# Celestial Sphere Models—Star Data

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The number preceding the name of the star (or binary or multiple system of stars) refers to its approximate rank according to apparent magnitude. "RA" stands for "Right Ascension" and "Decl." for "Declination". A "v" following the apparent or absolute magnitude of a star (or system of stars) means that this value varies.

The sections are designated as two numbers separated by a slash. The first number refers to the spherical biangle sections and the second to the panel sections.

# **Greek Alphabet**

$\alpha$	alpha	$\iota$	iota	$\rho,  \varrho$	rho
$\beta$	beta	$\kappa$	kappa	$\sigma$ , $\varsigma$	sigma
$\gamma$	gamma	$\lambda$	lambda	au	tau
$\delta$	delta	$\mu$	mu	v	upsilon
$\epsilon,  \varepsilon$	epsilon	$\nu$	nu	$\phi,arphi$	phi
$\zeta$	zeta	ξ	xi	χ	chi
$\eta$	eta	0	omicron	$\psi$	psi
$\theta$ , $\vartheta$	theta	$\pi, \varpi$	pi	$\omega$	omega

# Constellations

Andromeda 2. Antlia Apus 3. 4. Aquarius Aquila 5. 6.  ${\rm Ara}$ 7. Aries 8. Auriga Boötes 9. 10. Caelum 11. Camelopardalis Cancer 13. Canes Venatici 14. Canis Major 15. Canis Minor 16. Capricornus 17. Carina 18. Cassiopeia 19. Centaurus 20. Cepheus 21. Cetus 22. Chamaeleon 23. Circinus 24. Columba 25. Coma Berenices 26. Corona Australis 27. Corona Borealis 28. Corvus 29. Crater

30. Crux

31. Cygnus 32. Delphinus 33. Dorado 34. Draco 35. Equuleus 36. Eridanus 37. Fornax 38. Gemini 39. Grus 40. Hercules 41. Horologium 42. Hydra 43. Hydrus 44. Indus 45. Lacerta 46. Leo 47. Leo Minor 48. Lepus 49. Libra 50. Lupus 51. Lynx 52. Lyra 53. Mensa 54. Microscopium 55. Monoceros 56. Musca 57. Norma Octans 59. Ophiuchus 60. Orion

61. Pavo 62. Pegasus Perseus 63. Phoenix 65. Pictor 66. Pisces 67. Piscis Austrinus Puppis Pyxis 69. Reticulum 70. Sagitta 71. Sagittarius 73. Scorpius 74. Sculptor 75. Scutum Serpens 77. Sextans 78. Taurus Telescopium 79. Triangulum Triangulum Australe 81. 82. Tucana 83. Ursa Major Ursa Minor Vela 85. Virgo 86. 87. Volans 88. Vulpecula

# Stars Sorted Alphabetically

#### 151. Acamar

 $\theta^1$  Eridani

Constellation: Eridanus RA  $2h\,58'\,15.6792''$  Decl.  $-40^{\circ}\,18'\,16.8457''$ 

Section 2/2

Apparent magnitude: 2.88 Absolute magnitude: -0.59

# 9. Achernar

 $\alpha$ Eridani

Constellation: Eridanus

RA 1h 38′ 24″ Decl. -57° 8′ 36″ Section 2/2

Apparent magnitude: 0.45 Absolute magnitude: -2.77

## 22. Adhara

 $\epsilon$  Canis Majoris

Constellation: Canis Major

RA  $6h \, 59' \, 21.2''$ Decl.  $-28^{\circ} \, 59' \, 5''$ 

Apparent magnitude: 1.5 Absolute magnitude: -4.1

## 152. Albaldah

 $\pi$  Sagittarii

Section 3/5

Constellation: Sagittarius

RA 19h 10' 51.8" Decl. -20° 59' 3" Section 7/13

Apparent magnitude: 2.88 Absolute magnitude: -2.77

# 157. Albireo

 $\beta$  Cygni

Constellation: Cygnus RA 19h 31' 28.1"
Decl. 27° 59' 5"

Section 8/14

Apparent magnitude: 2.9 Absolute magnitude: -2.31

# 143. Alcyone

 $\eta$  Tauri

Constellation: Taurus RA 3h 48′ 35.3″ Decl. 24° 9′ 4″ Section 2/3

Apparent magnitude: 2.85 Absolute magnitude: -2.41

#### 14. Aldebaran

 $\alpha$  Tauri

Constellation: Taurus RA 4h 36' 59.1''Decl.  $16^{\circ} 32' 4''$ Section 3/4

Apparent magnitude: 0.86v Absolute magnitude: -0.64v

# 89. Alderamin

 $\alpha$ Cephei

Constellation: Cepheus RA 21h 19′ 1.2″ Decl. 62° 39′ 5″ Section 8/15

Apparent magnitude: 2.45 Absolute magnitude: 1.58

## 58. Al Dhanab

 $\beta$  Gruis

Constellation: Grus RA 22h 43' 45.8" Decl. -46° 47' 14" Section 1/16

Apparent magnitude: 2.07v Absolute magnitude: 1.52

## 120. Aldhibain

 $\eta$  Draconis

Constellation: Draco RA 16h 24' 14.7" Decl. 61° 28' 2" Section 6/11

Apparent magnitude: 2.73 Absolute magnitude: 0.58

# 137. Algenib

 $\gamma$  Pegasi

Constellation: Pegasus RA 0h 14' 11.4"
Decl. 15° 17' 1"
Section 1/1

Apparent magnitude: 2.83 Absolute magnitude: -2.22

## 49. Algieba

 $\gamma$  Leonis

Constellation: Leo RA 10h 19' 58.3506" Decl. 19° 50' 29.3468"

Section 4/7

Apparent magnitude: 2 Absolute magnitude: -0.93

# 60. Algol

 $\beta$  Persei

Constellation: Perseus RA 3h 9′ 22.8″ Decl. 41° 1′ 3″ Section 2/3

Apparent magnitude: 2.09 Absolute magnitude: 0.18

# 163. Algorel

 $\delta$  Corvi

Constellation: Corvus RA  $12h\,30'\,49.4''$  Decl.  $-16^{\circ}\,37'\,0''$  Section 5/9

Apparent magnitude: 2.94 Absolute magnitude: 0.79

## 166. Alheka

 $\zeta$  Tauri

Constellation: Taurus RA  $5h\,38'\,45.1''$  Decl.  $21^{\circ}\,9'\,0''$  Section 3/4

Apparent magnitude: 2.97 Absolute magnitude: -2.56

## 43. Alhena

 $\gamma$  Geminorum Constellation: Gemini RA 6h 38' 46.8" Decl. 16° 22' 5" Section 3/5

Apparent magnitude: 1.93 Absolute magnitude: -0.6

## 32. Alioth

 $\epsilon$  Ursae Majoris Constellation: Ursa Major

RA 12h 54′ 50.3″ Decl. 55° 51′ 3″ Section 5/9

Apparent magnitude: 1.77 Absolute magnitude: -0.2

# 38. Alkaid

 $\eta$  Ursae Majoris

Constellation: Ursa Major RA 13h 48' 16.1''

Decl. 49° 13′ 1″ Section 6/10

Apparent magnitude: 1.86 Absolute magnitude: -0.59

# 181. Almaaz

 $\epsilon$  Aurigae

Constellation: Auriga RA  $5h\,3'\,18''$ 

Decl.  $43^{\circ} 50' 5''$ Section 3/4

Apparent magnitude: 3.03 Absolute magnitude: -5.95

## 61. Almach

 $\gamma$  Andromedae

Constellation: Andromeda RA 2h 3′ 53.9523″

Decl. 42° 19′ 47.0223″

Section 2/2

Apparent magnitude: 2.1 Absolute magnitude: -3.08

### 30. Alnair

 $\alpha$  Gruis

Constellation: Grus RA 22h 9' 23.4'' Decl.  $-46^{\circ} 52' 14''$ 

Section 8/15

Apparent magnitude: 1.74 Absolute magnitude: -0.72

## 168. Alnasl

 $\gamma$  Sagittarii

Constellation: Sagittarius

RA 18h 6' 59.8" Decl. -30° 25' 2" Section 7/13

Apparent magnitude: 2.98 Absolute magnitude: 0.63

## 29. Alnilam

 $\epsilon$  Orionis

Constellation: Orion RA  $5h\,37'\,9.2''$  Decl.  $-1^\circ\,11'\,2''$  Section 3/4

Apparent magnitude: 1.69 Absolute magnitude: -6.38

## 31. Alnitak

C Orionis

Constellation: Orion RA  $5h\,41'\,41.6''$  Decl.  $-1^{\circ}\,56'\,0''$  Section 3/4

Apparent magnitude: 1.75 Absolute magnitude: -5.25

# 156. Alniyat

 $\sigma$  Scorpii

Constellation: Scorpius RA 16h 22′ 19″

Decl.  $-25^{\circ} 38' 0''$ Section 6/11

Apparent magnitude: 2.9v Absolute magnitude: -3.86v

# 3. $\alpha$ Centauri

Constellation: Centaurus RA  $14h\,39'\,35.0631''$  Decl.  $-60^{\circ}\,50'\,15.0992''$  Section 6/10

Apparent magnitude: -0.29 Absolute magnitude: 4.06

## 146. $\alpha$ Hydri

Constellation: Hydrus RA  $1h\,59'\,21.1''$  Decl.  $-61^{\circ}\,28'\,49''$  Section 2/2

Apparent magnitude: 2.86 Absolute magnitude: 1.16

# 198. $\alpha$ Lyncis

Constellation: Lynx RA 9h 22' 10.6" Decl. 34° 18' 4" Section 4/7

Apparent magnitude: 3.14 Absolute magnitude: -1.02

# 114. $\alpha$ Muscæ

Constellation: Musca RA 12h 38' 18.4'' Decl.  $-69^{\circ} 14' 14''$  Section 5/9

Apparent magnitude: 2.69 Absolute magnitude: -2.17

# 47. Alphard

 $\alpha$  Hydrae

Constellation: Hydra RA 9h 28' 29.8" Decl. -8° 44' 2" Section 4/7 Apparent magnitude: 1.98 Absolute magnitude: -1.7

# 150. $\alpha$ Tucanæ

Constellation: Tucana RA 22h 19' 45.2"
Decl. -60° 10' 0"
Section 8/15

Apparent magnitude: 2.87 Absolute magnitude: -1.05

## 67. Alphecca

 $\alpha$  Coronae Borealis Constellation: Corona Borealis RA  $~15h\,35'\,28.3''$ 

Decl. 26° 39′ 1″ Section 6/11

Apparent magnitude: 2.22 Absolute magnitude: 0.42

# 54. Alpheratz

 $\alpha$  Andromedae

Constellation: Andromeda

RA 0h 9′ 20.9″ Decl. 29° 11′ 3″ Section 1/1

Apparent magnitude: 2.07 Absolute magnitude: -0.3

## 12. Altair

 $\alpha$  Aquilae Constellation: Aquila RA 19h 51' 41.1"

Decl. 8° 55′ 0″ Section 8/14

Apparent magnitude: 0.77 Absolute magnitude: 2.21

#### 88. Aludra

 $\eta$  Canis Majoris Constellation: Canis Major RA 7h 24' 49.6" Decl.  $-29^{\circ}$  20' 2" Section 3/5 Apparent magnitude: 2.45 Absolute magnitude: -7.51

## 84. Ankaa

 $\alpha$  Phoenicis Constellation: Phoenix RA 0h 27' 11.7''Decl.  $-42^{\circ} 12' 20''$ Section 1/1

Apparent magnitude: 2.4 Absolute magnitude: 0.52

## 15. Antares

 $\alpha$  Scorpii

Constellation: Scorpius RA 16h 30' 32.7" Decl. -26° 28' 1" Section 7/12 Apparent magnitude: 0.9

Apparent magnitude: 0.95v Absolute magnitude: -5.39v

# 4. Arcturus

 $\alpha$  Boötis

Constellation: Boötes RA 14h 16′ 30.3″ Decl. 19° 5′ 1″ Section 6/10 Apparent magnitude:

Apparent magnitude: -0.05 Absolute magnitude: -0.31

## 98. Arneb

 $\alpha$  Leporis Constellation: Lepus RA 5h 33' 32.8" Decl.  $-17^{\circ}$  48' 3" Section 3/4

Apparent magnitude: 2.58 Absolute magnitude: -5.4

# 101. Ascella

 $\zeta$  Sagittarii

Constellation: Sagittarius

RA 19h 3' 47.2" Decl. -29° 51' 0" Section 7/13

Apparent magnitude: 2.6 Absolute magnitude: 0.42

# 66. Aspidiske

 $\iota$  Carinae

Constellation: Carina RA  $9h\,17'\,35.1''$  Decl.  $-59^{\circ}\,21'\,12''$  Section 4/7

Apparent magnitude: 2.21v Absolute magnitude: -4.42

#### 42. Atria

 $\alpha$ Trianguli Australis

Constellation: Triangulum Australe

RA 16h 48' 39.8951''Decl.  $-69^{\circ} 1' 39.7626''$ Section 7/12

Apparent magnitude: 1.92 Absolute magnitude: -3.61

# 40. Avior

 $\epsilon$  Carinae

Constellation: Carina RA  $8h\,22'\,53.5''$  Decl.  $-59^{\circ}\,34'\,10''$  Section 4/6

Apparent magnitude: 1.87 Absolute magnitude: -4.57

## 26. Bellatrix

 $\gamma$  Orionis

Constellation: Orion RA 5h 26' 7.5" Decl. 6° 21' 5" Section 3/4

Apparent magnitude: 1.64 Absolute magnitude: -2.72

## 141. $\beta$ Aræ

Constellation: Ara RA 17h 26' 50.5'' Decl.  $-55^{\circ} 32' 43''$  Section 7/12

Apparent magnitude: 2.84 Absolute magnitude: -3.49

# 134. $\beta$ Hydri

Constellation: Hydrus RA 0h 26' 41.9" Decl. -77° 9' 1" Section 1/1

Apparent magnitude: 2.82 Absolute magnitude: 3.45

# 182. $\beta$ Muscæ

Constellation: Musca RA 12h 47' 26.1'' Decl.  $-68^{\circ} 12' 32''$  Section 5/9

Apparent magnitude: 3.04 Absolute magnitude: -1.86

## 139. $\beta$ Trianguli Australis

 $Constellation: \ Triangulum \ Australe$ 

 $\begin{array}{ll} {\rm RA} & 15 {\rm h} \, 56' \, 47.3'' \\ {\rm Decl.} & -63^{\circ} \, 29' \, 9'' \\ {\rm Section} & 6/11 \end{array}$ 

Apparent magnitude: 2.83 Absolute magnitude: 2.38

# 172. $\beta$ Trianguli

Constellation: Triangulum RA 2h 10′ 39.1″ Decl. 35° 4′ 2″ Section 2/2

Apparent magnitude: 3 Absolute magnitude: 0.09

## 10. Betelgeuse

 $\alpha$  Orionis

Constellation: Orion RA  $5h\,56'\,10.4''$  Decl.  $7^{\circ}\,24'\,3''$  Section 3/4

Apparent magnitude: 0.55v Absolute magnitude: -5.04v

## 2. Canopus

 $\alpha$  Carinae

Constellation: Carina RA 6h 24' 21.8"
Decl. -52° 42' 23"
Section 3/5

Apparent magnitude: -0.73 Absolute magnitude: -5.64

## 6. Capella

α Aurigae Constellation: Auriga RA 5h 18′ 3.5″ Decl. 46° 0′ 5″ Section 3/4

Apparent magnitude: 0.07 Absolute magnitude: -0.49

# 74. Caph

 $\beta$  Cassiopeiae

Constellation: Cassiopeia RA 0h 10' 10.6" Decl. 59° 15' 0"

Section 1/1

Apparent magnitude: 2.28 Absolute magnitude: 1.17

# 23. Castor

 $\alpha$  Geminorum

Constellation: Gemini RA 7h 34′ 35.863″ Decl. 31° 53′ 17.79″

Section 4/6

Apparent magnitude: 1.58 Absolute magnitude: 0.59

## 125. Cebalrai

 $\beta$  Ophiuchi

Constellation: Ophiuchus RA 17h 44′ 23.2″ Decl. 4° 33′ 3″ Section 7/12

Apparent magnitude: 2.76 Absolute magnitude: 0.76

## 142. Choo

 $\alpha$  Arae

Constellation: Ara
RA 17h 33' 16.4"
Decl. -49° 53' 20"
Section 7/12
Apparent magnitud

Apparent magnitude: 2.84 Absolute magnitude: -1.51

## 63. Cih

 $\gamma$  Cassiopeiae

Constellation: Cassiopeia

RA 0h 57′ 50.4″ Decl. 60° 48′ 5″ Section 1/1

Apparent magnitude: 2.15v Absolute magnitude: -4.22

## 130. Cor Caroli 2

 $\alpha^2$  Canum Venaticorum Constellation: Canes Venatici

RA 12h 56′ 1.66622″ Decl. 38° 19′ 6.1541″

Section 5/9

Apparent magnitude: 2.98v Absolute magnitude: 0.16

#### 184. Dabih

 $\beta$  Capricorni

Constellation: Capricornus

RA 20h 22′ 2.9″ Decl. -14° 43′ 1″ Section 8/14

Apparent magnitude: 3.05 Absolute magnitude: -2.07

## 99. $\delta$ Centauri

Constellation: Centaurus RA 12h 9' 19.5''Decl.  $-50^{\circ} 49' 31''$ 

Section 5/9

Apparent magnitude: 2.58v Absolute magnitude: -2.84

# 128. $\delta$ Crucis

Constellation: Crux RA 12h 16' 8.3" Decl.  $-58^{\circ} 51' 6''$ Section 5/9

Apparent magnitude: 2.79 Absolute magnitude: -2.45

## 147. $\delta$ Cygni

Constellation: Cygnus RA 19h 45' 33.2" Decl.  $45^{\circ} 10' 3''$ Section 8/14

Apparent magnitude: 2.86 Absolute magnitude: -0.74

#### 177. $\delta$ Persei

Constellation: Perseus RA  $3h \, 44' \, 15''$ Decl.  $47^{\circ} 50' 4''$ Section 2/3

Apparent magnitude: 3.01 Absolute magnitude: -3.04

## 145. Deneb Algedi

 $\delta$  Capricorni

Constellation: Capricornus

RA 21h 48′ 3.6″ Decl.  $-16^{\circ} 2' 3''$ Section 8/15

Apparent magnitude: 2.85 Absolute magnitude: 2.49

## 19. Deneb

 $\alpha$  Cygni

Constellation: Cygnus RA  $20h\,42'\,3.8''$ Decl.  $45^{\circ} 20' 5''$ Section 8/14

Apparent magnitude: 1.24 Absolute magnitude: -8.74

## 171. Deneb el Okab

 $\zeta$  Aquilae

Constellation: Aquila RA 19h 6' 15.6" Decl.  $13^{\circ} 53' 3''$ Section 7/13

Apparent magnitude: 2.99 Absolute magnitude: 0.96

## 62. Denebola

 $\beta$  Leonis

Constellation: Leo RA 11h 50' 0.1" Decl.  $14^{\circ} 28' 0''$ Section 5/8

Apparent magnitude: 2.14 Absolute magnitude: 1.92

# 51. Diphda

 $\beta$  Ceti

Constellation: Cetus RA = 0h 44' 31''Decl.  $-17^{\circ} 53' 0''$ Section 1/1

Apparent magnitude: 2.04 Absolute magnitude: -0.3

#### 76. Dschubba

 $\delta$  Scorpii

Constellation: Scorpius RA 16h 1' 25.8''Decl.  $-22^{\circ} 40' 2''$ Section 6/11

Apparent magnitude: 2.29 Absolute magnitude: -3.16

#### 34. Dubhe

 $\alpha$  Ursae Majoris Constellation: Ursa Major RA 11h 4' 51.2''Decl. 61° 39′ 0″

Section 5/8

Apparent magnitude: 1.8 Absolute magnitude: -1.09

# 27. Elnath

 $\beta$  Tauri

Constellation: Taurus RA 5h 27' 27.8''Decl.  $28^{\circ} 37' 1''$ Section 3/4

Apparent magnitude: 1.66 Absolute magnitude: -1.36

## 72. Eltanin

 $\gamma$  Draconis

Constellation: Draco RA 17h 57' 2.2" Decl.  $51^{\circ} 29' 1''$ Section 7/12

Apparent magnitude: 2.24 Absolute magnitude: -1.04

#### 82. Enif

 $\epsilon$  Pegasi

Constellation: Pegasus RA  $21h \, 45' \, 5.7''$ Decl.  $9^{\circ} 57' 3''$ Section 8/15 Apparent magnitude: 2.38

Absolute magnitude: -4.19

# 75. $\epsilon$ Centauri

Constellation: Centaurus RA 13h 41' 4.3" Decl.  $-53^{\circ} 33' 35''$ Section 6/10

Apparent magnitude: 2.29 Absolute magnitude: -3.02

## 155. $\epsilon$ Persei

Constellation: Perseus RA  $3h\,59'\,6.1''$ Decl.  $40^{\circ} 3' 4''$ Section 2/3

Apparent magnitude: 2.9 Absolute magnitude: -3.19

## 79. $\eta$ Centauri

Constellation: Centaurus RA 14h 36' 41.4" Decl.  $-42^{\circ} 14' 17''$ Section 6/10

Apparent magnitude: 2.33v Absolute magnitude: -2.55

# 188. $\eta$ Sagittarii

Constellation: Sagittarius RA 18h 18' 52.7" Decl.  $-36^{\circ} 45' 16''$ Section 7/13 Apparent magnitude: 3.1 Absolute magnitude: -0.2

# 18. Fomalhaut

 $\alpha$  Piscis Austrini Constellation: Piscis Austrinus

RA  $22h\,57'\,39.0465''$ Decl.  $-29^{\circ} 37' 20.05''$ 

Section 1/16

Apparent magnitude: 1.15 Absolute magnitude: 1.72

#### 25. Gacrux

 $\gamma$  Crucis Constellation: Crux RA 12h 32' 12.2''Decl.  $-57^{\circ} 13' 0''$ Section 5/9

Apparent magnitude: 1.63 Absolute magnitude: -0.52

## 176. $\gamma$ Gruis

Constellation: Grus RA  $21h\,55'\,2.6''$ Decl.  $-37^{\circ} \, 16' \, 37''$ Section 8/15 Apparent magnitude: 3 Absolute magnitude: -0.97

# 169. $\gamma$ Hydræ

Constellation: Hydra RA 13h 19' 55.9" Decl.  $-23^{\circ} \, 16' \, 0''$ Section 5/9

Apparent magnitude: 2.99 Absolute magnitude: -0.05 131.  $\gamma$  Lupi

Constellation: Lupus RA  $15h\ 36'\ 22.8''$  Decl.  $-41^{\circ}\ 13'\ 39''$  Section 6/11

Apparent magnitude: 2.8 Absolute magnitude: -3.4

159.  $\gamma$  Persei

Constellation: Perseus RA 3h6'8.9'' Decl.  $53^{\circ}34'3''$  Section 2/3

Apparent magnitude: 2.91 Absolute magnitude: -1.57

149.  $\gamma$  Trianguli Australis

Constellation: Triangulum Australe RA  $15h\,18'\,54.582''$  Decl.  $-68^{\circ}\,40'\,46.3654''$ 

Section 6/11

Apparent magnitude: 2.87 Absolute magnitude: -0.87

91. Gienah

 $\epsilon$ Cygni

Constellation: Cygnus RA 20h 46′ 57.6″ Decl. 34° 2′ 2″ Section 8/14

Apparent magnitude: 2.48 Absolute magnitude: 0.76

100. Gienah Ghurab

 $\gamma$  Corvi

Constellation: Corvus RA 12h 16' 45.6" Decl. -17° 38' 4" Section 5/9

Apparent magnitude: 2.58 Absolute magnitude: -0.94

83. Girtab

 $\kappa$  Scorpii

Constellation: Scorpius RA 17h 43′ 46.1″ Decl. -39° 2′ 16″ Section 7/12

Apparent magnitude: 2.39 Absolute magnitude: -3.38

153. Gomeisa

 $\beta$  Canis Minoris Constellation: Canis Minor RA  $\,$  7h 28′ 9.2″

Decl.  $8^{\circ} 15' 0''$ Section 3/5

Apparent magnitude: 2.89 Absolute magnitude: -0.7 11. Hadar

 $\beta$  Centauri

Constellation: Centaurus

RA  $14h\,5'\,8.7''$ Decl.  $-60^{\circ}\,27'\,41''$ Section 6/10

Apparent magnitude: 0.61 Absolute magnitude: -5.42

50. Hamal

 $\alpha$  Arietis

Constellation: Aries RA 2h8' 13.2"
Decl. 23° 32' 5"
Section 2/2

Apparent magnitude: 2.01 Absolute magnitude: 0.48

94. Han

ζ Ophiuchi

Constellation: Ophiuchus RA 16h 38′ 10.8″ Decl. -10° 36′ 1″ Section 7/12

Apparent magnitude: 2.54 Absolute magnitude: -3.2

112. Hassaleh

 $\iota$  Aurigae

Constellation: Auriga RA 4h 58′ 12.1″ Decl. 33° 11′ 3″ Section 3/4

Apparent magnitude: 2.69 Absolute magnitude: -3.29

123. Hatysa

 $\iota$  Orionis

Constellation: Orion RA 5h 36' 20.3'' Decl.  $-5^{\circ} 53' 5''$  Section 3/4

Apparent magnitude: 2.75 Absolute magnitude: -5.3

170.  $\iota^1$  Scorpii

Constellation: Scorpius RA 17h 48′ 52.8″
Decl. -40° 7′ 56″
Section 7/12

Apparent magnitude: 2.99 Absolute magnitude: -5.71

124.  $\iota$  Centauri

Constellation: Centaurus RA  $13h\,21'\,38.6''$  Decl.  $-36^{\circ}\,48'\,34''$ 

Section 5/9

Apparent magnitude: 2.75 Absolute magnitude: 1.48 81. Izar

 $\epsilon$  Boötis

Constellation: Boötes RA 14h 45' 47.7" Decl. 26° 59' 4" Section 6/10

Apparent magnitude: 2.35 Absolute magnitude: -1.69

37. Kaus Australis

 $\epsilon$  Sagittarii

Constellation: Sagittarius

RA 18h 25' 24''Decl.  $-34^{\circ} 22' 2''$ Section 7/13

Apparent magnitude: 1.84 Absolute magnitude: -1.39

136. Kaus Borealis

 $\lambda$  Sagittarii

Constellation: Sagittarius

RA  $18h\ 29'\ 6.7''$ Decl.  $-25^{\circ}\ 24'\ 3''$ Section 7/13

Apparent magnitude: 2.82 Absolute magnitude: 0.95

117. Kaus Meridionalis

 $\delta$ Sagittarii

Constellation: Sagittarius

RA 18h 22' 10.7''Decl.  $-29^{\circ} 49' 0''$ Section 7/13

Apparent magnitude: 2.72 Absolute magnitude: -2.14

111. Ke Kouan

 $\beta$  Lupi

Constellation: Lupus RA 14h 59' 45.1"
Decl. -43° 12' 26"
Section 6/10

Apparent magnitude: 2.68 Absolute magnitude: -3.35

197. Ke Kwan

 $\kappa$  Centauri

Constellation: Centaurus RA  $15h\,0'\,22.3''$  Decl.  $-42^{\circ}\,10'\,38''$ 

Section 6/11

Apparent magnitude: 3.13 Absolute magnitude: -2.96

57. Kochab

 $\beta$  Ursae Minoris Constellation: Ursa Minor RA 14h 50' 40.2"

Decl.  $74^{\circ} 4' 4''$ Section 6/10

Apparent magnitude: 2.07 Absolute magnitude: -0.87

# 45. Koo She

 $\delta$  Velorum

Constellation: Vela RA 8h 45' 12.9'' Decl.  $-54^{\circ} 46' 38''$  Section 4/6

Apparent magnitude: 1.95 Absolute magnitude: 0.01

# 127. Kornephoros

 $\beta$  Herculis

Constellation: Hercules

RA 16h 31' 1" Decl. 21° 27' 0" Section 7/12

Apparent magnitude: 2.78 Absolute magnitude: -0.5

#### 108. Kraz

 $\beta$  Corvi

Constellation: Corvus RA 12h 35' 21.7'' Decl.  $-23^{\circ} 29' 5''$  Section 5/9

Apparent magnitude: 2.65 Absolute magnitude: -0.51

# 126. Kursa

 $\beta$ Eridani

Constellation: Eridanus

RA 5h 8' 45.6''Decl.  $-5^{\circ} 3' 5''$ Section 3/4

Apparent magnitude: 2.78 Absolute magnitude: 0.6

## 191. $\lambda$ Centauri

Constellation: Centaurus RA 11h 36' 38.6" Decl.  $-63^{\circ}$  7' 20" Section 5/8

Apparent magnitude: 3.11 Absolute magnitude: -2.39

# 115. Lesath

v Scorpii

Constellation: Scorpius RA 17h 32' 1.4''Decl.  $-37^{\circ} 18' 3''$ 

Section 7/12

Apparent magnitude: 2.7 Absolute magnitude: -3.31

# 92. Markab

 $\alpha$  Pegasi

Constellation: Pegasus

RA 23h 5′ 41″ Decl. 15° 18′ 1″ Section 1/16

Apparent magnitude: 2.49 Absolute magnitude: -0.67

# 90. Markeb

κ Velorum

Constellation: Vela RA 9h 22' 41.2" Decl.  $-55^{\circ}$  5' 25" Section 4/7

Apparent magnitude: 2.47 Absolute magnitude: -3.62

## 161. Matar

 $\eta$  Pegasi

Constellation: Pegasus RA 22h 43′ 52.3″ Decl. 30° 19′ 0″ Section 1/16

Apparent magnitude: 2.93 Absolute magnitude: -1.16

#### 185. Mebsuta

 $\epsilon$  Geminorum

Constellation: Gemini RA  $6h\,45'\,4.2''$  Decl.  $25^{\circ}\,6'\,4''$  Section 3/5

Apparent magnitude: 3.06 Absolute magnitude: -4.15

# 78. Men

 $\alpha$ Lupi

Constellation: Lupus RA 14h 43′ 10.1″ Decl. -47° 27′ 59″ Section 6/10

Apparent magnitude: 2.3 Absolute magnitude: -3.83

## 41. Menkalinan

 $\beta$  Aurigae

Constellation: Auriga RA 6h 0' 53.2" Decl. 44° 56' 5" Section 3/5

Apparent magnitude: 1.9 Absolute magnitude: -0.1

## 93. Menkar

 $\alpha$  Ceti

Constellation: Cetus RA 3h 3' 14.9" Decl. 4° 9' 4" Section 2/3 Apparent magnitude: 2.54

Absolute magnitude: -1.61

## 53. Menkent

 $\theta$  Centauri

Constellation: Centaurus RA 14h 7′ 46.7″

Decl.  $-36^{\circ} 27' 3''$ Section 6/10

Apparent magnitude: 2.06 Absolute magnitude: 0.7

## 80. Merak

 $\beta$  Ursae Majoris

Constellation: Ursa Major

RA 11h 2′ 56.8″ Decl. 56° 16′ 5″ Section 5/8

Apparent magnitude: 2.34 Absolute magnitude: 0.41

# 28. Miaplacidus

 $\beta$  Carinae

Constellation: Carina RA 9h 13' 23.7" Decl.  $-69^{\circ}$  47' 37" Section 4/7

Apparent magnitude: 1.67 Absolute magnitude: -0.99

## 20. Mimosa

 $\beta$  Crucis

Constellation: Crux RA 12h 48' 48.9" Decl. -59° 47' 22" Section 5/9

Apparent magnitude: 1.26 Absolute magnitude: -3.91

# 180. Minkar

 $\epsilon$  Corvi

Constellation: Corvus RA 12h 11' 4.7'' Decl.  $-22^{\circ} 43' 2''$  Section 5/9

Apparent magnitude: 3.02 Absolute magnitude: -1.82

## 73. Mintaka

 $\delta$  Orionis

Constellation: Orion RA  $5h\,32'\,57.2''$  Decl.  $0^{\circ}\,17'\,1''$  Section 3/4

Apparent magnitude: 2.25 Absolute magnitude: -4.99

# 55. Mirach

 $\beta$  Andromedae

Constellation: Andromeda RA 1h 10′ 46.4″

Decl. 35° 43′ 0″ Section 1/1

Apparent magnitude: 2.07 Absolute magnitude: -1.86

# 33. Mirfak

 $\alpha$  Persei

Constellation: Perseus RA 3h 25' 39.2" Decl. 49° 55' 3" Section 2/3

Apparent magnitude: 1.8 Absolute magnitude: -4.49

# 46. Mirzam

 $\beta$  Canis Majoris

Constellation: Canis Major RA 6h 23' 30.9''

Decl.  $-17^{\circ} \, 57' \, 5''$ Section 3/5

Apparent magnitude: 1.98 Absolute magnitude: -3.95

#### 69. Mizar

 $\zeta$  Ursae Majoris Constellation: Ursa Major RA 13h 24' 40.1" Decl. 54° 49' 4" Section 5/9

Apparent magnitude: 2.23 Absolute magnitude: 0.33

# 175. $\mu^1$ Scorpii

Constellation: Scorpius RA 16h 53′ 7.6″
Decl. -38° 4′ 39″
Section 7/12
Apparent magnitude: 3

Apparent magnitude: 3 Absolute magnitude: -4.01

## 64. Muhlifain

 $\gamma$  Centauri

Constellation: Centaurus RA  $12h\,42'\,32.8''$  Decl.  $-49^{\circ}\,3'\,40''$  Section 5/9

Apparent magnitude: 2.2 Absolute magnitude: -0.81

# 110. Muphrid

 $\eta$  Boötis

Constellation: Boötes RA 13h 55′ 33.9″ Decl. 18° 18′ 2″ Section 6/10

Apparent magnitude: 2.68 Absolute magnitude: 2.41

## 113. $\mu$ Velorum

Constellation: Vela RA  $10h\,47'\,34.2''$  Decl.  $-49^{\circ}\,31'\,6''$  Section 5/8

Apparent magnitude: 2.69 Absolute magnitude: -0.06

## 65. Naos

 $\zeta$  Puppis Constellation: Puppis RA 8h 4' 14.1" Decl.  $-40^{\circ}$  3' 22" Section 4/6

Apparent magnitude: 2.21 Absolute magnitude: -5.95

# 132. Nihal

 $\beta$  Leporis

Constellation: Lepus RA 5h 29′ 2.3″
Decl. -20° 44′ 4″
Section 3/4

Apparent magnitude: 2.81 Absolute magnitude: -0.63

# 190. $\nu$ Hydræ

Constellation: Hydra RA  $10h\,50'\,32.3''$  Decl.  $-16^{\circ}\,17'\,27''$  Section 5/8

Apparent magnitude: 3.11 Absolute magnitude: -0.03

## 52. Nunki

 $\sigma$  Sagittarii Constellation: Sagittarius RA  $~18h\,56'\,24.7''$ 

Decl.  $-26^{\circ} 16' 2''$ Section 7/13

Apparent magnitude: 2.05 Absolute magnitude: -2.14

## 199. N Velorum

Constellation: Vela RA 9h 31' 13.3189" Decl.  $-57^{\circ}$  2' 3.7578" Section 4/7

Apparent magnitude: 3.16 Absolute magnitude: -1.15

# 179. $o^2$ Canis Majoris

Constellation: Canis Major RA 7h 3' 1.47211'' Decl.  $-23^{\circ} 49' 59.8523''$  Section 3/5

Apparent magnitude: 3.02 Absolute magnitude: -6.46

## 44. Peacock

 $\alpha$  Pavonis

Constellation: Pavo RA  $20h\,27'\,6''$  Decl.  $-56^{\circ}\,40'\,27''$  Section 8/14 Apparent magnitude: 1.93 Absolute magnitude: -1.82

192. Persian

 $\alpha$ Indi

Constellation: Indus RA 20h 38′ 51.6″ Decl. -47° 13′ 32″ Section 8/14

Apparent magnitude: 3.11 Absolute magnitude: 0.65

# 106. Phact

 $\alpha$  Columbae

Constellation: Columba RA 5h 40′ 19.2″ Decl. -34° 3′ 55″ Section 3/4

Apparent magnitude: 2.65 Absolute magnitude: -1.93

## 85. Phecda

 $\gamma$  Ursae Majoris Constellation: Ursa Major RA 11h 54' 47.8" Decl. 53° 35' 3" Section 5/8 Apparent magnitude: 2.41

Apparent magnitude: 2.41 Absolute magnitude: 0.36

# 174. Pherkad Major

 $\gamma$  Ursae Minoris Constellation: Ursa Minor RA 15h 20' 42.8" Decl. 71° 46' 0" Section 6/11 Apparent magnitude: 3 Absolute magnitude: -2.84

# 178. Phurad

 $\zeta$  Canis Majoris Constellation: Canis Major RA 6h 21' 1.4" Decl.  $-30^{\circ}$  4' 2" Section 3/5 Apparent magnitude: 3.02 Absolute magnitude: -2.05

# 200. $\pi$ Herculis

Constellation: Hercules RA 17h 15' 41.5" Decl. 36° 47' 2" Section 7/12 Apparent magnitude: 3.16

Apparent magnitude: 3.16 Absolute magnitude: -2.1

# 116. $\pi$ Puppis

Constellation: Puppis RA  $7h\,17'\,47.8''$  Decl.  $-37^{\circ}\,7'\,54''$  Section 3/5 Apparent magnitude: 2.71 Absolute magnitude: -4.92

## 154. $\pi$ Scorpii

Constellation: Scorpius RA  $15h\,59'\,58.5''$  Decl.  $-26^{\circ}\,9'\,5''$  Section 6/11

Apparent magnitude: 2.89 Absolute magnitude: -2.85

# 17. Pollux

β Geminorum Constellation: Gemini

RA 7h 46′ 26.7″ Decl. 27° 58′ 4″ Section 4/6

Apparent magnitude: 1.14 Absolute magnitude: 1.07

#### 122. Porrima

 $\gamma$  Virginis

Constellation: Virgo RA 12h 41' 39.6434" Decl. -1° 26' 57.7421"

Section 5/9

Apparent magnitude: 2.74 Absolute magnitude: 2.38

## 8. Procyon

 $\alpha$  Canis Minoris

Constellation: Canis Minor RA 7h 40′ 16.3″

Decl. 5° 10′ 3″ Section 4/6

Apparent magnitude: 0.36 Absolute magnitude: 2.64

# 173. $\psi$ Ursae Majoris

Constellation: Ursa Major RA  $11h\,10'\,41.8''$  Decl.  $44^{\circ}\,23'\,5''$  Section 5/8

Apparent magnitude: 3 Absolute magnitude: -0.27

# 59. Rasalhague

 $\alpha$  Ophiuchi

Constellation: Ophiuchus RA 17h 35′ 47.6″

Decl. 12° 32′ 5″ Section 7/12

Apparent magnitude: 2.08 Absolute magnitude: 1.3

# 167. Ras Elased Australis

 $\epsilon$  Leonis

Constellation: Leo RA 9h 46′ 53.9″ Decl. 23° 41′ 1″ Section 4/7

Apparent magnitude: 2.97 Absolute magnitude: -1.46

## 129. Rastaban

 $\beta$  Draconis Constellation

Constellation: Draco RA  $17h\ 30'\ 51.1''$  Decl.  $52^{\circ}\ 17'\ 1''$  Section 7/12

Apparent magnitude: 2.79 Absolute magnitude: -2.43

## 35. Regor

 $\gamma$  Velorum

Constellation: Vela RA  $8h\,9'\,31.9501''$  Decl.  $-47^{\circ}\,20'\,11.7108''$ 

Section 4/6

Apparent magnitude: 1.81 Absolute magnitude: -5.25

# 21. Regulus

 $\alpha$  Leonis

Constellation: Leo RA 10h 9' 21.3" Decl. 11° 52' 3" Section 4/7

Apparent magnitude: 1.36 Absolute magnitude: -0.52

# 7. Rigel

 $\beta$  Orionis

Constellation: Orion RA 5h 15' 25.7" Decl. -8° 10' 5" Section 3/4

Apparent magnitude: 0.15v Absolute magnitude: -6.72v

# 109. Ruchbah

 $\delta$  Cassiopeiae Constellation: Cassiopeia RA  $1\,h\,27'\,2.5''$  Decl.  $60^\circ\,19'\,5''$ 

Section 1/1

Apparent magnitude: 2.66 Absolute magnitude: 0.24

# 133. Rutilicus

 $\zeta$  Herculis

Constellation: Hercules RA  $16h\,41'\,59.1''$  Decl.  $31^{\circ}\,34'\,1''$  Section 7/12

Apparent magnitude: 2.81 Absolute magnitude: 2.64

#### 86. Sabik

 $\eta$  Ophiuchi

Constellation: Ophiuchus RA 17h 11′ 26.4″ Decl. -15° 44′ 4″ Section 7/12 Apparent magnitude: 2.43

Absolute magnitude: 0.37

# 164. Sadalmelik

 $\alpha$  Aquarii

Constellation: Aquarius RA 22h 6' 44''

Decl. 0° 13′ 4″ Section 8/15

Apparent magnitude: 2.95 Absolute magnitude: -3.88

## 158. Sadalsuud

 $\beta$  Aquarii

Constellation: Aquarius RA 21h 32' 31.9'' Decl.  $-5^{\circ} 29' 2''$  Section 8/15

Apparent magnitude: 2.9 Absolute magnitude: -3.47

#### 70. Sadr

 $\gamma$  Cygni

Constellation: Cygnus RA 20h 22' 53.6" Decl. 40° 19' 0" Section 8/14

Apparent magnitude: 2.23 Absolute magnitude: -6.12

# 56. Saiph

 $\kappa$  Orionis

Constellation: Orion RA 5h 48' 38.1"
Decl. -9° 39' 5"
Section 3/4

Apparent magnitude: 2.07 Absolute magnitude: -4.65

## 39. Sargas

 $\theta$  Scorpii

Constellation: Scorpius RA 17h 38′ 39″ Decl. -43° 0′ 28″ Section 7/12

Apparent magnitude: 1.86 Absolute magnitude: -2.75

## 196. Sarin

 $\delta$  Herculis

Constellation: Hercules RA  $17h\,15'\,47.5''$  Decl.  $24^{\circ}\,49'\,0''$  Section 7/12

Apparent magnitude: 3.12 Absolute magnitude: 1.21

## 87. Scheat

 $\beta$  Pegasi

Constellation: Pegasus RA 23h 4′ 40.4″ Decl. 28° 11′ 0″ Section 1/16

Apparent magnitude: 2.44v Absolute magnitude: -1.49

# 71. Schedar

 $\alpha$  Cassiopeiae

Constellation: Cassiopeia

RA 0h 41′ 34.1″ Decl. 56° 38′ 1″ Section 1/1

Apparent magnitude: 2.24 Absolute magnitude: -1.99

# 183. Seginus

 $\gamma$  Boötis

Constellation: Boötes RA 14h 32' 49.3" Decl. 38° 13' 4" Section 6/10

Apparent magnitude: 3.04 Absolute magnitude: 0.96

## 24. Shaula

 $\lambda$  Scorpii

Constellation: Scorpius RA 17h 34' 52'' Decl.  $-37^{\circ} 6' 5''$  Section 7/12

Apparent magnitude: 1.62 Absolute magnitude: -5.05

#### 104. Sheratan

 $\beta$  Arietis

Constellation: Aries RA  $1h\,55'\,40''$  Decl.  $20^{\circ}\,53'\,5''$  Section 2/2

Apparent magnitude: 2.64 Absolute magnitude: 1.33

## 1. Sirius

 $\alpha$  Canis Majoris Constellation: Canis Major RA  $\,$  6h 45' 57.4" Decl.  $-16^{\circ}$  44' 3" Section 3/5 Apparent magnitude: -1.46

Absolute magnitude: 1.43

16. Spica

 $\alpha$  Virginis Constellation: Virgo RA 13h 26′ 10.2″ Decl.  $-11^{\circ}$  15′ 2″ Section 5/9

Apparent magnitude: 0.97 Absolute magnitude: -3.56

#### 68. Suhail

 $\lambda$  Velorum Constellation: Vela RA 9h 8' 40.7" Decl.  $-43^{\circ}$  30' 29" Section 4/7

Apparent magnitude: 2.23 Absolute magnitude: -3.99

## 187. Tais

 $\delta$  Draconis Constellation: Draco RA 19h 12' 33.3" Decl. 67° 41' 3" Section 7/13

Apparent magnitude: 3.07 Absolute magnitude: 0.63

# 194. Talita

 $\iota$  Ursae Majoris Constellation: Ursa Major RA 9h 0' 28" Decl. 47° 58′ 0"

Decl. 47° 58′ 0″ Section 4/7

Apparent magnitude: 3.12 Absolute magnitude: 2.29

## 186. Tania Australis

 $\mu$  Ursae Majoris Constellation: Ursa Major RA 10h 23' 25.5" Decl. 41° 24' 2" Section 4/7

Apparent magnitude: 3.06 Absolute magnitude: -1.35

#### 118. Tarazed

 $\gamma$  Aquilae Constellation: Aquila RA 19h 47' 8.3" Decl. 10° 39' 3" Section 8/14

Apparent magnitude: 2.72 Absolute magnitude: -3.03

# 162. $\tau$ Puppis

Constellation: Puppis RA  $6h\,50'\,23.7''$  Decl.  $-50^{\circ}\,38'\,14''$  Section 3/5

Apparent magnitude: 2.94 Absolute magnitude: -0.8

# 135. $\tau$ Scorpii

Constellation: Scorpius RA 16h 37′ 2.2″
Decl. -28° 15′ 1″
Section 7/12

Apparent magnitude: 2.82 Absolute magnitude: -2.78

# 148. Tejat

 $\mu$  Geminorum Constellation: Gemini RA 6h 24' 4.8" Decl. 22° 30' 0" Section 3/5 Apparent magnitude:

Apparent magnitude: 2.87v Absolute magnitude: -1.39v

## 107. $\theta$ Aurigæ

Constellation: Auriga RA  $6h\,0'\,59''$  Decl.  $37^{\circ}\,12'\,4''$  Section 3/5

Apparent magnitude: 2.65 Absolute magnitude: -0.98

# 121. $\theta$ Carinæ

Constellation: Carina RA 10h 43' 37.3"
Decl. -64° 29' 30"
Section 5/8

Apparent magnitude: 2.74 Absolute magnitude: -2.91

#### 138. Turais

 $\rho$  Puppis

Constellation: Puppis RA 8h 8' 19.9" Decl. -24° 21' 3" Section 4/6

Apparent magnitude: 2.83 Absolute magnitude: 1.41

## 103. Unukalhai

 $\alpha$  Serpentis Constellation: Serpens RA 15h 45' 10.8" Decl. 6° 22' 0" Section 6/11

Apparent magnitude: 2.63 Absolute magnitude: 0.87

## 160. v Carinæ

Constellation: Carina RA  $9h\,47'\,33.8''$  Decl.  $-65^{\circ}\,9'\,29''$  Section 4/7

Apparent magnitude: 2.92 Absolute magnitude: -5.56

## 5. Vega

 $\alpha$  Lyrae

Constellation: Lyra RA 18h 37' 33.9" Decl. 38° 48' 0" Section 7/13

Apparent magnitude: 0.03 Absolute magnitude: 0.58

## 144. Vindemiatrix

 $\epsilon$  Virginis

Constellation: Virgo RA 13h 3′ 5.9″ Decl. 10° 51′ 3″ Section 5/9

Apparent magnitude: 2.85 Absolute magnitude: 0.37

## 193. Wazn

 $\beta$  Columbae Constellation: Columba RA 5h 51' 36.8" Decl.  $-35^{\circ}$  45' 44" Section 3/4

Apparent magnitude: 3.12 Absolute magnitude: 1.02

# 77. Wei

 $\epsilon$  Scorpii

Constellation: Scorpius RA  $16h\,51'\,21.9''$  Decl.  $-34^{\circ}\,19'\,3''$  Section 7/12

Apparent magnitude: 2.29 Absolute magnitude: 0.78

## 36. Wezen

 $\delta$  Canis Majoris Constellation: Canis Major RA  $7 h\,9'\,8.6''$ Decl.  $-26^{\circ}\,25'\,2''$ Section 3/5

Apparent magnitude: 1.83 Absolute magnitude: -6.87

### 119. Yed Prior

 $\delta$  Ophiuchi

Constellation: Ophiuchus

RA 16h 15' 19''Decl.  $-3^{\circ} 44' 2''$ Section 6/11

Apparent magnitude: 2.73 Absolute magnitude: -0.86

# 165. Zaurak

 $\gamma$  Eridani

Constellation: Eridanus RA  $3h\,58'\,53.6''$  Decl.  $-13^{\circ}\,27'\,2''$  Section 2/3

Apparent magnitude: 2.97 Absolute magnitude: -1.19

# 195. $\zeta$ Aræ

Constellation: Ara RA 17h 0' 9.4'' Decl.  $-56^{\circ} 1' 2''$  Section 7/12

Apparent magnitude: 3.12 Absolute magnitude: -3.11

## 95. (Centauri

Constellation: Centaurus RA  $13h\,56'\,42.2''$  Decl.  $-47^{\circ}\,22'\,43''$  Section 6/10 Apparent magnitude: 2.55 Absolute magnitude: -2.81

# 189. $\zeta$ Hydræ

Constellation: Hydra RA 8h 56′ 22.2″ Decl. 5° 52′ 2″ Section 4/6

Apparent magnitude: 3.11 Absolute magnitude: -0.21

# 140. $\zeta$ Persei

Constellation: Perseus RA  $3h\,55'\,18''$  Decl.  $31^{\circ}\,56'\,1''$  Section 2/3

Apparent magnitude: 2.84 Absolute magnitude: -4.55

#### 96. Zosma

 $\delta$  Leonis Constellation: Leo RA 11h 15′ 5.4″ Decl. 20° 25′ 1″ Section 5/8

Apparent magnitude: 2.56 Absolute magnitude: 1.32

# 105. Zubenelgenubi

 $\alpha^2$  Librae

Constellation: Libra RA  $14h\,50'\,52.7131''$  Decl.  $-16^{\circ}\,2'\,30.3955''$ 

Section 6/10

Apparent magnitude: 2.64 Absolute magnitude: 0.77

## 102. Zubeneschamali

 $\beta$  Librae Constellation: Libra RA 15h 18' 0.3" Decl.  $-9^{\circ}$  27' 0" Section 6/11

Apparent magnitude: 2.61 Absolute magnitude: -0.84

# Stars According to Apparent Magnitude

## 1. Sirius

 $\alpha$  Canis Majoris Constellation: Canis Major RA  $66\,45'\,57.4''$ Decl.  $-16^\circ\,44'\,3''$ Section 3/5

Apparent magnitude: -1.46 Absolute magnitude: 1.43

## 2. Canopus

 $\alpha$  Carinae Constellation: Carina RA  $6h\,24'\,21.8''$  Decl.  $-52^{\circ}\,42'\,23''$  Section 3/5 Apparent magnitude: -0.73 Absolute magnitude: -5.64

#### 3. $\alpha$ Centauri

Constellation: Centaurus RA 14h 39' 35.0631" Decl.  $-60^{\circ}$  50' 15.0992" Section 6/10

Apparent magnitude: -0.29 Absolute magnitude: 4.06

#### 4. Arcturus

 $\alpha$  Boötis

Constellation: Boötes RA 14h 16' 30.3" Decl. 19° 5' 1" Section 6/10

Apparent magnitude: -0.05 Absolute magnitude: -0.31

# 5. Vega

 $\alpha$  Lyrae Constellation: Lyra RA 18h 37' 33.9" Decl. 38° 48' 0" Section 7/13

Apparent magnitude: 0.03 Absolute magnitude: 0.58

# 6. Capella

 $\alpha$  Aurigae Constellation: Auriga RA  $5h\,18'\,3.5''$  Decl.  $46^\circ\,0'\,5''$  Section 3/4 Apparent magnitude: 0.07

Absolute magnitude: -0.49

# 7. Rigel

 $\beta$  Orionis Constellation: Orion RA 5h 15' 25.7" Decl.  $-8^{\circ}$  10' 5" Section 3/4

Apparent magnitude: 0.15v Absolute magnitude: -6.72v

# 8. Procyon

 $\alpha$  Canis Minoris Constellation: Canis Minor RA 7h 40' 16.3" Decl. 5° 10' 3" Section 4/6 Apparent magnitude: 0.36

Absolute magnitude: 2.64

# 9. Achernar

 $\alpha$  Eridani Constellation: Eridanus RA 1h 38′ 24″ Decl.  $-57^{\circ}$ 8′ 36″ Section 2/2 Apparent magnitude: 0.45 Absolute magnitude: -2.77

### 10. Betelgeuse

 $\alpha$  Orionis Constellation: Orion RA  $5h\,56'\,10.4''$ Decl.  $7^{\circ}\,24'\,3''$ Section 3/4

Apparent magnitude: 0.55v Absolute magnitude: -5.04v

#### 11. Hadar

 $\beta$  Centauri Constellation: Centaurus RA 14h 5' 8.7" Decl.  $-60^{\circ}$  27' 41" Section 6/10 Apparent magnitude: 0.61 Absolute magnitude: -5.42

## 12. Altair

 $\alpha$  Aquilae Constellation: Aquila RA 19h 51' 41.1" Decl. 8° 55' 0" Section 8/14

Apparent magnitude: 0.77 Absolute magnitude: 2.21

## 14. Aldebaran

 $\alpha$  Tauri Constellation: Taurus RA 4h 36′ 59.1″ Decl. 16° 32′ 4″ Section 3/4

Apparent magnitude: 0.86v Absolute magnitude: -0.64v

#### 15. Antares

 $\alpha$  Scorpii Constellation: Scorpius RA 16h 30' 32.7" Decl.  $-26^{\circ}$  28' 1" Section 7/12

Apparent magnitude: 0.95v Absolute magnitude: -5.39v

## 16. Spica

 $\alpha$  Virginis Constellation: Virgo RA 13h 26′ 10.2″ Decl.  $-11^{\circ}$  15′ 2″ Section 5/9

Apparent magnitude: 0.97 Absolute magnitude: -3.56

#### 17. Pollux

 $\beta$  Geminorum Constellation: Gemini RA 7h 46′ 26.7″ Decl. 27° 58′ 4″ Section 4/6

Apparent magnitude: 1.14 Absolute magnitude: 1.07

#### 18. Fomalhaut

 $\alpha$  Piscis Austrini Constellation: Piscis Austrinus RA 22h 57' 39.0465" Decl.  $-29^{\circ}$  37' 20.05" Section 1/16 Apparent magnitude: 1.15

Absolute magnitude: 1.72

## 19. Deneb

 $\alpha$  Cygni Constellation: Cygnus RA 20h 42' 3.8" Decl. 45° 20' 5" Section 8/14

Apparent magnitude: 1.24 Absolute magnitude: -8.74

#### 20. Mimosa

β Crucis Constellation: Crux RA 12h 48′ 48.9″ Decl. -59° 47′ 22″ Section 5/9

Apparent magnitude: 1.26 Absolute magnitude: -3.91

# 21. Regulus

 $\alpha$  Leonis

Constellation: Leo RA 10h 9' 21.3" Decl. 11° 52' 3" Section 4/7

Apparent magnitude: 1.36 Absolute magnitude: -0.52

#### 22. Adhara

 $\epsilon$  Canis Majoris

Constellation: Canis Major

RA  $6h \, 59' \, 21.2''$ Decl.  $-28^{\circ} \, 59' \, 5''$ Section 3/5

Apparent magnitude: 1.5 Absolute magnitude: -4.1

## 23. Castor

 $\alpha$  Geminorum

Constellation: Gemini RA 7h 34′ 35.863″ Decl. 31° 53′ 17.79″

Section 4/6

Apparent magnitude: 1.58 Absolute magnitude: 0.59

## 24. Shaula

 $\lambda$  Scorpii

Constellation: Scorpius RA 17h 34′ 52″ Decl. -37° 6′ 5″ Section 7/12

Apparent magnitude: 1.62 Absolute magnitude: -5.05

## 25. Gacrux

 $\gamma$  Crucis

Constellation: Crux RA  $12h\,32'\,12.2''$  Decl.  $-57^{\circ}\,13'\,0''$  Section 5/9

Apparent magnitude: 1.63 Absolute magnitude: -0.52

## 26. Bellatrix

 $\gamma$  Orionis

Constellation: Orion RA 5h 26' 7.5''Decl.  $6^{\circ} 21' 5''$ Section 3/4

Apparent magnitude: 1.64 Absolute magnitude: -2.72

## 27. Elnath

 $\beta$  Tauri

Constellation: Taurus RA 5h 27' 27.8" Decl. 28° 37' 1" Section 3/4

Apparent magnitude: 1.66 Absolute magnitude: -1.36

# 28. Miaplacidus

 $\beta$  Carinae

Constellation: Carina RA 9h 13' 23.7" Decl.  $-69^{\circ}$  47' 37" Section 4/7

Apparent magnitude: 1.67 Absolute magnitude: -0.99

## 29. Alnilam

 $\epsilon$  Orionis

Constellation: Orion RA 5h 37' 9.2''Decl.  $-1^{\circ} 11' 2''$ Section 3/4

Apparent magnitude: 1.69 Absolute magnitude: -6.38

#### 30. Alnair

 $\alpha$  Gruis

Constellation: Grus RA 22h 9' 23.4" Decl. -46° 52' 14" Section 8/15

Apparent magnitude: 1.74 Absolute magnitude: -0.72

# 31. Alnitak

 $\zeta$  Orionis

Constellation: Orion RA 5h 41' 41.6'' Decl.  $-1^{\circ} 56' 0''$  Section 3/4

Apparent magnitude: 1.75 Absolute magnitude: -5.25

## 32. Alioth

 $\epsilon$  Ursae Majoris

Constellation: Ursa Major RA 12h 54' 50.3'' Decl.  $55^{\circ} 51' 3''$ 

Section 5/9 Apparent magnitude: 1.77 Absolute magnitude: -0.2

#### 33. Mirfak

 $\alpha$  Persei

Constellation: Perseus
RA 3h 25' 39.2"
Decl. 49° 55' 3"
Section 2/3

Apparent magnitude: 1.8 Absolute magnitude: -4.49

## 34. Dubhe

α Ursae Majoris Constellation: Ursa Major RA 11h 4′ 51.2″ Decl. 61° 39′ 0″ Section 5/8

Apparent magnitude: 1.8 Absolute magnitude: -1.09

## 35. Regor

 $\gamma$  Velorum

Constellation: Vela RA 8h 9' 31.9501" Decl. -47° 20' 11.7108"

Section 4/6

Apparent magnitude: 1.81 Absolute magnitude: -5.25

### 36. Wezen

 $\delta$  Canis Majoris

Constellation: Canis Major

RA 7h 9' 8.6''Decl.  $-26^{\circ} 25' 2''$ Section 3/5

Apparent magnitude: 1.83 Absolute magnitude: -6.87

## 37. Kaus Australis

 $\epsilon$  Sagittarii

Constellation: Sagittarius

RA 18h 25′ 24″ Decl. -34° 22′ 2″ Section 7/13

Apparent magnitude: 1.84 Absolute magnitude: -1.39

# 38. Alkaid

 $\eta$  Ursae Majoris Constellation: Ursa Major

RA 13h 48' 16.1" Decl. 49° 13' 1" Section 6/10

Apparent magnitude: 1.86 Absolute magnitude: -0.59

## 39. Sargas

 $\theta$  Scorpii

Constellation: Scorpius RA 17h 38' 39" Decl. -43° 0' 28" Section 7/12

Apparent magnitude: 1.86 Absolute magnitude: -2.75

#### 40. Avior

 $\epsilon$  Carinae

Constellation: Carina RA 8h 22′ 53.5″ Decl. -59° 34′ 10″ Section 4/6

Apparent magnitude: 1.87 Absolute magnitude: -4.57

# 41. Menkalinan

 $\beta$  Aurigae Constellation: Auriga

Constellation: Auriga RA 6h 0' 53.2" Decl. 44° 56' 5" Section 3/5

Apparent magnitude: 1.9 Absolute magnitude: -0.1

# 42. Atria

 $\alpha$  Trianguli Australis

Constellation: Triangulum Australe

RA 16h 48′ 39.8951″ Decl. -69° 1′ 39.7626″

Section 7/12

Apparent magnitude: 1.92 Absolute magnitude: -3.61

## 43. Alhena

 $\gamma$ Geminorum

Constellation: Gemini RA 6h38'46.8'' Decl.  $16^{\circ}22'5''$  Section 3/5

Apparent magnitude: 1.93 Absolute magnitude: -0.6

#### 44. Peacock

 $\alpha$  Pavonis

Constellation: Pavo RA  $20h\,27'\,6''$  Decl.  $-56^{\circ}\,40'\,27''$  Section 8/14

Apparent magnitude: 1.93 Absolute magnitude: -1.82

# 45. Koo She

 $\delta$  Velorum

Constellation: Vela RA 8h 45' 12.9'' Decl.  $-54^{\circ} 46' 38''$  Section 4/6

Apparent magnitude: 1.95 Absolute magnitude: 0.01

## 46. Mirzam

 $\beta$  Canis Majoris

Constellation: Canis Major

RA 6h 23′ 30.9″ Decl. -17° 57′ 5″ Section 3/5

Apparent magnitude: 1.98 Absolute magnitude: -3.95

#### 47. Alphard

 $\alpha$  Hydrae

Constellation: Hydra RA 9h 28' 29.8'' Decl.  $-8^{\circ} 44' 2''$  Section 4/7

Apparent magnitude: 1.98 Absolute magnitude: -1.7

# 49. Algieba

 $\gamma$  Leonis

Constellation: Leo RA 10h 19′ 58.3506″ Decl. 19° 50′ 29.3468″

Section 4/7

Apparent magnitude: 2 Absolute magnitude: -0.93

# 50. Hamal

 $\alpha$  Arietis

Constellation: Aries RA 2h 8' 13.2'' Decl.  $23^{\circ} 32' 5''$  Section 2/2

Apparent magnitude: 2.01 Absolute magnitude: 0.48

# 51. Diphda

 $\beta$  Ceti

Constellation: Cetus RA 0h 44′ 31″ Decl. -17° 53′ 0″ Section 1/1

Apparent magnitude: 2.04 Absolute magnitude: -0.3

#### 52. Nunki

 $\sigma$  Sagittarii

Constellation: Sagittarius RA  $18h\,56'\,24.7''$  Decl.  $-26^{\circ}\,16'\,2''$  Section 7/13

Apparent magnitude: 2.05 Absolute magnitude: -2.14

# 53. Menkent

 $\theta$  Centauri

Constellation: Centaurus RA  $14h\,7'\,46.7''$  Decl.  $-36^{\circ}\,27'\,3''$  Section 6/10

Apparent magnitude: 2.06 Absolute magnitude: 0.7

## 54. Alpheratz

 $\alpha$ Andromedae

Constellation: Andromeda RA 0h 9' 20.9''

Decl.  $29^{\circ} 11' 3''$ Section 1/1

Apparent magnitude: 2.07 Absolute magnitude: -0.3

#### 55. Mirach

 $\beta$  Andromedae

Constellation: Andromeda RA 1h 10' 46.4''

Decl. 35° 43′ 0″ Section 1/1

Apparent magnitude: 2.07 Absolute magnitude: -1.86

# 56. Saiph

 $\kappa$  Orionis

Constellation: Orion RA 5h 48' 38.1'' Decl.  $-9^{\circ} 39' 5''$  Section 3/4

Apparent magnitude: 2.07 Absolute magnitude: -4.65

# 57. Kochab

β Ursae Minoris

Constellation: Ursa Minor

RA 14h 50′ 40.2″ Decl. 74° 4′ 4″ Section 6/10

Apparent magnitude: 2.07 Absolute magnitude: -0.87

#### 58. Al Dhanab

 $\beta$  Gruis

Constellation: Grus RA 22h 43' 45.8" Decl. -46° 47' 14" Section 1/16

Apparent magnitude: 2.07v Absolute magnitude: 1.52

## 59. Rasalhague

 $\alpha$  Ophiuchi

Constellation: Ophiuchus RA 17h 35′ 47.6″

Decl.  $12^{\circ} 32' 5''$ Section 7/12

Apparent magnitude: 2.08 Absolute magnitude: 1.3

# 60. Algol

 $\beta$  Persei

Constellation: Perseus RA 3h 9' 22.8" Decl. 41° 1' 3" Section 2/3

Apparent magnitude: 2.09 Absolute magnitude: 0.18

## 61. Almach

 $\gamma$  Andromedae

Constellation: Andromeda RA 2h 3' 53.9523'' Decl.  $42^{\circ} 19' 47.0223''$ 

Section 2/2

Apparent magnitude: 2.1 Absolute magnitude: -3.08

#### 62. Denebola

 $\beta$  Leonis

Constellation: Leo RA  $11h\,50'\,0.1''$  Decl.  $14^{\circ}\,28'\,0''$  Section 5/8

Apparent magnitude: 2.14 Absolute magnitude: 1.92

## 63. Cih

 $\gamma$  Cassiopeiae

Constellation: Cassiopeia

RA 0h 57′ 50.4″ Decl. 60° 48′ 5″ Section 1/1

Apparent magnitude: 2.15v Absolute magnitude: -4.22

# 64. Muhlifain

 $\gamma$  Centauri

Constellation: Centaurus RA 12h 42' 32.8''Decl.  $-49^{\circ} 3' 40''$ 

Section 5/9

Apparent magnitude: 2.2 Absolute magnitude: -0.81

#### 65. Naos

 $\zeta$  Puppis

Constellation: Puppis RA 8h 4' 14.1''Decl.  $-40^{\circ} 3' 22''$ Section 4/6

Apparent magnitude: 2.21 Absolute magnitude: -5.95

# 66. Aspidiske

 $\iota$  Carinae

Constellation: Carina RA 9h 17' 35.1" Decl.  $-59^{\circ} 21' 12''$ Section 4/7

Apparent magnitude: 2.21v Absolute magnitude: -4.42

# 67. Alphecca

 $\alpha$  Coronae Borealis Constellation: Corona Borealis RA 15h 35' 28.3" Decl.  $26^{\circ} 39' 1''$ Section 6/11

Apparent magnitude: 2.22 Absolute magnitude: 0.42

#### 68. Suhail

 $\lambda$  Velorum

Constellation: Vela RA 9h 8' 40.7''Decl.  $-43^{\circ} 30' 29''$ Section 4/7

Apparent magnitude: 2.23 Absolute magnitude: -3.99

#### 69. Mizar

ζ Ursae Majoris Constellation: Ursa Major RA 13h 24' 40.1''Decl.  $54^{\circ} 49' 4''$ Section 5/9

Apparent magnitude: 2.23 Absolute magnitude: 0.33

# 70. Sadr

 $\gamma$  Cygni Constellation: Cygnus RA 20h 22′ 53.6″ Decl.  $40^{\circ} 19' 0''$ Section 8/14

Apparent magnitude: 2.23 Absolute magnitude: -6.12

# 71. Schedar

 $\alpha$  Cassiopeiae

Constellation: Cassiopeia

RA 0h41'34.1''Decl.  $56^{\circ} 38' 1''$ Section 1/1

Apparent magnitude: 2.24 Absolute magnitude: -1.99

## 72. Eltanin

 $\gamma$  Draconis

Constellation: Draco RA  $17h\,57'\,2.2''$ Decl.  $51^{\circ} 29' 1''$ Section 7/12

Apparent magnitude: 2.24 Absolute magnitude: -1.04

#### 73. Mintaka

 $\delta$  Orionis

Constellation: Orion RA 5h 32' 57.2" Decl.  $0^{\circ} 17' 1''$ Section 3/4

Apparent magnitude: 2.25 Absolute magnitude: -4.99

# 74. Caph

 $\beta$  Cassiopeiae Constellation: Cassiopeia RA 0h 10′ 10.6″ Decl.  $59^{\circ} 15' 0''$ Section 1/1

Apparent magnitude: 2.28 Absolute magnitude: 1.17

## 75. $\epsilon$ Centauri

Constellation: Centaurus RA 13h 41' 4.3''Decl.  $-53^{\circ} 33' 35''$ Section 6/10

Apparent magnitude: 2.29 Absolute magnitude: -3.02

# 76. Dschubba

 $\delta$  Scorpii

Constellation: Scorpius RA 16h 1' 25.8''Decl.  $-22^{\circ} 40' 2''$ Section 6/11 Apparent magnitude: 2.29

Absolute magnitude: -3.16

## 77. Wei

 $\epsilon$  Scorpii

Constellation: Scorpius RA 16h 51' 21.9" Decl.  $-34^{\circ} 19' 3''$ Section 7/12

Apparent magnitude: 2.29 Absolute magnitude: 0.78

## 78. Men

 $\alpha$  Lupi

Constellation: Lupus RA 14h 43' 10.1" Decl.  $-47^{\circ} 27' 59''$ Section 6/10

Apparent magnitude: 2.3 Absolute magnitude: -3.83

# 79. $\eta$ Centauri

Constellation: Centaurus RA 14h 36' 41.4" Decl.  $-42^{\circ} 14' 17''$ Section 6/10

Apparent magnitude: 2.33v Absolute magnitude: -2.55

## 80. Merak

 $\beta$  Ursae Majoris Constellation: Ursa Major RA 11h 2' 56.8" Decl.  $56^{\circ} 16' 5''$ Section 5/8 Apparent magnitude: 2.34 Absolute magnitude: 0.41

## 81. Izar

 $\epsilon$ Boötis Constellation: Boötes RA 14h 45' 47.7" Decl. 26° 59′ 4″ Section 6/10

Apparent magnitude: 2.35 Absolute magnitude: -1.69

## 82. Enif

 $\epsilon$  Pegasi

Constellation: Pegasus RA 21h 45' 5.7''Decl.  $9^{\circ} 57' 3''$ Section 8/15 Apparent magnitude: 2.38

Absolute magnitude: -4.19

# 83. Girtab

 $\kappa$  Scorpii

Constellation: Scorpius RA 17h 43' 46.1" Decl.  $-39^{\circ} 2' 16''$ Section 7/12 Apparent magnitude: 2.39

Absolute magnitude: -3.38

# 84. Ankaa

 $\alpha$  Phoenicis Constellation: Phoenix RA 0h 27' 11.7" Decl.  $-42^{\circ} 12' 20''$ Section 1/1

Apparent magnitude: 2.4 Absolute magnitude: 0.52

# 85. Phecda

 $\gamma$  Ursae Majoris Constellation: Ursa Major RA 11h 54' 47.8"

Decl. 53° 35′ 3″ Section 5/8

Apparent magnitude: 2.41 Absolute magnitude: 0.36

## 86. Sabik

 $\eta$  Ophiuchi

Constellation: Ophiuchus RA 17h 11' 26.4" Decl.  $-15^{\circ} 44' 4''$ Section 7/12

Apparent magnitude: 2.43 Absolute magnitude: 0.37

#### 87. Scheat

 $\beta$  Pegasi

Constellation: Pegasus RA 23h 4' 40.4''Decl. 28° 11′ 0″ Section 1/16

Apparent magnitude: 2.44v Absolute magnitude: -1.49

## 88. Aludra

 $\eta$  Canis Majoris Constellation: Canis Major RA 7h 24' 49.6''Decl.  $-29^{\circ} 20' 2''$ Section 3/5

Apparent magnitude: 2.45 Absolute magnitude: -7.51

## 89. Alderamin

 $\alpha$  Cephei

Constellation: Cepheus RA 21h 19' 1.2" Decl.  $62^{\circ}\,39^{\prime}\,5^{\prime\prime}$ Section 8/15

Apparent magnitude: 2.45 Absolute magnitude: 1.58

#### 90. Markeb

 $\kappa$  Velorum Constellation: Vela RA 9h 22' 41.2''Decl.  $-55^{\circ} 5' 25''$ Section 4/7

Apparent magnitude: 2.47 Absolute magnitude: -3.62

# 91. Gienah

 $\epsilon$  Cygni

Constellation: Cygnus RA 20h 46' 57.6" Decl.  $34^{\circ} 2' 2''$ Section 8/14

Apparent magnitude: 2.48 Absolute magnitude: 0.76

# 92. Markab

 $\alpha$  Pegasi

Constellation: Pegasus RA = 23h 5' 41''

Decl.  $15^{\circ} 18' 1''$ Section 1/16

Apparent magnitude: 2.49 Absolute magnitude: -0.67

#### 93. Menkar

 $\alpha$  Ceti

Constellation: Cetus RA 3h 3' 14.9''Decl.  $4^{\circ} 9' 4''$ Section 2/3

Apparent magnitude: 2.54 Absolute magnitude: -1.61

#### 94. Han

ζ Ophiuchi

Constellation: Ophiuchus RA 16h 38' 10.8''Decl.  $-10^{\circ} 36' 1''$ Section 7/12

Apparent magnitude: 2.54 Absolute magnitude: -3.2

# 95. $\zeta$ Centauri

Constellation: Centaurus RA 13h 56′ 42.2″ Decl.  $-47^{\circ} 22' 43''$ Section 6/10

Apparent magnitude: 2.55 Absolute magnitude: -2.81

#### 96. Zosma

 $\delta$  Leonis Constellation: Leo RA 11h 15' 5.4''Decl.  $20^{\circ} 25' 1''$ Section 5/8

Apparent magnitude: 2.56 Absolute magnitude: 1.32

# 98. Arneb

 $\alpha$  Leporis

Constellation: Lepus RA  $5h \, 33' \, 32.8''$ Decl.  $-17^{\circ} 48' 3''$ Section 3/4 Apparent magnitude: 2.58

Absolute magnitude: -5.4

# 99. $\delta$ Centauri

Constellation: Centaurus  $RA \quad 12h\,9^\prime\,19.5^{\prime\prime}$ Decl.  $-50^{\circ} 49' 31''$ Section 5/9

Apparent magnitude: 2.58v Absolute magnitude: -2.84

# 100. Gienah Ghurab

 $\gamma$  Corvi

Constellation: Corvus RA 12h 16' 45.6" Decl.  $-17^{\circ} 38' 4''$ Section 5/9

Apparent magnitude: 2.58 Absolute magnitude: -0.94

## 101. Ascella

 $\zeta$  Sagittarii

Constellation: Sagittarius

RA 19h 3' 47.2''Decl.  $-29^{\circ} 51' 0''$ Section 7/13

Apparent magnitude: 2.6 Absolute magnitude: 0.42

## 102. Zubeneschamali

 $\beta$  Librae Constellation: Libra RA  $15h \, 18' \, 0.3''$ Decl.  $-9^{\circ} 27' 0''$ Section 6/11

Apparent magnitude: 2.61 Absolute magnitude: -0.84

# 103. Unukalhai

 $\alpha$  Serpentis Constellation: Serpens RA 15h 45' 10.8" Decl.  $6^{\circ} 22' 0''$ Section 6/11

Apparent magnitude: 2.63 Absolute magnitude: 0.87

## 104. Sheratan

 $\beta$  Arietis

Constellation: Aries RA 1h 55' 40''Decl. 20° 53′ 5″ Section 2/2

Apparent magnitude: 2.64 Absolute magnitude: 1.33

## 105. Zubenelgenubi

 $\alpha^2$  Librae

Constellation: Libra RA 14h 50′ 52.7131″ Decl.  $-16^{\circ} 2' 30.3955''$ 

Section 6/10

Apparent magnitude: 2.64 Absolute magnitude: 0.77

# 106. Phact

 $\alpha$ Columbae Constellation: Columba RA 5h 40' 19.2" Decl.  $-34^{\circ} 3' 55''$ Section 3/4

Apparent magnitude: 2.65 Absolute magnitude: -1.93

# 107. $\theta$ Aurigæ

Constellation: Auriga RA  $6h\,0'\,59''$  Decl.  $37^{\circ}\,12'\,4''$  Section 3/5

Apparent magnitude: 2.65 Absolute magnitude: -0.98

#### 108. Kraz

 $\beta$  Corvi

Constellation: Corvus RA  $12h\,35'\,21.7''$  Decl.  $-23^{\circ}\,29'\,5''$  Section 5/9

Apparent magnitude: 2.65 Absolute magnitude: -0.51

## 109. Ruchbah

 $\delta$  Cassiopeiae

Constellation: Cassiopeia

RA 1h 27' 2.5''Decl.  $60^{\circ} 19' 5''$ Section 1/1

Apparent magnitude: 2.66 Absolute magnitude: 0.24

# 110. Muphrid

 $\eta$  Boötis

Constellation: Boötes RA 13h 55′ 33.9″ Decl. 18° 18′ 2″ Section 6/10

Apparent magnitude: 2.68 Absolute magnitude: 2.41

## 111. Ke Kouan

 $\beta$  Lupi

Constellation: Lupus RA 14h 59' 45.1'' Decl.  $-43^{\circ} 12' 26''$  Section 6/10

Apparent magnitude: 2.68 Absolute magnitude: -3.35

# 112. Hassaleh

ι Aurigae

Constellation: Auriga RA 4h 58′ 12.1″ Decl. 33° 11′ 3″ Section 3/4

Apparent magnitude: 2.69 Absolute magnitude: -3.29

# 113. $\mu$ Velorum

Constellation: Vela RA 10h 47′ 34.2″ Decl. -49° 31′ 6″ Section 5/8

Apparent magnitude: 2.69 Absolute magnitude: -0.06

# 114. $\alpha$ Muscæ

Constellation: Musca RA 12h 38' 18.4'' Decl.  $-69^{\circ} 14' 14''$  Section 5/9

Apparent magnitude: 2.69 Absolute magnitude: -2.17

#### 115. Lesath

v Scorpii

Constellation: Scorpius RA 17h 32' 1.4" Decl. -37° 18' 3" Section 7/12 Apparent magnitude: 2.7

Absolute magnitude: -3.31

## 116. $\pi$ Puppis

Constellation: Puppis RA  $7h\,17'\,47.8''$  Decl.  $-37^{\circ}\,7'\,54''$  Section 3/5

Apparent magnitude: 2.71 Absolute magnitude: -4.92

## 117. Kaus Meridionalis

 $\delta$ Sagittarii

Constellation: Sagittarius RA  $18h\,22'\,10.7''$  Decl.  $-29^{\circ}\,49'\,0''$  Section 7/13

Apparent magnitude: 2.72 Absolute magnitude: -2.14

## 118. Tarazed

 $\gamma$  Aquilae

7 Aquilae Constellation: Aquila RA 19h 47' 8.3" Decl. 10° 39' 3" Section 8/14

Apparent magnitude: 2.72 Absolute magnitude: -3.03

# 119. Yed Prior

 $\delta$  Ophiuchi

Constellation: Ophiuchus RA 16h 15' 19''

Decl.  $-3^{\circ} 44' 2''$ Section 6/11

Apparent magnitude: 2.73 Absolute magnitude: -0.86

#### 120. Aldhibain

 $\eta$  Draconis Constellation: Draco RA 16h 24′ 14.7″ Decl. 61° 28′ 2″ Section 6/11

Apparent magnitude: 2.73 Absolute magnitude: 0.58

# 121. $\theta$ Carinæ

Constellation: Carina RA 10h 43' 37.3"
Decl. -64° 29' 30"
Section 5/8

Apparent magnitude: 2.74 Absolute magnitude: -2.91

#### 122. Porrima

 $\gamma$  Virginis

Constellation: Virgo RA  $12h\,41'\,39.6434''$  Decl.  $-1^{\circ}\,26'\,57.7421''$ 

Section 5/9

Apparent magnitude: 2.74 Absolute magnitude: 2.38

# 123. Hatysa

 $\iota$  Orionis

Constellation: Orion RA 5h 36' 20.3'' Decl.  $-5^{\circ} 53' 5''$  Section 3/4

Apparent magnitude: 2.75 Absolute magnitude: -5.3

## 124. $\iota$ Centauri

Constellation: Centaurus RA  $13h\,21'\,38.6''$  Decl.  $-36^{\circ}\,48'\,34''$  Section 5/9

Apparent magnitude: 2.75 Absolute magnitude: 1.48

# 125. Cebalrai

 $\beta$  Ophiuchi

Constellation: Ophiuchus RA 17h 44' 23.2" Decl. 4° 33' 3" Section 7/12

Apparent magnitude: 2.76 Absolute magnitude: 0.76

# 126. Kursa

 $\beta$  Eridani

Constellation: Eridanus RA 5h 8' 45.6"
Decl. -5° 3' 5"
Section 3/4

Apparent magnitude: 2.78 Absolute magnitude: 0.6

# 127. Kornephoros

 $\beta$  Herculis

Constellation: Hercules RA 16h 31' 1''

Decl.  $21^{\circ} 27' 0''$ Section 7/12

Apparent magnitude: 2.78 Absolute magnitude: -0.5

# 128. $\delta$ Crucis

Constellation: Crux RA  $12h \, 16' \, 8.3''$  Decl.  $-58^{\circ} \, 51' \, 6''$  Section 5/9

Apparent magnitude: 2.79 Absolute magnitude: -2.45

#### 129. Rastaban

 $\beta$  Draconis

Constellation: Draco RA 17h 30′ 51.1″ Decl. 52° 17′ 1″ Section 7/12

Apparent magnitude: 2.79 Absolute magnitude: -2.43

## 130. Cor Caroli 2

 $\alpha^2$  Canum Venaticorum Constellation: Canes Venatici RA 12h 56' 1.66622" Decl. 38° 19' 6.1541" Section 5/9 Apparent magnitude: 2.98v

Apparent magnitude: 2.98v Absolute magnitude: 0.16

# 131. $\gamma$ Lupi

Constellation: Lupus RA  $15h\,36'\,22.8''$  Decl.  $-41^{\circ}\,13'\,39''$  Section 6/11

Apparent magnitude: 2.8 Absolute magnitude: -3.4

# 132. Nihal

 $\beta$  Leporis Constellation: Lepus RA  $5 \text{h}\, 29'\, 2.3''$  Decl.  $-20^{\circ}\, 44'\, 4''$  Section 3/4

Apparent magnitude: 2.81 Absolute magnitude: -0.63

## 133. Rutilicus

← Herculis

Constellation: Hercules RA 16h 41′ 59.1″ Decl. 31° 34′ 1″ Section 7/12

Apparent magnitude: 2.81 Absolute magnitude: 2.64

#### 134. $\beta$ Hydri

Constellation: Hydrus RA 0h 26' 41.9" Decl. -77° 9' 1" Section 1/1

Apparent magnitude: 2.82 Absolute magnitude: 3.45

## 135. $\tau$ Scorpii

Constellation: Scorpius RA 16h 37' 2.2'' Decl.  $-28^{\circ} 15' 1''$  Section 7/12

Apparent magnitude: 2.82 Absolute magnitude: -2.78

#### 136. Kaus Borealis

 $\lambda$  Sagittarii

Constellation: Sagittarius

RA 18h 29′ 6.7″ Decl. -25° 24′ 3″ Section 7/13

Apparent magnitude: 2.82 Absolute magnitude: 0.95

## 137. Algenib

 $\gamma$  Pegasi

Constellation: Pegasus RA 0h 14' 11.4"
Decl. 15° 17' 1"
Section 1/1

Apparent magnitude: 2.83 Absolute magnitude: -2.22

# 138. Turais

 $\rho$  Puppis Constellation: Puppis RA  $8h\,8'\,19.9''$ Decl.  $-24^{\circ}\,21'\,3''$ Section 4/6

Apparent magnitude: 2.83 Absolute magnitude: 1.41

# 139. $\beta$ Trianguli Australis

Constellation: Triangulum Australe RA  $15h\,56'\,47.3''$ 

Decl.  $-63^{\circ} 29' 9''$ Section 6/11

Apparent magnitude: 2.83 Absolute magnitude: 2.38

# 140. $\zeta$ Persei

Constellation: Perseus RA  $3h\,55'\,18''$  Decl.  $31^{\circ}\,56'\,1''$  Section 2/3

Apparent magnitude: 2.84 Absolute magnitude: -4.55

## 141. $\beta$ Aræ

Constellation: Ara RA 17h 26' 50.5" Decl. -55° 32' 43" Section 7/12

Apparent magnitude: 2.84 Absolute magnitude: -3.49

# 142. Choo

α Arae

Constellation: Ara RA 17h 33′ 16.4″ Decl. -49° 53′ 20″ Section 7/12

Apparent magnitude: 2.84 Absolute magnitude: -1.51

## 143. Alcyone

 $\eta$  Tauri

Constellation: Taurus RA 3h 48′ 35.3″ Decl. 24° 9′ 4″ Section 2/3

Apparent magnitude: 2.85 Absolute magnitude: -2.41

## 144. Vindemiatrix

 $\epsilon$  Virginis Constellation: Virgo RA 13h 3' 5.9" Decl. 10° 51' 3" Section 5/9

Apparent magnitude: 2.85 Absolute magnitude: 0.37

# 145. Deneb Algedi

 $\delta$  Capricorni

Constellation: Capricornus

RA 21h 48' 3.6''Decl.  $-16^{\circ} 2' 3''$ Section 8/15

Apparent magnitude: 2.85 Absolute magnitude: 2.49

## 146. $\alpha$ Hydri

Constellation: Hydrus RA 1h59'21.1'' Decl.  $-61^{\circ}28'49''$  Section 2/2

Apparent magnitude: 2.86 Absolute magnitude: 1.16

# 147. $\delta$ Cygni

Constellation: Cygnus RA 19h 45' 33.2" Decl. 45° 10' 3" Section 8/14

Apparent magnitude: 2.86 Absolute magnitude: -0.74

#### 148. Tejat

 $\mu$  Geminorum Constellation: Gemini RA 6h 24' 4.8" Decl. 22° 30' 0" Section 3/5

Apparent magnitude: 2.87v Absolute magnitude: -1.39v

## 149. $\gamma$ Trianguli Australis

Constellation: Triangulum Australe RA  $15h\,18'\,54.582''$  Decl.  $-68^{\circ}\,40'\,46.3654''$ 

Section 6/11

Apparent magnitude: 2.87 Absolute magnitude: -0.87

# 150. $\alpha$ Tucanæ

Constellation: Tucana RA  $22h\,19'\,45.2''$  Decl.  $-60^{\circ}\,10'\,0''$  Section 8/15

Apparent magnitude: 2.87 Absolute magnitude: -1.05

## 151. Acamar

 $\theta^1$  Eridani

 $\begin{array}{ll} Constellation: \ Eridanus \\ RA & 2h\,58'\,15.6792'' \\ Decl. & -40^{\circ}\,18'\,16.8457'' \end{array}$ 

Section 2/2

Apparent magnitude: 2.88 Absolute magnitude: -0.59

## 152. Albaldah

 $\pi$ Sagittarii

Constellation: Sagittarius RA 19h 10' 51.8" Decl.  $-20^{\circ}$  59' 3" Section 7/13

Apparent magnitude: 2.88 Absolute magnitude: -2.77

# 153. Gomeisa

 $\beta$  Canis Minoris Constellation: Canis Minor RA  $7h\,28'\,9.2''$ Decl.  $8^{\circ}\,15'\,0''$ Section 3/5

Apparent magnitude: 2.89 Absolute magnitude: -0.7

# 154. $\pi$ Scorpii

Constellation: Scorpius RA  $15h\,59'\,58.5''$  Decl.  $-26^{\circ}\,9'\,5''$  Section 6/11

Apparent magnitude: 2.89 Absolute magnitude: -2.85

## 155. $\epsilon$ Persei

Constellation: Perseus RA  $3h\,59'\,6.1''$  Decl.  $40^{\circ}\,3'\,4''$  Section 2/3

Apparent magnitude: 2.9 Absolute magnitude: -3.19

## 156. Alniyat

 $\sigma$  Scorpii

Constellation: Scorpius RA 16h 22′ 19″ Decl. -25° 38′ 0″ Section 6/11

Apparent magnitude: 2.9v Absolute magnitude: -3.86v

## 157. Albireo

 $\beta$  Cygni

Constellation: Cygnus RA 19h 31′ 28.1″ Decl. 27° 59′ 5″ Section 8/14

Apparent magnitude: 2.9 Absolute magnitude: -2.31

#### 158. Sadalsuud

 $\beta$  Aquarii

Constellation: Aquarius RA 21h 32′ 31.9″ Decl. -5° 29′ 2″ Section 8/15

Apparent magnitude: 2.9 Absolute magnitude: -3.47

# 159. $\gamma$ Persei

Constellation: Perseus RA 3h 6' 8.9" Decl. 53° 34' 3" Section 2/3

Apparent magnitude: 2.91 Absolute magnitude: -1.57

## 160. v Carinæ

Constellation: Carina RA 9h 47' 33.8" Decl.  $-65^{\circ}$  9' 29" Section 4/7

Apparent magnitude: 2.92 Absolute magnitude: -5.56

# 161. Matar

 $\eta$  Pegasi

Constellation: Pegasus RA 22h 43′ 52.3″ Decl. 30° 19′ 0″ Section 1/16 Apparent magnitude: 2.93

Apparent magnitude: 2.93 Absolute magnitude: -1.16

## 162. $\tau$ Puppis

Constellation: Puppis RA  $6h\,50'\,23.7''$  Decl.  $-50^{\circ}\,38'\,14''$  Section 3/5

Apparent magnitude: 2.94 Absolute magnitude: -0.8

# 163. Algorel

 $\delta$  Corvi

Constellation: Corvus RA  $12h\,30'\,49.4''$  Decl.  $-16^{\circ}\,37'\,0''$  Section 5/9

Apparent magnitude: 2.94 Absolute magnitude: 0.79

## 164. Sadalmelik

 $\alpha$  Aquarii

Constellation: Aquarius

RA 22h 6' 44" Decl. 0° 13' 4" Section 8/15

Apparent magnitude: 2.95 Absolute magnitude: -3.88

#### 165. Zaurak

 $\gamma$ Eridani

Constellation: Eridanus RA 3h 58′ 53.6″ Decl. -13° 27′ 2″ Section 2/3

Apparent magnitude: 2.97 Absolute magnitude: -1.19

# 166. Alheka

 $\zeta$  Tauri

Constellation: Taurus RA 5h 38′ 45.1″ Decl. 21° 9′ 0″ Section 3/4

Apparent magnitude: 2.97 Absolute magnitude: -2.56

## 167. Ras Elased Australis

 $\epsilon$  Leonis

Constellation: Leo RA 9h 46' 53.9'' Decl.  $23^{\circ} 41' 1''$  Section 4/7

Apparent magnitude: 2.97 Absolute magnitude: -1.46

## 168. Alnasl

 $\gamma$  Sagittarii

Constellation: Sagittarius

RA 18h 6' 59.8''Decl.  $-30^{\circ} 25' 2''$ Section 7/13

Apparent magnitude: 2.98 Absolute magnitude: 0.63

# 169. $\gamma$ Hydræ

Constellation: Hydra RA 13h 19′ 55.9″ Decl. -23° 16′ 0″

Section 5/9

Apparent magnitude: 2.99 Absolute magnitude: -0.05

# 170. $\iota^1$ Scorpii

Constellation: Scorpius RA 17h 48′ 52.8″ Decl. -40° 7′ 56″ Section 7/12

Apparent magnitude: 2.99 Absolute magnitude: -5.71

#### 171. Deneb el Okab

 $\zeta$  Aquilae

Constellation: Aquila RA 19h 6′ 15.6″ Decl. 13° 53′ 3″ Section 7/13

Apparent magnitude: 2.99 Absolute magnitude: 0.96

## 172. $\beta$ Trianguli

Constellation: Triangulum RA 2h 10' 39.1'' Decl.  $35^{\circ} 4' 2''$  Section 2/2 Apparent magnitude: 3

# 173. $\psi$ Ursae Majoris

Absolute magnitude: 0.09

Constellation: Ursa Major RA 11h 10′ 41.8″ Decl. 44° 23′ 5″ Section 5/8 Apparent magnitude: 3 Absolute magnitude: -0.27

# 174. Pherkad Major

 $\gamma$  Ursae Minoris Constellation: Ursa Minor RA 15h 20' 42.8" Decl. 71° 46' 0" Section 6/11 Apparent magnitude: 3

Absolute magnitude: -2.84

# 175. $\mu^1$ Scorpii

Constellation: Scorpius RA  $16h\,53'\,7.6''$  Decl.  $-38^{\circ}\,4'\,39''$  Section 7/12 Apparent magnitude: 3 Absolute magnitude: -4.01

# 176. $\gamma$ Gruis

Constellation: Grus RA  $21h\,55'\,2.6''$  Decl.  $-37^{\circ}\,16'\,37''$  Section 8/15

Apparent magnitude: 3 Absolute magnitude: -0.97

# 177. $\delta$ Persei

Constellation: Perseus RA 3h 44′ 15″
Decl. 47° 50′ 4″
Section 2/3

Apparent magnitude: 3.01 Absolute magnitude: -3.04

## 178. Phurad

 $\zeta$  Canis Majoris Constellation: Canis Major RA 6h 21' 1.4" Decl.  $-30^{\circ}$  4' 2" Section 3/5 Apparent magnitude: 3.02 Absolute magnitude: -2.05

# 179. $o^2$ Canis Majoris

Constellation: Canis Major RA  $7h\,3'\,1.47211''$  Decl.  $-23^{\circ}\,49'\,59.8523''$  Section 3/5 Apparent magnitude: 3.02 Absolute magnitude: -6.46

# 180. Minkar

 $\epsilon$  Corvi Constellation: Corvus RA 12h 11' 4.7" Decl.  $-22^{\circ}$  43' 2" Section 5/9

Apparent magnitude: 3.02 Absolute magnitude: -1.82

## 181. Almaaz

 $\epsilon$  Aurigae Constellation: Auriga RA 5h 3' 18" Decl. 43° 50' 5" Section 3/4 Apparent magnitude: 3.03 Absolute magnitude: -5.95

# 182. $\beta$ Muscæ

Constellation: Musca RA  $12h\,47'\,26.1''$  Decl.  $-68^{\circ}\,12'\,32''$  Section 5/9 Apparent magnitude: 3.04 Absolute magnitude: -1.86

Absolute magnitude: -1.

# 183. Seginus

 $\gamma$  Boötis Constellation: Boötes RA 14h 32′ 49.3″ Decl. 38° 13′ 4″ Section 6/10 Apparent magnitude: 3.04

Absolute magnitude: 0.96

# 184. Dabih

β Capricorni
Constellation: Capricornus
RA 20h 22′ 2.9″
Decl. -14° 43′ 1″
Section 8/14
Apparent magnitude: 3.05
Absolute magnitude: -2.07

## 185. Mebsuta

 $\epsilon$  Geminorum Constellation: Gemini RA 6h 45' 4.2" Decl. 25° 6' 4" Section 3/5 Apparent magnitude: 3.06 Absolute magnitude: -4.15

#### 186. Tania Australis

 $\mu$  Ursae Majoris Constellation: Ursa Major RA 10h 23' 25.5" Decl. 41° 24' 2" Section 4/7 Apparent magnitude: 3.06 Absolute magnitude: -1.35

# 187. Tais

 $\delta$  Draconis Constellation: Draco RA 19h 12' 33.3" Decl. 67° 41' 3" Section 7/13 Apparent magnitude:

Apparent magnitude: 3.07 Absolute magnitude: 0.63

# 188. $\eta$ Sagittarii

Constellation: Sagittarius RA  $18h\,18'\,52.7''$  Decl.  $-36^{\circ}\,45'\,16''$  Section 7/13 Apparent magnitude: 3.1 Absolute magnitude: -0.2

# 189. $\zeta$ Hydræ

Constellation: Hydra RA  $8h \, 56' \, 22.2''$  Decl.  $5^{\circ} \, 52' \, 2''$  Section 4/6 Apparent magnitude: 3.11 Absolute magnitude: -0.21

#### 190. $\nu$ Hydræ

Constellation: Hydra RA 10h 50′ 32.3″ Decl. -16° 17′ 27″ Section 5/8

Apparent magnitude: 3.11 Absolute magnitude: -0.03

# 191. $\lambda$ Centauri

Constellation: Centaurus RA 11h 36' 38.6" Decl.  $-63^{\circ}$  7' 20" Section 5/8

Apparent magnitude: 3.11 Absolute magnitude: -2.39

#### 192. Persian

 $\alpha$  Indi

Constellation: Indus RA  $20h\,38'\,51.6''$  Decl.  $-47^{\circ}\,13'\,32''$  Section 8/14

Apparent magnitude: 3.11 Absolute magnitude: 0.65

## 193. Wazn

β Columbae Constellation: Columba RA 5h 51′ 36.8″ Decl. -35° 45′ 44″ Section 3/4

Apparent magnitude: 3.12 Absolute magnitude: 1.02

## 194. Talita

 $\iota$  Ursae Majoris Constellation: Ursa Major RA 9h 0′ 28″ Decl. 47° 58′ 0″ Section 4/7

Apparent magnitude: 3.12 Absolute magnitude: 2.29

# 195. ζ Aræ

Constellation: Ara RA 17h 0′ 9.4″ Decl. -56° 1′ 2″ Section 7/12

Apparent magnitude: 3.12 Absolute magnitude: -3.11

#### 196. Sarin

 $\delta$  Herculis

Constellation: Hercules RA 17h 15' 47.5'' Decl.  $24^{\circ} 49' 0''$  Section 7/12

Apparent magnitude: 3.12 Absolute magnitude: 1.21

## 197. Ke Kwan

 $\kappa$  Centauri

Constellation: Centaurus

RA 15h 0' 22.3" Decl. -42° 10' 38" Section 6/11

Apparent magnitude: 3.13 Absolute magnitude: -2.96

# 198. $\alpha$ Lyncis

Constellation: Lynx RA 9h 22' 10.6" Decl. 34° 18' 4" Section 4/7

Apparent magnitude: 3.14 Absolute magnitude: -1.02

## 199. N Velorum

Constellation: Vela RA 9h 31' 13.3189" Decl.  $-57^{\circ}$  2' 3.7578" Section 4/7

Section 4/1

Apparent magnitude: 3.16 Absolute magnitude: -1.15

#### 200. $\pi$ Herculis

Constellation: Hercules RA  $17h\,15'\,41.5''$  Decl.  $36^{\circ}\,47'\,2''$  Section 7/12

Apparent magnitude: 3.16 Absolute magnitude: -2.1

# Stars According to Section (RA)

The first section number refers to the spherical biangle section. The two numbers following the slash refer to the two corresponding panel sections.

# Section 1/16–1 RA 22h 30m–1h 30m

## 18. Fomalhaut

 $\alpha$  Piscis Austrini Constellation: Piscis Austrinus RA 22h 57' 39.0465" Decl.  $-29^{\circ}$  37' 20.05" Section 1/16

Apparent magnitude: 1.15 Absolute magnitude: 1.72

# 51. Diphda

 $\beta$  Ceti Constellation: Cetus

RA 0h 44′ 31″ Decl. -17° 53′ 0″ Section 1/1

Apparent magnitude: 2.04 Absolute magnitude: -0.3

# 54. Alpheratz

α Andromedae
Constellation: Andromeda
RA 0h 9' 20.9"
Decl. 29° 11' 3"
Section 1/1
Apparent magnitude: 2.07

Apparent magnitude: 2.07 Absolute magnitude: -0.3

# 55. Mirach

 $\beta$  Andromedae Constellation: Andromeda RA 1h 10′ 46.4″ Decl. 35° 43′ 0″ Section 1/1 Apparent magnitude: 2.07

Absolute magnitude: -1.86

# 58. Al Dhanab

 $\beta$  Gruis Constellation: Grus RA 22h 43′ 45.8″ Decl.  $-46^{\circ}$  47′ 14″ Section 1/16

Apparent magnitude: 2.07v Absolute magnitude: 1.52

## 63. Cih

 $\gamma$  Cassiopeiae Constellation: Cassiopeia RA 0h 57' 50.4" Decl. 60° 48' 5" Section 1/1 Apparent magnitude: 2.15v

Absolute magnitude: -4.22

## 71. Schedar

 $\alpha$  Cassiopeiae Constellation: Cassiopeia RA  $0 h\,41'\,34.1''$  Decl.  $56^{\circ}\,38'\,1''$  Section 1/1

Apparent magnitude: 2.24 Absolute magnitude: -1.99

## 74. Caph

 $\beta$  Cassiopeiae Constellation: Cassiopeia RA 0h 10′ 10.6″ Decl. 59° 15′ 0″ Section 1/1 Apparent magnitude: 2.28 Absolute magnitude: 1.17

## 84. Ankaa

 $\alpha$  Phoenicis Constellation: Phoenix RA  $0 h \, 27' \, 11.7''$ Decl.  $-42^{\circ} \, 12' \, 20''$ Section 1/1

Apparent magnitude: 2.4 Absolute magnitude: 0.52

## 87. Scheat

β Pegasi Constellation: Pegasus RA 23h 4′ 40.4″ Decl. 28° 11′ 0″ Section 1/16 Apparent magnitude: 2

Apparent magnitude: 2.44v Absolute magnitude: -1.49

## 92. Markab

 $\alpha$  Pegasi Constellation: Pegasus RA 23h 5′ 41″ Decl. 15° 18′ 1″

Section 1/16 Apparent magnitude: 2.49 Absolute magnitude: -0.67

## 109. Ruchbah

 $\delta$  Cassiopeiae Constellation: Cassiopeia RA  $\,$  1h 27'  $2.5^{\prime\prime}$  Decl.  $60^{\circ}$  19'  $5^{\prime\prime}$  Section 1/1 Apparent magnitude: 2.66

Absolute magnitude: 0.24

# 134. $\beta$ Hydri

Constellation: Hydrus RA  $0h\,26'\,41.9''$  Decl.  $-77^{\circ}\,9'\,1''$  Section 1/1

Apparent magnitude: 2.82 Absolute magnitude: 3.45

## 137. Algenib

 $\gamma$  Pegasi

Constellation: Pegasus RA 0h 14′ 11.4″ Decl. 15° 17′ 1″ Section 1/1 Apparent magnitude: 2.83

Absolute magnitude: -2.22

## 161. Matar

 $\eta$  Pegasi Constellation: Pegasus RA 22h 43′ 52.3″ Decl. 30° 19′ 0″ Section 1/16

Apparent magnitude: 2.93 Absolute magnitude: -1.16

# Section 2/2–3 RA 1h 30m–4h 30m

# 9. Achernar

 $\alpha$  Eridani Constellation: Eridanus RA 1h 38′ 24″ Decl.  $-57^{\circ}$ 8′ 36″ Section 2/2 Apparent magnitude: 0.45 Absolute magnitude: -2.77

#### 33. Mirfak

 $\alpha$  Persei Constellation: Perseus RA 3h 25′ 39.2″ Decl. 49° 55′ 3″ Section 2/3 Apparent magnitude: 1.8 Absolute magnitude: -4.49

## 50. Hamal

 $\alpha$  Arietis Constellation: Aries RA  $2h\,8'\,13.2''$ Decl.  $23^{\circ}\,32'\,5''$ Section 2/2

Apparent magnitude: 2.01 Absolute magnitude: 0.48

# 60. Algol

 $\beta$  Persei

Constellation: Perseus RA 3h 9' 22.8'' Decl.  $41^{\circ} 1' 3''$  Section 2/3

Apparent magnitude: 2.09 Absolute magnitude: 0.18

## 61. Almach

 $\gamma$  Andromedae

Constellation: Andromeda RA 2h 3′ 53.9523″ Decl. 42° 19′ 47.0223″ Section 2′/2

Section 2/2

Apparent magnitude: 2.1 Absolute magnitude: -3.08

### 93. Menkar

 $\alpha$  Ceti

Constellation: Cetus RA 3h 3' 14.9'' Decl.  $4^{\circ} 9' 4''$  Section 2/3

Apparent magnitude: 2.54 Absolute magnitude: -1.61

## 104. Sheratan

 $\beta$  Arietis

Constellation: Aries RA 1h 55′ 40″ Decl. 20° 53′ 5″ Section 2/2

Apparent magnitude: 2.64 Absolute magnitude: 1.33

# 140. $\zeta$ Persei

Constellation: Perseus RA 3h 55′ 18″ Decl. 31° 56′ 1″ Section 2/3

Apparent magnitude: 2.84 Absolute magnitude: -4.55

# 143. Alcyone

 $\eta$  Tauri

Constellation: Taurus RA 3h 48′ 35.3″ Decl. 24° 9′ 4″ Section 2/3

Apparent magnitude: 2.85 Absolute magnitude: -2.41

# 146. $\alpha$ Hydri

Constellation: Hydrus RA  $1h\,59'\,21.1''$  Decl.  $-61^{\circ}\,28'\,49''$  Section 2/2

Apparent magnitude: 2.86 Absolute magnitude: 1.16

# 151. Acamar

 $\theta^1$  Eridani

 $\begin{array}{ll} Constellation: Eridanus \\ RA & 2h \, 58' \, 15.6792'' \\ Decl. & -40^{\circ} \, 18' \, 16.8457'' \end{array}$ 

Section 2/2

Apparent magnitude: 2.88 Absolute magnitude: -0.59

# 155. $\epsilon$ Persei

Constellation: Perseus RA 3h 59′ 6.1″ Decl. 40° 3′ 4″ Section 2/3

Apparent magnitude: 2.9 Absolute magnitude: -3.19

## 159. $\gamma$ Persei

Constellation: Perseus RA 3h 6' 8.9"
Decl. 53° 34' 3"
Section 2/3

Apparent magnitude: 2.91 Absolute magnitude: -1.57

## 165. Zaurak

 $\gamma$ Eridani

Constellation: Eridanus RA 3h 58′ 53.6″
Decl. -13° 27′ 2″
Section 2/3

Apparent magnitude: 2.97 Absolute magnitude: -1.19

## 172. $\beta$ Trianguli

Constellation: Triangulum RA 2h 10′ 39.1″ Decl. 35° 4′ 2″ Section 2/2 Apparent magnitude: 3

Absolute magnitude: 0.09

## 177. $\delta$ Persei

Constellation: Perseus RA  $3h\,44'\,15''$  Decl.  $47^{\circ}\,50'\,4''$  Section 2/3 Apparent magnitude: 3.01 Absolute magnitude: -3.04

# Section 3/4–5 RA 4h 30m–7h 30m

### 1. Sirius

 $\alpha$  Canis Majoris Constellation: Canis Major RA  $~6h\,45'\,57.4''$  Decl.  $-16^{\circ}\,44'\,3''$  Section 3/5 Apparent magnitude: -1.46

Absolute magnitude: 1.43

## 2. Canopus

 $\alpha$  Carinae

Constellation: Carina RA 6h 24' 21.8"
Decl. -52° 42' 23"
Section 3/5

Apparent magnitude: -0.73 Absolute magnitude: -5.64

# 6. Capella

 $\alpha$  Aurigae Constellation: Auriga RA 5h 18' 3.5" Decl. 46° 0' 5" Section 3/4

Apparent magnitude: 0.07 Absolute magnitude: -0.49

# 7. Rigel

 $\beta$  Orionis Constellation: Orion RA 5h 15' 25.7" Decl.  $-8^{\circ}$  10' 5" Section 3/4

Apparent magnitude: 0.15v Absolute magnitude: -6.72v

# 10. Betelgeuse

 $\alpha$  Orionis Constellation: Orion RA 5h 56' 10.4" Decl. 7° 24' 3"

Decl.  $7^{\circ}$  24′ 3 Section 3/4

Apparent magnitude: 0.55v Absolute magnitude: -5.04v

## 14. Aldebaran

 $\alpha$ Tauri

Constellation: Taurus RA 4h 36′ 59.1″ Decl. 16° 32′ 4″ Section 3/4

Apparent magnitude: 0.86v Absolute magnitude: -0.64v

#### 22. Adhara

Canis Majoris
Constellation: Canis Major
RA 6h 59' 21.2"
Decl. -28° 59' 5"
Section 3/5
Apparent magnitude: 1.5

Apparent magnitude: 1.5 Absolute magnitude: -4.1

# 26. Bellatrix

 $\gamma$  Orionis Constellation: Orion RA  $5 h\, 26'\, 7.5''$ Decl.  $6^{\circ}\, 21'\, 5''$ Section 3/4

Apparent magnitude: 1.64 Absolute magnitude: -2.72

# 27. Elnath

 $\beta$  Tauri

Constellation: Taurus RA 5h 27' 27.8" Decl. 28° 37' 1" Section 3/4

Apparent magnitude: 1.66 Absolute magnitude: -1.36

## 29. Alnilam

 $\epsilon$  Orionis

Constellation: Orion RA  $5h\,37'\,9.2''$  Decl.  $-1^{\circ}\,11'\,2''$  Section 3/4

Apparent magnitude: 1.69 Absolute magnitude: -6.38

## 31. Alnitak

 $\zeta$  Orionis

Constellation: Orion RA  $5h\,41'\,41.6''$  Decl.  $-1^{\circ}\,56'\,0''$  Section 3/4

Apparent magnitude: 1.75 Absolute magnitude: -5.25

# 36. Wezen

 $\delta$  Canis Majoris Constellation: Canis Major RA 7h 9' 8.6" Decl.  $-26^{\circ}$  25' 2" Section 3/5 Apparent magnitude: 1.83

Apparent magnitude: 1.83 Absolute magnitude: -6.87

## 41. Menkalinan

 $\beta$  Aurigae

Constellation: Auriga RA 6h 0' 53.2"
Decl. 44° 56' 5"
Section 3/5

Apparent magnitude: 1.9 Absolute magnitude: -0.1

#### 43. Alhena

 $\gamma$  Geminorum Constellation: Gemini RA 6h 38' 46.8" Decl. 16° 22' 5" Section 3/5 Apparent magnitude: 1.93 Absolute magnitude: -0.6

## 46. Mirzam

 $\beta$  Canis Majoris Constellation: Canis Major RA 6h 23' 30.9''Decl.  $-17^{\circ} 57' 5''$ Section 3/5

Apparent magnitude: 1.98 Absolute magnitude: -3.95

# 56. Saiph

 $\kappa$  Orionis

Constellation: Orion RA  $5h\,48'\,38.1''$  Decl.  $-9^{\circ}\,39'\,5''$  Section 3/4

Apparent magnitude: 2.07 Absolute magnitude: -4.65

#### 73. Mintaka

 $\delta$  Orionis

Constellation: Orion RA 5h 32' 57.2" Decl. 0° 17' 1" Section 3/4

Apparent magnitude: 2.25 Absolute magnitude: -4.99

#### 88. Aludra

 $\eta$  Canis Majoris Constellation: Canis Major RA 7h 24' 49.6''Decl.  $-29^{\circ} 20' 2''$ Section 3/5

Apparent magnitude: 2.45 Absolute magnitude: -7.51

# 98. Arneb

 $\alpha$  Leporis Constellation: Lepus RA  $\,$  5h 33′ 32.8″ Decl.  $-17^{\circ}\,48'\,3''$  Section 3/4

Apparent magnitude: 2.58 Absolute magnitude: -5.4

# 106. Phact

 $\alpha$ Columbae

Constellation: Columba RA  $5h\,40'\,19.2''$  Decl.  $-34^{\circ}\,3'\,55''$  Section 3/4

Apparent magnitude: 2.65 Absolute magnitude: -1.93

#### 107. $\theta$ Aurigæ

Constellation: Auriga RA  $6h\,0'\,59''$  Decl.  $37^{\circ}\,12'\,4''$  Section 3/5 Apparent magnitude: 2.65 Absolute magnitude: -0.98

# 112. Hassaleh

 $\iota$  Aurigae Constellation: Auriga RA 4h 58′ 12.1″ Decl. 33° 11′ 3″ Section 3/4

Apparent magnitude: 2.69 Absolute magnitude: -3.29

## 116. $\pi$ Puppis

Constellation: Puppis RA 7h 17' 47.8" Decl. -37° 7' 54" Section 3/5

Apparent magnitude: 2.71 Absolute magnitude: -4.92

## 123. Hatysa

 $\iota$  Orionis

Constellation: Orion RA 5h 36' 20.3''Decl.  $-5^{\circ} 53' 5''$ Section 3/4

Apparent magnitude: 2.75 Absolute magnitude: -5.3

## 126. Kursa

 $\beta$  Eridani Constellation: Eridanus RA 5h 8' 45.6" Decl.  $-5^{\circ}$  3' 5" Section 3/4

Apparent magnitude: 2.78 Absolute magnitude: 0.6

## 132. Nihal

 $\beta$  Leporis Constellation: Lepus RA 5h 29' 2.3" Decl.  $-20^{\circ}$  44' 4" Section 3/4

Apparent magnitude: 2.81 Absolute magnitude: -0.63

# 148. Tejat

 $\mu$  Geminorum Constellation: Gemini RA  $\,$  6h 24′ 4.8″ Decl. 22° 30′ 0″ Section 3/5

Apparent magnitude: 2.87v Absolute magnitude: -1.39v

## 153. Gomeisa

β Canis Minoris Constellation: Canis Minor RA 7h 28′ 9.2″ Decl. 8° 15′ 0″ Section 3/5 Apparent magnitude: 2.89 Absolute magnitude: -0.7

# 162. $\tau$ Puppis

Constellation: Puppis RA  $6h\,50'\,23.7''$  Decl.  $-50^{\circ}\,38'\,14''$  Section 3/5

Apparent magnitude: 2.94 Absolute magnitude: -0.8

# 166. Alheka

ζ Tauri

Constellation: Taurus RA 5h 38' 45.1" Decl. 21° 9' 0" Section 3/4

Apparent magnitude: 2.97 Absolute magnitude: -2.56

## 178. Phurad

 $\zeta$  Canis Majoris Constellation: Canis Major RA 6h 21' 1.4" Decl.  $-30^{\circ}$  4' 2" Section 3/5 Apparent magnitude: 3 02

Apparent magnitude: 3.02 Absolute magnitude: -2.05

# 179. $o^2$ Canis Majoris

Constellation: Canis Major RA 7h 3' 1.47211'' Decl.  $-23^{\circ} 49' 59.8523''$  Section 3/5

Apparent magnitude: 3.02 Absolute magnitude: -6.46

## 181. Almaaz

 $\epsilon$  Aurigae

Constellation: Auriga RA 5h 3' 18'' Decl.  $43^{\circ} 50' 5''$ 

Decl. 43° 50′ 5″ Section 3/4

Apparent magnitude: 3.03 Absolute magnitude: -5.95

# 185. Mebsuta

 $\epsilon$  Geminorum

Constellation: Gemini RA 6h 45' 4.2'' Decl.  $25^{\circ} 6' 4''$  Section 3/5

Apparent magnitude: 3.06 Absolute magnitude: -4.15

# 193. Wazn

 $\beta$  Columbae Constellation: Columba RA 5h 51' 36.8" Decl.  $-35^{\circ}$  45' 44" Section 3/4

Apparent magnitude: 3.12 Absolute magnitude: 1.02

# Section 4/6–7 RA 7h 30m–10h 30m

# 8. Procyon

 $\alpha$  Canis Minoris Constellation: Canis Minor RA 7h 40' 16.3" Decl. 5° 10' 3" Section 4/6

Apparent magnitude: 0.36 Absolute magnitude: 2.64

#### 17. Pollux

 $\beta$  Geminorum Constellation: Gemini RA  $\,$  7h 46′ 26.7″ Decl. 27° 58′ 4″ Section 4/6

Apparent magnitude: 1.14 Absolute magnitude: 1.07

# 21. Regulus

 $\alpha$  Leonis Constellation: Leo RA  $\,$  10h 9' 21.3" Decl. 11° 52' 3" Section 4/7

Apparent magnitude: 1.36 Absolute magnitude: -0.52

# 23. Castor

 $\alpha$  Geminorum Constellation: Gemini RA 7h 34' 35.863" Decl. 31° 53' 17.79" Section 4/6

Apparent magnitude: 1.58 Absolute magnitude: 0.59

## 28. Miaplacidus

 $\beta$ Carinae

Constellation: Carina RA 9h 13' 23.7" Decl. -69° 47' 37" Section 4/7

Apparent magnitude: 1.67 Absolute magnitude: -0.99

## 35. Regor

 $\gamma$  Velorum Constellation: Vela RA  $8h\,9'\,31.9501''$  Decl.  $-47^{\circ}\,20'\,11.7108''$  Section 4/6 Apparent magnitude: 1.81 Absolute magnitude: -5.25

# 40. Avior

 $\epsilon$  Carinae Constellation: Carina RA 8h 22′ 53.5″ Decl.  $-59^{\circ}$  34′ 10″ Section 4/6

Apparent magnitude: 1.87 Absolute magnitude: -4.57

## 45. Koo She

 $\delta$  Velorum

Constellation: Vela RA 8h 45′ 12.9″ Decl. -54° 46′ 38″ Section 4/6

Apparent magnitude: 1.95 Absolute magnitude: 0.01

## 47. Alphard

 $\alpha$  Hydrae

Constellation: Hydra RA 9h 28' 29.8" Decl. -8° 44' 2" Section 4/7

Apparent magnitude: 1.98 Absolute magnitude: -1.7

## 49. Algieba

 $\gamma$  Leonis Constellation: Leo RA 10h 19' 58.3506" Decl. 19° 50' 29.3468" Section 4/7

Apparent magnitude: 2 Absolute magnitude: -0.93

## 65. Naos

 $\zeta$  Puppis Constellation: Puppis RA 8h 4' 14.1" Decl.  $-40^{\circ}$  3' 22" Section 4/6

Apparent magnitude: 2.21 Absolute magnitude: -5.95

## 66. Aspidiske

 $\iota$  Carinae

Constellation: Carina RA 9h 17' 35.1" Decl.  $-59^{\circ}$  21' 12" Section 4/7

Apparent magnitude: 2.21v Absolute magnitude: -4.42

## 68. Suhail

 $\lambda$  Velorum Constellation: Vela RA 9h 8' 40.7" Decl.  $-43^{\circ}$  30' 29" Section 4/7

Apparent magnitude: 2.23 Absolute magnitude: -3.99

## 90. Markeb

 $\kappa$  Velorum Constellation: Vela RA 9h 22' 41.2" Decl.  $-55^{\circ}$  5' 25" Section 4/7

Apparent magnitude: 2.47 Absolute magnitude: -3.62

## 138. Turais

 $\rho$  Puppis

Constellation: Puppis RA  $8h\,8'\,19.9''$  Decl.  $-24^{\circ}\,21'\,3''$ 

Section 4/6

Apparent magnitude: 2.83 Absolute magnitude: 1.41

## 160. v Carinæ

Constellation: Carina RA  $9h\,47'\,33.8''$  Decl.  $-65^{\circ}\,9'\,29''$  Section 4/7

Apparent magnitude: 2.92 Absolute magnitude: -5.56

## 167. Ras Elased Australis

 $\epsilon$  Leonis

Constellation: Leo RA 9h 46' 53.9'' Decl.  $23^{\circ} 41' 1''$  Section 4/7

Apparent magnitude: 2.97 Absolute magnitude: -1.46

## 186. Tania Australis

 $\mu$  Ursae Majoris Constellation: Ursa Major RA 10h 23' 25.5" Decl. 41° 24' 2" Section 4/7

Apparent magnitude: 3.06 Absolute magnitude: -1.35

# 189. $\zeta$ Hydræ

Constellation: Hydra RA 8h 56′ 22.2″ Decl. 5° 52′ 2″ Section 4/6

Apparent magnitude: 3.11 Absolute magnitude: -0.21

## 194. Talita

 $\iota$  Ursae Majoris Constellation: Ursa Major RA 9h 0′ 28″ Decl. 47° 58′ 0″ Section 4/7 Apparent magnitude: 3.12

Apparent magnitude: 3.12 Absolute magnitude: 2.29

## 198. $\alpha$ Lyncis

Constellation: Lynx RA 9h 22' 10.6'' Decl.  $34^{\circ} 18' 4''$  Section 4/7

Apparent magnitude: 3.14 Absolute magnitude: -1.02

# 199. N Velorum

Constellation: Vela RA 9h 31' 13.3189" Decl. -57° 2' 3.7578"

Section 4/7

Apparent magnitude: 3.16 Absolute magnitude: -1.15

# Section 5/8-9

# RA 10h 30m-13h 30m

# 16. Spica

 $\alpha$  Virginis

Constellation: Virgo RA 13h 26′ 10.2″ Decl. -11° 15′ 2″ Section 5/9

Apparent magnitude: 0.97 Absolute magnitude: -3.56

# 20. Mimosa

 $\beta$  Crucis

Constellation: Crux RA 12h 48' 48.9" Decl. -59° 47' 22" Section 5/9

Apparent magnitude: 1.26 Absolute magnitude: -3.91

# 25. Gacrux

 $\gamma$  Crucis Constellat

Constellation: Crux RA 12h 32' 12.2'' Decl.  $-57^{\circ} 13' 0''$  Section 5/9

Apparent magnitude: 1.63 Absolute magnitude: -0.52

## 32. Alioth

ε Ursae Majoris
Constellation: Ursa Major
RA 12h 54′ 50.3″
Decl. 55° 51′ 3″
Section 5/9
Apparent magnitude: 1.77
Absolute magnitude: -0.2

# 34. Dubhe

α Ursae Majoris Constellation: Ursa Major RA 11h 4′ 51.2″ Decl. 61° 39′ 0″ Section 5/8 Apparent magnitude: 1.8

Absolute magnitude: -1.09

## 62. Denebola

 $\beta$  Leonis

Constellation: Leo RA 11h 50′ 0.1″ Decl. 14° 28′ 0″ Section 5/8

Apparent magnitude: 2.14 Absolute magnitude: 1.92

## 64. Muhlifain

 $\gamma$  Centauri

Constellation: Centaurus RA 12h 42' 32.8" Decl. -49° 3' 40" Section 5/9 Apparent magnitude: 2.2 Absolute magnitude: -0.81

69. Mizar

 $\zeta$  Ursae Majoris Constellation: Ursa Major RA 13h 24' 40.1" Decl. 54° 49' 4" Section 5/9 Apparent magnitude: 2.23

Absolute magnitude: 2.23 Absolute magnitude: 0.33

## 80. Merak

 $\beta$  Ursae Majoris Constellation: Ursa Major RA 11h 2' 56.8" Decl. 56° 16' 5" Section 5/8 Apparent magnitude: 2.34 Absolute magnitude: 0.41

## 85. Phecda

 $\gamma$  Ursae Majoris Constellation: Ursa Major RA 11h 54' 47.8" Decl. 53° 35' 3" Section 5/8 Apparent magnitude: 2.41 Absolute magnitude: 0.36

#### 96. Zosma

 $\delta$  Leonis Constellation: Leo RA 11h 15′ 5.4″ Decl. 20° 25′ 1″ Section 5/8 Apparent magnitude: 2.56 Absolute magnitude: 1.32

## 99. $\delta$ Centauri

Constellation: Centaurus RA 12h 9' 19.5" Decl.  $-50^{\circ}$  49' 31" Section 5/9

Apparent magnitude: 2.58v Absolute magnitude: -2.84

# 100. Gienah Ghurab

 $\gamma$  Corvi

Constellation: Corvus RA 12h 16' 45.6" Decl. -17° 38' 4" Section 5/9

Apparent magnitude: 2.58 Absolute magnitude: -0.94

## 108. Kraz

 $\beta$  Corvi

Constellation: Corvus RA 12h 35' 21.7'' Decl.  $-23^{\circ} 29' 5''$  Section 5/9

Apparent magnitude: 2.65 Absolute magnitude: -0.51

# 113. $\mu$ Velorum

Constellation: Vela RA  $10h\,47'\,34.2''$  Decl.  $-49^{\circ}\,31'\,6''$  Section 5/8

Apparent magnitude: 2.69 Absolute magnitude: -0.06

## 114. $\alpha$ Muscæ

Constellation: Musca RA 12h 38' 18.4'' Decl.  $-69^{\circ} 14' 14''$  Section 5/9

Apparent magnitude: 2.69 Absolute magnitude: -2.17

# 121. $\theta$ Carinæ

Constellation: Carina RA 10h 43' 37.3'' Decl.  $-64^{\circ} 29' 30''$  Section 5/8

Apparent magnitude: 2.74 Absolute magnitude: -2.91

## 122. Porrima

 $\gamma$  Virginis Constellati

Constellation: Virgo RA  $12h \, 41' \, 39.6434''$  Decl.  $-1^{\circ} \, 26' \, 57.7421''$ 

Section 5/9

Apparent magnitude: 2.74 Absolute magnitude: 2.38

## 124. $\iota$ Centauri

Constellation: Centaurus RA 13h 21' 38.6" Decl. -36° 48' 34" Section 5/9 Apparent magnitude: 2.75

Absolute magnitude: 1.48

128.  $\delta$  Crucis

Constellation: Crux RA 12h 16' 8.3" Decl. -58° 51' 6" Section 5/9

Apparent magnitude: 2.79 Absolute magnitude: -2.45

## 130. Cor Caroli 2

 $\alpha^2$  Canum Venaticorum Constellation: Canes Venatici RA 12h 56′ 1.66622″ Decl. 38° 19′ 6.1541″ Section 5/9

Apparent magnitude: 2.98v Absolute magnitude: 0.16

## 144. Vindemiatrix

 $\epsilon$  Virginis

Constellation: Virgo RA 13h 3′ 5.9″ Decl. 10° 51′ 3″ Section 5/9

Apparent magnitude: 2.85 Absolute magnitude: 0.37

# 163. Algorel

 $\delta$  Corvi Constellation: Corvus RA 12h 30′ 49.4″ Decl.  $-16^{\circ}$  37′ 0″ Section 5/9

Apparent magnitude: 2.94 Absolute magnitude: 0.79

# 169. $\gamma$ Hydræ

Constellation: Hydra RA  $13h\,19'\,55.9''$  Decl.  $-23^{\circ}\,16'\,0''$  Section 5/9

Apparent magnitude: 2.99 Absolute magnitude: -0.05

# 173. $\psi$ Ursae Majoris

Constellation: Ursa Major RA  $11h\,10'\,41.8''$  Decl.  $44^{\circ}\,23'\,5''$  Section 5/8 Apparent magnitude: 3

Absolute magnitude: -0.27

## 180. Minkar

 $\epsilon$  Corvi

Constellation: Corvus RA  $12h\,11'\,4.7''$  Decl.  $-22^{\circ}\,43'\,2''$  Section 5/9

Apparent magnitude: 3.02 Absolute magnitude: -1.82

# 182. $\beta$ Muscæ

Constellation: Musca RA 12h 47' 26.1"
Decl. -68° 12' 32"
Section 5/9

Apparent magnitude: 3.04 Absolute magnitude: -1.86

## 190. $\nu$ Hydræ

Constellation: Hydra RA 10h 50′ 32.3″ Decl. -16° 17′ 27″ Section 5/8

Apparent magnitude: 3.11 Absolute magnitude: -0.03

# 191. $\lambda$ Centauri

Constellation: Centaurus RA 11h 36' 38.6" Decl.  $-63^{\circ}$  7' 20" Section 5/8

Apparent magnitude: 3.11 Absolute magnitude: -2.39

# Section 6/10–11 RA 13h 30m–16h 30m

#### 3. $\alpha$ Centauri

Constellation: Centaurus RA  $14h\,39'\,35.0631''$  Decl.  $-60^{\circ}\,50'\,15.0992''$  Section 6/10 Apparent magnitude: -0.29 Absolute magnitude: 4.06

## 4. Arcturus

 $\alpha$  Boötis Constellation: Boötes RA 14h 16' 30.3" Decl. 19° 5' 1" Section 6/10

Apparent magnitude: -0.05 Absolute magnitude: -0.31

## 11. Hadar

 $\beta$  Centauri Constellation: Centaurus RA 14h 5' 8.7" Decl.  $-60^{\circ}$  27' 41" Section 6/10 Apparent magnitude: 0.61 Absolute magnitude: -5.42

## 38. Alkaid

 $\eta$  Ursae Majoris Constellation: Ursa Major RA 13h 48' 16.1" Decl. 49° 13' 1" Section 6/10 Apparent magnitude: 1.86

Absolute magnitude: -0.59

# 53. Menkent

 $\theta$  Centauri

Constellation: Centaurus

RA 14h 7' 46.7" Decl. -36° 27' 3" Section 6/10

Apparent magnitude: 2.06 Absolute magnitude: 0.7

#### 57. Kochab

 $\beta$  Ursae Minoris Constellation: Ursa Minor RA 14h 50′ 40.2″ Decl. 74° 4′ 4″ Section 6/10

Apparent magnitude: 2.07 Absolute magnitude: -0.87

# 67. Alphecca

 $\alpha$ Coronae Borealis

Constellation: Corona Borealis

RA  $15h\,35'\,28.3''$ Decl.  $26^{\circ}\,39'\,1''$ Section 6/11

Apparent magnitude: 2.22 Absolute magnitude: 0.42

# 75. $\epsilon$ Centauri

Constellation: Centaurus RA  $13h\,41'\,4.3''$  Decl.  $-53^{\circ}\,33'\,35''$  Section 6/10

Apparent magnitude: 2.29 Absolute magnitude: -3.02

## 76. Dschubba

 $\delta$  Scorpii

Constellation: Scorpius RA 16h 1' 25.8"
Decl. -22° 40' 2"
Section 6/11

Apparent magnitude: 2.29 Absolute magnitude: -3.16

# **78.** Men

 $\alpha$  Lupi

Constellation: Lupus RA  $14h\,43'\,10.1''$  Decl.  $-47^{\circ}\,27'\,59''$  Section 6/10

Apparent magnitude: 2.3 Absolute magnitude: -3.83

# 79. $\eta$ Centauri

Constellation: Centaurus RA 14h 36' 41.4" Decl.  $-42^{\circ}$  14' 17" Section 6/10

Apparent magnitude: 2.33v Absolute magnitude: -2.55

# 81. Izar

 $\epsilon$  Boötis

Constellation: Boötes RA 14h 45' 47.7'' Decl.  $26^{\circ} 59' 4''$  Section 6/10

Apparent magnitude: 2.35 Absolute magnitude: -1.69

# 95. $\zeta$ Centauri

Constellation: Centaurus RA  $13h\,56'\,42.2''$  Decl.  $-47^{\circ}\,22'\,43''$  Section 6/10

Apparent magnitude: 2.55 Absolute magnitude: -2.81

## 102. Zubeneschamali

 $\beta$  Librae

Constellation: Libra RA 15h 18' 0.3"
Decl. -9° 27' 0"
Section 6/11

Apparent magnitude: 2.61 Absolute magnitude: -0.84

## 103. Unukalhai

 $\alpha$  Serpentis Constellation: Serpens RA 15h 45' 10.8" Decl. 6° 22' 0" Section 6/11

Apparent magnitude: 2.63 Absolute magnitude: 0.87

# 105. Zubenelgenubi

 $\alpha^2$  Librae

Constellation: Libra RA 14h 50′ 52.7131″ Decl. -16° 2′ 30.3955″

Section 6/10

Apparent magnitude: 2.64 Absolute magnitude: 0.77

# 110. Muphrid

 $\eta$  Boötis

Constellation: Boötes RA 13h 55′ 33.9″ Decl. 18° 18′ 2″ Section 6/10

Apparent magnitude: 2.68 Absolute magnitude: 2.41

# 111. Ke Kouan

 $\beta$  Lupi

Constellation: Lupus RA 14h 59′ 45.1″ Decl. -43° 12′ 26″ Section 6/10

Apparent magnitude: 2.68 Absolute magnitude: -3.35

# 119. Yed Prior

 $\delta$  Ophiuchi

Constellation: Ophiuchus

RA 16h 15′ 19″ Decl. -3° 44′ 2″ Section 6/11

Apparent magnitude: 2.73 Absolute magnitude: -0.86

## 120. Aldhibain

 $\eta$  Draconis

Constellation: Draco RA 16h 24′ 14.7″ Decl. 61° 28′ 2″ Section 6/11

Apparent magnitude: 2.73 Absolute magnitude: 0.58

# 131. $\gamma$ Lupi

Constellation: Lupus RA  $15h\ 36'\ 22.8''$  Decl.  $-41^{\circ}\ 13'\ 39''$  Section 6/11

Apparent magnitude: 2.8 Absolute magnitude: -3.4

# 139. $\beta$ Trianguli Australis

Constellation: Triangulum Australe

RA 15h 56' 47.3" Decl. -63° 29' 9" Section 6/11

Apparent magnitude: 2.83 Absolute magnitude: 2.38

# 149. $\gamma$ Trianguli Australis

Constellation: Triangulum Australe

RA 15h 18' 54.582" Decl. -68° 40' 46.3654" Section 6/11

Apparent magnitude: 2.87 Absolute magnitude: -0.87

## 154. $\pi$ Scorpii

Constellation: Scorpius RA  $15h\,59'\,58.5''$  Decl.  $-26^{\circ}\,9'\,5''$  Section 6/11

Apparent magnitude: 2.89 Absolute magnitude: -2.85

# 156. Alniyat

 $\sigma$  Scorpii

Constellation: Scorpius RA  $16h\ 22'\ 19''$  Decl.  $-25^{\circ}\ 38'\ 0''$  Section 6/11

Apparent magnitude: 2.9v Absolute magnitude: -3.86v

## 174. Pherkad Major

 $\gamma$  Ursae Minoris Constellation: Ursa Minor RA 15h 20' 42.8''Decl.  $71^{\circ} 46' 0''$ 

Section 6/11

Apparent magnitude: 3 Absolute magnitude: -2.84

# 183. Seginus

 $\gamma$  Boötis

Constellation: Boötes RA 14h 32' 49.3''Decl.  $38^{\circ} \, 13' \, 4''$ Section 6/10

Apparent magnitude: 3.04 Absolute magnitude: 0.96

## 197. Ke Kwan

 $\kappa$  Centauri

Constellation: Centaurus

RA 15h 0' 22.3''Decl.  $-42^{\circ} 10' 38''$ Section 6/11

Apparent magnitude: 3.13 Absolute magnitude: -2.96

# Section 7/12-13RA 16h 30m-19h 30m

## 5. Vega

 $\alpha$  Lyrae

Constellation: Lyra RA  $18h \, 37' \, 33.9''$ Decl.  $38^{\circ} 48' 0''$ Section 7/13

Apparent magnitude: 0.03 Absolute magnitude: 0.58

## 15. Antares

 $\alpha$  Scorpii

Constellation: Scorpius RA 16h 30' 32.7" Decl.  $-26^{\circ} 28' 1''$ Section 7/12

Apparent magnitude: 0.95v Absolute magnitude: -5.39v

# 24. Shaula

 $\lambda$  Scorpii

Constellation: Scorpius RA 17h 34′ 52″ Decl.  $-37^{\circ} 6' 5''$ 

Section 7/12

Apparent magnitude: 1.62 Absolute magnitude: -5.05

## 37. Kaus Australis

 $\epsilon$  Sagittarii

Constellation: Sagittarius

RA 18h 25' 24''Decl.  $-34^{\circ} 22' 2''$ Section 7/13

Apparent magnitude: 1.84 Absolute magnitude: -1.39

## 39. Sargas

 $\theta$  Scorpii

Constellation: Scorpius RA 17h 38′ 39″ Decl.  $-43^{\circ} 0' 28''$ Section 7/12

Apparent magnitude: 1.86 Absolute magnitude: -2.75

#### 42. Atria

 $\alpha$ Trianguli Australis Constellation: Triangulum Australe RA 16h 48' 39.8951"

Decl.  $-69^{\circ} 1' 39.7626''$ Section 7/12

Apparent magnitude: 1.92 Absolute magnitude: -3.61

# 52. Nunki

 $\sigma$  Sagittarii

Constellation: Sagittarius RA 18h 56' 24.7" Decl.  $-26^{\circ} 16' 2''$ 

Section 7/13

Apparent magnitude: 2.05 Absolute magnitude: -2.14

## 59. Rasalhague

 $\alpha$  Ophiuchi

Constellation: Ophiuchus RA 17h 35' 47.6" Decl.  $12^{\circ} 32' 5''$ Section 7/12

Apparent magnitude: 2.08 Absolute magnitude: 1.3

#### 72. Eltanin

 $\gamma$  Draconis

Constellation: Draco RA  $17h\,57'\,2.2''$ Decl.  $51^{\circ} 29' 1''$ Section 7/12

Apparent magnitude: 2.24 Absolute magnitude: -1.04

# 77. Wei

 $\epsilon$  Scorpii

Constellation: Scorpius RA  $16h\,51'\,21.9''$ Decl.  $-34^{\circ} 19' 3''$ Section 7/12

Apparent magnitude: 2.29 Absolute magnitude: 0.78

## 83. Girtab

 $\kappa$  Scorpii

Constellation: Scorpius RA 17h 43' 46.1" Decl.  $-39^{\circ} 2' 16''$ Section 7/12

Apparent magnitude: 2.39 Absolute magnitude: -3.38

#### 86. Sabik

 $\eta$  Ophiuchi

Constellation: Ophiuchus RA 17h 11' 26.4" Decl.  $-15^{\circ} 44' 4''$ Section 7/12

Apparent magnitude: 2.43 Absolute magnitude: 0.37

## 94. Han

ζ Ophiuchi

Constellation: Ophiuchus RA 16h 38' 10.8" Decl.  $-10^{\circ} 36' 1''$ Section 7/12

Apparent magnitude: 2.54 Absolute magnitude: -3.2

## 101. Ascella

ζ Sagittarii

Constellation: Sagittarius

RA 19h 3' 47.2" Decl.  $-29^{\circ} 51' 0''$ Section 7/13

Apparent magnitude: 2.6 Absolute magnitude: 0.42

## 115. Lesath

v Scorpii

Constellation: Scorpius RA 17h 32' 1.4" Decl.  $-37^{\circ} 18' 3''$ Section 7/12

Apparent magnitude: 2.7 Absolute magnitude: -3.31

# 117. Kaus Meridionalis

 $\delta$  Sagittarii

Constellation: Sagittarius RA 18h 22' 10.7" Decl.  $-29^{\circ} 49' 0''$ Section 7/13

Apparent magnitude: 2.72 Absolute magnitude: -2.14

# 125. Cebalrai

 $\beta$  Ophiuchi

Constellation: Ophiuchus RA 17h 44' 23.2" Decl.  $4^{\circ} 33' 3''$ 

Section 7/12

Apparent magnitude: 2.76 Absolute magnitude: 0.76

## 127. Kornephoros

 $\beta$  Herculis

Constellation: Hercules RA 16h 31' 1''

Decl. 21° 27′ 0″ Section 7/12

Apparent magnitude: 2.78 Absolute magnitude: -0.5

## 129. Rastaban

 $\beta$  Draconis

Constellation: Draco RA  $17h\,30'\,51.1''$  Decl.  $52^{\circ}\,17'\,1''$  Section 7/12

Apparent magnitude: 2.79 Absolute magnitude: -2.43

## 133. Rutilicus

 $\zeta$  Herculis

Constellation: Hercules RA  $16h\,41'\,59.1''$  Decl.  $31^{\circ}\,34'\,1''$  Section 7/12

Apparent magnitude: 2.81 Absolute magnitude: 2.64

# 135. au Scorpii

Constellation: Scorpius RA  $16h\,37'\,2.2''$  Decl.  $-28^{\circ}\,15'\,1''$  Section 7/12

Apparent magnitude: 2.82 Absolute magnitude: -2.78

## 136. Kaus Borealis

 $\lambda$  Sagittarii

Constellation: Sagittarius

RA 18h 29′ 6.7″ Decl. -25° 24′ 3″ Section 7/13

Apparent magnitude: 2.82 Absolute magnitude: 0.95

# 141. $\beta$ Aræ

Constellation: Ara RA 17h 26' 50.5'' Decl.  $-55^{\circ} 32' 43''$  Section 7/12

Apparent magnitude: 2.84 Absolute magnitude: -3.49

#### 142. Choo

 $\alpha$  Arae

Constellation: Ara RA 17h 33′ 16.4″ Decl. -49° 53′ 20″ Section 7/12

Apparent magnitude: 2.84 Absolute magnitude: -1.51

# 152. Albaldah

 $\pi$  Sagittarii

Constellation: Sagittarius RA 19h 10' 51.8" Decl.  $-20^{\circ}$  59' 3" Section 7/13

Apparent magnitude: 2.88 Absolute magnitude: -2.77

## 168. Alnasl

 $\gamma$  Sagittarii

Constellation: Sagittarius RA 18h 6' 59.8'' Decl.  $-30^{\circ} 25' 2''$  Section 7/13

Apparent magnitude: 2.98 Absolute magnitude: 0.63

# 170. $\iota^1$ Scorpii

Constellation: Scorpius RA 17h 48' 52.8" Decl. -40° 7' 56" Section 7/12

Apparent magnitude: 2.99 Absolute magnitude: -5.71

## 171. Deneb el Okab

 $\zeta$  Aquilae

Constellation: Aquila RA 19h 6' 15.6" Decl. 13° 53' 3" Section 7/13

Apparent magnitude: 2.99 Absolute magnitude: 0.96

# 175. $\mu^1$ Scorpii

Constellation: Scorpius RA 16h53'7.6" Decl. -38° 4'39" Section 7/12 Apparent magnitude: 3 Absolute magnitude: -4.01

# 187. Tais

 $\delta$  Draconis Constellation: Draco RA 19h 12' 33.3" Decl. 67° 41' 3" Section 7/13 Apparent magnitude: 3.07

Absolute magnitude: 3.07 Absolute magnitude: 0.63

## 188. $\eta$ Sagittarii

Constellation: Sagittarius RA  $18h\,18'\,52.7''$  Decl.  $-36^{\circ}\,45'\,16''$  Section 7/13 Apparent magnitude: 3.1

Apparent magnitude: 3.1 Absolute magnitude: -0.2

## 195. ζ Aræ

Constellation: Ara RA 17h 0' 9.4'' Decl.  $-56^{\circ} 1' 2''$  Section 7/12

Apparent magnitude: 3.12 Absolute magnitude: -3.11

#### 196. Sarin

 $\delta$  Herculis

Constellation: Hercules RA  $17h\,15'\,47.5''$  Decl.  $24^\circ\,49'\,0''$  Section 7/12

Apparent magnitude: 3.12 Absolute magnitude: 1.21

## 200. $\pi$ Herculis

Constellation: Hercules RA 17h 15' 41.5" Decl. 36° 47' 2" Section 7/12

Apparent magnitude: 3.16 Absolute magnitude: -2.1

# Section 8/14–15 RA 19h 30m–22h 30m

# 12. Altair

 $\alpha$  Aquilae Constellation: Aquila RA 19h 51′ 41.1″ Decl. 8° 55′ 0″ Section 8/14

Apparent magnitude: 0.77 Absolute magnitude: 2.21

# 19. Deneb

 $\alpha$  Cygni

Constellation: Cygnus RA 20h 42′ 3.8″ Decl. 45° 20′ 5″ Section 8/14

Apparent magnitude: 1.24 Absolute magnitude: -8.74

# 30. Alnair

 $\alpha$  Gruis

Constellation: Grus
RA 22h 9' 23.4"
Decl. -46° 52' 14"
Section 8/15
Apparent magnitude:

Apparent magnitude: 1.74 Absolute magnitude: -0.72

# 44. Peacock

 $\alpha$  Pavonis Constellation: Pavo RA 20h 27' 6" Decl.  $-56^{\circ}$  40' 27" Section 8/14

Apparent magnitude: 1.93 Absolute magnitude: -1.82

# 70. Sadr

 $\gamma$ Cygni

Constellation: Cygnus RA 20h 22' 53.6" Decl. 40° 19' 0" Section 8/14

Apparent magnitude: 2.23 Absolute magnitude: -6.12

## 82. Enif

 $\epsilon$  Pegasi

Constellation: Pegasus RA  $21h\,45'\,5.7''$  Decl.  $9^{\circ}\,57'\,3''$  Section 8/15

Apparent magnitude: 2.38 Absolute magnitude: -4.19

## 89. Alderamin

 $\alpha$ Cephei

Constellation: Cepheus RA  $21h\,19'\,1.2''$  Decl.  $62^{\circ}\,39'\,5''$  Section 8/15

Apparent magnitude: 2.45 Absolute magnitude: 1.58

## 91. Gienah

 $\epsilon$ Cygni

Constellation: Cygnus RA 20h 46′ 57.6″ Decl. 34° 2′ 2″ Section 8/14

Apparent magnitude: 2.48 Absolute magnitude: 0.76

## 118. Tarazed

 $\gamma$  Aquilae

Constellation: Aquila RA 19h 47' 8.3" Decl. 10° 39' 3" Section 8/14

Apparent magnitude: 2.72 Absolute magnitude: -3.03

## 145. Deneb Algedi

 $\delta$  Capricorni

Constellation: Capricornus

RA 21h 48' 3.6" Decl. -16° 2' 3" Section 8/15

Apparent magnitude: 2.85 Absolute magnitude: 2.49

## 147. $\delta$ Cygni

Constellation: Cygnus RA 19h 45′ 33.2″ Decl. 45° 10′ 3″ Section 8/14

Apparent magnitude: 2.86 Absolute magnitude: -0.74

## 150. $\alpha$ Tucanæ

Constellation: Tucana RA  $22h\,19'\,45.2''$  Decl.  $-60^{\circ}\,10'\,0''$  Section 8/15

Apparent magnitude: 2.87 Absolute magnitude: -1.05

## 157. Albireo

 $\beta$ Cygni

Constellation: Cygnus RA 19h 31' 28.1" Decl. 27° 59' 5" Section 8/14

Apparent magnitude: 2.9 Absolute magnitude: -2.31

## 158. Sadalsuud

 $\beta$  Aquarii

Constellation: Aquarius RA 21h 32′ 31.9″ Decl.  $-5^{\circ}$  29′ 2″ Section 8/15

Apparent magnitude: 2.9 Absolute magnitude: -3.47

## 164. Sadalmelik

 $\alpha$  Aquarii

Constellation: Aquarius

RA 22h 6′ 44″ Decl. 0° 13′ 4″ Section 8/15

Apparent magnitude: 2.95 Absolute magnitude: -3.88

## 176. $\gamma$ Gruis

Constellation: Grus RA  $21h\,55'\,2.6''$  Decl.  $-37^{\circ}\,16'\,37''$  Section 8/15

Apparent magnitude: 3 Absolute magnitude: -0.97

## 184. Dabih

 $\beta$  Capricorni

Constellation: Capricornus

RA 20h 22' 2.9''Decl.  $-14^{\circ} 43' 1''$ Section 8/14

Apparent magnitude: 3.05 Absolute magnitude: -2.07

# 192. Persian

 $\alpha$ Indi

Constellation: Indus RA  $20h\,38'\,51.6''$  Decl.  $-47^{\circ}\,13'\,32''$  Section 8/14

Apparent magnitude: 3.11 Absolute magnitude: 0.65

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