 6.1 | 2.4 | 12.1 | 4.7 |
| 2 | 5 45.5 | 5 46.4 | 5 29.8 | 0.2 | 0.1 | 6.2 | 2.4 | 12.2 | 4.8 |
| 3 | 5 45.8 | 5 46.7 | 5 30.0 | 0.3 | 0.1 | 6.3 | 2.5 | 12.3 | 4.8 |
| 4 | 5 46.0 | 5 46.9 | 5 30.2 | 0.4 | 0.2 | 6.4 | 2.5 | 12.4 | 4.9 |
| 5 | 5 46.2 | 5 47.2 | 5 30.5 | 0.5 | 0.2 | 6.5 | 2.5 | 12.5 | 4.9 |
| 6 | 5 46.5 | 5 47.4 | 5 30.7 | 0.6 | 0.2 | 6.6 | 2.6 | 12.6 | 4.9 |
| 7 | 5 46.8 | 5 47.7 | 5 31.0 | 0.7 | 0.3 | 6.7 | 2.6 | 12.7 | 5.0 |
| 8 | 5 47.0 | 5 47.9 | 5 31.2 | 0.8 | 0.3 | 6.8 | 2.7 | 12.8 | 5.0 |
| 9 | 5 47.2 | 5 48.2 | 5 31.4 | 0.9 | 0.4 | 6.9 | 2.7 | 12.9 | 5.1 |
| 10 | 5 47.5 | 5 48.4 | 5 31.7 | 1.0 | 0.4 | 7.0 | 2.7 | 13.0 | 5.1 |
| 11 | 5 47.8 | 5 48.7 | 5 31.9 | 1.1 | 0.4 | 7.1 | 2.8 | 13.1 | 5.1 |
| 12 | 5 48.0 | 5 49.0 | 5 32.1 | 1.2 | 0.5 | 7.2 | 2.8 | 13.2 | 5.2 |
| 13 | 5 48.2 | 5 49.2 | 5 32.4 | 1.3 | 0.5 | 7.3 | 2.9 | 13.3 | 5.2 |
| 14 | 5 48.5 | 5 49.5 | 5 32.6 | 1.4 | 0.5 | 7.4 | 2.9 | 13.4 | 5.2 |
| 15 | 5 48.8 | 5 49.7 | 5 32.9 | 1.5 | 0.6 | 7.5 | 2.9 | 13.5 | 5.3 |
| 16 | 5 49.0 | 5 50.0 | 5 33.1 | 1.6 | 0.6 | 7.6 | 3.0 | 13.6 | 5.3 |
| 17 | 5 49.3 | 5 50.2 | 5 33.3 | 1.7 | 0.7 | 7.7 | 3.0 | 13.7 | 5.4 |
| 18 | 5 49.5 | 5 50.5 | 5 33.6 | 1.8 | 0.7 | 7.8 | 3.1 | 13.8 | 5.4 |
| 19 | 5 49.8 | 5 50.7 | 5 33.8 | 1.9 | 0.7 | 7.9 | 3.1 | 13.9 | 5.4 |
| 20 | 5 50.0 | 5 51.0 | 5 34.1 | 2.0 | 0.8 | 8.0 | 3.1 | 14.0 | 5.5 |
| 21 | 5 50.3 | 5 51.2 | 5 34.3 | 2.1 | 0.8 | 8.1 | 3.2 | 14.1 | 5.5 |
| 22 | 5 50.5 | 5 51.5 | 5 34.5 | 2.2 | 0.9 | 8.2 | 3.2 | 14.2 | 5.6 |
| 23 | 5 50.7 | 5 51.7 | 5 34.8 | 2.3 | 0.9 | 8.3 | 3.3 | 14.3 | 5.6 |
| 24 | 5 51.0 | 5 52.0 | 5 35.0 | 2.4 | 0.9 | 8.4 | 3.3 | 14.4 | 5.6 |
| 25 | 5 51.3 | 5 52.2 | 5 35.2 | 2.5 | 1.0 | 8.5 | 3.3 | 14.5 | 5.7 |
| 26 | 5 51.5 | 5 52.5 | 5 35.5 | 2.6 | 1.0 | 8.6 | 3.4 | 14.6 | 5.7 |
| 27 | 5 51.7 | 5 52.7 | 5 35.7 | 2.7 | 1.1 | 8.7 | 3.4 | 14.7 | 5.8 |
| 28 | 5 52.0 | 5 53.0 | 5 36.0 | 2.8 | 1.1 | 8.8 | 3.4 | 14.8 | 5.8 |
| 29 | 5 52.3 | 5 53.2 | 5 36.2 | 2.9 | 1.1 | 8.9 | 3.5 | 14.9 | 5.8 |
| 30 | 5 52.5 | 5 53.5 | 5 36.4 | 3.0 | 1.2 | 9.0 | 3.5 | 15.0 | 5.9 |
| 31 | 5 52.7 | 5 53.7 | 5 36.7 | 3.1 | 1.2 | 9.1 | 3.6 | 15.1 | 5.9 |
| 32 | 5 53.0 | 5 54.0 | 5 36.9 | 3.2 | 1.3 | 9.2 | 3.6 | 15.2 | 6.0 |
| 33 | 5 53.3 | 5 54.2 | 5 37.2 | 3.3 | 1.3 | 9.3 | 3.6 | 15.3 | 6.0 |
| 34 | 5 53.5 | 5 54.5 | 5 37.4 | 3.4 | 1.3 | 9.4 | 3.7 | 15.4 | 6.0 |
| 35 | 5 53.7 | 5 54.7 | 5 37.6 | 3.5 | 1.4 | 9.5 | 3.7 | 15.5 | 6.1 |
| 36 | 5 54.0 | 5 55.0 | 5 37.9 | 3.6 | 1.4 | 9.6 | 3.8 | 15.6 | 6.1 |
| 37 | 5 54.3 | 5 55.2 | 5 38.1 | 3.7 | 1.4 | 9.7 | 3.8 | 15.7 | 6.1 |
| 38 | 5 54.5 | 5 55.5 | 5 38.4 | 3.8 | 1.5 | 9.8 | 3.8 | 15.8 | 6.2 |
| 39 | 5 54.7 | 5 55.7 | 5 38.6 | 3.9 | 1.5 | 9.9 | 3.9 | 15.9 | 6.2 |
| 40 | 5 55.0 | 5 56.0 | 5 38.8 | 4.0 | 1.6 | 10.0 | 3.9 | 16.0 | 6.3 |
| 41 | 5 55.3 | 5 56.2 | 5 39.1 | 4.1 | 1.6 | 10.1 | 4.0 | 16.1 | 6.3 |
| 42 | 5 55.5 | 5 56.5 | 5 39.3 | 4.2 | 1.6 | 10.2 | 4.0 | 16.2 | 6.3 |
| 43 | 5 55.7 | 5 56.7 | 5 39.5 | 4.3 | 1.7 | 10.3 | 4.0 | 16.3 | 6.4 |
| 44 | 5 56.0 | 5 57.0 | 5 39.8 | 4.4 | 1.7 | 10.4 | 4.1 | 16.4 | 6.4 |
| 45 | 5 56.3 | 5 57.2 | 5 40.0 | 4.5 | 1.8 | 10.5 | 4.1 | 16.5 | 6.5 |
| 46 | 5 56.5 | 5 57.5 | 5 40.3 | 4.6 | 1.8 | 10.6 | 4.2 | 16.6 | 6.5 |
| 47 | 5 56.8 | 5 57.7 | 5 40.5 | 4.7 | 1.8 | 10.7 | 4.2 | 16.7 | 6.5 |
| 48 | 5 57.0 | 5 58.0 | 5 40.7 | 4.8 | 1.9 | 10.8 | 4.2 | 16.8 | 6.6 |
| 49 | 5 57.3 | 5 58.2 | 5 41.0 | 4.9 | 1.9 | 10.9 | 4.3 | 16.9 | 6.6 |
| 50 | 5 57.5 | 5 58.5 | 5 41.2 | 5.0 | 2.0 | 11.0 | 4.3 | 17.0 | 6.7 |
| 51 | 5 57.8 | 5 58.7 | 5 41.5 | 5.1 | 2.0 | 11.1 | 4.3 | 17.1 | 6.7 |
| 52 | 5 58.0 | 5 59.0 | 5 41.7 | 5.2 | 2.0 | 11.2 | 4.4 | 17.2 | 6.7 |
| 53 | 5 58.2 | 5 59.2 | 5 41.9 | 5.3 | 2.1 | 11.3 | 4.4 | 17.3 | 6.8 |
| 54 | 5 58.5 | 5 59.5 | 5 42.2 | 5.4 | 2.1 | 11.4 | 4.5 | 17.4 | 6.8 |
| 55 | 5 58.8 | 5 59.7 | 5 42.4 | 5.5 | 2.2 | 11.5 | 4.5 | 17.5 | 6.9 |
| 56 | 5 59.0 | 6 0.0 | 5 42.6 | 5.6 | 2.2 | 11.6 | 4.5 | 17.6 | 6.9 |
| 57 | 5 59.2 | 6 0.2 | 5 42.9 | 5.7 | 2.2 | 11.7 | 4.6 | 17.7 | 6.9 |
| 58 | 5 59.5 | 6 0.5 | 5 43.1 | 5.8 | 2.3 | 11.8 | 4.6 | 17.8 | 7.0 |
| 59 | 5 59.8 | 6 0.7 | 5 43.4 | 5.9 | 2.3 | 11.9 | 4.7 | 17.9 | 7.0 |
| 60 | 6 0.0 | 6 1.0 | 5 43.6 | 6.0 | 2.4 | 12.0 | 4.7 | 18.0 | 7.1 |

| m 24 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 6 0.0 | 6 1.0 | 5 43.6 | 0.0 | 0.0 | 6.0 | 2.5 | 12.0 | 4.9 |
| 1 | 6 0.2 | 6 1.2 | 5 43.8 | 0.1 | 0.0 | 6.1 | 2.5 | 12.1 | 4.9 |
| 2 | 6 0.5 | 6 1.5 | 5 44.1 | 0.2 | 0.1 | 6.2 | 2.5 | 12.2 | 5.0 |
| 3 | 6 0.8 | 6 1.7 | 5 44.3 | 0.3 | 0.1 | 6.3 | 2.6 | 12.3 | 5.0 |
| 4 | 6 1.0 | 6 2.0 | 5 44.6 | 0.4 | 0.2 | 6.4 | 2.6 | 12.4 | 5.1 |
| 5 | 6 1.2 | 6 2.2 | 5 44.8 | 0.5 | 0.2 | 6.5 | 2.7 | 12.5 | 5.1 |
| 6 | 6 1.5 | 6 2.5 | 5 45.0 | 0.6 | 0.2 | 6.6 | 2.7 | 12.6 | 5.1 |
| 7 | 6 1.8 | 6 2.7 | 5 45.3 | 0.7 | 0.3 | 6.7 | 2.7 | 12.7 | 5.2 |
| 8 | 6 2.0 | 6 3.0 | 5 45.5 | 0.8 | 0.3 | 6.8 | 2.8 | 12.8 | 5.2 |
| 9 | 6 2.2 | 6 3.2 | 5 45.7 | 0.9 | 0.4 | 6.9 | 2.8 | 12.9 | 5.3 |
| 10 | 6 2.5 | 6 3.5 | 5 46.0 | 1.0 | 0.4 | 7.0 | 2.9 | 13.0 | 5.3 |
| 11 | 6 2.8 | 6 3.7 | 5 46.2 | 1.1 | 0.4 | 7.1 | 2.9 | 13.1 | 5.3 |
| 12 | 6 3.0 | 6 4.0 | 5 46.5 | 1.2 | 0.5 | 7.2 | 2.9 | 13.2 | 5.4 |
| 13 | 6 3.2 | 6 4.2 | 5 46.7 | 1.3 | 0.5 | 7.3 | 3.0 | 13.3 | 5.4 |
| 14 | 6 3.5 | 6 4.5 | 5 46.9 | 1.4 | 0.6 | 7.4 | 3.0 | 13.4 | 5.5 |
| 15 | 6 3.8 | 6 4.7 | 5 47.2 | 1.5 | 0.6 | 7.5 | 3.1 | 13.5 | 5.5 |
| 16 | 6 4.0 | 6 5.0 | 5 47.4 | 1.6 | 0.7 | 7.6 | 3.1 | 13.6 | 5.6 |
| 17 | 6 4.3 | 6 5.2 | 5 47.7 | 1.7 | 0.7 | 7.7 | 3.1 | 13.7 | 5.6 |
| 18 | 6 4.5 | 6 5.5 | 5 47.9 | 1.8 | 0.7 | 7.8 | 3.2 | 13.8 | 5.6 |
| 19 | 6 4.7 | 6 5.7 | 5 48.1 | 1.9 | 0.8 | 7.9 | 3.2 | 13.9 | 5.7 |
| 20 | 6 5.0 | 6 6.0 | 5 48.4 | 2.0 | 0.8 | 8.0 | 3.3 | 14.0 | 5.7 |
| 21 | 6 5.3 | 6 6.2 | 5 48.6 | 2.1 | 0.9 | 8.1 | 3.3 | 14.1 | 5.8 |
| 22 | 6 5.5 | 6 6.5 | 5 48.8 | 2.2 | 0.9 | 8.2 | 3.3 | 14.2 | 5.8 |
| 23 | 6 5.7 | 6 6.7 | 5 49.1 | 2.3 | 0.9 | 8.3 | 3.4 | 14.3 | 5.8 |
| 24 | 6 6.0 | 6 7.0 | 5 49.3 | 2.4 | 1.0 | 8.4 | 3.4 | 14.4 | 5.9 |
| 25 | 6 6.3 | 6 7.3 | 5 49.6 | 2.5 | 1.0 | 8.5 | 3.5 | 14.5 | 5.9 |
| 26 | 6 6.5 | 6 7.5 | 5 49.8 | 2.6 | 1.1 | 8.6 | 3.5 | 14.6 | 6.0 |
| 27 | 6 6.7 | 6 7.8 | 5 50.0 | 2.7 | 1.1 | 8.7 | 3.6 | 14.7 | 6.0 |
| 28 | 6 7.0 | 6 8.0 | 5 50.3 | 2.8 | 1.1 | 8.8 | 3.6 | 14.8 | 6.0 |
| 29 | 6 7.3 | 6 8.3 | 5 50.5 | 2.9 | 1.2 | 8.9 | 3.6 | 14.9 | 6.1 |
| 30 | 6 7.5 | 6 8.5 | 5 50.8 | 3.0 | 1.2 | 9.0 | 3.7 | 15.0 | 6.1 |
| 31 | 6 7.7 | 6 8.8 | 5 51.0 | 3.1 | 1.3 | 9.1 | 3.7 | 15.1 | 6.2 |
| 32 | 6 8.0 | 6 9.0 | 5 51.2 | 3.2 | 1.3 | 9.2 | 3.8 | 15.2 | 6.2 |
| 33 | 6 8.3 | 6 9.3 | 5 51.5 | 3.3 | 1.3 | 9.3 | 3.8 | 15.3 | 6.2 |
| 34 | 6 8.5 | 6 9.5 | 5 51.7 | 3.4 | 1.4 | 9.4 | 3.8 | 15.4 | 6.3 |
| 35 | 6 8.7 | 6 9.8 | 5 52.0 | 3.5 | 1.4 | 9.5 | 3.9 | 15.5 | 6.3 |
| 36 | 6 9.0 | 6 10.0 | 5 52.2 | 3.6 | 1.5 | 9.6 | 3.9 | 15.6 | 6.4 |
| 37 | 6 9.3 | 6 10.3 | 5 52.4 | 3.7 | 1.5 | 9.7 | 4.0 | 15.7 | 6.4 |
| 38 | 6 9.5 | 6 10.5 | 5 52.7 | 3.8 | 1.6 | 9.8 | 4.0 | 15.8 | 6.5 |
| 39 | 6 9.7 | 6 10.8 | 5 52.9 | 3.9 | 1.6 | 9.9 | 4.0 | 15.9 | 6.5 |
| 40 | 6 10.0 | 6 11.0 | 5 53.1 | 4.0 | 1.6 | 10.0 | 4.1 | 16.0 | 6.5 |
| 41 | 6 10.3 | 6 11.3 | 5 53.4 | 4.1 | 1.7 | 10.1 | 4.1 | 16.1 | 6.6 |
| 42 | 6 10.5 | 6 11.5 | 5 53.6 | 4.2 | 1.7 | 10.2 | 4.2 | 16.2 | 6.6 |
| 43 | 6 10.7 | 6 11.8 | 5 53.9 | 4.3 | 1.8 | 10.3 | 4.2 | 16.3 | 6.7 |
| 44 | 6 11.0 | 6 12.0 | 5 54.1 | 4.4 | 1.8 | 10.4 | 4.2 | 16.4 | 6.7 |
| 45 | 6 11.3 | 6 12.3 | 5 54.3 | 4.5 | 1.8 | 10.5 | 4.3 | 16.5 | 6.7 |
| 46 | 6 11.5 | 6 12.5 | 5 54.6 | 4.6 | 1.9 | 10.6 | 4.3 | 16.6 | 6.8 |
| 47 | 6 11.8 | 6 12.8 | 5 54.8 | 4.7 | 1.9 | 10.7 | 4.4 | 16.7 | 6.8 |
| 48 | 6 12.0 | 6 13.0 | 5 55.1 | 4.8 | 2.0 | 10.8 | 4.4 | 16.8 | 6.9 |
| 49 | 6 12.2 | 6 13.3 | 5 55.3 | 4.9 | 2.0 | 10.9 | 4.5 | 16.9 | 6.9 |
| 50 | 6 12.5 | 6 13.5 | 5 55.5 | 5.0 | 2.0 | 11.0 | 4.5 | 17.0 | 6.9 |
| 51 | 6 12.8 | 6 13.8 | 5 55.8 | 5.1 | 2.1 | 11.1 | 4.5 | 17.1 | 7.0 |
| 52 | 6 13.0 | 6 14.0 | 5 56.0 | 5.2 | 2.1 | 11.2 | 4.6 | 17.2 | 7.0 |
| 53 | 6 13.2 | 6 14.3 | 5 56.2 | 5.3 | 2.2 | 11.3 | 4.6 | 17.3 | 7.1 |
| 54 | 6 13.5 | 6 14.5 | 5 56.5 | 5.4 | 2.2 | 11.4 | 4.7 | 17.4 | 7.1 |
| 55 | 6 13.8 | 6 14.8 | 5 56.7 | 5.5 | 2.2 | 11.5 | 4.7 | 17.5 | 7.1 |
| 56 | 6 14.0 | 6 15.0 | 5 57.0 | 5.6 | 2.3 | 11.6 | 4.7 | 17.6 | 7.2 |
| 57 | 6 14.2 | 6 15.3 | 5 57.2 | 5.7 | 2.3 | 11.7 | 4.8 | 17.7 | 7.2 |
| 58 | 6 14.5 | 6 15.5 | 5 57.4 | 5.8 | 2.4 | 11.8 | 4.8 | 17.8 | 7.3 |
| 59 | 6 14.8 | 6 15.8 | 5 57.7 | 5.9 | 2.4 | 11.9 | 4.9 | 17.9 | 7.3 |
| 60 | 6 15.0 | 6 16.0 | 5 57.9 | 6.0 | 2.5 | 12.0 | 4.9 | 18.0 | 7.4 |

| m 25 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 6 15.0 | 6 16.0 | 5 57.9 | 0.0 | 0.0 | 6.0 | 2.6 | 12.0 | 5.1 |
| 1 | 6 15.2 | 6 16.3 | 5 58.2 | 0.1 | 0.0 | 6.1 | 2.6 | 12.1 | 5.1 |
| 2 | 6 15.5 | 6 16.5 | 5 58.4 | 0.2 | 0.1 | 6.2 | 2.6 | 12.2 | 5.2 |
| 3 | 6 15.8 | 6 16.8 | 5 58.6 | 0.3 | 0.1 | 6.3 | 2.7 | 12.3 | 5.2 |
| 4 | 6 16.0 | 6 17.0 | 5 58.9 | 0.4 | 0.2 | 6.4 | 2.7 | 12.4 | 5.3 |
| 5 | 6 16.2 | 6 17.3 | 5 59.1 | 0.5 | 0.2 | 6.5 | 2.8 | 12.5 | 5.3 |
| 6 | 6 16.5 | 6 17.5 | 5 59.3 | 0.6 | 0.3 | 6.6 | 2.8 | 12.6 | 5.4 |
| 7 | 6 16.8 | 6 17.8 | 5 59.6 | 0.7 | 0.3 | 6.7 | 2.8 | 12.7 | 5.4 |
| 8 | 6 17.0 | 6 18.0 | 5 59.8 | 0.8 | 0.3 | 6.8 | 2.9 | 12.8 | 5.4 |
| 9 | 6 17.2 | 6 18.3 | 6 0.1 | 0.9 | 0.4 | 6.9 | 2.9 | 12.9 | 5.5 |
| 10 | 6 17.5 | 6 18.5 | 6 0.3 | 1.0 | 0.4 | 7.0 | 3.0 | 13.0 | 5.5 |
| 11 | 6 17.8 | 6 18.8 | 6 0.5 | 1.1 | 0.5 | 7.1 | 3.0 | 13.1 | 5.6 |
| 12 | 6 18.0 | 6 19.0 | 6 0.8 | 1.2 | 0.5 | 7.2 | 3.1 | 13.2 | 5.6 |
| 13 | 6 18.2 | 6 19.3 | 6 1.0 | 1.3 | 0.6 | 7.3 | 3.1 | 13.3 | 5.7 |
| 14 | 6 18.5 | 6 19.5 | 6 1.3 | 1.4 | 0.6 | 7.4 | 3.1 | 13.4 | 5.7 |
| 15 | 6 18.8 | 6 19.8 | 6 1.5 | 1.5 | 0.6 | 7.5 | 3.2 | 13.5 | 5.7 |
| 16 | 6 19.0 | 6 20.0 | 6 1.7 | 1.6 | 0.7 | 7.6 | 3.2 | 13.6 | 5.8 |
| 17 | 6 19.3 | 6 20.3 | 6 2.0 | 1.7 | 0.7 | 7.7 | 3.3 | 13.7 | 5.8 |
| 18 | 6 19.5 | 6 20.5 | 6 2.2 | 1.8 | 0.8 | 7.8 | 3.3 | 13.8 | 5.9 |
| 19 | 6 19.7 | 6 20.8 | 6 2.5 | 1.9 | 0.8 | 7.9 | 3.4 | 13.9 | 5.9 |
| 20 | 6 20.0 | 6 21.0 | 6 2.7 | 2.0 | 0.9 | 8.0 | 3.4 | 14.0 | 6.0 |
| 21 | 6 20.3 | 6 21.3 | 6 2.9 | 2.1 | 0.9 | 8.1 | 3.4 | 14.1 | 6.0 |
| 22 | 6 20.5 | 6 21.5 | 6 3.2 | 2.2 | 0.9 | 8.2 | 3.5 | 14.2 | 6.0 |
| 23 | 6 20.7 | 6 21.8 | 6 3.4 | 2.3 | 1.0 | 8.3 | 3.5 | 14.3 | 6.1 |
| 24 | 6 21.0 | 6 22.0 | 6 3.6 | 2.4 | 1.0 | 8.4 | 3.6 | 14.4 | 6.1 |
| 25 | 6 21.3 | 6 22.3 | 6 3.9 | 2.5 | 1.1 | 8.5 | 3.6 | 14.5 | 6.2 |
| 26 | 6 21.5 | 6 22.5 | 6 4.1 | 2.6 | 1.1 | 8.6 | 3.7 | 14.6 | 6.2 |
| 27 | 6 21.7 | 6 22.8 | 6 4.4 | 2.7 | 1.1 | 8.7 | 3.7 | 14.7 | 6.2 |
| 28 | 6 22.0 | 6 23.0 | 6 4.6 | 2.8 | 1.2 | 8.8 | 3.7 | 14.8 | 6.3 |
| 29 | 6 22.3 | 6 23.3 | 6 4.8 | 2.9 | 1.2 | 8.9 | 3.8 | 14.9 | 6.3 |
| 30 | 6 22.5 | 6 23.5 | 6 5.1 | 3.0 | 1.3 | 9.0 | 3.8 | 15.0 | 6.4 |
| 31 | 6 22.7 | 6 23.8 | 6 5.3 | 3.1 | 1.3 | 9.1 | 3.9 | 15.1 | 6.4 |
| 32 | 6 23.0 | 6 24.0 | 6 5.6 | 3.2 | 1.4 | 9.2 | 3.9 | 15.2 | 6.5 |
| 33 | 6 23.3 | 6 24.3 | 6 5.8 | 3.3 | 1.4 | 9.3 | 4.0 | 15.3 | 6.5 |
| 34 | 6 23.5 | 6 24.5 | 6 6.0 | 3.4 | 1.4 | 9.4 | 4.0 | 15.4 | 6.5 |
| 35 | 6 23.7 | 6 24.8 | 6 6.3 | 3.5 | 1.5 | 9.5 | 4.0 | 15.5 | 6.6 |
| 36 | 6 24.0 | 6 25.0 | 6 6.5 | 3.6 | 1.5 | 9.6 | 4.1 | 15.6 | 6.6 |
| 37 | 6 24.3 | 6 25.3 | 6 6.7 | 3.7 | 1.6 | 9.7 | 4.1 | 15.7 | 6.7 |
| 38 | 6 24.5 | 6 25.6 | 6 7.0 | 3.8 | 1.6 | 9.8 | 4.2 | 15.8 | 6.7 |
| 39 | 6 24.7 | 6 25.8 | 6 7.2 | 3.9 | 1.7 | 9.9 | 4.2 | 15.9 | 6.8 |
| 40 | 6 25.0 | 6 26.1 | 6 7.5 | 4.0 | 1.7 | 10.0 | 4.3 | 16.0 | 6.8 |
| 41 | 6 25.3 | 6 26.3 | 6 7.7 | 4.1 | 1.7 | 10.1 | 4.3 | 16.1 | 6.8 |
| 42 | 6 25.5 | 6 26.6 | 6 7.9 | 4.2 | 1.8 | 10.2 | 4.3 | 16.2 | 6.9 |
| 43 | 6 25.7 | 6 26.8 | 6 8.2 | 4.3 | 1.8 | 10.3 | 4.4 | 16.3 | 6.9 |
| 44 | 6 26.0 | 6 27.1 | 6 8.4 | 4.4 | 1.9 | 10.4 | 4.4 | 16.4 | 7.0 |
| 45 | 6 26.3 | 6 27.3 | 6 8.7 | 4.5 | 1.9 | 10.5 | 4.5 | 16.5 | 7.0 |
| 46 | 6 26.5 | 6 27.6 | 6 8.9 | 4.6 | 2.0 | 10.6 | 4.5 | 16.6 | 7.1 |
| 47 | 6 26.8 | 6 27.8 | 6 9.1 | 4.7 | 2.0 | 10.7 | 4.5 | 16.7 | 7.1 |
| 48 | 6 27.0 | 6 28.1 | 6 9.4 | 4.8 | 2.0 | 10.8 | 4.6 | 16.8 | 7.1 |
| 49 | 6 27.2 | 6 28.3 | 6 9.6 | 4.9 | 2.1 | 10.9 | 4.6 | 16.9 | 7.2 |
| 50 | 6 27.5 | 6 28.6 | 6 9.8 | 5.0 | 2.1 | 11.0 | 4.7 | 17.0 | 7.2 |
| 51 | 6 27.8 | 6 28.8 | 6 10.1 | 5.1 | 2.2 | 11.1 | 4.7 | 17.1 | 7.3 |
| 52 | 6 28.0 | 6 29.1 | 6 10.3 | 5.2 | 2.2 | 11.2 | 4.8 | 17.2 | 7.3 |
| 53 | 6 28.2 | 6 29.3 | 6 10.6 | 5.3 | 2.3 | 11.3 | 4.8 | 17.3 | 7.4 |
| 54 | 6 28.5 | 6 29.6 | 6 10.8 | 5.4 | 2.3 | 11.4 | 4.8 | 17.4 | 7.4 |
| 55 | 6 28.8 | 6 29.8 | 6 11.0 | 5.5 | 2.3 | 11.5 | 4.9 | 17.5 | 7.4 |
| 56 | 6 29.0 | 6 30.1 | 6 11.3 | 5.6 | 2.4 | 11.6 | 4.9 | 17.6 | 7.5 |
| 57 | 6 29.2 | 6 30.3 | 6 11.5 | 5.7 | 2.4 | 11.7 | 5.0 | 17.7 | 7.5 |
| 58 | 6 29.5 | 6 30.6 | 6 11.8 | 5.8 | 2.5 | 11.8 | 5.0 | 17.8 | 7.6 |
| 59 | 6 29.8 | 6 30.8 | 6 12.0 | 5.9 | 2.5 | 11.9 | 5.1 | 17.9 | 7.6 |
| 60 | 6 30.0 | 6 31.1 | 6 12.2 | 6.0 | 2.6 | 12.0 | 5.1 | 18.0 | 7.6 |

| m 26 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 6 30.0 | 6 31.1 | 6 12.2 | 0.0 | 0.0 | 6.0 | 2.7 | 12.0 | 5.3 |
| 1 | 6 30.2 | 6 31.3 | 6 12.5 | 0.1 | 0.0 | 6.1 | 2.7 | 12.1 | 5.3 |
| 2 | 6 30.5 | 6 31.6 | 6 12.7 | 0.2 | 0.1 | 6.2 | 2.7 | 12.2 | 5.4 |
| 3 | 6 30.8 | 6 31.8 | 6 12.9 | 0.3 | 0.1 | 6.3 | 2.8 | 12.3 | 5.4 |
| 4 | 6 31.0 | 6 32.1 | 6 13.2 | 0.4 | 0.2 | 6.4 | 2.8 | 12.4 | 5.5 |
| 5 | 6 31.2 | 6 32.3 | 6 13.4 | 0.5 | 0.2 | 6.5 | 2.9 | 12.5 | 5.5 |
| 6 | 6 31.5 | 6 32.6 | 6 13.7 | 0.6 | 0.3 | 6.6 | 2.9 | 12.6 | 5.6 |
| 7 | 6 31.8 | 6 32.8 | 6 13.9 | 0.7 | 0.3 | 6.7 | 3.0 | 12.7 | 5.6 |
| 8 | 6 32.0 | 6 33.1 | 6 14.1 | 0.8 | 0.4 | 6.8 | 3.0 | 12.8 | 5.7 |
| 9 | 6 32.2 | 6 33.3 | 6 14.4 | 0.9 | 0.4 | 6.9 | 3.0 | 12.9 | 5.7 |
| 10 | 6 32.5 | 6 33.6 | 6 14.6 | 1.0 | 0.4 | 7.0 | 3.1 | 13.0 | 5.7 |
| 11 | 6 32.8 | 6 33.8 | 6 14.9 | 1.1 | 0.5 | 7.1 | 3.1 | 13.1 | 5.8 |
| 12 | 6 33.0 | 6 34.1 | 6 15.1 | 1.2 | 0.5 | 7.2 | 3.2 | 13.2 | 5.8 |
| 13 | 6 33.2 | 6 34.3 | 6 15.3 | 1.3 | 0.6 | 7.3 | 3.2 | 13.3 | 5.9 |
| 14 | 6 33.5 | 6 34.6 | 6 15.6 | 1.4 | 0.6 | 7.4 | 3.3 | 13.4 | 5.9 |
| 15 | 6 33.8 | 6 34.8 | 6 15.8 | 1.5 | 0.7 | 7.5 | 3.3 | 13.5 | 6.0 |
| 16 | 6 34.0 | 6 35.1 | 6 16.1 | 1.6 | 0.7 | 7.6 | 3.4 | 13.6 | 6.0 |
| 17 | 6 34.3 | 6 35.3 | 6 16.3 | 1.7 | 0.8 | 7.7 | 3.4 | 13.7 | 6.1 |
| 18 | 6 34.5 | 6 35.6 | 6 16.5 | 1.8 | 0.8 | 7.8 | 3.4 | 13.8 | 6.1 |
| 19 | 6 34.8 | 6 35.8 | 6 16.8 | 1.9 | 0.8 | 7.9 | 3.5 | 13.9 | 6.1 |
| 20 | 6 35.0 | 6 36.1 | 6 17.0 | 2.0 | 0.9 | 8.0 | 3.5 | 14.0 | 6.2 |
| 21 | 6 35.3 | 6 36.3 | 6 17.2 | 2.1 | 0.9 | 8.1 | 3.6 | 14.1 | 6.2 |
| 22 | 6 35.5 | 6 36.6 | 6 17.5 | 2.2 | 1.0 | 8.2 | 3.6 | 14.2 | 6.3 |
| 23 | 6 35.7 | 6 36.8 | 6 17.7 | 2.3 | 1.0 | 8.3 | 3.7 | 14.3 | 6.3 |
| 24 | 6 36.0 | 6 37.1 | 6 18.0 | 2.4 | 1.1 | 8.4 | 3.7 | 14.4 | 6.4 |
| 25 | 6 36.3 | 6 37.3 | 6 18.2 | 2.5 | 1.1 | 8.5 | 3.8 | 14.5 | 6.4 |
| 26 | 6 36.5 | 6 37.6 | 6 18.4 | 2.6 | 1.1 | 8.6 | 3.8 | 14.6 | 6.4 |
| 27 | 6 36.7 | 6 37.8 | 6 18.7 | 2.7 | 1.2 | 8.7 | 3.8 | 14.7 | 6.5 |
| 28 | 6 37.0 | 6 38.1 | 6 18.9 | 2.8 | 1.2 | 8.8 | 3.9 | 14.8 | 6.5 |
| 29 | 6 37.3 | 6 38.3 | 6 19.2 | 2.9 | 1.3 | 8.9 | 3.9 | 14.9 | 6.6 |
| 30 | 6 37.5 | 6 38.6 | 6 19.4 | 3.0 | 1.3 | 9.0 | 4.0 | 15.0 | 6.6 |
| 31 | 6 37.7 | 6 38.8 | 6 19.6 | 3.1 | 1.4 | 9.1 | 4.0 | 15.1 | 6.7 |
| 32 | 6 38.0 | 6 39.1 | 6 19.9 | 3.2 | 1.4 | 9.2 | 4.1 | 15.2 | 6.7 |
| 33 | 6 38.3 | 6 39.3 | 6 20.1 | 3.3 | 1.5 | 9.3 | 4.1 | 15.3 | 6.8 |
| 34 | 6 38.5 | 6 39.6 | 6 20.3 | 3.4 | 1.5 | 9.4 | 4.2 | 15.4 | 6.8 |
| 35 | 6 38.7 | 6 39.8 | 6 20.6 | 3.5 | 1.5 | 9.5 | 4.2 | 15.5 | 6.8 |
| 36 | 6 39.0 | 6 40.1 | 6 20.8 | 3.6 | 1.6 | 9.6 | 4.2 | 15.6 | 6.9 |
| 37 | 6 39.3 | 6 40.3 | 6 21.1 | 3.7 | 1.6 | 9.7 | 4.3 | 15.7 | 6.9 |
| 38 | 6 39.5 | 6 40.6 | 6 21.3 | 3.8 | 1.7 | 9.8 | 4.3 | 15.8 | 7.0 |
| 39 | 6 39.7 | 6 40.8 | 6 21.5 | 3.9 | 1.7 | 9.9 | 4.4 | 15.9 | 7.0 |
| 40 | 6 40.0 | 6 41.1 | 6 21.8 | 4.0 | 1.8 | 10.0 | 4.4 | 16.0 | 7.1 |
| 41 | 6 40.3 | 6 41.3 | 6 22.0 | 4.1 | 1.8 | 10.1 | 4.5 | 16.1 | 7.1 |
| 42 | 6 40.5 | 6 41.6 | 6 22.3 | 4.2 | 1.9 | 10.2 | 4.5 | 16.2 | 7.2 |
| 43 | 6 40.7 | 6 41.8 | 6 22.5 | 4.3 | 1.9 | 10.3 | 4.5 | 16.3 | 7.2 |
| 44 | 6 41.0 | 6 42.1 | 6 22.7 | 4.4 | 1.9 | 10.4 | 4.6 | 16.4 | 7.2 |
| 45 | 6 41.3 | 6 42.3 | 6 23.0 | 4.5 | 2.0 | 10.5 | 4.6 | 16.5 | 7.3 |
| 46 | 6 41.5 | 6 42.6 | 6 23.2 | 4.6 | 2.0 | 10.6 | 4.7 | 16.6 | 7.3 |
| 47 | 6 41.8 | 6 42.8 | 6 23.4 | 4.7 | 2.1 | 10.7 | 4.7 | 16.7 | 7.4 |
| 48 | 6 42.0 | 6 43.1 | 6 23.7 | 4.8 | 2.1 | 10.8 | 4.8 | 16.8 | 7.4 |
| 49 | 6 42.3 | 6 43.3 | 6 23.9 | 4.9 | 2.2 | 10.9 | 4.8 | 16.9 | 7.5 |
| 50 | 6 42.5 | 6 43.6 | 6 24.2 | 5.0 | 2.2 | 11.0 | 4.9 | 17.0 | 7.5 |
| 51 | 6 42.8 | 6 43.9 | 6 24.4 | 5.1 | 2.3 | 11.1 | 4.9 | 17.1 | 7.6 |
| 52 | 6 43.0 | 6 44.1 | 6 24.6 | 5.2 | 2.3 | 11.2 | 4.9 | 17.2 | 7.6 |
| 53 | 6 43.2 | 6 44.4 | 6 24.9 | 5.3 | 2.3 | 11.3 | 5.0 | 17.3 | 7.6 |
| 54 | 6 43.5 | 6 44.6 | 6 25.1 | 5.4 | 2.4 | 11.4 | 5.0 | 17.4 | 7.7 |
| 55 | 6 43.8 | 6 44.9 | 6 25.4 | 5.5 | 2.4 | 11.5 | 5.1 | 17.5 | 7.7 |
| 56 | 6 44.0 | 6 45.1 | 6 25.6 | 5.6 | 2.5 | 11.6 | 5.1 | 17.6 | 7.8 |
| 57 | 6 44.2 | 6 45.4 | 6 25.8 | 5.7 | 2.5 | 11.7 | 5.2 | 17.7 | 7.8 |
| 58 | 6 44.5 | 6 45.6 | 6 26.1 | 5.8 | 2.6 | 11.8 | 5.2 | 17.8 | 7.9 |
| 59 | 6 44.8 | 6 45.9 | 6 26.3 | 5.9 | 2.6 | 11.9 | 5.3 | 17.9 | 7.9 |
| 60 | 6 45.0 | 6 46.1 | 6 26.5 | 6.0 | 2.7 | 12.0 | 5.3 | 18.0 | 7.9 |

| m 27 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 6 45.0 | 6 46.1 | 6 26.5 | 0.0 | 0.0 | 6.0 | 2.8 | 12.0 | 5.5 |
| 1 | 6 45.2 | 6 46.4 | 6 26.8 | 0.1 | 0.0 | 6.1 | 2.8 | 12.1 | 5.5 |
| 2 | 6 45.5 | 6 46.6 | 6 27.0 | 0.2 | 0.1 | 6.2 | 2.8 | 12.2 | 5.6 |
| 3 | 6 45.8 | 6 46.9 | 6 27.3 | 0.3 | 0.1 | 6.3 | 2.9 | 12.3 | 5.6 |
| 4 | 6 46.0 | 6 47.1 | 6 27.5 | 0.4 | 0.2 | 6.4 | 2.9 | 12.4 | 5.7 |
| 5 | 6 46.2 | 6 47.4 | 6 27.7 | 0.5 | 0.2 | 6.5 | 3.0 | 12.5 | 5.7 |
| 6 | 6 46.5 | 6 47.6 | 6 28.0 | 0.6 | 0.3 | 6.6 | 3.0 | 12.6 | 5.8 |
| 7 | 6 46.8 | 6 47.9 | 6 28.2 | 0.7 | 0.3 | 6.7 | 3.1 | 12.7 | 5.8 |
| 8 | 6 47.0 | 6 48.1 | 6 28.5 | 0.8 | 0.4 | 6.8 | 3.1 | 12.8 | 5.9 |
| 9 | 6 47.2 | 6 48.4 | 6 28.7 | 0.9 | 0.4 | 6.9 | 3.2 | 12.9 | 5.9 |
| 10 | 6 47.5 | 6 48.6 | 6 28.9 | 1.0 | 0.5 | 7.0 | 3.2 | 13.0 | 6.0 |
| 11 | 6 47.8 | 6 48.9 | 6 29.2 | 1.1 | 0.5 | 7.1 | 3.3 | 13.1 | 6.0 |
| 12 | 6 48.0 | 6 49.1 | 6 29.4 | 1.2 | 0.5 | 7.2 | 3.3 | 13.2 | 6.1 |
| 13 | 6 48.2 | 6 49.4 | 6 29.7 | 1.3 | 0.6 | 7.3 | 3.3 | 13.3 | 6.1 |
| 14 | 6 48.5 | 6 49.6 | 6 29.9 | 1.4 | 0.6 | 7.4 | 3.4 | 13.4 | 6.1 |
| 15 | 6 48.8 | 6 49.9 | 6 30.1 | 1.5 | 0.7 | 7.5 | 3.4 | 13.5 | 6.2 |
| 16 | 6 49.0 | 6 50.1 | 6 30.4 | 1.6 | 0.7 | 7.6 | 3.5 | 13.6 | 6.2 |
| 17 | 6 49.3 | 6 50.4 | 6 30.6 | 1.7 | 0.8 | 7.7 | 3.5 | 13.7 | 6.3 |
| 18 | 6 49.5 | 6 50.6 | 6 30.8 | 1.8 | 0.8 | 7.8 | 3.6 | 13.8 | 6.3 |
| 19 | 6 49.8 | 6 50.9 | 6 31.1 | 1.9 | 0.9 | 7.9 | 3.6 | 13.9 | 6.4 |
| 20 | 6 50.0 | 6 51.1 | 6 31.3 | 2.0 | 0.9 | 8.0 | 3.7 | 14.0 | 6.4 |
| 21 | 6 50.3 | 6 51.4 | 6 31.6 | 2.1 | 1.0 | 8.1 | 3.7 | 14.1 | 6.5 |
| 22 | 6 50.5 | 6 51.6 | 6 31.8 | 2.2 | 1.0 | 8.2 | 3.8 | 14.2 | 6.5 |
| 23 | 6 50.7 | 6 51.9 | 6 32.0 | 2.3 | 1.1 | 8.3 | 3.8 | 14.3 | 6.6 |
| 24 | 6 51.0 | 6 52.1 | 6 32.3 | 2.4 | 1.1 | 8.4 | 3.9 | 14.4 | 6.6 |
| 25 | 6 51.3 | 6 52.4 | 6 32.5 | 2.5 | 1.1 | 8.5 | 3.9 | 14.5 | 6.6 |
| 26 | 6 51.5 | 6 52.6 | 6 32.8 | 2.6 | 1.2 | 8.6 | 3.9 | 14.6 | 6.7 |
| 27 | 6 51.7 | 6 52.9 | 6 33.0 | 2.7 | 1.2 | 8.7 | 4.0 | 14.7 | 6.7 |
| 28 | 6 52.0 | 6 53.1 | 6 33.2 | 2.8 | 1.3 | 8.8 | 4.0 | 14.8 | 6.8 |
| 29 | 6 52.3 | 6 53.4 | 6 33.5 | 2.9 | 1.3 | 8.9 | 4.1 | 14.9 | 6.8 |
| 30 | 6 52.5 | 6 53.6 | 6 33.7 | 3.0 | 1.4 | 9.0 | 4.1 | 15.0 | 6.9 |
| 31 | 6 52.7 | 6 53.9 | 6 33.9 | 3.1 | 1.4 | 9.1 | 4.2 | 15.1 | 6.9 |
| 32 | 6 53.0 | 6 54.1 | 6 34.2 | 3.2 | 1.5 | 9.2 | 4.2 | 15.2 | 7.0 |
| 33 | 6 53.3 | 6 54.4 | 6 34.4 | 3.3 | 1.5 | 9.3 | 4.3 | 15.3 | 7.0 |
| 34 | 6 53.5 | 6 54.6 | 6 34.7 | 3.4 | 1.6 | 9.4 | 4.3 | 15.4 | 7.1 |
| 35 | 6 53.7 | 6 54.9 | 6 34.9 | 3.5 | 1.6 | 9.5 | 4.4 | 15.5 | 7.1 |
| 36 | 6 54.0 | 6 55.1 | 6 35.1 | 3.6 | 1.7 | 9.6 | 4.4 | 15.6 | 7.1 |
| 37 | 6 54.3 | 6 55.4 | 6 35.4 | 3.7 | 1.7 | 9.7 | 4.4 | 15.7 | 7.2 |
| 38 | 6 54.5 | 6 55.6 | 6 35.6 | 3.8 | 1.7 | 9.8 | 4.5 | 15.8 | 7.2 |
| 39 | 6 54.7 | 6 55.9 | 6 35.9 | 3.9 | 1.8 | 9.9 | 4.5 | 15.9 | 7.3 |
| 40 | 6 55.0 | 6 56.1 | 6 36.1 | 4.0 | 1.8 | 10.0 | 4.6 | 16.0 | 7.3 |
| 41 | 6 55.3 | 6 56.4 | 6 36.3 | 4.1 | 1.9 | 10.1 | 4.6 | 16.1 | 7.4 |
| 42 | 6 55.5 | 6 56.6 | 6 36.6 | 4.2 | 1.9 | 10.2 | 4.7 | 16.2 | 7.4 |
| 43 | 6 55.7 | 6 56.9 | 6 36.8 | 4.3 | 2.0 | 10.3 | 4.7 | 16.3 | 7.5 |
| 44 | 6 56.0 | 6 57.1 | 6 37.0 | 4.4 | 2.0 | 10.4 | 4.8 | 16.4 | 7.5 |
| 45 | 6 56.3 | 6 57.4 | 6 37.3 | 4.5 | 2.1 | 10.5 | 4.8 | 16.5 | 7.6 |
| 46 | 6 56.5 | 6 57.6 | 6 37.5 | 4.6 | 2.1 | 10.6 | 4.9 | 16.6 | 7.6 |
| 47 | 6 56.8 | 6 57.9 | 6 37.8 | 4.7 | 2.2 | 10.7 | 4.9 | 16.7 | 7.7 |
| 48 | 6 57.0 | 6 58.1 | 6 38.0 | 4.8 | 2.2 | 10.8 | 5.0 | 16.8 | 7.7 |
| 49 | 6 57.3 | 6 58.4 | 6 38.2 | 4.9 | 2.2 | 10.9 | 5.0 | 16.9 | 7.7 |
| 50 | 6 57.5 | 6 58.6 | 6 38.5 | 5.0 | 2.3 | 11.0 | 5.0 | 17.0 | 7.8 |
| 51 | 6 57.8 | 6 58.9 | 6 38.7 | 5.1 | 2.3 | 11.1 | 5.1 | 17.1 | 7.8 |
| 52 | 6 58.0 | 6 59.1 | 6 39.0 | 5.2 | 2.4 | 11.2 | 5.1 | 17.2 | 7.9 |
| 53 | 6 58.2 | 6 59.4 | 6 39.2 | 5.3 | 2.4 | 11.3 | 5.2 | 17.3 | 7.9 |
| 54 | 6 58.5 | 6 59.6 | 6 39.4 | 5.4 | 2.5 | 11.4 | 5.2 | 17.4 | 8.0 |
| 55 | 6 58.8 | 6 59.9 | 6 39.7 | 5.5 | 2.5 | 11.5 | 5.3 | 17.5 | 8.0 |
| 56 | 6 59.0 | 7 0.1 | 6 39.9 | 5.6 | 2.6 | 11.6 | 5.3 | 17.6 | 8.1 |
| 57 | 6 59.2 | 7 0.4 | 6 40.2 | 5.7 | 2.6 | 11.7 | 5.4 | 17.7 | 8.1 |
| 58 | 6 59.5 | 7 0.6 | 6 40.4 | 5.8 | 2.7 | 11.8 | 5.4 | 17.8 | 8.2 |
| 59 | 6 59.8 | 7 0.9 | 6 40.6 | 5.9 | 2.7 | 11.9 | 5.5 | 17.9 | 8.2 |
| 60 | 7 0.0 | 7 1.1 | 6 40.9 | 6.0 | 2.8 | 12.0 | 5.5 | 18.0 | 8.3 |

| m 28 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 7 0.0 | 7 1.1 | 6 40.9 | 0.0 | 0.0 | 6.0 | 2.8 | 12.0 | 5.7 |
| 1 | 7 0.2 | 7 1.4 | 6 41.1 | 0.1 | 0.0 | 6.1 | 2.9 | 12.1 | 5.7 |
| 2 | 7 0.5 | 7 1.6 | 6 41.3 | 0.2 | 0.1 | 6.2 | 2.9 | 12.2 | 5.8 |
| 3 | 7 0.8 | 7 1.9 | 6 41.6 | 0.3 | 0.1 | 6.3 | 3.0 | 12.3 | 5.8 |
| 4 | 7 1.0 | 7 2.2 | 6 41.8 | 0.4 | 0.2 | 6.4 | 3.0 | 12.4 | 5.9 |
| 5 | 7 1.2 | 7 2.4 | 6 42.1 | 0.5 | 0.2 | 6.5 | 3.1 | 12.5 | 5.9 |
| 6 | 7 1.5 | 7 2.7 | 6 42.3 | 0.6 | 0.3 | 6.6 | 3.1 | 12.6 | 6.0 |
| 7 | 7 1.8 | 7 2.9 | 6 42.5 | 0.7 | 0.3 | 6.7 | 3.2 | 12.7 | 6.0 |
| 8 | 7 2.0 | 7 3.2 | 6 42.8 | 0.8 | 0.4 | 6.8 | 3.2 | 12.8 | 6.1 |
| 9 | 7 2.2 | 7 3.4 | 6 43.0 | 0.9 | 0.4 | 6.9 | 3.3 | 12.9 | 6.1 |
| 10 | 7 2.5 | 7 3.7 | 6 43.3 | 1.0 | 0.5 | 7.0 | 3.3 | 13.0 | 6.2 |
| 11 | 7 2.8 | 7 3.9 | 6 43.5 | 1.1 | 0.5 | 7.1 | 3.4 | 13.1 | 6.2 |
| 12 | 7 3.0 | 7 4.2 | 6 43.7 | 1.2 | 0.6 | 7.2 | 3.4 | 13.2 | 6.3 |
| 13 | 7 3.2 | 7 4.4 | 6 44.0 | 1.3 | 0.6 | 7.3 | 3.5 | 13.3 | 6.3 |
| 14 | 7 3.5 | 7 4.7 | 6 44.2 | 1.4 | 0.7 | 7.4 | 3.5 | 13.4 | 6.4 |
| 15 | 7 3.8 | 7 4.9 | 6 44.4 | 1.5 | 0.7 | 7.5 | 3.6 | 13.5 | 6.4 |
| 16 | 7 4.0 | 7 5.2 | 6 44.7 | 1.6 | 0.8 | 7.6 | 3.6 | 13.6 | 6.5 |
| 17 | 7 4.3 | 7 5.4 | 6 44.9 | 1.7 | 0.8 | 7.7 | 3.7 | 13.7 | 6.5 |
| 18 | 7 4.5 | 7 5.7 | 6 45.2 | 1.8 | 0.9 | 7.8 | 3.7 | 13.8 | 6.6 |
| 19 | 7 4.7 | 7 5.9 | 6 45.4 | 1.9 | 0.9 | 7.9 | 3.8 | 13.9 | 6.6 |
| 20 | 7 5.0 | 7 6.2 | 6 45.6 | 2.0 | 1.0 | 8.0 | 3.8 | 14.0 | 6.6 |
| 21 | 7 5.3 | 7 6.4 | 6 45.9 | 2.1 | 1.0 | 8.1 | 3.8 | 14.1 | 6.7 |
| 22 | 7 5.5 | 7 6.7 | 6 46.1 | 2.2 | 1.0 | 8.2 | 3.9 | 14.2 | 6.7 |
| 23 | 7 5.7 | 7 6.9 | 6 46.4 | 2.3 | 1.1 | 8.3 | 3.9 | 14.3 | 6.8 |
| 24 | 7 6.0 | 7 7.2 | 6 46.6 | 2.4 | 1.1 | 8.4 | 4.0 | 14.4 | 6.8 |
| 25 | 7 6.3 | 7 7.4 | 6 46.8 | 2.5 | 1.2 | 8.5 | 4.0 | 14.5 | 6.9 |
| 26 | 7 6.5 | 7 7.7 | 6 47.1 | 2.6 | 1.2 | 8.6 | 4.1 | 14.6 | 6.9 |
| 27 | 7 6.7 | 7 7.9 | 6 47.3 | 2.7 | 1.3 | 8.7 | 4.1 | 14.7 | 7.0 |
| 28 | 7 7.0 | 7 8.2 | 6 47.5 | 2.8 | 1.3 | 8.8 | 4.2 | 14.8 | 7.0 |
| 29 | 7 7.3 | 7 8.4 | 6 47.8 | 2.9 | 1.4 | 8.9 | 4.2 | 14.9 | 7.1 |
| 30 | 7 7.5 | 7 8.7 | 6 48.0 | 3.0 | 1.4 | 9.0 | 4.3 | 15.0 | 7.1 |
| 31 | 7 7.7 | 7 8.9 | 6 48.3 | 3.1 | 1.5 | 9.1 | 4.3 | 15.1 | 7.2 |
| 32 | 7 8.0 | 7 9.2 | 6 48.5 | 3.2 | 1.5 | 9.2 | 4.4 | 15.2 | 7.2 |
| 33 | 7 8.3 | 7 9.4 | 6 48.7 | 3.3 | 1.6 | 9.3 | 4.4 | 15.3 | 7.3 |
| 34 | 7 8.5 | 7 9.7 | 6 49.0 | 3.4 | 1.6 | 9.4 | 4.5 | 15.4 | 7.3 |
| 35 | 7 8.7 | 7 9.9 | 6 49.2 | 3.5 | 1.7 | 9.5 | 4.5 | 15.5 | 7.4 |
| 36 | 7 9.0 | 7 10.2 | 6 49.5 | 3.6 | 1.7 | 9.6 | 4.6 | 15.6 | 7.4 |
| 37 | 7 9.3 | 7 10.4 | 6 49.7 | 3.7 | 1.8 | 9.7 | 4.6 | 15.7 | 7.5 |
| 38 | 7 9.5 | 7 10.7 | 6 49.9 | 3.8 | 1.8 | 9.8 | 4.7 | 15.8 | 7.5 |
| 39 | 7 9.7 | 7 10.9 | 6 50.2 | 3.9 | 1.9 | 9.9 | 4.7 | 15.9 | 7.6 |
| 40 | 7 10.0 | 7 11.2 | 6 50.4 | 4.0 | 1.9 | 10.0 | 4.8 | 16.0 | 7.6 |
| 41 | 7 10.3 | 7 11.4 | 6 50.6 | 4.1 | 1.9 | 10.1 | 4.8 | 16.1 | 7.6 |
| 42 | 7 10.5 | 7 11.7 | 6 50.9 | 4.2 | 2.0 | 10.2 | 4.8 | 16.2 | 7.7 |
| 43 | 7 10.7 | 7 11.9 | 6 51.1 | 4.3 | 2.0 | 10.3 | 4.9 | 16.3 | 7.7 |
| 44 | 7 11.0 | 7 12.2 | 6 51.4 | 4.4 | 2.1 | 10.4 | 4.9 | 16.4 | 7.8 |
| 45 | 7 11.3 | 7 12.4 | 6 51.6 | 4.5 | 2.1 | 10.5 | 5.0 | 16.5 | 7.8 |
| 46 | 7 11.5 | 7 12.7 | 6 51.8 | 4.6 | 2.2 | 10.6 | 5.0 | 16.6 | 7.9 |
| 47 | 7 11.8 | 7 12.9 | 6 52.1 | 4.7 | 2.2 | 10.7 | 5.1 | 16.7 | 7.9 |
| 48 | 7 12.0 | 7 13.2 | 6 52.3 | 4.8 | 2.3 | 10.8 | 5.1 | 16.8 | 8.0 |
| 49 | 7 12.2 | 7 13.4 | 6 52.6 | 4.9 | 2.3 | 10.9 | 5.2 | 16.9 | 8.0 |
| 50 | 7 12.5 | 7 13.7 | 6 52.8 | 5.0 | 2.4 | 11.0 | 5.2 | 17.0 | 8.1 |
| 51 | 7 12.8 | 7 13.9 | 6 53.0 | 5.1 | 2.4 | 11.1 | 5.3 | 17.1 | 8.1 |
| 52 | 7 13.0 | 7 14.2 | 6 53.3 | 5.2 | 2.5 | 11.2 | 5.3 | 17.2 | 8.2 |
| 53 | 7 13.2 | 7 14.4 | 6 53.5 | 5.3 | 2.5 | 11.3 | 5.4 | 17.3 | 8.2 |
| 54 | 7 13.5 | 7 14.7 | 6 53.8 | 5.4 | 2.6 | 11.4 | 5.4 | 17.4 | 8.3 |
| 55 | 7 13.8 | 7 14.9 | 6 54.0 | 5.5 | 2.6 | 11.5 | 5.5 | 17.5 | 8.3 |
| 56 | 7 14.0 | 7 15.2 | 6 54.2 | 5.6 | 2.7 | 11.6 | 5.5 | 17.6 | 8.4 |
| 57 | 7 14.2 | 7 15.4 | 6 54.5 | 5.7 | 2.7 | 11.7 | 5.6 | 17.7 | 8.4 |
| 58 | 7 14.5 | 7 15.7 | 6 54.7 | 5.8 | 2.8 | 11.8 | 5.6 | 17.8 | 8.5 |
| 59 | 7 14.8 | 7 15.9 | 6 54.9 | 5.9 | 2.8 | 11.9 | 5.7 | 17.9 | 8.5 |
| 60 | 7 15.0 | 7 16.2 | 6 55.2 | 6.0 | 2.8 | 12.0 | 5.7 | 18.0 | 8.5 |

| m 29 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 7 15.0 | 7 16.2 | 6 55.2 | 0.0 | 0.0 | 6.0 | 2.9 | 12.0 | 5.9 |
| 1 | 7 15.2 | 7 16.4 | 6 55.4 | 0.1 | 0.0 | 6.1 | 3.0 | 12.1 | 5.9 |
| 2 | 7 15.5 | 7 16.7 | 6 55.7 | 0.2 | 0.1 | 6.2 | 3.0 | 12.2 | 6.0 |
| 3 | 7 15.8 | 7 16.9 | 6 55.9 | 0.3 | 0.1 | 6.3 | 3.1 | 12.3 | 6.0 |
| 4 | 7 16.0 | 7 17.2 | 6 56.1 | 0.4 | 0.2 | 6.4 | 3.1 | 12.4 | 6.1 |
| 5 | 7 16.2 | 7 17.4 | 6 56.4 | 0.5 | 0.2 | 6.5 | 3.2 | 12.5 | 6.1 |
| 6 | 7 16.5 | 7 17.7 | 6 56.6 | 0.6 | 0.3 | 6.6 | 3.2 | 12.6 | 6.2 |
| 7 | 7 16.8 | 7 17.9 | 6 56.9 | 0.7 | 0.3 | 6.7 | 3.3 | 12.7 | 6.2 |
| 8 | 7 17.0 | 7 18.2 | 6 57.1 | 0.8 | 0.4 | 6.8 | 3.3 | 12.8 | 6.3 |
| 9 | 7 17.2 | 7 18.4 | 6 57.3 | 0.9 | 0.4 | 6.9 | 3.4 | 12.9 | 6.3 |
| 10 | 7 17.5 | 7 18.7 | 6 57.6 | 1.0 | 0.5 | 7.0 | 3.4 | 13.0 | 6.4 |
| 11 | 7 17.8 | 7 18.9 | 6 57.8 | 1.1 | 0.5 | 7.1 | 3.5 | 13.1 | 6.4 |
| 12 | 7 18.0 | 7 19.2 | 6 58.0 | 1.2 | 0.6 | 7.2 | 3.5 | 13.2 | 6.5 |
| 13 | 7 18.2 | 7 19.4 | 6 58.3 | 1.3 | 0.6 | 7.3 | 3.6 | 13.3 | 6.5 |
| 14 | 7 18.5 | 7 19.7 | 6 58.5 | 1.4 | 0.7 | 7.4 | 3.6 | 13.4 | 6.6 |
| 15 | 7 18.8 | 7 19.9 | 6 58.8 | 1.5 | 0.7 | 7.5 | 3.7 | 13.5 | 6.6 |
| 16 | 7 19.0 | 7 20.2 | 6 59.0 | 1.6 | 0.8 | 7.6 | 3.7 | 13.6 | 6.7 |
| 17 | 7 19.3 | 7 20.5 | 6 59.2 | 1.7 | 0.8 | 7.7 | 3.8 | 13.7 | 6.7 |
| 18 | 7 19.5 | 7 20.7 | 6 59.5 | 1.8 | 0.9 | 7.8 | 3.8 | 13.8 | 6.8 |
| 19 | 7 19.7 | 7 21.0 | 6 59.7 | 1.9 | 0.9 | 7.9 | 3.9 | 13.9 | 6.8 |
| 20 | 7 20.0 | 7 21.2 | 7 0.0 | 2.0 | 1.0 | 8.0 | 3.9 | 14.0 | 6.9 |
| 21 | 7 20.3 | 7 21.5 | 7 0.2 | 2.1 | 1.0 | 8.1 | 4.0 | 14.1 | 6.9 |
| 22 | 7 20.5 | 7 21.7 | 7 0.4 | 2.2 | 1.1 | 8.2 | 4.0 | 14.2 | 7.0 |
| 23 | 7 20.7 | 7 22.0 | 7 0.7 | 2.3 | 1.1 | 8.3 | 4.1 | 14.3 | 7.0 |
| 24 | 7 21.0 | 7 22.2 | 7 0.9 | 2.4 | 1.2 | 8.4 | 4.1 | 14.4 | 7.1 |
| 25 | 7 21.3 | 7 22.5 | 7 1.1 | 2.5 | 1.2 | 8.5 | 4.2 | 14.5 | 7.1 |
| 26 | 7 21.5 | 7 22.7 | 7 1.4 | 2.6 | 1.3 | 8.6 | 4.2 | 14.6 | 7.2 |
| 27 | 7 21.7 | 7 23.0 | 7 1.6 | 2.7 | 1.3 | 8.7 | 4.3 | 14.7 | 7.2 |
| 28 | 7 22.0 | 7 23.2 | 7 1.9 | 2.8 | 1.4 | 8.8 | 4.3 | 14.8 | 7.3 |
| 29 | 7 22.3 | 7 23.5 | 7 2.1 | 2.9 | 1.4 | 8.9 | 4.4 | 14.9 | 7.3 |
| 30 | 7 22.5 | 7 23.7 | 7 2.3 | 3.0 | 1.5 | 9.0 | 4.4 | 15.0 | 7.4 |
| 31 | 7 22.7 | 7 24.0 | 7 2.6 | 3.1 | 1.5 | 9.1 | 4.5 | 15.1 | 7.4 |
| 32 | 7 23.0 | 7 24.2 | 7 2.8 | 3.2 | 1.6 | 9.2 | 4.5 | 15.2 | 7.5 |
| 33 | 7 23.3 | 7 24.5 | 7 3.1 | 3.3 | 1.6 | 9.3 | 4.6 | 15.3 | 7.5 |
| 34 | 7 23.5 | 7 24.7 | 7 3.3 | 3.4 | 1.7 | 9.4 | 4.6 | 15.4 | 7.6 |
| 35 | 7 23.7 | 7 25.0 | 7 3.5 | 3.5 | 1.7 | 9.5 | 4.7 | 15.5 | 7.6 |
| 36 | 7 24.0 | 7 25.2 | 7 3.8 | 3.6 | 1.8 | 9.6 | 4.7 | 15.6 | 7.7 |
| 37 | 7 24.3 | 7 25.5 | 7 4.0 | 3.7 | 1.8 | 9.7 | 4.8 | 15.7 | 7.7 |
| 38 | 7 24.5 | 7 25.7 | 7 4.3 | 3.8 | 1.9 | 9.8 | 4.8 | 15.8 | 7.8 |
| 39 | 7 24.7 | 7 26.0 | 7 4.5 | 3.9 | 1.9 | 9.9 | 4.9 | 15.9 | 7.8 |
| 40 | 7 25.0 | 7 26.2 | 7 4.7 | 4.0 | 2.0 | 10.0 | 4.9 | 16.0 | 7.9 |
| 41 | 7 25.3 | 7 26.5 | 7 5.0 | 4.1 | 2.0 | 10.1 | 5.0 | 16.1 | 7.9 |
| 42 | 7 25.5 | 7 26.7 | 7 5.2 | 4.2 | 2.1 | 10.2 | 5.0 | 16.2 | 8.0 |
| 43 | 7 25.7 | 7 27.0 | 7 5.4 | 4.3 | 2.1 | 10.3 | 5.1 | 16.3 | 8.0 |
| 44 | 7 26.0 | 7 27.2 | 7 5.7 | 4.4 | 2.2 | 10.4 | 5.1 | 16.4 | 8.1 |
| 45 | 7 26.3 | 7 27.5 | 7 5.9 | 4.5 | 2.2 | 10.5 | 5.2 | 16.5 | 8.1 |
| 46 | 7 26.5 | 7 27.7 | 7 6.2 | 4.6 | 2.3 | 10.6 | 5.2 | 16.6 | 8.2 |
| 47 | 7 26.8 | 7 28.0 | 7 6.4 | 4.7 | 2.3 | 10.7 | 5.3 | 16.7 | 8.2 |
| 48 | 7 27.0 | 7 28.2 | 7 6.6 | 4.8 | 2.4 | 10.8 | 5.3 | 16.8 | 8.3 |
| 49 | 7 27.2 | 7 28.5 | 7 6.9 | 4.9 | 2.4 | 10.9 | 5.4 | 16.9 | 8.3 |
| 50 | 7 27.5 | 7 28.7 | 7 7.1 | 5.0 | 2.5 | 11.0 | 5.4 | 17.0 | 8.4 |
| 51 | 7 27.8 | 7 29.0 | 7 7.4 | 5.1 | 2.5 | 11.1 | 5.5 | 17.1 | 8.4 |
| 52 | 7 28.0 | 7 29.2 | 7 7.6 | 5.2 | 2.6 | 11.2 | 5.5 | 17.2 | 8.5 |
| 53 | 7 28.2 | 7 29.5 | 7 7.8 | 5.3 | 2.6 | 11.3 | 5.6 | 17.3 | 8.5 |
| 54 | 7 28.5 | 7 29.7 | 7 8.1 | 5.4 | 2.7 | 11.4 | 5.6 | 17.4 | 8.6 |
| 55 | 7 28.8 | 7 30.0 | 7 8.3 | 5.5 | 2.7 | 11.5 | 5.7 | 17.5 | 8.6 |
| 56 | 7 29.0 | 7 30.2 | 7 8.5 | 5.6 | 2.8 | 11.6 | 5.7 | 17.6 | 8.7 |
| 57 | 7 29.2 | 7 30.5 | 7 8.8 | 5.7 | 2.8 | 11.7 | 5.8 | 17.7 | 8.7 |
| 58 | 7 29.5 | 7 30.7 | 7 9.0 | 5.8 | 2.9 | 11.8 | 5.8 | 17.8 | 8.8 |
| 59 | 7 29.8 | 7 31.0 | 7 9.3 | 5.9 | 2.9 | 11.9 | 5.9 | 17.9 | 8.8 |
| 60 | 7 30.0 | 7 31.2 | 7 9.5 | 6.0 | 2.9 | 12.0 | 5.9 | 18.0 | 8.9 |

| m 30 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 7 30.0 | 7 31.2 | 7 9.5 | 0.0 | 0.0 | 6.0 | 3.1 | 12.0 | 6.1 |
| 1 | 7 30.2 | 7 31.5 | 7 9.7 | 0.1 | 0.1 | 6.1 | 3.1 | 12.1 | 6.2 |
| 2 | 7 30.5 | 7 31.7 | 7 10.0 | 0.2 | 0.1 | 6.2 | 3.2 | 12.2 | 6.2 |
| 3 | 7 30.8 | 7 32.0 | 7 10.2 | 0.3 | 0.2 | 6.3 | 3.2 | 12.3 | 6.3 |
| 4 | 7 31.0 | 7 32.2 | 7 10.5 | 0.4 | 0.2 | 6.4 | 3.3 | 12.4 | 6.3 |
| 5 | 7 31.2 | 7 32.5 | 7 10.7 | 0.5 | 0.3 | 6.5 | 3.3 | 12.5 | 6.4 |
| 6 | 7 31.5 | 7 32.7 | 7 10.9 | 0.6 | 0.3 | 6.6 | 3.4 | 12.6 | 6.4 |
| 7 | 7 31.7 | 7 33.0 | 7 11.2 | 0.7 | 0.4 | 6.7 | 3.4 | 12.7 | 6.5 |
| 8 | 7 32.0 | 7 33.2 | 7 11.4 | 0.8 | 0.4 | 6.8 | 3.5 | 12.8 | 6.5 |
| 9 | 7 32.2 | 7 33.5 | 7 11.6 | 0.9 | 0.5 | 6.9 | 3.5 | 12.9 | 6.6 |
| 10 | 7 32.5 | 7 33.7 | 7 11.9 | 1.0 | 0.5 | 7.0 | 3.6 | 13.0 | 6.6 |
| 11 | 7 32.8 | 7 34.0 | 7 12.1 | 1.1 | 0.6 | 7.1 | 3.6 | 13.1 | 6.7 |
| 12 | 7 33.0 | 7 34.2 | 7 12.4 | 1.2 | 0.6 | 7.2 | 3.7 | 13.2 | 6.7 |
| 13 | 7 33.3 | 7 34.5 | 7 12.6 | 1.3 | 0.7 | 7.3 | 3.7 | 13.3 | 6.8 |
| 14 | 7 33.5 | 7 34.7 | 7 12.8 | 1.4 | 0.7 | 7.4 | 3.8 | 13.4 | 6.8 |
| 15 | 7 33.8 | 7 35.0 | 7 13.1 | 1.5 | 0.8 | 7.5 | 3.8 | 13.5 | 6.9 |
| 16 | 7 34.0 | 7 35.2 | 7 13.3 | 1.6 | 0.8 | 7.6 | 3.9 | 13.6 | 6.9 |
| 17 | 7 34.3 | 7 35.5 | 7 13.6 | 1.7 | 0.9 | 7.7 | 3.9 | 13.7 | 7.0 |
| 18 | 7 34.5 | 7 35.7 | 7 13.8 | 1.8 | 0.9 | 7.8 | 4.0 | 13.8 | 7.0 |
| 19 | 7 34.8 | 7 36.0 | 7 14.0 | 1.9 | 1.0 | 7.9 | 4.0 | 13.9 | 7.1 |
| 20 | 7 35.0 | 7 36.2 | 7 14.3 | 2.0 | 1.0 | 8.0 | 4.1 | 14.0 | 7.1 |
| 21 | 7 35.3 | 7 36.5 | 7 14.5 | 2.1 | 1.1 | 8.1 | 4.1 | 14.1 | 7.2 |
| 22 | 7 35.5 | 7 36.7 | 7 14.7 | 2.2 | 1.1 | 8.2 | 4.2 | 14.2 | 7.2 |
| 23 | 7 35.7 | 7 37.0 | 7 15.0 | 2.3 | 1.2 | 8.3 | 4.2 | 14.3 | 7.3 |
| 24 | 7 36.0 | 7 37.2 | 7 15.2 | 2.4 | 1.2 | 8.4 | 4.3 | 14.4 | 7.3 |
| 25 | 7 36.2 | 7 37.5 | 7 15.5 | 2.5 | 1.3 | 8.5 | 4.3 | 14.5 | 7.4 |
| 26 | 7 36.5 | 7 37.7 | 7 15.7 | 2.6 | 1.3 | 8.6 | 4.4 | 14.6 | 7.4 |
| 27 | 7 36.7 | 7 38.0 | 7 15.9 | 2.7 | 1.4 | 8.7 | 4.4 | 14.7 | 7.5 |
| 28 | 7 37.0 | 7 38.2 | 7 16.2 | 2.8 | 1.4 | 8.8 | 4.5 | 14.8 | 7.5 |
| 29 | 7 37.3 | 7 38.5 | 7 16.4 | 2.9 | 1.5 | 8.9 | 4.5 | 14.9 | 7.6 |
| 30 | 7 37.5 | 7 38.8 | 7 16.7 | 3.0 | 1.5 | 9.0 | 4.6 | 15.0 | 7.6 |
| 31 | 7 37.7 | 7 39.0 | 7 16.9 | 3.1 | 1.6 | 9.1 | 4.6 | 15.1 | 7.7 |
| 32 | 7 38.0 | 7 39.3 | 7 17.1 | 3.2 | 1.6 | 9.2 | 4.7 | 15.2 | 7.7 |
| 33 | 7 38.3 | 7 39.5 | 7 17.4 | 3.3 | 1.7 | 9.3 | 4.7 | 15.3 | 7.8 |
| 34 | 7 38.5 | 7 39.8 | 7 17.6 | 3.4 | 1.7 | 9.4 | 4.8 | 15.4 | 7.8 |
| 35 | 7 38.7 | 7 40.0 | 7 17.9 | 3.5 | 1.8 | 9.5 | 4.8 | 15.5 | 7.9 |
| 36 | 7 39.0 | 7 40.3 | 7 18.1 | 3.6 | 1.8 | 9.6 | 4.9 | 15.6 | 7.9 |
| 37 | 7 39.3 | 7 40.5 | 7 18.3 | 3.7 | 1.9 | 9.7 | 4.9 | 15.7 | 8.0 |
| 38 | 7 39.5 | 7 40.8 | 7 18.6 | 3.8 | 1.9 | 9.8 | 5.0 | 15.8 | 8.0 |
| 39 | 7 39.8 | 7 41.0 | 7 18.8 | 3.9 | 2.0 | 9.9 | 5.0 | 15.9 | 8.1 |
| 40 | 7 40.0 | 7 41.3 | 7 19.0 | 4.0 | 2.0 | 10.0 | 5.1 | 16.0 | 8.1 |
| 41 | 7 40.3 | 7 41.5 | 7 19.3 | 4.1 | 2.1 | 10.1 | 5.1 | 16.1 | 8.2 |
| 42 | 7 40.5 | 7 41.8 | 7 19.5 | 4.2 | 2.1 | 10.2 | 5.2 | 16.2 | 8.2 |
| 43 | 7 40.7 | 7 42.0 | 7 19.8 | 4.3 | 2.2 | 10.3 | 5.2 | 16.3 | 8.3 |
| 44 | 7 41.0 | 7 42.3 | 7 20.0 | 4.4 | 2.2 | 10.4 | 5.3 | 16.4 | 8.3 |
| 45 | 7 41.2 | 7 42.5 | 7 20.2 | 4.5 | 2.3 | 10.5 | 5.3 | 16.5 | 8.4 |
| 46 | 7 41.5 | 7 42.8 | 7 20.5 | 4.6 | 2.3 | 10.6 | 5.4 | 16.6 | 8.4 |
| 47 | 7 41.8 | 7 43.0 | 7 20.7 | 4.7 | 2.4 | 10.7 | 5.4 | 16.7 | 8.5 |
| 48 | 7 42.0 | 7 43.3 | 7 21.0 | 4.8 | 2.4 | 10.8 | 5.5 | 16.8 | 8.5 |
| 49 | 7 42.3 | 7 43.5 | 7 21.2 | 4.9 | 2.5 | 10.9 | 5.5 | 16.9 | 8.6 |
| 50 | 7 42.5 | 7 43.8 | 7 21.4 | 5.0 | 2.5 | 11.0 | 5.6 | 17.0 | 8.6 |
| 51 | 7 42.8 | 7 44.0 | 7 21.7 | 5.1 | 2.6 | 11.1 | 5.6 | 17.1 | 8.7 |
| 52 | 7 43.0 | 7 44.3 | 7 21.9 | 5.2 | 2.6 | 11.2 | 5.7 | 17.2 | 8.7 |
| 53 | 7 43.2 | 7 44.5 | 7 22.1 | 5.3 | 2.7 | 11.3 | 5.7 | 17.3 | 8.8 |
| 54 | 7 43.5 | 7 44.8 | 7 22.4 | 5.4 | 2.7 | 11.4 | 5.8 | 17.4 | 8.8 |
| 55 | 7 43.8 | 7 45.0 | 7 22.6 | 5.5 | 2.8 | 11.5 | 5.8 | 17.5 | 8.9 |
| 56 | 7 44.0 | 7 45.3 | 7 22.9 | 5.6 | 2.8 | 11.6 | 5.9 | 17.6 | 8.9 |
| 57 | 7 44.3 | 7 45.5 | 7 23.1 | 5.7 | 2.9 | 11.7 | 5.9 | 17.7 | 9.0 |
| 58 | 7 44.5 | 7 45.8 | 7 23.3 | 5.8 | 2.9 | 11.8 | 6.0 | 17.8 | 9.0 |
| 59 | 7 44.8 | 7 46.0 | 7 23.6 | 5.9 | 3.0 | 11.9 | 6.0 | 17.9 | 9.1 |
| 60 | 7 45.0 | 7 46.3 | 7 23.8 | 6.0 | 3.1 | 12.0 | 6.1 | 18.0 | 9.1 |

| m 31 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 7 45.0 | 7 46.3 | 7 23.8 | 0.0 | 0.0 | 6.0 | 3.2 | 12.0 | 6.3 |
| 1 | 7 45.2 | 7 46.5 | 7 24.1 | 0.1 | 0.1 | 6.1 | 3.2 | 12.1 | 6.4 |
| 2 | 7 45.5 | 7 46.8 | 7 24.3 | 0.2 | 0.1 | 6.2 | 3.3 | 12.2 | 6.4 |
| 3 | 7 45.7 | 7 47.0 | 7 24.5 | 0.3 | 0.2 | 6.3 | 3.3 | 12.3 | 6.5 |
| 4 | 7 46.0 | 7 47.3 | 7 24.8 | 0.4 | 0.2 | 6.4 | 3.4 | 12.4 | 6.5 |
| 5 | 7 46.2 | 7 47.5 | 7 25.0 | 0.5 | 0.3 | 6.5 | 3.4 | 12.5 | 6.6 |
| 6 | 7 46.5 | 7 47.8 | 7 25.2 | 0.6 | 0.3 | 6.6 | 3.5 | 12.6 | 6.6 |
| 7 | 7 46.8 | 7 48.0 | 7 25.5 | 0.7 | 0.4 | 6.7 | 3.5 | 12.7 | 6.7 |
| 8 | 7 47.0 | 7 48.3 | 7 25.7 | 0.8 | 0.4 | 6.8 | 3.6 | 12.8 | 6.7 |
| 9 | 7 47.2 | 7 48.5 | 7 26.0 | 0.9 | 0.5 | 6.9 | 3.6 | 12.9 | 6.8 |
| 10 | 7 47.5 | 7 48.8 | 7 26.2 | 1.0 | 0.5 | 7.0 | 3.7 | 13.0 | 6.8 |
| 11 | 7 47.7 | 7 49.0 | 7 26.4 | 1.1 | 0.6 | 7.1 | 3.7 | 13.1 | 6.9 |
| 12 | 7 48.0 | 7 49.3 | 7 26.7 | 1.2 | 0.6 | 7.2 | 3.8 | 13.2 | 6.9 |
| 13 | 7 48.2 | 7 49.5 | 7 26.9 | 1.3 | 0.7 | 7.3 | 3.8 | 13.3 | 7.0 |
| 14 | 7 48.5 | 7 49.8 | 7 27.2 | 1.4 | 0.7 | 7.4 | 3.9 | 13.4 | 7.0 |
| 15 | 7 48.8 | 7 50.0 | 7 27.4 | 1.5 | 0.8 | 7.5 | 3.9 | 13.5 | 7.1 |
| 16 | 7 49.0 | 7 50.3 | 7 27.6 | 1.6 | 0.8 | 7.6 | 4.0 | 13.6 | 7.1 |
| 17 | 7 49.3 | 7 50.5 | 7 27.9 | 1.7 | 0.9 | 7.7 | 4.0 | 13.7 | 7.2 |
| 18 | 7 49.5 | 7 50.8 | 7 28.1 | 1.8 | 0.9 | 7.8 | 4.1 | 13.8 | 7.2 |
| 19 | 7 49.8 | 7 51.0 | 7 28.4 | 1.9 | 1.0 | 7.9 | 4.1 | 13.9 | 7.3 |
| 20 | 7 50.0 | 7 51.3 | 7 28.6 | 2.0 | 1.1 | 8.0 | 4.2 | 14.0 | 7.4 |
| 21 | 7 50.3 | 7 51.5 | 7 28.8 | 2.1 | 1.1 | 8.1 | 4.3 | 14.1 | 7.4 |
| 22 | 7 50.5 | 7 51.8 | 7 29.1 | 2.2 | 1.2 | 8.2 | 4.3 | 14.2 | 7.5 |
| 23 | 7 50.7 | 7 52.0 | 7 29.3 | 2.3 | 1.2 | 8.3 | 4.4 | 14.3 | 7.5 |
| 24 | 7 51.0 | 7 52.3 | 7 29.5 | 2.4 | 1.3 | 8.4 | 4.4 | 14.4 | 7.6 |
| 25 | 7 51.3 | 7 52.5 | 7 29.8 | 2.5 | 1.3 | 8.5 | 4.5 | 14.5 | 7.6 |
| 26 | 7 51.5 | 7 52.8 | 7 30.0 | 2.6 | 1.4 | 8.6 | 4.5 | 14.6 | 7.7 |
| 27 | 7 51.7 | 7 53.0 | 7 30.3 | 2.7 | 1.4 | 8.7 | 4.6 | 14.7 | 7.7 |
| 28 | 7 52.0 | 7 53.3 | 7 30.5 | 2.8 | 1.5 | 8.8 | 4.6 | 14.8 | 7.8 |
| 29 | 7 52.2 | 7 53.5 | 7 30.7 | 2.9 | 1.5 | 8.9 | 4.7 | 14.9 | 7.8 |
| 30 | 7 52.5 | 7 53.8 | 7 31.0 | 3.0 | 1.6 | 9.0 | 4.7 | 15.0 | 7.9 |
| 31 | 7 52.7 | 7 54.0 | 7 31.2 | 3.1 | 1.6 | 9.1 | 4.8 | 15.1 | 7.9 |
| 32 | 7 53.0 | 7 54.3 | 7 31.5 | 3.2 | 1.7 | 9.2 | 4.8 | 15.2 | 8.0 |
| 33 | 7 53.3 | 7 54.5 | 7 31.7 | 3.3 | 1.7 | 9.3 | 4.9 | 15.3 | 8.0 |
| 34 | 7 53.5 | 7 54.8 | 7 31.9 | 3.4 | 1.8 | 9.4 | 4.9 | 15.4 | 8.1 |
| 35 | 7 53.8 | 7 55.0 | 7 32.2 | 3.5 | 1.8 | 9.5 | 5.0 | 15.5 | 8.1 |
| 36 | 7 54.0 | 7 55.3 | 7 32.4 | 3.6 | 1.9 | 9.6 | 5.0 | 15.6 | 8.2 |
| 37 | 7 54.3 | 7 55.5 | 7 32.6 | 3.7 | 1.9 | 9.7 | 5.1 | 15.7 | 8.2 |
| 38 | 7 54.5 | 7 55.8 | 7 32.9 | 3.8 | 2.0 | 9.8 | 5.1 | 15.8 | 8.3 |
| 39 | 7 54.7 | 7 56.0 | 7 33.1 | 3.9 | 2.0 | 9.9 | 5.2 | 15.9 | 8.3 |
| 40 | 7 55.0 | 7 56.3 | 7 33.4 | 4.0 | 2.1 | 10.0 | 5.3 | 16.0 | 8.4 |
| 41 | 7 55.3 | 7 56.5 | 7 33.6 | 4.1 | 2.2 | 10.1 | 5.3 | 16.1 | 8.5 |
| 42 | 7 55.5 | 7 56.8 | 7 33.8 | 4.2 | 2.2 | 10.2 | 5.4 | 16.2 | 8.5 |
| 43 | 7 55.7 | 7 57.1 | 7 34.1 | 4.3 | 2.3 | 10.3 | 5.4 | 16.3 | 8.6 |
| 44 | 7 56.0 | 7 57.3 | 7 34.3 | 4.4 | 2.3 | 10.4 | 5.5 | 16.4 | 8.6 |
| 45 | 7 56.3 | 7 57.6 | 7 34.6 | 4.5 | 2.4 | 10.5 | 5.5 | 16.5 | 8.7 |
| 46 | 7 56.5 | 7 57.8 | 7 34.8 | 4.6 | 2.4 | 10.6 | 5.6 | 16.6 | 8.7 |
| 47 | 7 56.7 | 7 58.1 | 7 35.0 | 4.7 | 2.5 | 10.7 | 5.6 | 16.7 | 8.8 |
| 48 | 7 57.0 | 7 58.3 | 7 35.3 | 4.8 | 2.5 | 10.8 | 5.7 | 16.8 | 8.8 |
| 49 | 7 57.2 | 7 58.6 | 7 35.5 | 4.9 | 2.6 | 10.9 | 5.7 | 16.9 | 8.9 |
| 50 | 7 57.5 | 7 58.8 | 7 35.7 | 5.0 | 2.6 | 11.0 | 5.8 | 17.0 | 8.9 |
| 51 | 7 57.8 | 7 59.1 | 7 36.0 | 5.1 | 2.7 | 11.1 | 5.8 | 17.1 | 9.0 |
| 52 | 7 58.0 | 7 59.3 | 7 36.2 | 5.2 | 2.7 | 11.2 | 5.9 | 17.2 | 9.0 |
| 53 | 7 58.2 | 7 59.6 | 7 36.5 | 5.3 | 2.8 | 11.3 | 5.9 | 17.3 | 9.1 |
| 54 | 7 58.5 | 7 59.8 | 7 36.7 | 5.4 | 2.8 | 11.4 | 6.0 | 17.4 | 9.1 |
| 55 | 7 58.8 | 8 0.1 | 7 36.9 | 5.5 | 2.9 | 11.5 | 6.0 | 17.5 | 9.2 |
| 56 | 7 59.0 | 8 0.3 | 7 37.2 | 5.6 | 2.9 | 11.6 | 6.1 | 17.6 | 9.2 |
| 57 | 7 59.2 | 8 0.6 | 7 37.4 | 5.7 | 3.0 | 11.7 | 6.1 | 17.7 | 9.3 |
| 58 | 7 59.5 | 8 0.8 | 7 37.7 | 5.8 | 3.0 | 11.8 | 6.2 | 17.8 | 9.3 |
| 59 | 7 59.8 | 8 1.1 | 7 37.9 | 5.9 | 3.1 | 11.9 | 6.2 | 17.9 | 9.4 |
| 60 | 8 0.0 | 8 1.3 | 7 38.1 | 6.0 | 3.2 | 12.0 | 6.3 | 18.0 | 9.5 |

| m 32 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 8 0.0 | 8 1.3 | 7 38.1 | 0.0 | 0.0 | 6.0 | 3.3 | 12.0 | 6.5 |
| 1 | 8 0.2 | 8 1.6 | 7 38.4 | 0.1 | 0.1 | 6.1 | 3.3 | 12.1 | 6.6 |
| 2 | 8 0.5 | 8 1.8 | 7 38.6 | 0.2 | 0.1 | 6.2 | 3.4 | 12.2 | 6.6 |
| 3 | 8 0.7 | 8 2.1 | 7 38.8 | 0.3 | 0.2 | 6.3 | 3.4 | 12.3 | 6.7 |
| 4 | 8 1.0 | 8 2.3 | 7 39.1 | 0.4 | 0.2 | 6.4 | 3.5 | 12.4 | 6.7 |
| 5 | 8 1.3 | 8 2.6 | 7 39.3 | 0.5 | 0.3 | 6.5 | 3.5 | 12.5 | 6.8 |
| 6 | 8 1.5 | 8 2.8 | 7 39.6 | 0.6 | 0.3 | 6.6 | 3.6 | 12.6 | 6.8 |
| 7 | 8 1.8 | 8 3.1 | 7 39.8 | 0.7 | 0.4 | 6.7 | 3.6 | 12.7 | 6.9 |
| 8 | 8 2.0 | 8 3.3 | 7 40.0 | 0.8 | 0.4 | 6.8 | 3.7 | 12.8 | 6.9 |
| 9 | 8 2.2 | 8 3.6 | 7 40.3 | 0.9 | 0.5 | 6.9 | 3.7 | 12.9 | 7.0 |
| 10 | 8 2.5 | 8 3.8 | 7 40.5 | 1.0 | 0.5 | 7.0 | 3.8 | 13.0 | 7.0 |
| 11 | 8 2.7 | 8 4.1 | 7 40.8 | 1.1 | 0.6 | 7.1 | 3.8 | 13.1 | 7.1 |
| 12 | 8 3.0 | 8 4.3 | 7 41.0 | 1.2 | 0.6 | 7.2 | 3.9 | 13.2 | 7.1 |
| 13 | 8 3.3 | 8 4.6 | 7 41.2 | 1.3 | 0.7 | 7.3 | 4.0 | 13.3 | 7.2 |
| 14 | 8 3.5 | 8 4.8 | 7 41.5 | 1.4 | 0.8 | 7.4 | 4.0 | 13.4 | 7.3 |
| 15 | 8 3.8 | 8 5.1 | 7 41.7 | 1.5 | 0.8 | 7.5 | 4.1 | 13.5 | 7.3 |
| 16 | 8 4.0 | 8 5.3 | 7 42.0 | 1.6 | 0.9 | 7.6 | 4.1 | 13.6 | 7.4 |
| 17 | 8 4.2 | 8 5.6 | 7 42.2 | 1.7 | 0.9 | 7.7 | 4.2 | 13.7 | 7.4 |
| 18 | 8 4.5 | 8 5.8 | 7 42.4 | 1.8 | 1.0 | 7.8 | 4.2 | 13.8 | 7.5 |
| 19 | 8 4.8 | 8 6.1 | 7 42.7 | 1.9 | 1.0 | 7.9 | 4.3 | 13.9 | 7.5 |
| 20 | 8 5.0 | 8 6.3 | 7 42.9 | 2.0 | 1.1 | 8.0 | 4.3 | 14.0 | 7.6 |
| 21 | 8 5.3 | 8 6.6 | 7 43.1 | 2.1 | 1.1 | 8.1 | 4.4 | 14.1 | 7.6 |
| 22 | 8 5.5 | 8 6.8 | 7 43.4 | 2.2 | 1.2 | 8.2 | 4.4 | 14.2 | 7.7 |
| 23 | 8 5.7 | 8 7.1 | 7 43.6 | 2.3 | 1.2 | 8.3 | 4.5 | 14.3 | 7.7 |
| 24 | 8 6.0 | 8 7.3 | 7 43.9 | 2.4 | 1.3 | 8.4 | 4.6 | 14.4 | 7.8 |
| 25 | 8 6.2 | 8 7.6 | 7 44.1 | 2.5 | 1.4 | 8.5 | 4.6 | 14.5 | 7.9 |
| 26 | 8 6.5 | 8 7.8 | 7 44.3 | 2.6 | 1.4 | 8.6 | 4.7 | 14.6 | 7.9 |
| 27 | 8 6.8 | 8 8.1 | 7 44.6 | 2.7 | 1.5 | 8.7 | 4.7 | 14.7 | 8.0 |
| 28 | 8 7.0 | 8 8.3 | 7 44.8 | 2.8 | 1.5 | 8.8 | 4.8 | 14.8 | 8.0 |
| 29 | 8 7.3 | 8 8.6 | 7 45.1 | 2.9 | 1.6 | 8.9 | 4.8 | 14.9 | 8.1 |
| 30 | 8 7.5 | 8 8.8 | 7 45.3 | 3.0 | 1.6 | 9.0 | 4.9 | 15.0 | 8.1 |
| 31 | 8 7.7 | 8 9.1 | 7 45.5 | 3.1 | 1.7 | 9.1 | 4.9 | 15.1 | 8.2 |
| 32 | 8 8.0 | 8 9.3 | 7 45.8 | 3.2 | 1.7 | 9.2 | 5.0 | 15.2 | 8.2 |
| 33 | 8 8.2 | 8 9.6 | 7 46.0 | 3.3 | 1.8 | 9.3 | 5.0 | 15.3 | 8.3 |
| 34 | 8 8.5 | 8 9.8 | 7 46.2 | 3.4 | 1.8 | 9.4 | 5.1 | 15.4 | 8.3 |
| 35 | 8 8.8 | 8 10.1 | 7 46.5 | 3.5 | 1.9 | 9.5 | 5.1 | 15.5 | 8.4 |
| 36 | 8 9.0 | 8 10.3 | 7 46.7 | 3.6 | 2.0 | 9.6 | 5.2 | 15.6 | 8.5 |
| 37 | 8 9.3 | 8 10.6 | 7 47.0 | 3.7 | 2.0 | 9.7 | 5.3 | 15.7 | 8.5 |
| 38 | 8 9.5 | 8 10.8 | 7 47.2 | 3.8 | 2.1 | 9.8 | 5.3 | 15.8 | 8.6 |
| 39 | 8 9.7 | 8 11.1 | 7 47.4 | 3.9 | 2.1 | 9.9 | 5.4 | 15.9 | 8.6 |
| 40 | 8 10.0 | 8 11.3 | 7 47.7 | 4.0 | 2.2 | 10.0 | 5.4 | 16.0 | 8.7 |
| 41 | 8 10.2 | 8 11.6 | 7 47.9 | 4.1 | 2.2 | 10.1 | 5.5 | 16.1 | 8.7 |
| 42 | 8 10.5 | 8 11.8 | 7 48.2 | 4.2 | 2.3 | 10.2 | 5.5 | 16.2 | 8.8 |
| 43 | 8 10.8 | 8 12.1 | 7 48.4 | 4.3 | 2.3 | 10.3 | 5.6 | 16.3 | 8.8 |
| 44 | 8 11.0 | 8 12.3 | 7 48.6 | 4.4 | 2.4 | 10.4 | 5.6 | 16.4 | 8.9 |
| 45 | 8 11.3 | 8 12.6 | 7 48.9 | 4.5 | 2.4 | 10.5 | 5.7 | 16.5 | 8.9 |
| 46 | 8 11.5 | 8 12.8 | 7 49.1 | 4.6 | 2.5 | 10.6 | 5.7 | 16.6 | 9.0 |
| 47 | 8 11.7 | 8 13.1 | 7 49.3 | 4.7 | 2.5 | 10.7 | 5.8 | 16.7 | 9.0 |
| 48 | 8 12.0 | 8 13.3 | 7 49.6 | 4.8 | 2.6 | 10.8 | 5.9 | 16.8 | 9.1 |
| 49 | 8 12.3 | 8 13.6 | 7 49.8 | 4.9 | 2.7 | 10.9 | 5.9 | 16.9 | 9.2 |
| 50 | 8 12.5 | 8 13.8 | 7 50.1 | 5.0 | 2.7 | 11.0 | 6.0 | 17.0 | 9.2 |
| 51 | 8 12.8 | 8 14.1 | 7 50.3 | 5.1 | 2.8 | 11.1 | 6.0 | 17.1 | 9.3 |
| 52 | 8 13.0 | 8 14.3 | 7 50.5 | 5.2 | 2.8 | 11.2 | 6.1 | 17.2 | 9.3 |
| 53 | 8 13.2 | 8 14.6 | 7 50.8 | 5.3 | 2.9 | 11.3 | 6.1 | 17.3 | 9.4 |
| 54 | 8 13.5 | 8 14.8 | 7 51.0 | 5.4 | 2.9 | 11.4 | 6.2 | 17.4 | 9.4 |
| 55 | 8 13.7 | 8 15.1 | 7 51.3 | 5.5 | 3.0 | 11.5 | 6.2 | 17.5 | 9.5 |
| 56 | 8 14.0 | 8 15.4 | 7 51.5 | 5.6 | 3.0 | 11.6 | 6.3 | 17.6 | 9.5 |
| 57 | 8 14.3 | 8 15.6 | 7 51.7 | 5.7 | 3.1 | 11.7 | 6.3 | 17.7 | 9.6 |
| 58 | 8 14.5 | 8 15.9 | 7 52.0 | 5.8 | 3.1 | 11.8 | 6.4 | 17.8 | 9.6 |
| 59 | 8 14.8 | 8 16.1 | 7 52.2 | 5.9 | 3.2 | 11.9 | 6.4 | 17.9 | 9.7 |
| 60 | 8 15.0 | 8 16.4 | 7 52.5 | 6.0 | 3.3 | 12.0 | 6.5 | 18.0 | 9.8 |

| m 33 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 8 15.0 | 8 16.4 | 7 52.5 | 0.0 | 0.0 | 6.0 | 3.4 | 12.0 | 6.7 |
| 1 | 8 15.2 | 8 16.6 | 7 52.7 | 0.1 | 0.1 | 6.1 | 3.4 | 12.1 | 6.8 |
| 2 | 8 15.5 | 8 16.9 | 7 52.9 | 0.2 | 0.1 | 6.2 | 3.5 | 12.2 | 6.8 |
| 3 | 8 15.7 | 8 17.1 | 7 53.2 | 0.3 | 0.2 | 6.3 | 3.5 | 12.3 | 6.9 |
| 4 | 8 16.0 | 8 17.4 | 7 53.4 | 0.4 | 0.2 | 6.4 | 3.6 | 12.4 | 6.9 |
| 5 | 8 16.3 | 8 17.6 | 7 53.6 | 0.5 | 0.3 | 6.5 | 3.6 | 12.5 | 7.0 |
| 6 | 8 16.5 | 8 17.9 | 7 53.9 | 0.6 | 0.3 | 6.6 | 3.7 | 12.6 | 7.0 |
| 7 | 8 16.8 | 8 18.1 | 7 54.1 | 0.7 | 0.4 | 6.7 | 3.7 | 12.7 | 7.1 |
| 8 | 8 17.0 | 8 18.4 | 7 54.4 | 0.8 | 0.4 | 6.8 | 3.8 | 12.8 | 7.1 |
| 9 | 8 17.2 | 8 18.6 | 7 54.6 | 0.9 | 0.5 | 6.9 | 3.9 | 12.9 | 7.2 |
| 10 | 8 17.5 | 8 18.9 | 7 54.8 | 1.0 | 0.6 | 7.0 | 3.9 | 13.0 | 7.3 |
| 11 | 8 17.7 | 8 19.1 | 7 55.1 | 1.1 | 0.6 | 7.1 | 4.0 | 13.1 | 7.3 |
| 12 | 8 18.0 | 8 19.4 | 7 55.3 | 1.2 | 0.7 | 7.2 | 4.0 | 13.2 | 7.4 |
| 13 | 8 18.3 | 8 19.6 | 7 55.6 | 1.3 | 0.7 | 7.3 | 4.1 | 13.3 | 7.4 |
| 14 | 8 18.5 | 8 19.9 | 7 55.8 | 1.4 | 0.8 | 7.4 | 4.1 | 13.4 | 7.5 |
| 15 | 8 18.8 | 8 20.1 | 7 56.0 | 1.5 | 0.8 | 7.5 | 4.2 | 13.5 | 7.5 |
| 16 | 8 19.0 | 8 20.4 | 7 56.3 | 1.6 | 0.9 | 7.6 | 4.2 | 13.6 | 7.6 |
| 17 | 8 19.2 | 8 20.6 | 7 56.5 | 1.7 | 0.9 | 7.7 | 4.3 | 13.7 | 7.6 |
| 18 | 8 19.5 | 8 20.9 | 7 56.7 | 1.8 | 1.0 | 7.8 | 4.4 | 13.8 | 7.7 |
| 19 | 8 19.8 | 8 21.1 | 7 57.0 | 1.9 | 1.1 | 7.9 | 4.4 | 13.9 | 7.8 |
| 20 | 8 20.0 | 8 21.4 | 7 57.2 | 2.0 | 1.1 | 8.0 | 4.5 | 14.0 | 7.8 |
| 21 | 8 20.3 | 8 21.6 | 7 57.5 | 2.1 | 1.2 | 8.1 | 4.5 | 14.1 | 7.9 |
| 22 | 8 20.5 | 8 21.9 | 7 57.7 | 2.2 | 1.2 | 8.2 | 4.6 | 14.2 | 7.9 |
| 23 | 8 20.7 | 8 22.1 | 7 57.9 | 2.3 | 1.3 | 8.3 | 4.6 | 14.3 | 8.0 |
| 24 | 8 21.0 | 8 22.4 | 7 58.2 | 2.4 | 1.3 | 8.4 | 4.7 | 14.4 | 8.0 |
| 25 | 8 21.2 | 8 22.6 | 7 58.4 | 2.5 | 1.4 | 8.5 | 4.7 | 14.5 | 8.1 |
| 26 | 8 21.5 | 8 22.9 | 7 58.7 | 2.6 | 1.5 | 8.6 | 4.8 | 14.6 | 8.2 |
| 27 | 8 21.8 | 8 23.1 | 7 58.9 | 2.7 | 1.5 | 8.7 | 4.9 | 14.7 | 8.2 |
| 28 | 8 22.0 | 8 23.4 | 7 59.1 | 2.8 | 1.6 | 8.8 | 4.9 | 14.8 | 8.3 |
| 29 | 8 22.3 | 8 23.6 | 7 59.4 | 2.9 | 1.6 | 8.9 | 5.0 | 14.9 | 8.3 |
| 30 | 8 22.5 | 8 23.9 | 7 59.6 | 3.0 | 1.7 | 9.0 | 5.0 | 15.0 | 8.4 |
| 31 | 8 22.7 | 8 24.1 | 7 59.8 | 3.1 | 1.7 | 9.1 | 5.1 | 15.1 | 8.4 |
| 32 | 8 23.0 | 8 24.4 | 8 0.1 | 3.2 | 1.8 | 9.2 | 5.1 | 15.2 | 8.5 |
| 33 | 8 23.2 | 8 24.6 | 8 0.3 | 3.3 | 1.8 | 9.3 | 5.2 | 15.3 | 8.5 |
| 34 | 8 23.5 | 8 24.9 | 8 0.6 | 3.4 | 1.9 | 9.4 | 5.2 | 15.4 | 8.6 |
| 35 | 8 23.8 | 8 25.1 | 8 0.8 | 3.5 | 2.0 | 9.5 | 5.3 | 15.5 | 8.7 |
| 36 | 8 24.0 | 8 25.4 | 8 1.0 | 3.6 | 2.0 | 9.6 | 5.4 | 15.6 | 8.7 |
| 37 | 8 24.3 | 8 25.6 | 8 1.3 | 3.7 | 2.1 | 9.7 | 5.4 | 15.7 | 8.8 |
| 38 | 8 24.5 | 8 25.9 | 8 1.5 | 3.8 | 2.1 | 9.8 | 5.5 | 15.8 | 8.8 |
| 39 | 8 24.7 | 8 26.1 | 8 1.8 | 3.9 | 2.2 | 9.9 | 5.5 | 15.9 | 8.9 |
| 40 | 8 25.0 | 8 26.4 | 8 2.0 | 4.0 | 2.2 | 10.0 | 5.6 | 16.0 | 8.9 |
| 41 | 8 25.2 | 8 26.6 | 8 2.2 | 4.1 | 2.3 | 10.1 | 5.6 | 16.1 | 9.0 |
| 42 | 8 25.5 | 8 26.9 | 8 2.5 | 4.2 | 2.3 | 10.2 | 5.7 | 16.2 | 9.0 |
| 43 | 8 25.8 | 8 27.1 | 8 2.7 | 4.3 | 2.4 | 10.3 | 5.8 | 16.3 | 9.1 |
| 44 | 8 26.0 | 8 27.4 | 8 2.9 | 4.4 | 2.5 | 10.4 | 5.8 | 16.4 | 9.2 |
| 45 | 8 26.3 | 8 27.6 | 8 3.2 | 4.5 | 2.5 | 10.5 | 5.9 | 16.5 | 9.2 |
| 46 | 8 26.5 | 8 27.9 | 8 3.4 | 4.6 | 2.6 | 10.6 | 5.9 | 16.6 | 9.3 |
| 47 | 8 26.7 | 8 28.1 | 8 3.7 | 4.7 | 2.6 | 10.7 | 6.0 | 16.7 | 9.3 |
| 48 | 8 27.0 | 8 28.4 | 8 3.9 | 4.8 | 2.7 | 10.8 | 6.0 | 16.8 | 9.4 |
| 49 | 8 27.3 | 8 28.6 | 8 4.1 | 4.9 | 2.7 | 10.9 | 6.1 | 16.9 | 9.4 |
| 50 | 8 27.5 | 8 28.9 | 8 4.4 | 5.0 | 2.8 | 11.0 | 6.1 | 17.0 | 9.5 |
| 51 | 8 27.8 | 8 29.1 | 8 4.6 | 5.1 | 2.8 | 11.1 | 6.2 | 17.1 | 9.5 |
| 52 | 8 28.0 | 8 29.4 | 8 4.9 | 5.2 | 2.9 | 11.2 | 6.3 | 17.2 | 9.6 |
| 53 | 8 28.2 | 8 29.6 | 8 5.1 | 5.3 | 3.0 | 11.3 | 6.3 | 17.3 | 9.7 |
| 54 | 8 28.5 | 8 29.9 | 8 5.3 | 5.4 | 3.0 | 11.4 | 6.4 | 17.4 | 9.7 |
| 55 | 8 28.7 | 8 30.1 | 8 5.6 | 5.5 | 3.1 | 11.5 | 6.4 | 17.5 | 9.8 |
| 56 | 8 29.0 | 8 30.4 | 8 5.8 | 5.6 | 3.1 | 11.6 | 6.5 | 17.6 | 9.8 |
| 57 | 8 29.3 | 8 30.6 | 8 6.1 | 5.7 | 3.2 | 11.7 | 6.5 | 17.7 | 9.9 |
| 58 | 8 29.5 | 8 30.9 | 8 6.3 | 5.8 | 3.2 | 11.8 | 6.6 | 17.8 | 9.9 |
| 59 | 8 29.8 | 8 31.1 | 8 6.5 | 5.9 | 3.3 | 11.9 | 6.6 | 17.9 | 10.0 |
| 60 | 8 30.0 | 8 31.4 | 8 6.8 | 6.0 | 3.4 | 12.0 | 6.7 | 18.0 | 10.1 |

| m 34 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 8 30.0 | 8 31.4 | 8 6.8 | 0.0 | 0.0 | 6.0 | 3.4 | 12.0 | 6.9 |
| 1 | 8 30.2 | 8 31.6 | 8 7.0 | 0.1 | 0.1 | 6.1 | 3.5 | 12.1 | 7.0 |
| 2 | 8 30.5 | 8 31.9 | 8 7.2 | 0.2 | 0.1 | 6.2 | 3.6 | 12.2 | 7.0 |
| 3 | 8 30.7 | 8 32.1 | 8 7.5 | 0.3 | 0.2 | 6.3 | 3.6 | 12.3 | 7.1 |
| 4 | 8 31.0 | 8 32.4 | 8 7.7 | 0.4 | 0.2 | 6.4 | 3.7 | 12.4 | 7.1 |
| 5 | 8 31.3 | 8 32.6 | 8 8.0 | 0.5 | 0.3 | 6.5 | 3.7 | 12.5 | 7.2 |
| 6 | 8 31.5 | 8 32.9 | 8 8.2 | 0.6 | 0.3 | 6.6 | 3.8 | 12.6 | 7.2 |
| 7 | 8 31.8 | 8 33.1 | 8 8.4 | 0.7 | 0.4 | 6.7 | 3.9 | 12.7 | 7.3 |
| 8 | 8 32.0 | 8 33.4 | 8 8.7 | 0.8 | 0.5 | 6.8 | 3.9 | 12.8 | 7.4 |
| 9 | 8 32.2 | 8 33.7 | 8 8.9 | 0.9 | 0.5 | 6.9 | 4.0 | 12.9 | 7.4 |
| 10 | 8 32.5 | 8 33.9 | 8 9.2 | 1.0 | 0.6 | 7.0 | 4.0 | 13.0 | 7.5 |
| 11 | 8 32.7 | 8 34.2 | 8 9.4 | 1.1 | 0.6 | 7.1 | 4.1 | 13.1 | 7.5 |
| 12 | 8 33.0 | 8 34.4 | 8 9.6 | 1.2 | 0.7 | 7.2 | 4.1 | 13.2 | 7.6 |
| 13 | 8 33.3 | 8 34.7 | 8 9.9 | 1.3 | 0.7 | 7.3 | 4.2 | 13.3 | 7.6 |
| 14 | 8 33.5 | 8 34.9 | 8 10.1 | 1.4 | 0.8 | 7.4 | 4.3 | 13.4 | 7.7 |
| 15 | 8 33.8 | 8 35.2 | 8 10.3 | 1.5 | 0.9 | 7.5 | 4.3 | 13.5 | 7.8 |
| 16 | 8 34.0 | 8 35.4 | 8 10.6 | 1.6 | 0.9 | 7.6 | 4.4 | 13.6 | 7.8 |
| 17 | 8 34.2 | 8 35.7 | 8 10.8 | 1.7 | 1.0 | 7.7 | 4.4 | 13.7 | 7.9 |
| 18 | 8 34.5 | 8 35.9 | 8 11.1 | 1.8 | 1.0 | 7.8 | 4.5 | 13.8 | 7.9 |
| 19 | 8 34.8 | 8 36.2 | 8 11.3 | 1.9 | 1.1 | 7.9 | 4.5 | 13.9 | 8.0 |
| 20 | 8 35.0 | 8 36.4 | 8 11.5 | 2.0 | 1.2 | 8.0 | 4.6 | 14.0 | 8.0 |
| 21 | 8 35.3 | 8 36.7 | 8 11.8 | 2.1 | 1.2 | 8.1 | 4.7 | 14.1 | 8.1 |
| 22 | 8 35.5 | 8 36.9 | 8 12.0 | 2.2 | 1.3 | 8.2 | 4.7 | 14.2 | 8.2 |
| 23 | 8 35.7 | 8 37.2 | 8 12.3 | 2.3 | 1.3 | 8.3 | 4.8 | 14.3 | 8.2 |
| 24 | 8 36.0 | 8 37.4 | 8 12.5 | 2.4 | 1.4 | 8.4 | 4.8 | 14.4 | 8.3 |
| 25 | 8 36.2 | 8 37.7 | 8 12.7 | 2.5 | 1.4 | 8.5 | 4.9 | 14.5 | 8.3 |
| 26 | 8 36.5 | 8 37.9 | 8 13.0 | 2.6 | 1.5 | 8.6 | 4.9 | 14.6 | 8.4 |
| 27 | 8 36.8 | 8 38.2 | 8 13.2 | 2.7 | 1.6 | 8.7 | 5.0 | 14.7 | 8.5 |
| 28 | 8 37.0 | 8 38.4 | 8 13.4 | 2.8 | 1.6 | 8.8 | 5.1 | 14.8 | 8.5 |
| 29 | 8 37.3 | 8 38.7 | 8 13.7 | 2.9 | 1.7 | 8.9 | 5.1 | 14.9 | 8.6 |
| 30 | 8 37.5 | 8 38.9 | 8 13.9 | 3.0 | 1.7 | 9.0 | 5.2 | 15.0 | 8.6 |
| 31 | 8 37.7 | 8 39.2 | 8 14.2 | 3.1 | 1.8 | 9.1 | 5.2 | 15.1 | 8.7 |
| 32 | 8 38.0 | 8 39.4 | 8 14.4 | 3.2 | 1.8 | 9.2 | 5.3 | 15.2 | 8.7 |
| 33 | 8 38.2 | 8 39.7 | 8 14.6 | 3.3 | 1.9 | 9.3 | 5.3 | 15.3 | 8.8 |
| 34 | 8 38.5 | 8 39.9 | 8 14.9 | 3.4 | 2.0 | 9.4 | 5.4 | 15.4 | 8.9 |
| 35 | 8 38.8 | 8 40.2 | 8 15.1 | 3.5 | 2.0 | 9.5 | 5.5 | 15.5 | 8.9 |
| 36 | 8 39.0 | 8 40.4 | 8 15.4 | 3.6 | 2.1 | 9.6 | 5.5 | 15.6 | 9.0 |
| 37 | 8 39.3 | 8 40.7 | 8 15.6 | 3.7 | 2.1 | 9.7 | 5.6 | 15.7 | 9.0 |
| 38 | 8 39.5 | 8 40.9 | 8 15.8 | 3.8 | 2.2 | 9.8 | 5.6 | 15.8 | 9.1 |
| 39 | 8 39.7 | 8 41.2 | 8 16.1 | 3.9 | 2.2 | 9.9 | 5.7 | 15.9 | 9.1 |
| 40 | 8 40.0 | 8 41.4 | 8 16.3 | 4.0 | 2.3 | 10.0 | 5.8 | 16.0 | 9.2 |
| 41 | 8 40.2 | 8 41.7 | 8 16.5 | 4.1 | 2.4 | 10.1 | 5.8 | 16.1 | 9.3 |
| 42 | 8 40.5 | 8 41.9 | 8 16.8 | 4.2 | 2.4 | 10.2 | 5.9 | 16.2 | 9.3 |
| 43 | 8 40.8 | 8 42.2 | 8 17.0 | 4.3 | 2.5 | 10.3 | 5.9 | 16.3 | 9.4 |
| 44 | 8 41.0 | 8 42.4 | 8 17.3 | 4.4 | 2.5 | 10.4 | 6.0 | 16.4 | 9.4 |
| 45 | 8 41.3 | 8 42.7 | 8 17.5 | 4.5 | 2.6 | 10.5 | 6.0 | 16.5 | 9.5 |
| 46 | 8 41.5 | 8 42.9 | 8 17.7 | 4.6 | 2.6 | 10.6 | 6.1 | 16.6 | 9.5 |
| 47 | 8 41.7 | 8 43.2 | 8 18.0 | 4.7 | 2.7 | 10.7 | 6.2 | 16.7 | 9.6 |
| 48 | 8 42.0 | 8 43.4 | 8 18.2 | 4.8 | 2.8 | 10.8 | 6.2 | 16.8 | 9.7 |
| 49 | 8 42.3 | 8 43.7 | 8 18.5 | 4.9 | 2.8 | 10.9 | 6.3 | 16.9 | 9.7 |
| 50 | 8 42.5 | 8 43.9 | 8 18.7 | 5.0 | 2.9 | 11.0 | 6.3 | 17.0 | 9.8 |
| 51 | 8 42.8 | 8 44.2 | 8 18.9 | 5.1 | 2.9 | 11.1 | 6.4 | 17.1 | 9.8 |
| 52 | 8 43.0 | 8 44.4 | 8 19.2 | 5.2 | 3.0 | 11.2 | 6.4 | 17.2 | 9.9 |
| 53 | 8 43.2 | 8 44.7 | 8 19.4 | 5.3 | 3.0 | 11.3 | 6.5 | 17.3 | 9.9 |
| 54 | 8 43.5 | 8 44.9 | 8 19.7 | 5.4 | 3.1 | 11.4 | 6.6 | 17.4 | 10.0 |
| 55 | 8 43.7 | 8 45.2 | 8 19.9 | 5.5 | 3.2 | 11.5 | 6.6 | 17.5 | 10.1 |
| 56 | 8 44.0 | 8 45.4 | 8 20.1 | 5.6 | 3.2 | 11.6 | 6.7 | 17.6 | 10.1 |
| 57 | 8 44.3 | 8 45.7 | 8 20.4 | 5.7 | 3.3 | 11.7 | 6.7 | 17.7 | 10.2 |
| 58 | 8 44.5 | 8 45.9 | 8 20.6 | 5.8 | 3.3 | 11.8 | 6.8 | 17.8 | 10.2 |
| 59 | 8 44.8 | 8 46.2 | 8 20.8 | 5.9 | 3.4 | 11.9 | 6.8 | 17.9 | 10.3 |
| 60 | 8 45.0 | 8 46.4 | 8 21.1 | 6.0 | 3.4 | 12.0 | 6.9 | 18.0 | 10.4 |

| m 35 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 8 45.0 | 8 46.4 | 8 21.1 | 0.0 | 0.0 | 6.0 | 3.6 | 12.0 | 7.1 |
| 1 | 8 45.2 | 8 46.7 | 8 21.3 | 0.1 | 0.1 | 6.1 | 3.6 | 12.1 | 7.2 |
| 2 | 8 45.5 | 8 46.9 | 8 21.6 | 0.2 | 0.1 | 6.2 | 3.7 | 12.2 | 7.2 |
| 3 | 8 45.7 | 8 47.2 | 8 21.8 | 0.3 | 0.2 | 6.3 | 3.7 | 12.3 | 7.3 |
| 4 | 8 46.0 | 8 47.4 | 8 22.0 | 0.4 | 0.2 | 6.4 | 3.8 | 12.4 | 7.3 |
| 5 | 8 46.3 | 8 47.7 | 8 22.3 | 0.5 | 0.3 | 6.5 | 3.8 | 12.5 | 7.4 |
| 6 | 8 46.5 | 8 47.9 | 8 22.5 | 0.6 | 0.4 | 6.6 | 3.9 | 12.6 | 7.5 |
| 7 | 8 46.8 | 8 48.2 | 8 22.8 | 0.7 | 0.4 | 6.7 | 4.0 | 12.7 | 7.5 |
| 8 | 8 47.0 | 8 48.4 | 8 23.0 | 0.8 | 0.5 | 6.8 | 4.0 | 12.8 | 7.6 |
| 9 | 8 47.2 | 8 48.7 | 8 23.2 | 0.9 | 0.5 | 6.9 | 4.1 | 12.9 | 7.6 |
| 10 | 8 47.5 | 8 48.9 | 8 23.5 | 1.0 | 0.6 | 7.0 | 4.1 | 13.0 | 7.7 |
| 11 | 8 47.7 | 8 49.2 | 8 23.7 | 1.1 | 0.7 | 7.1 | 4.2 | 13.1 | 7.8 |
| 12 | 8 48.0 | 8 49.4 | 8 23.9 | 1.2 | 0.7 | 7.2 | 4.3 | 13.2 | 7.8 |
| 13 | 8 48.3 | 8 49.7 | 8 24.2 | 1.3 | 0.8 | 7.3 | 4.3 | 13.3 | 7.9 |
| 14 | 8 48.5 | 8 49.9 | 8 24.4 | 1.4 | 0.8 | 7.4 | 4.4 | 13.4 | 7.9 |
| 15 | 8 48.8 | 8 50.2 | 8 24.7 | 1.5 | 0.9 | 7.5 | 4.4 | 13.5 | 8.0 |
| 16 | 8 49.0 | 8 50.4 | 8 24.9 | 1.6 | 0.9 | 7.6 | 4.5 | 13.6 | 8.0 |
| 17 | 8 49.2 | 8 50.7 | 8 25.1 | 1.7 | 1.0 | 7.7 | 4.6 | 13.7 | 8.1 |
| 18 | 8 49.5 | 8 50.9 | 8 25.4 | 1.8 | 1.1 | 7.8 | 4.6 | 13.8 | 8.2 |
| 19 | 8 49.8 | 8 51.2 | 8 25.6 | 1.9 | 1.1 | 7.9 | 4.7 | 13.9 | 8.2 |
| 20 | 8 50.0 | 8 51.4 | 8 25.9 | 2.0 | 1.2 | 8.0 | 4.7 | 14.0 | 8.3 |
| 21 | 8 50.3 | 8 51.7 | 8 26.1 | 2.1 | 1.2 | 8.1 | 4.8 | 14.1 | 8.3 |
| 22 | 8 50.5 | 8 52.0 | 8 26.3 | 2.2 | 1.3 | 8.2 | 4.9 | 14.2 | 8.4 |
| 23 | 8 50.7 | 8 52.2 | 8 26.6 | 2.3 | 1.4 | 8.3 | 4.9 | 14.3 | 8.5 |
| 24 | 8 51.0 | 8 52.5 | 8 26.8 | 2.4 | 1.4 | 8.4 | 5.0 | 14.4 | 8.5 |
| 25 | 8 51.2 | 8 52.7 | 8 27.0 | 2.5 | 1.5 | 8.5 | 5.0 | 14.5 | 8.6 |
| 26 | 8 51.5 | 8 53.0 | 8 27.3 | 2.6 | 1.5 | 8.6 | 5.1 | 14.6 | 8.6 |
| 27 | 8 51.8 | 8 53.2 | 8 27.5 | 2.7 | 1.6 | 8.7 | 5.1 | 14.7 | 8.7 |
| 28 | 8 52.0 | 8 53.5 | 8 27.8 | 2.8 | 1.7 | 8.8 | 5.2 | 14.8 | 8.8 |
| 29 | 8 52.3 | 8 53.7 | 8 28.0 | 2.9 | 1.7 | 8.9 | 5.3 | 14.9 | 8.8 |
| 30 | 8 52.5 | 8 54.0 | 8 28.2 | 3.0 | 1.8 | 9.0 | 5.3 | 15.0 | 8.9 |
| 31 | 8 52.7 | 8 54.2 | 8 28.5 | 3.1 | 1.8 | 9.1 | 5.4 | 15.1 | 8.9 |
| 32 | 8 53.0 | 8 54.5 | 8 28.7 | 3.2 | 1.9 | 9.2 | 5.4 | 15.2 | 9.0 |
| 33 | 8 53.2 | 8 54.7 | 8 29.0 | 3.3 | 2.0 | 9.3 | 5.5 | 15.3 | 9.1 |
| 34 | 8 53.5 | 8 55.0 | 8 29.2 | 3.4 | 2.0 | 9.4 | 5.6 | 15.4 | 9.1 |
| 35 | 8 53.8 | 8 55.2 | 8 29.4 | 3.5 | 2.1 | 9.5 | 5.6 | 15.5 | 9.2 |
| 36 | 8 54.0 | 8 55.5 | 8 29.7 | 3.6 | 2.1 | 9.6 | 5.7 | 15.6 | 9.2 |
| 37 | 8 54.3 | 8 55.7 | 8 29.9 | 3.7 | 2.2 | 9.7 | 5.7 | 15.7 | 9.3 |
| 38 | 8 54.5 | 8 56.0 | 8 30.2 | 3.8 | 2.2 | 9.8 | 5.8 | 15.8 | 9.3 |
| 39 | 8 54.7 | 8 56.2 | 8 30.4 | 3.9 | 2.3 | 9.9 | 5.9 | 15.9 | 9.4 |
| 40 | 8 55.0 | 8 56.5 | 8 30.6 | 4.0 | 2.4 | 10.0 | 5.9 | 16.0 | 9.5 |
| 41 | 8 55.2 | 8 56.7 | 8 30.9 | 4.1 | 2.4 | 10.1 | 6.0 | 16.1 | 9.5 |
| 42 | 8 55.5 | 8 57.0 | 8 31.1 | 4.2 | 2.5 | 10.2 | 6.0 | 16.2 | 9.6 |
| 43 | 8 55.8 | 8 57.2 | 8 31.3 | 4.3 | 2.5 | 10.3 | 6.1 | 16.3 | 9.6 |
| 44 | 8 56.0 | 8 57.5 | 8 31.6 | 4.4 | 2.6 | 10.4 | 6.2 | 16.4 | 9.7 |
| 45 | 8 56.3 | 8 57.7 | 8 31.8 | 4.5 | 2.7 | 10.5 | 6.2 | 16.5 | 9.8 |
| 46 | 8 56.5 | 8 58.0 | 8 32.1 | 4.6 | 2.7 | 10.6 | 6.3 | 16.6 | 9.8 |
| 47 | 8 56.7 | 8 58.2 | 8 32.3 | 4.7 | 2.8 | 10.7 | 6.3 | 16.7 | 9.9 |
| 48 | 8 57.0 | 8 58.5 | 8 32.5 | 4.8 | 2.8 | 10.8 | 6.4 | 16.8 | 9.9 |
| 49 | 8 57.3 | 8 58.7 | 8 32.8 | 4.9 | 2.9 | 10.9 | 6.4 | 16.9 | 10.0 |
| 50 | 8 57.5 | 8 59.0 | 8 33.0 | 5.0 | 3.0 | 11.0 | 6.5 | 17.0 | 10.1 |
| 51 | 8 57.8 | 8 59.2 | 8 33.3 | 5.1 | 3.0 | 11.1 | 6.6 | 17.1 | 10.1 |
| 52 | 8 58.0 | 8 59.5 | 8 33.5 | 5.2 | 3.1 | 11.2 | 6.6 | 17.2 | 10.2 |
| 53 | 8 58.2 | 8 59.7 | 8 33.7 | 5.3 | 3.1 | 11.3 | 6.7 | 17.3 | 10.2 |
| 54 | 8 58.5 | 9 0.0 | 8 34.0 | 5.4 | 3.2 | 11.4 | 6.7 | 17.4 | 10.3 |
| 55 | 8 58.7 | 9 0.2 | 8 34.2 | 5.5 | 3.3 | 11.5 | 6.8 | 17.5 | 10.4 |
| 56 | 8 59.0 | 9 0.5 | 8 34.4 | 5.6 | 3.3 | 11.6 | 6.9 | 17.6 | 10.4 |
| 57 | 8 59.3 | 9 0.7 | 8 34.7 | 5.7 | 3.4 | 11.7 | 6.9 | 17.7 | 10.5 |
| 58 | 8 59.5 | 9 1.0 | 8 34.9 | 5.8 | 3.4 | 11.8 | 7.0 | 17.8 | 10.5 |
| 59 | 8 59.8 | 9 1.2 | 8 35.2 | 5.9 | 3.5 | 11.9 | 7.0 | 17.9 | 10.6 |
| 60 | 9 0.0 | 9 1.5 | 8 35.4 | 6.0 | 3.6 | 12.0 | 7.1 | 18.0 | 10.7 |

| m 36 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 9 0.0 | 9 1.5 | 8 35.4 | 0.0 | 0.0 | 6.0 | 3.6 | 12.0 | 7.3 |
| 1 | 9 0.2 | 9 1.7 | 8 35.6 | 0.1 | 0.1 | 6.1 | 3.7 | 12.1 | 7.4 |
| 2 | 9 0.5 | 9 2.0 | 8 35.9 | 0.2 | 0.1 | 6.2 | 3.8 | 12.2 | 7.4 |
| 3 | 9 0.7 | 9 2.2 | 8 36.1 | 0.3 | 0.2 | 6.3 | 3.8 | 12.3 | 7.5 |
| 4 | 9 1.0 | 9 2.5 | 8 36.4 | 0.4 | 0.2 | 6.4 | 3.9 | 12.4 | 7.5 |
| 5 | 9 1.3 | 9 2.7 | 8 36.6 | 0.5 | 0.3 | 6.5 | 4.0 | 12.5 | 7.6 |
| 6 | 9 1.5 | 9 3.0 | 8 36.8 | 0.6 | 0.4 | 6.6 | 4.0 | 12.6 | 7.7 |
| 7 | 9 1.8 | 9 3.2 | 8 37.1 | 0.7 | 0.4 | 6.7 | 4.1 | 12.7 | 7.7 |
| 8 | 9 2.0 | 9 3.5 | 8 37.3 | 0.8 | 0.5 | 6.8 | 4.1 | 12.8 | 7.8 |
| 9 | 9 2.2 | 9 3.7 | 8 37.5 | 0.9 | 0.5 | 6.9 | 4.2 | 12.9 | 7.8 |
| 10 | 9 2.5 | 9 4.0 | 8 37.8 | 1.0 | 0.6 | 7.0 | 4.3 | 13.0 | 7.9 |
| 11 | 9 2.7 | 9 4.2 | 8 38.0 | 1.1 | 0.7 | 7.1 | 4.3 | 13.1 | 8.0 |
| 12 | 9 3.0 | 9 4.5 | 8 38.3 | 1.2 | 0.7 | 7.2 | 4.4 | 13.2 | 8.0 |
| 13 | 9 3.3 | 9 4.7 | 8 38.5 | 1.3 | 0.8 | 7.3 | 4.4 | 13.3 | 8.1 |
| 14 | 9 3.5 | 9 5.0 | 8 38.7 | 1.4 | 0.9 | 7.4 | 4.5 | 13.4 | 8.2 |
| 15 | 9 3.8 | 9 5.2 | 8 39.0 | 1.5 | 0.9 | 7.5 | 4.6 | 13.5 | 8.2 |
| 16 | 9 4.0 | 9 5.5 | 8 39.2 | 1.6 | 1.0 | 7.6 | 4.6 | 13.6 | 8.3 |
| 17 | 9 4.2 | 9 5.7 | 8 39.5 | 1.7 | 1.0 | 7.7 | 4.7 | 13.7 | 8.3 |
| 18 | 9 4.5 | 9 6.0 | 8 39.7 | 1.8 | 1.1 | 7.8 | 4.7 | 13.8 | 8.4 |
| 19 | 9 4.8 | 9 6.2 | 8 39.9 | 1.9 | 1.2 | 7.9 | 4.8 | 13.9 | 8.5 |
| 20 | 9 5.0 | 9 6.5 | 8 40.2 | 2.0 | 1.2 | 8.0 | 4.9 | 14.0 | 8.5 |
| 21 | 9 5.3 | 9 6.7 | 8 40.4 | 2.1 | 1.3 | 8.1 | 4.9 | 14.1 | 8.6 |
| 22 | 9 5.5 | 9 7.0 | 8 40.6 | 2.2 | 1.3 | 8.2 | 5.0 | 14.2 | 8.6 |
| 23 | 9 5.7 | 9 7.2 | 8 40.9 | 2.3 | 1.4 | 8.3 | 5.0 | 14.3 | 8.7 |
| 24 | 9 6.0 | 9 7.5 | 8 41.1 | 2.4 | 1.5 | 8.4 | 5.1 | 14.4 | 8.8 |
| 25 | 9 6.2 | 9 7.7 | 8 41.4 | 2.5 | 1.5 | 8.5 | 5.2 | 14.5 | 8.8 |
| 26 | 9 6.5 | 9 8.0 | 8 41.6 | 2.6 | 1.6 | 8.6 | 5.2 | 14.6 | 8.9 |
| 27 | 9 6.8 | 9 8.2 | 8 41.8 | 2.7 | 1.6 | 8.7 | 5.3 | 14.7 | 8.9 |
| 28 | 9 7.0 | 9 8.5 | 8 42.1 | 2.8 | 1.7 | 8.8 | 5.4 | 14.8 | 9.0 |
| 29 | 9 7.3 | 9 8.7 | 8 42.3 | 2.9 | 1.8 | 8.9 | 5.4 | 14.9 | 9.1 |
| 30 | 9 7.5 | 9 9.0 | 8 42.6 | 3.0 | 1.8 | 9.0 | 5.5 | 15.0 | 9.1 |
| 31 | 9 7.7 | 9 9.2 | 8 42.8 | 3.1 | 1.9 | 9.1 | 5.5 | 15.1 | 9.2 |
| 32 | 9 8.0 | 9 9.5 | 8 43.0 | 3.2 | 1.9 | 9.2 | 5.6 | 15.2 | 9.2 |
| 33 | 9 8.2 | 9 9.7 | 8 43.3 | 3.3 | 2.0 | 9.3 | 5.7 | 15.3 | 9.3 |
| 34 | 9 8.5 | 9 10.0 | 8 43.5 | 3.4 | 2.1 | 9.4 | 5.7 | 15.4 | 9.4 |
| 35 | 9 8.8 | 9 10.2 | 8 43.8 | 3.5 | 2.1 | 9.5 | 5.8 | 15.5 | 9.4 |
| 36 | 9 9.0 | 9 10.5 | 8 44.0 | 3.6 | 2.2 | 9.6 | 5.8 | 15.6 | 9.5 |
| 37 | 9 9.3 | 9 10.8 | 8 44.2 | 3.7 | 2.3 | 9.7 | 5.9 | 15.7 | 9.6 |
| 38 | 9 9.5 | 9 11.0 | 8 44.5 | 3.8 | 2.3 | 9.8 | 6.0 | 15.8 | 9.6 |
| 39 | 9 9.7 | 9 11.3 | 8 44.7 | 3.9 | 2.4 | 9.9 | 6.0 | 15.9 | 9.7 |
| 40 | 9 10.0 | 9 11.5 | 8 44.9 | 4.0 | 2.4 | 10.0 | 6.1 | 16.0 | 9.7 |
| 41 | 9 10.2 | 9 11.8 | 8 45.2 | 4.1 | 2.5 | 10.1 | 6.1 | 16.1 | 9.8 |
| 42 | 9 10.5 | 9 12.0 | 8 45.4 | 4.2 | 2.6 | 10.2 | 6.2 | 16.2 | 9.9 |
| 43 | 9 10.8 | 9 12.3 | 8 45.7 | 4.3 | 2.6 | 10.3 | 6.3 | 16.3 | 9.9 |
| 44 | 9 11.0 | 9 12.5 | 8 45.9 | 4.4 | 2.7 | 10.4 | 6.3 | 16.4 | 10.0 |
| 45 | 9 11.3 | 9 12.8 | 8 46.1 | 4.5 | 2.7 | 10.5 | 6.4 | 16.5 | 10.0 |
| 46 | 9 11.5 | 9 13.0 | 8 46.4 | 4.6 | 2.8 | 10.6 | 6.4 | 16.6 | 10.1 |
| 47 | 9 11.7 | 9 13.3 | 8 46.6 | 4.7 | 2.9 | 10.7 | 6.5 | 16.7 | 10.2 |
| 48 | 9 12.0 | 9 13.5 | 8 46.9 | 4.8 | 2.9 | 10.8 | 6.6 | 16.8 | 10.2 |
| 49 | 9 12.3 | 9 13.8 | 8 47.1 | 4.9 | 3.0 | 10.9 | 6.6 | 16.9 | 10.3 |
| 50 | 9 12.5 | 9 14.0 | 8 47.3 | 5.0 | 3.0 | 11.0 | 6.7 | 17.0 | 10.3 |
| 51 | 9 12.8 | 9 14.3 | 8 47.6 | 5.1 | 3.1 | 11.1 | 6.8 | 17.1 | 10.4 |
| 52 | 9 13.0 | 9 14.5 | 8 47.8 | 5.2 | 3.2 | 11.2 | 6.8 | 17.2 | 10.5 |
| 53 | 9 13.2 | 9 14.8 | 8 48.0 | 5.3 | 3.2 | 11.3 | 6.9 | 17.3 | 10.5 |
| 54 | 9 13.5 | 9 15.0 | 8 48.3 | 5.4 | 3.3 | 11.4 | 6.9 | 17.4 | 10.6 |
| 55 | 9 13.7 | 9 15.3 | 8 48.5 | 5.5 | 3.3 | 11.5 | 7.0 | 17.5 | 10.6 |
| 56 | 9 14.0 | 9 15.5 | 8 48.8 | 5.6 | 3.4 | 11.6 | 7.1 | 17.6 | 10.7 |
| 57 | 9 14.3 | 9 15.8 | 8 49.0 | 5.7 | 3.5 | 11.7 | 7.1 | 17.7 | 10.8 |
| 58 | 9 14.5 | 9 16.0 | 8 49.2 | 5.8 | 3.5 | 11.8 | 7.2 | 17.8 | 10.8 |
| 59 | 9 14.8 | 9 16.3 | 8 49.5 | 5.9 | 3.6 | 11.9 | 7.2 | 17.9 | 10.9 |
| 60 | 9 15.0 | 9 16.5 | 8 49.7 | 6.0 | 3.6 | 12.0 | 7.3 | 18.0 | 11.0 |

| m 37 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 9 15.0 | 9 16.5 | 8 49.7 | 0.0 | 0.0 | 6.0 | 3.8 | 12.0 | 7.5 |
| 1 | 9 15.2 | 9 16.8 | 8 50.0 | 0.1 | 0.1 | 6.1 | 3.8 | 12.1 | 7.6 |
| 2 | 9 15.5 | 9 17.0 | 8 50.2 | 0.2 | 0.1 | 6.2 | 3.9 | 12.2 | 7.6 |
| 3 | 9 15.7 | 9 17.3 | 8 50.4 | 0.3 | 0.2 | 6.3 | 3.9 | 12.3 | 7.7 |
| 4 | 9 16.0 | 9 17.5 | 8 50.7 | 0.4 | 0.3 | 6.4 | 4.0 | 12.4 | 7.8 |
| 5 | 9 16.3 | 9 17.8 | 8 50.9 | 0.5 | 0.3 | 6.5 | 4.1 | 12.5 | 7.8 |
| 6 | 9 16.5 | 9 18.0 | 8 51.1 | 0.6 | 0.4 | 6.6 | 4.1 | 12.6 | 7.9 |
| 7 | 9 16.8 | 9 18.3 | 8 51.4 | 0.7 | 0.4 | 6.7 | 4.2 | 12.7 | 7.9 |
| 8 | 9 17.0 | 9 18.5 | 8 51.6 | 0.8 | 0.5 | 6.8 | 4.3 | 12.8 | 8.0 |
| 9 | 9 17.2 | 9 18.8 | 8 51.9 | 0.9 | 0.6 | 6.9 | 4.3 | 12.9 | 8.1 |
| 10 | 9 17.5 | 9 19.0 | 8 52.1 | 1.0 | 0.6 | 7.0 | 4.4 | 13.0 | 8.1 |
| 11 | 9 17.7 | 9 19.3 | 8 52.3 | 1.1 | 0.7 | 7.1 | 4.4 | 13.1 | 8.2 |
| 12 | 9 18.0 | 9 19.5 | 8 52.6 | 1.2 | 0.8 | 7.2 | 4.5 | 13.2 | 8.3 |
| 13 | 9 18.3 | 9 19.8 | 8 52.8 | 1.3 | 0.8 | 7.3 | 4.6 | 13.3 | 8.3 |
| 14 | 9 18.5 | 9 20.0 | 8 53.1 | 1.4 | 0.9 | 7.4 | 4.6 | 13.4 | 8.4 |
| 15 | 9 18.8 | 9 20.3 | 8 53.3 | 1.5 | 0.9 | 7.5 | 4.7 | 13.5 | 8.4 |
| 16 | 9 19.0 | 9 20.5 | 8 53.5 | 1.6 | 1.0 | 7.6 | 4.8 | 13.6 | 8.5 |
| 17 | 9 19.2 | 9 20.8 | 8 53.8 | 1.7 | 1.1 | 7.7 | 4.8 | 13.7 | 8.6 |
| 18 | 9 19.5 | 9 21.0 | 8 54.0 | 1.8 | 1.1 | 7.8 | 4.9 | 13.8 | 8.6 |
| 19 | 9 19.8 | 9 21.3 | 8 54.3 | 1.9 | 1.2 | 7.9 | 4.9 | 13.9 | 8.7 |
| 20 | 9 20.0 | 9 21.5 | 8 54.5 | 2.0 | 1.3 | 8.0 | 5.0 | 14.0 | 8.8 |
| 21 | 9 20.3 | 9 21.8 | 8 54.7 | 2.1 | 1.3 | 8.1 | 5.1 | 14.1 | 8.8 |
| 22 | 9 20.5 | 9 22.0 | 8 55.0 | 2.2 | 1.4 | 8.2 | 5.1 | 14.2 | 8.9 |
| 23 | 9 20.7 | 9 22.3 | 8 55.2 | 2.3 | 1.4 | 8.3 | 5.2 | 14.3 | 8.9 |
| 24 | 9 21.0 | 9 22.5 | 8 55.4 | 2.4 | 1.5 | 8.4 | 5.3 | 14.4 | 9.0 |
| 25 | 9 21.2 | 9 22.8 | 8 55.7 | 2.5 | 1.6 | 8.5 | 5.3 | 14.5 | 9.1 |
| 26 | 9 21.5 | 9 23.0 | 8 55.9 | 2.6 | 1.6 | 8.6 | 5.4 | 14.6 | 9.1 |
| 27 | 9 21.8 | 9 23.3 | 8 56.2 | 2.7 | 1.7 | 8.7 | 5.4 | 14.7 | 9.2 |
| 28 | 9 22.0 | 9 23.5 | 8 56.4 | 2.8 | 1.8 | 8.8 | 5.5 | 14.8 | 9.3 |
| 29 | 9 22.3 | 9 23.8 | 8 56.6 | 2.9 | 1.8 | 8.9 | 5.6 | 14.9 | 9.3 |
| 30 | 9 22.5 | 9 24.0 | 8 56.9 | 3.0 | 1.9 | 9.0 | 5.6 | 15.0 | 9.4 |
| 31 | 9 22.7 | 9 24.3 | 8 57.1 | 3.1 | 1.9 | 9.1 | 5.7 | 15.1 | 9.4 |
| 32 | 9 23.0 | 9 24.5 | 8 57.4 | 3.2 | 2.0 | 9.2 | 5.8 | 15.2 | 9.5 |
| 33 | 9 23.2 | 9 24.8 | 8 57.6 | 3.3 | 2.1 | 9.3 | 5.8 | 15.3 | 9.6 |
| 34 | 9 23.5 | 9 25.0 | 8 57.8 | 3.4 | 2.1 | 9.4 | 5.9 | 15.4 | 9.6 |
| 35 | 9 23.8 | 9 25.3 | 8 58.1 | 3.5 | 2.2 | 9.5 | 5.9 | 15.5 | 9.7 |
| 36 | 9 24.0 | 9 25.5 | 8 58.3 | 3.6 | 2.3 | 9.6 | 6.0 | 15.6 | 9.8 |
| 37 | 9 24.3 | 9 25.8 | 8 58.5 | 3.7 | 2.3 | 9.7 | 6.1 | 15.7 | 9.8 |
| 38 | 9 24.5 | 9 26.0 | 8 58.8 | 3.8 | 2.4 | 9.8 | 6.1 | 15.8 | 9.9 |
| 39 | 9 24.7 | 9 26.3 | 8 59.0 | 3.9 | 2.4 | 9.9 | 6.2 | 15.9 | 9.9 |
| 40 | 9 25.0 | 9 26.5 | 8 59.3 | 4.0 | 2.5 | 10.0 | 6.3 | 16.0 | 10.0 |
| 41 | 9 25.2 | 9 26.8 | 8 59.5 | 4.1 | 2.6 | 10.1 | 6.3 | 16.1 | 10.1 |
| 42 | 9 25.5 | 9 27.0 | 8 59.7 | 4.2 | 2.6 | 10.2 | 6.4 | 16.2 | 10.1 |
| 43 | 9 25.8 | 9 27.3 | 9 0.0 | 4.3 | 2.7 | 10.3 | 6.4 | 16.3 | 10.2 |
| 44 | 9 26.0 | 9 27.5 | 9 0.2 | 4.4 | 2.8 | 10.4 | 6.5 | 16.4 | 10.3 |
| 45 | 9 26.3 | 9 27.8 | 9 0.5 | 4.5 | 2.8 | 10.5 | 6.6 | 16.5 | 10.3 |
| 46 | 9 26.5 | 9 28.0 | 9 0.7 | 4.6 | 2.9 | 10.6 | 6.6 | 16.6 | 10.4 |
| 47 | 9 26.7 | 9 28.3 | 9 0.9 | 4.7 | 2.9 | 10.7 | 6.7 | 16.7 | 10.4 |
| 48 | 9 27.0 | 9 28.5 | 9 1.2 | 4.8 | 3.0 | 10.8 | 6.8 | 16.8 | 10.5 |
| 49 | 9 27.3 | 9 28.8 | 9 1.4 | 4.9 | 3.1 | 10.9 | 6.8 | 16.9 | 10.6 |
| 50 | 9 27.5 | 9 29.1 | 9 1.6 | 5.0 | 3.1 | 11.0 | 6.9 | 17.0 | 10.6 |
| 51 | 9 27.8 | 9 29.3 | 9 1.9 | 5.1 | 3.2 | 11.1 | 6.9 | 17.1 | 10.7 |
| 52 | 9 28.0 | 9 29.6 | 9 2.1 | 5.2 | 3.3 | 11.2 | 7.0 | 17.2 | 10.8 |
| 53 | 9 28.2 | 9 29.8 | 9 2.4 | 5.3 | 3.3 | 11.3 | 7.1 | 17.3 | 10.8 |
| 54 | 9 28.5 | 9 30.1 | 9 2.6 | 5.4 | 3.4 | 11.4 | 7.1 | 17.4 | 10.9 |
| 55 | 9 28.7 | 9 30.3 | 9 2.8 | 5.5 | 3.4 | 11.5 | 7.2 | 17.5 | 10.9 |
| 56 | 9 29.0 | 9 30.6 | 9 3.1 | 5.6 | 3.5 | 11.6 | 7.3 | 17.6 | 11.0 |
| 57 | 9 29.3 | 9 30.8 | 9 3.3 | 5.7 | 3.6 | 11.7 | 7.3 | 17.7 | 11.1 |
| 58 | 9 29.5 | 9 31.1 | 9 3.6 | 5.8 | 3.6 | 11.8 | 7.4 | 17.8 | 11.1 |
| 59 | 9 29.8 | 9 31.3 | 9 3.8 | 5.9 | 3.7 | 11.9 | 7.4 | 17.9 | 11.2 |
| 60 | 9 30.0 | 9 31.6 | 9 4.0 | 6.0 | 3.8 | 12.0 | 7.5 | 18.0 | 11.3 |

| m 38 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 9 30.0 | 9 31.6 | 9 4.0 | 0.0 | 0.0 | 6.0 | 3.9 | 12.0 | 7.7 |
| 1 | 9 30.2 | 9 31.8 | 9 4.3 | 0.1 | 0.1 | 6.1 | 3.9 | 12.1 | 7.8 |
| 2 | 9 30.5 | 9 32.1 | 9 4.5 | 0.2 | 0.1 | 6.2 | 4.0 | 12.2 | 7.8 |
| 3 | 9 30.7 | 9 32.3 | 9 4.7 | 0.3 | 0.2 | 6.3 | 4.0 | 12.3 | 7.9 |
| 4 | 9 31.0 | 9 32.6 | 9 5.0 | 0.4 | 0.3 | 6.4 | 4.1 | 12.4 | 8.0 |
| 5 | 9 31.3 | 9 32.8 | 9 5.2 | 0.5 | 0.3 | 6.5 | 4.2 | 12.5 | 8.0 |
| 6 | 9 31.5 | 9 33.1 | 9 5.5 | 0.6 | 0.4 | 6.6 | 4.2 | 12.6 | 8.1 |
| 7 | 9 31.8 | 9 33.3 | 9 5.7 | 0.7 | 0.4 | 6.7 | 4.3 | 12.7 | 8.1 |
| 8 | 9 32.0 | 9 33.6 | 9 5.9 | 0.8 | 0.5 | 6.8 | 4.4 | 12.8 | 8.2 |
| 9 | 9 32.2 | 9 33.8 | 9 6.2 | 0.9 | 0.6 | 6.9 | 4.4 | 12.9 | 8.3 |
| 10 | 9 32.5 | 9 34.1 | 9 6.4 | 1.0 | 0.6 | 7.0 | 4.5 | 13.0 | 8.3 |
| 11 | 9 32.7 | 9 34.3 | 9 6.7 | 1.1 | 0.7 | 7.1 | 4.6 | 13.1 | 8.4 |
| 12 | 9 33.0 | 9 34.6 | 9 6.9 | 1.2 | 0.8 | 7.2 | 4.6 | 13.2 | 8.5 |
| 13 | 9 33.3 | 9 34.8 | 9 7.1 | 1.3 | 0.8 | 7.3 | 4.7 | 13.3 | 8.5 |
| 14 | 9 33.5 | 9 35.1 | 9 7.4 | 1.4 | 0.9 | 7.4 | 4.7 | 13.4 | 8.6 |
| 15 | 9 33.8 | 9 35.3 | 9 7.6 | 1.5 | 1.0 | 7.5 | 4.8 | 13.5 | 8.7 |
| 16 | 9 34.0 | 9 35.6 | 9 7.9 | 1.6 | 1.0 | 7.6 | 4.9 | 13.6 | 8.7 |
| 17 | 9 34.2 | 9 35.8 | 9 8.1 | 1.7 | 1.1 | 7.7 | 4.9 | 13.7 | 8.8 |
| 18 | 9 34.5 | 9 36.1 | 9 8.3 | 1.8 | 1.2 | 7.8 | 5.0 | 13.8 | 8.9 |
| 19 | 9 34.8 | 9 36.3 | 9 8.6 | 1.9 | 1.2 | 7.9 | 5.1 | 13.9 | 8.9 |
| 20 | 9 35.0 | 9 36.6 | 9 8.8 | 2.0 | 1.3 | 8.0 | 5.1 | 14.0 | 9.0 |
| 21 | 9 35.3 | 9 36.8 | 9 9.0 | 2.1 | 1.3 | 8.1 | 5.2 | 14.1 | 9.0 |
| 22 | 9 35.5 | 9 37.1 | 9 9.3 | 2.2 | 1.4 | 8.2 | 5.3 | 14.2 | 9.1 |
| 23 | 9 35.7 | 9 37.3 | 9 9.5 | 2.3 | 1.5 | 8.3 | 5.3 | 14.3 | 9.2 |
| 24 | 9 36.0 | 9 37.6 | 9 9.8 | 2.4 | 1.5 | 8.4 | 5.4 | 14.4 | 9.2 |
| 25 | 9 36.2 | 9 37.8 | 9 10.0 | 2.5 | 1.6 | 8.5 | 5.5 | 14.5 | 9.3 |
| 26 | 9 36.5 | 9 38.1 | 9 10.2 | 2.6 | 1.7 | 8.6 | 5.5 | 14.6 | 9.4 |
| 27 | 9 36.8 | 9 38.3 | 9 10.5 | 2.7 | 1.7 | 8.7 | 5.6 | 14.7 | 9.4 |
| 28 | 9 37.0 | 9 38.6 | 9 10.7 | 2.8 | 1.8 | 8.8 | 5.6 | 14.8 | 9.5 |
| 29 | 9 37.3 | 9 38.8 | 9 11.0 | 2.9 | 1.9 | 8.9 | 5.7 | 14.9 | 9.6 |
| 30 | 9 37.5 | 9 39.1 | 9 11.2 | 3.0 | 1.9 | 9.0 | 5.8 | 15.0 | 9.6 |
| 31 | 9 37.7 | 9 39.3 | 9 11.4 | 3.1 | 2.0 | 9.1 | 5.8 | 15.1 | 9.7 |
| 32 | 9 38.0 | 9 39.6 | 9 11.7 | 3.2 | 2.1 | 9.2 | 5.9 | 15.2 | 9.8 |
| 33 | 9 38.2 | 9 39.8 | 9 11.9 | 3.3 | 2.1 | 9.3 | 6.0 | 15.3 | 9.8 |
| 34 | 9 38.5 | 9 40.1 | 9 12.1 | 3.4 | 2.2 | 9.4 | 6.0 | 15.4 | 9.9 |
| 35 | 9 38.8 | 9 40.3 | 9 12.4 | 3.5 | 2.2 | 9.5 | 6.1 | 15.5 | 9.9 |
| 36 | 9 39.0 | 9 40.6 | 9 12.6 | 3.6 | 2.3 | 9.6 | 6.2 | 15.6 | 10.0 |
| 37 | 9 39.3 | 9 40.8 | 9 12.9 | 3.7 | 2.4 | 9.7 | 6.2 | 15.7 | 10.1 |
| 38 | 9 39.5 | 9 41.1 | 9 13.1 | 3.8 | 2.4 | 9.8 | 6.3 | 15.8 | 10.1 |
| 39 | 9 39.7 | 9 41.3 | 9 13.3 | 3.9 | 2.5 | 9.9 | 6.4 | 15.9 | 10.2 |
| 40 | 9 40.0 | 9 41.6 | 9 13.6 | 4.0 | 2.6 | 10.0 | 6.4 | 16.0 | 10.3 |
| 41 | 9 40.2 | 9 41.8 | 9 13.8 | 4.1 | 2.6 | 10.1 | 6.5 | 16.1 | 10.3 |
| 42 | 9 40.5 | 9 42.1 | 9 14.1 | 4.2 | 2.7 | 10.2 | 6.5 | 16.2 | 10.4 |
| 43 | 9 40.8 | 9 42.3 | 9 14.3 | 4.3 | 2.8 | 10.3 | 6.6 | 16.3 | 10.5 |
| 44 | 9 41.0 | 9 42.6 | 9 14.5 | 4.4 | 2.8 | 10.4 | 6.7 | 16.4 | 10.5 |
| 45 | 9 41.3 | 9 42.8 | 9 14.8 | 4.5 | 2.9 | 10.5 | 6.7 | 16.5 | 10.6 |
| 46 | 9 41.5 | 9 43.1 | 9 15.0 | 4.6 | 3.0 | 10.6 | 6.8 | 16.6 | 10.7 |
| 47 | 9 41.7 | 9 43.3 | 9 15.2 | 4.7 | 3.0 | 10.7 | 6.9 | 16.7 | 10.7 |
| 48 | 9 42.0 | 9 43.6 | 9 15.5 | 4.8 | 3.1 | 10.8 | 6.9 | 16.8 | 10.8 |
| 49 | 9 42.3 | 9 43.8 | 9 15.7 | 4.9 | 3.1 | 10.9 | 7.0 | 16.9 | 10.8 |
| 50 | 9 42.5 | 9 44.1 | 9 16.0 | 5.0 | 3.2 | 11.0 | 7.1 | 17.0 | 10.9 |
| 51 | 9 42.8 | 9 44.3 | 9 16.2 | 5.1 | 3.3 | 11.1 | 7.1 | 17.1 | 11.0 |
| 52 | 9 43.0 | 9 44.6 | 9 16.4 | 5.2 | 3.3 | 11.2 | 7.2 | 17.2 | 11.0 |
| 53 | 9 43.2 | 9 44.8 | 9 16.7 | 5.3 | 3.4 | 11.3 | 7.3 | 17.3 | 11.1 |
| 54 | 9 43.5 | 9 45.1 | 9 16.9 | 5.4 | 3.5 | 11.4 | 7.3 | 17.4 | 11.2 |
| 55 | 9 43.7 | 9 45.3 | 9 17.2 | 5.5 | 3.5 | 11.5 | 7.4 | 17.5 | 11.2 |
| 56 | 9 44.0 | 9 45.6 | 9 17.4 | 5.6 | 3.6 | 11.6 | 7.4 | 17.6 | 11.3 |
| 57 | 9 44.3 | 9 45.8 | 9 17.6 | 5.7 | 3.7 | 11.7 | 7.5 | 17.7 | 11.4 |
| 58 | 9 44.5 | 9 46.1 | 9 17.9 | 5.8 | 3.7 | 11.8 | 7.6 | 17.8 | 11.4 |
| 59 | 9 44.8 | 9 46.3 | 9 18.1 | 5.9 | 3.8 | 11.9 | 7.6 | 17.9 | 11.5 |
| 60 | 9 45.0 | 9 46.6 | 9 18.4 | 6.0 | 3.9 | 12.0 | 7.7 | 18.0 | 11.6 |

| m 39 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 9 45.0 | 9 46.6 | 9 18.4 | 0.0 | 0.0 | 6.0 | 4.0 | 12.0 | 7.9 |
| 1 | 9 45.2 | 9 46.8 | 9 18.6 | 0.1 | 0.1 | 6.1 | 4.0 | 12.1 | 8.0 |
| 2 | 9 45.5 | 9 47.1 | 9 18.8 | 0.2 | 0.1 | 6.2 | 4.1 | 12.2 | 8.0 |
| 3 | 9 45.7 | 9 47.4 | 9 19.1 | 0.3 | 0.2 | 6.3 | 4.1 | 12.3 | 8.1 |
| 4 | 9 46.0 | 9 47.6 | 9 19.3 | 0.4 | 0.3 | 6.4 | 4.2 | 12.4 | 8.2 |
| 5 | 9 46.3 | 9 47.9 | 9 19.5 | 0.5 | 0.3 | 6.5 | 4.3 | 12.5 | 8.2 |
| 6 | 9 46.5 | 9 48.1 | 9 19.8 | 0.6 | 0.4 | 6.6 | 4.3 | 12.6 | 8.3 |
| 7 | 9 46.8 | 9 48.4 | 9 20.0 | 0.7 | 0.5 | 6.7 | 4.4 | 12.7 | 8.4 |
| 8 | 9 47.0 | 9 48.6 | 9 20.3 | 0.8 | 0.5 | 6.8 | 4.5 | 12.8 | 8.4 |
| 9 | 9 47.2 | 9 48.9 | 9 20.5 | 0.9 | 0.6 | 6.9 | 4.5 | 12.9 | 8.5 |
| 10 | 9 47.5 | 9 49.1 | 9 20.7 | 1.0 | 0.7 | 7.0 | 4.6 | 13.0 | 8.6 |
| 11 | 9 47.7 | 9 49.4 | 9 21.0 | 1.1 | 0.7 | 7.1 | 4.7 | 13.1 | 8.6 |
| 12 | 9 48.0 | 9 49.6 | 9 21.2 | 1.2 | 0.8 | 7.2 | 4.7 | 13.2 | 8.7 |
| 13 | 9 48.3 | 9 49.9 | 9 21.5 | 1.3 | 0.9 | 7.3 | 4.8 | 13.3 | 8.8 |
| 14 | 9 48.5 | 9 50.1 | 9 21.7 | 1.4 | 0.9 | 7.4 | 4.9 | 13.4 | 8.8 |
| 15 | 9 48.8 | 9 50.4 | 9 21.9 | 1.5 | 1.0 | 7.5 | 4.9 | 13.5 | 8.9 |
| 16 | 9 49.0 | 9 50.6 | 9 22.2 | 1.6 | 1.1 | 7.6 | 5.0 | 13.6 | 9.0 |
| 17 | 9 49.2 | 9 50.9 | 9 22.4 | 1.7 | 1.1 | 7.7 | 5.1 | 13.7 | 9.0 |
| 18 | 9 49.5 | 9 51.1 | 9 22.6 | 1.8 | 1.2 | 7.8 | 5.1 | 13.8 | 9.1 |
| 19 | 9 49.8 | 9 51.4 | 9 22.9 | 1.9 | 1.3 | 7.9 | 5.2 | 13.9 | 9.2 |
| 20 | 9 50.0 | 9 51.6 | 9 23.1 | 2.0 | 1.3 | 8.0 | 5.3 | 14.0 | 9.2 |
| 21 | 9 50.3 | 9 51.9 | 9 23.4 | 2.1 | 1.4 | 8.1 | 5.3 | 14.1 | 9.3 |
| 22 | 9 50.5 | 9 52.1 | 9 23.6 | 2.2 | 1.4 | 8.2 | 5.4 | 14.2 | 9.3 |
| 23 | 9 50.7 | 9 52.4 | 9 23.8 | 2.3 | 1.5 | 8.3 | 5.5 | 14.3 | 9.4 |
| 24 | 9 51.0 | 9 52.6 | 9 24.1 | 2.4 | 1.6 | 8.4 | 5.5 | 14.4 | 9.5 |
| 25 | 9 51.2 | 9 52.9 | 9 24.3 | 2.5 | 1.6 | 8.5 | 5.6 | 14.5 | 9.5 |
| 26 | 9 51.5 | 9 53.1 | 9 24.6 | 2.6 | 1.7 | 8.6 | 5.7 | 14.6 | 9.6 |
| 27 | 9 51.8 | 9 53.4 | 9 24.8 | 2.7 | 1.8 | 8.7 | 5.7 | 14.7 | 9.7 |
| 28 | 9 52.0 | 9 53.6 | 9 25.0 | 2.8 | 1.8 | 8.8 | 5.8 | 14.8 | 9.7 |
| 29 | 9 52.3 | 9 53.9 | 9 25.3 | 2.9 | 1.9 | 8.9 | 5.9 | 14.9 | 9.8 |
| 30 | 9 52.5 | 9 54.1 | 9 25.5 | 3.0 | 2.0 | 9.0 | 5.9 | 15.0 | 9.9 |
| 31 | 9 52.7 | 9 54.4 | 9 25.7 | 3.1 | 2.0 | 9.1 | 6.0 | 15.1 | 9.9 |
| 32 | 9 53.0 | 9 54.6 | 9 26.0 | 3.2 | 2.1 | 9.2 | 6.1 | 15.2 | 10.0 |
| 33 | 9 53.2 | 9 54.9 | 9 26.2 | 3.3 | 2.2 | 9.3 | 6.1 | 15.3 | 10.1 |
| 34 | 9 53.5 | 9 55.1 | 9 26.5 | 3.4 | 2.2 | 9.4 | 6.2 | 15.4 | 10.1 |
| 35 | 9 53.8 | 9 55.4 | 9 26.7 | 3.5 | 2.3 | 9.5 | 6.3 | 15.5 | 10.2 |
| 36 | 9 54.0 | 9 55.6 | 9 26.9 | 3.6 | 2.4 | 9.6 | 6.3 | 15.6 | 10.3 |
| 37 | 9 54.3 | 9 55.9 | 9 27.2 | 3.7 | 2.4 | 9.7 | 6.4 | 15.7 | 10.3 |
| 38 | 9 54.5 | 9 56.1 | 9 27.4 | 3.8 | 2.5 | 9.8 | 6.5 | 15.8 | 10.4 |
| 39 | 9 54.7 | 9 56.4 | 9 27.7 | 3.9 | 2.6 | 9.9 | 6.5 | 15.9 | 10.5 |
| 40 | 9 55.0 | 9 56.6 | 9 27.9 | 4.0 | 2.6 | 10.0 | 6.6 | 16.0 | 10.5 |
| 41 | 9 55.2 | 9 56.9 | 9 28.1 | 4.1 | 2.7 | 10.1 | 6.6 | 16.1 | 10.6 |
| 42 | 9 55.5 | 9 57.1 | 9 28.4 | 4.2 | 2.8 | 10.2 | 6.7 | 16.2 | 10.7 |
| 43 | 9 55.8 | 9 57.4 | 9 28.6 | 4.3 | 2.8 | 10.3 | 6.8 | 16.3 | 10.7 |
| 44 | 9 56.0 | 9 57.6 | 9 28.8 | 4.4 | 2.9 | 10.4 | 6.8 | 16.4 | 10.8 |
| 45 | 9 56.3 | 9 57.9 | 9 29.1 | 4.5 | 3.0 | 10.5 | 6.9 | 16.5 | 10.9 |
| 46 | 9 56.5 | 9 58.1 | 9 29.3 | 4.6 | 3.0 | 10.6 | 7.0 | 16.6 | 10.9 |
| 47 | 9 56.7 | 9 58.4 | 9 29.6 | 4.7 | 3.1 | 10.7 | 7.0 | 16.7 | 11.0 |
| 48 | 9 57.0 | 9 58.6 | 9 29.8 | 4.8 | 3.2 | 10.8 | 7.1 | 16.8 | 11.1 |
| 49 | 9 57.3 | 9 58.9 | 9 30.0 | 4.9 | 3.2 | 10.9 | 7.2 | 16.9 | 11.1 |
| 50 | 9 57.5 | 9 59.1 | 9 30.3 | 5.0 | 3.3 | 11.0 | 7.2 | 17.0 | 11.2 |
| 51 | 9 57.8 | 9 59.4 | 9 30.5 | 5.1 | 3.4 | 11.1 | 7.3 | 17.1 | 11.3 |
| 52 | 9 58.0 | 9 59.6 | 9 30.8 | 5.2 | 3.4 | 11.2 | 7.4 | 17.2 | 11.3 |
| 53 | 9 58.2 | 9 59.9 | 9 31.0 | 5.3 | 3.5 | 11.3 | 7.4 | 17.3 | 11.4 |
| 54 | 9 58.5 | 10 0.1 | 9 31.2 | 5.4 | 3.6 | 11.4 | 7.5 | 17.4 | 11.5 |
| 55 | 9 58.7 | 10 0.4 | 9 31.5 | 5.5 | 3.6 | 11.5 | 7.6 | 17.5 | 11.5 |
| 56 | 9 59.0 | 10 0.6 | 9 31.7 | 5.6 | 3.7 | 11.6 | 7.6 | 17.6 | 11.6 |
| 57 | 9 59.3 | 10 0.9 | 9 32.0 | 5.7 | 3.8 | 11.7 | 7.7 | 17.7 | 11.7 |
| 58 | 9 59.5 | 10 1.1 | 9 32.2 | 5.8 | 3.8 | 11.8 | 7.8 | 17.8 | 11.7 |
| 59 | 9 59.8 | 10 1.4 | 9 32.4 | 5.9 | 3.9 | 11.9 | 7.8 | 17.9 | 11.8 |
| 60 | 10 0.0 | 10 1.6 | 9 32.7 | 6.0 | 4.0 | 12.0 | 7.9 | 18.0 | 11.9 |

| m 40 | Planets Sun | | Aries | | Moon | | v/d | | corr | | v/d | | corr | | v/d | | corr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| s | ○ | ′ | ○ | ′ | ○ | ′ | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | |
| 0 | 10 | 0.0 | 10 | 1.6 | 9 | 32.7 | 0.0 | 0.0 | 6.0 | 4.1 | 12.0 | 8.1 | | | | | | |
| 1 | 10 | 0.2 | 10 | 1.9 | 9 | 32.9 | 0.1 | 0.1 | 6.1 | 4.1 | 12.1 | 8.2 | | | | | | |
| 2 | 10 | 0.5 | 10 | 2.1 | 9 | 33.1 | 0.2 | 0.1 | 6.2 | 4.2 | 12.2 | 8.2 | | | | | | |
| 3 | 10 | 0.7 | 10 | 2.4 | 9 | 33.4 | 0.3 | 0.2 | 6.3 | 4.3 | 12.3 | 8.3 | | | | | | |
| 4 | 10 | 1.0 | 10 | 2.6 | 9 | 33.6 | 0.4 | 0.3 | 6.4 | 4.3 | 12.4 | 8.4 | | | | | | |
| 5 | 10 | 1.3 | 10 | 2.9 | 9 | 33.9 | 0.5 | 0.3 | 6.5 | 4.4 | 12.5 | 8.4 | | | | | | |
| 6 | 10 | 1.5 | 10 | 3.1 | 9 | 34.1 | 0.6 | 0.4 | 6.6 | 4.5 | 12.6 | 8.5 | | | | | | |
| 7 | 10 | 1.8 | 10 | 3.4 | 9 | 34.3 | 0.7 | 0.5 | 6.7 | 4.5 | 12.7 | 8.6 | | | | | | |
| 8 | 10 | 2.0 | 10 | 3.6 | 9 | 34.6 | 0.8 | 0.5 | 6.8 | 4.6 | 12.8 | 8.6 | | | | | | |
| 9 | 10 | 2.2 | 10 | 3.9 | 9 | 34.8 | 0.9 | 0.6 | 6.9 | 4.7 | 12.9 | 8.7 | | | | | | |
| 10 | 10 | 2.5 | 10 | 4.1 | 9 | 35.1 | 1.0 | 0.7 | 7.0 | 4.7 | 13.0 | 8.8 | | | | | | |
| 11 | 10 | 2.7 | 10 | 4.4 | 9 | 35.3 | 1.1 | 0.7 | 7.1 | 4.8 | 13.1 | 8.8 | | | | | | |
| 12 | 10 | 3.0 | 10 | 4.6 | 9 | 35.5 | 1.2 | 0.8 | 7.2 | 4.9 | 13.2 | 8.9 | | | | | | |
| 13 | 10 | 3.3 | 10 | 4.9 | 9 | 35.8 | 1.3 | 0.9 | 7.3 | 4.9 | 13.3 | 9.0 | | | | | | |
| 14 | 10 | 3.5 | 10 | 5.1 | 9 | 36.0 | 1.4 | 0.9 | 7.4 | 5.0 | 13.4 | 9.0 | | | | | | |
| 15 | 10 | 3.8 | 10 | 5.4 | 9 | 36.2 | 1.5 | 1.0 | 7.5 | 5.1 | 13.5 | 9.1 | | | | | | |
| 16 | 10 | 4.0 | 10 | 5.7 | 9 | 36.5 | 1.6 | 1.1 | 7.6 | 5.1 | 13.6 | 9.2 | | | | | | |
| 17 | 10 | 4.2 | 10 | 5.9 | 9 | 36.7 | 1.7 | 1.1 | 7.7 | 5.2 | 13.7 | 9.2 | | | | | | |
| 18 | 10 | 4.5 | 10 | 6.2 | 9 | 37.0 | 1.8 | 1.2 | 7.8 | 5.3 | 13.8 | 9.3 | | | | | | |
| 19 | 10 | 4.8 | 10 | 6.4 | 9 | 37.2 | 1.9 | 1.3 | 7.9 | 5.3 | 13.9 | 9.4 | | | | | | |
| 20 | 10 | 5.0 | 10 | 6.7 | 9 | 37.4 | 2.0 | 1.4 | 8.0 | 5.4 | 14.0 | 9.5 | | | | | | |
| 21 | 10 | 5.3 | 10 | 6.9 | 9 | 37.7 | 2.1 | 1.4 | 8.1 | 5.5 | 14.1 | 9.5 | | | | | | |
| 22 | 10 | 5.5 | 10 | 7.2 | 9 | 37.9 | 2.2 | 1.5 | 8.2 | 5.5 | 14.2 | 9.6 | | | | | | |
| 23 | 10 | 5.7 | 10 | 7.4 | 9 | 38.2 | 2.3 | 1.6 | 8.3 | 5.6 | 14.3 | 9.7 | | | | | | |
| 24 | 10 | 6.0 | 10 | 7.7 | 9 | 38.4 | 2.4 | 1.6 | 8.4 | 5.7 | 14.4 | 9.7 | | | | | | |
| 25 | 10 | 6.2 | 10 | 7.9 | 9 | 38.6 | 2.5 | 1.7 | 8.5 | 5.7 | 14.5 | 9.8 | | | | | | |
| 26 | 10 | 6.5 | 10 | 8.2 | 9 | 38.9 | 2.6 | 1.8 | 8.6 | 5.8 | 14.6 | 9.9 | | | | | | |
| 27 | 10 | 6.8 | 10 | 8.4 | 9 | 39.1 | 2.7 | 1.8 | 8.7 | 5.9 | 14.7 | 9.9 | | | | | | |
| 28 | 10 | 7.0 | 10 | 8.7 | 9 | 39.3 | 2.8 | 1.9 | 8.8 | 5.9 | 14.8 | 10.0 | | | | | | |
| 29 | 10 | 7.3 | 10 | 8.9 | 9 | 39.6 | 2.9 | 2.0 | 8.9 | 6.0 | 14.9 | 10.1 | | | | | | |
| 30 | 10 | 7.5 | 10 | 9.2 | 9 | 39.8 | 3.0 | 2.0 | 9.0 | 6.1 | 15.0 | 10.1 | | | | | | |
| 31 | 10 | 7.7 | 10 | 9.4 | 9 | 40.1 | 3.1 | 2.1 | 9.1 | 6.1 | 15.1 | 10.2 | | | | | | |
| 32 | 10 | 8.0 | 10 | 9.7 | 9 | 40.3 | 3.2 | 2.2 | 9.2 | 6.2 | 15.2 | 10.3 | | | | | | |
| 33 | 10 | 8.2 | 10 | 9.9 | 9 | 40.5 | 3.3 | 2.2 | 9.3 | 6.3 | 15.3 | 10.3 | | | | | | |
| 34 | 10 | 8.5 | 10 | 10.2 | 9 | 40.8 | 3.4 | 2.3 | 9.4 | 6.3 | 15.4 | 10.4 | | | | | | |
| 35 | 10 | 8.8 | 10 | 10.4 | 9 | 41.0 | 3.5 | 2.4 | 9.5 | 6.4 | 15.5 | 10.5 | | | | | | |
| 36 | 10 | 9.0 | 10 | 10.7 | 9 | 41.3 | 3.6 | 2.4 | 9.6 | 6.5 | 15.6 | 10.5 | | | | | | |
| 37 | 10 | 9.3 | 10 | 10.9 | 9 | 41.5 | 3.7 | 2.5 | 9.7 | 6.5 | 15.7 | 10.6 | | | | | | |
| 38 | 10 | 9.5 | 10 | 11.2 | 9 | 41.7 | 3.8 | 2.6 | 9.8 | 6.6 | 15.8 | 10.7 | | | | | | |
| 39 | 10 | 9.7 | 10 | 11.4 | 9 | 42.0 | 3.9 | 2.6 | 9.9 | 6.7 | 15.9 | 10.7 | | | | | | |
| 40 | 10 | 10.0 | 10 | 11.7 | 9 | 42.2 | 4.0 | 2.7 | 10.0 | 6.8 | 16.0 | 10.8 | | | | | | |
| 41 | 10 | 10.2 | 10 | 11.9 | 9 | 42.4 | 4.1 | 2.8 | 10.1 | 6.8 | 16.1 | 10.9 | | | | | | |
| 42 | 10 | 10.5 | 10 | 12.2 | 9 | 42.7 | 4.2 | 2.8 | 10.2 | 6.9 | 16.2 | 10.9 | | | | | | |
| 43 | 10 | 10.8 | 10 | 12.4 | 9 | 42.9 | 4.3 | 2.9 | 10.3 | 7.0 | 16.3 | 11.0 | | | | | | |
| 44 | 10 | 11.0 | 10 | 12.7 | 9 | 43.2 | 4.4 | 3.0 | 10.4 | 7.0 | 16.4 | 11.1 | | | | | | |
| 45 | 10 | 11.3 | 10 | 12.9 | 9 | 43.4 | 4.5 | 3.0 | 10.5 | 7.1 | 16.5 | 11.1 | | | | | | |
| 46 | 10 | 11.5 | 10 | 13.2 | 9 | 43.6 | 4.6 | 3.1 | 10.6 | 7.2 | 16.6 | 11.2 | | | | | | |
| 47 | 10 | 11.7 | 10 | 13.4 | 9 | 43.9 | 4.7 | 3.2 | 10.7 | 7.2 | 16.7 | 11.3 | | | | | | |
| 48 | 10 | 12.0 | 10 | 13.7 | 9 | 44.1 | 4.8 | 3.2 | 10.8 | 7.3 | 16.8 | 11.3 | | | | | | |
| 49 | 10 | 12.3 | 10 | 13.9 | 9 | 44.4 | 4.9 | 3.3 | 10.9 | 7.4 | 16.9 | 11.4 | | | | | | |
| 50 | 10 | 12.5 | 10 | 14.2 | 9 | 44.6 | 5.0 | 3.4 | 11.0 | 7.4 | 17.0 | 11.5 | | | | | | |
| 51 | 10 | 12.8 | 10 | 14.4 | 9 | 44.8 | 5.1 | 3.4 | 11.1 | 7.5 | 17.1 | 11.5 | | | | | | |
| 52 | 10 | 13.0 | 10 | 14.7 | 9 | 45.1 | 5.2 | 3.5 | 11.2 | 7.6 | 17.2 | 11.6 | | | | | | |
| 53 | 10 | 13.2 | 10 | 14.9 | 9 | 45.3 | 5.3 | 3.6 | 11.3 | 7.6 | 17.3 | 11.7 | | | | | | |
| 54 | 10 | 13.5 | 10 | 15.2 | 9 | 45.6 | 5.4 | 3.6 | 11.4 | 7.7 | 17.4 | 11.7 | | | | | | |
| 55 | 10 | 13.7 | 10 | 15.4 | 9 | 45.8 | 5.5 | 3.7 | 11.5 | 7.8 | 17.5 | 11.8 | | | | | | |
| 56 | 10 | 14.0 | 10 | 15.7 | 9 | 46.0 | 5.6 | 3.8 | 11.6 | 7.8 | 17.6 | 11.9 | | | | | | |
| 57 | 10 | 14.3 | 10 | 15.9 | 9 | 46.3 | 5.7 | 3.8 | 11.7 | 7.9 | 17.7 | 11.9 | | | | | | |
| 58 | 10 | 14.5 | 10 | 16.2 | 9 | 46.5 | 5.8 | 3.9 | 11.8 | 8.0 | 17.8 | 12.0 | | | | | | |
| 59 | 10 | 14.8 | 10 | 16.4 | 9 | 46.7 | 5.9 | 4.0 | 11.9 | 8.0 | 17.9 | 12.1 | | | | | | |
| 60 | 10 | 15.0 | 10 | 16.7 | 9 | 47.0 | 6.0 | 4.1 | 12.0 | 8.1 | 18.0 | 12.2 | | | | | | |

| m 41 | Planets Sun | | Aries | | Moon | | v/d | | corr | | v/d | | corr | | v/d | | corr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| s | ○ | ′ | ○ | ′ | ○ | ′ | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | |
| 0 | 10 | 15.0 | 10 | 16.7 | 9 | 47.0 | 0.0 | 0.0 | 6.0 | 4.2 | 12.0 | 8.3 | | | | | | |
| 1 | 10 | 15.2 | 10 | 16.9 | 9 | 47.2 | 0.1 | 0.1 | 6.1 | 4.2 | 12.1 | 8.4 | | | | | | |
| 2 | 10 | 15.5 | 10 | 17.2 | 9 | 47.5 | 0.2 | 0.1 | 6.2 | 4.3 | 12.2 | 8.4 | | | | | | |
| 3 | 10 | 15.7 | 10 | 17.4 | 9 | 47.7 | 0.3 | 0.2 | 6.3 | 4.4 | 12.3 | 8.5 | | | | | | |
| 4 | 10 | 16.0 | 10 | 17.7 | 9 | 47.9 | 0.4 | 0.3 | 6.4 | 4.4 | 12.4 | 8.6 | | | | | | |
| 5 | 10 | 16.3 | 10 | 17.9 | 9 | 48.2 | 0.5 | 0.3 | 6.5 | 4.5 | 12.5 | 8.6 | | | | | | |
| 6 | 10 | 16.5 | 10 | 18.2 | 9 | 48.4 | 0.6 | 0.4 | 6.6 | 4.6 | 12.6 | 8.7 | | | | | | |
| 7 | 10 | 16.8 | 10 | 18.4 | 9 | 48.7 | 0.7 | 0.5 | 6.7 | 4.6 | 12.7 | 8.8 | | | | | | |
| 8 | 10 | 17.0 | 10 | 18.7 | 9 | 48.9 | 0.8 | 0.6 | 6.8 | 4.7 | 12.8 | 8.9 | | | | | | |
| 9 | 10 | 17.2 | 10 | 18.9 | 9 | 49.1 | 0.9 | 0.6 | 6.9 | 4.8 | 12.9 | 8.9 | | | | | | |
| 10 | 10 | 17.5 | 10 | 19.2 | 9 | 49.4 | 1.0 | 0.7 | 7.0 | 4.8 | 13.0 | 9.0 | | | | | | |
| 11 | 10 | 17.7 | 10 | 19.4 | 9 | 49.6 | 1.1 | 0.8 | 7.1 | 4.9 | 13.1 | 9.1 | | | | | | |
| 12 | 10 | 18.0 | 10 | 19.7 | 9 | 49.8 | 1.2 | 0.8 | 7.2 | 5.0 | 13.2 | 9.1 | | | | | | |
| 13 | 10 | 18.3 | 10 | 19.9 | 9 | 50.1 | 1.3 | 0.9 | 7.3 | 5.0 | 13.3 | 9.2 | | | | | | |
| 14 | 10 | 18.5 | 10 | 20.2 | 9 | 50.3 | 1.4 | 1.0 | 7.4 | 5.1 | 13.4 | 9.3 | | | | | | |
| 15 | 10 | 18.8 | 10 | 20.4 | 9 | 50.6 | 1.5 | 1.0 | 7.5 | 5.2 | 13.5 | 9.3 | | | | | | |
| 16 | 10 | 19.0 | 10 | 20.7 | 9 | 50.8 | 1.6 | 1.1 | 7.6 | 5.3 | 13.6 | 9.4 | | | | | | |
| 17 | 10 | 19.2 | 10 | 20.9 | 9 | 51.0 | 1.7 | 1.2 | 7.7 | 5.3 | 13.7 | 9.5 | | | | | | |
| 18 | 10 | 19.5 | 10 | 21.2 | 9 | 51.3 | 1.8 | 1.2 | 7.8 | 5.4 | 13.8 | 9.5 | | | | | | |
| 19 | 10 | 19.8 | 10 | 21.4 | 9 | 51.5 | 1.9 | 1.3 | 7.9 | 5.5 | 13.9 | 9.6 | | | | | | |
| 20 | 10 | 20.0 | 10 | 21.7 | 9 | 51.8 | 2.0 | 1.4 | 8.0 | 5.5 | 14.0 | 9.7 | | | | | | |
| 21 | 10 | 20.3 | 10 | 21.9 | 9 | 52.0 | 2.1 | 1.5 | 8.1 | 5.6 | 14.1 | 9.8 | | | | | | |
| 22 | 10 | 20.5 | 10 | 22.2 | 9 | 52.2 | 2.2 | 1.5 | 8.2 | 5.7 | 14.2 | 9.8 | | | | | | |
| 23 | 10 | 20.7 | 10 | 22.4 | 9 | 52.5 | 2.3 | 1.6 | 8.3 | 5.7 | 14.3 | 9.9 | | | | | | |
| 24 | 10 | 21.0 | 10 | 22.7 | 9 | 52.7 | 2.4 | 1.7 | 8.4 | 5.8 | 14.4 | 10.0 | | | | | | |
| 25 | 10 | 21.2 | 10 | 22.9 | 9 | 52.9 | 2.5 | 1.7 | 8.5 | 5.9 | 14.5 | 10.0 | | | | | | |
| 26 | 10 | 21.5 | 10 | 23.2 | 9 | 53.2 | 2.6 | 1.8 | 8.6 | 5.9 | 14.6 | 10.1 | | | | | | |
| 27 | 10 | 21.8 | 10 | 23.4 | 9 | 53.4 | 2.7 | 1.9 | 8.7 | 6.0 | 14.7 | 10.2 | | | | | | |
| 28 | 10 | 22.0 | 10 | 23.7 | 9 | 53.7 | 2.8 | 1.9 | 8.8 | 6.1 | 14.8 | 10.2 | | | | | | |
| 29 | 10 | 22.3 | 10 | 24.0 | 9 | 53.9 | 2.9 | 2.0 | 8.9 | 6.2 | 14.9 | 10.3 | | | | | | |
| 30 | 10 | 22.5 | 10 | 24.2 | 9 | 54.1 | 3.0 | 2.1 | 9.0 | 6.2 | 15.0 | 10.4 | | | | | | |
| 31 | 10 | 22.7 | 10 | 24.5 | 9 | 54.4 | 3.1 | 2.1 | 9.1 | 6.3 | 15.1 | 10.4 | | | | | | |
| 32 | 10 | 23.0 | 10 | 24.7 | 9 | 54.6 | 3.2 | 2.2 | 9.2 | 6.4 | 15.2 | 10.5 | | | | | | |
| 33 | 10 | 23.2 | 10 | 25.0 | 9 | 54.9 | 3.3 | 2.3 | 9.3 | 6.4 | 15.3 | 10.6 | | | | | | |
| 34 | 10 | 23.5 | 10 | 25.2 | 9 | 55.1 | 3.4 | 2.4 | 9.4 | 6.5 | 15.4 | 10.7 | | | | | | |
| 35 | 10 | 23.8 | 10 | 25.5 | 9 | 55.3 | 3.5 | 2.4 | 9.5 | 6.6 | 15.5 | 10.7 | | | | | | |
| 36 | 10 | 24.0 | 10 | 25.7 | 9 | 55.6 | 3.6 | 2.5 | 9.6 | 6.6 | 15.6 | 10.8 | | | | | | |
| 37 | 10 | 24.3 | 10 | 26.0 | 9 | 55.8 | 3.7 | 2.6 | 9.7 | 6.7 | 15.7 | 10.9 | | | | | | |
| 38 | 10 | 24.5 | 10 | 26.2 | 9 | 56.1 | 3.8 | 2.6 | 9.8 | 6.8 | 15.8 | 10.9 | | | | | | |
| 39 | 10 | 24.7 | 10 | 26.5 | 9 | 56.3 | 3.9 | 2.7 | 9.9 | 6.8 | 15.9 | 11.0 | | | | | | |
| 40 | 10 | 25.0 | 10 | 26.7 | 9 | 56.5 | 4.0 | 2.8 | 10.0 | 6.9 | 16.0 | 11.1 | | | | | | |
| 41 | 10 | 25.2 | 10 | 27.0 | 9 | 56.8 | 4.1 | 2.8 | 10.1 | 7.0 | 16.1 | 11.1 | | | | | | |
| 42 | 10 | 25.5 | 10 | 27.2 | 9 | 57.0 | 4.2 | 2.9 | 10.2 | 7.1 | 16.2 | 11.2 | | | | | | |
| 43 | 10 | 25.8 | 10 | 27.5 | 9 | 57.2 | 4.3 | 3.0 | 10.3 | 7.1 | 16.3 | 11.3 | | | | | | |
| 44 | 10 | 26.0 | 10 | 27.7 | 9 | 57.5 | 4.4 | 3.0 | 10.4 | 7.2 | 16.4 | 11.3 | | | | | | |
| 45 | 10 | 26.3 | 10 | 28.0 | 9 | 57.7 | 4.5 | 3.1 | 10.5 | 7.3 | 16.5 | 11.4 | | | | | | |
| 46 | 10 | 26.5 | 10 | 28.2 | 9 | 58.0 | 4.6 | 3.2 | 10.6 | 7.3 | 16.6 | 11.5 | | | | | | |
| 47 | 10 | 26.7 | 10 | 28.5 | 9 | 58.2 | 4.7 | 3.3 | 10.7 | 7.4 | 16.7 | 11.6 | | | | | | |
| 48 | 10 | 27.0 | 10 | 28.7 | 9 | 58.4 | 4.8 | 3.3 | 10.8 | 7.5 | 16.8 | 11.6 | | | | | | |
| 49 | 10 | 27.3 | 10 | 29.0 | 9 | 58.7 | 4.9 | 3.4 | 10.9 | 7.5 | 16.9 | 11.7 | | | | | | |
| 50 | 10 | 27.5 | 10 | 29.2 | 9 | 58.9 | 5.0 | 3.5 | 11.0 | 7.6 | 17.0 | 11.8 | | | | | | |
| 51 | 10 | 27.8 | 10 | 29.5 | 9 | 59.2 | 5.1 | 3.5 | 11.1 | 7.7 | 17.1 | 11.8 | | | | | | |
| 52 | 10 | 28.0 | 10 | 29.7 | 9 | 59.4 | 5.2 | 3.6 | 11.2 | 7.7 | 17.2 | 11.9 | | | | | | |
| 53 | 10 | 28.2 | 10 | 30.0 | 9 | 59.6 | 5.3 | 3.7 | 11.3 | 7.8 | 17.3 | 12.0 | | | | | | |
| 54 | 10 | 28.5 | 10 | 30.2 | 9 | 59.9 | 5.4 | 3.7 | 11.4 | 7.9 | 17.4 | 12.0 | | | | | | |
| 55 | 10 | 28.7 | 10 | 30.5 | 10 | 0.1 | 5.5 | 3.8 | 11.5 | 8.0 | 17.5 | 12.1 | | | | | | |
| 56 | 10 | 29.0 | 10 | 30.7 | 10 | 0.3 | 5.6 | 3.9 | 11.6 | 8.0 | 17.6 | 12.2 | | | | | | |
| 57 | 10 | 29.3 | 10 | 31.0 | 10 | 0.6 | 5.7 | 3.9 | 11.7 | 8.1 | 17.7 | 12.2 | | | | | | |
| 58 | 10 | 29.5 | 10 | 31.2 | 10 | 0.8 | 5.8 | 4.0 | 11.8 | 8.2 | 17.8 | 12.3 | | | | | | |
| 59 | 10 | 29.8 | 10 | 31.5 | 10 | 1.1 | 5.9 | 4.1 | 11.9 | 8.2 | 17.9 | 12.4 | | | | | | |
| 60 | 10 | 30.0 | 10 | 31.7 | 10 | 1.3 | 6.0 | 4.2 | 12.0 | 8.3 | 18.0 | 12.5 | | | | | | |

| m 42 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 10 30.0 | 10 31.7 | 10 1.3 | 0.0 | 0.0 | 6.0 | 4.3 | 12.0 | 8.5 |
| 1 | 10 30.2 | 10 32.0 | 10 1.5 | 0.1 | 0.1 | 6.1 | 4.3 | 12.1 | 8.6 |
| 2 | 10 30.5 | 10 32.2 | 10 1.8 | 0.2 | 0.1 | 6.2 | 4.4 | 12.2 | 8.6 |
| 3 | 10 30.7 | 10 32.5 | 10 2.0 | 0.3 | 0.2 | 6.3 | 4.5 | 12.3 | 8.7 |
| 4 | 10 31.0 | 10 32.7 | 10 2.3 | 0.4 | 0.3 | 6.4 | 4.5 | 12.4 | 8.8 |
| 5 | 10 31.3 | 10 33.0 | 10 2.5 | 0.5 | 0.4 | 6.5 | 4.6 | 12.5 | 8.9 |
| 6 | 10 31.5 | 10 33.2 | 10 2.7 | 0.6 | 0.4 | 6.6 | 4.7 | 12.6 | 8.9 |
| 7 | 10 31.8 | 10 33.5 | 10 3.0 | 0.7 | 0.5 | 6.7 | 4.7 | 12.7 | 9.0 |
| 8 | 10 32.0 | 10 33.7 | 10 3.2 | 0.8 | 0.6 | 6.8 | 4.8 | 12.8 | 9.1 |
| 9 | 10 32.2 | 10 34.0 | 10 3.4 | 0.9 | 0.6 | 6.9 | 4.9 | 12.9 | 9.1 |
| 10 | 10 32.5 | 10 34.2 | 10 3.7 | 1.0 | 0.7 | 7.0 | 5.0 | 13.0 | 9.2 |
| 11 | 10 32.7 | 10 34.5 | 10 3.9 | 1.1 | 0.8 | 7.1 | 5.0 | 13.1 | 9.3 |
| 12 | 10 33.0 | 10 34.7 | 10 4.2 | 1.2 | 0.9 | 7.2 | 5.1 | 13.2 | 9.4 |
| 13 | 10 33.3 | 10 35.0 | 10 4.4 | 1.3 | 0.9 | 7.3 | 5.2 | 13.3 | 9.4 |
| 14 | 10 33.5 | 10 35.2 | 10 4.6 | 1.4 | 1.0 | 7.4 | 5.2 | 13.4 | 9.5 |
| 15 | 10 33.8 | 10 35.5 | 10 4.9 | 1.5 | 1.1 | 7.5 | 5.3 | 13.5 | 9.6 |
| 16 | 10 34.0 | 10 35.7 | 10 5.1 | 1.6 | 1.1 | 7.6 | 5.4 | 13.6 | 9.6 |
| 17 | 10 34.2 | 10 36.0 | 10 5.4 | 1.7 | 1.2 | 7.7 | 5.5 | 13.7 | 9.7 |
| 18 | 10 34.5 | 10 36.2 | 10 5.6 | 1.8 | 1.3 | 7.8 | 5.5 | 13.8 | 9.8 |
| 19 | 10 34.8 | 10 36.5 | 10 5.8 | 1.9 | 1.3 | 7.9 | 5.6 | 13.9 | 9.8 |
| 20 | 10 35.0 | 10 36.7 | 10 6.1 | 2.0 | 1.4 | 8.0 | 5.7 | 14.0 | 9.9 |
| 21 | 10 35.3 | 10 37.0 | 10 6.3 | 2.1 | 1.5 | 8.1 | 5.7 | 14.1 | 10.0 |
| 22 | 10 35.5 | 10 37.2 | 10 6.5 | 2.2 | 1.6 | 8.2 | 5.8 | 14.2 | 10.1 |
| 23 | 10 35.7 | 10 37.5 | 10 6.8 | 2.3 | 1.6 | 8.3 | 5.9 | 14.3 | 10.1 |
| 24 | 10 36.0 | 10 37.7 | 10 7.0 | 2.4 | 1.7 | 8.4 | 6.0 | 14.4 | 10.2 |
| 25 | 10 36.2 | 10 38.0 | 10 7.3 | 2.5 | 1.8 | 8.5 | 6.0 | 14.5 | 10.3 |
| 26 | 10 36.5 | 10 38.2 | 10 7.5 | 2.6 | 1.8 | 8.6 | 6.1 | 14.6 | 10.3 |
| 27 | 10 36.8 | 10 38.5 | 10 7.7 | 2.7 | 1.9 | 8.7 | 6.2 | 14.7 | 10.4 |
| 28 | 10 37.0 | 10 38.7 | 10 8.0 | 2.8 | 2.0 | 8.8 | 6.2 | 14.8 | 10.5 |
| 29 | 10 37.3 | 10 39.0 | 10 8.2 | 2.9 | 2.1 | 8.9 | 6.3 | 14.9 | 10.6 |
| 30 | 10 37.5 | 10 39.2 | 10 8.5 | 3.0 | 2.1 | 9.0 | 6.4 | 15.0 | 10.6 |
| 31 | 10 37.7 | 10 39.5 | 10 8.7 | 3.1 | 2.2 | 9.1 | 6.4 | 15.1 | 10.7 |
| 32 | 10 38.0 | 10 39.7 | 10 8.9 | 3.2 | 2.3 | 9.2 | 6.5 | 15.2 | 10.8 |
| 33 | 10 38.2 | 10 40.0 | 10 9.2 | 3.3 | 2.3 | 9.3 | 6.6 | 15.3 | 10.8 |
| 34 | 10 38.5 | 10 40.2 | 10 9.4 | 3.4 | 2.4 | 9.4 | 6.7 | 15.4 | 10.9 |
| 35 | 10 38.8 | 10 40.5 | 10 9.7 | 3.5 | 2.5 | 9.5 | 6.7 | 15.5 | 11.0 |
| 36 | 10 39.0 | 10 40.7 | 10 9.9 | 3.6 | 2.6 | 9.6 | 6.8 | 15.6 | 11.1 |
| 37 | 10 39.3 | 10 41.0 | 10 10.1 | 3.7 | 2.6 | 9.7 | 6.9 | 15.7 | 11.1 |
| 38 | 10 39.5 | 10 41.2 | 10 10.4 | 3.8 | 2.7 | 9.8 | 6.9 | 15.8 | 11.2 |
| 39 | 10 39.7 | 10 41.5 | 10 10.6 | 3.9 | 2.8 | 9.9 | 7.0 | 15.9 | 11.3 |
| 40 | 10 40.0 | 10 41.7 | 10 10.8 | 4.0 | 2.8 | 10.0 | 7.1 | 16.0 | 11.3 |
| 41 | 10 40.2 | 10 42.0 | 10 11.1 | 4.1 | 2.9 | 10.1 | 7.2 | 16.1 | 11.4 |
| 42 | 10 40.5 | 10 42.3 | 10 11.3 | 4.2 | 3.0 | 10.2 | 7.2 | 16.2 | 11.5 |
| 43 | 10 40.8 | 10 42.5 | 10 11.6 | 4.3 | 3.0 | 10.3 | 7.3 | 16.3 | 11.5 |
| 44 | 10 41.0 | 10 42.8 | 10 11.8 | 4.4 | 3.1 | 10.4 | 7.4 | 16.4 | 11.6 |
| 45 | 10 41.3 | 10 43.0 | 10 12.0 | 4.5 | 3.2 | 10.5 | 7.4 | 16.5 | 11.7 |
| 46 | 10 41.5 | 10 43.3 | 10 12.3 | 4.6 | 3.3 | 10.6 | 7.5 | 16.6 | 11.8 |
| 47 | 10 41.7 | 10 43.5 | 10 12.5 | 4.7 | 3.3 | 10.7 | 7.6 | 16.7 | 11.8 |
| 48 | 10 42.0 | 10 43.8 | 10 12.8 | 4.8 | 3.4 | 10.8 | 7.7 | 16.8 | 11.9 |
| 49 | 10 42.3 | 10 44.0 | 10 13.0 | 4.9 | 3.5 | 10.9 | 7.7 | 16.9 | 12.0 |
| 50 | 10 42.5 | 10 44.3 | 10 13.2 | 5.0 | 3.5 | 11.0 | 7.8 | 17.0 | 12.0 |
| 51 | 10 42.8 | 10 44.5 | 10 13.5 | 5.1 | 3.6 | 11.1 | 7.9 | 17.1 | 12.1 |
| 52 | 10 43.0 | 10 44.8 | 10 13.7 | 5.2 | 3.7 | 11.2 | 7.9 | 17.2 | 12.2 |
| 53 | 10 43.2 | 10 45.0 | 10 13.9 | 5.3 | 3.8 | 11.3 | 8.0 | 17.3 | 12.3 |
| 54 | 10 43.5 | 10 45.3 | 10 14.2 | 5.4 | 3.8 | 11.4 | 8.1 | 17.4 | 12.3 |
| 55 | 10 43.7 | 10 45.5 | 10 14.4 | 5.5 | 3.9 | 11.5 | 8.1 | 17.5 | 12.4 |
| 56 | 10 44.0 | 10 45.8 | 10 14.7 | 5.6 | 4.0 | 11.6 | 8.2 | 17.6 | 12.5 |
| 57 | 10 44.3 | 10 46.0 | 10 14.9 | 5.7 | 4.0 | 11.7 | 8.3 | 17.7 | 12.5 |
| 58 | 10 44.5 | 10 46.3 | 10 15.1 | 5.8 | 4.1 | 11.8 | 8.4 | 17.8 | 12.6 |
| 59 | 10 44.8 | 10 46.5 | 10 15.4 | 5.9 | 4.2 | 11.9 | 8.4 | 17.9 | 12.7 |
| 60 | 10 45.0 | 10 46.8 | 10 15.6 | 6.0 | 4.3 | 12.0 | 8.5 | 18.0 | 12.8 |

| m 43 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 10 45.0 | 10 46.8 | 10 15.6 | 0.0 | 0.0 | 6.0 | 4.4 | 12.0 | 8.7 |
| 1 | 10 45.2 | 10 47.0 | 10 15.9 | 0.1 | 0.1 | 6.1 | 4.4 | 12.1 | 8.8 |
| 2 | 10 45.5 | 10 47.3 | 10 16.1 | 0.2 | 0.1 | 6.2 | 4.5 | 12.2 | 8.8 |
| 3 | 10 45.7 | 10 47.5 | 10 16.3 | 0.3 | 0.2 | 6.3 | 4.6 | 12.3 | 8.9 |
| 4 | 10 46.0 | 10 47.8 | 10 16.6 | 0.4 | 0.3 | 6.4 | 4.6 | 12.4 | 9.0 |
| 5 | 10 46.3 | 10 48.0 | 10 16.8 | 0.5 | 0.4 | 6.5 | 4.7 | 12.5 | 9.1 |
| 6 | 10 46.5 | 10 48.3 | 10 17.0 | 0.6 | 0.4 | 6.6 | 4.8 | 12.6 | 9.1 |
| 7 | 10 46.8 | 10 48.5 | 10 17.3 | 0.7 | 0.5 | 6.7 | 4.9 | 12.7 | 9.2 |
| 8 | 10 47.0 | 10 48.8 | 10 17.5 | 0.8 | 0.6 | 6.8 | 4.9 | 12.8 | 9.3 |
| 9 | 10 47.2 | 10 49.0 | 10 17.8 | 0.9 | 0.7 | 6.9 | 5.0 | 12.9 | 9.4 |
| 10 | 10 47.5 | 10 49.3 | 10 18.0 | 1.0 | 0.7 | 7.0 | 5.1 | 13.0 | 9.4 |
| 11 | 10 47.7 | 10 49.5 | 10 18.2 | 1.1 | 0.8 | 7.1 | 5.1 | 13.1 | 9.5 |
| 12 | 10 48.0 | 10 49.8 | 10 18.5 | 1.2 | 0.9 | 7.2 | 5.2 | 13.2 | 9.6 |
| 13 | 10 48.3 | 10 50.0 | 10 18.7 | 1.3 | 0.9 | 7.3 | 5.3 | 13.3 | 9.6 |
| 14 | 10 48.5 | 10 50.3 | 10 19.0 | 1.4 | 1.0 | 7.4 | 5.4 | 13.4 | 9.7 |
| 15 | 10 48.8 | 10 50.5 | 10 19.2 | 1.5 | 1.1 | 7.5 | 5.4 | 13.5 | 9.8 |
| 16 | 10 49.0 | 10 50.8 | 10 19.4 | 1.6 | 1.2 | 7.6 | 5.5 | 13.6 | 9.9 |
| 17 | 10 49.2 | 10 51.0 | 10 19.7 | 1.7 | 1.2 | 7.7 | 5.6 | 13.7 | 9.9 |
| 18 | 10 49.5 | 10 51.3 | 10 19.9 | 1.8 | 1.3 | 7.8 | 5.7 | 13.8 | 10.0 |
| 19 | 10 49.8 | 10 51.5 | 10 20.2 | 1.9 | 1.4 | 7.9 | 5.7 | 13.9 | 10.1 |
| 20 | 10 50.0 | 10 51.8 | 10 20.4 | 2.0 | 1.5 | 8.0 | 5.8 | 14.0 | 10.2 |
| 21 | 10 50.3 | 10 52.0 | 10 20.6 | 2.1 | 1.5 | 8.1 | 5.9 | 14.1 | 10.2 |
| 22 | 10 50.5 | 10 52.3 | 10 20.9 | 2.2 | 1.6 | 8.2 | 5.9 | 14.2 | 10.3 |
| 23 | 10 50.7 | 10 52.5 | 10 21.1 | 2.3 | 1.7 | 8.3 | 6.0 | 14.3 | 10.4 |
| 24 | 10 51.0 | 10 52.8 | 10 21.3 | 2.4 | 1.7 | 8.4 | 6.1 | 14.4 | 10.4 |
| 25 | 10 51.2 | 10 53.0 | 10 21.6 | 2.5 | 1.8 | 8.5 | 6.2 | 14.5 | 10.5 |
| 26 | 10 51.5 | 10 53.3 | 10 21.8 | 2.6 | 1.9 | 8.6 | 6.2 | 14.6 | 10.6 |
| 27 | 10 51.8 | 10 53.5 | 10 22.1 | 2.7 | 2.0 | 8.7 | 6.3 | 14.7 | 10.7 |
| 28 | 10 52.0 | 10 53.8 | 10 22.3 | 2.8 | 2.0 | 8.8 | 6.4 | 14.8 | 10.7 |
| 29 | 10 52.3 | 10 54.0 | 10 22.5 | 2.9 | 2.1 | 8.9 | 6.5 | 14.9 | 10.8 |
| 30 | 10 52.5 | 10 54.3 | 10 22.8 | 3.0 | 2.2 | 9.0 | 6.5 | 15.0 | 10.9 |
| 31 | 10 52.7 | 10 54.5 | 10 23.0 | 3.1 | 2.2 | 9.1 | 6.6 | 15.1 | 10.9 |
| 32 | 10 53.0 | 10 54.8 | 10 23.3 | 3.2 | 2.3 | 9.2 | 6.7 | 15.2 | 11.0 |
| 33 | 10 53.2 | 10 55.0 | 10 23.5 | 3.3 | 2.4 | 9.3 | 6.7 | 15.3 | 11.1 |
| 34 | 10 53.5 | 10 55.3 | 10 23.7 | 3.4 | 2.5 | 9.4 | 6.8 | 15.4 | 11.2 |
| 35 | 10 53.8 | 10 55.5 | 10 24.0 | 3.5 | 2.5 | 9.5 | 6.9 | 15.5 | 11.2 |
| 36 | 10 54.0 | 10 55.8 | 10 24.2 | 3.6 | 2.6 | 9.6 | 7.0 | 15.6 | 11.3 |
| 37 | 10 54.3 | 10 56.0 | 10 24.4 | 3.7 | 2.7 | 9.7 | 7.0 | 15.7 | 11.4 |
| 38 | 10 54.5 | 10 56.3 | 10 24.7 | 3.8 | 2.8 | 9.8 | 7.1 | 15.8 | 11.5 |
| 39 | 10 54.7 | 10 56.5 | 10 24.9 | 3.9 | 2.8 | 9.9 | 7.2 | 15.9 | 11.5 |
| 40 | 10 55.0 | 10 56.8 | 10 25.2 | 4.0 | 2.9 | 10.0 | 7.3 | 16.0 | 11.6 |
| 41 | 10 55.2 | 10 57.0 | 10 25.4 | 4.1 | 3.0 | 10.1 | 7.3 | 16.1 | 11.7 |
| 42 | 10 55.5 | 10 57.3 | 10 25.6 | 4.2 | 3.0 | 10.2 | 7.4 | 16.2 | 11.7 |
| 43 | 10 55.8 | 10 57.5 | 10 25.9 | 4.3 | 3.1 | 10.3 | 7.5 | 16.3 | 11.8 |
| 44 | 10 56.0 | 10 57.8 | 10 26.1 | 4.4 | 3.2 | 10.4 | 7.5 | 16.4 | 11.9 |
| 45 | 10 56.3 | 10 58.0 | 10 26.4 | 4.5 | 3.3 | 10.5 | 7.6 | 16.5 | 12.0 |
| 46 | 10 56.5 | 10 58.3 | 10 26.6 | 4.6 | 3.3 | 10.6 | 7.7 | 16.6 | 12.0 |
| 47 | 10 56.7 | 10 58.5 | 10 26.8 | 4.7 | 3.4 | 10.7 | 7.8 | 16.7 | 12.1 |
| 48 | 10 57.0 | 10 58.8 | 10 27.1 | 4.8 | 3.5 | 10.8 | 7.8 | 16.8 | 12.2 |
| 49 | 10 57.3 | 10 59.0 | 10 27.3 | 4.9 | 3.6 | 10.9 | 7.9 | 16.9 | 12.3 |
| 50 | 10 57.5 | 10 59.3 | 10 27.5 | 5.0 | 3.6 | 11.0 | 8.0 | 17.0 | 12.3 |
| 51 | 10 57.8 | 10 59.5 | 10 27.8 | 5.1 | 3.7 | 11.1 | 8.0 | 17.1 | 12.4 |
| 52 | 10 58.0 | 10 59.8 | 10 28.0 | 5.2 | 3.8 | 11.2 | 8.1 | 17.2 | 12.5 |
| 53 | 10 58.2 | 11 0.0 | 10 28.3 | 5.3 | 3.8 | 11.3 | 8.2 | 17.3 | 12.5 |
| 54 | 10 58.5 | 11 0.3 | 10 28.5 | 5.4 | 3.9 | 11.4 | 8.3 | 17.4 | 12.6 |
| 55 | 10 58.7 | 11 0.6 | 10 28.7 | 5.5 | 4.0 | 11.5 | 8.3 | 17.5 | 12.7 |
| 56 | 10 59.0 | 11 0.8 | 10 29.0 | 5.6 | 4.1 | 11.6 | 8.4 | 17.6 | 12.8 |
| 57 | 10 59.3 | 11 1.1 | 10 29.2 | 5.7 | 4.1 | 11.7 | 8.5 | 17.7 | 12.8 |
| 58 | 10 59.5 | 11 1.3 | 10 29.5 | 5.8 | 4.2 | 11.8 | 8.6 | 17.8 | 12.9 |
| 59 | 10 59.8 | 11 1.6 | 10 29.7 | 5.9 | 4.3 | 11.9 | 8.6 | 17.9 | 13.0 |
| 60 | 11 0.0 | 11 1.8 | 10 29.9 | 6.0 | 4.4 | 12.0 | 8.7 | 18.0 | 13.0 |

| m 44 | Planets Sun | | Aries | | Moon | | v/d | | corr | | v/d | | corr | | v/d | | corr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| s | ○ | ′ | ○ | ′ | ○ | ′ | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | |
| 0 | 11 | 0.0 | 11 | 1.8 | 10 | 29.9 | 0.0 | 0.0 | 6.0 | 4.5 | 12.0 | 8.9 | | | | | | |
| 1 | 11 | 0.2 | 11 | 2.1 | 10 | 30.2 | 0.1 | 0.1 | 6.1 | 4.5 | 12.1 | 9.0 | | | | | | |
| 2 | 11 | 0.5 | 11 | 2.3 | 10 | 30.4 | 0.2 | 0.1 | 6.2 | 4.6 | 12.2 | 9.0 | | | | | | |
| 3 | 11 | 0.7 | 11 | 2.6 | 10 | 30.6 | 0.3 | 0.2 | 6.3 | 4.7 | 12.3 | 9.1 | | | | | | |
| 4 | 11 | 1.0 | 11 | 2.8 | 10 | 30.9 | 0.4 | 0.3 | 6.4 | 4.7 | 12.4 | 9.2 | | | | | | |
| 5 | 11 | 1.3 | 11 | 3.1 | 10 | 31.1 | 0.5 | 0.4 | 6.5 | 4.8 | 12.5 | 9.3 | | | | | | |
| 6 | 11 | 1.5 | 11 | 3.3 | 10 | 31.4 | 0.6 | 0.4 | 6.6 | 4.9 | 12.6 | 9.3 | | | | | | |
| 7 | 11 | 1.8 | 11 | 3.6 | 10 | 31.6 | 0.7 | 0.5 | 6.7 | 5.0 | 12.7 | 9.4 | | | | | | |
| 8 | 11 | 2.0 | 11 | 3.8 | 10 | 31.8 | 0.8 | 0.6 | 6.8 | 5.0 | 12.8 | 9.5 | | | | | | |
| 9 | 11 | 2.2 | 11 | 4.1 | 10 | 32.1 | 0.9 | 0.7 | 6.9 | 5.1 | 12.9 | 9.6 | | | | | | |
| 10 | 11 | 2.5 | 11 | 4.3 | 10 | 32.3 | 1.0 | 0.7 | 7.0 | 5.2 | 13.0 | 9.6 | | | | | | |
| 11 | 11 | 2.7 | 11 | 4.6 | 10 | 32.6 | 1.1 | 0.8 | 7.1 | 5.3 | 13.1 | 9.7 | | | | | | |
| 12 | 11 | 3.0 | 11 | 4.8 | 10 | 32.8 | 1.2 | 0.9 | 7.2 | 5.3 | 13.2 | 9.8 | | | | | | |
| 13 | 11 | 3.3 | 11 | 5.1 | 10 | 33.0 | 1.3 | 1.0 | 7.3 | 5.4 | 13.3 | 9.9 | | | | | | |
| 14 | 11 | 3.5 | 11 | 5.3 | 10 | 33.3 | 1.4 | 1.0 | 7.4 | 5.5 | 13.4 | 9.9 | | | | | | |
| 15 | 11 | 3.8 | 11 | 5.6 | 10 | 33.5 | 1.5 | 1.1 | 7.5 | 5.6 | 13.5 | 10.0 | | | | | | |
| 16 | 11 | 4.0 | 11 | 5.8 | 10 | 33.8 | 1.6 | 1.2 | 7.6 | 5.6 | 13.6 | 10.1 | | | | | | |
| 17 | 11 | 4.2 | 11 | 6.1 | 10 | 34.0 | 1.7 | 1.3 | 7.7 | 5.7 | 13.7 | 10.2 | | | | | | |
| 18 | 11 | 4.5 | 11 | 6.3 | 10 | 34.2 | 1.8 | 1.3 | 7.8 | 5.8 | 13.8 | 10.2 | | | | | | |
| 19 | 11 | 4.8 | 11 | 6.6 | 10 | 34.5 | 1.9 | 1.4 | 7.9 | 5.9 | 13.9 | 10.3 | | | | | | |
| 20 | 11 | 5.0 | 11 | 6.8 | 10 | 34.7 | 2.0 | 1.5 | 8.0 | 5.9 | 14.0 | 10.4 | | | | | | |
| 21 | 11 | 5.3 | 11 | 7.1 | 10 | 34.9 | 2.1 | 1.6 | 8.1 | 6.0 | 14.1 | 10.5 | | | | | | |
| 22 | 11 | 5.5 | 11 | 7.3 | 10 | 35.2 | 2.2 | 1.6 | 8.2 | 6.1 | 14.2 | 10.5 | | | | | | |
| 23 | 11 | 5.7 | 11 | 7.6 | 10 | 35.4 | 2.3 | 1.7 | 8.3 | 6.2 | 14.3 | 10.6 | | | | | | |
| 24 | 11 | 6.0 | 11 | 7.8 | 10 | 35.7 | 2.4 | 1.8 | 8.4 | 6.2 | 14.4 | 10.7 | | | | | | |
| 25 | 11 | 6.2 | 11 | 8.1 | 10 | 35.9 | 2.5 | 1.9 | 8.5 | 6.3 | 14.5 | 10.8 | | | | | | |
| 26 | 11 | 6.5 | 11 | 8.3 | 10 | 36.1 | 2.6 | 1.9 | 8.6 | 6.4 | 14.6 | 10.8 | | | | | | |
| 27 | 11 | 6.8 | 11 | 8.6 | 10 | 36.4 | 2.7 | 2.0 | 8.7 | 6.5 | 14.7 | 10.9 | | | | | | |
| 28 | 11 | 7.0 | 11 | 8.8 | 10 | 36.6 | 2.8 | 2.1 | 8.8 | 6.5 | 14.8 | 11.0 | | | | | | |
| 29 | 11 | 7.3 | 11 | 9.1 | 10 | 36.9 | 2.9 | 2.2 | 8.9 | 6.6 | 14.9 | 11.1 | | | | | | |
| 30 | 11 | 7.5 | 11 | 9.3 | 10 | 37.1 | 3.0 | 2.2 | 9.0 | 6.7 | 15.0 | 11.1 | | | | | | |
| 31 | 11 | 7.7 | 11 | 9.6 | 10 | 37.3 | 3.1 | 2.3 | 9.1 | 6.7 | 15.1 | 11.2 | | | | | | |
| 32 | 11 | 8.0 | 11 | 9.8 | 10 | 37.6 | 3.2 | 2.4 | 9.2 | 6.8 | 15.2 | 11.3 | | | | | | |
| 33 | 11 | 8.2 | 11 | 10.1 | 10 | 37.8 | 3.3 | 2.4 | 9.3 | 6.9 | 15.3 | 11.3 | | | | | | |
| 34 | 11 | 8.5 | 11 | 10.3 | 10 | 38.0 | 3.4 | 2.5 | 9.4 | 7.0 | 15.4 | 11.4 | | | | | | |
| 35 | 11 | 8.8 | 11 | 10.6 | 10 | 38.3 | 3.5 | 2.6 | 9.5 | 7.0 | 15.5 | 11.5 | | | | | | |
| 36 | 11 | 9.0 | 11 | 10.8 | 10 | 38.5 | 3.6 | 2.7 | 9.6 | 7.1 | 15.6 | 11.6 | | | | | | |
| 37 | 11 | 9.3 | 11 | 11.1 | 10 | 38.8 | 3.7 | 2.7 | 9.7 | 7.2 | 15.7 | 11.6 | | | | | | |
| 38 | 11 | 9.5 | 11 | 11.3 | 10 | 39.0 | 3.8 | 2.8 | 9.8 | 7.3 | 15.8 | 11.7 | | | | | | |
| 39 | 11 | 9.7 | 11 | 11.6 | 10 | 39.2 | 3.9 | 2.9 | 9.9 | 7.3 | 15.9 | 11.8 | | | | | | |
| 40 | 11 | 10.0 | 11 | 11.8 | 10 | 39.5 | 4.0 | 3.0 | 10.0 | 7.4 | 16.0 | 11.9 | | | | | | |
| 41 | 11 | 10.2 | 11 | 12.1 | 10 | 39.7 | 4.1 | 3.0 | 10.1 | 7.5 | 16.1 | 11.9 | | | | | | |
| 42 | 11 | 10.5 | 11 | 12.3 | 10 | 40.0 | 4.2 | 3.1 | 10.2 | 7.6 | 16.2 | 12.0 | | | | | | |
| 43 | 11 | 10.8 | 11 | 12.6 | 10 | 40.2 | 4.3 | 3.2 | 10.3 | 7.6 | 16.3 | 12.1 | | | | | | |
| 44 | 11 | 11.0 | 11 | 12.8 | 10 | 40.4 | 4.4 | 3.3 | 10.4 | 7.7 | 16.4 | 12.2 | | | | | | |
| 45 | 11 | 11.3 | 11 | 13.1 | 10 | 40.7 | 4.5 | 3.3 | 10.5 | 7.8 | 16.5 | 12.2 | | | | | | |
| 46 | 11 | 11.5 | 11 | 13.3 | 10 | 40.9 | 4.6 | 3.4 | 10.6 | 7.9 | 16.6 | 12.3 | | | | | | |
| 47 | 11 | 11.7 | 11 | 13.6 | 10 | 41.1 | 4.7 | 3.5 | 10.7 | 7.9 | 16.7 | 12.4 | | | | | | |
| 48 | 11 | 12.0 | 11 | 13.8 | 10 | 41.4 | 4.8 | 3.6 | 10.8 | 8.0 | 16.8 | 12.5 | | | | | | |
| 49 | 11 | 12.3 | 11 | 14.1 | 10 | 41.6 | 4.9 | 3.6 | 10.9 | 8.1 | 16.9 | 12.5 | | | | | | |
| 50 | 11 | 12.5 | 11 | 14.3 | 10 | 41.9 | 5.0 | 3.7 | 11.0 | 8.2 | 17.0 | 12.6 | | | | | | |
| 51 | 11 | 12.8 | 11 | 14.6 | 10 | 42.1 | 5.1 | 3.8 | 11.1 | 8.2 | 17.1 | 12.7 | | | | | | |
| 52 | 11 | 13.0 | 11 | 14.8 | 10 | 42.3 | 5.2 | 3.9 | 11.2 | 8.3 | 17.2 | 12.8 | | | | | | |
| 53 | 11 | 13.2 | 11 | 15.1 | 10 | 42.6 | 5.3 | 3.9 | 11.3 | 8.4 | 17.3 | 12.8 | | | | | | |
| 54 | 11 | 13.5 | 11 | 15.3 | 10 | 42.8 | 5.4 | 4.0 | 11.4 | 8.5 | 17.4 | 12.9 | | | | | | |
| 55 | 11 | 13.7 | 11 | 15.6 | 10 | 43.1 | 5.5 | 4.1 | 11.5 | 8.5 | 17.5 | 13.0 | | | | | | |
| 56 | 11 | 14.0 | 11 | 15.8 | 10 | 43.3 | 5.6 | 4.2 | 11.6 | 8.6 | 17.6 | 13.1 | | | | | | |
| 57 | 11 | 14.3 | 11 | 16.1 | 10 | 43.5 | 5.7 | 4.2 | 11.7 | 8.7 | 17.7 | 13.1 | | | | | | |
| 58 | 11 | 14.5 | 11 | 16.3 | 10 | 43.8 | 5.8 | 4.3 | 11.8 | 8.8 | 17.8 | 13.2 | | | | | | |
| 59 | 11 | 14.8 | 11 | 16.6 | 10 | 44.0 | 5.9 | 4.4 | 11.9 | 8.8 | 17.9 | 13.3 | | | | | | |
| 60 | 11 | 15.0 | 11 | 16.8 | 10 | 44.3 | 6.0 | 4.5 | 12.0 | 8.9 | 18.0 | 13.4 | | | | | | |

| m 45 | Planets Sun | | Aries | | Moon | | v/d | | corr | | v/d | | corr | | v/d | | corr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| s | ○ | ′ | ○ | ′ | ○ | ′ | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | |
| 0 | 11 | 15.0 | 11 | 16.8 | 10 | 44.3 | 0.0 | 0.0 | 6.0 | 4.6 | 12.0 | 9.1 | | | | | | |
| 1 | 11 | 15.2 | 11 | 17.1 | 10 | 44.5 | 0.1 | 0.1 | 6.1 | 4.6 | 12.1 | 9.2 | | | | | | |
| 2 | 11 | 15.5 | 11 | 17.3 | 10 | 44.7 | 0.2 | 0.2 | 6.2 | 4.7 | 12.2 | 9.3 | | | | | | |
| 3 | 11 | 15.7 | 11 | 17.6 | 10 | 45.0 | 0.3 | 0.2 | 6.3 | 4.8 | 12.3 | 9.3 | | | | | | |
| 4 | 11 | 16.0 | 11 | 17.8 | 10 | 45.2 | 0.4 | 0.3 | 6.4 | 4.9 | 12.4 | 9.4 | | | | | | |
| 5 | 11 | 16.3 | 11 | 18.1 | 10 | 45.4 | 0.5 | 0.4 | 6.5 | 4.9 | 12.5 | 9.5 | | | | | | |
| 6 | 11 | 16.5 | 11 | 18.3 | 10 | 45.7 | 0.6 | 0.5 | 6.6 | 5.0 | 12.6 | 9.6 | | | | | | |
| 7 | 11 | 16.8 | 11 | 18.6 | 10 | 45.9 | 0.7 | 0.5 | 6.7 | 5.1 | 12.7 | 9.6 | | | | | | |
| 8 | 11 | 17.0 | 11 | 18.9 | 10 | 46.2 | 0.8 | 0.6 | 6.8 | 5.2 | 12.8 | 9.7 | | | | | | |
| 9 | 11 | 17.2 | 11 | 19.1 | 10 | 46.4 | 0.9 | 0.7 | 6.9 | 5.2 | 12.9 | 9.8 | | | | | | |
| 10 | 11 | 17.5 | 11 | 19.4 | 10 | 46.6 | 1.0 | 0.8 | 7.0 | 5.3 | 13.0 | 9.9 | | | | | | |
| 11 | 11 | 17.7 | 11 | 19.6 | 10 | 46.9 | 1.1 | 0.8 | 7.1 | 5.4 | 13.1 | 9.9 | | | | | | |
| 12 | 11 | 18.0 | 11 | 19.9 | 10 | 47.1 | 1.2 | 0.9 | 7.2 | 5.5 | 13.2 | 10.0 | | | | | | |
| 13 | 11 | 18.3 | 11 | 20.1 | 10 | 47.4 | 1.3 | 1.0 | 7.3 | 5.5 | 13.3 | 10.1 | | | | | | |
| 14 | 11 | 18.5 | 11 | 20.4 | 10 | 47.6 | 1.4 | 1.1 | 7.4 | 5.6 | 13.4 | 10.2 | | | | | | |
| 15 | 11 | 18.8 | 11 | 20.6 | 10 | 47.8 | 1.5 | 1.1 | 7.5 | 5.7 | 13.5 | 10.2 | | | | | | |
| 16 | 11 | 19.0 | 11 | 20.9 | 10 | 48.1 | 1.6 | 1.2 | 7.6 | 5.8 | 13.6 | 10.3 | | | | | | |
| 17 | 11 | 19.2 | 11 | 21.1 | 10 | 48.3 | 1.7 | 1.3 | 7.7 | 5.8 | 13.7 | 10.4 | | | | | | |
| 18 | 11 | 19.5 | 11 | 21.4 | 10 | 48.5 | 1.8 | 1.4 | 7.8 | 5.9 | 13.8 | 10.5 | | | | | | |
| 19 | 11 | 19.8 | 11 | 21.6 | 10 | 48.8 | 1.9 | 1.4 | 7.9 | 6.0 | 13.9 | 10.5 | | | | | | |
| 20 | 11 | 20.0 | 11 | 21.9 | 10 | 49.0 | 2.0 | 1.5 | 8.0 | 6.1 | 14.0 | 10.6 | | | | | | |
| 21 | 11 | 20.3 | 11 | 22.1 | 10 | 49.3 | 2.1 | 1.6 | 8.1 | 6.1 | 14.1 | 10.7 | | | | | | |
| 22 | 11 | 20.5 | 11 | 22.4 | 10 | 49.5 | 2.2 | 1.7 | 8.2 | 6.2 | 14.2 | 10.8 | | | | | | |
| 23 | 11 | 20.7 | 11 | 22.6 | 10 | 49.7 | 2.3 | 1.7 | 8.3 | 6.3 | 14.3 | 10.8 | | | | | | |
| 24 | 11 | 21.0 | 11 | 22.9 | 10 | 50.0 | 2.4 | 1.8 | 8.4 | 6.4 | 14.4 | 10.9 | | | | | | |
| 25 | 11 | 21.2 | 11 | 23.1 | 10 | 50.2 | 2.5 | 1.9 | 8.5 | 6.4 | 14.5 | 11.0 | | | | | | |
| 26 | 11 | 21.5 | 11 | 23.4 | 10 | 50.5 | 2.6 | 2.0 | 8.6 | 6.5 | 14.6 | 11.1 | | | | | | |
| 27 | 11 | 21.8 | 11 | 23.6 | 10 | 50.7 | 2.7 | 2.0 | 8.7 | 6.6 | 14.7 | 11.1 | | | | | | |
| 28 | 11 | 22.0 | 11 | 23.9 | 10 | 50.9 | 2.8 | 2.1 | 8.8 | 6.7 | 14.8 | 11.2 | | | | | | |
| 29 | 11 | 22.3 | 11 | 24.1 | 10 | 51.2 | 2.9 | 2.2 | 8.9 | 6.7 | 14.9 | 11.3 | | | | | | |
| 30 | 11 | 22.5 | 11 | 24.4 | 10 | 51.4 | 3.0 | 2.3 | 9.0 | 6.8 | 15.0 | 11.4 | | | | | | |
| 31 | 11 | 22.7 | 11 | 24.6 | 10 | 51.6 | 3.1 | 2.4 | 9.1 | 6.9 | 15.1 | 11.5 | | | | | | |
| 32 | 11 | 23.0 | 11 | 24.9 | 10 | 51.9 | 3.2 | 2.4 | 9.2 | 7.0 | 15.2 | 11.5 | | | | | | |
| 33 | 11 | 23.2 | 11 | 25.1 | 10 | 52.1 | 3.3 | 2.5 | 9.3 | 7.1 | 15.3 | 11.6 | | | | | | |
| 34 | 11 | 23.5 | 11 | 25.4 | 10 | 52.4 | 3.4 | 2.6 | 9.4 | 7.1 | 15.4 | 11.7 | | | | | | |
| 35 | 11 | 23.8 | 11 | 25.6 | 10 | 52.6 | 3.5 | 2.7 | 9.5 | 7.2 | 15.5 | 11.8 | | | | | | |
| 36 | 11 | 24.0 | 11 | 25.9 | 10 | 52.8 | 3.6 | 2.7 | 9.6 | 7.3 | 15.6 | 11.8 | | | | | | |
| 37 | 11 | 24.3 | 11 | 26.1 | 10 | 53.1 | 3.7 | 2.8 | 9.7 | 7.4 | 15.7 | 11.9 | | | | | | |
| 38 | 11 | 24.5 | 11 | 26.4 | 10 | 53.3 | 3.8 | 2.9 | 9.8 | 7.4 | 15.8 | 12.0 | | | | | | |
| 39 | 11 | 24.7 | 11 | 26.6 | 10 | 53.6 | 3.9 | 3.0 | 9.9 | 7.5 | 15.9 | 12.1 | | | | | | |
| 40 | 11 | 25.0 | 11 | 26.9 | 10 | 53.8 | 4.0 | 3.0 | 10.0 | 7.6 | 16.0 | 12.1 | | | | | | |
| 41 | 11 | 25.2 | 11 | 27.1 | 10 | 54.0 | 4.1 | 3.1 | 10.1 | 7.7 | 16.1 | 12.2 | | | | | | |
| 42 | 11 | 25.5 | 11 | 27.4 | 10 | 54.3 | 4.2 | 3.2 | 10.2 | 7.7 | 16.2 | 12.3 | | | | | | |
| 43 | 11 | 25.8 | 11 | 27.6 | 10 | 54.5 | 4.3 | 3.3 | 10.3 | 7.8 | 16.3 | 12.4 | | | | | | |
| 44 | 11 | 26.0 | 11 | 27.9 | 10 | 54.7 | 4.4 | 3.3 | 10.4 | 7.9 | 16.4 | 12.4 | | | | | | |
| 45 | 11 | 26.3 | 11 | 28.1 | 10 | 55.0 | 4.5 | 3.4 | 10.5 | 8.0 | 16.5 | 12.5 | | | | | | |
| 46 | 11 | 26.5 | 11 | 28.4 | 10 | 55.2 | 4.6 | 3.5 | 10.6 | 8.0 | 16.6 | 12.6 | | | | | | |
| 47 | 11 | 26.7 | 11 | 28.6 | 10 | 55.5 | 4.7 | 3.6 | 10.7 | 8.1 | 16.7 | 12.7 | | | | | | |
| 48 | 11 | 27.0 | 11 | 28.9 | 10 | 55.7 | 4.8 | 3.6 | 10.8 | 8.2 | 16.8 | 12.7 | | | | | | |
| 49 | 11 | 27.3 | 11 | 29.1 | 10 | 55.9 | 4.9 | 3.7 | 10.9 | 8.3 | 16.9 | 12.8 | | | | | | |
| 50 | 11 | 27.5 | 11 | 29.4 | 10 | 56.2 | 5.0 | 3.8 | 11.0 | 8.3 | 17.0 | 12.9 | | | | | | |
| 51 | 11 | 27.8 | 11 | 29.6 | 10 | 56.4 | 5.1 | 3.9 | 11.1 | 8.4 | 17.1 | 13.0 | | | | | | |
| 52 | 11 | 28.0 | 11 | 29.9 | 10 | 56.7 | 5.2 | 3.9 | 11.2 | 8.5 | 17.2 | 13.0 | | | | | | |
| 53 | 11 | 28.2 | 11 | 30.1 | 10 | 56.9 | 5.3 | 4.0 | 11.3 | 8.6 | 17.3 | 13.1 | | | | | | |
| 54 | 11 | 28.5 | 11 | 30.4 | 10 | 57.1 | 5.4 | 4.1 | 11.4 | 8.6 | 17.4 | 13.2 | | | | | | |
| 55 | 11 | 28.7 | 11 | 30.6 | 10 | 57.4 | 5.5 | 4.2 | 11.5 | 8.7 | 17.5 | 13.3 | | | | | | |
| 56 | 11 | 29.0 | 11 | 30.9 | 10 | 57.6 | 5.6 | 4.2 | 11.6 | 8.8 | 17.6 | 13.3 | | | | | | |
| 57 | 11 | 29.3 | 11 | 31.1 | 10 | 57.9 | 5.7 | 4.3 | 11.7 | 8.9 | 17.7 | 13.4 | | | | | | |
| 58 | 11 | 29.5 | 11 | 31.4 | 10 | 58.1 | 5.8 | 4.4 | 11.8 | 8.9 | 17.8 | 13.5 | | | | | | |
| 59 | 11 | 29.8 | 11 | 31.6 | 10 | 58.3 | 5.9 | 4.5 | 11.9 | 9.0 | 17.9 | 13.6 | | | | | | |
| 60 | 11 | 30.0 | 11 | 31.9 | 10 | 58.6 | 6.0 | 4.6 | 12.0 | 9.1 | 18.0 | 13.6 | | | | | | |

| m 46 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 11 30.0 | 11 31.9 | 10 58.6 | 0.0 | 0.0 | 6.0 | 4.7 | 12.0 | 9.3 |
| 1 | 11 30.2 | 11 32.1 | 10 58.8 | 0.1 | 0.1 | 6.1 | 4.7 | 12.1 | 9.4 |
| 2 | 11 30.5 | 11 32.4 | 10 59.0 | 0.2 | 0.2 | 6.2 | 4.8 | 12.2 | 9.5 |
| 3 | 11 30.7 | 11 32.6 | 10 59.3 | 0.3 | 0.2 | 6.3 | 4.9 | 12.3 | 9.5 |
| 4 | 11 31.0 | 11 32.9 | 10 59.5 | 0.4 | 0.3 | 6.4 | 5.0 | 12.4 | 9.6 |
| 5 | 11 31.3 | 11 33.1 | 10 59.8 | 0.5 | 0.4 | 6.5 | 5.0 | 12.5 | 9.7 |
| 6 | 11 31.5 | 11 33.4 | 11 0.0 | 0.6 | 0.5 | 6.6 | 5.1 | 12.6 | 9.8 |
| 7 | 11 31.8 | 11 33.6 | 11 0.2 | 0.7 | 0.5 | 6.7 | 5.2 | 12.7 | 9.8 |
| 8 | 11 32.0 | 11 33.9 | 11 0.5 | 0.8 | 0.6 | 6.8 | 5.3 | 12.8 | 9.9 |
| 9 | 11 32.2 | 11 34.1 | 11 0.7 | 0.9 | 0.7 | 6.9 | 5.3 | 12.9 | 10.0 |
| 10 | 11 32.5 | 11 34.4 | 11 1.0 | 1.0 | 0.8 | 7.0 | 5.4 | 13.0 | 10.1 |
| 11 | 11 32.7 | 11 34.6 | 11 1.2 | 1.1 | 0.9 | 7.1 | 5.5 | 13.1 | 10.2 |
| 12 | 11 33.0 | 11 34.9 | 11 1.4 | 1.2 | 0.9 | 7.2 | 5.6 | 13.2 | 10.2 |
| 13 | 11 33.3 | 11 35.1 | 11 1.7 | 1.3 | 1.0 | 7.3 | 5.7 | 13.3 | 10.3 |
| 14 | 11 33.5 | 11 35.4 | 11 1.9 | 1.4 | 1.1 | 7.4 | 5.7 | 13.4 | 10.4 |
| 15 | 11 33.8 | 11 35.6 | 11 2.1 | 1.5 | 1.2 | 7.5 | 5.8 | 13.5 | 10.5 |
| 16 | 11 34.0 | 11 35.9 | 11 2.4 | 1.6 | 1.2 | 7.6 | 5.9 | 13.6 | 10.5 |
| 17 | 11 34.2 | 11 36.1 | 11 2.6 | 1.7 | 1.3 | 7.7 | 6.0 | 13.7 | 10.6 |
| 18 | 11 34.5 | 11 36.4 | 11 2.9 | 1.8 | 1.4 | 7.8 | 6.0 | 13.8 | 10.7 |
| 19 | 11 34.8 | 11 36.6 | 11 3.1 | 1.9 | 1.5 | 7.9 | 6.1 | 13.9 | 10.8 |
| 20 | 11 35.0 | 11 36.9 | 11 3.3 | 2.0 | 1.6 | 8.0 | 6.2 | 14.0 | 10.9 |
| 21 | 11 35.3 | 11 37.2 | 11 3.6 | 2.1 | 1.6 | 8.1 | 6.3 | 14.1 | 10.9 |
| 22 | 11 35.5 | 11 37.4 | 11 3.8 | 2.2 | 1.7 | 8.2 | 6.4 | 14.2 | 11.0 |
| 23 | 11 35.7 | 11 37.7 | 11 4.1 | 2.3 | 1.8 | 8.3 | 6.4 | 14.3 | 11.1 |
| 24 | 11 36.0 | 11 37.9 | 11 4.3 | 2.4 | 1.9 | 8.4 | 6.5 | 14.4 | 11.2 |
| 25 | 11 36.2 | 11 38.2 | 11 4.5 | 2.5 | 1.9 | 8.5 | 6.6 | 14.5 | 11.2 |
| 26 | 11 36.5 | 11 38.4 | 11 4.8 | 2.6 | 2.0 | 8.6 | 6.7 | 14.6 | 11.3 |
| 27 | 11 36.8 | 11 38.7 | 11 5.0 | 2.7 | 2.1 | 8.7 | 6.7 | 14.7 | 11.4 |
| 28 | 11 37.0 | 11 38.9 | 11 5.2 | 2.8 | 2.2 | 8.8 | 6.8 | 14.8 | 11.5 |
| 29 | 11 37.3 | 11 39.2 | 11 5.5 | 2.9 | 2.2 | 8.9 | 6.9 | 14.9 | 11.5 |
| 30 | 11 37.5 | 11 39.4 | 11 5.7 | 3.0 | 2.3 | 9.0 | 7.0 | 15.0 | 11.6 |
| 31 | 11 37.7 | 11 39.7 | 11 6.0 | 3.1 | 2.4 | 9.1 | 7.1 | 15.1 | 11.7 |
| 32 | 11 38.0 | 11 39.9 | 11 6.2 | 3.2 | 2.5 | 9.2 | 7.1 | 15.2 | 11.8 |
| 33 | 11 38.2 | 11 40.2 | 11 6.4 | 3.3 | 2.6 | 9.3 | 7.2 | 15.3 | 11.9 |
| 34 | 11 38.5 | 11 40.4 | 11 6.7 | 3.4 | 2.6 | 9.4 | 7.3 | 15.4 | 11.9 |
| 35 | 11 38.8 | 11 40.7 | 11 6.9 | 3.5 | 2.7 | 9.5 | 7.4 | 15.5 | 12.0 |
| 36 | 11 39.0 | 11 40.9 | 11 7.2 | 3.6 | 2.8 | 9.6 | 7.4 | 15.6 | 12.1 |
| 37 | 11 39.3 | 11 41.2 | 11 7.4 | 3.7 | 2.9 | 9.7 | 7.5 | 15.7 | 12.2 |
| 38 | 11 39.5 | 11 41.4 | 11 7.6 | 3.8 | 2.9 | 9.8 | 7.6 | 15.8 | 12.2 |
| 39 | 11 39.7 | 11 41.7 | 11 7.9 | 3.9 | 3.0 | 9.9 | 7.7 | 15.9 | 12.3 |
| 40 | 11 40.0 | 11 41.9 | 11 8.1 | 4.0 | 3.1 | 10.0 | 7.8 | 16.0 | 12.4 |
| 41 | 11 40.2 | 11 42.2 | 11 8.3 | 4.1 | 3.2 | 10.1 | 7.8 | 16.1 | 12.5 |
| 42 | 11 40.5 | 11 42.4 | 11 8.6 | 4.2 | 3.3 | 10.2 | 7.9 | 16.2 | 12.6 |
| 43 | 11 40.8 | 11 42.7 | 11 8.8 | 4.3 | 3.3 | 10.3 | 8.0 | 16.3 | 12.6 |
| 44 | 11 41.0 | 11 42.9 | 11 9.1 | 4.4 | 3.4 | 10.4 | 8.1 | 16.4 | 12.7 |
| 45 | 11 41.3 | 11 43.2 | 11 9.3 | 4.5 | 3.5 | 10.5 | 8.1 | 16.5 | 12.8 |
| 46 | 11 41.5 | 11 43.4 | 11 9.5 | 4.6 | 3.6 | 10.6 | 8.2 | 16.6 | 12.9 |
| 47 | 11 41.7 | 11 43.7 | 11 9.8 | 4.7 | 3.6 | 10.7 | 8.3 | 16.7 | 12.9 |
| 48 | 11 42.0 | 11 43.9 | 11 10.0 | 4.8 | 3.7 | 10.8 | 8.4 | 16.8 | 13.0 |
| 49 | 11 42.3 | 11 44.2 | 11 10.3 | 4.9 | 3.8 | 10.9 | 8.4 | 16.9 | 13.1 |
| 50 | 11 42.5 | 11 44.4 | 11 10.5 | 5.0 | 3.9 | 11.0 | 8.5 | 17.0 | 13.2 |
| 51 | 11 42.8 | 11 44.7 | 11 10.7 | 5.1 | 4.0 | 11.1 | 8.6 | 17.1 | 13.3 |
| 52 | 11 43.0 | 11 44.9 | 11 11.0 | 5.2 | 4.0 | 11.2 | 8.7 | 17.2 | 13.3 |
| 53 | 11 43.2 | 11 45.2 | 11 11.2 | 5.3 | 4.1 | 11.3 | 8.8 | 17.3 | 13.4 |
| 54 | 11 43.5 | 11 45.4 | 11 11.5 | 5.4 | 4.2 | 11.4 | 8.8 | 17.4 | 13.5 |
| 55 | 11 43.7 | 11 45.7 | 11 11.7 | 5.5 | 4.3 | 11.5 | 8.9 | 17.5 | 13.6 |
| 56 | 11 44.0 | 11 45.9 | 11 11.9 | 5.6 | 4.3 | 11.6 | 9.0 | 17.6 | 13.6 |
| 57 | 11 44.3 | 11 46.2 | 11 12.2 | 5.7 | 4.4 | 11.7 | 9.1 | 17.7 | 13.7 |
| 58 | 11 44.5 | 11 46.4 | 11 12.4 | 5.8 | 4.5 | 11.8 | 9.1 | 17.8 | 13.8 |
| 59 | 11 44.8 | 11 46.7 | 11 12.6 | 5.9 | 4.6 | 11.9 | 9.2 | 17.9 | 13.9 |
| 60 | 11 45.0 | 11 46.9 | 11 12.9 | 6.0 | 4.7 | 12.0 | 9.3 | 18.0 | 14.0 |

| m 47 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 11 45.0 | 11 46.9 | 11 12.9 | 0.0 | 0.0 | 6.0 | 4.8 | 12.0 | 9.5 |
| 1 | 11 45.2 | 11 47.2 | 11 13.1 | 0.1 | 0.1 | 6.1 | 4.8 | 12.1 | 9.6 |
| 2 | 11 45.5 | 11 47.4 | 11 13.4 | 0.2 | 0.2 | 6.2 | 4.9 | 12.2 | 9.7 |
| 3 | 11 45.7 | 11 47.7 | 11 13.6 | 0.3 | 0.2 | 6.3 | 5.0 | 12.3 | 9.7 |
| 4 | 11 46.0 | 11 47.9 | 11 13.8 | 0.4 | 0.3 | 6.4 | 5.1 | 12.4 | 9.8 |
| 5 | 11 46.3 | 11 48.2 | 11 14.1 | 0.5 | 0.4 | 6.5 | 5.1 | 12.5 | 9.9 |
| 6 | 11 46.5 | 11 48.4 | 11 14.3 | 0.6 | 0.5 | 6.6 | 5.2 | 12.6 | 10.0 |
| 7 | 11 46.8 | 11 48.7 | 11 14.6 | 0.7 | 0.6 | 6.7 | 5.3 | 12.7 | 10.1 |
| 8 | 11 47.0 | 11 48.9 | 11 14.8 | 0.8 | 0.6 | 6.8 | 5.4 | 12.8 | 10.1 |
| 9 | 11 47.2 | 11 49.2 | 11 15.0 | 0.9 | 0.7 | 6.9 | 5.5 | 12.9 | 10.2 |
| 10 | 11 47.5 | 11 49.4 | 11 15.3 | 1.0 | 0.8 | 7.0 | 5.5 | 13.0 | 10.3 |
| 11 | 11 47.7 | 11 49.7 | 11 15.5 | 1.1 | 0.9 | 7.1 | 5.6 | 13.1 | 10.4 |
| 12 | 11 48.0 | 11 49.9 | 11 15.7 | 1.2 | 1.0 | 7.2 | 5.7 | 13.2 | 10.5 |
| 13 | 11 48.3 | 11 50.2 | 11 16.0 | 1.3 | 1.0 | 7.3 | 5.8 | 13.3 | 10.5 |
| 14 | 11 48.5 | 11 50.4 | 11 16.2 | 1.4 | 1.1 | 7.4 | 5.9 | 13.4 | 10.6 |
| 15 | 11 48.8 | 11 50.7 | 11 16.5 | 1.5 | 1.2 | 7.5 | 5.9 | 13.5 | 10.7 |
| 16 | 11 49.0 | 11 50.9 | 11 16.7 | 1.6 | 1.3 | 7.6 | 6.0 | 13.6 | 10.8 |
| 17 | 11 49.2 | 11 51.2 | 11 16.9 | 1.7 | 1.3 | 7.7 | 6.1 | 13.7 | 10.8 |
| 18 | 11 49.5 | 11 51.4 | 11 17.2 | 1.8 | 1.4 | 7.8 | 6.2 | 13.8 | 10.9 |
| 19 | 11 49.8 | 11 51.7 | 11 17.4 | 1.9 | 1.5 | 7.9 | 6.3 | 13.9 | 11.0 |
| 20 | 11 50.0 | 11 51.9 | 11 17.7 | 2.0 | 1.6 | 8.0 | 6.3 | 14.0 | 11.1 |
| 21 | 11 50.3 | 11 52.2 | 11 17.9 | 2.1 | 1.7 | 8.1 | 6.4 | 14.1 | 11.2 |
| 22 | 11 50.5 | 11 52.4 | 11 18.1 | 2.2 | 1.7 | 8.2 | 6.5 | 14.2 | 11.2 |
| 23 | 11 50.7 | 11 52.7 | 11 18.4 | 2.3 | 1.8 | 8.3 | 6.6 | 14.3 | 11.3 |
| 24 | 11 51.0 | 11 52.9 | 11 18.6 | 2.4 | 1.9 | 8.4 | 6.7 | 14.4 | 11.4 |
| 25 | 11 51.2 | 11 53.2 | 11 18.8 | 2.5 | 2.0 | 8.5 | 6.7 | 14.5 | 11.5 |
| 26 | 11 51.5 | 11 53.4 | 11 19.1 | 2.6 | 2.1 | 8.6 | 6.8 | 14.6 | 11.6 |
| 27 | 11 51.8 | 11 53.7 | 11 19.3 | 2.7 | 2.1 | 8.7 | 6.9 | 14.7 | 11.6 |
| 28 | 11 52.0 | 11 53.9 | 11 19.6 | 2.8 | 2.2 | 8.8 | 7.0 | 14.8 | 11.7 |
| 29 | 11 52.3 | 11 54.2 | 11 19.8 | 2.9 | 2.3 | 8.9 | 7.0 | 14.9 | 11.8 |
| 30 | 11 52.5 | 11 54.4 | 11 20.0 | 3.0 | 2.4 | 9.0 | 7.1 | 15.0 | 11.9 |
| 31 | 11 52.7 | 11 54.7 | 11 20.3 | 3.1 | 2.5 | 9.1 | 7.2 | 15.1 | 12.0 |
| 32 | 11 53.0 | 11 54.9 | 11 20.5 | 3.2 | 2.5 | 9.2 | 7.3 | 15.2 | 12.0 |
| 33 | 11 53.2 | 11 55.2 | 11 20.8 | 3.3 | 2.6 | 9.3 | 7.4 | 15.3 | 12.1 |
| 34 | 11 53.5 | 11 55.5 | 11 21.0 | 3.4 | 2.7 | 9.4 | 7.4 | 15.4 | 12.2 |
| 35 | 11 53.8 | 11 55.7 | 11 21.2 | 3.5 | 2.8 | 9.5 | 7.5 | 15.5 | 12.3 |
| 36 | 11 54.0 | 11 56.0 | 11 21.5 | 3.6 | 2.9 | 9.6 | 7.6 | 15.6 | 12.4 |
| 37 | 11 54.3 | 11 56.2 | 11 21.7 | 3.7 | 2.9 | 9.7 | 7.7 | 15.7 | 12.4 |
| 38 | 11 54.5 | 11 56.5 | 11 22.0 | 3.8 | 3.0 | 9.8 | 7.8 | 15.8 | 12.5 |
| 39 | 11 54.7 | 11 56.7 | 11 22.2 | 3.9 | 3.1 | 9.9 | 7.8 | 15.9 | 12.6 |
| 40 | 11 55.0 | 11 57.0 | 11 22.4 | 4.0 | 3.2 | 10.0 | 7.9 | 16.0 | 12.7 |
| 41 | 11 55.2 | 11 57.2 | 11 22.7 | 4.1 | 3.2 | 10.1 | 8.0 | 16.1 | 12.7 |
| 42 | 11 55.5 | 11 57.5 | 11 22.9 | 4.2 | 3.3 | 10.2 | 8.1 | 16.2 | 12.8 |
| 43 | 11 55.8 | 11 57.7 | 11 23.1 | 4.3 | 3.4 | 10.3 | 8.2 | 16.3 | 12.9 |
| 44 | 11 56.0 | 11 58.0 | 11 23.4 | 4.4 | 3.5 | 10.4 | 8.2 | 16.4 | 13.0 |
| 45 | 11 56.3 | 11 58.2 | 11 23.6 | 4.5 | 3.6 | 10.5 | 8.3 | 16.5 | 13.1 |
| 46 | 11 56.5 | 11 58.5 | 11 23.9 | 4.6 | 3.6 | 10.6 | 8.4 | 16.6 | 13.1 |
| 47 | 11 56.7 | 11 58.7 | 11 24.1 | 4.7 | 3.7 | 10.7 | 8.5 | 16.7 | 13.2 |
| 48 | 11 57.0 | 11 59.0 | 11 24.3 | 4.8 | 3.8 | 10.8 | 8.6 | 16.8 | 13.3 |
| 49 | 11 57.3 | 11 59.2 | 11 24.6 | 4.9 | 3.9 | 10.9 | 8.6 | 16.9 | 13.4 |
| 50 | 11 57.5 | 11 59.5 | 11 24.8 | 5.0 | 4.0 | 11.0 | 8.7 | 17.0 | 13.5 |
| 51 | 11 57.8 | 11 59.7 | 11 25.1 | 5.1 | 4.0 | 11.1 | 8.8 | 17.1 | 13.5 |
| 52 | 11 58.0 | 12 0.0 | 11 25.3 | 5.2 | 4.1 | 11.2 | 8.9 | 17.2 | 13.6 |
| 53 | 11 58.2 | 12 0.2 | 11 25.5 | 5.3 | 4.2 | 11.3 | 8.9 | 17.3 | 13.7 |
| 54 | 11 58.5 | 12 0.5 | 11 25.8 | 5.4 | 4.3 | 11.4 | 9.0 | 17.4 | 13.8 |
| 55 | 11 58.7 | 12 0.7 | 11 26.0 | 5.5 | 4.4 | 11.5 | 9.1 | 17.5 | 13.9 |
| 56 | 11 59.0 | 12 1.0 | 11 26.2 | 5.6 | 4.4 | 11.6 | 9.2 | 17.6 | 13.9 |
| 57 | 11 59.3 | 12 1.2 | 11 26.5 | 5.7 | 4.5 | 11.7 | 9.3 | 17.7 | 14.0 |
| 58 | 11 59.5 | 12 1.5 | 11 26.7 | 5.8 | 4.6 | 11.8 | 9.3 | 17.8 | 14.1 |
| 59 | 11 59.8 | 12 1.7 | 11 27.0 | 5.9 | 4.7 | 11.9 | 9.4 | 17.9 | 14.2 |
| 60 | 12 0.0 | 12 2.0 | 11 27.2 | 6.0 | 4.8 | 12.0 | 9.5 | 18.0 | 14.3 |

| m 48 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 12 0.0 | 12 2.0 | 11 27.2 | 0.0 | 0.0 | 6.0 | 4.9 | 12.0 | 9.7 |
| 1 | 12 0.2 | 12 2.2 | 11 27.4 | 0.1 | 0.1 | 6.1 | 4.9 | 12.1 | 9.8 |
| 2 | 12 0.5 | 12 2.5 | 11 27.7 | 0.2 | 0.2 | 6.2 | 5.0 | 12.2 | 9.9 |
| 3 | 12 0.7 | 12 2.7 | 11 27.9 | 0.3 | 0.2 | 6.3 | 5.1 | 12.3 | 9.9 |
| 4 | 12 1.0 | 12 3.0 | 11 28.2 | 0.4 | 0.3 | 6.4 | 5.2 | 12.4 | 10.0 |
| 5 | 12 1.3 | 12 3.2 | 11 28.4 | 0.5 | 0.4 | 6.5 | 5.3 | 12.5 | 10.1 |
| 6 | 12 1.5 | 12 3.5 | 11 28.6 | 0.6 | 0.5 | 6.6 | 5.3 | 12.6 | 10.2 |
| 7 | 12 1.8 | 12 3.7 | 11 28.9 | 0.7 | 0.6 | 6.7 | 5.4 | 12.7 | 10.3 |
| 8 | 12 2.0 | 12 4.0 | 11 29.1 | 0.8 | 0.6 | 6.8 | 5.5 | 12.8 | 10.3 |
| 9 | 12 2.2 | 12 4.2 | 11 29.3 | 0.9 | 0.7 | 6.9 | 5.6 | 12.9 | 10.4 |
| 10 | 12 2.5 | 12 4.5 | 11 29.6 | 1.0 | 0.8 | 7.0 | 5.7 | 13.0 | 10.5 |
| 11 | 12 2.7 | 12 4.7 | 11 29.8 | 1.1 | 0.9 | 7.1 | 5.7 | 13.1 | 10.6 |
| 12 | 12 3.0 | 12 5.0 | 11 30.1 | 1.2 | 1.0 | 7.2 | 5.8 | 13.2 | 10.7 |
| 13 | 12 3.3 | 12 5.2 | 11 30.3 | 1.3 | 1.1 | 7.3 | 5.9 | 13.3 | 10.8 |
| 14 | 12 3.5 | 12 5.5 | 11 30.5 | 1.4 | 1.1 | 7.4 | 6.0 | 13.4 | 10.8 |
| 15 | 12 3.8 | 12 5.7 | 11 30.8 | 1.5 | 1.2 | 7.5 | 6.1 | 13.5 | 10.9 |
| 16 | 12 4.0 | 12 6.0 | 11 31.0 | 1.6 | 1.3 | 7.6 | 6.1 | 13.6 | 11.0 |
| 17 | 12 4.2 | 12 6.2 | 11 31.3 | 1.7 | 1.4 | 7.7 | 6.2 | 13.7 | 11.1 |
| 18 | 12 4.5 | 12 6.5 | 11 31.5 | 1.8 | 1.5 | 7.8 | 6.3 | 13.8 | 11.2 |
| 19 | 12 4.8 | 12 6.7 | 11 31.7 | 1.9 | 1.5 | 7.9 | 6.4 | 13.9 | 11.2 |
| 20 | 12 5.0 | 12 7.0 | 11 32.0 | 2.0 | 1.6 | 8.0 | 6.5 | 14.0 | 11.3 |
| 21 | 12 5.3 | 12 7.2 | 11 32.2 | 2.1 | 1.7 | 8.1 | 6.5 | 14.1 | 11.4 |
| 22 | 12 5.5 | 12 7.5 | 11 32.4 | 2.2 | 1.8 | 8.2 | 6.6 | 14.2 | 11.5 |
| 23 | 12 5.7 | 12 7.7 | 11 32.7 | 2.3 | 1.9 | 8.3 | 6.7 | 14.3 | 11.6 |
| 24 | 12 6.0 | 12 8.0 | 11 32.9 | 2.4 | 1.9 | 8.4 | 6.8 | 14.4 | 11.6 |
| 25 | 12 6.2 | 12 8.2 | 11 33.2 | 2.5 | 2.0 | 8.5 | 6.9 | 14.5 | 11.7 |
| 26 | 12 6.5 | 12 8.5 | 11 33.4 | 2.6 | 2.1 | 8.6 | 7.0 | 14.6 | 11.8 |
| 27 | 12 6.8 | 12 8.7 | 11 33.6 | 2.7 | 2.2 | 8.7 | 7.0 | 14.7 | 11.9 |
| 28 | 12 7.0 | 12 9.0 | 11 33.9 | 2.8 | 2.3 | 8.8 | 7.1 | 14.8 | 12.0 |
| 29 | 12 7.3 | 12 9.2 | 11 34.1 | 2.9 | 2.3 | 8.9 | 7.2 | 14.9 | 12.0 |
| 30 | 12 7.5 | 12 9.5 | 11 34.4 | 3.0 | 2.4 | 9.0 | 7.3 | 15.0 | 12.1 |
| 31 | 12 7.7 | 12 9.7 | 11 34.6 | 3.1 | 2.5 | 9.1 | 7.4 | 15.1 | 12.2 |
| 32 | 12 8.0 | 12 10.0 | 11 34.8 | 3.2 | 2.6 | 9.2 | 7.4 | 15.2 | 12.3 |
| 33 | 12 8.2 | 12 10.2 | 11 35.1 | 3.3 | 2.7 | 9.3 | 7.5 | 15.3 | 12.4 |
| 34 | 12 8.5 | 12 10.5 | 11 35.3 | 3.4 | 2.7 | 9.4 | 7.6 | 15.4 | 12.4 |
| 35 | 12 8.8 | 12 10.7 | 11 35.6 | 3.5 | 2.8 | 9.5 | 7.7 | 15.5 | 12.5 |
| 36 | 12 9.0 | 12 11.0 | 11 35.8 | 3.6 | 2.9 | 9.6 | 7.8 | 15.6 | 12.6 |
| 37 | 12 9.3 | 12 11.2 | 11 36.0 | 3.7 | 3.0 | 9.7 | 7.8 | 15.7 | 12.7 |
| 38 | 12 9.5 | 12 11.5 | 11 36.3 | 3.8 | 3.1 | 9.8 | 7.9 | 15.8 | 12.8 |
| 39 | 12 9.7 | 12 11.7 | 11 36.5 | 3.9 | 3.2 | 9.9 | 8.0 | 15.9 | 12.9 |
| 40 | 12 10.0 | 12 12.0 | 11 36.7 | 4.0 | 3.2 | 10.0 | 8.1 | 16.0 | 12.9 |
| 41 | 12 10.2 | 12 12.2 | 11 37.0 | 4.1 | 3.3 | 10.1 | 8.2 | 16.1 | 13.0 |
| 42 | 12 10.5 | 12 12.5 | 11 37.2 | 4.2 | 3.4 | 10.2 | 8.2 | 16.2 | 13.1 |
| 43 | 12 10.8 | 12 12.7 | 11 37.5 | 4.3 | 3.5 | 10.3 | 8.3 | 16.3 | 13.2 |
| 44 | 12 11.0 | 12 13.0 | 11 37.7 | 4.4 | 3.6 | 10.4 | 8.4 | 16.4 | 13.3 |
| 45 | 12 11.3 | 12 13.2 | 11 37.9 | 4.5 | 3.6 | 10.5 | 8.5 | 16.5 | 13.3 |
| 46 | 12 11.5 | 12 13.5 | 11 38.2 | 4.6 | 3.7 | 10.6 | 8.6 | 16.6 | 13.4 |
| 47 | 12 11.7 | 12 13.8 | 11 38.4 | 4.7 | 3.8 | 10.7 | 8.6 | 16.7 | 13.5 |
| 48 | 12 12.0 | 12 14.0 | 11 38.7 | 4.8 | 3.9 | 10.8 | 8.7 | 16.8 | 13.6 |
| 49 | 12 12.3 | 12 14.3 | 11 38.9 | 4.9 | 4.0 | 10.9 | 8.8 | 16.9 | 13.7 |
| 50 | 12 12.5 | 12 14.5 | 11 39.1 | 5.0 | 4.0 | 11.0 | 8.9 | 17.0 | 13.7 |
| 51 | 12 12.8 | 12 14.8 | 11 39.4 | 5.1 | 4.1 | 11.1 | 9.0 | 17.1 | 13.8 |
| 52 | 12 13.0 | 12 15.0 | 11 39.6 | 5.2 | 4.2 | 11.2 | 9.1 | 17.2 | 13.9 |
| 53 | 12 13.2 | 12 15.3 | 11 39.8 | 5.3 | 4.3 | 11.3 | 9.1 | 17.3 | 14.0 |
| 54 | 12 13.5 | 12 15.5 | 11 40.1 | 5.4 | 4.4 | 11.4 | 9.2 | 17.4 | 14.1 |
| 55 | 12 13.7 | 12 15.8 | 11 40.3 | 5.5 | 4.4 | 11.5 | 9.3 | 17.5 | 14.1 |
| 56 | 12 14.0 | 12 16.0 | 11 40.6 | 5.6 | 4.5 | 11.6 | 9.4 | 17.6 | 14.2 |
| 57 | 12 14.3 | 12 16.3 | 11 40.8 | 5.7 | 4.6 | 11.7 | 9.5 | 17.7 | 14.3 |
| 58 | 12 14.5 | 12 16.5 | 11 41.0 | 5.8 | 4.7 | 11.8 | 9.5 | 17.8 | 14.4 |
| 59 | 12 14.8 | 12 16.8 | 11 41.3 | 5.9 | 4.8 | 11.9 | 9.6 | 17.9 | 14.5 |
| 60 | 12 15.0 | 12 17.0 | 11 41.5 | 6.0 | 4.9 | 12.0 | 9.7 | 18.0 | 14.6 |

| m 49 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 12 15.0 | 12 17.0 | 11 41.5 | 0.0 | 0.0 | 6.0 | 4.9 | 12.0 | 9.9 |
| 1 | 12 15.2 | 12 17.3 | 11 41.8 | 0.1 | 0.1 | 6.1 | 5.0 | 12.1 | 10.0 |
| 2 | 12 15.5 | 12 17.5 | 11 42.0 | 0.2 | 0.2 | 6.2 | 5.1 | 12.2 | 10.1 |
| 3 | 12 15.7 | 12 17.8 | 11 42.2 | 0.3 | 0.2 | 6.3 | 5.2 | 12.3 | 10.1 |
| 4 | 12 16.0 | 12 18.0 | 11 42.5 | 0.4 | 0.3 | 6.4 | 5.3 | 12.4 | 10.2 |
| 5 | 12 16.3 | 12 18.3 | 11 42.7 | 0.5 | 0.4 | 6.5 | 5.4 | 12.5 | 10.3 |
| 6 | 12 16.5 | 12 18.5 | 11 42.9 | 0.6 | 0.5 | 6.6 | 5.4 | 12.6 | 10.4 |
| 7 | 12 16.8 | 12 18.8 | 11 43.2 | 0.7 | 0.6 | 6.7 | 5.5 | 12.7 | 10.5 |
| 8 | 12 17.0 | 12 19.0 | 11 43.4 | 0.8 | 0.7 | 6.8 | 5.6 | 12.8 | 10.6 |
| 9 | 12 17.2 | 12 19.3 | 11 43.7 | 0.9 | 0.7 | 6.9 | 5.7 | 12.9 | 10.6 |
| 10 | 12 17.5 | 12 19.5 | 11 43.9 | 1.0 | 0.8 | 7.0 | 5.8 | 13.0 | 10.7 |
| 11 | 12 17.7 | 12 19.8 | 11 44.1 | 1.1 | 0.9 | 7.1 | 5.9 | 13.1 | 10.8 |
| 12 | 12 18.0 | 12 20.0 | 11 44.4 | 1.2 | 1.0 | 7.2 | 5.9 | 13.2 | 10.9 |
| 13 | 12 18.3 | 12 20.3 | 11 44.6 | 1.3 | 1.1 | 7.3 | 6.0 | 13.3 | 11.0 |
| 14 | 12 18.5 | 12 20.5 | 11 44.9 | 1.4 | 1.2 | 7.4 | 6.1 | 13.4 | 11.1 |
| 15 | 12 18.8 | 12 20.8 | 11 45.1 | 1.5 | 1.2 | 7.5 | 6.2 | 13.5 | 11.1 |
| 16 | 12 19.0 | 12 21.0 | 11 45.3 | 1.6 | 1.3 | 7.6 | 6.3 | 13.6 | 11.2 |
| 17 | 12 19.2 | 12 21.3 | 11 45.6 | 1.7 | 1.4 | 7.7 | 6.4 | 13.7 | 11.3 |
| 18 | 12 19.5 | 12 21.5 | 11 45.8 | 1.8 | 1.5 | 7.8 | 6.4 | 13.8 | 11.4 |
| 19 | 12 19.8 | 12 21.8 | 11 46.1 | 1.9 | 1.6 | 7.9 | 6.5 | 13.9 | 11.5 |
| 20 | 12 20.0 | 12 22.0 | 11 46.3 | 2.0 | 1.7 | 8.0 | 6.6 | 14.0 | 11.5 |
| 21 | 12 20.3 | 12 22.3 | 11 46.5 | 2.1 | 1.7 | 8.1 | 6.7 | 14.1 | 11.6 |
| 22 | 12 20.5 | 12 22.5 | 11 46.8 | 2.2 | 1.8 | 8.2 | 6.8 | 14.2 | 11.7 |
| 23 | 12 20.7 | 12 22.8 | 11 47.0 | 2.3 | 1.9 | 8.3 | 6.8 | 14.3 | 11.8 |
| 24 | 12 21.0 | 12 23.0 | 11 47.2 | 2.4 | 2.0 | 8.4 | 6.9 | 14.4 | 11.9 |
| 25 | 12 21.2 | 12 23.3 | 11 47.5 | 2.5 | 2.1 | 8.5 | 7.0 | 14.5 | 12.0 |
| 26 | 12 21.5 | 12 23.5 | 11 47.7 | 2.6 | 2.1 | 8.6 | 7.1 | 14.6 | 12.0 |
| 27 | 12 21.8 | 12 23.8 | 11 48.0 | 2.7 | 2.2 | 8.7 | 7.2 | 14.7 | 12.1 |
| 28 | 12 22.0 | 12 24.0 | 11 48.2 | 2.8 | 2.3 | 8.8 | 7.3 | 14.8 | 12.2 |
| 29 | 12 22.3 | 12 24.3 | 11 48.4 | 2.9 | 2.4 | 8.9 | 7.3 | 14.9 | 12.3 |
| 30 | 12 22.5 | 12 24.5 | 11 48.7 | 3.0 | 2.5 | 9.0 | 7.4 | 15.0 | 12.4 |
| 31 | 12 22.7 | 12 24.8 | 11 48.9 | 3.1 | 2.6 | 9.1 | 7.5 | 15.1 | 12.5 |
| 32 | 12 23.0 | 12 25.0 | 11 49.2 | 3.2 | 2.6 | 9.2 | 7.6 | 15.2 | 12.5 |
| 33 | 12 23.2 | 12 25.3 | 11 49.4 | 3.3 | 2.7 | 9.3 | 7.7 | 15.3 | 12.6 |
| 34 | 12 23.5 | 12 25.5 | 11 49.6 | 3.4 | 2.8 | 9.4 | 7.8 | 15.4 | 12.7 |
| 35 | 12 23.8 | 12 25.8 | 11 49.9 | 3.5 | 2.9 | 9.5 | 7.8 | 15.5 | 12.8 |
| 36 | 12 24.0 | 12 26.0 | 11 50.1 | 3.6 | 3.0 | 9.6 | 7.9 | 15.6 | 12.9 |
| 37 | 12 24.3 | 12 26.3 | 11 50.3 | 3.7 | 3.1 | 9.7 | 8.0 | 15.7 | 13.0 |
| 38 | 12 24.5 | 12 26.5 | 11 50.6 | 3.8 | 3.1 | 9.8 | 8.1 | 15.8 | 13.0 |
| 39 | 12 24.7 | 12 26.8 | 11 50.8 | 3.9 | 3.2 | 9.9 | 8.2 | 15.9 | 13.1 |
| 40 | 12 25.0 | 12 27.0 | 11 51.1 | 4.0 | 3.3 | 10.0 | 8.3 | 16.0 | 13.2 |
| 41 | 12 25.2 | 12 27.3 | 11 51.3 | 4.1 | 3.4 | 10.1 | 8.3 | 16.1 | 13.3 |
| 42 | 12 25.5 | 12 27.5 | 11 51.5 | 4.2 | 3.5 | 10.2 | 8.4 | 16.2 | 13.4 |
| 43 | 12 25.8 | 12 27.8 | 11 51.8 | 4.3 | 3.5 | 10.3 | 8.5 | 16.3 | 13.4 |
| 44 | 12 26.0 | 12 28.0 | 11 52.0 | 4.4 | 3.6 | 10.4 | 8.6 | 16.4 | 13.5 |
| 45 | 12 26.3 | 12 28.3 | 11 52.3 | 4.5 | 3.7 | 10.5 | 8.7 | 16.5 | 13.6 |
| 46 | 12 26.5 | 12 28.5 | 11 52.5 | 4.6 | 3.8 | 10.6 | 8.7 | 16.6 | 13.7 |
| 47 | 12 26.7 | 12 28.8 | 11 52.7 | 4.7 | 3.9 | 10.7 | 8.8 | 16.7 | 13.8 |
| 48 | 12 27.0 | 12 29.0 | 11 53.0 | 4.8 | 4.0 | 10.8 | 8.9 | 16.8 | 13.9 |
| 49 | 12 27.3 | 12 29.3 | 11 53.2 | 4.9 | 4.0 | 10.9 | 9.0 | 16.9 | 13.9 |
| 50 | 12 27.5 | 12 29.5 | 11 53.4 | 5.0 | 4.1 | 11.0 | 9.1 | 17.0 | 14.0 |
| 51 | 12 27.8 | 12 29.8 | 11 53.7 | 5.1 | 4.2 | 11.1 | 9.2 | 17.1 | 14.1 |
| 52 | 12 28.0 | 12 30.0 | 11 53.9 | 5.2 | 4.3 | 11.2 | 9.2 | 17.2 | 14.2 |
| 53 | 12 28.2 | 12 30.3 | 11 54.2 | 5.3 | 4.4 | 11.3 | 9.3 | 17.3 | 14.3 |
| 54 | 12 28.5 | 12 30.5 | 11 54.4 | 5.4 | 4.5 | 11.4 | 9.4 | 17.4 | 14.4 |
| 55 | 12 28.7 | 12 30.8 | 11 54.6 | 5.5 | 4.5 | 11.5 | 9.5 | 17.5 | 14.4 |
| 56 | 12 29.0 | 12 31.0 | 11 54.9 | 5.6 | 4.6 | 11.6 | 9.6 | 17.6 | 14.5 |
| 57 | 12 29.3 | 12 31.3 | 11 55.1 | 5.7 | 4.7 | 11.7 | 9.7 | 17.7 | 14.6 |
| 58 | 12 29.5 | 12 31.5 | 11 55.4 | 5.8 | 4.8 | 11.8 | 9.7 | 17.8 | 14.7 |
| 59 | 12 29.8 | 12 31.8 | 11 55.6 | 5.9 | 4.9 | 11.9 | 9.8 | 17.9 | 14.8 |
| 60 | 12 30.0 | 12 32.1 | 11 55.8 | 6.0 | 4.9 | 12.0 | 9.9 | 18.0 | 14.9 |

| m 50 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 12 30.0 | 12 32.1 | 11 55.8 | 0.0 | 0.0 | 6.0 | 5.1 | 12.0 | 10.1 |
| 1 | 12 30.2 | 12 32.3 | 11 56.1 | 0.1 | 0.1 | 6.1 | 5.1 | 12.1 | 10.2 |
| 2 | 12 30.5 | 12 32.6 | 11 56.3 | 0.2 | 0.2 | 6.2 | 5.2 | 12.2 | 10.3 |
| 3 | 12 30.7 | 12 32.8 | 11 56.5 | 0.3 | 0.3 | 6.3 | 5.3 | 12.3 | 10.4 |
| 4 | 12 31.0 | 12 33.1 | 11 56.8 | 0.4 | 0.3 | 6.4 | 5.4 | 12.4 | 10.4 |
| 5 | 12 31.3 | 12 33.3 | 11 57.0 | 0.5 | 0.4 | 6.5 | 5.5 | 12.5 | 10.5 |
| 6 | 12 31.5 | 12 33.6 | 11 57.3 | 0.6 | 0.5 | 6.6 | 5.6 | 12.6 | 10.6 |
| 7 | 12 31.8 | 12 33.8 | 11 57.5 | 0.7 | 0.6 | 6.7 | 5.6 | 12.7 | 10.7 |
| 8 | 12 32.0 | 12 34.1 | 11 57.7 | 0.8 | 0.7 | 6.8 | 5.7 | 12.8 | 10.8 |
| 9 | 12 32.2 | 12 34.3 | 11 58.0 | 0.9 | 0.8 | 6.9 | 5.8 | 12.9 | 10.9 |
| 10 | 12 32.5 | 12 34.6 | 11 58.2 | 1.0 | 0.8 | 7.0 | 5.9 | 13.0 | 10.9 |
| 11 | 12 32.7 | 12 34.8 | 11 58.5 | 1.1 | 0.9 | 7.1 | 6.0 | 13.1 | 11.0 |
| 12 | 12 33.0 | 12 35.1 | 11 58.7 | 1.2 | 1.0 | 7.2 | 6.1 | 13.2 | 11.1 |
| 13 | 12 33.3 | 12 35.3 | 11 58.9 | 1.3 | 1.1 | 7.3 | 6.1 | 13.3 | 11.2 |
| 14 | 12 33.5 | 12 35.6 | 11 59.2 | 1.4 | 1.2 | 7.4 | 6.2 | 13.4 | 11.3 |
| 15 | 12 33.8 | 12 35.8 | 11 59.4 | 1.5 | 1.3 | 7.5 | 6.3 | 13.5 | 11.4 |
| 16 | 12 34.0 | 12 36.1 | 11 59.7 | 1.6 | 1.3 | 7.6 | 6.4 | 13.6 | 11.4 |
| 17 | 12 34.2 | 12 36.3 | 11 59.9 | 1.7 | 1.4 | 7.7 | 6.5 | 13.7 | 11.5 |
| 18 | 12 34.5 | 12 36.6 | 12 0.1 | 1.8 | 1.5 | 7.8 | 6.6 | 13.8 | 11.6 |
| 19 | 12 34.8 | 12 36.8 | 12 0.4 | 1.9 | 1.6 | 7.9 | 6.6 | 13.9 | 11.7 |
| 20 | 12 35.0 | 12 37.1 | 12 0.6 | 2.0 | 1.7 | 8.0 | 6.7 | 14.0 | 11.8 |
| 21 | 12 35.3 | 12 37.3 | 12 0.8 | 2.1 | 1.8 | 8.1 | 6.8 | 14.1 | 11.9 |
| 22 | 12 35.5 | 12 37.6 | 12 1.1 | 2.2 | 1.9 | 8.2 | 6.9 | 14.2 | 12.0 |
| 23 | 12 35.7 | 12 37.8 | 12 1.3 | 2.3 | 1.9 | 8.3 | 7.0 | 14.3 | 12.0 |
| 24 | 12 36.0 | 12 38.1 | 12 1.6 | 2.4 | 2.0 | 8.4 | 7.1 | 14.4 | 12.1 |
| 25 | 12 36.2 | 12 38.3 | 12 1.8 | 2.5 | 2.1 | 8.5 | 7.2 | 14.5 | 12.2 |
| 26 | 12 36.5 | 12 38.6 | 12 2.0 | 2.6 | 2.2 | 8.6 | 7.2 | 14.6 | 12.3 |
| 27 | 12 36.8 | 12 38.8 | 12 2.3 | 2.7 | 2.3 | 8.7 | 7.3 | 14.7 | 12.4 |
| 28 | 12 37.0 | 12 39.1 | 12 2.5 | 2.8 | 2.4 | 8.8 | 7.4 | 14.8 | 12.5 |
| 29 | 12 37.3 | 12 39.3 | 12 2.8 | 2.9 | 2.4 | 8.9 | 7.5 | 14.9 | 12.5 |
| 30 | 12 37.5 | 12 39.6 | 12 3.0 | 3.0 | 2.5 | 9.0 | 7.6 | 15.0 | 12.6 |
| 31 | 12 37.7 | 12 39.8 | 12 3.2 | 3.1 | 2.6 | 9.1 | 7.7 | 15.1 | 12.7 |
| 32 | 12 38.0 | 12 40.1 | 12 3.5 | 3.2 | 2.7 | 9.2 | 7.7 | 15.2 | 12.8 |
| 33 | 12 38.2 | 12 40.3 | 12 3.7 | 3.3 | 2.8 | 9.3 | 7.8 | 15.3 | 12.9 |
| 34 | 12 38.5 | 12 40.6 | 12 3.9 | 3.4 | 2.9 | 9.4 | 7.9 | 15.4 | 13.0 |
| 35 | 12 38.8 | 12 40.8 | 12 4.2 | 3.5 | 2.9 | 9.5 | 8.0 | 15.5 | 13.0 |
| 36 | 12 39.0 | 12 41.1 | 12 4.4 | 3.6 | 3.0 | 9.6 | 8.1 | 15.6 | 13.1 |
| 37 | 12 39.3 | 12 41.3 | 12 4.7 | 3.7 | 3.1 | 9.7 | 8.2 | 15.7 | 13.2 |
| 38 | 12 39.5 | 12 41.6 | 12 4.9 | 3.8 | 3.2 | 9.8 | 8.2 | 15.8 | 13.3 |
| 39 | 12 39.7 | 12 41.8 | 12 5.1 | 3.9 | 3.3 | 9.9 | 8.3 | 15.9 | 13.4 |
| 40 | 12 40.0 | 12 42.1 | 12 5.4 | 4.0 | 3.4 | 10.0 | 8.4 | 16.0 | 13.5 |
| 41 | 12 40.2 | 12 42.3 | 12 5.6 | 4.1 | 3.5 | 10.1 | 8.5 | 16.1 | 13.6 |
| 42 | 12 40.5 | 12 42.6 | 12 5.9 | 4.2 | 3.5 | 10.2 | 8.6 | 16.2 | 13.6 |
| 43 | 12 40.8 | 12 42.8 | 12 6.1 | 4.3 | 3.6 | 10.3 | 8.7 | 16.3 | 13.7 |
| 44 | 12 41.0 | 12 43.1 | 12 6.3 | 4.4 | 3.7 | 10.4 | 8.8 | 16.4 | 13.8 |
| 45 | 12 41.3 | 12 43.3 | 12 6.6 | 4.5 | 3.8 | 10.5 | 8.8 | 16.5 | 13.9 |
| 46 | 12 41.5 | 12 43.6 | 12 6.8 | 4.6 | 3.9 | 10.6 | 8.9 | 16.6 | 14.0 |
| 47 | 12 41.7 | 12 43.8 | 12 7.0 | 4.7 | 4.0 | 10.7 | 9.0 | 16.7 | 14.1 |
| 48 | 12 42.0 | 12 44.1 | 12 7.3 | 4.8 | 4.0 | 10.8 | 9.1 | 16.8 | 14.1 |
| 49 | 12 42.3 | 12 44.3 | 12 7.5 | 4.9 | 4.1 | 10.9 | 9.2 | 16.9 | 14.2 |
| 50 | 12 42.5 | 12 44.6 | 12 7.8 | 5.0 | 4.2 | 11.0 | 9.3 | 17.0 | 14.3 |
| 51 | 12 42.8 | 12 44.8 | 12 8.0 | 5.1 | 4.3 | 11.1 | 9.3 | 17.1 | 14.4 |
| 52 | 12 43.0 | 12 45.1 | 12 8.2 | 5.2 | 4.4 | 11.2 | 9.4 | 17.2 | 14.5 |
| 53 | 12 43.2 | 12 45.3 | 12 8.5 | 5.3 | 4.5 | 11.3 | 9.5 | 17.3 | 14.6 |
| 54 | 12 43.5 | 12 45.6 | 12 8.7 | 5.4 | 4.5 | 11.4 | 9.6 | 17.4 | 14.6 |
| 55 | 12 43.7 | 12 45.8 | 12 9.0 | 5.5 | 4.6 | 11.5 | 9.7 | 17.5 | 14.7 |
| 56 | 12 44.0 | 12 46.1 | 12 9.2 | 5.6 | 4.7 | 11.6 | 9.8 | 17.6 | 14.8 |
| 57 | 12 44.3 | 12 46.3 | 12 9.4 | 5.7 | 4.8 | 11.7 | 9.8 | 17.7 | 14.9 |
| 58 | 12 44.5 | 12 46.6 | 12 9.7 | 5.8 | 4.9 | 11.8 | 9.9 | 17.8 | 15.0 |
| 59 | 12 44.8 | 12 46.8 | 12 9.9 | 5.9 | 5.0 | 11.9 | 10.0 | 17.9 | 15.1 |
| 60 | 12 45.0 | 12 47.1 | 12 10.1 | 6.0 | 5.1 | 12.0 | 10.1 | 18.0 | 15.2 |

| m 51 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 12 45.0 | 12 47.1 | 12 10.1 | 0.0 | 0.0 | 6.0 | 5.1 | 12.0 | 10.3 |
| 1 | 12 45.2 | 12 47.3 | 12 10.4 | 0.1 | 0.1 | 6.1 | 5.2 | 12.1 | 10.4 |
| 2 | 12 45.5 | 12 47.6 | 12 10.6 | 0.2 | 0.2 | 6.2 | 5.3 | 12.2 | 10.5 |
| 3 | 12 45.7 | 12 47.8 | 12 10.9 | 0.3 | 0.3 | 6.3 | 5.4 | 12.3 | 10.6 |
| 4 | 12 46.0 | 12 48.1 | 12 11.1 | 0.4 | 0.3 | 6.4 | 5.5 | 12.4 | 10.6 |
| 5 | 12 46.3 | 12 48.3 | 12 11.3 | 0.5 | 0.4 | 6.5 | 5.6 | 12.5 | 10.7 |
| 6 | 12 46.5 | 12 48.6 | 12 11.6 | 0.6 | 0.5 | 6.6 | 5.7 | 12.6 | 10.8 |
| 7 | 12 46.8 | 12 48.8 | 12 11.8 | 0.7 | 0.6 | 6.7 | 5.8 | 12.7 | 10.9 |
| 8 | 12 47.0 | 12 49.1 | 12 12.1 | 0.8 | 0.7 | 6.8 | 5.8 | 12.8 | 11.0 |
| 9 | 12 47.2 | 12 49.3 | 12 12.3 | 0.9 | 0.8 | 6.9 | 5.9 | 12.9 | 11.1 |
| 10 | 12 47.5 | 12 49.6 | 12 12.5 | 1.0 | 0.9 | 7.0 | 6.0 | 13.0 | 11.2 |
| 11 | 12 47.7 | 12 49.8 | 12 12.8 | 1.1 | 0.9 | 7.1 | 6.1 | 13.1 | 11.2 |
| 12 | 12 48.0 | 12 50.1 | 12 13.0 | 1.2 | 1.0 | 7.2 | 6.2 | 13.2 | 11.3 |
| 13 | 12 48.3 | 12 50.3 | 12 13.3 | 1.3 | 1.1 | 7.3 | 6.3 | 13.3 | 11.4 |
| 14 | 12 48.5 | 12 50.6 | 12 13.5 | 1.4 | 1.2 | 7.4 | 6.4 | 13.4 | 11.5 |
| 15 | 12 48.8 | 12 50.9 | 12 13.7 | 1.5 | 1.3 | 7.5 | 6.4 | 13.5 | 11.6 |
| 16 | 12 49.0 | 12 51.1 | 12 14.0 | 1.6 | 1.4 | 7.6 | 6.5 | 13.6 | 11.7 |
| 17 | 12 49.2 | 12 51.4 | 12 14.2 | 1.7 | 1.5 | 7.7 | 6.6 | 13.7 | 11.8 |
| 18 | 12 49.5 | 12 51.6 | 12 14.4 | 1.8 | 1.5 | 7.8 | 6.7 | 13.8 | 11.8 |
| 19 | 12 49.8 | 12 51.9 | 12 14.7 | 1.9 | 1.6 | 7.9 | 6.8 | 13.9 | 11.9 |
| 20 | 12 50.0 | 12 52.1 | 12 14.9 | 2.0 | 1.7 | 8.0 | 6.9 | 14.0 | 12.0 |
| 21 | 12 50.3 | 12 52.4 | 12 15.2 | 2.1 | 1.8 | 8.1 | 7.0 | 14.1 | 12.1 |
| 22 | 12 50.5 | 12 52.6 | 12 15.4 | 2.2 | 1.9 | 8.2 | 7.0 | 14.2 | 12.2 |
| 23 | 12 50.7 | 12 52.9 | 12 15.6 | 2.3 | 2.0 | 8.3 | 7.1 | 14.3 | 12.3 |
| 24 | 12 51.0 | 12 53.1 | 12 15.9 | 2.4 | 2.1 | 8.4 | 7.2 | 14.4 | 12.4 |
| 25 | 12 51.2 | 12 53.4 | 12 16.1 | 2.5 | 2.1 | 8.5 | 7.3 | 14.5 | 12.4 |
| 26 | 12 51.5 | 12 53.6 | 12 16.4 | 2.6 | 2.2 | 8.6 | 7.4 | 14.6 | 12.5 |
| 27 | 12 51.8 | 12 53.9 | 12 16.6 | 2.7 | 2.3 | 8.7 | 7.5 | 14.7 | 12.6 |
| 28 | 12 52.0 | 12 54.1 | 12 16.8 | 2.8 | 2.4 | 8.8 | 7.6 | 14.8 | 12.7 |
| 29 | 12 52.3 | 12 54.4 | 12 17.1 | 2.9 | 2.5 | 8.9 | 7.6 | 14.9 | 12.8 |
| 30 | 12 52.5 | 12 54.6 | 12 17.3 | 3.0 | 2.6 | 9.0 | 7.7 | 15.0 | 12.9 |
| 31 | 12 52.7 | 12 54.9 | 12 17.5 | 3.1 | 2.7 | 9.1 | 7.8 | 15.1 | 13.0 |
| 32 | 12 53.0 | 12 55.1 | 12 17.8 | 3.2 | 2.7 | 9.2 | 7.9 | 15.2 | 13.0 |
| 33 | 12 53.2 | 12 55.4 | 12 18.0 | 3.3 | 2.8 | 9.3 | 8.0 | 15.3 | 13.1 |
| 34 | 12 53.5 | 12 55.6 | 12 18.3 | 3.4 | 2.9 | 9.4 | 8.1 | 15.4 | 13.2 |
| 35 | 12 53.8 | 12 55.9 | 12 18.5 | 3.5 | 3.0 | 9.5 | 8.2 | 15.5 | 13.3 |
| 36 | 12 54.0 | 12 56.1 | 12 18.7 | 3.6 | 3.1 | 9.6 | 8.2 | 15.6 | 13.4 |
| 37 | 12 54.3 | 12 56.4 | 12 19.0 | 3.7 | 3.2 | 9.7 | 8.3 | 15.7 | 13.5 |
| 38 | 12 54.5 | 12 56.6 | 12 19.2 | 3.8 | 3.3 | 9.8 | 8.4 | 15.8 | 13.6 |
| 39 | 12 54.7 | 12 56.9 | 12 19.5 | 3.9 | 3.3 | 9.9 | 8.5 | 15.9 | 13.6 |
| 40 | 12 55.0 | 12 57.1 | 12 19.7 | 4.0 | 3.4 | 10.0 | 8.6 | 16.0 | 13.7 |
| 41 | 12 55.2 | 12 57.4 | 12 19.9 | 4.1 | 3.5 | 10.1 | 8.7 | 16.1 | 13.8 |
| 42 | 12 55.5 | 12 57.6 | 12 20.2 | 4.2 | 3.6 | 10.2 | 8.8 | 16.2 | 13.9 |
| 43 | 12 55.8 | 12 57.9 | 12 20.4 | 4.3 | 3.7 | 10.3 | 8.8 | 16.3 | 14.0 |
| 44 | 12 56.0 | 12 58.1 | 12 20.6 | 4.4 | 3.8 | 10.4 | 8.9 | 16.4 | 14.1 |
| 45 | 12 56.3 | 12 58.4 | 12 20.9 | 4.5 | 3.9 | 10.5 | 9.0 | 16.5 | 14.2 |
| 46 | 12 56.5 | 12 58.6 | 12 21.1 | 4.6 | 3.9 | 10.6 | 9.1 | 16.6 | 14.2 |
| 47 | 12 56.7 | 12 58.9 | 12 21.4 | 4.7 | 4.0 | 10.7 | 9.2 | 16.7 | 14.3 |
| 48 | 12 57.0 | 12 59.1 | 12 21.6 | 4.8 | 4.1 | 10.8 | 9.3 | 16.8 | 14.4 |
| 49 | 12 57.3 | 12 59.4 | 12 21.8 | 4.9 | 4.2 | 10.9 | 9.4 | 16.9 | 14.5 |
| 50 | 12 57.5 | 12 59.6 | 12 22.1 | 5.0 | 4.3 | 11.0 | 9.4 | 17.0 | 14.6 |
| 51 | 12 57.8 | 12 59.9 | 12 22.3 | 5.1 | 4.4 | 11.1 | 9.5 | 17.1 | 14.7 |
| 52 | 12 58.0 | 13 0.1 | 12 22.6 | 5.2 | 4.5 | 11.2 | 9.6 | 17.2 | 14.8 |
| 53 | 12 58.2 | 13 0.4 | 12 22.8 | 5.3 | 4.5 | 11.3 | 9.7 | 17.3 | 14.8 |
| 54 | 12 58.5 | 13 0.6 | 12 23.0 | 5.4 | 4.6 | 11.4 | 9.8 | 17.4 | 14.9 |
| 55 | 12 58.7 | 13 0.9 | 12 23.3 | 5.5 | 4.7 | 11.5 | 9.9 | 17.5 | 15.0 |
| 56 | 12 59.0 | 13 1.1 | 12 23.5 | 5.6 | 4.8 | 11.6 | 10.0 | 17.6 | 15.1 |
| 57 | 12 59.3 | 13 1.4 | 12 23.8 | 5.7 | 4.9 | 11.7 | 10.0 | 17.7 | 15.2 |
| 58 | 12 59.5 | 13 1.6 | 12 24.0 | 5.8 | 5.0 | 11.8 | 10.1 | 17.8 | 15.3 |
| 59 | 12 59.8 | 13 1.9 | 12 24.2 | 5.9 | 5.1 | 11.9 | 10.2 | 17.9 | 15.4 |
| 60 | 13 0.0 | 13 2.1 | 12 24.5 | 6.0 | 5.1 | 12.0 | 10.3 | 18.0 | 15.5 |

| m 52 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 13 0.0 | 13 2.1 | 12 24.5 | 0.0 | 0.0 | 6.0 | 5.3 | 12.0 | 10.5 |
| 1 | 13 0.2 | 13 2.4 | 12 24.7 | 0.1 | 0.1 | 6.1 | 5.3 | 12.1 | 10.6 |
| 2 | 13 0.5 | 13 2.6 | 12 24.9 | 0.2 | 0.2 | 6.2 | 5.4 | 12.2 | 10.7 |
| 3 | 13 0.7 | 13 2.9 | 12 25.2 | 0.3 | 0.3 | 6.3 | 5.5 | 12.3 | 10.8 |
| 4 | 13 1.0 | 13 3.1 | 12 25.4 | 0.4 | 0.4 | 6.4 | 5.6 | 12.4 | 10.9 |
| 5 | 13 1.3 | 13 3.4 | 12 25.7 | 0.5 | 0.4 | 6.5 | 5.7 | 12.5 | 10.9 |
| 6 | 13 1.5 | 13 3.6 | 12 25.9 | 0.6 | 0.5 | 6.6 | 5.8 | 12.6 | 11.0 |
| 7 | 13 1.8 | 13 3.9 | 12 26.1 | 0.7 | 0.6 | 6.7 | 5.9 | 12.7 | 11.1 |
| 8 | 13 2.0 | 13 4.1 | 12 26.4 | 0.8 | 0.7 | 6.8 | 6.0 | 12.8 | 11.2 |
| 9 | 13 2.2 | 13 4.4 | 12 26.6 | 0.9 | 0.8 | 6.9 | 6.0 | 12.9 | 11.3 |
| 10 | 13 2.5 | 13 4.6 | 12 26.9 | 1.0 | 0.9 | 7.0 | 6.1 | 13.0 | 11.4 |
| 11 | 13 2.7 | 13 4.9 | 12 27.1 | 1.1 | 1.0 | 7.1 | 6.2 | 13.1 | 11.5 |
| 12 | 13 3.0 | 13 5.1 | 12 27.3 | 1.2 | 1.1 | 7.2 | 6.3 | 13.2 | 11.5 |
| 13 | 13 3.3 | 13 5.4 | 12 27.6 | 1.3 | 1.1 | 7.3 | 6.4 | 13.3 | 11.6 |
| 14 | 13 3.5 | 13 5.6 | 12 27.8 | 1.4 | 1.2 | 7.4 | 6.5 | 13.4 | 11.7 |
| 15 | 13 3.8 | 13 5.9 | 12 28.0 | 1.5 | 1.3 | 7.5 | 6.6 | 13.5 | 11.8 |
| 16 | 13 4.0 | 13 6.1 | 12 28.3 | 1.6 | 1.4 | 7.6 | 6.6 | 13.6 | 11.9 |
| 17 | 13 4.2 | 13 6.4 | 12 28.5 | 1.7 | 1.5 | 7.7 | 6.7 | 13.7 | 12.0 |
| 18 | 13 4.5 | 13 6.6 | 12 28.8 | 1.8 | 1.6 | 7.8 | 6.8 | 13.8 | 12.1 |
| 19 | 13 4.8 | 13 6.9 | 12 29.0 | 1.9 | 1.7 | 7.9 | 6.9 | 13.9 | 12.2 |
| 20 | 13 5.0 | 13 7.1 | 12 29.2 | 2.0 | 1.8 | 8.0 | 7.0 | 14.0 | 12.3 |
| 21 | 13 5.3 | 13 7.4 | 12 29.5 | 2.1 | 1.8 | 8.1 | 7.1 | 14.1 | 12.3 |
| 22 | 13 5.5 | 13 7.6 | 12 29.7 | 2.2 | 1.9 | 8.2 | 7.2 | 14.2 | 12.4 |
| 23 | 13 5.7 | 13 7.9 | 12 30.0 | 2.3 | 2.0 | 8.3 | 7.3 | 14.3 | 12.5 |
| 24 | 13 6.0 | 13 8.1 | 12 30.2 | 2.4 | 2.1 | 8.4 | 7.4 | 14.4 | 12.6 |
| 25 | 13 6.2 | 13 8.4 | 12 30.4 | 2.5 | 2.2 | 8.5 | 7.4 | 14.5 | 12.7 |
| 26 | 13 6.5 | 13 8.6 | 12 30.7 | 2.6 | 2.3 | 8.6 | 7.5 | 14.6 | 12.8 |
| 27 | 13 6.8 | 13 8.9 | 12 30.9 | 2.7 | 2.4 | 8.7 | 7.6 | 14.7 | 12.9 |
| 28 | 13 7.0 | 13 9.2 | 12 31.1 | 2.8 | 2.4 | 8.8 | 7.7 | 14.8 | 13.0 |
| 29 | 13 7.3 | 13 9.4 | 12 31.4 | 2.9 | 2.5 | 8.9 | 7.8 | 14.9 | 13.0 |
| 30 | 13 7.5 | 13 9.7 | 12 31.6 | 3.0 | 2.6 | 9.0 | 7.9 | 15.0 | 13.1 |
| 31 | 13 7.7 | 13 9.9 | 12 31.9 | 3.1 | 2.7 | 9.1 | 8.0 | 15.1 | 13.2 |
| 32 | 13 8.0 | 13 10.2 | 12 32.1 | 3.2 | 2.8 | 9.2 | 8.0 | 15.2 | 13.3 |
| 33 | 13 8.2 | 13 10.4 | 12 32.3 | 3.3 | 2.9 | 9.3 | 8.1 | 15.3 | 13.4 |
| 34 | 13 8.5 | 13 10.7 | 12 32.6 | 3.4 | 3.0 | 9.4 | 8.2 | 15.4 | 13.5 |
| 35 | 13 8.8 | 13 10.9 | 12 32.8 | 3.5 | 3.1 | 9.5 | 8.3 | 15.5 | 13.6 |
| 36 | 13 9.0 | 13 11.2 | 12 33.1 | 3.6 | 3.2 | 9.6 | 8.4 | 15.6 | 13.7 |
| 37 | 13 9.3 | 13 11.4 | 12 33.3 | 3.7 | 3.2 | 9.7 | 8.5 | 15.7 | 13.7 |
| 38 | 13 9.5 | 13 11.7 | 12 33.5 | 3.8 | 3.3 | 9.8 | 8.6 | 15.8 | 13.8 |
| 39 | 13 9.7 | 13 11.9 | 12 33.8 | 3.9 | 3.4 | 9.9 | 8.7 | 15.9 | 13.9 |
| 40 | 13 10.0 | 13 12.2 | 12 34.0 | 4.0 | 3.5 | 10.0 | 8.8 | 16.0 | 14.0 |
| 41 | 13 10.2 | 13 12.4 | 12 34.2 | 4.1 | 3.6 | 10.1 | 8.8 | 16.1 | 14.1 |
| 42 | 13 10.5 | 13 12.7 | 12 34.5 | 4.2 | 3.7 | 10.2 | 8.9 | 16.2 | 14.2 |
| 43 | 13 10.8 | 13 12.9 | 12 34.7 | 4.3 | 3.8 | 10.3 | 9.0 | 16.3 | 14.3 |
| 44 | 13 11.0 | 13 13.2 | 12 35.0 | 4.4 | 3.9 | 10.4 | 9.1 | 16.4 | 14.3 |
| 45 | 13 11.3 | 13 13.4 | 12 35.2 | 4.5 | 3.9 | 10.5 | 9.2 | 16.5 | 14.4 |
| 46 | 13 11.5 | 13 13.7 | 12 35.4 | 4.6 | 4.0 | 10.6 | 9.3 | 16.6 | 14.5 |
| 47 | 13 11.7 | 13 13.9 | 12 35.7 | 4.7 | 4.1 | 10.7 | 9.4 | 16.7 | 14.6 |
| 48 | 13 12.0 | 13 14.2 | 12 35.9 | 4.8 | 4.2 | 10.8 | 9.5 | 16.8 | 14.7 |
| 49 | 13 12.3 | 13 14.4 | 12 36.2 | 4.9 | 4.3 | 10.9 | 9.5 | 16.9 | 14.8 |
| 50 | 13 12.5 | 13 14.7 | 12 36.4 | 5.0 | 4.4 | 11.0 | 9.6 | 17.0 | 14.9 |
| 51 | 13 12.8 | 13 14.9 | 12 36.6 | 5.1 | 4.5 | 11.1 | 9.7 | 17.1 | 15.0 |
| 52 | 13 13.0 | 13 15.2 | 12 36.9 | 5.2 | 4.6 | 11.2 | 9.8 | 17.2 | 15.0 |
| 53 | 13 13.2 | 13 15.4 | 12 37.1 | 5.3 | 4.6 | 11.3 | 9.9 | 17.3 | 15.1 |
| 54 | 13 13.5 | 13 15.7 | 12 37.4 | 5.4 | 4.7 | 11.4 | 10.0 | 17.4 | 15.2 |
| 55 | 13 13.7 | 13 15.9 | 12 37.6 | 5.5 | 4.8 | 11.5 | 10.1 | 17.5 | 15.3 |
| 56 | 13 14.0 | 13 16.2 | 12 37.8 | 5.6 | 4.9 | 11.6 | 10.2 | 17.6 | 15.4 |
| 57 | 13 14.3 | 13 16.4 | 12 38.1 | 5.7 | 5.0 | 11.7 | 10.2 | 17.7 | 15.5 |
| 58 | 13 14.5 | 13 16.7 | 12 38.3 | 5.8 | 5.1 | 11.8 | 10.3 | 17.8 | 15.6 |
| 59 | 13 14.8 | 13 16.9 | 12 38.5 | 5.9 | 5.2 | 11.9 | 10.4 | 17.9 | 15.7 |
| 60 | 13 15.0 | 13 17.2 | 12 38.8 | 6.0 | 5.3 | 12.0 | 10.5 | 18.0 | 15.8 |

| m 53 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ○ ′ | ○ ′ | ○ ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 13 15.0 | 13 17.2 | 12 38.8 | 0.0 | 0.0 | 6.0 | 5.4 | 12.0 | 10.7 |
| 1 | 13 15.2 | 13 17.4 | 12 39.0 | 0.1 | 0.1 | 6.1 | 5.4 | 12.1 | 10.8 |
| 2 | 13 15.5 | 13 17.7 | 12 39.3 | 0.2 | 0.2 | 6.2 | 5.5 | 12.2 | 10.9 |
| 3 | 13 15.7 | 13 17.9 | 12 39.5 | 0.3 | 0.3 | 6.3 | 5.6 | 12.3 | 11.0 |
| 4 | 13 16.0 | 13 18.2 | 12 39.7 | 0.4 | 0.4 | 6.4 | 5.7 | 12.4 | 11.1 |
| 5 | 13 16.3 | 13 18.4 | 12 40.0 | 0.5 | 0.4 | 6.5 | 5.8 | 12.5 | 11.1 |
| 6 | 13 16.5 | 13 18.7 | 12 40.2 | 0.6 | 0.5 | 6.6 | 5.9 | 12.6 | 11.2 |
| 7 | 13 16.8 | 13 18.9 | 12 40.5 | 0.7 | 0.6 | 6.7 | 6.0 | 12.7 | 11.3 |
| 8 | 13 17.0 | 13 19.2 | 12 40.7 | 0.8 | 0.7 | 6.8 | 6.1 | 12.8 | 11.4 |
| 9 | 13 17.2 | 13 19.4 | 12 40.9 | 0.9 | 0.8 | 6.9 | 6.2 | 12.9 | 11.5 |
| 10 | 13 17.5 | 13 19.7 | 12 41.2 | 1.0 | 0.9 | 7.0 | 6.2 | 13.0 | 11.6 |
| 11 | 13 17.7 | 13 19.9 | 12 41.4 | 1.1 | 1.0 | 7.1 | 6.3 | 13.1 | 11.7 |
| 12 | 13 18.0 | 13 20.2 | 12 41.6 | 1.2 | 1.1 | 7.2 | 6.4 | 13.2 | 11.8 |
| 13 | 13 18.3 | 13 20.4 | 12 41.9 | 1.3 | 1.2 | 7.3 | 6.5 | 13.3 | 11.9 |
| 14 | 13 18.5 | 13 20.7 | 12 42.1 | 1.4 | 1.2 | 7.4 | 6.6 | 13.4 | 11.9 |
| 15 | 13 18.8 | 13 20.9 | 12 42.4 | 1.5 | 1.3 | 7.5 | 6.7 | 13.5 | 12.0 |
| 16 | 13 19.0 | 13 21.2 | 12 42.6 | 1.6 | 1.4 | 7.6 | 6.8 | 13.6 | 12.1 |
| 17 | 13 19.2 | 13 21.4 | 12 42.8 | 1.7 | 1.5 | 7.7 | 6.9 | 13.7 | 12.2 |
| 18 | 13 19.5 | 13 21.7 | 12 43.1 | 1.8 | 1.6 | 7.8 | 7.0 | 13.8 | 12.3 |
| 19 | 13 19.8 | 13 21.9 | 12 43.3 | 1.9 | 1.7 | 7.9 | 7.0 | 13.9 | 12.4 |
| 20 | 13 20.0 | 13 22.2 | 12 43.6 | 2.0 | 1.8 | 8.0 | 7.1 | 14.0 | 12.5 |
| 21 | 13 20.3 | 13 22.4 | 12 43.8 | 2.1 | 1.9 | 8.1 | 7.2 | 14.1 | 12.6 |
| 22 | 13 20.5 | 13 22.7 | 12 44.0 | 2.2 | 2.0 | 8.2 | 7.3 | 14.2 | 12.7 |
| 23 | 13 20.7 | 13 22.9 | 12 44.3 | 2.3 | 2.1 | 8.3 | 7.4 | 14.3 | 12.8 |
| 24 | 13 21.0 | 13 23.2 | 12 44.5 | 2.4 | 2.1 | 8.4 | 7.5 | 14.4 | 12.8 |
| 25 | 13 21.2 | 13 23.4 | 12 44.7 | 2.5 | 2.2 | 8.5 | 7.6 | 14.5 | 12.9 |
| 26 | 13 21.5 | 13 23.7 | 12 45.0 | 2.6 | 2.3 | 8.6 | 7.7 | 14.6 | 13.0 |
| 27 | 13 21.8 | 13 23.9 | 12 45.2 | 2.7 | 2.4 | 8.7 | 7.8 | 14.7 | 13.1 |
| 28 | 13 22.0 | 13 24.2 | 12 45.5 | 2.8 | 2.5 | 8.8 | 7.8 | 14.8 | 13.2 |
| 29 | 13 22.3 | 13 24.4 | 12 45.7 | 2.9 | 2.6 | 8.9 | 7.9 | 14.9 | 13.3 |
| 30 | 13 22.5 | 13 24.7 | 12 45.9 | 3.0 | 2.7 | 9.0 | 8.0 | 15.0 | 13.4 |
| 31 | 13 22.7 | 13 24.9 | 12 46.2 | 3.1 | 2.8 | 9.1 | 8.1 | 15.1 | 13.5 |
| 32 | 13 23.0 | 13 25.2 | 12 46.4 | 3.2 | 2.9 | 9.2 | 8.2 | 15.2 | 13.6 |
| 33 | 13 23.2 | 13 25.4 | 12 46.7 | 3.3 | 2.9 | 9.3 | 8.3 | 15.3 | 13.6 |
| 34 | 13 23.5 | 13 25.7 | 12 46.9 | 3.4 | 3.0 | 9.4 | 8.4 | 15.4 | 13.7 |
| 35 | 13 23.8 | 13 25.9 | 12 47.1 | 3.5 | 3.1 | 9.5 | 8.5 | 15.5 | 13.8 |
| 36 | 13 24.0 | 13 26.2 | 12 47.4 | 3.6 | 3.2 | 9.6 | 8.6 | 15.6 | 13.9 |
| 37 | 13 24.3 | 13 26.4 | 12 47.6 | 3.7 | 3.3 | 9.7 | 8.6 | 15.7 | 14.0 |
| 38 | 13 24.5 | 13 26.7 | 12 47.9 | 3.8 | 3.4 | 9.8 | 8.7 | 15.8 | 14.1 |
| 39 | 13 24.7 | 13 26.9 | 12 48.1 | 3.9 | 3.5 | 9.9 | 8.8 | 15.9 | 14.2 |
| 40 | 13 25.0 | 13 27.2 | 12 48.3 | 4.0 | 3.6 | 10.0 | 8.9 | 16.0 | 14.3 |
| 41 | 13 25.2 | 13 27.5 | 12 48.6 | 4.1 | 3.7 | 10.1 | 9.0 | 16.1 | 14.4 |
| 42 | 13 25.5 | 13 27.7 | 12 48.8 | 4.2 | 3.7 | 10.2 | 9.1 | 16.2 | 14.4 |
| 43 | 13 25.8 | 13 28.0 | 12 49.0 | 4.3 | 3.8 | 10.3 | 9.2 | 16.3 | 14.5 |
| 44 | 13 26.0 | 13 28.2 | 12 49.3 | 4.4 | 3.9 | 10.4 | 9.3 | 16.4 | 14.6 |
| 45 | 13 26.3 | 13 28.5 | 12 49.5 | 4.5 | 4.0 | 10.5 | 9.4 | 16.5 | 14.7 |
| 46 | 13 26.5 | 13 28.7 | 12 49.8 | 4.6 | 4.1 | 10.6 | 9.5 | 16.6 | 14.8 |
| 47 | 13 26.7 | 13 29.0 | 12 50.0 | 4.7 | 4.2 | 10.7 | 9.5 | 16.7 | 14.9 |
| 48 | 13 27.0 | 13 29.2 | 12 50.2 | 4.8 | 4.3 | 10.8 | 9.6 | 16.8 | 15.0 |
| 49 | 13 27.3 | 13 29.5 | 12 50.5 | 4.9 | 4.4 | 10.9 | 9.7 | 16.9 | 15.1 |
| 50 | 13 27.5 | 13 29.7 | 12 50.7 | 5.0 | 4.5 | 11.0 | 9.8 | 17.0 | 15.2 |
| 51 | 13 27.8 | 13 30.0 | 12 51.0 | 5.1 | 4.5 | 11.1 | 9.9 | 17.1 | 15.2 |
| 52 | 13 28.0 | 13 30.2 | 12 51.2 | 5.2 | 4.6 | 11.2 | 10.0 | 17.2 | 15.3 |
| 53 | 13 28.2 | 13 30.5 | 12 51.4 | 5.3 | 4.7 | 11.3 | 10.1 | 17.3 | 15.4 |
| 54 | 13 28.5 | 13 30.7 | 12 51.7 | 5.4 | 4.8 | 11.4 | 10.2 | 17.4 | 15.5 |
| 55 | 13 28.7 | 13 31.0 | 12 51.9 | 5.5 | 4.9 | 11.5 | 10.3 | 17.5 | 15.6 |
| 56 | 13 29.0 | 13 31.2 | 12 52.1 | 5.6 | 5.0 | 11.6 | 10.3 | 17.6 | 15.7 |
| 57 | 13 29.3 | 13 31.5 | 12 52.4 | 5.7 | 5.1 | 11.7 | 10.4 | 17.7 | 15.8 |
| 58 | 13 29.5 | 13 31.7 | 12 52.6 | 5.8 | 5.2 | 11.8 | 10.5 | 17.8 | 15.9 |
| 59 | 13 29.8 | 13 32.0 | 12 52.9 | 5.9 | 5.3 | 11.9 | 10.6 | 17.9 | 16.0 |
| 60 | 13 30.0 | 13 32.2 | 12 53.1 | 6.0 | 5.4 | 12.0 | 10.7 | 18.0 | 16.1 |

| m 54 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 13 30.0 | 13 32.2 | 12 53.1 | 0.0 | 0.0 | 6.0 | 5.5 | 12.0 | 10.9 |
| 1 | 13 30.2 | 13 32.5 | 12 53.3 | 0.1 | 0.1 | 6.1 | 5.5 | 12.1 | 11.0 |
| 2 | 13 30.5 | 13 32.7 | 12 53.6 | 0.2 | 0.2 | 6.2 | 5.6 | 12.2 | 11.1 |
| 3 | 13 30.7 | 13 33.0 | 12 53.8 | 0.3 | 0.3 | 6.3 | 5.7 | 12.3 | 11.2 |
| 4 | 13 31.0 | 13 33.2 | 12 54.1 | 0.4 | 0.4 | 6.4 | 5.8 | 12.4 | 11.3 |
| 5 | 13 31.3 | 13 33.5 | 12 54.3 | 0.5 | 0.5 | 6.5 | 5.9 | 12.5 | 11.4 |
| 6 | 13 31.5 | 13 33.7 | 12 54.5 | 0.6 | 0.5 | 6.6 | 6.0 | 12.6 | 11.4 |
| 7 | 13 31.8 | 13 34.0 | 12 54.8 | 0.7 | 0.6 | 6.7 | 6.1 | 12.7 | 11.5 |
| 8 | 13 32.0 | 13 34.2 | 12 55.0 | 0.8 | 0.7 | 6.8 | 6.2 | 12.8 | 11.6 |
| 9 | 13 32.2 | 13 34.5 | 12 55.2 | 0.9 | 0.8 | 6.9 | 6.3 | 12.9 | 11.7 |
| 10 | 13 32.5 | 13 34.7 | 12 55.5 | 1.0 | 0.9 | 7.0 | 6.4 | 13.0 | 11.8 |
| 11 | 13 32.7 | 13 35.0 | 12 55.7 | 1.1 | 1.0 | 7.1 | 6.4 | 13.1 | 11.9 |
| 12 | 13 33.0 | 13 35.2 | 12 56.0 | 1.2 | 1.1 | 7.2 | 6.5 | 13.2 | 12.0 |
| 13 | 13 33.3 | 13 35.5 | 12 56.2 | 1.3 | 1.2 | 7.3 | 6.6 | 13.3 | 12.1 |
| 14 | 13 33.5 | 13 35.7 | 12 56.4 | 1.4 | 1.3 | 7.4 | 6.7 | 13.4 | 12.2 |
| 15 | 13 33.8 | 13 36.0 | 12 56.7 | 1.5 | 1.4 | 7.5 | 6.8 | 13.5 | 12.3 |
| 16 | 13 34.0 | 13 36.2 | 12 56.9 | 1.6 | 1.5 | 7.6 | 6.9 | 13.6 | 12.4 |
| 17 | 13 34.2 | 13 36.5 | 12 57.2 | 1.7 | 1.5 | 7.7 | 7.0 | 13.7 | 12.4 |
| 18 | 13 34.5 | 13 36.7 | 12 57.4 | 1.8 | 1.6 | 7.8 | 7.1 | 13.8 | 12.5 |
| 19 | 13 34.8 | 13 37.0 | 12 57.6 | 1.9 | 1.7 | 7.9 | 7.2 | 13.9 | 12.6 |
| 20 | 13 35.0 | 13 37.2 | 12 57.9 | 2.0 | 1.8 | 8.0 | 7.3 | 14.0 | 12.7 |
| 21 | 13 35.3 | 13 37.5 | 12 58.1 | 2.1 | 1.9 | 8.1 | 7.4 | 14.1 | 12.8 |
| 22 | 13 35.5 | 13 37.7 | 12 58.3 | 2.2 | 2.0 | 8.2 | 7.4 | 14.2 | 12.9 |
| 23 | 13 35.7 | 13 38.0 | 12 58.6 | 2.3 | 2.1 | 8.3 | 7.5 | 14.3 | 13.0 |
| 24 | 13 36.0 | 13 38.2 | 12 58.8 | 2.4 | 2.2 | 8.4 | 7.6 | 14.4 | 13.1 |
| 25 | 13 36.2 | 13 38.5 | 12 59.1 | 2.5 | 2.3 | 8.5 | 7.7 | 14.5 | 13.2 |
| 26 | 13 36.5 | 13 38.7 | 12 59.3 | 2.6 | 2.4 | 8.6 | 7.8 | 14.6 | 13.3 |
| 27 | 13 36.8 | 13 39.0 | 12 59.5 | 2.7 | 2.5 | 8.7 | 7.9 | 14.7 | 13.4 |
| 28 | 13 37.0 | 13 39.2 | 12 59.8 | 2.8 | 2.5 | 8.8 | 8.0 | 14.8 | 13.4 |
| 29 | 13 37.3 | 13 39.5 | 13 0.0 | 2.9 | 2.6 | 8.9 | 8.1 | 14.9 | 13.5 |
| 30 | 13 37.5 | 13 39.7 | 13 0.3 | 3.0 | 2.7 | 9.0 | 8.2 | 15.0 | 13.6 |
| 31 | 13 37.7 | 13 40.0 | 13 0.5 | 3.1 | 2.8 | 9.1 | 8.3 | 15.1 | 13.7 |
| 32 | 13 38.0 | 13 40.2 | 13 0.7 | 3.2 | 2.9 | 9.2 | 8.4 | 15.2 | 13.8 |
| 33 | 13 38.2 | 13 40.5 | 13 1.0 | 3.3 | 3.0 | 9.3 | 8.4 | 15.3 | 13.9 |
| 34 | 13 38.5 | 13 40.7 | 13 1.2 | 3.4 | 3.1 | 9.4 | 8.5 | 15.4 | 14.0 |
| 35 | 13 38.8 | 13 41.0 | 13 1.5 | 3.5 | 3.2 | 9.5 | 8.6 | 15.5 | 14.1 |
| 36 | 13 39.0 | 13 41.2 | 13 1.7 | 3.6 | 3.3 | 9.6 | 8.7 | 15.6 | 14.2 |
| 37 | 13 39.3 | 13 41.5 | 13 1.9 | 3.7 | 3.4 | 9.7 | 8.8 | 15.7 | 14.3 |
| 38 | 13 39.5 | 13 41.7 | 13 2.2 | 3.8 | 3.5 | 9.8 | 8.9 | 15.8 | 14.4 |
| 39 | 13 39.7 | 13 42.0 | 13 2.4 | 3.9 | 3.5 | 9.9 | 9.0 | 15.9 | 14.4 |
| 40 | 13 40.0 | 13 42.2 | 13 2.6 | 4.0 | 3.6 | 10.0 | 9.1 | 16.0 | 14.5 |
| 41 | 13 40.2 | 13 42.5 | 13 2.9 | 4.1 | 3.7 | 10.1 | 9.2 | 16.1 | 14.6 |
| 42 | 13 40.5 | 13 42.7 | 13 3.1 | 4.2 | 3.8 | 10.2 | 9.3 | 16.2 | 14.7 |
| 43 | 13 40.8 | 13 43.0 | 13 3.4 | 4.3 | 3.9 | 10.3 | 9.4 | 16.3 | 14.8 |
| 44 | 13 41.0 | 13 43.2 | 13 3.6 | 4.4 | 4.0 | 10.4 | 9.4 | 16.4 | 14.9 |
| 45 | 13 41.3 | 13 43.5 | 13 3.8 | 4.5 | 4.1 | 10.5 | 9.5 | 16.5 | 15.0 |
| 46 | 13 41.5 | 13 43.7 | 13 4.1 | 4.6 | 4.2 | 10.6 | 9.6 | 16.6 | 15.1 |
| 47 | 13 41.7 | 13 44.0 | 13 4.3 | 4.7 | 4.3 | 10.7 | 9.7 | 16.7 | 15.2 |
| 48 | 13 42.0 | 13 44.2 | 13 4.6 | 4.8 | 4.4 | 10.8 | 9.8 | 16.8 | 15.3 |
| 49 | 13 42.3 | 13 44.5 | 13 4.8 | 4.9 | 4.5 | 10.9 | 9.9 | 16.9 | 15.4 |
| 50 | 13 42.5 | 13 44.7 | 13 5.0 | 5.0 | 4.5 | 11.0 | 10.0 | 17.0 | 15.4 |
| 51 | 13 42.8 | 13 45.0 | 13 5.3 | 5.1 | 4.6 | 11.1 | 10.1 | 17.1 | 15.5 |
| 52 | 13 43.0 | 13 45.2 | 13 5.5 | 5.2 | 4.7 | 11.2 | 10.2 | 17.2 | 15.6 |
| 53 | 13 43.2 | 13 45.5 | 13 5.7 | 5.3 | 4.8 | 11.3 | 10.3 | 17.3 | 15.7 |
| 54 | 13 43.5 | 13 45.8 | 13 6.0 | 5.4 | 4.9 | 11.4 | 10.4 | 17.4 | 15.8 |
| 55 | 13 43.7 | 13 46.0 | 13 6.2 | 5.5 | 5.0 | 11.5 | 10.4 | 17.5 | 15.9 |
| 56 | 13 44.0 | 13 46.3 | 13 6.5 | 5.6 | 5.1 | 11.6 | 10.5 | 17.6 | 16.0 |
| 57 | 13 44.3 | 13 46.5 | 13 6.7 | 5.7 | 5.2 | 11.7 | 10.6 | 17.7 | 16.1 |
| 58 | 13 44.5 | 13 46.8 | 13 6.9 | 5.8 | 5.3 | 11.8 | 10.7 | 17.8 | 16.2 |
| 59 | 13 44.8 | 13 47.0 | 13 7.2 | 5.9 | 5.4 | 11.9 | 10.8 | 17.9 | 16.3 |
| 60 | 13 45.0 | 13 47.3 | 13 7.4 | 6.0 | 5.5 | 12.0 | 10.9 | 18.0 | 16.4 |

| m 55 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 13 45.0 | 13 47.3 | 13 7.4 | 0.0 | 0.0 | 6.0 | 5.6 | 12.0 | 11.1 |
| 1 | 13 45.2 | 13 47.5 | 13 7.7 | 0.1 | 0.1 | 6.1 | 5.6 | 12.1 | 11.2 |
| 2 | 13 45.5 | 13 47.8 | 13 7.9 | 0.2 | 0.2 | 6.2 | 5.7 | 12.2 | 11.3 |
| 3 | 13 45.7 | 13 48.0 | 13 8.1 | 0.3 | 0.3 | 6.3 | 5.8 | 12.3 | 11.4 |
| 4 | 13 46.0 | 13 48.3 | 13 8.4 | 0.4 | 0.4 | 6.4 | 5.9 | 12.4 | 11.5 |
| 5 | 13 46.3 | 13 48.5 | 13 8.6 | 0.5 | 0.5 | 6.5 | 6.0 | 12.5 | 11.6 |
| 6 | 13 46.5 | 13 48.8 | 13 8.8 | 0.6 | 0.6 | 6.6 | 6.1 | 12.6 | 11.7 |
| 7 | 13 46.8 | 13 49.0 | 13 9.1 | 0.7 | 0.6 | 6.7 | 6.2 | 12.7 | 11.7 |
| 8 | 13 47.0 | 13 49.3 | 13 9.3 | 0.8 | 0.7 | 6.8 | 6.3 | 12.8 | 11.8 |
| 9 | 13 47.2 | 13 49.5 | 13 9.6 | 0.9 | 0.8 | 6.9 | 6.4 | 12.9 | 11.9 |
| 10 | 13 47.5 | 13 49.8 | 13 9.8 | 1.0 | 0.9 | 7.0 | 6.5 | 13.0 | 12.0 |
| 11 | 13 47.7 | 13 50.0 | 13 10.0 | 1.1 | 1.0 | 7.1 | 6.6 | 13.1 | 12.1 |
| 12 | 13 48.0 | 13 50.3 | 13 10.3 | 1.2 | 1.1 | 7.2 | 6.7 | 13.2 | 12.2 |
| 13 | 13 48.3 | 13 50.5 | 13 10.5 | 1.3 | 1.2 | 7.3 | 6.8 | 13.3 | 12.3 |
| 14 | 13 48.5 | 13 50.8 | 13 10.8 | 1.4 | 1.3 | 7.4 | 6.8 | 13.4 | 12.4 |
| 15 | 13 48.8 | 13 51.0 | 13 11.0 | 1.5 | 1.4 | 7.5 | 6.9 | 13.5 | 12.5 |
| 16 | 13 49.0 | 13 51.3 | 13 11.2 | 1.6 | 1.5 | 7.6 | 7.0 | 13.6 | 12.6 |
| 17 | 13 49.2 | 13 51.5 | 13 11.5 | 1.7 | 1.6 | 7.7 | 7.1 | 13.7 | 12.7 |
| 18 | 13 49.5 | 13 51.8 | 13 11.7 | 1.8 | 1.7 | 7.8 | 7.2 | 13.8 | 12.8 |
| 19 | 13 49.8 | 13 52.0 | 13 12.0 | 1.9 | 1.8 | 7.9 | 7.3 | 13.9 | 12.9 |
| 20 | 13 50.0 | 13 52.3 | 13 12.2 | 2.0 | 1.9 | 8.0 | 7.4 | 14.0 | 13.0 |
| 21 | 13 50.3 | 13 52.5 | 13 12.4 | 2.1 | 1.9 | 8.1 | 7.5 | 14.1 | 13.0 |
| 22 | 13 50.5 | 13 52.8 | 13 12.7 | 2.2 | 2.0 | 8.2 | 7.6 | 14.2 | 13.1 |
| 23 | 13 50.7 | 13 53.0 | 13 12.9 | 2.3 | 2.1 | 8.3 | 7.7 | 14.3 | 13.2 |
| 24 | 13 51.0 | 13 53.3 | 13 13.1 | 2.4 | 2.2 | 8.4 | 7.8 | 14.4 | 13.3 |
| 25 | 13 51.2 | 13 53.5 | 13 13.4 | 2.5 | 2.3 | 8.5 | 7.9 | 14.5 | 13.4 |
| 26 | 13 51.5 | 13 53.8 | 13 13.6 | 2.6 | 2.4 | 8.6 | 8.0 | 14.6 | 13.5 |
| 27 | 13 51.8 | 13 54.0 | 13 13.9 | 2.7 | 2.5 | 8.7 | 8.0 | 14.7 | 13.6 |
| 28 | 13 52.0 | 13 54.3 | 13 14.1 | 2.8 | 2.6 | 8.8 | 8.1 | 14.8 | 13.7 |
| 29 | 13 52.3 | 13 54.5 | 13 14.3 | 2.9 | 2.7 | 8.9 | 8.2 | 14.9 | 13.8 |
| 30 | 13 52.5 | 13 54.8 | 13 14.6 | 3.0 | 2.8 | 9.0 | 8.3 | 15.0 | 13.9 |
| 31 | 13 52.7 | 13 55.0 | 13 14.8 | 3.1 | 2.9 | 9.1 | 8.4 | 15.1 | 14.0 |
| 32 | 13 53.0 | 13 55.3 | 13 15.1 | 3.2 | 3.0 | 9.2 | 8.5 | 15.2 | 14.1 |
| 33 | 13 53.2 | 13 55.5 | 13 15.3 | 3.3 | 3.1 | 9.3 | 8.6 | 15.3 | 14.2 |
| 34 | 13 53.5 | 13 55.8 | 13 15.5 | 3.4 | 3.1 | 9.4 | 8.7 | 15.4 | 14.2 |
| 35 | 13 53.8 | 13 56.0 | 13 15.8 | 3.5 | 3.2 | 9.5 | 8.8 | 15.5 | 14.3 |
| 36 | 13 54.0 | 13 56.3 | 13 16.0 | 3.6 | 3.3 | 9.6 | 8.9 | 15.6 | 14.4 |
| 37 | 13 54.3 | 13 56.5 | 13 16.2 | 3.7 | 3.4 | 9.7 | 9.0 | 15.7 | 14.5 |
| 38 | 13 54.5 | 13 56.8 | 13 16.5 | 3.8 | 3.5 | 9.8 | 9.1 | 15.8 | 14.6 |
| 39 | 13 54.7 | 13 57.0 | 13 16.7 | 3.9 | 3.6 | 9.9 | 9.2 | 15.9 | 14.7 |
| 40 | 13 55.0 | 13 57.3 | 13 17.0 | 4.0 | 3.7 | 10.0 | 9.3 | 16.0 | 14.8 |
| 41 | 13 55.2 | 13 57.5 | 13 17.2 | 4.1 | 3.8 | 10.1 | 9.3 | 16.1 | 14.9 |
| 42 | 13 55.5 | 13 57.8 | 13 17.4 | 4.2 | 3.9 | 10.2 | 9.4 | 16.2 | 15.0 |
| 43 | 13 55.8 | 13 58.0 | 13 17.7 | 4.3 | 4.0 | 10.3 | 9.5 | 16.3 | 15.1 |
| 44 | 13 56.0 | 13 58.3 | 13 17.9 | 4.4 | 4.1 | 10.4 | 9.6 | 16.4 | 15.2 |
| 45 | 13 56.3 | 13 58.5 | 13 18.2 | 4.5 | 4.2 | 10.5 | 9.7 | 16.5 | 15.3 |
| 46 | 13 56.5 | 13 58.8 | 13 18.4 | 4.6 | 4.3 | 10.6 | 9.8 | 16.6 | 15.4 |
| 47 | 13 56.7 | 13 59.0 | 13 18.6 | 4.7 | 4.3 | 10.7 | 9.9 | 16.7 | 15.4 |
| 48 | 13 57.0 | 13 59.3 | 13 18.9 | 4.8 | 4.4 | 10.8 | 10.0 | 16.8 | 15.5 |
| 49 | 13 57.3 | 13 59.5 | 13 19.1 | 4.9 | 4.5 | 10.9 | 10.1 | 16.9 | 15.6 |
| 50 | 13 57.5 | 13 59.8 | 13 19.3 | 5.0 | 4.6 | 11.0 | 10.2 | 17.0 | 15.7 |
| 51 | 13 57.8 | 14 0.0 | 13 19.6 | 5.1 | 4.7 | 11.1 | 10.3 | 17.1 | 15.8 |
| 52 | 13 58.0 | 14 0.3 | 13 19.8 | 5.2 | 4.8 | 11.2 | 10.4 | 17.2 | 15.9 |
| 53 | 13 58.2 | 14 0.5 | 13 20.1 | 5.3 | 4.9 | 11.3 | 10.5 | 17.3 | 16.0 |
| 54 | 13 58.5 | 14 0.8 | 13 20.3 | 5.4 | 5.0 | 11.4 | 10.5 | 17.4 | 16.1 |
| 55 | 13 58.7 | 14 1.0 | 13 20.5 | 5.5 | 5.1 | 11.5 | 10.6 | 17.5 | 16.2 |
| 56 | 13 59.0 | 14 1.3 | 13 20.8 | 5.6 | 5.2 | 11.6 | 10.7 | 17.6 | 16.3 |
| 57 | 13 59.3 | 14 1.5 | 13 21.0 | 5.7 | 5.3 | 11.7 | 10.8 | 17.7 | 16.4 |
| 58 | 13 59.5 | 14 1.8 | 13 21.3 | 5.8 | 5.4 | 11.8 | 10.9 | 17.8 | 16.5 |
| 59 | 13 59.8 | 14 2.0 | 13 21.5 | 5.9 | 5.5 | 11.9 | 11.0 | 17.9 | 16.6 |
| 60 | 14 0.0 | 14 2.3 | 13 21.7 | 6.0 | 5.6 | 12.0 | 11.1 | 18.0 | 16.7 |

| m 56 | Planets Sun | | Aries | | Moon | | v/d | | corr | | v/d | | corr | | v/d | | corr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| s | ○ | ′ | ○ | ′ | ○ | ′ | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | |
| 0 | 14 | 0.0 | 14 | 2.3 | 13 | 21.7 | 0.0 | 0.0 | 6.0 | 5.7 | 12.0 | 11.3 |
| 1 | 14 | 0.2 | 14 | 2.5 | 13 | 22.0 | 0.1 | 0.1 | 6.1 | 5.7 | 12.1 | 11.4 |
| 2 | 14 | 0.5 | 14 | 2.8 | 13 | 22.2 | 0.2 | 0.2 | 6.2 | 5.8 | 12.2 | 11.5 |
| 3 | 14 | 0.7 | 14 | 3.0 | 13 | 22.4 | 0.3 | 0.3 | 6.3 | 5.9 | 12.3 | 11.6 |
| 4 | 14 | 1.0 | 14 | 3.3 | 13 | 22.7 | 0.4 | 0.4 | 6.4 | 6.0 | 12.4 | 11.7 |
| 5 | 14 | 1.3 | 14 | 3.5 | 13 | 22.9 | 0.5 | 0.5 | 6.5 | 6.1 | 12.5 | 11.8 |
| 6 | 14 | 1.5 | 14 | 3.8 | 13 | 23.2 | 0.6 | 0.6 | 6.6 | 6.2 | 12.6 | 11.9 |
| 7 | 14 | 1.8 | 14 | 4.1 | 13 | 23.4 | 0.7 | 0.7 | 6.7 | 6.3 | 12.7 | 12.0 |
| 8 | 14 | 2.0 | 14 | 4.3 | 13 | 23.6 | 0.8 | 0.8 | 6.8 | 6.4 | 12.8 | 12.1 |
| 9 | 14 | 2.2 | 14 | 4.6 | 13 | 23.9 | 0.9 | 0.8 | 6.9 | 6.5 | 12.9 | 12.1 |
| 10 | 14 | 2.5 | 14 | 4.8 | 13 | 24.1 | 1.0 | 0.9 | 7.0 | 6.6 | 13.0 | 12.2 |
| 11 | 14 | 2.7 | 14 | 5.1 | 13 | 24.4 | 1.1 | 1.0 | 7.1 | 6.7 | 13.1 | 12.3 |
| 12 | 14 | 3.0 | 14 | 5.3 | 13 | 24.6 | 1.2 | 1.1 | 7.2 | 6.8 | 13.2 | 12.4 |
| 13 | 14 | 3.3 | 14 | 5.6 | 13 | 24.8 | 1.3 | 1.2 | 7.3 | 6.9 | 13.3 | 12.5 |
| 14 | 14 | 3.5 | 14 | 5.8 | 13 | 25.1 | 1.4 | 1.3 | 7.4 | 7.0 | 13.4 | 12.6 |
| 15 | 14 | 3.8 | 14 | 6.1 | 13 | 25.3 | 1.5 | 1.4 | 7.5 | 7.1 | 13.5 | 12.7 |
| 16 | 14 | 4.0 | 14 | 6.3 | 13 | 25.6 | 1.6 | 1.5 | 7.6 | 7.2 | 13.6 | 12.8 |
| 17 | 14 | 4.2 | 14 | 6.6 | 13 | 25.8 | 1.7 | 1.6 | 7.7 | 7.3 | 13.7 | 12.9 |
| 18 | 14 | 4.5 | 14 | 6.8 | 13 | 26.0 | 1.8 | 1.7 | 7.8 | 7.3 | 13.8 | 13.0 |
| 19 | 14 | 4.8 | 14 | 7.1 | 13 | 26.3 | 1.9 | 1.8 | 7.9 | 7.4 | 13.9 | 13.1 |
| 20 | 14 | 5.0 | 14 | 7.3 | 13 | 26.5 | 2.0 | 1.9 | 8.0 | 7.5 | 14.0 | 13.2 |
| 21 | 14 | 5.3 | 14 | 7.6 | 13 | 26.7 | 2.1 | 2.0 | 8.1 | 7.6 | 14.1 | 13.3 |
| 22 | 14 | 5.5 | 14 | 7.8 | 13 | 27.0 | 2.2 | 2.1 | 8.2 | 7.7 | 14.2 | 13.4 |
| 23 | 14 | 5.7 | 14 | 8.1 | 13 | 27.2 | 2.3 | 2.2 | 8.3 | 7.8 | 14.3 | 13.5 |
| 24 | 14 | 6.0 | 14 | 8.3 | 13 | 27.5 | 2.4 | 2.3 | 8.4 | 7.9 | 14.4 | 13.6 |
| 25 | 14 | 6.2 | 14 | 8.6 | 13 | 27.7 | 2.5 | 2.4 | 8.5 | 8.0 | 14.5 | 13.7 |
| 26 | 14 | 6.5 | 14 | 8.8 | 13 | 27.9 | 2.6 | 2.4 | 8.6 | 8.1 | 14.6 | 13.7 |
| 27 | 14 | 6.8 | 14 | 9.1 | 13 | 28.2 | 2.7 | 2.5 | 8.7 | 8.2 | 14.7 | 13.8 |
| 28 | 14 | 7.0 | 14 | 9.3 | 13 | 28.4 | 2.8 | 2.6 | 8.8 | 8.3 | 14.8 | 13.9 |
| 29 | 14 | 7.3 | 14 | 9.6 | 13 | 28.7 | 2.9 | 2.7 | 8.9 | 8.4 | 14.9 | 14.0 |
| 30 | 14 | 7.5 | 14 | 9.8 | 13 | 28.9 | 3.0 | 2.8 | 9.0 | 8.5 | 15.0 | 14.1 |
| 31 | 14 | 7.7 | 14 | 10.1 | 13 | 29.1 | 3.1 | 2.9 | 9.1 | 8.6 | 15.1 | 14.2 |
| 32 | 14 | 8.0 | 14 | 10.3 | 13 | 29.4 | 3.2 | 3.0 | 9.2 | 8.7 | 15.2 | 14.3 |
| 33 | 14 | 8.2 | 14 | 10.6 | 13 | 29.6 | 3.3 | 3.1 | 9.3 | 8.8 | 15.3 | 14.4 |
| 34 | 14 | 8.5 | 14 | 10.8 | 13 | 29.8 | 3.4 | 3.2 | 9.4 | 8.9 | 15.4 | 14.5 |
| 35 | 14 | 8.8 | 14 | 11.1 | 13 | 30.1 | 3.5 | 3.3 | 9.5 | 8.9 | 15.5 | 14.6 |
| 36 | 14 | 9.0 | 14 | 11.3 | 13 | 30.3 | 3.6 | 3.4 | 9.6 | 9.0 | 15.6 | 14.7 |
| 37 | 14 | 9.3 | 14 | 11.6 | 13 | 30.6 | 3.7 | 3.5 | 9.7 | 9.1 | 15.7 | 14.8 |
| 38 | 14 | 9.5 | 14 | 11.8 | 13 | 30.8 | 3.8 | 3.6 | 9.8 | 9.2 | 15.8 | 14.9 |
| 39 | 14 | 9.7 | 14 | 12.1 | 13 | 31.0 | 3.9 | 3.7 | 9.9 | 9.3 | 15.9 | 15.0 |
| 40 | 14 | 10.0 | 14 | 12.3 | 13 | 31.3 | 4.0 | 3.8 | 10.0 | 9.4 | 16.0 | 15.1 |
| 41 | 14 | 10.2 | 14 | 12.6 | 13 | 31.5 | 4.1 | 3.9 | 10.1 | 9.5 | 16.1 | 15.2 |
| 42 | 14 | 10.5 | 14 | 12.8 | 13 | 31.8 | 4.2 | 4.0 | 10.2 | 9.6 | 16.2 | 15.3 |
| 43 | 14 | 10.8 | 14 | 13.1 | 13 | 32.0 | 4.3 | 4.0 | 10.3 | 9.7 | 16.3 | 15.3 |
| 44 | 14 | 11.0 | 14 | 13.3 | 13 | 32.2 | 4.4 | 4.1 | 10.4 | 9.8 | 16.4 | 15.4 |
| 45 | 14 | 11.3 | 14 | 13.6 | 13 | 32.5 | 4.5 | 4.2 | 10.5 | 9.9 | 16.5 | 15.5 |
| 46 | 14 | 11.5 | 14 | 13.8 | 13 | 32.7 | 4.6 | 4.3 | 10.6 | 10.0 | 16.6 | 15.6 |
| 47 | 14 | 11.7 | 14 | 14.1 | 13 | 32.9 | 4.7 | 4.4 | 10.7 | 10.1 | 16.7 | 15.7 |
| 48 | 14 | 12.0 | 14 | 14.3 | 13 | 33.2 | 4.8 | 4.5 | 10.8 | 10.2 | 16.8 | 15.8 |
| 49 | 14 | 12.3 | 14 | 14.6 | 13 | 33.4 | 4.9 | 4.6 | 10.9 | 10.3 | 16.9 | 15.9 |
| 50 | 14 | 12.5 | 14 | 14.8 | 13 | 33.7 | 5.0 | 4.7 | 11.0 | 10.4 | 17.0 | 16.0 |
| 51 | 14 | 12.8 | 14 | 15.1 | 13 | 33.9 | 5.1 | 4.8 | 11.1 | 10.5 | 17.1 | 16.1 |
| 52 | 14 | 13.0 | 14 | 15.3 | 13 | 34.1 | 5.2 | 4.9 | 11.2 | 10.5 | 17.2 | 16.2 |
| 53 | 14 | 13.2 | 14 | 15.6 | 13 | 34.4 | 5.3 | 5.0 | 11.3 | 10.6 | 17.3 | 16.3 |
| 54 | 14 | 13.5 | 14 | 15.8 | 13 | 34.6 | 5.4 | 5.1 | 11.4 | 10.7 | 17.4 | 16.4 |
| 55 | 14 | 13.7 | 14 | 16.1 | 13 | 34.9 | 5.5 | 5.2 | 11.5 | 10.8 | 17.5 | 16.5 |
| 56 | 14 | 14.0 | 14 | 16.3 | 13 | 35.1 | 5.6 | 5.3 | 11.6 | 10.9 | 17.6 | 16.6 |
| 57 | 14 | 14.3 | 14 | 16.6 | 13 | 35.3 | 5.7 | 5.4 | 11.7 | 11.0 | 17.7 | 16.7 |
| 58 | 14 | 14.5 | 14 | 16.8 | 13 | 35.6 | 5.8 | 5.5 | 11.8 | 11.1 | 17.8 | 16.8 |
| 59 | 14 | 14.8 | 14 | 17.1 | 13 | 35.8 | 5.9 | 5.6 | 11.9 | 11.2 | 17.9 | 16.9 |
| 60 | 14 | 15.0 | 14 | 17.3 | 13 | 36.0 | 6.0 | 5.7 | 12.0 | 11.3 | 18.0 | 17.0 |

| m 57 | Planets Sun | | Aries | | Moon | | v/d | | corr | | v/d | | corr | | v/d | | corr | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| s | ○ | ′ | ○ | ′ | ○ | ′ | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | |
| 0 | 14 | 15.0 | 14 | 17.3 | 13 | 36.0 | 0.0 | 0.0 | 6.0 | 5.8 | 12.0 | 11.5 |
| 1 | 14 | 15.2 | 14 | 17.6 | 13 | 36.3 | 0.1 | 0.1 | 6.1 | 5.8 | 12.1 | 11.6 |
| 2 | 14 | 15.5 | 14 | 17.8 | 13 | 36.5 | 0.2 | 0.2 | 6.2 | 5.9 | 12.2 | 11.7 |
| 3 | 14 | 15.7 | 14 | 18.1 | 13 | 36.8 | 0.3 | 0.3 | 6.3 | 6.0 | 12.3 | 11.8 |
| 4 | 14 | 16.0 | 14 | 18.3 | 13 | 37.0 | 0.4 | 0.4 | 6.4 | 6.1 | 12.4 | 11.9 |
| 5 | 14 | 16.3 | 14 | 18.6 | 13 | 37.2 | 0.5 | 0.5 | 6.5 | 6.2 | 12.5 | 12.0 |
| 6 | 14 | 16.5 | 14 | 18.8 | 13 | 37.5 | 0.6 | 0.6 | 6.6 | 6.3 | 12.6 | 12.1 |
| 7 | 14 | 16.8 | 14 | 19.1 | 13 | 37.7 | 0.7 | 0.7 | 6.7 | 6.4 | 12.7 | 12.2 |
| 8 | 14 | 17.0 | 14 | 19.3 | 13 | 38.0 | 0.8 | 0.8 | 6.8 | 6.5 | 12.8 | 12.3 |
| 9 | 14 | 17.2 | 14 | 19.6 | 13 | 38.2 | 0.9 | 0.9 | 6.9 | 6.6 | 12.9 | 12.4 |
| 10 | 14 | 17.5 | 14 | 19.8 | 13 | 38.4 | 1.0 | 1.0 | 7.0 | 6.7 | 13.0 | 12.5 |
| 11 | 14 | 17.7 | 14 | 20.1 | 13 | 38.7 | 1.1 | 1.1 | 7.1 | 6.8 | 13.1 | 12.6 |
| 12 | 14 | 18.0 | 14 | 20.3 | 13 | 38.9 | 1.2 | 1.2 | 7.2 | 6.9 | 13.2 | 12.7 |
| 13 | 14 | 18.3 | 14 | 20.6 | 13 | 39.2 | 1.3 | 1.2 | 7.3 | 7.0 | 13.3 | 12.7 |
| 14 | 14 | 18.5 | 14 | 20.8 | 13 | 39.4 | 1.4 | 1.3 | 7.4 | 7.1 | 13.4 | 12.8 |
| 15 | 14 | 18.8 | 14 | 21.1 | 13 | 39.6 | 1.5 | 1.4 | 7.5 | 7.2 | 13.5 | 12.9 |
| 16 | 14 | 19.0 | 14 | 21.3 | 13 | 39.9 | 1.6 | 1.5 | 7.6 | 7.3 | 13.6 | 13.0 |
| 17 | 14 | 19.2 | 14 | 21.6 | 13 | 40.1 | 1.7 | 1.6 | 7.7 | 7.4 | 13.7 | 13.1 |
| 18 | 14 | 19.5 | 14 | 21.8 | 13 | 40.3 | 1.8 | 1.7 | 7.8 | 7.5 | 13.8 | 13.2 |
| 19 | 14 | 19.8 | 14 | 22.1 | 13 | 40.6 | 1.9 | 1.8 | 7.9 | 7.6 | 13.9 | 13.3 |
| 20 | 14 | 20.0 | 14 | 22.4 | 13 | 40.8 | 2.0 | 1.9 | 8.0 | 7.7 | 14.0 | 13.4 |
| 21 | 14 | 20.3 | 14 | 22.6 | 13 | 41.1 | 2.1 | 2.0 | 8.1 | 7.8 | 14.1 | 13.5 |
| 22 | 14 | 20.5 | 14 | 22.9 | 13 | 41.3 | 2.2 | 2.1 | 8.2 | 7.9 | 14.2 | 13.6 |
| 23 | 14 | 20.7 | 14 | 23.1 | 13 | 41.5 | 2.3 | 2.2 | 8.3 | 8.0 | 14.3 | 13.7 |
| 24 | 14 | 21.0 | 14 | 23.4 | 13 | 41.8 | 2.4 | 2.3 | 8.4 | 8.1 | 14.4 | 13.8 |
| 25 | 14 | 21.2 | 14 | 23.6 | 13 | 42.0 | 2.5 | 2.4 | 8.5 | 8.1 | 14.5 | 13.9 |
| 26 | 14 | 21.5 | 14 | 23.9 | 13 | 42.3 | 2.6 | 2.5 | 8.6 | 8.2 | 14.6 | 14.0 |
| 27 | 14 | 21.8 | 14 | 24.1 | 13 | 42.5 | 2.7 | 2.6 | 8.7 | 8.3 | 14.7 | 14.1 |
| 28 | 14 | 22.0 | 14 | 24.4 | 13 | 42.7 | 2.8 | 2.7 | 8.8 | 8.4 | 14.8 | 14.2 |
| 29 | 14 | 22.3 | 14 | 24.6 | 13 | 43.0 | 2.9 | 2.8 | 8.9 | 8.5 | 14.9 | 14.3 |
| 30 | 14 | 22.5 | 14 | 24.9 | 13 | 43.2 | 3.0 | 2.9 | 9.0 | 8.6 | 15.0 | 14.4 |
| 31 | 14 | 22.7 | 14 | 25.1 | 13 | 43.4 | 3.1 | 3.0 | 9.1 | 8.7 | 15.1 | 14.5 |
| 32 | 14 | 23.0 | 14 | 25.4 | 13 | 43.7 | 3.2 | 3.1 | 9.2 | 8.8 | 15.2 | 14.6 |
| 33 | 14 | 23.2 | 14 | 25.6 | 13 | 43.9 | 3.3 | 3.2 | 9.3 | 8.9 | 15.3 | 14.7 |
| 34 | 14 | 23.5 | 14 | 25.9 | 13 | 44.2 | 3.4 | 3.3 | 9.4 | 9.0 | 15.4 | 14.8 |
| 35 | 14 | 23.8 | 14 | 26.1 | 13 | 44.4 | 3.5 | 3.4 | 9.5 | 9.1 | 15.5 | 14.9 |
| 36 | 14 | 24.0 | 14 | 26.4 | 13 | 44.6 | 3.6 | 3.5 | 9.6 | 9.2 | 15.6 | 15.0 |
| 37 | 14 | 24.3 | 14 | 26.6 | 13 | 44.9 | 3.7 | 3.5 | 9.7 | 9.3 | 15.7 | 15.0 |
| 38 | 14 | 24.5 | 14 | 26.9 | 13 | 45.1 | 3.8 | 3.6 | 9.8 | 9.4 | 15.8 | 15.1 |
| 39 | 14 | 24.7 | 14 | 27.1 | 13 | 45.4 | 3.9 | 3.7 | 9.9 | 9.5 | 15.9 | 15.2 |
| 40 | 14 | 25.0 | 14 | 27.4 | 13 | 45.6 | 4.0 | 3.8 | 10.0 | 9.6 | 16.0 | 15.3 |
| 41 | 14 | 25.2 | 14 | 27.6 | 13 | 45.8 | 4.1 | 3.9 | 10.1 | 9.7 | 16.1 | 15.4 |
| 42 | 14 | 25.5 | 14 | 27.9 | 13 | 46.1 | 4.2 | 4.0 | 10.2 | 9.8 | 16.2 | 15.5 |
| 43 | 14 | 25.8 | 14 | 28.1 | 13 | 46.3 | 4.3 | 4.1 | 10.3 | 9.9 | 16.3 | 15.6 |
| 44 | 14 | 26.0 | 14 | 28.4 | 13 | 46.5 | 4.4 | 4.2 | 10.4 | 10.0 | 16.4 | 15.7 |
| 45 | 14 | 26.3 | 14 | 28.6 | 13 | 46.8 | 4.5 | 4.3 | 10.5 | 10.1 | 16.5 | 15.8 |
| 46 | 14 | 26.5 | 14 | 28.9 | 13 | 47.0 | 4.6 | 4.4 | 10.6 | 10.2 | 16.6 | 15.9 |
| 47 | 14 | 26.7 | 14 | 29.1 | 13 | 47.3 | 4.7 | 4.5 | 10.7 | 10.3 | 16.7 | 16.0 |
| 48 | 14 | 27.0 | 14 | 29.4 | 13 | 47.5 | 4.8 | 4.6 | 10.8 | 10.4 | 16.8 | 16.1 |
| 49 | 14 | 27.3 | 14 | 29.6 | 13 | 47.7 | 4.9 | 4.7 | 10.9 | 10.4 | 16.9 | 16.2 |
| 50 | 14 | 27.5 | 14 | 29.9 | 13 | 48.0 | 5.0 | 4.8 | 11.0 | 10.5 | 17.0 | 16.3 |
| 51 | 14 | 27.8 | 14 | 30.1 | 13 | 48.2 | 5.1 | 4.9 | 11.1 | 10.6 | 17.1 | 16.4 |
| 52 | 14 | 28.0 | 14 | 30.4 | 13 | 48.5 | 5.2 | 5.0 | 11.2 | 10.7 | 17.2 | 16.5 |
| 53 | 14 | 28.2 | 14 | 30.6 | 13 | 48.7 | 5.3 | 5.1 | 11.3 | 10.8 | 17.3 | 16.6 |
| 54 | 14 | 28.5 | 14 | 30.9 | 13 | 48.9 | 5.4 | 5.2 | 11.4 | 10.9 | 17.4 | 16.7 |
| 55 | 14 | 28.7 | 14 | 31.1 | 13 | 49.2 | 5.5 | 5.3 | 11.5 | 11.0 | 17.5 | 16.8 |
| 56 | 14 | 29.0 | 14 | 31.4 | 13 | 49.4 | 5.6 | 5.4 | 11.6 | 11.1 | 17.6 | 16.9 |
| 57 | 14 | 29.3 | 14 | 31.6 | 13 | 49.7 | 5.7 | 5.5 | 11.7 | 11.2 | 17.7 | 17.0 |
| 58 | 14 | 29.5 | 14 | 31.9 | 13 | 49.9 | 5.8 | 5.6 | 11.8 | 11.3 | 17.8 | 17.1 |
| 59 | 14 | 29.8 | 14 | 32.1 | 13 | 50.1 | 5.9 | 5.7 | 11.9 | 11.4 | 17.9 | 17.2 |
| 60 | 14 | 30.0 | 14 | 32.4 | 13 | 50.4 | 6.0 | 5.8 | 12.0 | 11.5 | 18.0 | 17.3 |

| m 58 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 14 30.0 | 14 32.4 | 13 50.4 | 0.0 | 0.0 | 6.0 | 5.9 | 12.0 | 11.7 |
| 1 | 14 30.2 | 14 32.6 | 13 50.6 | 0.1 | 0.1 | 6.1 | 5.9 | 12.1 | 11.8 |
| 2 | 14 30.5 | 14 32.9 | 13 50.8 | 0.2 | 0.2 | 6.2 | 6.0 | 12.2 | 11.9 |
| 3 | 14 30.7 | 14 33.1 | 13 51.1 | 0.3 | 0.3 | 6.3 | 6.1 | 12.3 | 12.0 |
| 4 | 14 31.0 | 14 33.4 | 13 51.3 | 0.4 | 0.4 | 6.4 | 6.2 | 12.4 | 12.1 |
| 5 | 14 31.3 | 14 33.6 | 13 51.6 | 0.5 | 0.5 | 6.5 | 6.3 | 12.5 | 12.2 |
| 6 | 14 31.5 | 14 33.9 | 13 51.8 | 0.6 | 0.6 | 6.6 | 6.4 | 12.6 | 12.3 |
| 7 | 14 31.8 | 14 34.1 | 13 52.0 | 0.7 | 0.7 | 6.7 | 6.5 | 12.7 | 12.4 |
| 8 | 14 32.0 | 14 34.4 | 13 52.3 | 0.8 | 0.8 | 6.8 | 6.6 | 12.8 | 12.5 |
| 9 | 14 32.2 | 14 34.6 | 13 52.5 | 0.9 | 0.9 | 6.9 | 6.7 | 12.9 | 12.6 |
| 10 | 14 32.5 | 14 34.9 | 13 52.8 | 1.0 | 1.0 | 7.0 | 6.8 | 13.0 | 12.7 |
| 11 | 14 32.7 | 14 35.1 | 13 53.0 | 1.1 | 1.1 | 7.1 | 6.9 | 13.1 | 12.8 |
| 12 | 14 33.0 | 14 35.4 | 13 53.2 | 1.2 | 1.2 | 7.2 | 7.0 | 13.2 | 12.9 |
| 13 | 14 33.3 | 14 35.6 | 13 53.5 | 1.3 | 1.3 | 7.3 | 7.1 | 13.3 | 13.0 |
| 14 | 14 33.5 | 14 35.9 | 13 53.7 | 1.4 | 1.4 | 7.4 | 7.2 | 13.4 | 13.1 |
| 15 | 14 33.8 | 14 36.1 | 13 53.9 | 1.5 | 1.5 | 7.5 | 7.3 | 13.5 | 13.2 |
| 16 | 14 34.0 | 14 36.4 | 13 54.2 | 1.6 | 1.6 | 7.6 | 7.4 | 13.6 | 13.3 |
| 17 | 14 34.2 | 14 36.6 | 13 54.4 | 1.7 | 1.7 | 7.7 | 7.5 | 13.7 | 13.4 |
| 18 | 14 34.5 | 14 36.9 | 13 54.7 | 1.8 | 1.8 | 7.8 | 7.6 | 13.8 | 13.5 |
| 19 | 14 34.8 | 14 37.1 | 13 54.9 | 1.9 | 1.9 | 7.9 | 7.7 | 13.9 | 13.6 |
| 20 | 14 35.0 | 14 37.4 | 13 55.1 | 2.0 | 2.0 | 8.0 | 7.8 | 14.0 | 13.7 |
| 21 | 14 35.3 | 14 37.6 | 13 55.4 | 2.1 | 2.0 | 8.1 | 7.9 | 14.1 | 13.7 |
| 22 | 14 35.5 | 14 37.9 | 13 55.6 | 2.2 | 2.1 | 8.2 | 8.0 | 14.2 | 13.8 |
| 23 | 14 35.7 | 14 38.1 | 13 55.9 | 2.3 | 2.2 | 8.3 | 8.1 | 14.3 | 13.9 |
| 24 | 14 36.0 | 14 38.4 | 13 56.1 | 2.4 | 2.3 | 8.4 | 8.2 | 14.4 | 14.0 |
| 25 | 14 36.2 | 14 38.6 | 13 56.3 | 2.5 | 2.4 | 8.5 | 8.3 | 14.5 | 14.1 |
| 26 | 14 36.5 | 14 38.9 | 13 56.6 | 2.6 | 2.5 | 8.6 | 8.4 | 14.6 | 14.2 |
| 27 | 14 36.8 | 14 39.1 | 13 56.8 | 2.7 | 2.6 | 8.7 | 8.5 | 14.7 | 14.3 |
| 28 | 14 37.0 | 14 39.4 | 13 57.0 | 2.8 | 2.7 | 8.8 | 8.6 | 14.8 | 14.4 |
| 29 | 14 37.3 | 14 39.6 | 13 57.3 | 2.9 | 2.8 | 8.9 | 8.7 | 14.9 | 14.5 |
| 30 | 14 37.5 | 14 39.9 | 13 57.5 | 3.0 | 2.9 | 9.0 | 8.8 | 15.0 | 14.6 |
| 31 | 14 37.7 | 14 40.1 | 13 57.8 | 3.1 | 3.0 | 9.1 | 8.9 | 15.1 | 14.7 |
| 32 | 14 38.0 | 14 40.4 | 13 58.0 | 3.2 | 3.1 | 9.2 | 9.0 | 15.2 | 14.8 |
| 33 | 14 38.2 | 14 40.7 | 13 58.2 | 3.3 | 3.2 | 9.3 | 9.1 | 15.3 | 14.9 |
| 34 | 14 38.5 | 14 40.9 | 13 58.5 | 3.4 | 3.3 | 9.4 | 9.2 | 15.4 | 15.0 |
| 35 | 14 38.8 | 14 41.2 | 13 58.7 | 3.5 | 3.4 | 9.5 | 9.3 | 15.5 | 15.1 |
| 36 | 14 39.0 | 14 41.4 | 13 59.0 | 3.6 | 3.5 | 9.6 | 9.4 | 15.6 | 15.2 |
| 37 | 14 39.3 | 14 41.7 | 13 59.2 | 3.7 | 3.6 | 9.7 | 9.5 | 15.7 | 15.3 |
| 38 | 14 39.5 | 14 41.9 | 13 59.4 | 3.8 | 3.7 | 9.8 | 9.6 | 15.8 | 15.4 |
| 39 | 14 39.7 | 14 42.2 | 13 59.7 | 3.9 | 3.8 | 9.9 | 9.7 | 15.9 | 15.5 |
| 40 | 14 40.0 | 14 42.4 | 13 59.9 | 4.0 | 3.9 | 10.0 | 9.8 | 16.0 | 15.6 |
| 41 | 14 40.2 | 14 42.7 | 14 0.1 | 4.1 | 4.0 | 10.1 | 9.8 | 16.1 | 15.7 |
| 42 | 14 40.5 | 14 42.9 | 14 0.4 | 4.2 | 4.1 | 10.2 | 9.9 | 16.2 | 15.8 |
| 43 | 14 40.8 | 14 43.2 | 14 0.6 | 4.3 | 4.2 | 10.3 | 10.0 | 16.3 | 15.9 |
| 44 | 14 41.0 | 14 43.4 | 14 0.9 | 4.4 | 4.3 | 10.4 | 10.1 | 16.4 | 16.0 |
| 45 | 14 41.3 | 14 43.7 | 14 1.1 | 4.5 | 4.4 | 10.5 | 10.2 | 16.5 | 16.1 |
| 46 | 14 41.5 | 14 43.9 | 14 1.3 | 4.6 | 4.5 | 10.6 | 10.3 | 16.6 | 16.2 |
| 47 | 14 41.7 | 14 44.2 | 14 1.6 | 4.7 | 4.6 | 10.7 | 10.4 | 16.7 | 16.3 |
| 48 | 14 42.0 | 14 44.4 | 14 1.8 | 4.8 | 4.7 | 10.8 | 10.5 | 16.8 | 16.4 |
| 49 | 14 42.3 | 14 44.7 | 14 2.1 | 4.9 | 4.8 | 10.9 | 10.6 | 16.9 | 16.5 |
| 50 | 14 42.5 | 14 44.9 | 14 2.3 | 5.0 | 4.9 | 11.0 | 10.7 | 17.0 | 16.6 |
| 51 | 14 42.8 | 14 45.2 | 14 2.5 | 5.1 | 5.0 | 11.1 | 10.8 | 17.1 | 16.7 |
| 52 | 14 43.0 | 14 45.4 | 14 2.8 | 5.2 | 5.1 | 11.2 | 10.9 | 17.2 | 16.8 |
| 53 | 14 43.2 | 14 45.7 | 14 3.0 | 5.3 | 5.2 | 11.3 | 11.0 | 17.3 | 16.9 |
| 54 | 14 43.5 | 14 45.9 | 14 3.3 | 5.4 | 5.3 | 11.4 | 11.1 | 17.4 | 17.0 |
| 55 | 14 43.7 | 14 46.2 | 14 3.5 | 5.5 | 5.4 | 11.5 | 11.2 | 17.5 | 17.1 |
| 56 | 14 44.0 | 14 46.4 | 14 3.7 | 5.6 | 5.5 | 11.6 | 11.3 | 17.6 | 17.2 |
| 57 | 14 44.3 | 14 46.7 | 14 4.0 | 5.7 | 5.6 | 11.7 | 11.4 | 17.7 | 17.3 |
| 58 | 14 44.5 | 14 46.9 | 14 4.2 | 5.8 | 5.7 | 11.8 | 11.5 | 17.8 | 17.4 |
| 59 | 14 44.8 | 14 47.2 | 14 4.4 | 5.9 | 5.8 | 11.9 | 11.6 | 17.9 | 17.5 |
| 60 | 14 45.0 | 14 47.4 | 14 4.7 | 6.0 | 5.9 | 12.0 | 11.7 | 18.0 | 17.6 |

| m 59 | Planets Sun | Aries | Moon | v/d | corr | v/d | corr | v/d | corr |
|---|---|---|---|---|---|---|---|---|---|
| s | ° ′ | ° ′ | ° ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 0 | 14 45.0 | 14 47.4 | 14 4.7 | 0.0 | 0.0 | 6.0 | 6.0 | 12.0 | 11.9 |
| 1 | 14 45.2 | 14 47.7 | 14 4.9 | 0.1 | 0.1 | 6.1 | 6.0 | 12.1 | 12.0 |
| 2 | 14 45.5 | 14 47.9 | 14 5.2 | 0.2 | 0.2 | 6.2 | 6.1 | 12.2 | 12.1 |
| 3 | 14 45.7 | 14 48.2 | 14 5.4 | 0.3 | 0.3 | 6.3 | 6.2 | 12.3 | 12.2 |
| 4 | 14 46.0 | 14 48.4 | 14 5.6 | 0.4 | 0.4 | 6.4 | 6.3 | 12.4 | 12.3 |
| 5 | 14 46.3 | 14 48.7 | 14 5.9 | 0.5 | 0.5 | 6.5 | 6.4 | 12.5 | 12.4 |
| 6 | 14 46.5 | 14 48.9 | 14 6.1 | 0.6 | 0.6 | 6.6 | 6.5 | 12.6 | 12.5 |
| 7 | 14 46.8 | 14 49.2 | 14 6.4 | 0.7 | 0.7 | 6.7 | 6.6 | 12.7 | 12.6 |
| 8 | 14 47.0 | 14 49.4 | 14 6.6 | 0.8 | 0.8 | 6.8 | 6.7 | 12.8 | 12.7 |
| 9 | 14 47.2 | 14 49.7 | 14 6.8 | 0.9 | 0.9 | 6.9 | 6.8 | 12.9 | 12.8 |
| 10 | 14 47.5 | 14 49.9 | 14 7.1 | 1.0 | 1.0 | 7.0 | 6.9 | 13.0 | 12.9 |
| 11 | 14 47.7 | 14 50.2 | 14 7.3 | 1.1 | 1.1 | 7.1 | 7.0 | 13.1 | 13.0 |
| 12 | 14 48.0 | 14 50.4 | 14 7.5 | 1.2 | 1.2 | 7.2 | 7.1 | 13.2 | 13.1 |
| 13 | 14 48.3 | 14 50.7 | 14 7.8 | 1.3 | 1.3 | 7.3 | 7.2 | 13.3 | 13.2 |
| 14 | 14 48.5 | 14 50.9 | 14 8.0 | 1.4 | 1.4 | 7.4 | 7.3 | 13.4 | 13.3 |
| 15 | 14 48.8 | 14 51.2 | 14 8.3 | 1.5 | 1.5 | 7.5 | 7.4 | 13.5 | 13.4 |
| 16 | 14 49.0 | 14 51.4 | 14 8.5 | 1.6 | 1.6 | 7.6 | 7.5 | 13.6 | 13.5 |
| 17 | 14 49.2 | 14 51.7 | 14 8.7 | 1.7 | 1.7 | 7.7 | 7.6 | 13.7 | 13.6 |
| 18 | 14 49.5 | 14 51.9 | 14 9.0 | 1.8 | 1.8 | 7.8 | 7.7 | 13.8 | 13.7 |
| 19 | 14 49.8 | 14 52.2 | 14 9.2 | 1.9 | 1.9 | 7.9 | 7.8 | 13.9 | 13.8 |
| 20 | 14 50.0 | 14 52.4 | 14 9.5 | 2.0 | 2.0 | 8.0 | 7.9 | 14.0 | 13.9 |
| 21 | 14 50.3 | 14 52.7 | 14 9.7 | 2.1 | 2.1 | 8.1 | 8.0 | 14.1 | 14.0 |
| 22 | 14 50.5 | 14 52.9 | 14 9.9 | 2.2 | 2.2 | 8.2 | 8.1 | 14.2 | 14.1 |
| 23 | 14 50.7 | 14 53.2 | 14 10.2 | 2.3 | 2.3 | 8.3 | 8.2 | 14.3 | 14.2 |
| 24 | 14 51.0 | 14 53.4 | 14 10.4 | 2.4 | 2.4 | 8.4 | 8.3 | 14.4 | 14.3 |
| 25 | 14 51.2 | 14 53.7 | 14 10.6 | 2.5 | 2.5 | 8.5 | 8.4 | 14.5 | 14.4 |
| 26 | 14 51.5 | 14 53.9 | 14 10.9 | 2.6 | 2.6 | 8.6 | 8.5 | 14.6 | 14.5 |
| 27 | 14 51.8 | 14 54.2 | 14 11.1 | 2.7 | 2.7 | 8.7 | 8.6 | 14.7 | 14.6 |
| 28 | 14 52.0 | 14 54.4 | 14 11.4 | 2.8 | 2.8 | 8.8 | 8.7 | 14.8 | 14.7 |
| 29 | 14 52.3 | 14 54.7 | 14 11.6 | 2.9 | 2.9 | 8.9 | 8.8 | 14.9 | 14.8 |
| 30 | 14 52.5 | 14 54.9 | 14 11.8 | 3.0 | 3.0 | 9.0 | 8.9 | 15.0 | 14.9 |
| 31 | 14 52.7 | 14 55.2 | 14 12.1 | 3.1 | 3.1 | 9.1 | 9.0 | 15.1 | 15.0 |
| 32 | 14 53.0 | 14 55.4 | 14 12.3 | 3.2 | 3.2 | 9.2 | 9.1 | 15.2 | 15.1 |
| 33 | 14 53.2 | 14 55.7 | 14 12.6 | 3.3 | 3.3 | 9.3 | 9.2 | 15.3 | 15.2 |
| 34 | 14 53.5 | 14 55.9 | 14 12.8 | 3.4 | 3.4 | 9.4 | 9.3 | 15.4 | 15.3 |
| 35 | 14 53.8 | 14 56.2 | 14 13.0 | 3.5 | 3.5 | 9.5 | 9.4 | 15.5 | 15.4 |
| 36 | 14 54.0 | 14 56.4 | 14 13.3 | 3.6 | 3.6 | 9.6 | 9.5 | 15.6 | 15.5 |
| 37 | 14 54.3 | 14 56.7 | 14 13.5 | 3.7 | 3.7 | 9.7 | 9.6 | 15.7 | 15.6 |
| 38 | 14 54.5 | 14 56.9 | 14 13.8 | 3.8 | 3.8 | 9.8 | 9.7 | 15.8 | 15.7 |
| 39 | 14 54.7 | 14 57.2 | 14 14.0 | 3.9 | 3.9 | 9.9 | 9.8 | 15.9 | 15.8 |
| 40 | 14 55.0 | 14 57.4 | 14 14.2 | 4.0 | 4.0 | 10.0 | 9.9 | 16.0 | 15.9 |
| 41 | 14 55.2 | 14 57.7 | 14 14.5 | 4.1 | 4.1 | 10.1 | 10.0 | 16.1 | 16.0 |
| 42 | 14 55.5 | 14 57.9 | 14 14.7 | 4.2 | 4.2 | 10.2 | 10.1 | 16.2 | 16.1 |
| 43 | 14 55.8 | 14 58.2 | 14 14.9 | 4.3 | 4.3 | 10.3 | 10.2 | 16.3 | 16.2 |
| 44 | 14 56.0 | 14 58.4 | 14 15.2 | 4.4 | 4.4 | 10.4 | 10.3 | 16.4 | 16.3 |
| 45 | 14 56.3 | 14 58.7 | 14 15.4 | 4.5 | 4.5 | 10.5 | 10.4 | 16.5 | 16.4 |
| 46 | 14 56.5 | 14 59.0 | 14 15.7 | 4.6 | 4.6 | 10.6 | 10.5 | 16.6 | 16.5 |
| 47 | 14 56.7 | 14 59.2 | 14 15.9 | 4.7 | 4.7 | 10.7 | 10.6 | 16.7 | 16.6 |
| 48 | 14 57.0 | 14 59.5 | 14 16.1 | 4.8 | 4.8 | 10.8 | 10.7 | 16.8 | 16.7 |
| 49 | 14 57.3 | 14 59.7 | 14 16.4 | 4.9 | 4.9 | 10.9 | 10.8 | 16.9 | 16.8 |
| 50 | 14 57.5 | 15 0.0 | 14 16.6 | 5.0 | 5.0 | 11.0 | 10.9 | 17.0 | 16.9 |
| 51 | 14 57.8 | 15 0.2 | 14 16.9 | 5.1 | 5.1 | 11.1 | 11.0 | 17.1 | 17.0 |
| 52 | 14 58.0 | 15 0.5 | 14 17.1 | 5.2 | 5.2 | 11.2 | 11.1 | 17.2 | 17.1 |
| 53 | 14 58.2 | 15 0.7 | 14 17.3 | 5.3 | 5.3 | 11.3 | 11.2 | 17.3 | 17.2 |
| 54 | 14 58.5 | 15 1.0 | 14 17.6 | 5.4 | 5.4 | 11.4 | 11.3 | 17.4 | 17.3 |
| 55 | 14 58.7 | 15 1.2 | 14 17.8 | 5.5 | 5.5 | 11.5 | 11.4 | 17.5 | 17.4 |
| 56 | 14 59.0 | 15 1.5 | 14 18.0 | 5.6 | 5.6 | 11.6 | 11.5 | 17.6 | 17.5 |
| 57 | 14 59.3 | 15 1.7 | 14 18.3 | 5.7 | 5.7 | 11.7 | 11.6 | 17.7 | 17.6 |
| 58 | 14 59.5 | 15 2.0 | 14 18.5 | 5.8 | 5.8 | 11.8 | 11.7 | 17.8 | 17.7 |
| 59 | 14 59.8 | 15 2.2 | 14 18.8 | 5.9 | 5.9 | 11.9 | 11.8 | 17.9 | 17.8 |
| 60 | 15 0.0 | 15 2.5 | 14 19.0 | 6.0 | 6.0 | 12.0 | 11.9 | 18.0 | 17.9 |