

Name	Mag	Sidereal Hour Angle												Declination														
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Alrai	3.2	5	06.4	07.0	07.4	07.3	06.8	06.0	05.2	04.5	04.1	04.1	04.4	04.9	77	40.6	40.5	40.4	40.3	40.1	40.1	40.2	40.3	40.5	40.7	40.8	41.0	
Lambda Andromeda	3.9	5	31.6	31.7	31.8	31.7	31.5	31.2	30.9	30.7	30.5	30.4	30.5	30.6	46	30.0	29.9	29.8	29.7	29.6	29.7	29.7	29.9	30.0	30.2	30.3	30.4	
98 Aquarius	4.0	9	10.0	10.0	10.0	09.9	09.8	09.5	09.3	09.1	08.9	08.9	08.9	09.0	-20	03.9	03.9	03.8	03.7	03.6	03.5	03.4	03.4	03.4	03.4	03.5		
Gamma Tucana	4.0	10	32.4	32.6	32.6	32.5	32.3	31.9	31.5	31.2	31.0	30.9	31.1	31.3	-58	12.1	12.0	11.9	11.7	11.6	11.4	11.4	11.4	11.5	11.6	11.7	11.8	
Gamma Pices	3.7	10	37.1	37.2	37.2	37.1	37.0	36.7	36.5	36.3	36.1	36.1	36.1	36.2	3	19.2	19.2	19.2	19.2	19.2	19.3	19.4	19.5	19.6	19.6	19.6	19.6	
Iota Grus	3.9	12	18.7	18.8	18.8	18.7	18.5	18.2	17.9	17.6	17.4	17.4	17.5	17.6	-45	12.8	12.7	12.6	12.5	12.3	12.2	12.1	12.1	12.2	12.3	12.4	12.4	
88 Aquarius	3.7	12	32.7	32.8	32.8	32.7	32.5	32.3	32.0	31.8	31.7	31.6	31.7	31.8	-21	08.2	08.2	08.1	08.1	08.0	07.8	07.8	07.7	07.7	07.7	07.8	07.8	
Markab	2.5	13	43.5	43.5	43.5	43.4	43.3	43.0	42.8	42.6	42.5	42.4	42.5	42.6	15	14.6	14.6	14.5	14.5	14.5	14.6	14.7	14.8	14.9	15.0	15.0	15.0	
Scheat	2.5	13	58.5	58.5	58.5	58.4	58.3	58.0	57.7	57.5	57.4	57.4	57.4	57.5	28	07.4	07.3	07.2	07.1	07.1	07.2	07.3	07.4	07.6	07.7	07.8	07.8	
Omicron Andromeda	3.6	14	26.6	26.7	26.7	26.6	26.4	26.1	25.8	25.6	25.5	25.5	25.5	25.7	42	22.0	21.9	21.8	21.7	21.7	21.7	21.8	22.0	22.1	22.3	22.4	22.4	
Fomalhaut	1.2	15	29.5	29.5	29.5	29.4	29.2	29.0	28.7	28.5	28.4	28.3	28.4	28.5	-29	35.3	35.3	35.2	35.1	35.0	34.8	34.8	34.7	34.8	34.8	34.9	34.9	
Skat	3.3	16	14.8	14.8	14.8	14.7	14.5	14.3	14.0	13.8	13.7	13.7	13.7	13.8	-15	47.1	47.1	47.1	47.0	46.9	46.8	46.7	46.7	46.7	46.7	46.7	46.8	
Lambda Aquarius	3.8	16	45.4	45.4	45.4	45.3	45.1	44.9	44.7	44.5	44.3	44.3	44.4	44.5	-7	32.6	32.6	32.6	32.6	32.5	32.4	32.3	32.2	32.2	32.2	32.2	32.2	
Sadalbari	3.5	17	25.1	25.1	25.1	25.0	24.8	24.6	24.3	24.1	24.0	24.0	24.1	24.2	24	38.4	38.3	38.3	38.2	38.2	38.3	38.4	38.5	38.6	38.7	38.8	38.8	
Iota Cepheus	3.5	17	31.7	31.9	32.0	31.9	31.5	31.1	30.6	30.3	30.1	30.2	30.4	30.7	66	14.5	14.4	14.2	14.1	14.0	14.0	14.1	14.3	14.5	14.7	14.8	14.9	
Epsilon Grus	3.5	17	45.4	45.5	45.5	45.3	45.1	44.8	44.4	44.1	44.0	44.0	44.1	44.3	-51	17.1	17.0	16.9	16.7	16.6	16.4	16.4	16.4	16.5	16.6	16.6	16.7	16.7
Lambda Pegasus	4.0	18	17.1	17.2	17.2	17.1	16.9	16.7	16.4	16.2	16.1	16.1	16.1	16.2	23	36.2	36.2	36.1	36.0	36.0	36.1	36.2	36.4	36.5	36.6	36.6	36.6	
Matar	2.9	19	10.3	10.3	10.3	10.2	10.0	09.7	09.5	09.3	09.2	09.2	09.2	09.4	30	15.6	15.5	15.4	15.3	15.3	15.4	15.5	15.6	15.8	15.9	16.0	16.0	
Beta Grus	2.1	19	13.8	13.9	13.8	13.7	13.5	13.2	12.8	12.6	12.4	12.4	12.5	12.7	-46	51.1	51.0	50.9	50.8	50.7	50.5	50.5	50.5	50.6	50.7	50.7	50.8	
Homam	3.4	19	33.0	33.0	33.0	32.9	32.7	32.5	32.2	32.0	31.9	31.9	32.0	32.1	10	52.1	52.0	52.0	52.0	52.0	52.1	52.2	52.3	52.4	52.5	52.5	52.5	
Alpha Lacerta	3.8	22	06.7	06.8	06.8	06.7	06.4	06.1	05.8	05.5	05.5	05.5	05.6	05.8	50	19.3	19.2	19.1	18.9	18.9	18.9	19.1	19.2	19.4	19.6	19.7	19.7	
Delta Grus	4.0	22	34.8	34.8	34.8	34.6	34.4	34.1	33.8	33.6	33.4	33.4	33.5	33.7	-43	27.8	27.8	27.6	27.5	27.4	27.3	27.2	27.2	27.3	27.4	27.5	27.5	
Zeta Aquarius	3.7	22	42.3	42.3	42.2	42.1	41.9	41.7	41.5	41.3	41.2	41.2	41.2	41.3	0	00.9	00.9	00.9	00.9	00.9	01.0	01.1	01.2	01.3	01.3	01.3	01.3	
Sadachbia	3.9	24	29.9	29.9	29.8	29.7	29.5	29.3	29.1	28.9	28.8	28.8	28.9	29.0	-1	21.2	21.2	21.2	21.2	21.1	21.1	20.9	20.9	20.8	20.8	20.8	20.8	
Alpha Tucana	2.9	25	15.5	15.5	15.5	15.3	15.0	14.5	14.1	13.8	13.7	13.7	13.9	14.2	-60	13.8	13.6	13.5	13.3	13.2	13.1	13.1	13.1	13.2	13.4	13.4	13.5	
Zeta Cepheus	3.3	27	14.1	14.2	14.2	14.0	13.7	13.4	13.0	12.8	12.7	12.8	13.0	13.3	58	14.3	14.2	14.1	13.9	13.9	13.9	14.1	14.2	14.4	14.6	14.7	14.7	
Baham	3.5	27	21.9	21.9	21.8	21.7	21.5	21.3	21.0	20.9	20.8	20.8	20.9	21.0	6	13.9	13.9	13.8	13.8	13.9	14.0	14.1	14.2	14.3	14.3	14.3	14.3	
Alnair	1.8	27	50.0	50.1	50.0	49.8	49.6	49.2	48.9	48.7	48.6	48.6	48.7	48.9	-46	55.9	55.8	55.7	55.5	55.4	55.3	55.3	55.3	55.4	55.5	55.5	55.6	
Iota Pegasus	3.8	28	10.2	10.2	10.2	10.0	09.8	09.6	09.3	09.2	09.1	09.1	09.2	09.3	25	22.8	22.7	22.6	22.6	22.6	22.7	22.8	22.9	23.1	23.2	23.2	23.2	
Sadal Melik	2.9	28	28.0	28.0	28.0	27.8	27.6	27.4	27.2	27.0	26.9	26.9	27.0	27.1	-0	17.2	17.2	17.3	17.2	17.2	17.1	17.0	16.9	16.8	16.8	16.8	16.8	
Al Dhanab	3.0	31	24.9	24.9	24.8	24.6	24.4	24.1	23.8	23.6	23.5	23.6	23.7	23.8	-37	20.1	20.1	20.0	19.9	19.8	19.7	19.6	19.6	19.7	19.7	19.8	19.8	
Deneb Algiedi	2.9	33	08.8	08.7	08.7	08.5	08.3	08.1	07.8	07.6	07.6	07.6	07.7	07.8	-16	05.9	05.9	05.8	05.8	05.7	05.6	05.5	05.5	05.5	05.5	05.5	05.5	
Enif	2.4	33	52.3	52.3	52.2	52.1	51.9	51.6	51.4	51.2	51.2	51.2	51.3	51.4	9	54.4	54.3	54.3	54.3	54.3	54.4	54.5	54.6	54.7	54.8	54.8	54.8	
Nu Octans	3.7	34	27.0	27.1	26.9	26.4	25.6	24.8	24.0	23.4	23.3	23.5	24.1	24.8	-77	21.8	21.6	21.5	21.3	21.2	21.1	21.2	21.3	21.4	21.5	21.6	21.6	
Nashira	3.7	34	53.0	53.0	52.9	52.7	52.5	52.3	52.0	51.9	51.8	51.8	51.9	52.0	-16	38.0	38.0	37.9	37.9	37.8	37.7	37.6	37.6	37.6	37.6	37.6	37.7	
Rho Cygnus	4.0	36	26.8	26.8	26.7	26.6	26.3	26.0	25.7	25.6	25.6	25.6	25.8	26.0	45	37.5	37.3	37.2	37.1	37.1	37.2	37.3	37.5	37.7	37.8	37.9	37.9	
Sadal Suud	2.9	37	01.3	01.3	01.2	01.0	00.8	00.6	00.4	00.2	00.1	00.2	00.3	00.4	-5	32.5	32.5	32.5	32.5	32.5	32.4	32.3	32.2	32.2	32.1	32.2	32.2	
Alfirk	3.2	37	49.8	50.1	50.0	49.7	49.2	48.6	48.2	48.0	48.1	48.3	48.7	49.2	70	35.6	35.5	35.3	35.2	35.2	35.2	35.4	35.5	35.7	35.9	36.0	36.0	
Zeta Capricornus	3.8	38	14.2	14.2	14.1	13.9	13.7	13.4	13.2	13.0	13.0	13.0	13.1	13.2	-22	23.0	23.0	23.0	22.9	22.8	22.7	22.7	22.6	22.6	22.7	22.7	22.7	
Alderamin	2.5	40	19.6	19.7	19.6	19.3	19.0	18.5	18.2	18.1	18.1	18.3	18.6	18.9	62	37.0	36.9	36.7	36.6	36.6	36.7	36.8	37.0	37.2	37.3	37.4	37.4	
Kitalpha	3.9	40	57.6	57.6	57.5	57.4	57.1	56.9	56.7	56.5	56.5	56.5	56.6	56.7	5	16.5	16.5	16.5	16.4	16.5	16.6	16.7	16.8	16.9	16.9	16.9	16.9	
Tau Cygnus	3.7	41	14.3	14.3	14.2	14.1	13.8	13.5	13.3	13.2	13.2	13.2	13.4	13.5	38	04.6	04.4	04.3	04.2	04.3	04.3	04.5	04.6	04.8	04.9	05.0	04.9	
Zeta Cygnus	3.2	41	41.8	41.8	41.7	41.6	41.3	41.1	40.8	40.7	40.7	40.8	40.9	41.0	30	15.4	15.2	15.1	15.1	15.1	15.2	15.3	15.5	15.6	15.7	15.8	15.7	
Xi Cygnus	3.7	43	42.7	42.7	42.6	42.4	42.1	41.8	41.6	41.5	41.5	41.6	41.8	41.9	43	57.4	57.3	57.1	57.1	57.1	57.1	57.3	57.5	57.6	57.7	57.8	57.8	
Nu Cygnus	3.9	45	38.9	38.9	38.8	38.6	38.4	38.1	37.8	37.7	37.7	37.8	38.0	38.2	41	11.7	11.6	11.4	11.3	11.4	11.5	11.6	11.8	11.9	12.0	12.1	12.1	
Beta Indus	3.7	46	10.0	10.0	09.8	09.5	09.1	08.7	08.3	08.1	08.1	08.2	08.4	08.6	-58	25.9	25.8	25.6	25.5	25.4	25.4	25.4	25.5	25.6	25.7	25.7	25.7	
Albali	3.8	47	59.4	59.4	59.2	59.1	58.8	58.6	58.4	58.2	58.2	58.3	58.4	58.5	-9	28.3	28.3	28.3	28.3	28.3	28.2	28.1	28.0	28.0	28.0	28.0	28.0	
Gienah Cygni	2.5	48	23.0	22.9	22.8	22.6	22.4	22.1	21.9	21.8	21.8	21.9	22.1	22.2	33	59.8	59.7	59.6	59.5	59.5	59.6	59.8	59.9	00.1	00.2	00.2	00.2	

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		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
Ancha	3.3	57	05.3	05.2	05.1	04.9	04.6	04.4	04.2	04.1	04.1	04.2	04.3	04.4	-0	48.1	48.2	48.2	48.2	48.2	48.1	48.0	47.9	47.9	47.9	47.9
Delta Pavonis	3.6	57	39.4	39.3	39.0	38.5	38.0	37.5	37.1	36.9	36.9	37.2	37.5	37.7	-66	10.0	09.9	09.8	09.7	09.6	09.6	09.7	09.8	09.9	10.0	10.0
Epsilon Pavonis	4.0	59	39.9	39.7	39.3	38.6	38.0	37.3	36.8	36.6	36.7	37.0	37.5	37.9	-72	53.7	53.5	53.4	53.3	53.3	53.3	53.4	53.5	53.6	53.7	53.6
Gamma Sagitta	3.5	60	14.3	14.2	14.1	13.9	13.7	13.4	13.2	13.2	13.2	13.3	13.4	13.5	19	30.6	30.5	30.4	30.4	30.4	30.5	30.7	30.8	30.9	30.9	30.9
Eta Cygnus	3.9	60	51.9	51.8	51.7	51.4	51.2	50.9	50.8	50.7	50.8	50.9	51.1	51.2	35	06.1	05.9	05.8	05.8	05.8	05.9	06.1	06.2	06.4	06.4	06.4
Alshain	3.7	61	05.4	05.3	05.2	05.0	04.8	04.5	04.4	04.3	04.3	04.4	04.5	04.6	6	25.4	25.3	25.2	25.2	25.3	25.4	25.5	25.6	25.6	25.7	25.6
Eta Aquila	3.9	61	47.8	47.7	47.6	47.4	47.2	46.9	46.8	46.7	46.7	46.8	46.9	47.0	1	01.3	01.3	01.2	01.2	01.3	01.4	01.4	01.5	01.6	01.6	01.5
Altair	0.9	62	13.4	13.3	13.2	13.0	12.8	12.5	12.4	12.3	12.3	12.4	12.5	12.6	8	53.1	53.0	53.0	53.0	53.0	53.1	53.2	53.3	53.4	53.4	53.4
Tyl	3.8	62	59.0	59.0	58.7	58.3	57.8	57.3	57.1	57.1	57.3	57.8	58.3	58.8	70	17.1	16.9	16.8	16.7	16.7	16.9	17.0	17.2	17.4	17.5	17.4
Kaus Media	3.8	63	04.8	04.7	04.6	04.4	04.2	03.9	03.8	03.7	03.7	03.8	04.0	04.1	18	33.0	32.9	32.8	32.8	32.8	33.0	33.1	33.2	33.3	33.3	33.3
Tarazed	2.7	63	21.4	21.3	21.2	21.0	20.7	20.5	20.4	20.3	20.3	20.4	20.5	20.6	10	37.7	37.6	37.6	37.6	37.6	37.7	37.8	37.9	38.0	38.0	38.0
Delta Cygnus	2.9	63	42.6	42.5	42.4	42.1	41.8	41.6	41.4	41.4	41.5	41.6	41.8	42.0	45	08.8	08.7	08.5	08.5	08.5	08.6	08.8	09.0	09.1	09.2	09.1
Albireo	3.1	67	15.3	15.2	15.1	14.8	14.6	14.4	14.2	14.2	14.2	14.4	14.5	14.6	27	58.4	58.2	58.2	58.1	58.2	58.3	58.4	58.6	58.7	58.7	58.6
Iota Cygnus	3.8	67	32.4	32.3	32.1	31.8	31.5	31.2	31.1	31.1	31.2	31.4	31.7	31.8	51	44.6	44.5	44.3	44.3	44.3	44.4	44.6	44.8	44.9	45.0	44.9
Delta Aquila	3.4	68	32.5	32.4	32.3	32.0	31.8	31.6	31.4	31.4	31.4	31.5	31.6	31.7	3	07.6	07.5	07.5	07.5	07.5	07.6	07.7	07.8	07.9	07.9	07.8
Rukbat	4.0	68	54.8	54.6	54.4	54.1	53.8	53.5	53.3	53.2	53.3	53.4	53.6	53.7	-40	36.3	36.2	36.2	36.1	36.1	36.1	36.1	36.2	36.2	36.3	36.2
Arkab	4.0	69	13.3	13.1	12.9	12.6	12.2	11.9	11.7	11.6	11.7	11.8	12.0	12.1	-44	26.9	26.8	26.8	26.7	26.7	26.7	26.7	26.8	26.8	26.9	26.8
Rho Sagittarius	3.9	69	29.1	29.0	28.8	28.6	28.3	28.1	27.9	27.8	27.9	28.0	28.1	28.2	-17	50.2	50.2	50.2	50.2	50.1	50.1	50.0	50.0	50.0	50.0	50.0
Kappa Cygnus	3.8	70	41.6	41.6	41.4	41.1	40.7	40.5	40.3	40.3	40.5	40.7	41.0	41.2	53	22.8	22.6	22.5	22.5	22.5	22.6	22.8	23.0	23.1	23.2	23.1
Nodus Secundus	3.1	71	52.7	52.6	52.3	51.9	51.4	51.1	50.9	51.0	51.3	51.7	52.1	52.5	67	40.3	40.2	40.0	40.0	40.0	40.2	40.3	40.5	40.6	40.7	40.6
Albaldah	2.9	72	27.6	27.5	27.3	27.0	26.8	26.5	26.4	26.3	26.4	26.5	26.6	26.6	-21	00.9	00.9	00.9	00.8	00.8	00.8	00.7	00.7	00.7	00.8	00.8
Tau Sagittarius	3.3	73	09.7	09.5	09.3	09.0	08.8	08.5	08.4	08.3	08.4	08.5	08.6	08.7	-27	39.7	39.7	39.7	39.7	39.6	39.6	39.6	39.6	39.6	39.7	39.7
Al Thalimain	3.4	73	21.0	20.9	20.7	20.5	20.2	20.0	19.9	19.8	19.9	20.0	20.1	20.1	-4	52.5	52.5	52.5	52.5	52.5	52.4	52.3	52.3	52.3	52.2	52.3
Deneb el Okab	3.0	73	34.3	34.2	34.0	33.8	33.6	33.4	33.3	33.2	33.3	33.4	33.5	33.6	13	52.3	52.2	52.1	52.1	52.2	52.3	52.4	52.5	52.6	52.6	52.5
Omicron Sagittarius	3.8	73	43.8	43.6	43.4	43.2	42.9	42.7	42.5	42.5	42.5	42.6	42.7	42.8	-21	44.0	44.0	44.0	44.0	43.9	43.9	43.9	43.9	43.9	43.9	43.9
Ascella	2.6	74	14.5	14.3	14.1	13.8	13.6	13.3	13.1	13.1	13.1	13.3	13.4	13.4	-29	52.3	52.3	52.3	52.3	52.2	52.2	52.2	52.2	52.3	52.3	52.3
Sulafat	3.3	75	12.3	12.2	12.0	11.8	11.5	11.3	11.2	11.2	11.3	11.4	11.6	11.7	32	41.8	41.7	41.6	41.6	41.6	41.7	41.9	42.0	42.1	42.2	42.1
Xi Sagittarius	3.5	75	28.1	27.9	27.7	27.5	27.3	27.0	26.9	26.8	26.9	27.0	27.1	27.1	-21	06.0	06.0	06.0	06.0	05.9	05.9	05.9	05.9	05.9	05.9	05.9
Nunki	2.1	76	04.8	04.7	04.5	04.2	04.0	03.7	03.5	03.5	03.5	03.7	03.8	03.8	-26	17.4	17.4	17.4	17.4	17.3	17.3	17.3	17.3	17.3	17.3	17.3
Sheliak	3.5	77	25.3	25.2	25.0	24.8	24.5	24.3	24.2	24.2	24.3	24.4	24.6	24.7	33	22.1	22.0	21.9	21.9	21.9	22.0	22.2	22.3	22.4	22.5	22.4
Phi Sagittarius	3.2	78	28.9	28.7	28.5	28.3	28.0	27.8	27.6	27.6	27.6	27.8	27.9	27.9	-26	59.1	59.1	59.1	59.1	59.1	59.0	59.0	59.1	59.1	59.1	59.1
Vega	0.0	80	42.8	42.7	42.5	42.2	41.9	41.7	41.6	41.6	41.8	41.9	42.1	42.2	38	47.3	47.1	47.0	47.0	47.1	47.2	47.4	47.5	47.6	47.6	47.5
Alpha Scutum	3.9	81	06.5	06.3	06.1	05.9	05.7	05.5	05.3	05.3	05.4	05.5	05.6	05.6	-8	14.5	14.5	14.6	14.5	14.5	14.5	14.4	14.4	14.3	14.3	14.3
Kaus Borealis	2.8	82	54.3	54.1	53.9	53.6	53.4	53.2	53.0	53.0	53.0	53.2	53.3	53.3	-25	25.2	25.2	25.2	25.2	25.1	25.1	25.1	25.1	25.2	25.2	25.1
Alpha Telescopium	3.5	83	08.0	07.8	07.5	07.2	06.9	06.6	06.4	06.4	06.5	06.6	06.8	06.9	-45	58.0	57.9	57.9	57.8	57.9	57.9	57.9	58.0	58.1	58.1	58.0
Kaus Australis	1.8	83	50.8	50.6	50.4	50.1	49.8	49.6	49.4	49.4	49.5	49.6	49.7	49.8	-34	23.0	23.0	22.9	22.9	22.9	22.9	22.9	23.0	23.0	23.0	23.0
109 Hercules	3.9	84	00.4	00.2	00.0	59.8	59.6	59.4	59.3	59.3	59.4	59.5	59.7	59.7	21	46.2	46.1	46.0	46.0	46.1	46.2	46.3	46.4	46.5	46.5	46.4
Eta Serpens	3.3	84	35.2	35.0	34.8	34.6	34.4	34.2	34.1	34.1	34.1	34.3	34.4	34.4	-2	54.0	54.0	54.1	54.1	54.0	54.0	53.9	53.8	53.8	53.8	53.9
Chi Draco	3.6	84	47.3	47.1	46.7	46.1	45.5	45.2	45.1	45.4	45.9	46.4	47.0	47.4	72	44.0	43.8	43.7	43.7	43.7	43.9	44.1	44.2	44.3	44.4	44.2
Kaus Media	2.7	84	38.7	38.5	38.3	38.0	37.8	37.5	37.4	37.3	37.4	37.5	37.7	37.7	-29	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6	49.6
Eta Sagittarius	3.1	85	28.8	28.6	28.4	28.1	27.8	27.6	27.4	27.4	27.5	27.6	27.8	27.8	-36	45.7	45.6	45.6	45.6	45.6	45.6	45.7	45.7	45.7	45.7	45.7
Mu Sagittarius	3.8	86	27.6	27.4	27.2	26.9	26.7	26.5	26.3	26.3	26.4	26.5	26.6	26.7	-21	03.5	03.5	03.6	03.6	03.5	03.5	03.5	03.5	03.5	03.5	03.5
Omicron Hercules	3.8	88	03.1	03.0	02.8	02.5	02.3	02.1	02.0	02.0	02.2	02.3	02.4	02.5	28	45.6	45.5	45.4	45.4	45.5	45.6	45.7	45.9	45.9	46.0	45.9
Omicron Ophiuchus	3.7	88	05.1	04.9	04.7	04.5	04.3	04.1	04.0	04.0	04.1	04.2	04.3	04.3	9	33.7	33.6	33.6	33.6	33.6	33.7	33.8	33.9	34.0	34.0	33.9
Theta Ara	3.7	88	12.8	12.6	12.2	11.9	11.6	11.3	11.1	11.1	11.2	11.4	11.6	11.6	-50	05.5	05.5	05.4	05.4	05.4	05.5	05.6	05.6	05.7	05.7	05.6
El Nasl	3.6	88	26.5	26.3	26.0	25.7	25.5	25.3	25.1	25.1	25.2	25.3	25.5	25.5	-30	25.5	25.5	25.5	25.5	25.5	25.5	25.5	25.6	25.6	25.6	25.5
Nu Ophiuchus	3.3	90	09.1	08.9	08.7	08.5	08.3	08.1	08.0	08.0	08.0	08.2	08.2	08.3	-9	46.6	46.6	46.7	46.7	46.6	46.6	46.6	46.5	46.5	46.5	46.5
Xi Hercules	3.7	90	29.8	29.6	29.4	29.2	29.0	28.8	28.7	28.7	28.8	29.0	29.1	29.2	29	14.7	14.5	14.4	14.4	14.5	14.6	14.8	14.9	15.0	15.0	14.9
Eltanin	2.2	90	49.0	48.8	48.5	48.2	48.0	47.8	47.7	47.8	48.0	48.3	48.5	48.6	51	29.1	28.9	28.8	28.8	28.9	29.1	29.2	29.4	29.5	29.5	29.4
Theta Hercules	3.8	90	53.0	52.8	52.6	52.3	52.1	51.9	51.9	51.9	52.0	52.2	52.4	52.5	37	14.8	14.6	14.6	14.5							

Name	Mag	Sidereal Hour Angle												Declination													
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Sargas	1.9	95	33.1	32.8	32.5	32.2	31.9	31.7	31.6	31.6	31.7	31.8	32.0	32.0	-43	00.2	00.2	00.1	00.2	00.2	00.2	00.3	00.4	00.4	00.4	00.3	00.3
Ras Alhague	2.1	96	11.4	11.2	11.0	10.8	10.6	10.4	10.3	10.4	10.5	10.6	10.7	10.7	12	33.1	33.0	33.0	33.0	33.0	33.1	33.2	33.3	33.3	33.3	33.3	33.2
Shaula	1.6	96	29.1	28.8	28.6	28.3	28.0	27.8	27.7	27.7	27.8	28.0	28.1	28.1	-37	06.6	06.6	06.6	06.6	06.6	06.6	06.7	06.7	06.8	06.8	06.7	06.7
Choo	2.9	96	54.7	54.4	54.1	53.7	53.4	53.2	53.0	53.1	53.2	53.4	53.5	53.6	-49	52.9	52.9	52.9	52.9	52.9	53.0	53.1	53.1	53.2	53.2	53.1	53.1
Delta Ara	3.6	97	04.6	04.3	03.9	03.4	03.0	02.7	02.5	02.6	02.8	03.1	03.3	03.3	-60	41.4	41.3	41.3	41.3	41.4	41.5	41.6	41.7	41.7	41.7	41.6	41.5
Lesath	2.7	97	11.8	11.5	11.2	10.9	10.7	10.5	10.4	10.4	10.5	10.6	10.7	10.7	-37	18.1	18.1	18.1	18.1	18.2	18.2	18.2	18.3	18.3	18.3	18.3	18.2
Rastaban	2.8	97	21.6	21.4	21.1	20.8	20.6	20.4	20.4	20.5	20.7	21.0	21.2	21.3	52	17.5	17.4	17.3	17.3	17.4	17.6	17.7	17.8	17.9	17.9	17.8	17.7
Gamma Ara	3.3	98	30.8	30.4	30.1	29.6	29.3	29.0	28.9	28.9	29.1	29.3	29.5	29.5	-56	23.1	23.0	23.0	23.0	23.1	23.2	23.2	23.3	23.4	23.3	23.3	23.2
Beta Ara	2.8	98	32.3	32.0	31.6	31.2	30.8	30.6	30.4	30.5	30.7	30.9	31.0	31.1	-55	32.2	32.1	32.1	32.2	32.2	32.3	32.4	32.5	32.5	32.5	32.4	32.3
Theta Ophiuchus	3.3	99	23.7	23.5	23.2	23.0	22.8	22.6	22.5	22.5	22.6	22.7	22.8	22.8	-25	00.5	00.5	00.5	00.5	00.5	00.5	00.5	00.6	00.6	00.6	00.5	00.5
Pi Hercules	3.1	101	11.0	10.8	10.5	10.3	10.1	09.9	09.9	10.0	10.1	10.3	10.4	10.5	36	47.9	47.7	47.6	47.6	47.7	47.9	48.0	48.1	48.2	48.2	48.1	48.0
Sarin	3.1	101	10.5	10.3	10.1	09.9	09.7	09.5	09.5	09.5	09.6	09.8	09.9	09.9	24	49.7	49.5	49.5	49.5	49.5	49.7	49.8	49.9	49.9	49.9	49.9	49.7
Ras Algethi	2.7	101	15.8	15.6	15.4	15.1	14.9	14.8	14.7	14.8	14.9	15.0	15.1	15.1	14	22.8	22.7	22.6	22.6	22.6	22.7	22.8	22.9	23.0	23.0	22.9	22.8
Eta Scorpius	3.3	101	50.6	50.3	50.0	49.7	49.4	49.2	49.1	49.1	49.3	49.4	49.5	49.5	-43	14.9	14.9	14.9	14.9	15.0	15.0	15.1	15.2	15.2	15.2	15.1	15.1
Sabik	2.4	102	18.6	18.4	18.1	17.9	17.7	17.5	17.4	17.5	17.6	17.7	17.8	17.7	-15	44.1	44.2	44.2	44.2	44.2	44.2	44.2	44.2	44.1	44.1	44.1	44.1
Aldhibah	3.2	102	48.6	48.3	47.9	47.5	47.1	47.0	47.0	47.3	47.7	48.1	48.4	48.6	65	42.1	41.9	41.9	41.9	42.0	42.2	42.3	42.4	42.5	42.5	42.4	42.2
Epsilon Hercules	3.9	104	51.9	51.7	51.5	51.3	51.1	50.9	50.9	51.0	51.1	51.3	51.4	51.4	30	54.8	54.6	54.5	54.5	54.6	54.8	54.9	55.0	55.0	55.0	55.0	54.8
Zeta Ara	3.1	105	12.5	12.2	11.8	11.4	11.0	10.8	10.7	10.8	11.0	11.2	11.3	11.3	-56	00.1	00.0	00.0	00.1	00.1	00.2	00.3	00.4	00.4	00.4	00.3	00.2
Kappa Ophiuchus	3.2	105	30.3	30.1	29.8	29.6	29.4	29.3	29.2	29.3	29.4	29.5	29.6	29.6	9	21.7	21.6	21.5	21.5	21.6	21.7	21.7	21.8	21.8	21.8	21.8	21.7
Zeta Scorpius	3.6	106	14.2	13.9	13.6	13.3	13.1	12.9	12.8	12.8	13.0	13.1	13.2	13.2	-42	22.4	22.4	22.4	22.5	22.5	22.6	22.6	22.7	22.7	22.7	22.6	22.6
Mu2 Scorpius	3.6	106	48.2	47.9	47.6	47.3	47.1	46.9	46.8	46.9	47.0	47.2	47.2	47.2	-38	01.8	01.8	01.8	01.9	01.9	01.9	02.0	02.0	02.0	02.0	01.9	
Mu1 Scorpius	3.0	106	55.2	54.9	54.6	54.3	54.1	53.9	53.8	53.9	54.0	54.1	54.2	54.2	-38	03.6	03.6	03.6	03.6	03.7	03.7	03.8	03.8	03.8	03.8	03.8	03.7
Epsilon Scorpius	2.3	107	21.1	20.8	20.5	20.3	20.0	19.9	19.8	19.8	19.9	20.1	20.2	20.1	-34	18.4	18.4	18.4	18.5	18.5	18.5	18.6	18.6	18.6	18.6	18.6	18.5
Eta Ara	3.8	107	24.7	24.3	23.9	23.5	23.1	22.9	22.8	22.9	23.1	23.3	23.5	23.5	-59	03.2	03.2	03.2	03.2	03.3	03.4	03.5	03.6	03.6	03.6	03.5	03.4
Atria	1.9	107	39.7	39.2	38.6	38.0	37.5	37.2	37.1	37.2	37.6	37.9	38.2	38.2	-69	02.4	02.3	02.3	02.4	02.4	02.6	02.7	02.8	02.8	02.8	02.7	02.6
Eta Hercules	3.5	109	13.3	13.0	12.8	12.5	12.3	12.2	12.2	12.3	12.5	12.7	12.8	12.8	38	54.3	54.1	54.1	54.1	54.2	54.3	54.5	54.6	54.6	54.6	54.5	54.3
Zeta Hercules	2.9	109	37.0	36.8	36.6	36.3	36.2	36.0	36.0	36.1	36.2	36.4	36.5	36.5	31	35.2	35.0	35.0	35.0	35.1	35.2	35.3	35.4	35.5	35.5	35.4	35.2
Zeta Ophiuchus	2.6	110	37.1	36.9	36.6	36.4	36.2	36.1	36.0	36.1	36.2	36.3	36.3	36.3	-10	35.0	35.0	35.1	35.1	35.1	35.1	35.1	35.0	35.0	35.0	35.0	35.0
Tau Scorpius	2.8	110	55.5	55.3	55.0	54.7	54.5	54.4	54.3	54.4	54.5	54.6	54.7	54.6	-28	13.9	13.9	13.9	14.0	14.0	14.0	14.1	14.1	14.1	14.1	14.0	14.0
Gamma Apus	3.9	111	23.5	22.5	21.5	20.5	19.7	19.2	19.1	19.5	20.2	20.9	21.4	21.4	-78	54.7	54.6	54.6	54.6	54.8	54.9	55.1	55.2	55.2	55.2	55.1	54.9
Marfik	3.9	112	11.2	11.0	10.8	10.6	10.4	10.3	10.2	10.3	10.4	10.5	10.6	10.5	1	58.0	57.9	57.8	57.8	57.8	57.9	58.0	58.0	58.0	58.0	58.0	57.9
Kornephoros	2.8	112	22.4	22.2	22.0	21.8	21.6	21.5	21.5	21.5	21.6	21.8	21.9	21.8	21	28.3	28.1	28.1	28.1	28.2	28.3	28.4	28.4	28.5	28.5	28.4	28.3
Antares	1.1	112	32.7	32.5	32.2	32.0	31.8	31.6	31.6	31.6	31.7	31.8	31.9	31.9	-26	26.9	26.9	27.0	27.0	27.0	27.1	27.1	27.1	27.1	27.1	27.0	27.0
Eta Draco	2.7	113	59.2	58.9	58.5	58.1	57.9	57.8	57.9	58.1	58.4	58.8	59.0	59.1	61	29.6	29.4	29.4	29.4	29.6	29.7	29.9	30.0	30.0	30.0	29.9	29.8
Gamma Hercules	3.7	114	26.8	26.6	26.3	26.1	26.0	25.9	25.8	25.9	26.0	26.1	26.2	26.2	19	08.0	07.9	07.8	07.8	07.9	08.0	08.1	08.2	08.2	08.2	08.1	08.0
Alniyat	2.9	114	36.1	35.8	35.5	35.3	35.1	35.0	34.9	35.0	35.1	35.2	35.3	35.2	-25	36.6	36.7	36.7	36.7	36.8	36.8	36.8	36.8	36.8	36.8	36.8	36.8
Tau Hercules	3.9	115	01.1	00.8	00.5	00.2	00.1	00.0	00.0	00.1	00.3	00.5	00.7	00.7	46	17.5	17.4	17.3	17.4	17.5	17.6	17.8	17.9	17.9	17.8	17.7	17.6
Yed Posterior	3.2	115	19.9	19.6	19.4	19.2	19.0	18.9	18.8	18.9	19.0	19.1	19.2	19.1	-4	42.7	42.8	42.8	42.8	42.8	42.8	42.7	42.7	42.7	42.7	42.7	42.8
Atria	3.9	115	59.5	59.0	58.5	58.1	57.7	57.5	57.4	57.6	57.9	58.1	58.3	58.2	-63	42.1	42.1	42.1	42.2	42.3	42.4	42.5	42.6	42.6	42.6	42.5	42.4
Yed Prior	2.7	116	19.5	19.3	19.1	18.9	18.7	18.6	18.5	18.6	18.7	18.8	18.9	18.8	-3	42.9	42.9	43.0	43.0	43.0	43.0	42.9	42.9	42.9	42.9	42.9	42.9
Graffias	2.6	118	32.6	32.3	32.1	31.8	31.7	31.6	31.5	31.6	31.7	31.8	31.8	31.8	-19	49.5	49.6	49.6	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7	49.7
Dschubba	2.3	119	49.0	48.8	48.5	48.3	48.1	48.0	48.0	48.0	48.1	48.2	48.3	48.2	-22	38.5	38.6	38.7	38.7	38.7	38.8	38.8	38.8	38.7	38.7	38.7	38.7
Eta Lupus	3.4	119	51.5	51.2	50.9	50.6	50.4	50.3	50.3	50.3	50.5	50.6	50.7	50.6	-38	25.0	25.0	25.1	25.1	25.2	25.3	25.3	25.3	25.3	25.3	25.2	25.2
Pi Scorpius	2.9	120	11.1	10.9	10.6	10.4	10.2	10.1	10.0	10.1	10.2	10.3	10.4	10.3	-26	08.1	08.1	08.2	08.2	08.3	08.3	08.3	08.3	08.3	08.3	08.3	08.2
Gamma Serpens	3.9	120	48.6	48.3	48.1	47.9	47.7	47.6	47.6	47.7	47.8	47.9	48.0	47.9	15	38.1	38.0	38.0	38.0	38.0	38.1	38.2	38.3	38.3	38.2	38.2	38.1
Beta Triang' Aust'	2.8	121	04.2	03.7	03.2	02.8	02.4	02.3	02.3	02.4	02.7	03.0	03.1	03.0	-63	27.0	27.0	27.1	27.1	27.3	27.4	27.5	27.6	27.6	27.5	27.4	27.3
Epsilon Serpens	3.7	122	12.7	12.5	12.2	12.0	11.9	11.8	11.8	11.9	12.0	12.1	12.1	12.1	4	27.3	27.2	27.1	27.1	27.1	27.2	27.2	27.3	27.3	27.3	27.2	27.2
Mu Serpens	3.6	122	30.4	30.2	29.9	29.7	29.6	29.5	29.5	29.5	29.6	29.7	29.8	29.7	-3	27.2	27.3	27.4	27.4	27.4	27.3	27.3	27.3	27.2</			

Name	Mag	Sidereal Hour Angle												Declination														
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Phi Lupus	3.6	129	26.5	26.2	25.9	25.7	25.5	25.4	25.4	25.5	25.6	25.7	25.8	25.7	-36	17.2	17.2	17.3	17.4	17.4	17.5	17.5	17.6	17.5	17.5	17.4	17.4	
Delta Lupus	3.2	129	32.8	32.5	32.2	31.9	31.8	31.7	31.7	31.8	31.9	32.0	32.0	31.9	-40	40.3	40.4	40.4	40.5	40.6	40.7	40.7	40.8	40.7	40.7	40.6	40.6	
Pherkad	3.0	129	49.6	49.1	48.5	48.1	47.9	47.9	48.2	48.7	49.2	49.7	49.9	50.0	71	48.2	48.1	48.0	48.1	48.3	48.4	48.6	48.6	48.6	48.5	48.3	48.1	
Gamma Triang' Aust'	2.9	130	07.2	06.6	06.0	05.5	05.2	05.1	05.1	05.4	05.8	06.1	06.2	06.0	-68	42.2	42.2	42.2	42.3	42.5	42.6	42.7	42.8	42.8	42.7	42.6	42.5	
Zuben Elschemali	2.6	130	39.4	39.2	38.9	38.7	38.6	38.5	38.5	38.6	38.7	38.8	38.8	38.7	-9	24.6	24.7	24.8	24.8	24.8	24.8	24.8	24.7	24.7	24.7	24.7	24.8	
Delta Bootes	3.5	131	03.4	03.1	02.9	02.7	02.5	02.5	02.5	02.6	02.8	02.9	03.0	02.9	33	17.1	16.9	16.9	16.9	17.0	17.2	17.3	17.3	17.3	17.3	17.1	17.0	
Zeta Lupus	3.4	131	48.5	48.1	47.8	47.5	47.3	47.2	47.2	47.4	47.6	47.7	47.7	47.6	-52	07.4	07.5	07.5	07.6	07.8	07.9	08.0	08.0	08.0	07.9	07.8	07.7	
Kappa Lupus	3.9	131	54.0	53.6	53.3	53.0	52.8	52.7	52.8	52.9	53.1	53.2	53.2	53.1	-48	45.8	45.8	45.9	46.0	46.1	46.2	46.3	46.3	46.3	46.2	46.1	46.0	
Brachium	3.3	133	53.0	52.7	52.5	52.3	52.1	52.0	52.0	52.1	52.2	52.3	52.3	52.2	-25	18.6	18.6	18.7	18.8	18.8	18.9	18.9	18.9	18.8	18.8	18.8	18.8	
Nekkar	3.5	134	27.0	26.7	26.4	26.2	26.1	26.1	26.2	26.3	26.5	26.6	26.7	26.6	40	21.5	21.4	21.3	21.4	21.5	21.6	21.7	21.8	21.8	21.7	21.6	21.4	
Ke Kwan	3.1	135	06.0	05.7	05.4	05.1	05.0	04.9	04.9	05.0	05.2	05.3	05.3	05.2	-42	07.9	07.9	08.0	08.1	08.2	08.3	08.3	08.3	08.3	08.2	08.1		
Beta Lupus	2.7	135	15.4	15.1	14.8	14.5	14.4	14.3	14.3	14.4	14.6	14.7	14.7	14.6	-43	09.6	09.7	09.8	09.9	10.0	10.1	10.1	10.1	10.1	10.0	10.0	09.9	
Zuben El Genubi	2.8	137	11.2	10.9	10.7	10.5	10.4	10.3	10.3	10.4	10.5	10.6	10.6	10.5	-16	04.3	04.4	04.4	04.5	04.5	04.5	04.5	04.5	04.5	04.5	04.5	04.5	
Kochab	2.1	137	20.0	19.3	18.7	18.2	18.1	18.2	18.6	19.2	19.8	20.2	20.5	20.4	74	07.2	07.1	07.1	07.2	07.4	07.5	07.6	07.7	07.6	07.5	07.3	07.1	
Alpha Apus	3.8	137	50.0	48.9	47.9	47.1	46.7	46.6	46.9	47.6	48.3	48.9	49.0	48.6	-79	04.3	04.3	04.3	04.5	04.6	04.8	04.9	05.0	05.0	04.9	04.7	04.6	
109 Virgo	3.7	138	21.1	20.8	20.6	20.4	20.3	20.3	20.3	20.4	20.5	20.5	20.5	20.4	1	51.7	51.6	51.5	51.5	51.5	51.6	51.6	51.6	51.6	51.7	51.6	51.5	
Mirak	2.4	138	40.7	40.4	40.2	40.0	39.9	39.9	39.9	40.1	40.2	40.3	40.3	40.2	27	02.4	02.3	02.3	02.3	02.4	02.5	02.6	02.6	02.6	02.6	02.5	02.3	
Rijl al Awwa	3.9	139	08.7	08.4	08.2	08.0	07.9	07.9	07.9	08.0	08.1	08.1	08.1	08.0	-5	41.4	41.5	41.6	41.6	41.6	41.6	41.6	41.5	41.5	41.5	41.5	41.6	
Alpha Circinus	3.2	139	14.4	13.8	13.4	13.0	12.8	12.7	12.8	13.1	13.4	13.6	13.6	13.4	-65	00.2	00.2	00.3	00.4	00.6	00.7	00.8	00.8	00.8	00.7	00.6	00.5	
Men	2.3	139	24.3	24.0	23.7	23.4	23.3	23.2	23.3	23.4	23.6	23.7	23.7	23.5	-47	25.0	25.0	25.1	25.2	25.3	25.4	25.5	25.5	25.5	25.5	25.4	25.3	
Zeta Bootes	3.8	139	37.9	37.6	37.4	37.2	37.1	37.1	37.1	37.2	37.3	37.4	37.4	37.3	13	41.7	41.6	41.6	41.6	41.6	41.7	41.8	41.8	41.8	41.8	41.7	41.6	
Rigel Kentaurus	0.0	139	59.1	58.7	58.3	58.0	57.8	57.8	57.9	58.1	58.4	58.5	58.5	58.3	-60	51.6	51.7	51.8	51.9	52.0	52.2	52.3	52.3	52.2	52.1	52.0	51.9	
Eta Centaurus	2.3	141	01.0	00.6	00.3	00.1	00.0	00.0	00.0	00.1	00.2	00.3	00.3	00.2	-42	11.2	11.3	11.4	11.5	11.6	11.7	11.7	11.7	11.7	11.6	11.5	11.5	
Seginus	3.0	141	54.7	54.4	54.1	53.9	53.9	53.9	53.9	54.1	54.2	54.3	54.4	54.3	38	16.4	16.3	16.2	16.3	16.4	16.5	16.6	16.7	16.6	16.5	16.4	16.2	
Rho Bootes	3.6	141	58.1	57.8	57.6	57.4	57.3	57.3	57.4	57.5	57.6	57.7	57.7	57.6	30	20.2	20.1	20.0	20.1	20.2	20.3	20.4	20.4	20.4	20.3	20.2	20.0	
Lambda Bootes	3.6	145	02.4	02.1	01.8	01.6	01.5	01.4	01.5	01.6	01.8	01.9	01.8	01.7	-46	05.3	05.4	05.5	05.6	05.7	05.8	05.9	05.9	05.8	05.7	05.6	05.6	
Arcturus	0.2	146	00.4	00.1	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.0	19	08.5	08.4	08.4	08.4	08.5	08.6	08.6	08.7	08.6	08.6	08.5	08.4	
Menkent	2.1	148	13.7	13.4	13.2	13.0	12.9	12.9	12.9	13.0	13.2	13.2	13.2	13.0	-36	24.2	24.3	24.4	24.5	24.6	24.6	24.7	24.7	24.6	24.5	24.5	24.5	
Pi Hydra	3.3	148	18.6	18.3	18.0	17.9	17.8	17.8	17.8	17.9	18.0	18.1	18.0	17.9	-26	42.9	43.0	43.1	43.2	43.3	43.3	43.3	43.3	43.3	43.3	43.2	43.2	
Thuban	3.7	148	51.3	50.9	50.5	50.2	50.2	50.3	50.5	50.8	51.2	51.4	51.4	51.3	64	20.2	20.1	20.1	20.2	20.4	20.5	20.6	20.6	20.5	20.4	20.2	20.0	
Agena	0.6	148	55.6	55.1	54.7	54.4	54.3	54.3	54.4	54.7	54.9	55.0	55.0	54.7	-60	24.2	24.3	24.4	24.5	24.7	24.8	24.9	24.9	24.9	24.9	24.7	24.6	24.5
Zeta Centaurus	2.5	151	00.5	00.2	00.0	00.0	00.0	00.0	00.0	00.0	00.0	00.1	00.0	00.0	-47	19.2	19.3	19.4	19.5	19.7	19.8	19.8	19.8	19.8	19.8	19.7	19.6	19.5
Muphrid	2.7	151	14.8	14.5	14.3	14.1	14.1	14.1	14.1	14.2	14.3	14.4	14.4	14.2	18	21.6	21.5	21.4	21.4	21.5	21.6	21.6	21.7	21.7	21.6	21.5	21.4	
Mu Centaurus	3.5	152	29.6	29.2	29.0	28.8	28.7	28.7	28.8	28.9	29.1	29.1	29.1	28.9	-42	30.4	30.5	30.6	30.7	30.8	30.9	30.9	30.9	30.9	30.8	30.7	30.7	
Nu Centaurus	3.4	152	31.3	31.0	30.7	30.5	30.4	30.4	30.5	30.6	30.8	30.8	30.8	30.6	-41	43.2	43.3	43.4	43.6	43.7	43.7	43.8	43.8	43.7	43.6	43.6	43.5	
Alkaid	1.9	153	02.7	02.4	02.1	01.9	01.9	02.0	02.1	02.3	02.5	02.6	02.5	02.4	49	16.4	16.3	16.3	16.4	16.5	16.6	16.7	16.7	16.7	16.5	16.4	16.2	
Epsilon Centaurus	2.3	154	55.2	54.8	54.5	54.3	54.3	54.3	54.4	54.6	54.7	54.8	54.7	54.5	-53	29.9	30.0	30.1	30.3	30.4	30.5	30.6	30.6	30.6	30.5	30.4	30.3	30.3
Heze	3.4	156	14.3	14.0	13.8	13.7	13.6	13.6	13.7	13.8	13.8	13.9	13.8	13.7	-0	38.0	38.1	38.2	38.2	38.2	38.1	38.1	38.1	38.1	38.1	38.1	38.2	
d Centaurus	3.9	157	08.4	08.0	07.8	07.6	07.6	07.6	07.7	07.8	07.9	08.0	07.9	07.7	-39	26.5	26.6	26.7	26.8	26.9	27.0	27.0	27.0	26.9	26.9	26.8	26.8	
Spica	1.1	158	36.6	36.3	36.1	36.0	36.0	36.0	36.0	36.1	36.2	36.2	36.1	36.0	-11	11.9	12.0	12.1	12.1	12.2	12.2	12.1	12.1	12.1	12.1	12.1	12.1	
Mizar	2.2	158	56.8	56.4	56.1	56.0	55.9	56.1	56.2	56.4	56.6	56.7	56.7	56.5	54	53.0	52.9	52.9	53.1	53.2	53.3	53.4	53.4	53.3	53.1	52.9	52.8	
Iota Centaurus	2.8	159	45.2	44.9	44.7	44.6	44.5	44.5	44.6	44.7	44.8	44.9	44.8	44.6	-36	44.8	44.9	45.1	45.2	45.3	45.3	45.4	45.3	45.3	45.2	45.1	45.1	
Gamma Hydra	3.0	160	10.5	10.2	10.0	09.9	09.9	09.9	09.9	10.0	10.1	10.1	10.0	09.9	-23	12.5	12.6	12.7	12.8	12.8	12.8	12.8	12.8	12.8	12.7	12.7	12.7	
Delta Musca	3.6	164	19.0	18.4	17.9	17.7	17.7	17.8	18.2	18.6	18.9	19.1	18.9	18.4	-71	34.9	35.0	35.2	35.4	35.5	35.7	35.7	35.7	35.7	35.6	35.5	35.4	35.3
Vindemiatrix	2.8	164	22.1	21.8	21.6	21.5	21.5	21.5	21.6	21.7	21.7	21.8	21.7	21.5	10	55.2	55.1	55.0	55.0	55.1	55.1	55.1	55.2	55.2	55.1	55.0	54.9	
Cor Caroli	2.9	165	54.6	54.3	54.0	53.9	53.9	54.0	54.1	54.2	54.3	54.4	54.3	54.1	38	16.6	16.5	16.5	16.6	16.7	16.8	16.8	16.8	16.8	16.8	16.6	16.5	16.3
Auva	3.4	166	00.6	00.4	00.2	00.1	00.1	00.1	00.1	00.2	00.3	00.3	00.2	00.0	3	21.5	21.4	21.3	21.3	21.3	21.3	21.4	21.4	21.4	21.4	21.3	21.2	
Alioth	1.8	166	24.8	24.4	24.1	24.0	24.0	24.1	24.3	24.5	24.7	24.7	24.7	24.4	55	55.0	54.9	55.0										

Name	Mag	Sidereal Hour Angle												Declination														
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Epsilon Crux	3.6	174	34.0	33.6	33.3	33.2	33.3	33.4	33.6	33.9	34.0	34.0	33.9	33.5	-60	26.1	26.3	26.4	26.6	26.8	26.9	26.9	26.8	26.7	26.6	26.5	26.5	
Zaniah	3.9	174	56.0	55.7	55.5	55.5	55.5	55.5	55.6	55.6	55.7	55.7	55.6	55.4	-0	42.4	42.5	42.6	42.6	42.6	42.6	42.5	42.5	42.5	42.5	42.6	42.7	
Gienah Ghurab	2.6	175	57.5	57.2	57.0	57.0	57.0	57.1	57.2	57.2	57.2	57.2	57.1	56.9	-17	34.8	34.9	35.0	35.1	35.1	35.2	35.1	35.1	35.0	35.0	35.0	35.1	
Megrez	3.3	176	03.1	02.7	02.5	02.4	02.5	02.6	02.8	03.0	03.2	03.2	03.0	02.7	56	59.3	59.3	59.3	59.5	59.6	59.7	59.7	59.6	59.5	59.4	59.2	59.0	
Delta Crux	2.8	176	07.3	06.9	06.7	06.6	06.6	06.8	07.0	07.2	07.3	07.3	07.1	06.8	-58	47.0	47.2	47.3	47.5	47.6	47.7	47.8	47.7	47.6	47.5	47.4	47.3	
Minkar	3.0	177	22.7	22.4	22.3	22.2	22.2	22.3	22.3	22.4	22.5	22.4	22.3	22.1	-22	39.4	39.6	39.7	39.8	39.8	39.9	39.8	39.8	39.7	39.7	39.7	39.7	
Delta Centaurus	2.6	177	49.2	48.9	48.7	48.6	48.6	48.7	48.9	49.0	49.1	49.1	49.0	48.7	-50	45.5	45.6	45.8	45.9	46.1	46.1	46.1	46.1	46.0	45.9	45.8	45.8	
Phad	2.4	181	26.7	26.3	26.1	26.1	26.2	26.3	26.5	26.6	26.7	26.7	26.5	26.2	53	39.0	39.0	39.1	39.2	39.3	39.4	39.4	39.4	39.2	39.1	38.9	38.8	
Zavijava	3.6	182	14.0	13.7	13.6	13.5	13.6	13.6	13.7	13.7	13.8	13.7	13.6	13.4	1	43.5	43.4	43.3	43.3	43.3	43.3	43.3	43.4	43.4	43.4	43.3	43.2	
Denebola	2.1	182	38.6	38.3	38.2	38.1	38.2	38.2	38.3	38.4	38.4	38.4	38.2	38.0	14	31.8	31.8	31.7	31.8	31.8	31.9	31.9	31.9	31.9	31.8	31.7	31.6	
Chi Ursae Major	3.7	183	23.4	23.1	22.9	22.9	22.9	23.1	23.2	23.3	23.4	23.3	23.2	22.9	47	44.2	44.1	44.2	44.3	44.4	44.5	44.5	44.4	44.3	44.2	44.0	43.9	
Lambda Musca	3.6	183	31.0	30.5	30.3	30.2	30.4	30.6	30.9	31.2	31.4	31.4	31.1	30.6	-66	45.8	45.9	46.1	46.3	46.4	46.5	46.5	46.5	46.4	46.2	46.1	46.1	
Lambda Centaurus	3.1	185	58.4	58.0	57.8	57.8	57.9	58.1	58.4	58.6	58.8	58.7	58.5	58.1	-63	03.2	03.4	03.6	03.8	03.9	04.0	04.0	03.9	03.8	03.7	03.6	03.5	
Xi Hydra	3.5	186	39.7	39.5	39.3	39.3	39.3	39.4	39.5	39.6	39.6	39.6	39.4	39.2	-31	53.6	53.8	53.9	54.0	54.1	54.1	54.1	54.1	54.0	53.9	53.9	53.9	
Giauzar	3.8	187	02.1	01.6	01.3	01.3	01.5	01.8	02.2	02.4	02.6	02.5	02.2	01.7	69	17.2	17.2	17.4	17.5	17.6	17.7	17.7	17.6	17.4	17.2	17.0	16.9	
Pi Centaurus	3.9	189	40.0	39.7	39.6	39.6	39.7	39.8	40.0	40.2	40.3	40.2	40.0	39.6	-54	31.5	31.7	31.9	32.0	32.1	32.2	32.2	32.1	32.0	31.9	31.8	31.8	
Delta Crater	3.6	190	04.5	04.3	04.1	04.1	04.2	04.2	04.3	04.4	04.4	04.3	04.1	03.9	-14	48.9	49.1	49.2	49.2	49.3	49.3	49.2	49.2	49.1	49.1	49.1	49.2	
Alula Borealis	3.5	190	16.9	16.6	16.5	16.5	16.5	16.6	16.7	16.8	16.8	16.7	16.5	16.3	33	03.2	03.1	03.2	03.2	03.3	03.4	03.4	03.3	03.3	03.2	03.0	02.9	
Alula Australis	3.8	190	21.4	21.1	21.0	21.0	21.0	21.1	21.2	21.3	21.3	21.2	21.1	20.8	31	29.2	29.2	29.2	29.3	29.3	29.4	29.4	29.4	29.3	29.2	29.0	28.9	
Chort	3.3	191	20.7	20.4	20.3	20.3	20.3	20.4	20.5	20.5	20.5	20.5	20.3	20.1	15	23.4	23.3	23.3	23.3	23.3	23.4	23.4	23.4	23.4	23.3	23.2	23.1	
Zozma	2.6	191	22.6	22.3	22.2	22.2	22.2	22.3	22.4	22.4	22.4	22.4	22.2	22.0	20	29.0	28.9	28.9	29.0	29.0	29.1	29.1	29.1	29.1	29.0	28.9	28.8	28.7
Psi Ursae Major	3.0	192	28.8	28.5	28.4	28.4	28.4	28.6	28.7	28.8	28.8	28.7	28.5	28.2	44	27.4	27.4	27.4	27.5	27.6	27.7	27.7	27.6	27.5	27.4	27.2	27.1	
BS 4337	3.9	192	46.6	46.2	46.1	46.1	46.3	46.5	46.7	46.9	47.0	46.9	46.6	46.2	-59	00.5	00.7	00.9	01.0	01.2	01.2	01.2	01.1	01.0	00.9	00.8	00.8	
Dubhe	1.8	193	57.1	56.7	56.5	56.5	56.7	56.9	57.1	57.3	57.3	57.2	56.9	56.5	61	42.5	42.5	42.6	42.8	42.9	42.9	42.9	42.8	42.7	42.5	42.3	42.2	
Merak	2.4	194	25.6	25.2	25.1	25.1	25.2	25.4	25.6	25.7	25.7	25.6	25.4	25.0	56	20.4	20.4	20.5	20.7	20.8	20.8	20.8	20.7	20.6	20.4	20.2	20.1	
u Carina	3.8	196	33.2	32.9	32.8	32.8	33.0	33.2	33.4	33.6	33.6	33.5	33.2	32.9	-58	53.2	53.3	53.5	53.7	53.8	53.9	53.8	53.7	53.6	53.5	53.4	53.4	
Praecipula	3.8	196	34.1	33.9	33.8	33.8	33.8	34.0	34.0	34.1	34.1	34.0	33.8	33.5	34	10.4	10.4	10.5	10.5	10.6	10.6	10.6	10.6	10.5	10.4	10.3	10.2	
Nu Hydra	3.1	197	30.3	30.1	30.0	30.0	30.0	30.1	30.2	30.2	30.2	30.1	29.9	29.7	-16	13.7	13.9	14.0	14.1	14.1	14.1	14.0	14.0	13.9	13.9	13.9	14.0	
Mu Velorum	2.7	198	13.8	13.5	13.4	13.5	13.6	13.7	13.9	14.0	14.0	13.9	13.7	13.4	-49	27.2	27.4	27.5	27.7	27.8	27.8	27.8	27.7	27.6	27.5	27.4	27.4	
Theta Carina	2.7	199	11.7	11.4	11.3	11.4	11.6	11.9	12.2	12.4	12.5	12.3	12.0	11.6	-64	25.6	25.8	26.0	26.1	26.3	26.3	26.3	26.2	26.0	25.9	25.8	25.8	
Rho Leo	3.9	201	42.1	41.8	41.8	41.8	41.8	41.9	42.0	42.0	42.0	41.9	41.7	41.4	9	16.2	16.1	16.1	16.1	16.1	16.1	16.1	16.2	16.2	16.1	16.0	15.9	
BS 4140	3.4	201	55.7	55.4	55.3	55.4	55.6	55.9	56.1	56.3	56.4	56.2	55.9	55.5	-61	43.0	43.2	43.4	43.5	43.7	43.7	43.7	43.6	43.4	43.3	43.2	43.2	
BS 4114	3.8	202	57.8	57.5	57.4	57.5	57.7	57.9	58.1	58.3	58.3	58.2	57.9	57.5	-58	46.2	46.4	46.6	46.6	46.9	46.9	46.9	46.8	46.6	46.5	46.4	46.5	
Mu Hydra	3.8	203	23.4	23.2	23.1	23.1	23.2	23.3	23.3	23.4	23.3	23.2	23.0	22.8	-16	52.2	52.4	52.5	52.6	52.6	52.6	52.5	52.5	52.4	52.4	52.4	52.5	
Tania Australis	3.1	204	18.4	18.2	18.1	18.1	18.2	18.3	18.4	18.5	18.4	18.3	18.0	17.8	41	27.7	27.7	27.7	27.8	27.9	27.9	27.9	27.8	27.7	27.6	27.5	27.4	
Algieba	2.0	204	54.3	54.1	54.0	54.0	54.1	54.2	54.3	54.3	54.3	54.1	53.9	53.7	19	48.3	48.2	48.2	48.3	48.3	48.3	48.3	48.3	48.3	48.2	48.1	48.0	
Tania Borealis	3.4	205	36.8	36.6	36.5	36.5	36.6	36.8	36.8	36.9	36.8	36.7	36.4	36.1	42	52.6	52.6	52.7	52.8	52.8	52.8	52.8	52.8	52.6	52.5	52.4	52.3	
BS4050	3.4	205	40.0	39.8	39.7	39.8	40.0	40.3	40.5	40.7	40.7	40.6	40.2	39.8	-61	21.8	22.0	22.1	22.3	22.4	22.4	22.4	22.3	22.1	22.0	22.0	22.0	
Adhafera	3.4	205	43.5	43.3	43.2	43.2	43.3	43.4	43.5	43.5	43.4	43.3	43.1	42.8	23	22.8	22.8	22.8	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.7	22.6	
BS 4023	3.8	206	14.3	14.1	14.1	14.1	14.3	14.4	14.5	14.6	14.6	14.4	14.2	13.9	-42	09.2	09.4	09.5	09.7	09.7	09.8	09.7	09.6	09.5	09.4	09.4	09.4	
Omega Carina	3.3	206	31.2	30.9	30.8	31.0	31.3	31.8	32.1	32.4	32.4	32.2	31.8	31.3	-70	04.1	04.3	04.4	04.6	04.7	04.8	04.7	04.6	04.5	04.3	04.3	04.3	
Lambda Hydra	3.6	207	15.8	15.6	15.6	15.6	15.7	15.8	15.8	15.9	15.8	15.7	15.5	15.3	-02	23.3	23.4	23.5	23.5	23.6	23.5	23.5	23.4	23.4	23.4	23.4	23.5	
Regulus	1.4	207	48.5	48.3	48.3	48.3	48.4	48.5	48.5	48.5	48.5	48.4	48.2	47.9	11	55.9	55.9	55.8	55.9	55.9	55.9	55.9	55.9	55.9	55.9	55.8	55.7	
Eta Leo	3.5	208	04.0	03.8	03.7	03.7	03.8	03.9	04.0	04.0	03.9	03.8	03.6	03.3	16	43.6	43.6	43.6	43.6	43.6	43.7	43.7	43.7	43.6	43.6	43.5	43.4	
Tseen Ke	3.5	210	43.1	42.9	42.9	43.0	43.2	43.4	43.6	43.7	43.7	43.5	43.2	42.8	-54	35.8	36.0	36.2	36.3	36.4	36.4	36.4	36.3	36.1	36.0	36.0	36.0	
Rasalas	3.9	211	42.2	42.0	42.0	42.0	42.1	42.2	42.2	42.2	42.2	42.0	41.8	41.5	25	58.3	58.3	58.3	58.4	58.4	58.5	58.4	58.4	58.4	58.3	58.2	58.1	
Upsilon Ursae Major	3.8	212	07.1	06.8	06.7	06.8	07.0	07.2	07.4	07.4	07.3	07.1	06.7	06.3	59	00.1	00.2	00.3	00.4	00.5	00.5	00.4	00.3	00.2	00.0	59.9	59.8	
Upsilon Carina	3.0	213	10.5	10.3	10.3	10.5	10.8	11.1	11.4	11.6	11.5	11.3	10.9	10.5	-65	06.0	06.2	06.4	06.5									

Name	Mag	Sidereal Hour Angle												Declination													
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Turais	2.3	220	40.5	40.3	40.3	40.5	40.8	41.1	41.3	41.3	41.1	40.7	40.3	-59	18.0	18.2	18.4	18.5	18.6	18.6	18.5	18.4	18.2	18.1	18.1	18.2	
Theta Hydra	3.9	221	18.8	18.6	18.6	18.6	18.7	18.8	18.8	18.8	18.7	18.6	18.4	18.1	2	17.1	17.0	17.0	17.0	17.0	17.0	17.0	17.1	17.1	17.1	17.0	16.9
Miaplacidus	1.7	221	40.4	40.2	40.3	40.6	41.0	41.5	41.8	42.0	41.9	41.6	41.1	40.6	-69	44.5	44.7	44.9	45.0	45.1	45.1	45.0	44.9	44.7	44.6	44.6	44.6
Canopus	3.4	222	12.3	12.2	12.2	12.4	12.7	13.0	13.1	13.2	13.1	12.9	12.6	12.2	-58	59.5	59.7	59.9	00.0	00.1	00.1	00.0	59.8	59.7	59.6	59.6	59.6
Suhail	2.2	222	55.9	55.7	55.7	55.9	56.0	56.2	56.3	56.3	56.3	56.1	55.8	55.5	-43	27.5	27.6	27.8	27.9	28.0	27.9	27.9	27.7	27.6	27.5	27.5	27.6
BS 3614	3.8	223	53.7	53.6	53.6	53.7	53.9	54.1	54.2	54.3	54.2	54.0	53.7	53.4	-47	07.3	07.5	07.7	07.8	07.8	07.8	07.7	07.6	07.5	07.4	07.4	07.5
Talitha Australis	3.6	223	57.9	57.7	57.7	57.8	57.9	58.1	58.1	58.1	58.0	57.8	57.4	57.1	47	07.6	07.7	07.8	07.8	07.9	07.9	07.8	07.7	07.6	07.5	07.4	07.3
Talitha	3.1	225	04.1	03.9	03.9	04.0	04.2	04.3	04.4	04.4	04.2	04.0	03.7	03.3	48	00.8	00.8	00.9	01.0	01.0	01.0	00.9	00.8	00.7	00.6	00.5	00.5
Zeta Hydra	3.1	226	03.2	03.1	03.0	03.1	03.2	03.3	03.3	03.3	03.2	03.0	02.8	02.5	5	55.2	55.1	55.0	55.0	55.1	55.1	55.1	55.1	55.1	55.1	55.1	55.0
BS 3571	3.8	226	11.5	11.4	11.4	11.7	12.0	12.2	12.4	12.5	12.4	12.2	11.8	11.4	-60	40.0	40.2	40.4	40.6	40.6	40.6	40.5	40.3	40.2	40.1	40.1	40.2
Epsilon Hydra	3.4	228	12.5	12.3	12.3	12.4	12.5	12.6	12.6	12.6	12.5	12.3	12.0	11.8	6	23.6	23.5	23.5	23.5	23.5	23.5	23.6	23.6	23.6	23.6	23.5	23.4
Delta Vela	1.9	228	46.1	46.0	46.1	46.3	46.5	46.8	46.9	46.9	46.8	46.6	46.3	45.9	-54	43.9	44.1	44.2	44.3	44.4	44.4	44.3	44.1	44.0	43.9	43.9	44.0
Asellus Australis	3.9	228	43.4	43.2	43.2	43.3	43.4	43.5	43.5	43.5	43.3	43.2	42.9	42.7	18	07.7	07.7	07.7	07.7	07.7	07.7	07.7	07.7	07.7	07.6	07.6	07.5
Alpha Pyxis	3.7	229	01.6	01.4	01.5	01.6	01.7	01.9	01.9	01.9	01.8	01.6	01.4	01.1	-33	12.5	12.7	12.8	12.9	13.0	12.9	12.8	12.7	12.6	12.5	12.6	12.6
BS 3445	3.8	229	46.7	46.6	46.7	46.8	47.0	47.2	47.3	47.3	47.2	47.0	46.7	46.4	-46	40.2	40.4	40.6	40.7	40.7	40.7	40.6	40.4	40.3	40.2	40.2	40.3
Omicron Velorum	3.6	229	52.2	52.1	52.1	52.3	52.6	52.8	52.9	52.9	52.8	52.6	52.3	52.0	-52	56.6	56.8	57.0	57.1	57.1	57.1	57.0	56.8	56.7	56.6	56.6	56.7
Muscida	3.4	232	16.5	16.3	16.3	16.5	16.8	17.0	17.1	17.0	16.8	16.4	16.0	15.5	60	41.6	41.7	41.8	41.9	41.9	41.9	41.8	41.7	41.5	41.4	41.3	41.3
Beta Volans	3.8	233	32.2	32.2	32.3	32.7	33.1	33.4	33.7	33.7	33.6	33.2	32.8	32.4	-66	09.4	09.6	09.8	09.9	09.9	09.9	09.8	09.6	09.5	09.4	09.4	09.5
BS 3314	3.9	233	29.5	29.4	29.4	29.5	29.6	29.7	29.7	29.6	29.5	29.3	29.1	28.9	-3	55.7	55.8	55.8	55.9	55.9	55.8	55.8	55.7	55.7	55.7	55.7	55.8
Avior	2.0	234	19.6	19.6	19.7	20.0	20.2	20.5	20.7	20.7	20.6	20.3	19.9	19.5	-59	31.7	31.9	32.1	32.2	32.2	32.2	32.1	31.9	31.8	31.7	31.7	31.8
Altarf	3.5	235	46.2	46.1	46.1	46.2	46.3	46.4	46.4	46.3	46.2	46.0	45.7	45.5	9	09.9	09.8	09.8	09.8	09.8	09.8	09.9	09.9	09.9	09.9	09.8	09.7
Suhail	1.8	237	33.4	33.3	33.4	33.6	33.8	33.9	34.0	34.0	33.9	33.6	33.3	33.0	-47	21.3	21.4	21.6	21.7	21.7	21.6	21.5	21.4	21.2	21.2	21.2	21.3
Rho Puppis	2.8	238	02.0	01.9	01.9	02.1	02.2	02.3	02.3	02.3	02.2	02.0	01.7	01.5	-24	19.4	19.5	19.6	19.7	19.7	19.6	19.5	19.4	19.3	19.3	19.3	19.4
Naos	2.2	239	02.2	02.1	02.1	02.3	02.5	02.6	02.7	02.6	02.5	02.3	02.0	01.8	-40	01.2	01.4	01.5	01.6	01.6	01.6	01.4	01.3	01.2	01.1	01.1	01.3
Chi Carina	3.5	240	45.2	45.1	45.2	45.5	45.7	45.9	46.0	46.0	45.8	45.6	45.2	44.9	-52	59.9	00.1	00.2	00.3	00.3	00.3	00.1	00.0	59.8	59.8	59.8	59.9
BS 3080	3.7	241	52.7	52.7	52.7	52.9	53.1	53.2	53.3	53.2	53.1	52.9	52.6	52.3	-40	35.5	35.7	35.8	35.9	35.9	35.8	35.7	35.5	35.4	35.4	35.4	35.5
Asmidiske	3.3	242	35.8	35.7	35.8	35.9	36.0	36.1	36.2	36.1	36.0	35.7	35.5	35.3	-24	52.5	52.7	52.8	52.8	52.8	52.8	52.7	52.5	52.5	52.4	52.5	52.6
Pollux	1.2	243	33.4	33.3	33.3	33.4	33.6	33.6	33.6	33.5	33.3	33.1	32.8	32.6	28	00.6	00.6	00.6	00.6	00.7	00.6	00.6	00.6	00.6	00.5	00.5	00.4
c Puppis	3.6	243	37.0	37.0	37.0	37.2	37.4	37.5	37.6	37.5	37.3	37.1	36.8	36.6	-37	59.0	59.2	59.3	59.4	59.4	59.3	59.2	59.0	58.9	58.9	58.9	59.0
Kappa Gemini	3.6	243	46.5	46.4	46.4	46.5	46.7	46.7	46.7	46.6	46.5	46.2	46.0	45.7	24	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.8	22.8	22.7
Alpha Monoceros	3.9	244	35.9	35.8	35.9	36.0	36.1	36.2	36.2	36.1	35.9	35.7	35.5	35.3	-9	34.0	34.1	34.1	34.2	34.1	34.1	34.0	34.0	33.9	33.9	33.9	34.0
Procyon	0.4	245	04.6	04.5	04.5	04.6	04.8	04.8	04.8	04.7	04.6	04.4	04.1	03.9	5	12.5	12.4	12.4	12.4	12.4	12.4	12.5	12.5	12.5	12.5	12.4	12.4
Castor	1.6	246	13.9	13.8	13.8	13.9	14.1	14.1	14.1	14.0	13.8	13.6	13.3	13.0	31	52.4	52.4	52.5	52.5	52.5	52.5	52.4	52.4	52.4	52.3	52.3	52.2
Sigma Puppis	3.3	247	37.8	37.7	37.8	38.0	38.2	38.4	38.4	38.3	38.2	37.9	37.6	37.4	-43	18.8	19.0	19.1	19.2	19.1	19.1	18.9	18.8	18.7	18.6	18.7	18.8
Gomeisa	2.9	248	06.6	06.6	06.6	06.7	06.8	06.9	06.9	06.8	06.6	06.4	06.1	05.9	8	16.6	16.5	16.5	16.5	16.5	16.5	16.6	16.6	16.6	16.6	16.6	16.5
Iota Gemini	3.8	248	27.1	27.0	27.1	27.2	27.3	27.4	27.4	27.2	27.0	26.8	26.5	26.3	27	47.1	47.1	47.1	47.2	47.2	47.1	47.1	47.1	47.1	47.0	47.0	46.9
Aludra	2.5	248	54.0	54.0	54.0	54.2	54.3	54.4	54.5	54.4	54.2	54.0	53.7	53.5	-29	18.9	19.0	19.1	19.2	19.2	19.1	19.0	18.9	18.8	18.7	18.8	18.9
Wasat	3.5	249	51.4	51.4	51.4	51.5	51.6	51.7	51.7	51.6	51.4	51.1	50.9	50.6	21	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.2	58.1	58.1
Lambda Gemini	3.6	250	22.1	22.1	22.1	22.2	22.4	22.4	22.4	22.3	22.1	21.9	21.6	21.4	16	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.6
Pi Puppis	2.7	250	38.7	38.7	38.8	39.0	39.1	39.3	39.3	39.2	39.0	38.8	38.5	38.3	-37	06.5	06.6	06.8	06.8	06.8	06.7	06.6	06.4	06.3	06.3	06.3	06.5
Gamma Volans	3.8	252	48.8	48.9	49.3	49.8	50.3	50.7	50.9	50.8	50.5	50.1	49.5	49.1	-70	30.5	30.6	30.8	30.8	30.8	30.7	30.6	30.4	30.3	30.2	30.3	30.4
Wezen	1.8	252	49.5	49.4	49.5	49.6	49.8	49.9	49.9	49.8	49.6	49.4	49.1	48.9	-26	24.2	24.3	24.4	24.4	24.4	24.3	24.2	24.1	24.0	24.0	24.0	24.1
Omicron Canis Major	3.0	254	09.8	09.8	09.9	10.0	10.2	10.2	10.2	10.1	10.0	09.7	09.5	09.3	-23	50.5	50.6	50.7	50.8	50.7	50.7	50.6	50.4	50.3	50.3	50.4	50.5
Sigma Canis Major	3.5	254	29.6	29.6	29.7	29.8	30.0	30.1	30.1	30.0	29.8	29.6	29.3	29.1	-27	56.6	56.7	56.8	56.9	56.8	56.8	56.6	56.5	56.4	56.4	56.4	56.6
Adara	1.5	255	16.1	16.0	16.1	16.3	16.4	16.5	16.5	16.4	16.2	16.0	15.8	15.5	-28	58.8	58.9	59.0	59.1	59.0	59.0	58.8	58.7	58.6	58.6	58.6	58.8
Theta Gemini	3.6	256	40.7	40.7	40.7	40.9	41.0	41.1	41.0	40.9	40.6	40.4	40.1	39.8	33	57.2	57.3	57.3	57.3	57.3	57.3	57.2	57.2	57.2	57.1	57.1	57.1
Tau Puppis	2.9	257	27.8	27.8	28.0	28.3	28.5	28.7	28.7	28.6	28.4	28.1	27.8	27.5	-50	37.3	37.4	37.5	37.6	37.6	37.5	37.3	37.1	37.0	37.0	37.0	37.2
Kappa Canis Major	3.5	257	28.0	28.0	28.1	28.3	28.5	28.5	28.5	28.4	28.2	28.0	27.7	27.5	-32	30.9	31.0	31.1	31.2	31.1	31.0	3					

Name	Mag	Sidereal Hour Angle												Declination														
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec			
Maia	3.9	303	26.0	26.1	26.2	26.3	26.4	26.3	26.1	25.8	25.6	25.3	25.2	25.1	24	23.6	23.6	23.5	23.5	23.5	23.5	23.6	23.6	23.7	23.7			
Nu Perseus	3.8	303	34.6	34.7	34.8	35.0	35.0	34.9	34.7	34.4	34.1	33.8	33.6	33.5	42	36.3	36.3	36.3	36.3	36.2	36.1	36.1	36.1	36.2	36.2	36.3	36.4	
Electra	3.7	303	40.3	40.4	40.5	40.6	40.6	40.5	40.4	40.1	39.9	39.6	39.4	39.3	24	08.3	08.3	08.3	08.3	08.2	08.2	08.2	08.3	08.4	08.4	08.4	08.5	
Atik	3.9	303	48.3	48.4	48.5	48.6	48.7	48.6	48.4	48.1	47.8	47.6	47.4	47.3	32	18.8	18.8	18.8	18.8	18.7	18.7	18.7	18.8	18.8	18.9	18.9	19.0	
Beta Reticulum	3.8	303	54.9	55.2	55.6	55.9	56.1	56.2	56.0	55.6	55.2	54.8	54.6	54.5	-64	47.2	47.3	47.3	47.2	47.0	46.8	46.7	46.5	46.5	46.6	46.7	46.9	
Rana	3.5	304	05.9	06.0	06.1	06.2	06.3	06.2	06.0	05.8	05.6	05.4	05.2	05.1	-9	44.3	44.4	44.4	44.4	44.3	44.2	44.1	44.0	43.9	43.9	44.0	44.1	
Delta Perseus	3.0	304	08.2	08.4	08.5	08.7	08.7	08.6	08.4	08.1	07.7	07.4	07.2	07.1	47	48.9	48.9	48.9	48.8	48.7	48.7	48.6	48.6	48.7	48.8	48.9	49.0	
Epsilon Eridanus	3.7	306	40.8	40.9	41.0	41.1	41.1	41.0	40.9	40.6	40.4	40.2	40.1	40.0	-9	26.0	26.1	26.1	26.1	26.0	25.9	25.8	25.7	25.6	25.6	25.7	25.8	
Xi Taurus	3.7	308	06.5	06.5	06.7	06.8	06.8	06.7	06.5	06.3	06.0	05.8	05.7	05.6	9	45.5	45.5	45.5	45.5	45.5	45.5	45.6	45.7	45.8	45.8	45.8	45.8	
Omicron Taurus	3.6	308	41.9	41.9	42.0	42.1	42.2	42.1	41.9	41.6	41.4	41.2	41.0	41.0	9	03.3	03.3	03.3	03.3	03.3	03.3	03.4	03.5	03.5	03.6	03.6		
Mirfak	1.8	308	47.3	47.4	47.6	47.8	47.8	47.7	47.4	47.0	46.7	46.4	46.2	46.1	49	53.4	53.5	53.5	53.4	53.3	53.2	53.2	53.2	53.3	53.4	53.5	53.6	
16 Eridanus	3.7	310	02.3	02.3	02.5	02.6	02.6	02.5	02.4	02.1	01.9	01.7	01.5	01.5	-21	44.0	44.0	44.0	44.0	43.9	43.7	43.6	43.5	43.4	43.5	43.5	43.6	
Fornacis	3.8	311	54.1	54.2	54.3	54.4	54.5	54.4	54.2	53.9	53.7	53.5	53.4	53.3	-28	57.7	57.7	57.7	57.6	57.5	57.4	57.2	57.1	57.1	57.1	57.2	57.3	
Algol	2.1	312	50.3	50.4	50.6	50.7	50.7	50.6	50.3	50.0	49.7	49.5	49.3	49.2	40	59.2	59.2	59.2	59.1	59.1	59.0	59.0	59.1	59.1	59.2	59.3	59.4	
Gorgonea Tertia	3.4	313	35.3	35.4	35.6	35.7	35.7	35.6	35.3	35.0	34.7	34.5	34.3	34.2	38	52.3	52.3	52.3	52.2	52.1	52.1	52.1	52.2	52.2	52.3	52.4	52.5	
Gamma Perseus	2.9	313	40.1	40.2	40.4	40.6	40.6	40.5	40.2	39.8	39.4	39.1	38.9	38.8	53	32.3	32.4	32.3	32.3	32.2	32.1	32.0	32.1	32.1	32.2	32.4	32.5	
Menkar	2.6	314	20.1	20.1	20.2	20.3	20.3	20.2	20.0	19.8	19.6	19.4	19.2	19.2	4	07.1	07.1	07.1	07.1	07.1	07.2	07.3	07.3	07.4	07.4	07.4	07.4	
Acamar	3.2	315	21.7	21.9	22.0	22.2	22.2	22.1	21.9	21.7	21.4	21.2	21.0	21.0	-40	16.7	16.7	16.7	16.6	16.5	16.3	16.2	16.1	16.0	16.1	16.2	16.3	
Azha	3.9	315	48.2	48.3	48.4	48.5	48.5	48.4	48.2	47.9	47.7	47.5	47.4	47.4	-8	52.2	52.2	52.2	52.2	52.1	52.0	51.9	51.8	51.8	51.8	51.8	51.9	
Tau Perseus	3.9	316	18.4	18.5	18.7	18.9	18.9	18.7	18.4	18.0	17.7	17.4	17.2	17.1	52	47.8	47.8	47.8	47.7	47.6	47.5	47.5	47.5	47.6	47.7	47.8	47.9	
Miram	3.8	317	11.6	11.7	11.9	12.1	12.1	11.9	11.6	11.2	10.8	10.5	10.3	10.3	55	55.8	55.8	55.8	55.7	55.6	55.5	55.5	55.5	55.6	55.7	55.8	56.0	
41 Aries	3.6	317	23.8	23.9	24.0	24.1	24.1	24.0	23.7	23.5	23.2	23.0	22.9	22.8	27	17.6	17.6	17.5	17.5	17.4	17.4	17.5	17.5	17.6	17.7	17.8	17.8	
Kaffajjidmah	3.5	319	04.8	04.9	05.0	05.1	05.1	04.9	04.7	04.5	04.3	04.1	04.0	03.9	3	16.0	16.0	16.0	16.0	16.0	16.1	16.2	16.2	16.3	16.3	16.3	16.3	
Polaris	2.0	319	53.2	53.3	53.4	53.5	53.5	53.4	53.2	52.9	52.7	52.5	52.4	52.3	89	18.1	18.1	18.1	18.1	18.0	17.8	17.7	17.6	17.6	17.7	17.8	18.0	18.2
Phi Eridanus	3.6	325	48.2	48.4	48.6	48.7	48.8	48.6	48.4	48.0	47.7	47.5	47.4	47.5	-51	29.0	29.0	28.9	28.8	28.6	28.4	28.3	28.2	28.2	28.3	28.4	28.6	
Beta Triangulum	3.0	327	30.4	30.5	30.6	30.7	30.7	30.5	30.2	30.0	29.7	29.5	29.4	29.4	35	01.5	01.5	01.4	01.3	01.3	01.3	01.3	01.4	01.5	01.6	01.7	01.7	
Hamal	2.0	328	06.3	06.4	06.5	06.6	06.5	06.4	06.1	05.9	05.6	05.4	05.3	05.3	23	29.9	29.9	29.9	29.8	29.8	29.8	29.9	29.9	30.0	30.1	30.2	30.2	
Almaak	2.2	328	54.9	55.0	55.2	55.2	55.2	55.0	54.7	54.4	54.1	53.9	53.8	53.8	42	22.1	22.1	22.0	21.9	21.9	21.8	21.8	21.9	22.0	22.1	22.2	22.3	
Alrishah	3.8	329	23.7	23.8	23.8	23.9	23.9	23.7	23.5	23.3	23.0	22.9	22.8	22.8	2	47.9	47.9	47.9	47.9	47.9	48.0	48.1	48.2	48.3	48.3	48.3	48.3	
Alpha Hydrus	2.9	330	14.6	14.9	15.2	15.4	15.4	15.2	14.9	14.5	14.1	13.9	13.8	13.9	-61	32.4	32.4	32.3	32.1	32.0	31.8	31.6	31.6	31.6	31.7	31.8	32.0	
Chi Eridanus	3.7	330	56.2	56.4	56.6	56.7	56.7	56.5	56.2	55.9	55.6	55.4	55.3	55.4	-51	34.6	34.6	34.6	34.4	34.3	34.1	33.9	33.9	33.9	34.0	34.1	34.2	
Sheratan	2.7	331	14.4	14.5	14.6	14.7	14.6	14.5	14.2	14.0	13.7	13.6	13.5	13.5	20	50.7	50.7	50.6	50.6	50.6	50.6	50.7	50.8	50.9	50.9	51.0	51.0	
Segin	3.4	331	16.3	16.6	16.9	17.0	16.9	16.6	16.2	15.8	15.3	15.0	14.9	14.9	63	42.6	42.6	42.6	42.4	42.3	42.2	42.2	42.3	42.4	42.6	42.7	42.9	
Mothallah	3.4	331	37.6	37.7	37.8	37.9	37.9	37.7	37.4	37.1	36.9	36.7	36.6	36.6	29	37.0	37.0	36.9	36.9	36.8	36.8	36.9	37.0	37.1	37.2	37.2	37.3	
Baten Kaitos	3.7	332	02.7	02.8	02.9	02.9	02.9	02.8	02.5	02.3	02.1	01.9	01.8	01.8	-10	18.0	18.1	18.1	18.0	17.9	17.8	17.7	17.6	17.6	17.6	17.6	17.7	
Tau Cetus	3.5	333	53.9	54.0	54.1	54.1	54.1	53.9	53.7	53.5	53.3	53.1	53.1	53.1	-15	54.1	54.1	54.1	54.0	53.9	53.8	53.7	53.6	53.5	53.6	53.6	53.7	
51 Andromeda	3.6	335	23.6	23.7	23.9	23.9	23.9	23.6	23.3	23.0	22.7	22.5	22.4	22.4	48	40.1	40.1	40.0	39.9	39.8	39.8	39.8	39.9	40.0	40.2	40.3	40.4	
Achemar	0.5	335	30.0	30.2	30.4	30.6	30.5	30.3	30.0	29.6	29.3	29.1	29.1	29.2	-57	12.3	12.3	12.2	12.0	11.9	11.7	11.6	11.5	11.5	11.6	11.8	11.9	
Eta Pisces	3.6	337	02.0	02.1	02.2	02.2	02.1	02.0	01.7	01.5	01.3	01.1	01.1	01.1	15	23.0	23.0	23.0	23.0	23.0	23.0	23.1	23.2	23.3	23.3	23.4	23.4	
Delta Phoenix	3.9	337	06.6	06.7	06.9	07.0	06.9	06.7	06.5	06.1	05.9	05.7	05.6	05.7	-49	02.4	02.4	02.3	02.2	02.0	01.8	01.7	01.6	01.6	01.7	01.9	02.0	
Gamma Phoenix	3.4	337	49.7	49.9	50.0	50.0	50.0	49.8	49.6	49.3	49.0	48.9	48.8	48.9	-43	17.1	17.1	17.1	16.9	16.8	16.6	16.5	16.4	16.4	16.5	16.6	16.7	
Ruchbah	2.7	338	25.8	26.1	26.3	26.4	26.3	26.0	25.6	25.1	24.8	24.6	24.5	24.5	60	16.6	16.6	16.6	16.4	16.3	16.2	16.3	16.3	16.5	16.6	16.8	16.9	
Theta Cetus	3.6	338	54.3	54.3	54.4	54.4	54.4	54.2	54.0	53.7	53.5	53.4	53.3	53.4	-8	08.8	08.9	08.9	08.8	08.7	08.6	08.5	08.4	08.4	08.4	08.4	08.5	
Mirach	2.1	342	28.1	28.2	28.3	28.3	28.2	28.0	27.7	27.5	27.2	27.1	27.0	27.1	35	39.7	39.7	39.6	39.5	39.5	39.5	39.5	39.6	39.7	39.9	40.0	40.0	
Dheneb	3.5	342	45.7	45.8	45.9	45.9	45.8	45.7	45.4	45.2	45.0	44.9	44.8	44.8	-10	08.7	08.8	08.7	08.7	08.6	08.5	08.4	08.3	08.3	08.3	08.3	08.3	
Beta Phoenix	3.3	343	23.8	24.0	24.1	24.2	24.1	23.9	23.6	23.3	23.0	22.9	22.9	23.0	-46	41.1	41.0	41.0	40.8	40.7	40.5	40.4	40.3	40.3	40.4	40.5	40.7	
Mu Andromeda	3.9	345	42.9	43.0	43.1	43.1	43.0	42.7	42.5	42.2																		