

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
28 $\omega$ Psc	9072	00 00 00.3	+06 56 17	6	4.01	+0.06	+0.42	F3 V
$\epsilon$ Tuc	9076	00 00 36.5	-65 30 07		4.50	-0.28	-0.08	B9 IV
$\theta$ Oct	9084	00 02 16.3	-76 59 28		4.78	+1.41	+1.27	K2 III
30 YY Psc	9089	00 02 39.2	-05 56 21		4.41	+1.83	+1.63	M3 III
2 Cet	9098	00 04 25.8	-17 15 39		4.55	-0.12	-0.05	B9 IV
33 BC Psc	3	00 06 01.6	-05 37 56	6	4.61	+0.89	+1.04	K0 III-IV
21 $\alpha$ And	15	00 09 05.3	+29 09 54	d6	2.06	-0.46	-0.11	B9p Hg Mn
11 $\beta$ Cas	21	00 09 54.4	+59 13 27	svd6	2.27	+0.11	+0.34	F2 III
$\epsilon$ Phe	25	00 10 05.5	-45 40 23		3.88	+0.84	+1.03	K0 III
22 And	27	00 11 01.6	+46 08 50		5.03	+0.25	+0.40	F0 II
$\kappa^2$ Scl	34	00 12 15.4	-27 43 29	d	5.41	+1.46	+1.34	K5 III
$\theta$ Scl	35	00 12 25.0	-35 03 28		5.25		+0.44	F3/5 V
88 $\gamma$ Peg	39	00 13 56.0	+15 15 31	svd6	2.83	-0.87	-0.23	B2 IV
89 $\chi$ Peg	45	00 15 18.2	+20 16 54	as	4.80	+1.93	+1.57	M2+ III
7 AE Cet	48	00 15 19.5	-18 51 29		4.44	+1.99	+1.66	M1 III
25 $\sigma$ And	68	00 19 02.2	+36 51 36	6	4.52	+0.07	+0.05	A2 Va
8 $\iota$ Cet	74	00 20 06.9	-08 44 57	d	3.56	+1.25	+1.22	K1 IIIb
$\zeta$ Tuc	77	00 20 46.0	-64 47 44		4.23	+0.02	+0.58	F9 V
41 Psc	80	00 21 17.6	+08 15 55		5.37	+1.55	+1.34	K3- III Ca 1 CN 0.5
27 $\rho$ And	82	00 21 50.2	+38 02 36		5.18	+0.05	+0.42	F6 IV
R And	90	00 24 45.0	+38 39 06	svd	7.39	+1.25	+1.97	S5/4.5e
$\beta$ Hyi	98	00 26 26.6	-77 10 42		2.80	+0.11	+0.62	G1 IV
$\kappa$ Phe	100	00 26 51.9	-43 36 18		3.94	+0.11	+0.17	A5 Vn
$\alpha$ Phe	99	00 26 56.9	-42 13 58	67	2.39	+0.88	+1.09	K0 IIIb
	118	00 31 03.1	-23 42 47	6	5.19		+0.12	A5 Vn
$\lambda^1$ Phe	125	00 32 03.8	-48 43 44	d6	4.77	+0.04	+0.02	A1 Va
$\beta^1$ Tuc	126	00 32 09.5	-62 53 02	d6	4.37	-0.17	-0.07	B9 V
15 $\kappa$ Cas	130	00 33 46.6	+63 00 22	s6	4.16	-0.80	+0.14	B0.7 Ia
29 $\pi$ And	154	00 37 36.3	+33 47 37	d6	4.36	-0.55	-0.14	B5 V
17 $\zeta$ Cas	153	00 37 43.8	+53 58 16		3.66	-0.87	-0.20	B2 IV
	157	00 38 04.8	+35 28 25	s	5.42	+0.45	+0.88	G2 Ib-II
30 $\epsilon$ And	163	00 39 16.3	+29 23 06		4.37	+0.47	+0.87	G6 III Fe-3 CH 1
31 $\delta$ And	165	00 40 03.2	+30 56 05	sd6	3.27	+1.48	+1.28	K3 III
18 $\alpha$ Cas	168	00 41 16.9	+56 36 40	d	2.23	+1.13	+1.17	K0- IIIa
$\mu$ Phe	180	00 41 57.6	-46 00 40		4.59	+0.72	+0.97	G8 III
$\eta$ Phe	191	00 43 57.4	-57 23 21	d	4.36	-0.02	0.00	A0.5 IV
16 $\beta$ Cet	188	00 44 16.0	-17 54 46		2.04	+0.87	+1.02	G9 III CH-1 CN 0.5 Ca 1
22 $o$ Cas	193	00 45 29.0	+48 21 29	d6	4.54	-0.51	-0.07	B5 III
34 $\zeta$ And	215	00 48 03.4	+24 20 25	vd6	4.06	+0.90	+1.12	K0 III
$\lambda$ Hyi	236	00 49 03.3	-74 51 00		5.07	+1.68	+1.37	K5 III
63 $\delta$ Psc	224	00 49 23.0	+07 39 30	d	4.43	+1.86	+1.50	K4.5 IIIb
64 Psc	225	00 49 41.4	+17 00 48	d6	5.07	0.00	+0.51	F7 V
24 $\eta$ Cas	219	00 49 55.8	+57 53 11	sd6	3.44	+0.01	+0.57	F9 V
35 $\nu$ And	226	00 50 33.8	+41 09 08	6	4.53	-0.58	-0.15	B5 V
19 $\phi^2$ Cet	235	00 50 48.2	-10 34 19		5.19	-0.02	+0.50	F8 V
	233	00 51 33.5	+64 19 15	cd6	5.39	+0.14	+0.49	G0 III-IV + B9.5 V
20 Cet	248	00 53 41.9	-01 04 16		4.77	+1.93	+1.57	M0- IIIa
$\lambda^2$ Tuc	270	00 55 30.3	-69 27 15		5.45	+1.00	+1.09	K2 III
37 $\mu$ And	269	00 57 30.4	+38 34 20	d	3.87	+0.15	+0.13	A5 IV-V
27 $\gamma$ Cas	264	00 57 32.0	+60 47 22	d6	2.47	-1.08	-0.15	B0 IVnpe (shell)

## BRIGHT STARS, J2013.5

H3

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
38 $\eta$ And	271	00 57 55.8	+23 29 25	d6	4.42	+0.69	+0.94	G8 <sup>-</sup> IIIb
68 Psc	274	00 58 34.2	+29 03 54		5.42		+1.08	gG6
$\alpha$ Scl	280	00 59 15.3	-29 17 05	s6	4.31	-0.56	-0.16	B4 Vp
$\sigma$ Scl	293	01 03 05.0	-31 28 47		5.50	+0.13	+0.08	A2 V
71 $\epsilon$ Psc	294	01 03 38.7	+07 57 45		4.28	+0.70	+0.96	G9 III Fe-2
$\beta$ Phe	322	01 06 41.0	-46 38 47	d7	3.31	+0.57	+0.89	G8 III
$\iota$ Tuc	332	01 07 50.6	-61 42 12		5.37		+0.88	G5 III
$\nu$ Phe	331	01 08 24.8	-41 24 54	d	5.21	+0.09	+0.16	A3 IV/V
$\zeta$ Phe	338	01 08 57.0	-55 10 26	vd6	3.92	-0.41	-0.08	B7 V
30 $\mu$ Cas	321	01 09 10.9	+54 59 10	d6	5.17	+0.09	+0.69	G5 Vb
31 $\eta$ Cet	334	01 09 16.1	-10 06 40	d	3.45	+1.19	+1.16	K2 <sup>-</sup> III CN 0.5
42 $\phi$ And	335	01 10 17.5	+47 18 48	d7	4.25	-0.34	-0.07	B7 III
43 $\beta$ And	337	01 10 29.5	+35 41 30	ad	2.06	+1.96	+1.58	M0 <sup>+</sup> IIIa
	285	01 10 51.0	+86 19 43		4.25	+1.33	+1.21	K2 III
33 $\theta$ Cas	343	01 11 56.0	+55 13 17	d6	4.33	+0.12	+0.17	A7m
84 $\chi$ Psc	351	01 12 10.9	+21 06 22		4.66	+0.82	+1.03	G8.5 III
83 $\tau$ Psc	352	01 12 24.5	+30 09 39	6	4.51	+1.01	+1.09	K0.5 IIIb
86 $\zeta$ Psc	361	01 14 26.3	+07 38 47	d67	5.24	+0.09	+0.32	F0 Vn
89 Psc	378	01 18 29.8	+03 41 07	6	5.16	+0.08	+0.07	A3 V
90 $\nu$ Psc	383	01 20 12.7	+27 20 05	6	4.76	+0.10	+0.03	A2 IV
34 $\phi$ Cas	382	01 20 56.5	+58 18 08	sd6	4.98	+0.49	+0.68	F0 Ia
46 $\xi$ And	390	01 23 08.5	+45 35 57	6	4.88	+0.99	+1.08	K0 <sup>-</sup> IIIb
45 $\theta$ Cet	402	01 24 41.9	-08 06 50	d	3.60	+0.93	+1.06	K0 IIIb
37 $\delta$ Cas	403	01 26 42.6	+60 18 18	sd6	2.68	+0.12	+0.13	A5 IV
36 $\psi$ Cas	399	01 26 54.3	+68 12 00	d	4.74	+0.94	+1.05	K0 III CN 0.5
94 Psc	414	01 27 25.6	+19 18 36		5.50	+1.05	+1.11	gK1
48 $\omega$ And	417	01 28 28.2	+45 28 33	d	4.83	0.00	+0.42	F5 V
$\gamma$ Phe	429	01 28 57.0	-43 14 58	v6	3.41	+1.85	+1.57	M0 <sup>-</sup> IIIa
48 Cet	433	01 30 15.0	-21 33 36	d7	5.12	+0.04	+0.02	A1 Va
$\delta$ Phe	440	01 31 48.7	-49 00 10		3.95	+0.70	+0.99	G9 III
99 $\eta$ Psc	437	01 32 12.5	+15 24 54	d	3.62	+0.75	+0.97	G7 IIIa
50 $\nu$ And	458	01 37 35.7	+41 28 21	d6	4.09	+0.06	+0.54	F8 V
$\alpha$ Eri	472	01 38 12.9	-57 10 07		0.46	-0.66	-0.16	B3 Vnp (shell)
51 And	464	01 38 49.7	+48 41 46		3.57	+1.45	+1.28	K3 <sup>-</sup> III
40 Cas	456	01 39 37.2	+73 06 30	d	5.28	+0.72	+0.96	G7 III
106 $\nu$ Psc	489	01 42 08.1	+05 33 20		4.44	+1.57	+1.36	K3 IIIb
$\pi$ Scl	497	01 42 45.1	-32 15 34		5.25	+0.79	+1.05	K1 II/III
	500	01 43 24.5	-03 37 22		4.99	+1.58	+1.38	K3 II-III
$\phi$ Per	496	01 44 30.9	+50 45 22	6	4.07	-0.93	-0.04	B2 Vep
52 $\tau$ Cet	509	01 44 41.7	-15 52 00	d	3.50	+0.21	+0.72	G8 V
110 $o$ Psc	510	01 46 06.5	+09 13 31	s	4.26	+0.71	+0.96	G8 III
$\epsilon$ Scl	514	01 46 16.7	-24 59 08	d7	5.31	+0.02	+0.39	F0 V
	513	01 46 40.0	-05 39 58	s	5.34	+1.88	+1.52	K4 III
53 $\chi$ Cet	531	01 50 14.9	-10 37 12	d	4.67	+0.03	+0.33	F2 IV-V
55 $\zeta$ Cet	539	01 52 07.6	-10 16 08	d6	3.73	+1.07	+1.14	K0 III
2 $\alpha$ Tri	544	01 53 51.3	+29 38 39	dv6	3.41	+0.06	+0.49	F6 IV
$\psi$ Phe	555	01 54 11.1	-46 14 13	6	4.41	+1.70	+1.59	M4 III
111 $\xi$ Psc	549	01 54 15.4	+03 15 13	6	4.62	+0.72	+0.94	G9 IIIb Fe-0.5
$\phi$ Phe	558	01 54 55.6	-42 25 52	6	5.11	-0.15	-0.06	Ap Hg
$\eta^2$ Hyi	570	01 55 16.7	-67 34 52		4.69	+0.64	+0.95	G8.5 III

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		h m s	° ' "					
45 $\epsilon$ Cas	542	01 55 22.8	+63 44 09		3.38	-0.60	-0.15	B3 IV:p (shell)
6 $\beta$ Ari	553	01 55 23.3	+20 52 25	d6	2.64	+0.10	+0.13	A4 V
$\chi$ Eri	566	01 56 28.9	-51 32 32	d7	3.70	+0.46	+0.85	G8 III-IV CN-0.5 H $\delta$ 0.5
$\alpha$ Hyi	591	01 59 11.7	-61 30 16		2.86	+0.14	+0.28	F0n III-IV
59 $\nu$ Cet	585	02 00 38.5	-21 00 46		4.00	+1.91	+1.57	M0 IIIb
113 $\alpha$ Psc	596	02 02 44.8	+02 49 42	vd6	4.18	-0.05	+0.03	A0p Si Sr
4 Per	590	02 03 12.6	+54 33 08	6	5.04	-0.32	-0.08	B8 III
50 Cas	580	02 04 36.9	+72 29 09	6	3.98	+0.03	-0.01	A1 Va
57 $\gamma^1$ And	603	02 04 44.0	+42 23 38	d6	2.26	+1.58	+1.37	K3- IIb
$\nu$ For	612	02 05 05.7	-29 13 57	v	4.69	-0.51	-0.17	B9.5p Si
13 $\alpha$ Ari	617	02 07 56.2	+23 31 32	a6	2.00	+1.12	+1.15	K2 IIIab
4 $\beta$ Tri	622	02 10 21.1	+35 03 02	d6	3.00	+0.10	+0.14	A5 IV
$\mu$ For	652	02 13 30.1	-30 39 40		5.28	-0.06	-0.02	A0 Va+nn
65 $\xi^1$ Cet	649	02 13 43.0	+08 54 34	d6	4.37	+0.60	+0.89	G7 II-III Fe-1
	645	02 14 30.7	+51 07 40	d6	5.31	+0.62	+0.93	G8 III CN 1 CH 0.5 Fe-1
	641	02 14 39.4	+58 37 24	s	6.44	+0.23	+0.60	A3 Iab
$\phi$ Eri	674	02 16 59.5	-51 27 00	d	3.56	-0.39	-0.12	B8 V
67 Cet	666	02 17 39.5	-06 21 38		5.51	+0.76	+0.96	G8.5 III
9 $\gamma$ Tri	664	02 18 07.3	+33 54 32		4.01	+0.02	+0.02	A0 IV-Vn
68 $\omicron$ Cet	681	02 20 01.8	-02 55 01	vd	2 - 10	+1.09	+1.42	M5.5-9e III + pec
62 And	670	02 20 09.5	+47 26 30		5.30	0.00	-0.01	A1 V
$\delta$ Hyi	705	02 21 59.6	-68 35 54		4.09	+0.05	+0.03	A1 Va
$\kappa$ Hyi	715	02 22 57.7	-73 35 05		5.01	+1.04	+1.09	K1 III
$\kappa$ For	695	02 23 09.6	-23 45 19		5.20	+0.12	+0.60	G0 Va
$\lambda$ Hor	714	02 25 16.6	-60 15 07		5.35	+0.06	+0.39	F2 IV-V
72 $\rho$ Cet	708	02 26 36.2	-12 13 49		4.89	-0.07	-0.03	A0 III-IVn
$\kappa$ Eri	721	02 27 28.8	-47 38 37	6	4.25	-0.50	-0.14	B5 IV
73 $\xi^2$ Cet	718	02 28 52.7	+08 31 12	6	4.28	-0.12	-0.06	A0 III-
12 Tri	717	02 28 57.7	+29 43 44		5.30	+0.10	+0.30	F0 III
$\iota$ Cas	707	02 30 11.8	+67 27 44	vd	4.52	+0.06	+0.12	A5p Sr
$\mu$ Hyi	776	02 31 25.3	-79 03 01		5.28	+0.73	+0.98	G8 III
76 $\sigma$ Cet	740	02 32 43.6	-15 11 10		4.75	-0.02	+0.45	F4 IV
14 Tri	736	02 32 55.9	+36 12 23		5.15	+1.78	+1.47	K5 III
78 $\nu$ Cet	754	02 36 35.1	+05 39 05	d67	4.97	+0.56	+0.87	G8 III
	753	02 36 49.4	+06 57 02	sd6	5.82	+0.81	+0.98	K3- V
	743	02 39 20.8	+72 52 34		5.16	+0.58	+0.88	G8 III
32 $\nu$ Ari	773	02 39 35.2	+22 01 09	6	5.46	+0.16	+0.16	A7 V
$\epsilon$ Hyi	806	02 39 48.1	-68 12 34		4.11	-0.14	-0.06	B9 V
82 $\delta$ Cet	779	02 40 10.6	+00 23 10	v6	4.07	-0.87	-0.22	B2 IV
$\zeta$ Hor	802	02 41 04.8	-54 29 33	6	5.21	-0.01	+0.40	F4 IV
$\iota$ Eri	794	02 41 12.0	-39 47 53		4.11	+0.74	+1.02	K0.5 IIIb Fe-0.5
86 $\gamma$ Cet	804	02 44 00.1	+03 17 31	d7	3.47	+0.07	+0.09	A2 Va
35 Ari	801	02 44 14.8	+27 45 50	6	4.66	-0.62	-0.13	B3 V
89 $\pi$ Cet	811	02 44 45.9	-13 48 08	6	4.25	-0.45	-0.14	B7 V
14 Per	800	02 44 58.3	+44 21 13		5.43	+0.65	+0.90	G0 Ib Ca 1
13 $\theta$ Per	799	02 45 07.7	+49 17 05	d	4.12	0.00	+0.49	F7 V
87 $\mu$ Cet	813	02 45 40.4	+10 10 14	d6	4.27	+0.08	+0.31	F0m F2 V+
1 $\tau^1$ Eri	818	02 45 44.0	-18 30 58	6	4.47	0.00	+0.48	F5 V
1 $\alpha$ UMi	424	02 48 13.5	+89 19 18	vd6	2.02	+0.38	+0.60	F5-8 Ib
$\beta$ For	841	02 49 39.3	-32 20 59	d	4.46	+0.69	+0.99	G8.5 III Fe-0.5

## BRIGHT STARS, J2013.5

H5

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		h m s	° ' "					
41 Ari	838	02 50 46.9	+27 18 55	d6	3.63	-0.37	-0.10	B8 Vn
16 Per	840	02 51 26.5	+38 22 24	d	4.23	+0.08	+0.34	F1 V+
2 $\tau^2$ Eri	850	02 51 39.1	-20 56 56	d	4.75	+0.63	+0.91	K0 III
15 $\eta$ Per	834	02 51 41.5	+55 57 02	d6	3.76	+1.89	+1.68	K3- Ib-IIa
43 $\sigma$ Ari	847	02 52 14.4	+15 08 13		5.49	-0.43	-0.09	B7 V
R Hor	868	02 54 19.7	-49 50 06	v	5 - 14	+0.43	+2.11	gM6.5e:
18 $\tau$ Per	854	02 55 13.4	+52 49 00	cd6	3.95	+0.46	+0.74	G5 III + A4 V
3 $\eta$ Eri	874	02 57 05.3	-08 50 42		3.89	+1.00	+1.11	K1 IIIb
	875	02 57 18.1	-03 39 31	6	5.17	+0.05	+0.08	A3 Vn
$\theta^1$ Eri	897	02 58 46.4	-40 15 04	d6	3.24	+0.14	+0.14	A5 IV
24 Per	882	02 59 54.1	+35 14 11		4.93	+1.29	+1.23	K2 III
91 $\lambda$ Cet	896	03 00 26.4	+08 57 38		4.70	-0.45	-0.12	B6 III
$\theta$ Hyi	939	03 02 17.7	-71 50 59	d7	5.53	-0.51	-0.14	B9 IVp
92 $\alpha$ Cet	911	03 02 59.2	+04 08 31		2.53	+1.94	+1.64	M1.5 IIIa
11 $\tau^3$ Eri	919	03 02 59.2	-23 34 20		4.09	+0.08	+0.16	A4 V
$\mu$ Hor	934	03 03 56.0	-59 41 09		5.11	-0.03	+0.34	F0 IV-V
23 $\gamma$ Per	915	03 05 47.0	+53 33 30	cd6	2.93	+0.45	+0.70	G5 III + A2 V
25 $\rho$ Per	921	03 06 02.8	+38 53 30		3.39	+1.79	+1.65	M4 II
	881	03 07 59.7	+79 28 12	d6	5.49		+1.57	M2 IIIab
26 $\beta$ Per	936	03 09 03.1	+41 00 24	cvd6	2.12	-0.37	-0.05	B8 V + F:
$\iota$ Per	937	03 10 02.9	+49 39 50	d	4.05	+0.12	+0.59	G0 V
27 $\kappa$ Per	941	03 10 24.7	+44 54 28	d6	3.80	+0.83	+0.98	K0 III
57 $\delta$ Ari	951	03 12 24.2	+19 46 37		4.35	+0.87	+1.03	K0 III
$\alpha$ For	963	03 12 39.0	-28 56 06	d7	3.87	+0.02	+0.52	F6 V
TW Hor	977	03 12 53.8	-57 16 17	s	5.74	+2.83	+2.28	C6:,2.5 Ba2 Y4
94 Cet	962	03 13 27.8	-01 08 47	d7	5.06	+0.12	+0.57	G0 IV
58 $\zeta$ Ari	972	03 15 40.8	+21 05 37		4.89	-0.01	-0.01	A0.5 Va+
13 $\zeta$ Eri	984	03 16 29.4	-08 46 13	6	4.80	+0.09	+0.23	A5m:
29 Per	987	03 19 35.8	+50 16 14	s6	5.15	-0.06	-0.05	B3 V
96 $\kappa$ Cet	996	03 20 04.3	+03 25 08	dasv	4.83	+0.19	+0.68	G5 V
16 $\tau^4$ Eri	1003	03 20 07.1	-21 42 34	d	3.69	+1.81	+1.62	M3+ IIIa Ca-1
	1008	03 20 28.0	-43 01 08		4.27	+0.22	+0.71	G8 V
	999	03 21 09.6	+29 05 47		4.47	+1.79	+1.55	K3 IIIa Ba 0.5
61 $\tau$ Ari	1005	03 22 00.5	+21 11 42	dv	5.28	-0.52	-0.07	B5 IV
	961	03 22 05.5	+77 46 57	d	5.45	+0.11	+0.19	A5 III:
33 $\alpha$ Per	1017	03 25 17.6	+49 54 29	das	1.79	+0.37	+0.48	F5 Ib
1 $o$ Tau	1030	03 25 32.5	+09 04 32	6	3.60	+0.61	+0.89	G6 IIIa Fe-1
	1009	03 25 51.7	+64 37 59		5.23	+2.06	+2.08	M0 II
	1029	03 26 55.3	+49 10 02	sv	6.09	-0.49	-0.07	B7 V
2 $\xi$ Tau	1038	03 27 54.2	+09 46 44	d6	3.74	-0.33	-0.09	B9 Vn
$\kappa$ Ret	1083	03 29 37.0	-62 53 25	d	4.72	-0.04	+0.40	F5 IV-V
	1035	03 30 10.4	+59 59 10	vd	4.21	-0.24	+0.41	B9 Ia
	1040	03 31 00.0	+58 55 28	as6	4.54	-0.11	+0.56	A0 Ia
17 Eri	1070	03 31 17.3	-05 01 47		4.73	-0.27	-0.09	B9 Vs
35 $\sigma$ Per	1052	03 31 32.0	+48 02 27		4.36	+1.54	+1.35	K3 III
5 Tau	1066	03 31 37.2	+12 58 56	6	4.11	+1.02	+1.12	K0- II-III Fe-0.5
18 $\epsilon$ Eri	1084	03 33 34.1	-09 24 48	das	3.73	+0.59	+0.88	K2 V
19 $\tau^5$ Eri	1088	03 34 23.1	-21 35 18	6	4.27	-0.35	-0.11	B8 V
20 EG Eri	1100	03 36 54.4	-17 25 23	dv	5.23	-0.49	-0.13	B9p Si
37 $\psi$ Per	1087	03 37 27.3	+48 14 11		4.23	-0.57	-0.06	B5 Ve

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
10 Tau	1101	03 37 33.8	+00 26 37		4.28	+0.07	+0.58	F9 IV-V
	1106	03 37 34.8	-40 13 51		4.58	+0.77	+1.04	K1 III
δ For	1134	03 42 47.1	-31 53 45	6	5.00	-0.60	-0.16	B5 IV
BD Cam	1105	03 43 20.3	+63 15 33	6	5.10	+1.82	+1.63	S3.5/2
39 δ Per	1122	03 43 53.5	+47 49 46	d6	3.01	-0.51	-0.13	B5 III
23 δ Eri	1136	03 43 53.8	-09 43 07		3.54	+0.69	+0.92	K0+ IV
β Ret	1175	03 44 22.4	-64 45 53	d6	3.85	+1.10	+1.13	K2 III
38 o Per	1131	03 45 10.1	+32 19 48	vd6	3.83	-0.75	+0.05	B1 III
24 Eri	1146	03 45 11.7	-01 07 17	6	5.25	-0.39	-0.10	B7 V
17 Tau	1142	03 45 40.8	+24 09 17	6	3.70	-0.40	-0.11	B6 III
19 Tau	1145	03 46 00.9	+24 30 31	d6	4.30	-0.46	-0.11	B6 IV
41 ν Per	1135	03 46 06.9	+42 37 12	d	3.77	+0.31	+0.42	F5 II
29 Tau	1153	03 46 23.6	+06 05 29	d6	5.35	-0.61	-0.12	B3 V
20 Tau	1149	03 46 38.0	+24 24 32	s6	3.87	-0.40	-0.07	B7 IIIp
26 π Eri	1162	03 46 46.9	-12 03 36		4.42	+2.01	+1.63	M2- IIIab
γ Hyi	1208	03 47 02.6	-74 11 51		3.24	+1.99	+1.62	M2 III
23 v971 Tau	1156	03 47 07.8	+23 59 22		4.18	-0.42	-0.06	B6 IV
27 τ <sup>6</sup> Eri	1173	03 47 25.8	-23 12 38		4.23	0.00	+0.42	F3 III
25 η Tau	1165	03 48 17.4	+24 08 45	d	2.87	-0.34	-0.09	B7 IIIIn
	1195	03 49 57.6	-36 09 36		4.17	+0.69	+0.95	G7 IIIa
27 Tau	1178	03 49 58.1	+24 05 37	d6	3.63	-0.36	-0.09	B8 III
BE Cam	1155	03 50 46.3	+65 33 59		4.47	+2.13	+1.88	M2+ IIab
γ Cam	1148	03 51 48.3	+71 22 20	d	4.63	+0.07	+0.03	A1 IIIIn
44 ζ Per	1203	03 54 59.0	+31 55 22	sd67	2.85	-0.77	+0.12	B1 Ib
34 γ Eri	1231	03 58 39.6	-13 28 15	d	2.95	+1.96	+1.59	M0.5 IIIb Ca-1
45 ε Per	1220	03 58 45.8	+40 02 53	sd67	2.89	-0.95	-0.20	B0.5 IV
δ Ret	1247	03 58 57.7	-61 21 44		4.56	+1.96	+1.62	M1 III
46 ξ Per	1228	03 59 50.7	+35 49 44	6	4.04	-0.92	+0.01	O7.5 IIIf
35 λ Tau	1239	04 01 25.8	+12 31 39	v6	3.47	-0.62	-0.12	B3 V
35 Eri	1244	04 02 13.2	-01 30 46		5.28	-0.55	-0.15	B5 V
38 ν Tau	1251	04 03 52.6	+06 01 33		3.91	+0.07	+0.03	A1 Va
37 Tau	1256	04 05 29.7	+22 07 04	d	4.36	+0.95	+1.07	K0 III
47 λ Per	1261	04 07 35.7	+50 23 12		4.29	-0.04	-0.02	A0 IIIIn
	1279	04 08 27.9	+15 11 53	sd6	6.01	+0.02	+0.40	F3 V
48 MX Per	1273	04 09 38.8	+47 44 50		4.04	-0.55	-0.03	B3 Ve
43 Tau	1283	04 09 57.3	+19 38 38		5.50		+1.07	K1 III
	1270	04 10 36.7	+59 56 34	s	6.32	+0.92	+1.16	G8 IIa
44 IM Tau	1287	04 11 39.3	+26 30 55	v	5.41	+0.06	+0.34	F2 IV-V
38 o <sup>1</sup> Eri	1298	04 12 31.5	-06 48 12		4.04	+0.13	+0.33	F1 IV
α Hor	1326	04 14 27.0	-42 15 42		3.86	+1.00	+1.10	K2 III
α Ret	1336	04 14 36.1	-62 26 25	d6	3.35	+0.63	+0.91	G8 II-III
51 μ Per	1303	04 15 53.6	+48 26 33	d67	4.14	+0.64	+0.95	G0 Ib
40 o <sup>2</sup> Eri	1325	04 15 53.6	-07 37 57	d	4.43	+0.45	+0.82	K0.5 V
49 μ Tau	1320	04 16 16.1	+08 55 31	6	4.29	-0.53	-0.06	B3 IV
γ Dor	1338	04 16 22.9	-51 27 11	v	4.25	+0.03	+0.30	F1 V+
48 Tau	1319	04 16 32.4	+15 26 01	sd	6.32	+0.02	+0.40	F3 V
ε Ret	1355	04 16 43.1	-59 16 12	d	4.44	+1.07	+1.08	K2 IV
41 Eri	1347	04 18 24.3	-33 45 58	d67	3.56	-0.37	-0.12	B9p Mn
54 γ Tau	1346	04 20 33.8	+15 39 33	d6	3.63	+0.82	+0.99	G9.5 IIIab CN 0.5
57 v483 Tau	1351	04 20 43.4	+14 04 00	sd6	5.59	+0.08	+0.28	F0 IV

## BRIGHT STARS, J2013.5

H7

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
	1367	04 21 14.4	-20 36 29		5.38		-0.02	A1 V
54 Per	1343	04 21 17.4	+34 35 54	d	4.93	+0.69	+0.94	G8 III Fe 0.5
	1327	04 21 57.2	+65 10 18	s	5.27	+0.47	+0.81	G5 IIb
η Ret	1395	04 22 02.3	-63 21 16		5.24	+0.69	+0.96	G8 III
61 δ Tau	1373	04 23 42.9	+17 34 23	d6	3.76	+0.82	+0.98	G9.5 III CN 0.5
63 Tau	1376	04 24 11.6	+16 48 28	cs6	5.64	+0.13	+0.30	F0m
42 ξ Eri	1383	04 24 21.2	-03 42 54	6	5.17	+0.08	+0.08	A2 V
43 Eri	1393	04 24 32.7	-33 59 10		3.96	+1.80	+1.49	K3.5- IIIb
65 κ <sup>1</sup> Tau	1387	04 26 10.6	+22 19 25	d6	4.22	+0.13	+0.13	A5 IV-V
68 v776 Tau	1389	04 26 16.4	+17 57 28	d6	4.29	+0.08	+0.05	A2 IV-Vs
71 v777 Tau	1394	04 27 07.0	+15 38 52	d6	4.49	+0.14	+0.25	F0n IV-V
69 υ Tau	1392	04 27 07.1	+22 50 35	d6	4.28	+0.14	+0.26	A9 IV-n
77 θ <sup>1</sup> Tau	1411	04 29 20.9	+15 59 28	d6	3.84	+0.73	+0.95	G9 III Fe-0.5
74 ε Tau	1409	04 29 24.4	+19 12 34	d	3.53	+0.88	+1.01	G9.5 III CN 0.5
78 θ <sup>2</sup> Tau	1412	04 29 26.1	+15 53 59	sd6	3.40	+0.13	+0.18	A7 III
δ Cae	1443	04 31 15.0	-44 55 31		5.07	-0.78	-0.19	B2 IV-V
50 υ <sup>1</sup> Eri	1453	04 34 02.4	-29 44 24		4.51	+0.72	+0.98	K0+ III Fe-0.5
α Dor	1465	04 34 17.4	-55 01 03	vd7	3.27	-0.35	-0.10	A0p Si
86 ρ Tau	1444	04 34 37.0	+14 52 18	6	4.65	+0.08	+0.25	A9 V
52 υ <sup>2</sup> Eri	1464	04 36 04.6	-30 32 07		3.82	+0.72	+0.98	G8.5 IIIa
88 Tau	1458	04 36 23.8	+10 11 15	d6	4.25	+0.11	+0.18	A5m
87 α Tau	1457	04 36 41.8	+16 32 08	sd6	0.85	+1.90	+1.54	K5+ III
R Dor	1492	04 36 55.2	-62 03 03	sd	5.40	+0.86	+1.58	M8e III:
48 υ Eri	1463	04 36 59.7	-03 19 33	vd6	3.93	-0.89	-0.21	B2 III
58 Per	1454	04 37 37.7	+41 17 29	c6	4.25	+0.82	+1.22	K0 II-III + B9 V
53 Eri	1481	04 38 48.0	-14 16 43	d67	3.87	+1.01	+1.09	K1.5 IIIb
90 Tau	1473	04 38 54.8	+12 32 13	d6	4.27	+0.13	+0.12	A5 IV-V
α Cae	1502	04 40 59.9	-41 50 19	d	4.45	+0.01	+0.34	F1 V
54 DM Eri	1496	04 41 02.0	-19 38 47	d	4.32	+1.81	+1.61	M3 II-III
β Cae	1503	04 42 32.2	-37 07 07		5.05	+0.04	+0.37	F2 V
94 τ Tau	1497	04 43 03.4	+22 58 54	d67	4.28	-0.57	-0.13	B3 V
57 μ Eri	1520	04 46 10.7	-03 13 51	6	4.02	-0.60	-0.15	B4 IV
4 Cam	1511	04 49 08.1	+56 46 47	d	5.30	+0.15	+0.25	Am
1 π <sup>3</sup> Ori	1543	04 50 34.4	+06 59 02	ad6	3.19	-0.01	+0.45	F6 V
	1533	04 50 49.3	+37 30 39		4.88	+1.70	+1.44	K3.5 III
2 π <sup>2</sup> Ori	1544	04 51 20.9	+08 55 20	6	4.36	0.00	+0.01	A0.5 IVn
3 π <sup>4</sup> Ori	1552	04 51 55.6	+05 37 38	s6	3.69	-0.81	-0.17	B2 III
97 v480 Tau	1547	04 52 09.9	+18 51 42	d	5.10	+0.12	+0.21	A9 V+
4 σ <sup>1</sup> Ori	1556	04 53 17.9	+14 16 20	cv	4.74	+2.03	+1.84	S3.5/1-
61 ω Eri	1560	04 53 33.5	-05 25 52	6	4.39	+0.16	+0.25	A9 IV
η Men	1629	04 54 48.5	-74 54 56		5.47	+1.83	+1.52	K4 III
8 π <sup>5</sup> Ori	1567	04 54 57.4	+02 27 43	v6	3.72	-0.83	-0.18	B2 III
9 α Cam	1542	04 55 24.1	+66 21 50		4.29	-0.88	+0.03	O9.5 Ia
9 σ <sup>2</sup> Ori	1580	04 57 07.9	+13 32 05	d	4.07	+1.11	+1.15	K2- III Fe-1
3 ι Aur	1577	04 57 52.5	+33 11 11	a	2.69	+1.78	+1.53	K3 II
7 Cam	1568	04 58 22.4	+53 46 20	d67	4.47	-0.01	-0.02	A0m A1 III
10 π <sup>6</sup> Ori	1601	04 59 14.9	+01 44 02		4.47	+1.55	+1.40	K2- II
7 ε Aur	1605	05 02 56.4	+43 50 31	vd6	2.99	+0.33	+0.54	A9 Ia
8 ζ Aur	1612	05 03 25.5	+41 05 39	cdv6	3.75	+0.38	+1.22	K5 II + B5 V
102 ι Tau	1620	05 03 54.3	+21 36 29		4.64	+0.15	+0.16	A7 IV

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
10 $\beta$ Cam	1603	05 04 37.5	+60 27 37	d	4.03	+0.63	+0.92	G1 Ib-IIa
$\eta^2$ Pic	1663	05 05 19.1	-49 33 36		5.03	+1.88	+1.49	K5 III
11 v1032 Ori	1638	05 05 20.5	+15 25 19	v	4.68	-0.09	-0.06	A0p Si
$\zeta$ Dor	1674	05 05 44.6	-57 27 17		4.72	-0.04	+0.52	F7 V
2 $\epsilon$ Lep	1654	05 06 02.0	-22 21 13		3.19	+1.78	+1.46	K4 III
10 $\eta$ Aur	1641	05 07 27.8	+41 15 05	a	3.17	-0.67	-0.18	B3 V
67 $\beta$ Eri	1666	05 08 30.9	-05 04 12	d	2.79	+0.10	+0.13	A3 IVn
69 $\lambda$ Eri	1679	05 09 47.6	-08 44 16		4.27	-0.90	-0.19	B2 IVn
16 Ori	1672	05 10 04.3	+09 50 45	d6	5.43	+0.16	+0.24	A9m
3 $\iota$ Lep	1696	05 12 55.7	-11 51 14	d	4.45	-0.40	-0.10	B9 V:
5 $\mu$ Lep	1702	05 13 32.3	-16 11 25	s	3.31	-0.39	-0.11	B9p Hg Mn
$\theta$ Dor	1744	05 13 45.0	-67 10 12		4.83	+1.39	+1.28	K2.5 IIIa
4 $\kappa$ Lep	1705	05 13 51.3	-12 55 34	d7	4.36	-0.37	-0.10	B7 V
17 $\rho$ Ori	1698	05 13 59.9	+02 52 35	d67	4.46	+1.16	+1.19	K1 III CN 0.5
11 $\mu$ Aur	1689	05 14 21.3	+38 29 57		4.86	+0.09	+0.18	A7m
19 $\beta$ Ori	1713	05 15 11.2	-08 11 13	vdas6	0.12	-0.66	-0.03	B8 Ia
13 $\alpha$ Aur	1708	05 17 41.3	+46 00 37	cd67	0.08	+0.44	+0.80	G6 III + G2 III
$o$ Col	1743	05 17 58.3	-34 52 58		4.83	+0.80	+1.00	K0/1 III/IV
20 $\tau$ Ori	1735	05 18 15.8	-06 49 51	sd6	3.60	-0.47	-0.11	B5 III
$\zeta$ Pic	1767	05 19 42.1	-50 35 31		5.45	+0.01	+0.51	F7 III-IV
15 $\lambda$ Aur	1729	05 20 05.6	+40 06 35	d	4.71	+0.12	+0.63	G1.5 IV-V Fe-1
6 $\lambda$ Lep	1756	05 20 11.9	-13 09 49		4.29	-1.03	-0.26	B0.5 IV
22 Ori	1765	05 22 27.1	-00 22 12	6	4.73	-0.79	-0.17	B2 IV-V
29 Ori	1784	05 24 35.9	-07 47 48		4.14	+0.69	+0.96	G8 III Fe-0.5
	1686	05 24 48.4	+79 14 37	d	5.05	-0.13	+0.47	F7 Vs
28 $\eta$ Ori	1788	05 25 09.4	-02 23 08	cdv6	3.36	-0.92	-0.17	B1 IV + B
24 $\gamma$ Ori	1790	05 25 51.4	+06 21 39	d6	1.64	-0.87	-0.22	B2 III
112 $\beta$ Tau	1791	05 27 08.8	+28 37 04	sd	1.65	-0.49	-0.13	B7 III
115 Tau	1808	05 27 57.4	+17 58 22	d	5.42	-0.53	-0.10	B5 V
9 $\beta$ Lep	1829	05 28 49.5	-20 44 58	d	2.84	+0.46	+0.82	G5 II
	1856	05 30 31.8	-47 04 06	d7	5.46	+0.21	+0.62	G3 IV
$\gamma$ Men	1953	05 31 21.5	-76 19 50	d	5.19	+1.19	+1.13	K2 III
17 Cam	1802	05 31 26.9	+63 04 36		5.42	+2.00	+1.71	M1 IIIa
32 Ori	1839	05 31 30.4	+05 57 27	d7	4.20	-0.55	-0.14	B5 V
$\epsilon$ Col	1862	05 31 41.5	-35 27 41		3.87	+1.08	+1.14	K1 II/III
34 $\delta$ Ori	1852	05 32 41.8	-00 17 24	dv6	2.23	-1.05	-0.22	O9.5 II
119 CE Tau	1845	05 33 00.3	+18 36 11		4.38	+2.21	+2.07	M2 Iab-Ib
11 $\alpha$ Lep	1865	05 33 19.6	-17 48 48	das	2.58	+0.23	+0.21	F0 Ib
25 $\chi$ Aur	1843	05 33 36.5	+32 12 03	6	4.76	-0.46	+0.34	B5 Iab
$\beta$ Dor	1922	05 33 44.6	-62 28 52	v	3.76	+0.55	+0.82	F7-G2 Ib
37 $\phi^1$ Ori	1876	05 35 33.7	+09 29 52	d6	4.41	-0.97	-0.16	B0.5 IV-V
39 $\lambda$ Ori	1879	05 35 52.9	+09 56 32	d	3.54	-1.03	-0.18	O8 IIIf
v1046 Ori	1890	05 36 02.0	-04 29 10	sdv6	6.55	-0.77	-0.13	B2 Vh
	1891	05 36 02.4	-04 24 59	ds	6.24	-0.70	-0.15	B2.5 V
44 $\iota$ Ori	1899	05 36 05.6	-05 54 07	ds6	2.77	-1.08	-0.24	O9 III
46 $\epsilon$ Ori	1903	05 36 54.0	-01 11 39	das6	1.70	-1.04	-0.19	B0 Ia
40 $\phi^2$ Ori	1907	05 37 38.9	+09 17 49	s	4.09	+0.64	+0.95	K0 IIIb Fe-2
123 $\zeta$ Tau	1910	05 38 27.1	+21 08 59	s6	3.00	-0.67	-0.19	B2 IIIpe (shell)
48 $\sigma$ Ori	1931	05 39 25.5	-02 35 36	d6	3.81	-1.01	-0.24	O9.5 V
$\alpha$ Col	1956	05 40 08.3	-34 04 03	d	2.64	-0.46	-0.12	B7 IV

## BRIGHT STARS, J2013.5

H9

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
50 ζ Ori	1948	05 41 26.4	-01 56 11	d6	2.03	-1.04	-0.21	O9.5 Ib
δ Dor	2015	05 44 47.9	-65 43 50		4.35	+0.12	+0.21	A7 V <sup>+</sup> n
13 γ Lep	1983	05 45 01.6	-22 26 41	d	3.60	0.00	+0.47	F7 V
27 ο Aur	1971	05 46 56.9	+49 49 50		5.47	+0.07	+0.03	A0p Cr
14 ζ Lep	1998	05 47 34.1	-14 49 04	6	3.55	+0.07	+0.10	A2 Van
β Pic	2020	05 47 36.3	-51 03 44		3.85	+0.10	+0.17	A6 V
130 τ Tau	1990	05 48 13.5	+17 43 59		5.49	+0.27	+0.30	F0 III
53 κ Ori	2004	05 48 23.8	-09 39 57		2.06	-1.03	-0.17	B0.5 Ia
γ Pic	2042	05 50 04.4	-56 09 49		4.51	+0.98	+1.10	K1 III
	2049	05 51 11.6	-52 06 22		5.17	+0.72	+0.99	G8 III
β Col	2040	05 51 26.2	-35 45 50		3.12	+1.21	+1.16	K1.5 III
15 δ Lep	2035	05 51 54.2	-20 52 44		3.81	+0.68	+0.99	K0 III Fe-1.5 CH 0.5
32 ν Aur	2012	05 52 25.6	+39 09 04	d	3.97	+1.09	+1.13	K0 III CN 0.5
136 τ Tau	2034	05 54 10.6	+27 36 51	6	4.58	+0.03	-0.02	A0 IV
54 χ <sup>1</sup> Ori	2047	05 55 11.0	+20 16 39	6	4.41	+0.07	+0.59	G0 <sup>-</sup> V Ca 0.5
58 α Ori	2061	05 55 54.2	+07 24 31	ad6	0.50	+2.06	+1.85	M1-M2 Ia-Iab
30 ξ Aur	2029	05 55 58.7	+55 42 31		4.99	+0.12	+0.05	A1 Va
16 η Lep	2085	05 57 01.2	-14 09 58		3.71	+0.01	+0.33	F1 V
γ Col	2106	05 58 01.0	-35 16 57	d	4.36	-0.66	-0.18	B2.5 IV
60 Ori	2103	05 59 31.2	+00 33 12	d6	5.22	+0.01	+0.01	A1 Vs
η Col	2120	05 59 33.6	-42 48 54		3.96	+1.08	+1.14	G8/K1 II
34 β Aur	2088	06 00 31.2	+44 56 51	vd6	1.90	+0.05	+0.03	A1 IV
33 δ Aur	2077	06 00 38.4	+54 17 03	d	3.72	+0.87	+1.00	K0 <sup>-</sup> III
37 θ Aur	2095	06 00 38.5	+37 12 44	vd67	2.62	-0.18	-0.08	A0p Si
35 π Aur	2091	06 00 56.2	+45 56 12		4.26	+1.83	+1.72	M3 II
61 μ Ori	2124	06 03 07.6	+09 38 46	d6	4.12	+0.11	+0.16	A5m:
62 χ <sup>2</sup> Ori	2135	06 04 43.3	+20 08 13	asv	4.63	-0.68	+0.28	B2 Ia
1 Gem	2134	06 04 56.5	+23 15 41	d67	4.16	+0.53	+0.84	G5 III-IV
17 SS Lep	2148	06 05 35.3	-16 29 10	s6	4.93	+0.12	+0.24	Ap (shell)
67 ν Ori	2159	06 08 20.6	+14 45 57	d6	4.42	-0.66	-0.17	B3 IV
ν Dor	2221	06 08 39.1	-68 50 46		5.06	-0.21	-0.08	B8 V
	2180	06 09 31.9	-22 25 50		5.50		-0.01	A0 V
α Men	2261	06 09 50.3	-74 45 26		5.09	+0.33	+0.72	G5 V
δ Pic	2212	06 10 33.7	-54 58 19	v6	4.81	-1.03	-0.23	B0.5 IV
70 ξ Ori	2199	06 12 42.5	+14 12 17	d6	4.48	-0.65	-0.18	B3 IV
36 Cam	2165	06 14 12.5	+65 42 50	6	5.38	+1.47	+1.34	K2 II-III
5 γ Mon	2227	06 15 30.9	-06 16 47	d	3.98	+1.41	+1.32	K1 III Ba 0.5
7 η Gem	2216	06 15 41.6	+22 30 06	vd6	3.28	+1.66	+1.60	M2.5 III
44 κ Aur	2219	06 16 14.3	+29 29 31		4.35	+0.80	+1.02	G9 IIIb
κ Col	2256	06 17 02.0	-35 08 45		4.37	+0.83	+1.00	K0.5 IIIa
74 Ori	2241	06 17 12.1	+12 16 02	d	5.04	-0.02	+0.42	F4 IV
	2209	06 20 19.9	+69 18 47	6	4.80	0.00	+0.03	A0 IV <sup>+</sup> nn
7 Mon	2273	06 20 21.8	-07 49 46	d6	5.27	-0.75	-0.19	B2.5 V
2 UZ Lyn	2238	06 20 48.8	+59 00 16		4.48	+0.03	+0.01	A1 Va
1 ζ CMa	2282	06 20 49.9	-30 04 12	d6	3.02	-0.72	-0.19	B2.5 V
δ Col	2296	06 22 36.5	-33 26 38	6	3.85	+0.52	+0.88	G7 II
2 β CMa	2294	06 23 17.7	-17 57 48	svd6	1.98	-0.98	-0.23	B1 II-III
13 μ Gem	2286	06 23 46.6	+22 30 20	sd	2.88	+1.85	+1.64	M3 IIIab
α Car	2326	06 24 15.1	-52 42 12		-0.72	+0.10	+0.15	A9 II
8 Mon	2298	06 24 29.0	+04 35 06	d6	4.44	+0.13	+0.20	A6 IV



Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
46	$\psi^1$ Aur	2305 06 24 48.1	-11 32 18		5.22	+1.20	+1.24	K3 III
10	Mon	2289 06 25 56.2	+49 16 46	6	4.91	+2.29	+1.97	K5-M0 Iab-Ib
	$\lambda$ CMa	2344 06 28 37.6	-04 46 17	d	5.06	-0.76	-0.17	B2 V
18	$\nu$ Gem	2361 06 28 40.3	-32 35 21		4.48	-0.61	-0.17	B4 V
	$\xi^1$ CMa	2343 06 29 45.9	+20 12 09	d6	4.15	-0.48	-0.13	B6 III
4		2387 06 32 25.1	-23 25 44	vd6	4.33	-0.99	-0.24	B1 III
	Mon	2392 06 33 24.8	-11 10 38	ds6	6.24	+0.78	+1.11	G9.5 III: Ba 3
13		2385 06 33 38.0	+07 19 19		4.50	-0.18	0.00	A0 Ib-II
		2395 06 34 19.1	-01 13 53		5.10	-0.56	-0.14	B5 Vn
		2435 06 35 16.4	-52 59 13		4.39	-0.15	-0.02	A0 II
5	$\xi^2$ CMa	2414 06 35 37.4	-22 58 35		4.54	-0.03	-0.05	A0 III
7	$\nu^2$ CMa	2429 06 37 16.4	-19 16 06		3.95	+1.01	+1.06	K1.5 III-IV Fe 1
	$\nu$ Pup	2451 06 38 10.5	-43 12 30	6	3.17	-0.41	-0.11	B8 III <sub>n</sub>
8	$\nu^3$ CMa	2443 06 38 29.1	-18 15 00	d	4.43	+1.04	+1.15	K0.5 III
24	$\gamma$ Gem	2421 06 38 29.4	+16 23 12	d6	1.93	+0.04	0.00	A1 IVs
15	S Mon	2456 06 41 43.3	+09 52 56	das6	4.66	-1.07	-0.25	O7 Vf
30	Gem	2478 06 44 45.0	+13 12 48	d	4.49	+1.16	+1.16	K0.5 III CN 0.5
27	$\epsilon$ Gem	2473 06 44 45.7	+25 07 00	das6	2.98	+1.46	+1.40	G8 Ib
9	$\alpha$ CMa	2491 06 45 44.4	-16 44 08	od6	-1.46	-0.05	0.00	A0m A1 Va
		2513 06 45 44.8	-52 12 57	s	6.57		+1.08	G5 Iab
31	$\xi$ Gem	2484 06 46 02.8	+12 52 48		3.36	+0.06	+0.43	F5 IV
56	$\psi^5$ Aur	2483 06 47 42.6	+43 33 46	d	5.25	+0.05	+0.56	G0 V
		2518 06 47 49.1	-37 56 43	d	5.26	-0.25	-0.08	B8/9 V
	$\alpha$ Pic	2550 06 48 19.7	-61 57 22		3.27	+0.13	+0.21	A6 Vn
		2401 06 48 30.9	+79 32 50	6	5.45	-0.02	+0.50	F8 V
18	Mon	2506 06 48 33.9	+02 23 47	6	4.47	+1.04	+1.11	K0+ IIIa
57	$\psi^6$ Aur	2487 06 48 41.2	+48 46 26		5.22	+1.04	+1.12	K0 III
	v415 Car	2554 06 50 08.9	-53 38 19	6	4.40	+0.61	+0.92	G4 II
	$\tau$ Pup	2553 06 50 16.3	-50 37 52	6	2.93	+1.21	+1.20	K1 III
13	$\kappa$ CMa	2538 06 50 20.7	-32 31 29		3.96	-0.92	-0.23	B1.5 IVne
	$\iota$ Vol	2602 06 51 17.5	-70 58 48		5.40	-0.38	-0.11	B7 IV
	v592 Mon	2534 06 51 21.3	-08 03 27	sv	6.29	+0.02	0.00	A2p Sr Cr Eu
34	$\theta$ Gem	2540 06 53 40.7	+33 56 38	d6	3.60	+0.14	+0.10	A3 III-IV
16	$o^1$ CMa	2580 06 54 41.6	-24 12 07	s	3.87	+1.99	+1.73	K2 Iab
14	$\theta$ CMa	2574 06 54 49.0	-12 03 23		4.07	+1.70	+1.43	K4 III
	NP Pup	2591 06 54 52.2	-42 23 00	s	6.32	+2.79	+2.24	C5,2.5
43	Cam	2511 06 55 09.2	+68 52 14		5.12	-0.43	-0.13	B7 III
20	$\iota$ CMa	2596 06 56 44.4	-17 04 21		4.37	-0.70	-0.07	B3 II
15	Lyn	2560 06 58 26.5	+58 24 13	d7	4.35	+0.52	+0.85	G5 III-IV
21	$\epsilon$ CMa	2618 06 59 09.4	-28 59 28	d	1.50	-0.93	-0.21	B2 II
		2527 07 02 01.0	+76 57 27	6	4.55	+1.66	+1.36	K4 III
22	$\sigma$ CMa	2646 07 02 15.4	-27 57 18	d	3.47	+1.88	+1.73	K7 Ib
42	$\omega$ Gem	2630 07 03 14.1	+24 11 42	s	5.18	+0.68	+0.94	G5 IIa
24	$o^2$ CMa	2653 07 03 35.3	-23 51 14	vas6	3.02	-0.80	-0.08	B3 Ia
23	$\gamma$ CMa	2657 07 04 22.1	-15 39 15		4.12	-0.48	-0.12	B8 II
		2666 07 04 28.5	-42 21 28	d6	5.20	+0.15	+0.20	A9m
	v386 Car	2683 07 04 33.4	-56 46 14	v	5.17		-0.04	Ap Si
43	$\zeta$ Gem	2650 07 04 54.5	+20 32 58	vd6	3.79	+0.62	+0.79	F9 Ib (var)
	$\gamma^2$ Vol	2736 07 08 37.8	-70 31 15	d	3.78	+0.88	+1.04	G9 III
25	$\delta$ CMa	2693 07 08 56.4	-26 24 55	das6	1.84	+0.54	+0.68	F8 Ia

## BRIGHT STARS, J2013.5

H11

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type	
		h m s	° ' "						
20	Mon	2701	07 10 53.9	-04 15 33	d	4.92	+0.78	+1.03	K0 III
46	$\tau$ Gem	2697	07 11 59.9	+30 13 19	d7	4.41	+1.41	+1.26	K2 III
22	$\delta$ Mon	2714	07 12 33.2	-00 30 58	d	4.15	+0.02	-0.01	A1 III+
63	Aur	2696	07 12 34.9	+39 17 50	6	4.90	+1.74	+1.45	K3.5 III
	QW Pup	2740	07 12 56.7	-46 46 57		4.49	-0.01	+0.32	F0 IVs
48	Gem	2706	07 13 15.5	+24 06 18	s	5.85	+0.09	+0.36	F5 III-IV
	L <sub>2</sub> Pup	2748	07 13 57.1	-44 39 44	vd	5.10		+1.56	M5 IIIe
51	BQ Gem	2717	07 14 08.8	+16 08 06	d	5.00	+1.82	+1.66	M4 IIIab
27	EW CMa	2745	07 14 48.2	-26 22 35	d6	4.66	-0.71	-0.19	B3 IIIep
28	$\omega$ CMa	2749	07 15 21.5	-26 47 49		3.85	-0.73	-0.17	B2 IV-Ve
	$\delta$ Vol	2803	07 16 49.2	-67 58 55		3.98	+0.45	+0.79	F9 Ib
	$\pi$ Pup	2773	07 17 37.2	-37 07 20	d	2.70	+1.24	+1.62	K3 Ib
54	$\lambda$ Gem	2763	07 18 52.1	+16 30 54	d67	3.58	+0.10	+0.11	A4 IV
30	$\tau$ CMa	2782	07 19 16.1	-24 58 47	vd6	4.40	-0.99	-0.15	O9 II
55	$\delta$ Gem	2777	07 20 55.7	+21 57 23	d67	3.53	+0.04	+0.34	F0 V+
31	$\eta$ CMa	2827	07 24 37.8	-29 19 48	das	2.45	-0.72	-0.08	B5 Ia
66	Aur	2805	07 25 04.4	+40 38 43	6	5.23	+1.25	+1.25	K1 IIIa Fe-1
60	$\iota$ Gem	2821	07 26 33.8	+27 46 13		3.79	+0.85	+1.03	G9 IIIb
3	$\beta$ CMi	2845	07 27 52.9	+08 15 40	d6	2.90	-0.28	-0.09	B8 V
4	$\gamma$ CMi	2854	07 28 53.9	+08 53 50	d6	4.32	+1.54	+1.43	K3 III Fe-1
	$\sigma$ Pup	2878	07 29 39.5	-43 19 46	vd6	3.25	+1.78	+1.51	K5 III
62	$\rho$ Gem	2852	07 29 58.7	+31 45 24	d6	4.18	-0.03	+0.32	F0 V+
6	CMi	2864	07 30 32.8	+11 58 40		4.54	+1.37	+1.28	K1 III
		2906	07 34 37.9	-22 19 33		4.45	+0.06	+0.51	F6 IV
66	$\alpha^1$ Gem	2891	07 35 27.4	+31 51 27	od6	1.98	+0.01	+0.03	A1m A2 Va
66	$\alpha^2$ Gem	2890	07 35 27.7	+31 51 30	od6	2.88	+0.02	+0.04	A2m A5 V:
		2934	07 35 59.8	-52 33 52	6	4.94	+1.63	+1.40	K3 III
69	$\nu$ Gem	2905	07 36 45.2	+26 51 53	d	4.06	+1.94	+1.54	M0 III-IIIb
		2937	07 37 52.1	-34 59 58	d7	4.53	-0.31	-0.09	B8 V
25	Mon	2927	07 37 57.0	-04 08 31	d	5.13	+0.12	+0.44	F6 III
10	$\alpha$ CMi	2943	07 40 00.5	+05 11 22	osd67	0.38	+0.02	+0.42	F5 IV-V
	R Pup	2974	07 41 24.0	-31 41 36	s	6.56	+0.85	+1.18	G2 0-Ia
	$\zeta$ Vol	3024	07 41 38.8	-72 38 18	d7	3.95	+0.83	+1.04	G9 III
26	$\alpha$ Mon	2970	07 41 53.5	-09 35 00		3.93	+0.88	+1.02	G9 III Fe-1
24	Lyn	2946	07 44 08.5	+58 40 38	d	4.99	+0.08	+0.08	A2 IVn
75	$\sigma$ Gem	2973	07 44 09.2	+28 50 59	d6	4.28	+0.97	+1.12	K1 III
3	Pup	2996	07 44 21.0	-28 59 16	6	3.96	-0.09	+0.18	A2 Ib
77	$\kappa$ Gem	2985	07 45 15.7	+24 21 53	ad7	3.57	+0.69	+0.93	G8 III
		3017	07 45 44.2	-38 00 07		3.61	+1.72	+1.73	K5 IIa
78	$\beta$ Gem	2990	07 46 08.4	+27 59 33	ad	1.14	+0.85	+1.00	K0 IIIb
	OV Cep	2609	07 46 21.1	+86 59 14		5.07	+1.97	+1.63	M2 <sup>-</sup> IIIab
4	Pup	3015	07 46 34.2	-14 35 51		5.04	+0.09	+0.33	F2 V
81	Gem	3003	07 46 54.3	+18 28 34	6	4.88	+1.75	+1.45	K4 III
11	CMi	3008	07 47 00.7	+10 44 04	6	5.30	-0.02	+0.01	A0.5 IV <sup>-</sup> nn
		2999	07 47 33.2	+37 29 01		5.18	+1.94	+1.58	M2 <sup>+</sup> IIIb
		3037	07 47 56.0	-46 38 33	6	5.23	-0.85	-0.14	B1.5 IV
80	$\pi$ Gem	3013	07 48 22.4	+33 22 53	d7	5.14	+1.95	+1.60	M1 <sup>+</sup> IIIa
	$\omicron$ Pup	3034	07 48 38.9	-25 58 17	d	4.50	-1.02	-0.05	B1 IV:nne
		3055	07 49 39.0	-46 24 28	d	4.11	-1.01	-0.18	B0 III
7	$\xi$ Pup	3045	07 49 51.7	-24 53 40	d6	3.34	+1.16	+1.24	G6 lab-Ib

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type	
		h m s	° ' "						
13	ζ CMi	3059	07 52 24.0	+01 43 54		5.14	-0.49	-0.12	B8 II
		3080	07 52 40.9	-40 36 40	c6	3.73	+0.78	+1.04	K1/2 II + A
	QZ Pup	3084	07 53 07.3	-38 53 54	v6	4.49	-0.69	-0.19	B2.5 V
		3090	07 53 42.0	-48 08 19		4.24	-1.00	-0.14	B0.5 Ib
83	φ Gem	3067	07 54 19.3	+26 43 47	6	4.97	+0.10	+0.09	A3 IV-V
26	Lyn	3066	07 55 41.4	+47 31 42		5.45	+1.73	+1.46	K3 III
	χ Car	3117	07 57 07.3	-53 01 08		3.47	-0.67	-0.18	B3p Si
11	Pup	3102	07 57 26.4	-22 55 01		4.20	+0.42	+0.72	F8 II
		3113	07 58 12.4	-30 22 18		4.79	+0.18	+0.15	A6 II
	V Pup	3129	07 58 37.7	-49 16 55	cvd6	4.41	-0.96	-0.17	B1 Vp + B2:
		3153	07 59 51.3	-60 37 28	s	5.17	+1.91	+1.74	M1.5 II
27	Mon	3122	08 00 24.6	-03 43 02		4.93	+1.21	+1.21	K2 III
		3131	08 00 28.4	-18 26 13		4.61	+0.08	+0.08	A2 IVn
		3075	08 01 47.2	+73 52 48		5.41	+1.64	+1.42	K3 III
		3145	08 02 58.1	+02 17 48	d	4.39	+1.28	+1.25	K2 IIIb Fe-0.5
	ζ Pup	3165	08 04 03.5	-40 02 30	s	2.25	-1.11	-0.26	O5 Iafn
	χ Gem	3149	08 04 20.7	+27 45 20	d6	4.94	+1.09	+1.12	K1 III
	ε Vol	3223	08 07 58.1	-68 39 24	d67	4.35	-0.46	-0.11	B6 IV
15	ρ Pup	3185	08 08 07.2	-24 20 38	vd6	2.81	+0.19	+0.43	F5 (Ib-II)p
29	ζ Mon	3188	08 09 16.3	-03 01 26	d	4.34	+0.69	+0.97	G2 Ib
27	Lyn	3173	08 09 28.0	+51 28 00	d	4.84	0.00	+0.05	A1 Va
16	Pup	3192	08 09 37.8	-19 17 07	6	4.40	-0.60	-0.15	B5 IV
	γ <sup>2</sup> Vel	3207	08 09 56.9	-47 22 37	cd6	1.78	-0.99	-0.22	WC8 + O9I:
	NS Pup	3225	08 11 50.4	-39 39 34	6	4.45	+1.86	+1.62	K4.5 Ib
20	Pup	3229	08 13 57.2	-15 49 47		4.99	+0.78	+1.07	G5 IIa
		3182	08 14 08.4	+68 25 58		5.45	+0.80	+1.05	G7 II
		3243	08 14 31.7	-40 23 23	d6	4.44	+1.09	+1.17	K1 II/III
17	β Cnc	3249	08 17 14.8	+09 08 35	d	3.52	+1.77	+1.48	K4 III Ba 0.5
	α Cha	3318	08 18 09.5	-76 57 43		4.07	-0.02	+0.39	F4 IV
		3270	08 19 03.7	-36 42 06		4.45	+0.11	+0.22	A7 IV
	θ Cha	3340	08 20 12.9	-77 31 39	d	4.35	+1.20	+1.16	K2 III CN 0.5
18	χ Cnc	3262	08 20 52.9	+27 10 23		5.14	-0.06	+0.47	F6 V
		3282	08 21 55.0	-33 05 52		4.83	+1.60	+1.45	K2.5 II-III
	ε Car	3307	08 22 47.4	-59 33 12	dc	1.86	+0.19	+1.28	K3: III + B2: V
31	Lyn	3275	08 23 45.3	+43 08 38		4.25	+1.90	+1.55	K4.5 III
		3315	08 25 38.7	-24 05 26	d6	5.28	+1.83	+1.48	K4.5 III CN 1
	β Vol	3347	08 25 52.8	-66 10 56		3.77	+1.14	+1.13	K2 III
		3314	08 26 20.1	-03 57 04		3.90	-0.02	-0.02	A0 Va
1	ο UMa	3323	08 31 22.6	+60 40 18	sd	3.37	+0.52	+0.85	G5 III
33	η Cnc	3366	08 33 29.2	+20 23 40		5.33	+1.39	+1.25	K3 III
		3426	08 38 07.1	-43 02 13		4.14	+0.16	+0.11	A6 II
4	δ Hya	3410	08 38 22.2	+05 39 21	d6	4.16	+0.01	0.00	A1 IVnn
5	σ Hya	3418	08 39 27.7	+03 17 36		4.44	+1.28	+1.21	K1 III
	β Pyx	3438	08 40 37.9	-35 21 25	d6	3.97	+0.65	+0.94	G4 III
6	Hya	3431	08 40 39.9	-12 31 26		4.98	+1.62	+1.42	K4 III
	ο Vel	3447	08 40 40.8	-52 58 13	v6	3.62	-0.64	-0.18	B3 IV
	η Cha	3502	08 40 50.2	-79 00 43		5.47	-0.35	-0.10	B8 V
	v343 Car	3457	08 40 54.9	-59 48 34	d6	4.33	-0.80	-0.11	B1.5 III
		3445	08 41 04.5	-46 41 50	d	3.82	+0.33	+0.70	F0 Ia
34	Lyn	3422	08 41 56.8	+45 47 08		5.37	+0.75	+0.99	G8 IV

## BRIGHT STARS, J2013.5

H13

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
7 $\eta$ Hya	3454	08 43 55.8	+03 20 58	6	4.30	-0.74	-0.20	B4 V
43 $\gamma$ Cnc	3449	08 44 03.9	+21 25 09	d6	4.66	+0.01	+0.02	A1 Va
$\alpha$ Pyx	3468	08 44 08.1	-33 14 08		3.68	-0.88	-0.18	B1.5 III
	3477	08 44 52.9	-42 41 55	d	4.07	+0.52	+0.87	G6 II-III
$\delta$ Vel	3485	08 45 04.6	-54 45 31	d7	1.96	+0.07	+0.04	A1 Va
47 $\delta$ Cnc	3461	08 45 27.0	+18 06 14	d	3.94	+0.99	+1.08	K0 IIIb
	3487	08 46 29.1	-46 05 29		3.91	-0.05	0.00	A1 II
12 Hya	3484	08 47 00.8	-13 35 52	d6	4.32	+0.62	+0.90	G8 III Fe-1
v344 Car	3498	08 47 03.5	-56 49 11		4.49	-0.73	-0.17	B3 Vne
11 $\epsilon$ Hya	3482	08 47 29.3	+06 22 07	cd67	3.38	+0.36	+0.68	G5: III + A:
48 $\iota$ Cnc	3475	08 47 30.7	+28 42 35	d	4.02	+0.78	+1.01	G8 II-III
13 $\rho$ Hya	3492	08 49 08.8	+05 47 14	d6	4.36	-0.04	-0.04	A0 Vn
14 KX Hya	3500	08 50 02.4	-03 29 38		5.31	-0.35	-0.09	B9p Hg Mn
$\gamma$ Pyx	3518	08 51 06.3	-27 45 38		4.01	+1.40	+1.27	K2.5 III
$\zeta$ Oct	3678	08 54 28.7	-85 42 54		5.42	+0.07	+0.31	F0 III
	3571	08 55 21.1	-60 41 47	d	3.84	-0.45	-0.10	B7 II-III
16 $\zeta$ Hya	3547	08 56 06.4	+05 53 36		3.11	+0.80	+1.00	G9 IIIa
v376 Car	3582	08 57 18.2	-59 16 54	d	4.92	-0.77	-0.19	B2 IV-V
65 $\alpha$ Cnc	3572	08 59 13.5	+11 48 17	d6	4.25	+0.15	+0.14	A5m
9 $\iota$ UMa	3569	09 00 07.6	+47 59 17	d6	3.14	+0.07	+0.19	A7 IVn
64 $\sigma^3$ Cnc	3575	09 00 22.2	+32 21 55	d	5.22	+0.64	+0.92	G8 III
	3591	09 00 35.7	-41 18 24	c6	4.45	+0.38	+0.65	G8/K1 III + A
	3579	09 01 30.7	+41 43 43	od67	3.97	+0.04	+0.43	F7 V
$\alpha$ Vol	3615	09 02 39.4	-66 27 01	6	4.00	+0.13	+0.14	A5m
8 $\rho$ UMa	3576	09 03 44.7	+67 34 33		4.76	+1.88	+1.53	M3 IIIb Ca 1
12 $\kappa$ UMa	3594	09 04 32.5	+47 06 08	d7	3.60	+0.01	0.00	A0 IIIn
	3614	09 04 37.3	-47 09 07		3.75	+1.22	+1.20	K2 III
	3643	09 05 10.5	-72 39 25		4.48	+0.22	+0.61	F8 II
	3612	09 07 23.1	+38 23 51		4.56	+0.82	+1.04	G7 Ib-II
76 $\kappa$ Cnc	3623	09 08 28.6	+10 36 47	d6	5.24	-0.43	-0.11	B8p Hg Mn
$\lambda$ Vel	3634	09 08 29.6	-43 29 15	d	2.21	+1.81	+1.66	K4.5 Ib
15 UMa	3619	09 09 49.0	+51 32 57		4.48	+0.12	+0.27	F0m
77 $\xi$ Cnc	3627	09 10 08.0	+21 59 24	d6	5.14	+0.80	+0.97	G9 IIIa Fe-0.5 CH-1
v357 Car	3659	09 11 19.4	-59 01 21	6	3.44	-0.70	-0.19	B2 IV-V
	3663	09 11 35.1	-62 22 22		3.97	-0.67	-0.18	B3 III
$\beta$ Car	3685	09 13 20.6	-69 46 23		1.68	+0.03	0.00	A1 III
36 Lyn	3652	09 14 40.9	+43 09 41		5.32	-0.48	-0.14	B8p Mn
22 $\theta$ Hya	3665	09 15 03.9	+02 15 24	d6	3.88	-0.12	-0.06	B9.5 IV (C II)
	3696	09 16 35.0	-57 35 54		4.34	+1.98	+1.63	M0.5 III Ba 0.3
$\iota$ Car	3699	09 17 27.1	-59 19 56		2.25	+0.16	+0.18	A7 Ib
38 Lyn	3690	09 19 40.8	+36 44 41	d67	3.82	+0.06	+0.06	A2 IV-
40 $\alpha$ Lyn	3705	09 21 52.4	+34 20 05		3.13	+1.94	+1.55	K7 IIIab
$\theta$ Pyx	3718	09 22 05.5	-26 01 24		4.72	+2.02	+1.63	M0.5 III
$\kappa$ Vel	3734	09 22 31.9	-55 04 07	6	2.50	-0.75	-0.18	B2 IV-V
1 $\kappa$ Leo	3731	09 25 26.3	+26 07 25	d7	4.46	+1.31	+1.23	K2 III
30 $\alpha$ Hya	3748	09 28 15.0	-08 43 04	d	1.98	+1.72	+1.44	K3 II-III
$\epsilon$ Ant	3765	09 29 48.2	-36 00 39	6	4.51	+1.68	+1.44	K3 III
$\psi$ Vel	3786	09 31 14.0	-40 31 35	d7	3.60	-0.03	+0.36	F0 V+
	3803	09 31 38.0	-57 05 39		3.13	+1.89	+1.55	K5 III
	3821	09 31 41.9	-73 08 27		5.47	+1.75	+1.56	K4 III

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
4 λ Leo	3773	09 32 29.3	+22 54 28		4.31	+1.89	+1.54	K4.5 IIIb
23 UMa	3757	09 32 34.8	+63 00 07	d	3.67	+0.10	+0.33	F0 IV
R Car	3816	09 32 35.0	-62 50 56	vd	4 - 10	+0.23	+1.43	gM5e
5 ξ Leo	3782	09 32 40.3	+11 14 22		4.97	+0.86	+1.05	G9.5 III
25 θ UMa	3775	09 33 45.2	+51 36 54	d6	3.17	+0.02	+0.46	F6 IV
	3808	09 33 49.8	-21 10 34		5.01	+0.87	+1.02	K0 III
	3825	09 34 50.2	-59 17 25		4.08	-0.56	+0.01	B5 II
10 SU LMi	3800	09 35 02.8	+36 20 13		4.55	+0.62	+0.92	G7.5 III Fe-0.5
24 DK UMa	3771	09 35 39.2	+69 46 12		4.56	+0.34	+0.77	G5 III-IV
26 UMa	3799	09 35 44.5	+51 59 26		4.50	+0.04	+0.01	A1 Va
	3836	09 37 18.6	-49 24 57	d	4.35	+0.13	+0.17	A5 IV-V
	3751	09 38 55.1	+81 15 54		4.29	+1.72	+1.48	K3 IIIa
	3834	09 39 09.5	+04 35 16		4.68	+1.46	+1.32	K3 III
35 ι Hya	3845	09 40 32.7	-01 12 17		3.91	+1.46	+1.32	K2.5 III
38 κ Hya	3849	09 40 57.2	-14 23 39		5.06	-0.57	-0.15	B5 V
14 ο Leo	3852	09 41 52.2	+09 49 49	cd6	3.52	+0.21	+0.49	F5 II + A5?
16 ψ Leo	3866	09 44 27.9	+13 57 34	d	5.35	+1.95	+1.63	M24+ IIIab
θ Ant	3871	09 44 48.3	-27 49 54	cd7	4.79	+0.35	+0.51	F7 II-III + A8 V
λ Car	3884	09 45 37.1	-62 34 14	v	3.69	+0.85	+1.22	F9-G5 Ib
17 ε Leo	3873	09 46 36.9	+23 42 41		2.98	+0.47	+0.80	G1 II
ν Car	3890	09 47 26.3	-65 08 06	d	3.01	+0.13	+0.27	A6 II
R Leo	3882	09 48 17.0	+11 21 56	v	4 - 11	-0.20	+1.30	gM7e
	3881	09 49 27.3	+45 57 27		5.09	+0.10	+0.62	G0.5 Va
29 ν UMa	3888	09 51 56.3	+58 58 28	vd	3.80	+0.18	+0.28	F0 IV
39 ν <sup>1</sup> Hya	3903	09 52 07.7	-14 54 37		4.12	+0.65	+0.92	G8.5 IIIa
24 μ Leo	3905	09 53 31.7	+25 56 34	s	3.88	+1.39	+1.22	K2 III CN 1 Ca 1
	3923	09 55 30.5	-19 04 26	6	4.94	+1.93	+1.57	K5 III
φ Vel	3940	09 57 20.3	-54 37 57	d	3.54	-0.62	-0.08	B5 Ib
19 LMi	3928	09 58 30.4	+40 59 27	6	5.14	0.00	+0.46	F5 V
η Ant	3947	09 59 27.1	-35 57 22	d	5.23	+0.08	+0.31	F1 III-IV
29 π Leo	3950	10 00 55.6	+07 58 44		4.70	+1.93	+1.60	M2- IIIab
20 LMi	3951	10 01 47.2	+31 51 24		5.36	+0.27	+0.66	G3 Va H8 1
40 ν <sup>2</sup> Hya	3970	10 05 46.9	-13 07 50	6	4.60	-0.27	-0.09	B8 V
30 η Leo	3975	10 08 04.0	+16 41 47	asd	3.52	-0.21	-0.03	A0 Ib
21 LMi	3974	10 08 13.3	+35 10 42		4.48	+0.08	+0.18	A7 V
31 Leo	3980	10 08 37.2	+09 55 51	d	4.37	+1.75	+1.45	K3.5 IIIb Fe-1:
15 α Sex	3981	10 08 37.7	-00 26 17		4.49	-0.07	-0.04	A0 III
32 α Leo	3982	10 09 05.4	+11 54 03	d6	1.35	-0.36	-0.11	B7 Vn
41 λ Hya	3994	10 11 14.8	-12 25 17	d6	3.61	+0.92	+1.01	K0 III CN 0.5
ω Car	4037	10 14 03.4	-70 06 18		3.32	-0.33	-0.08	B8 III <sub>n</sub>
	4023	10 15 18.3	-42 11 21	6	3.85	+0.06	+0.05	A2 Va
36 ξ Leo	4031	10 17 26.3	+23 20 59	das6	3.44	+0.20	+0.31	F0 III
ν337 Car	4050	10 17 32.1	-61 24 00	d	3.40	+1.72	+1.54	K2.5 II
33 λ UMa	4033	10 17 54.3	+42 50 47	s	3.45	+0.06	+0.03	A1 IV
22 ε Sex	4042	10 18 18.1	-08 08 12		5.24	+0.13	+0.31	F1 IV-
AG Ant	4049	10 18 44.8	-29 03 35		5.34		+0.24	A0p Ib-II
41 γ <sup>1</sup> Leo	4057	10 20 42.9	+19 46 22	d6	2.61	+1.00	+1.15	K1- IIIb Fe-0.5
	4080	10 22 54.4	-41 43 06		4.83	+1.08	+1.12	K1 III
34 μ UMa	4069	10 23 07.7	+41 25 52	6	3.05	+1.89	+1.59	M0 III
	4086	10 24 04.9	-38 04 43		5.33		+0.25	A8 V

## BRIGHT STARS, J2013.5

H15

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type	
		h m s	° ' "						
	4102	10 24 39.6	-74 06 02	6	4.00	-0.01	+0.35	F2 V	
	4072	10 25 05.4	+65 29 51	6	4.97	-0.13	-0.06	A0p Hg	
42	$\mu$ Hya	4094	10 26 44.6	-16 54 20		3.81	+1.82	+1.48	K4+ III
	$\alpha$ Ant	4104	10 27 46.3	-31 08 13	6	4.25	+1.63	+1.45	K4.5 III
		4114	10 28 22.6	-58 48 31		3.82	+0.24	+0.31	F0 Ib
31	$\beta$ LMi	4100	10 28 39.6	+36 38 15	d67	4.21	+0.64	+0.90	G9 IIIab
29	$\delta$ Sex	4116	10 30 09.8	-02 48 31		5.21	-0.12	-0.06	B9.5 V
36	UMa	4112	10 31 28.9	+55 54 39	d	4.83	-0.01	+0.52	F8 V
	PP Car	4140	10 32 30.4	-61 45 18		3.32	-0.72	-0.09	B4 Vne
		4084	10 32 37.2	+82 29 20		5.26	-0.05	+0.37	F4 V
46	Leo	4127	10 32 54.9	+14 04 03		5.46	+2.04	+1.68	M1 IIIb
		4143	10 33 31.2	-47 04 23	d7	5.02	+0.59	+1.04	K1/2 III
47	$\rho$ Leo	4133	10 33 31.3	+09 14 12	vd6	3.85	-0.96	-0.14	B1 Iab
44	Hya	4145	10 34 39.5	-23 48 54	d	5.08	+1.82	+1.60	K5 III
	$\gamma$ Cha	4174	10 35 37.1	-78 40 40		4.11	+1.95	+1.58	M0 III
37	UMa	4141	10 36 01.3	+57 00 46		5.16	-0.02	+0.34	F1 V
		4159	10 36 06.6	-57 37 40	6	4.45	+1.79	+1.62	K5 II
		4126	10 36 12.2	+75 38 34		4.84	+0.72	+0.96	G8 III
		4167	10 37 52.4	-48 17 45	d67	3.84	+0.07	+0.30	F0m
37	LMi	4166	10 39 28.6	+31 54 21		4.71	+0.54	+0.81	G2.5 IIa
		4180	10 39 50.8	-55 40 26	d	4.28	+0.75	+1.04	G2 II
	$\theta$ Car	4199	10 43 26.5	-64 27 55	6	2.76	-1.01	-0.22	B0.5 Vp
		4181	10 44 01.0	+69 00 19		5.00	+1.54	+1.38	K3 III
41	LMi	4192	10 44 08.9	+23 07 03		5.08	+0.05	+0.04	A2 IV
		4191	10 44 20.2	+46 07 57	d6	5.18	+0.01	+0.33	F5 III
	$\delta^2$ Cha	4234	10 45 53.8	-80 36 41		4.45	-0.70	-0.19	B2.5 IV
42	LMi	4203	10 46 36.8	+30 36 39	d6	5.24	-0.14	-0.06	A1 Vn
51	Leo	4208	10 47 08.1	+18 49 12		5.50	+1.15	+1.13	gK3
	$\mu$ Vel	4216	10 47 21.2	-49 29 31	cd67	2.69	+0.57	+0.90	G5 III + F8: V
53	Leo	4227	10 49 57.9	+10 28 25	6	5.34	+0.02	+0.03	A2 V
	$\nu$ Hya	4232	10 50 17.5	-16 15 52		3.11	+1.30	+1.25	K1.5 IIIb H $\delta$ -0.5
		4257	10 54 02.8	-58 55 30	d6	3.78	+0.65	+0.95	K0 IIIb
46	LMi	4247	10 54 03.8	+34 08 30		3.83	+0.91	+1.04	K0+ III-IV
54	Leo	4259	10 56 20.5	+24 40 39	cd	4.50	+0.01	+0.01	A1 III <sub>n</sub> + A1 IV <sub>n</sub>
	$\iota$ Ant	4273	10 57 20.9	-37 12 38		4.60	+0.84	+1.03	K0 III
47	UMa	4277	11 00 13.1	+40 21 28		5.05	+0.13	+0.61	G1- V Fe-0.5
7	$\alpha$ CrI	4287	11 00 26.0	-18 22 15		4.08	+1.00	+1.09	K0+ III
		4293	11 00 46.6	-42 17 54		4.39	+0.12	+0.11	A3 IV
58	Leo	4291	11 01 15.5	+03 32 41	d	4.84	+1.12	+1.16	K0.5 III Fe-0.5
48	$\beta$ UMa	4295	11 02 38.9	+56 18 35	6	2.37	+0.01	-0.02	A0m A1 IV-V
60	Leo	4300	11 03 02.9	+20 06 26		4.42	+0.05	+0.05	A0.5m A3 V
50	$\alpha$ UMa	4301	11 04 33.0	+61 40 41	d6	1.80	+0.90	+1.07	K0- IIIa
63	$\chi$ Leo	4310	11 05 42.8	+07 15 46	d7	4.63	+0.08	+0.33	F1 IV
	$\chi^1$ Hya	4314	11 05 59.0	-27 22 00	d7	4.94	+0.04	+0.36	F3 IV
	v382 Car	4337	11 09 10.3	-59 02 54	c6	3.91	+0.94	+1.23	G4 0-Ia
52	$\psi$ UMa	4335	11 10 25.1	+44 25 30		3.01	+1.11	+1.14	K1 III
11	$\beta$ CrI	4343	11 12 19.4	-22 53 59	6	4.48	+0.06	+0.03	A2 IV
		4350	11 13 10.2	-49 10 28	6	5.36		+0.18	A3 IV/V
68	$\delta$ Leo	4357	11 14 49.5	+20 26 58	d	2.56	+0.12	+0.12	A4 IV
70	$\theta$ Leo	4359	11 14 56.8	+15 21 20		3.34	+0.06	-0.01	A2 IV (Kvar)

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
74 $\phi$ Leo	4368	11 17 20.9	-03 43 32	d	4.47	+0.14	+0.21	A7 V+n
SV Crt	4369	11 17 39.3	-07 12 31	sd67	6.14	+0.15	+0.20	A8p Sr Cr
54 $\nu$ UMa	4377	11 19 12.3	+33 01 14	d6	3.48	+1.55	+1.40	K3 <sup>-</sup> III
55 UMa	4380	11 19 51.8	+38 06 41	d6	4.78	+0.03	+0.12	A1 Va
12 $\delta$ Crt	4382	11 20 01.0	-14 51 06	6	3.56	+0.97	+1.12	G9 IIIb CH 0.2
$\pi$ Cen	4390	11 21 37.6	-54 33 54	d7	3.89	-0.59	-0.15	B5 Vn
77 $\sigma$ Leo	4386	11 21 49.9	+05 57 19	6	4.05	-0.12	-0.06	A0 III <sup>+</sup>
78 $\iota$ Leo	4399	11 24 37.6	+10 27 18	d67	3.94	+0.07	+0.41	F2 IV
15 $\gamma$ Crt	4405	11 25 33.5	-17 45 30	d	4.08	+0.11	+0.21	A7 V
84 $\tau$ Leo	4418	11 28 37.9	+02 46 54	d	4.95	+0.79	+1.00	G7.5 IIIa
1 $\lambda$ Dra	4434	11 32 11.5	+69 15 23		3.84	+1.97	+1.62	M0 III Ca-1
$\xi$ Hya	4450	11 33 40.1	-31 55 57	d	3.54	+0.71	+0.94	G7 III
$\lambda$ Cen	4467	11 36 24.6	-63 05 41	d	3.13	-0.17	-0.04	B9.5 IIn
	4466	11 36 35.1	-47 43 00		5.25	+0.12	+0.25	A7m
21 $\theta$ Crt	4468	11 37 22.1	-09 52 37	6	4.70	-0.18	-0.08	B9.5 Vn
91 $\nu$ Leo	4471	11 37 38.4	-00 53 54		4.30	+0.75	+1.00	G8 <sup>+</sup> IIIb
$\omicron$ Hya	4494	11 40 53.2	-34 49 10		4.70	-0.22	-0.07	B9 V
61 UMa	4496	11 41 45.5	+34 07 31	das	5.33	+0.25	+0.72	G8 V
3 Dra	4504	11 43 12.9	+66 40 12		5.30	+1.24	+1.28	K3 III
v810 Cen	4511	11 44 10.3	-62 33 52	s	5.03	+0.35	+0.80	G0 0-Ia Fe 1
27 $\xi$ Crt	4514	11 45 26.9	-18 25 33	d	4.73	+0.74	+0.97	G8 IIIa
$\lambda$ Mus	4520	11 46 15.1	-66 48 13	d	3.64	+0.15	+0.16	A7 IV
3 $\nu$ Vir	4517	11 46 33.2	+06 27 13		4.03	+1.79	+1.51	M1 III
63 $\chi$ UMa	4518	11 46 45.5	+47 42 16		3.71	+1.16	+1.18	K0.5 IIIb
	4522	11 47 10.4	-61 15 13	d	4.11	+0.58	+0.90	G3 II
93 DQ Leo	4527	11 48 40.8	+20 08 38	cd6	4.53	+0.28	+0.55	G4 III-IV + A7 V
II Hya	4532	11 49 26.1	-26 49 30		5.11	+1.67	+1.60	M4 <sup>+</sup> III
94 $\beta$ Leo	4534	11 49 44.8	+14 29 48	d	2.14	+0.07	+0.09	A3 Va
	4537	11 50 20.9	-63 51 49		4.32	-0.59	-0.15	B3 V
5 $\beta$ Vir	4540	11 51 23.9	+01 41 19	d	3.61	+0.11	+0.55	F9 V
	4546	11 51 49.4	-45 14 55		4.46	+1.46	+1.30	K3 III
$\beta$ Hya	4552	11 53 35.6	-33 59 00	vd7	4.28	-0.33	-0.10	Ap Si
64 $\gamma$ UMa	4554	11 54 32.1	+53 37 11	a6	2.44	+0.02	0.00	A0 Van
95 Leo	4564	11 56 22.1	+15 34 18	d6	5.53	+0.12	+0.11	A3 V
30 $\eta$ Crt	4567	11 56 42.3	-17 13 34		5.18	0.00	-0.02	A0 Va
8 $\pi$ Vir	4589	12 01 33.9	+06 32 21	6	4.66	+0.11	+0.13	A5 IV
$\theta^1$ Cru	4599	12 03 43.2	-63 23 17	d6	4.33	+0.04	+0.27	A8m
	4600	12 04 21.8	-42 30 35		5.15	-0.03	+0.41	F6 V
9 $\omicron$ Vir	4608	12 05 53.8	+08 39 29	s	4.12	+0.63	+0.98	G8 IIIa CN-1 Ba 1 CH 1
$\eta$ Cru	4616	12 07 35.7	-64 41 20	d6	4.15	+0.03	+0.34	F2 V <sup>+</sup>
	4618	12 08 47.5	-50 44 11	v	4.47	-0.67	-0.15	B2 IIIne
$\delta$ Cen	4621	12 09 03.8	-50 47 51	d	2.60	-0.90	-0.12	B2 IVne
1 $\alpha$ Crv	4623	12 09 06.7	-24 48 15		4.02	-0.02	+0.32	F0 IV-V
2 $\epsilon$ Crv	4630	12 10 49.3	-22 41 41		3.00	+1.47	+1.33	K2.5 IIIa
$\rho$ Cen	4638	12 12 21.8	-52 26 37		3.96	-0.62	-0.15	B3 V
	4646	12 12 49.0	+77 32 29	v6	5.14	+0.10	+0.33	F2m
$\delta$ Cru	4656	12 15 52.2	-58 49 26		2.80	-0.91	-0.23	B2 IV
69 $\delta$ UMa	4660	12 16 05.3	+56 57 28	d	3.31	+0.07	+0.08	A2 Van
4 $\gamma$ Crv	4662	12 16 30.1	-17 37 01	6	2.59	-0.34	-0.11	B8p Hg Mn
$\epsilon$ Mus	4671	12 18 18.7	-68 02 09	6	4.11	+1.55	+1.58	M5 III

## BRIGHT STARS, J2013.5

H17

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
$\beta$ Cha	4674	12 19 10.0	-79 23 14		4.26	-0.51	-0.12	B5 Vn
$\zeta$ Cru	4679	12 19 10.7	-64 04 41	d	4.04	-0.69	-0.17	B2.5 V
3 CVn	4690	12 20 28.4	+48 54 34		5.29	+1.97	+1.66	M1+ IIIab
15 $\eta$ Vir	4689	12 20 35.8	-00 44 30	d6	3.89	+0.06	+0.02	A1 IV+
16 Vir	4695	12 21 02.1	+03 14 15	d	4.96	+1.15	+1.16	K0.5 IIIb Fe-0.5
$\epsilon$ Cru	4700	12 22 05.8	-60 28 32		3.59	+1.63	+1.42	K3 III
12 Com	4707	12 23 10.9	+25 46 17	cd6	4.81	+0.26	+0.49	G5 III + A5
6 CVn	4728	12 26 30.7	+38 56 38		5.02	+0.73	+0.96	G9 III
$\alpha^1$ Cru	4730	12 27 21.5	-63 10 26	cd6	1.33	-1.03	-0.24	B0.5 IV
15 $\gamma$ Com	4737	12 27 36.5	+28 11 37		4.36	+1.15	+1.13	K1 III Fe 0.5
$\sigma$ Cen	4743	12 28 46.5	-50 18 19		3.91	-0.78	-0.19	B2 V
	4748	12 29 05.8	-39 06 57		5.44	-0.08	-0.08	B8/9 V
7 $\delta$ Crv	4757	12 30 33.9	-16 35 26	d7	2.95	-0.08	-0.05	B9.5 IV <sup>-</sup> n
74 UMa	4760	12 30 34.9	+58 19 54		5.35	+0.14	+0.20	$\delta$ Del
$\gamma$ Cru	4763	12 31 55.4	-57 11 19	d	1.63	+1.78	+1.59	M3.5 III
8 $\eta$ Crv	4775	12 32 46.1	-16 16 14	6	4.31	+0.01	+0.38	F2 V
$\gamma$ Mus	4773	12 33 17.4	-72 12 27		3.87	-0.62	-0.15	B5 V
5 $\kappa$ Dra	4787	12 34 03.1	+69 42 50	v6	3.87	-0.57	-0.13	B6 IIIpe
	4783	12 34 18.7	+33 10 23		5.42	+0.83	+1.00	K0 III CN-1
8 $\beta$ CVn	4785	12 34 22.9	+41 17 03	ads6	4.26	+0.05	+0.59	G0 V
9 $\beta$ Crv	4786	12 35 05.9	-23 28 17		2.65	+0.60	+0.89	G5 IIb
23 Com	4789	12 35 31.4	+22 33 18	d6	4.81	-0.01	0.00	A0m A1 IV
24 Com	4792	12 35 48.3	+18 18 10	d	5.02	+1.11	+1.15	K2 III
$\alpha$ Mus	4798	12 38 00.2	-69 12 35	d	2.69	-0.83	-0.20	B2 IV-V
$\tau$ Cen	4802	12 38 26.8	-48 36 56		3.86	+0.03	+0.05	A1 IVnn
26 $\chi$ Vir	4813	12 39 56.6	-08 04 11	d	4.66	+1.39	+1.23	K2 III CN 1.5
$\gamma$ Cen	4819	12 42 16.1	-49 02 02	d67	2.17	-0.01	-0.01	A1 IV
29 $\gamma^1$ Vir	4825	12 42 20.7	-01 31 24	ocd6	3.48	-0.03	+0.36	F1 V
29 $\gamma^2$ Vir	4826	12 42 20.7	-01 31 22	ocd	3.50	-0.03	+0.36	F0m F2 V
30 $\rho$ Vir	4828	12 42 34.0	+10 09 41	6	4.88	+0.03	+0.09	A0 Va ( $\lambda$ Boo)
	4839	12 44 43.9	-28 23 52		5.48	+1.50	+1.34	K3 III
Y CVn	4846	12 45 45.7	+45 22 00		4.99	+6.33	+2.54	C5,5
32 FM Vir	4847	12 46 18.0	+07 35 59	6	5.22	+0.15	+0.33	F2m
$\beta$ Mus	4844	12 47 07.3	-68 10 54	cd7	3.05	-0.74	-0.18	B2 V + B2.5 V
$\beta$ Cru	4853	12 48 31.1	-59 45 44	vd6	1.25	-1.00	-0.23	B0.5 III
	4874	12 51 25.3	-34 04 22	d	4.91	-0.11	-0.04	A0 IV
31 Com	4883	12 52 21.3	+27 28 03	s	4.94	+0.20	+0.67	G0 IIIp
	4888	12 53 53.1	-49 00 59	6	4.33	+1.58	+1.37	K3/4 III
	4889	12 54 11.3	-40 15 07		4.27	+0.12	+0.21	A7 V
77 $\epsilon$ UMa	4905	12 54 37.2	+55 53 12	dv6	1.77	+0.02	-0.02	A0p Cr
40 $\psi$ Vir	4902	12 55 03.4	-09 36 44		4.79	+1.53	+1.60	M3 <sup>-</sup> III Ca-1
$\mu^1$ Cru	4898	12 55 23.7	-57 15 03	d	4.03	-0.76	-0.17	B2 IV-V
8 Dra	4916	12 56 00.6	+65 21 56	v	5.24	+0.02	+0.28	F0 IV-V
43 $\delta$ Vir	4910	12 56 17.0	+03 19 28	d	3.38	+1.78	+1.58	M3 <sup>+</sup> III
$\iota$ Oct	4870	12 56 32.4	-85 11 46	d	5.46	+0.79	+1.02	K0 III
12 $\alpha^2$ CVn	4915	12 56 39.4	+38 14 45	vd	2.90	-0.32	-0.12	A0p Si Eu
78 UMa	4931	13 01 18.3	+56 17 38	asd7	4.93	+0.01	+0.36	F2 V
47 $\epsilon$ Vir	4932	13 02 50.9	+10 53 13	asd	2.83	+0.73	+0.94	G8 IIIab
$\delta$ Mus	4923	13 03 13.2	-71 37 17	6	3.62	+1.26	+1.18	K2 III
14 CVn	4943	13 06 22.2	+35 43 37		5.25	-0.20	-0.08	B9 V



Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
$\xi^2$ Cen	4942	13 07 42.3	-49 58 42	d6	4.27	-0.79	-0.19	B1.5 V
51 $\theta$ Vir	4963	13 10 39.0	-05 36 39	d6	4.38	-0.01	-0.01	A1 IV
43 $\beta$ Com	4983	13 12 30.1	+27 48 36	d6	4.26	+0.07	+0.57	F9.5 V
$\eta$ Mus	4993	13 16 10.8	-67 57 57	vd6	4.80	-0.35	-0.08	B7 V
	5006	13 17 38.3	-31 34 38		5.10	+0.61	+0.96	K0 III
20 AO CVn	5017	13 18 08.8	+40 30 07	sv	4.73	+0.21	+0.30	F2 III (str. met.)
60 $\sigma$ Vir	5015	13 18 17.2	+05 23 57		4.80	+1.95	+1.67	M1 III
61 Vir	5019	13 19 06.8	-18 23 09	d	4.74	+0.26	+0.71	G6.5 V
46 $\gamma$ Hya	5020	13 19 39.5	-23 14 33	d	3.00	+0.66	+0.92	G8 IIIa
$\iota$ Cen	5028	13 21 21.6	-36 46 59		2.75	+0.03	+0.04	A2 Va
	5035	13 23 30.9	-61 03 31	d	4.53	-0.60	-0.13	B3 V
79 $\zeta$ UMa	5054	13 24 28.0	+54 51 19	d6	2.27	+0.03	+0.02	A1 Va+ (Si)
80 UMa	5062	13 25 45.9	+54 55 04	6	4.01	+0.08	+0.16	A5 Vn
67 $\alpha$ Vir	5056	13 25 54.4	-11 13 53	vd6	0.98	-0.93	-0.23	B1 V
68 Vir	5064	13 27 26.1	-12 46 39		5.25	+1.75	+1.52	M0 III
	5085	13 28 56.7	+59 52 35	d	5.40	-0.02	-0.01	A1 Vn
70 Vir	5072	13 29 05.4	+13 42 25	d	4.98	+0.26	+0.71	G4 V
	5089	13 31 49.9	-39 28 36	d67	3.88	+1.03	+1.17	G8 III
78 CW Vir	5105	13 34 49.0	+03 35 24	v6	4.94	0.00	+0.03	A1p Cr Eu
79 $\zeta$ Vir	5107	13 35 22.9	-00 39 52		3.37	+0.10	+0.11	A2 IV-
BH CVn	5110	13 35 23.9	+37 06 49	6	4.98	+0.06	+0.40	F1 V+
	5139	13 37 30.6	+71 10 26		5.50		+1.20	gK2
$\epsilon$ Cen	5132	13 40 45.1	-53 32 04	d	2.30	-0.92	-0.22	B1 III
v744 Cen	5134	13 40 50.3	-50 01 05	s	6.00	+1.15	+1.50	M6 III
82 Vir	5150	13 42 19.4	-08 46 14		5.01	+1.95	+1.63	M1.5 III
1 Cen	5168	13 46 27.5	-33 06 41	6	4.23	0.00	+0.38	F2 V+
4 $\tau$ Boo	5185	13 47 54.2	+17 23 24	d7	4.50	+0.04	+0.48	F7 V
85 $\eta$ UMa	5191	13 48 04.3	+49 14 46	a6	1.86	-0.67	-0.19	B3 V
v766 Cen	5171	13 48 08.1	-62 39 24	sd	6.51	+1.19	+1.98	K0 0-Ia
5 $\nu$ Boo	5200	13 50 07.7	+15 43 53		4.07	+1.87	+1.52	K5.5 III
2 v806 Cen	5192	13 50 13.9	-34 31 04		4.19	+1.45	+1.50	M4.5 III
$\nu$ Cen	5190	13 50 19.2	-41 45 16	v6	3.41	-0.84	-0.22	B2 IV
$\mu$ Cen	5193	13 50 26.1	-42 32 26	sd6	3.04	-0.72	-0.17	B2 IV-Vpne (shell)
89 Vir	5196	13 50 36.4	-18 12 03		4.97	+0.92	+1.06	K0.5 III
10 CU Dra	5226	13 51 49.6	+64 39 25	d	4.65	+1.89	+1.58	M3.5 III
8 $\eta$ Boo	5235	13 55 19.7	+18 19 50	asd6	2.68	+0.20	+0.58	G0 IV
$\zeta$ Cen	5231	13 56 23.3	-47 21 15	6	2.55	-0.92	-0.22	B2.5 IV
	5241	13 58 38.3	-63 45 08		4.71	+1.04	+1.11	K1.5 III
$\phi$ Cen	5248	13 59 05.8	-42 09 58		3.83	-0.83	-0.21	B2 IV
47 Hya	5250	13 59 16.8	-25 02 15	6	5.15	-0.40	-0.10	B8 V
$\nu^1$ Cen	5249	13 59 31.1	-44 52 08		3.87	-0.80	-0.20	B2 IV-V
93 $\tau$ Vir	5264	14 02 20.1	+01 28 47	d6	4.26	+0.12	+0.10	A3 IV
$\nu^2$ Cen	5260	14 02 34.4	-45 40 06	6	4.34	+0.27	+0.60	F6 II
	5270	14 03 11.6	+09 37 16	s	6.20	+0.38	+0.90	G8: II: Fe-5
11 $\alpha$ Dra	5291	14 04 45.3	+64 18 42	s6	3.65	-0.08	-0.05	A0 III
$\beta$ Cen	5267	14 04 47.2	-60 26 15	d6	0.61	-0.98	-0.23	B1 III
$\theta$ Aps	5261	14 06 41.3	-76 51 39	s	5.50	+1.05	+1.55	M6.5 III:
$\chi$ Cen	5285	14 06 52.5	-41 14 37		4.36	-0.77	-0.19	B2 V
49 $\pi$ Hya	5287	14 07 08.6	-26 44 49		3.27	+1.04	+1.12	K2- III Fe-0.5
5 $\theta$ Cen	5288	14 07 28.9	-36 26 09	d	2.06	+0.87	+1.01	K0- IIIb

## BRIGHT STARS, J2013.5

H19

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type	
		h m s	° ' "						
BY Boo	5299	14 08 28.1	+43 47 26		5.27	+1.66	+1.59	M4.5 III	
4 UMi	5321	14 08 48.9	+77 29 03	d6	4.82	+1.39	+1.36	K3 <sup>-</sup> IIIb Fe-0.5	
12 Boo	5304	14 11 00.9	+25 01 42	d6	4.83	+0.07	+0.54	F8 IV	
98 κ Vir	5315	14 13 37.1	-10 20 10		4.19	+1.47	+1.33	K2.5 III Fe-0.5	
16 α Boo	5340	14 16 16.6	+19 06 45	d	-0.04	+1.27	+1.23	K1.5 III Fe-0.5	
21 ι Boo	5350	14 16 38.6	+51 18 19	d6	4.75	+0.06	+0.20	A7 IV	
99 ι Vir	5338	14 16 43.4	-06 03 52		4.08	+0.04	+0.52	F7 III-IV	
19 λ Boo	5351	14 16 53.8	+46 01 36		4.18	+0.05	+0.08	A0 Va (λ Boo)	
		5361	14 18 34.0	+35 26 52	6	4.81	+0.92	+1.06	K0 III
100 λ Vir	5359	14 19 50.5	-13 25 58	6	4.52	+0.12	+0.13	A5m:	
18 Boo	5365	14 19 55.5	+12 56 33	d	5.41	-0.03	+0.38	F3 V	
ι Lup	5354	14 20 16.5	-46 07 11		3.55	-0.72	-0.18	B2.5 IVn	
		5358	14 21 16.7	-56 26 53		4.33	-0.43	+0.12	B6 Ib
ψ Cen	5367	14 21 23.0	-37 56 48	d	4.05	-0.11	-0.03	A0 III	
v761 Cen	5378	14 23 52.4	-39 34 22	v	4.42	-0.75	-0.18	B7 IIIp (var)	
		5392	14 24 51.7	+05 45 34	6	5.10	+0.10	+0.12	A5 V
		5390	14 25 35.0	-24 52 01		5.32	+0.71	+0.96	K0 III
23 θ Boo	5404	14 25 39.4	+51 47 19	d	4.05	+0.01	+0.50	F7 V	
τ <sup>1</sup> Lup	5395	14 27 00.6	-45 16 54	vd	4.56	-0.79	-0.15	B2 IV	
τ <sup>2</sup> Lup	5396	14 27 03.3	-45 26 23	cd67	4.35	+0.19	+0.43	F4 IV + A7:	
22 Boo	5405	14 27 05.1	+19 10 00		5.39	+0.23	+0.23	F0m	
5 UMi	5430	14 27 30.7	+75 38 09	d	4.25	+1.70	+1.44	K4 <sup>-</sup> III	
105 φ Vir	5409	14 28 54.0	-02 17 16	sd67	4.81	+0.21	+0.70	G2 IV	
52 Hya	5407	14 28 58.1	-29 33 06	d	4.97	-0.41	-0.07	B8 IV	
δ Oct	5339	14 29 14.3	-83 43 41		4.32	+1.45	+1.31	K2 III	
25 ρ Boo	5429	14 32 24.7	+30 18 46	ad	3.58	+1.44	+1.30	K3 III	
27 γ Boo	5435	14 32 37.3	+38 14 59	d	3.03	+0.12	+0.19	A7 IV <sup>+</sup>	
σ Lup	5425	14 33 32.1	-50 30 58		4.42	-0.84	-0.19	B2 III	
28 σ Boo	5447	14 35 16.1	+29 41 13	d	4.46	-0.08	+0.36	F2 V	
η Cen	5440	14 36 22.2	-42 12 59	v7	2.31	-0.83	-0.19	B1.5 IVpne (shell)	
		5453	14 38 48.1	-49 29 02		4.05	-0.56	-0.15	B5 V
33 ρ Boo	5468	14 39 20.4	+44 20 48	6	5.39	-0.04	0.00	A1 V	
α <sup>2</sup> Cen	5460	14 40 31.1	-60 53 25	od	1.33	+0.68	+0.88	K1 V	
α <sup>1</sup> Cen	5459	14 40 31.8	-60 53 25	od6	-0.01	+0.24	+0.71	G2 V	
30 ζ Boo	5478	14 41 47.6	+13 40 16	od6	4.52	+0.05	+0.05	A2 Va	
		5471	14 42 48.2	-37 51 02		4.00	-0.70	-0.17	B3 V
α Lup	5469	14 42 50.0	-47 26 43	vd6	2.30	-0.89	-0.20	B1.5 III	
α Cir	5463	14 43 36.8	-65 01 59	d6	3.19	+0.12	+0.24	A7p Sr Eu	
107 μ Vir	5487	14 43 46.4	-05 42 58	6	3.88	-0.02	+0.38	F2 V	
34 W Boo	5490	14 44 01.0	+26 28 16	v	4.81	+1.94	+1.66	M3 <sup>-</sup> III	
		5485	14 44 29.2	-35 13 52		4.05	+1.53	+1.35	K3 IIIb
36 ε Boo	5506	14 45 34.6	+27 01 04	d	2.70	+0.73	+0.97	K0 <sup>-</sup> II-III	
109 Vir	5511	14 46 55.9	+01 50 12		3.72	-0.03	-0.01	A0 IVnn	
		5495	14 47 58.4	-52 26 23	d	5.21		+0.98	G8 III
56 Hya	5516	14 48 32.3	-26 08 36		5.24	+0.65	+0.94	G8/K0 III	
		5470	14 49 35.9	-79 06 02		3.83	+1.68	+1.43	K3 III CN 0.5
7 β UMi	5563	14 50 40.7	+74 06 01	d	2.08	+1.78	+1.47	K4 <sup>-</sup> III	
58 Hya	5526	14 51 05.1	-28 00 57		4.41	+1.49	+1.40	K2.5 IIIb Fe-1:	
8 α <sup>1</sup> Lib	5530	14 51 26.1	-16 03 09		5.15	-0.03	+0.41	F3 V	
9 α <sup>2</sup> Lib	5531	14 51 37.7	-16 05 50	d6	2.75	+0.09	+0.15	A3 III-IV	

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
	5552	14 51 47.1	+59 14 22		5.46	+1.60	+1.36	K4 III
<i>o</i> Lup	5528	14 52 31.5	-43 37 49	d67	4.32	-0.61	-0.15	B5 IV
	5558	14 56 34.7	-33 54 35	d6	5.32		+0.04	A0 V
15 $\xi^2$ Lib	5564	14 57 30.2	-11 27 48		5.46	+1.70	+1.49	gK4
RR UMi	5589	14 57 48.1	+65 52 44	6	4.60	+1.59	+1.59	M4.5 III
16 Lib	5570	14 57 53.4	-04 24 03		4.49	+0.05	+0.32	F0 IV-
$\beta$ Lup	5571	14 59 25.3	-43 11 15		2.68	-0.87	-0.22	B2 IV
$\kappa$ Cen	5576	15 00 02.7	-42 09 27	d	3.13	-0.79	-0.20	B2 V
19 $\delta$ Lib	5586	15 01 41.7	-08 34 18	vd6	4.92	-0.10	0.00	B9.5 V
42 $\beta$ Boo	5602	15 02 27.3	+40 20 16		3.50	+0.72	+0.97	G8 IIIa Fe-0.5
110 Vir	5601	15 03 35.0	+02 02 20		4.40	+0.88	+1.04	K0+ IIIb Fe-0.5
20 $\sigma$ Lib	5603	15 04 51.8	-25 20 03		3.29	+1.94	+1.70	M2.5 III
43 $\psi$ Boo	5616	15 05 01.5	+26 53 44		4.54	+1.33	+1.24	K2 III
	5635	15 06 39.9	+54 30 17		5.25	+0.64	+0.96	G8 III Fe-1
45 Boo	5634	15 07 53.7	+24 49 02	d	4.93	-0.02	+0.43	F5 V
$\lambda$ Lup	5626	15 09 45.5	-45 19 51	d67	4.05	-0.68	-0.18	B3 V
$\kappa^1$ Lup	5646	15 12 52.8	-48 47 17	d	3.87	-0.13	-0.05	B9.5 IVnn
24 $\iota$ Lib	5652	15 12 59.6	-19 50 31	d6	4.54	-0.35	-0.08	B9p Si
$\zeta$ Lup	5649	15 13 15.7	-52 08 59	d	3.41	+0.66	+0.92	G8 III
	5691	15 14 48.0	+67 17 44		5.13	+0.08	+0.53	F8 V
1 Lup	5660	15 15 27.1	-31 34 07		4.91	+0.28	+0.37	F0 Ib-II
3 Ser	5675	15 15 51.7	+04 53 24	d	5.33	+0.91	+1.09	gK0
49 $\delta$ Boo	5681	15 16 02.8	+33 15 54	d6	3.47	+0.66	+0.95	G8 III Fe-1
27 $\beta$ Lib	5685	15 17 44.1	-09 25 55	6	2.61	-0.36	-0.11	B8 IIIn
$\beta$ Cir	5670	15 18 34.9	-58 51 02		4.07	+0.09	+0.09	A3 Vb
2 Lup	5686	15 18 39.3	-30 11 51		4.34	+1.07	+1.10	K0- IIIa CH-1
$\mu$ Lup	5683	15 19 28.7	-47 55 26	d7	4.27	-0.37	-0.08	B8 V
$\gamma$ TrA	5671	15 20 11.3	-68 43 41		2.89	-0.02	0.00	A1 III
13 $\gamma$ UMi	5735	15 20 43.0	+71 47 09		3.05	+0.12	+0.05	A3 III
$\delta$ Lup	5695	15 22 15.8	-40 41 44		3.22	-0.89	-0.22	B1.5 IVn
$\phi^1$ Lup	5705	15 22 40.0	-36 18 34	d	3.56	+1.88	+1.54	K4 III
$\epsilon$ Lup	5708	15 23 36.2	-44 44 14	d67	3.37	-0.75	-0.18	B2 IV-V
$\phi^2$ Lup	5712	15 24 01.3	-36 54 21		4.54	-0.63	-0.15	B4 V
$\gamma$ Cir	5704	15 24 27.8	-59 22 06	cd7	4.51	-0.35	+0.19	B5 IV
51 $\mu^1$ Boo	5733	15 25 00.0	+37 19 49	d6	4.31	+0.07	+0.31	F0 IV
12 $\iota$ Dra	5744	15 25 13.9	+58 55 09	d	3.29	+1.22	+1.16	K2 III
9 $\tau^1$ Ser	5739	15 26 25.0	+15 22 53		5.17	+1.95	+1.66	M1 IIIa
3 $\beta$ CrB	5747	15 28 23.1	+29 03 35	vd6	3.68	+0.11	+0.28	F0p Cr Eu
52 $\nu^1$ Boo	5763	15 31 24.9	+40 47 15		5.02	+1.90	+1.59	K4.5 IIIb Ba 0.5
$\kappa^1$ Aps	5730	15 33 00.7	-73 26 05	d	5.49	-0.77	-0.12	B1pne
4 $\theta$ CrB	5778	15 33 28.5	+31 18 51	d	4.14	-0.54	-0.13	B6 Vnn
37 Lib	5777	15 34 55.1	-10 06 36		4.62	+0.86	+1.01	K1 III-IV
5 $\alpha$ CrB	5793	15 35 15.6	+26 40 12	6	2.23	-0.02	-0.02	A0 IV
13 $\delta$ Ser	5789	15 35 26.9	+10 29 40	cd	4.23	+0.12	+0.26	F0 III-IV + F0 IIIb
$\gamma$ Lup	5776	15 36 02.7	-41 12 40	dv67	2.78	-0.82	-0.20	B2 IVn
38 $\gamma$ Lib	5787	15 36 17.0	-14 50 01	d	3.91	+0.74	+1.01	G8.5 III
	5784	15 37 07.9	-44 26 28		5.43	+1.82	+1.50	K4/5 III
39 $\nu$ Lib	5794	15 37 50.8	-28 10 44	d	3.58	+1.58	+1.38	K3.5 III
$\epsilon$ TrA	5771	15 37 58.2	-66 21 40	d	4.11	+1.16	+1.17	K1/2 III
54 $\phi$ Boo	5823	15 38 18.7	+40 18 36		5.24	+0.53	+0.88	G7 III-IV Fe-2

## BRIGHT STARS, J2013.5

H21

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
$\omega$ Lup	5797	15 38 58.1	-42 36 38	d6	4.33	+1.72	+1.42	K4.5 III
40 $\tau$ Lib	5812	15 39 29.3	-29 49 16	6	3.66	-0.70	-0.17	B2.5 V
	5798	15 39 50.1	-52 24 58	d	5.44	0.00	0.00	B9 V
43 $\kappa$ Lib	5838	15 42 43.6	-19 43 18	d6	4.74	+1.95	+1.57	M0 <sup>-</sup> IIIb
8 $\gamma$ CrB	5849	15 43 18.6	+26 15 13	d7	3.84	-0.04	0.00	A0 IV comp.?
16 $\zeta$ UMi	5903	15 43 36.1	+77 45 09		4.32	+0.05	+0.04	A2 III-IVn
24 $\alpha$ Ser	5854	15 44 56.0	+06 23 02	d	2.65	+1.24	+1.17	K2 IIIb CN 1
28 $\beta$ Ser	5867	15 46 48.7	+15 22 49	d	3.67	+0.08	+0.06	A2 IV
	5886	15 46 52.5	+62 33 29		5.19	-0.10	+0.04	A2 IV
27 $\lambda$ Ser	5868	15 47 06.0	+07 18 42	6	4.43	+0.11	+0.60	G0 <sup>-</sup> V
35 $\kappa$ Ser	5879	15 49 20.9	+18 06 02		4.09	+1.95	+1.62	M0.5 IIIab
10 $\delta$ CrB	5889	15 50 09.6	+26 01 40	s	4.62	+0.36	+0.80	G5 III-IV Fe-1
32 $\mu$ Ser	5881	15 50 19.5	-03 28 14	d6	3.53	-0.10	-0.04	A0 III
37 $\epsilon$ Ser	5892	15 51 29.4	+04 26 16		3.71	+0.11	+0.15	A5m
11 $\kappa$ CrB	5901	15 51 44.5	+35 36 58	sd	4.82	+0.87	+1.00	K1 IVa
5 $\chi$ Lup	5883	15 51 49.2	-33 40 02	6	3.95	-0.13	-0.04	B9p Hg
1 $\chi$ Her	5914	15 53 08.6	+42 24 52		4.62	0.00	+0.56	F8 V Fe-2 H $\delta$ -1
45 $\lambda$ Lib	5902	15 54 07.2	-20 12 23	6	5.03	-0.56	-0.01	B2.5 V
46 $\theta$ Lib	5908	15 54 35.8	-16 46 05		4.15	+0.81	+1.02	G9 IIIb
$\beta$ TrA	5897	15 56 20.6	-63 28 16	d	2.85	+0.05	+0.29	F0 IV
41 $\gamma$ Ser	5933	15 57 04.6	+15 37 06	d	3.85	-0.03	+0.48	F6 V
5 $\rho$ Sco	5928	15 57 43.3	-29 15 09	d6	3.88	-0.82	-0.20	B2 IV-V
CL Dra	5960	15 58 06.7	+54 42 43	6	4.95	+0.05	+0.26	F0 IV
13 $\epsilon$ CrB	5947	15 58 08.8	+26 50 22	sd	4.15	+1.28	+1.23	K2 IIIab
48 FX Lib	5941	15 58 56.8	-14 19 03	6	4.88	-0.20	-0.10	B5 IIIpe (shell)
6 $\pi$ Sco	5944	15 59 40.3	-26 09 07	cvd6	2.89	-0.91	-0.19	B1 V + B2 V
T CrB	5958	16 00 04.1	+25 52 57	vd6	2 - 11	+0.59	+1.40	gM3: + Bep
	5943	16 00 25.7	-41 46 55		4.99		+1.00	K0 II/III
$\eta$ Lup	5948	16 01 01.2	-38 26 03	d	3.41	-0.83	-0.22	B2.5 IVn
49 Lib	5954	16 01 05.2	-16 34 20	d6	5.47	+0.03	+0.52	F8 V
7 $\delta$ Sco	5953	16 01 08.0	-22 39 33	d6	2.32	-0.91	-0.12	B0.3 IV
13 $\theta$ Dra	5986	16 02 08.6	+58 31 46	6	4.01	+0.10	+0.52	F8 IV-V
8 $\beta^1$ Sco	5984	16 06 13.4	-19 50 29	d6	2.62	-0.87	-0.07	B0.5 V
8 $\beta^2$ Sco	5985	16 06 13.7	-19 50 16	sd	4.92	-0.70	-0.02	B2 V
$\delta$ Nor	5980	16 07 27.0	-45 12 31		4.72	+0.15	+0.23	A7m
$\theta$ Lup	5987	16 07 28.9	-36 50 17		4.23	-0.70	-0.17	B2.5 Vn
9 $\omega^1$ Sco	5993	16 07 35.9	-20 42 17	s	3.96	-0.81	-0.04	B1 V
10 $\omega^2$ Sco	5997	16 08 12.0	-20 54 15		4.32	+0.50	+0.84	G4 II-III
7 $\kappa$ Her	6008	16 08 41.1	+17 00 42	d	5.00	+0.61	+0.95	G5 III
11 $\phi$ Her	6023	16 09 11.7	+44 54 00	v6	4.26	-0.28	-0.07	B9p Hg Mn
16 $\tau$ CrB	6018	16 09 28.0	+36 27 26	d6	4.76	+0.86	+1.01	K1 <sup>-</sup> III-IV
19 UMi	6079	16 10 27.4	+75 50 35		5.48	-0.36	-0.11	B8 V
14 $\nu$ Sco	6027	16 12 46.9	-19 29 41	d6	4.01	-0.65	+0.04	B2 IVp
$\kappa$ Nor	6024	16 14 33.0	-54 39 51	d	4.94	+0.78	+1.04	G8 III
1 $\delta$ Oph	6056	16 15 03.3	-03 43 41	d	2.74	+1.96	+1.58	M0.5 III
$\delta$ TrA	6030	16 16 40.6	-63 43 07	d	3.85	+0.86	+1.11	G2 Ib-IIa
21 $\eta$ UMi	6116	16 17 07.5	+75 43 25	d	4.95	+0.08	+0.37	F5 V
2 $\epsilon$ Oph	6075	16 19 02.2	-04 43 28	d	3.24	+0.75	+0.96	G9.5 IIIb Fe-0.5
22 $\tau$ Her	6092	16 20 08.8	+46 16 54	vd	3.89	-0.56	-0.15	B5 IV
	6077	16 20 24.1	-30 56 18	d6	5.49	-0.01	+0.47	F6 III

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
$\gamma^2$ Nor	6072	16 20 51.3	-50 11 14	d	4.02	+1.16	+1.08	K1+ III
20 $\sigma$ Sco	6084	16 22 00.7	-25 37 27	vd6	2.89	-0.70	+0.13	B1 III
$\delta^1$ Aps	6020	16 22 24.4	-78 43 38	d	4.68	+1.69	+1.69	M4 IIIa
20 $\gamma$ Her	6095	16 22 31.0	+19 07 20	d6	3.75	+0.18	+0.27	A9 IIIbn
50 $\sigma$ Ser	6093	16 22 45.4	+00 59 53		4.82	+0.04	+0.34	F1 IV-V
14 $\eta$ Dra	6132	16 24 10.6	+61 29 02	d67	2.74	+0.70	+0.91	G8- IIIab
4 $\psi$ Oph	6104	16 24 53.7	-20 04 05		4.50	+0.82	+1.01	K0- II-III
24 $\omega$ Her	6117	16 26 02.4	+14 00 11	vd	4.57	-0.04	0.00	B9p Cr
7 $\chi$ Oph	6118	16 27 48.5	-18 29 09	6	4.42	-0.75	+0.28	B1.5 Ve
15 Dra	6161	16 27 57.8	+68 44 20		5.00	-0.12	-0.06	B9.5 III
$\epsilon$ Nor	6115	16 28 10.7	-47 35 04	d67	4.46	-0.53	-0.07	B4 V
$\zeta$ TrA	6098	16 29 56.1	-70 06 47	6	4.91	+0.04	+0.55	F9 V
21 $\alpha$ Sco	6134	16 30 14.2	-26 27 39	d6	0.96	+1.34	+1.83	M1.5 Iab-Ib
27 $\beta$ Her	6148	16 30 48.1	+21 27 39	d6	2.77	+0.69	+0.94	G7 IIIa Fe-0.5
10 $\lambda$ Oph	6149	16 31 35.7	+01 57 19	d67	3.82	+0.01	+0.01	A1 IV
8 $\phi$ Oph	6147	16 31 54.8	-16 38 28	d	4.28	+0.72	+0.92	G8+ IIIa
	6143	16 32 16.0	-34 43 57		4.23	-0.80	-0.16	B2 III-IV
9 $\omega$ Oph	6153	16 32 56.3	-21 29 39		4.45	+0.13	+0.13	Ap Sr Cr
35 $\sigma$ Her	6168	16 34 32.3	+42 24 35	d6	4.20	-0.10	-0.01	A0 IIIn
$\gamma$ Aps	6102	16 35 33.7	-78 55 29	6	3.89	+0.62	+0.91	G8/K0 III
23 $\tau$ Sco	6165	16 36 43.5	-28 14 35	s	2.82	-1.03	-0.25	B0 V
	6166	16 37 15.9	-35 16 55	6	4.16	+1.94	+1.57	K7 III
13 $\zeta$ Oph	6175	16 37 54.2	-10 35 36		2.56	-0.86	+0.02	O9.5 Vn
42 Her	6200	16 39 06.9	+48 54 09	d	4.90	+1.76	+1.55	M3- IIIab
40 $\zeta$ Her	6212	16 41 47.7	+31 34 44	d67	2.81	+0.21	+0.65	G0 IV
	6196	16 42 21.3	-17 46 02		4.96	+0.87	+1.11	G7.5 II-III CN 1 Ba 0.5
44 $\eta$ Her	6220	16 43 21.6	+38 53 50	d	3.53	+0.60	+0.92	G7 III Fe-1
22 $\epsilon$ UMi	6322	16 44 37.9	+82 00 48	vd6	4.23	+0.55	+0.89	G5 III
$\beta$ Aps	6163	16 45 02.1	-77 32 36	d	4.24	+0.95	+1.06	K0 III
	6237	16 45 33.3	+56 45 29	d6	4.85	-0.06	+0.38	F2 V+
$\alpha$ TrA	6217	16 50 06.3	-69 03 02		1.92	+1.56	+1.44	K2 IIb-IIIa
20 Oph	6243	16 50 34.9	-10 48 21	6	4.65	+0.07	+0.47	F7 III
$\eta$ Ara	6229	16 50 57.4	-59 03 50	d	3.76	+1.94	+1.57	K5 III
26 $\epsilon$ Sco	6241	16 51 02.4	-34 19 00		2.29	+1.27	+1.15	K2 III
51 Her	6270	16 52 18.9	+24 38 04		5.04	+1.29	+1.25	K0.5 IIIa Ca 0.5
$\mu^1$ Sco	6247	16 52 47.2	-38 04 10	v6	3.08	-0.87	-0.20	B1.5 IVn
$\mu^2$ Sco	6252	16 53 15.1	-38 02 22		3.57	-0.85	-0.21	B2 IV
53 Her	6279	16 53 28.8	+31 40 48	d	5.32	-0.02	+0.29	F2 V
25 $\iota$ Oph	6281	16 54 38.8	+10 08 38	6	4.38	-0.32	-0.08	B8 V
$\zeta^2$ Sco	6271	16 55 32.2	-42 22 59		3.62	+1.65	+1.37	K3.5 IIIb
27 $\kappa$ Oph	6299	16 58 18.5	+09 21 18	as	3.20	+1.18	+1.15	K2 III
$\zeta$ Ara	6285	16 59 44.5	-56 00 36		3.13	+1.97	+1.60	K4 III
$e^1$ Ara	6295	17 00 39.8	-53 10 47		4.06	+1.71	+1.45	K4 IIIab
58 $\epsilon$ Her	6324	17 00 48.4	+30 54 26	d6	3.92	-0.10	-0.01	A0 IV+
30 Oph	6318	17 01 46.4	-04 14 31	d	4.82	+1.83	+1.48	K4 III
59 Her	6332	17 02 06.3	+33 32 58		5.25	+0.02	+0.02	A3 IV-Vs
60 Her	6355	17 06 00.3	+12 43 23	d	4.91	+0.05	+0.12	A4 IV
22 $\zeta$ Dra	6396	17 08 49.7	+65 41 53	d	3.17	-0.43	-0.12	B6 III
35 $\eta$ Oph	6378	17 11 09.2	-15 44 26	d67	2.43	+0.09	+0.06	A2 Va+ (Sr)
$\eta$ Sco	6380	17 13 07.3	-43 15 20		3.33	+0.09	+0.41	F2 V:p (Cr)

## BRIGHT STARS, J2013.5

H23

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
64 $\alpha^1$ Her	6406	17 15 15.8	+14 22 33	sd	3.48	+1.01	+1.44	M5 Ib-II
67 $\pi$ Her	6418	17 15 31.1	+36 47 41		3.16	+1.66	+1.44	K3 II
65 $\delta$ Her	6410	17 15 35.2	+24 49 27	d6	3.14	+0.08	+0.08	A1 Vann
v656 Her	6452	17 20 54.6	+18 02 38		5.00	+2.06	+1.62	M1+ IIIab
72 Her	6458	17 21 09.9	+32 27 04	d	5.39	+0.07	+0.62	G0 V
53 $\nu$ Ser	6446	17 21 35.3	-12 51 34	d7	4.33	+0.05	+0.03	A1.5 IV
40 $\xi$ Oph	6445	17 21 49.0	-21 07 35	d7	4.39	-0.05	+0.39	F2 V
42 $\theta$ Oph	6453	17 22 50.4	-25 00 43	dv6	3.27	-0.86	-0.22	B2 IV
$\iota$ Aps	6411	17 23 36.6	-70 08 07	d7	5.41	-0.23	-0.04	B8/9 Vn
$\beta$ Ara	6461	17 26 25.5	-55 32 28		2.85	+1.56	+1.46	K3 Ib-IIa
$\gamma$ Ara	6462	17 26 32.0	-56 23 20	d	3.34	-0.96	-0.13	B1 Ib
49 $\sigma$ Oph	6498	17 27 11.1	+04 07 46	s	4.34	+1.62	+1.50	K2 II
44 Oph	6486	17 27 11.7	-24 11 12		4.17	+0.12	+0.28	A9m:
	6493	17 27 20.9	-05 05 51	6	4.54	-0.03	+0.39	F2 V
23 $\delta$ UMi	6789	17 27 55.3	+86 34 37		4.36	+0.03	+0.02	A1 Van
45 Oph	6492	17 28 13.1	-29 52 41		4.29	+0.09	+0.40	$\delta$ Del
23 $\beta$ Dra	6536	17 30 44.3	+52 17 31	sd	2.79	+0.64	+0.98	G2 Ib-IIa
76 $\lambda$ Her	6526	17 31 17.1	+26 06 04		4.41	+1.68	+1.44	K3.5 III
34 $\nu$ Sco	6508	17 31 41.0	-37 18 19	6	2.69	-0.82	-0.22	B2 IV
27 Dra	6566	17 31 54.7	+68 07 35	d6	5.05	+0.92	+1.08	G9 IIIb
$\delta$ Ara	6500	17 32 19.2	-60 41 36	d	3.62	-0.31	-0.10	B8 Vn
24 $\nu^1$ Dra	6554	17 32 26.6	+55 10 31	6	4.88	+0.04	+0.26	A7m
25 $\nu^2$ Dra	6555	17 32 32.0	+55 09 51	d6	4.87	+0.06	+0.28	A7m
$\alpha$ Ara	6510	17 32 53.2	-49 53 08	d6	2.95	-0.69	-0.17	B2 Vne
35 $\lambda$ Sco	6527	17 34 31.6	-37 06 45	vd6	1.63	-0.89	-0.22	B1.5 IV
55 $\alpha$ Oph	6556	17 35 33.7	+12 33 04	6	2.08	+0.10	+0.15	A5 Vnn
28 $\omega$ Dra	6596	17 36 52.4	+68 45 06	d6	4.80	-0.01	+0.43	F4 V
	6546	17 37 28.7	-38 38 37		4.29	+0.90	+1.09	G8/K0 III/IV
$\theta$ Sco	6553	17 38 17.4	-43 00 18		1.87	+0.22	+0.40	F1 III
55 $\xi$ Ser	6561	17 38 21.6	-15 24 22	d6	3.54	+0.14	+0.26	F0 IIIb
85 $\iota$ Her	6588	17 39 50.8	+45 59 59	svd6	3.80	-0.69	-0.18	B3 IV
31 $\psi$ Dra	6636	17 41 42.1	+72 08 31	d	4.58	+0.01	+0.42	F5 V
56 $\sigma$ Ser	6581	17 42 10.4	-12 52 53	6	4.26	+0.10	+0.08	A2 Va
$\kappa$ Sco	6580	17 43 25.4	-39 02 08	v6	2.41	-0.89	-0.22	B1.5 III
84 Her	6608	17 43 54.8	+24 19 22	s	5.71	+0.27	+0.65	G2 IIIb
60 $\beta$ Oph	6603	17 44 08.4	+04 33 45		2.77	+1.24	+1.16	K2 III CN 0.5
58 Oph	6595	17 44 14.4	-21 41 19		4.87	-0.03	+0.47	F7 V:
$\mu$ Ara	6585	17 45 13.1	-51 50 23		5.15	+0.24	+0.70	G5 V
86 $\mu$ Her	6623	17 46 59.3	+27 42 49	asd	3.42	+0.39	+0.75	G5 IV
$\eta$ Pav	6582	17 47 03.6	-64 43 43		3.62	+1.17	+1.19	K1 IIIa CN 1
3 X Sgr	6616	17 48 24.6	-27 50 05	v	4.54	+0.50	+0.80	F3 II
$\iota^1$ Sco	6615	17 48 31.8	-40 07 51	sd6	3.03	+0.27	+0.51	F2 Ia
62 $\gamma$ Oph	6629	17 48 34.2	+02 42 11	6	3.75	+0.04	+0.04	A0 Van
35 Dra	6701	17 48 50.9	+76 57 37		5.04	+0.08	+0.49	F7 IV
	6630	17 50 46.6	-37 02 47	d	3.21	+1.19	+1.17	K2 III
32 $\xi$ Dra	6688	17 53 45.8	+56 52 15	d	3.75	+1.21	+1.18	K2 III
89 v441 Her	6685	17 55 57.9	+26 02 55	sv6	5.45	+0.26	+0.34	F2 lbp
91 $\theta$ Her	6695	17 56 43.0	+37 14 58		3.86	+1.46	+1.35	K1 IIa CN 2
33 $\gamma$ Dra	6705	17 56 55.2	+51 29 16	asd	2.23	+1.87	+1.52	K5 III
92 $\xi$ Her	6703	17 58 17.4	+29 14 50	v	3.70	+0.70	+0.94	G8.5 III

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
94 $\nu$ Her	6707	17 59 01.2	+30 11 20	d	4.41	+0.15	+0.39	F2m
64 $\nu$ Oph	6698	17 59 46.2	-09 46 27		3.34	+0.88	+0.99	G9 IIIa
93 Her	6713	18 00 39.5	+16 45 04		4.67	+1.22	+1.26	K0.5 IIb
67 Oph	6714	18 01 19.3	+02 55 55	sd	3.97	-0.62	+0.02	B5 Ib
68 Oph	6723	18 02 26.3	+01 18 21	d67	4.45	0.00	+0.02	A0.5 Van
W Sgr	6742	18 05 53.0	-29 34 42	vd6	4.69	+0.52	+0.78	G0 Ib/II
70 Oph	6752	18 06 08.1	+02 29 54	dv67	4.03	+0.54	+0.86	K0 <sup>-</sup> V
10 $\gamma$ Sgr	6746	18 06 40.5	-30 25 22	6	2.99	+0.77	+1.00	K0 <sup>+</sup> III
$\theta$ Ara	6743	18 07 40.9	-50 05 21		3.66	-0.85	-0.08	B2 Ib
	6791	18 07 53.2	+43 27 51	s6	5.00	+0.71	+0.91	G8 III CN-1 CH-3
72 Oph	6771	18 07 59.4	+09 34 00	d6	3.73	+0.10	+0.12	A5 IV-V
103 $o$ Her	6779	18 08 04.2	+28 45 54	d6	3.83	-0.07	-0.03	A0 II-III
102 Her	6787	18 09 20.1	+20 49 03	d	4.36	-0.81	-0.16	B2 IV
$\pi$ Pav	6745	18 09 52.8	-63 39 59	6	4.35	+0.18	+0.22	A7p Sr
$\epsilon$ Tel	6783	18 12 13.9	-45 57 03	d	4.53	+0.78	+1.01	K0 III
36 Dra	6850	18 13 58.5	+64 24 07	d	5.02	-0.06	+0.41	F5 V
13 $\mu$ Sgr	6812	18 14 34.3	-21 03 15	d6	3.86	-0.49	+0.23	B9 Ia
	6819	18 18 15.7	-56 01 03	6	5.33	-0.69	-0.05	B3 IIIpe
$\eta$ Sgr	6832	18 18 32.4	-36 45 23	d7	3.11	+1.71	+1.56	M3.5 IIIab
1 $\kappa$ Lyr	6872	18 20 20.1	+36 04 17		4.33	+1.19	+1.17	K2 <sup>-</sup> IIIab CN 0.5
43 $\phi$ Dra	6920	18 20 33.7	+71 20 41	vd67	4.22	-0.33	-0.10	A0p Si
44 $\chi$ Dra	6927	18 20 48.7	+72 44 18	d6	3.57	-0.06	+0.49	F7 V
74 Oph	6866	18 21 32.5	+03 23 03	d	4.86	+0.62	+0.91	G8 III
19 $\delta$ Sgr	6859	18 21 51.5	-29 49 16	d	2.70	+1.55	+1.38	K2.5 IIIa CN 0.5
58 $\eta$ Ser	6869	18 22 00.5	-02 53 40	d	3.26	+0.66	+0.94	K0 III-IV
109 Her	6895	18 24 16.4	+21 46 36	sd	3.84	+1.17	+1.18	K2 IIIab
$\xi$ Pav	6855	18 24 28.2	-61 29 10	d67	4.36	+1.55	+1.48	K4 III
20 $\epsilon$ Sgr	6879	18 25 04.1	-34 22 37	d	1.85	-0.13	-0.03	A0 II <sup>-</sup> n (shell)
$\alpha$ Tel	6897	18 27 58.4	-45 57 35		3.51	-0.64	-0.17	B3 IV
22 $\lambda$ Sgr	6913	18 28 48.2	-25 24 47		2.81	+0.89	+1.04	K1 IIIb
$\zeta$ Tel	6905	18 29 52.2	-49 03 43		4.13	+0.82	+1.02	G8/K0 III
$\gamma$ Sct	6930	18 29 58.0	-14 33 22		4.70	+0.06	+0.06	A2 III <sup>-</sup>
60 Ser	6935	18 30 23.1	-01 58 32	6	5.39	+0.76	+0.96	K0 III
$\theta$ Cra	6951	18 34 28.0	-42 18 05		4.64	+0.76	+1.01	G8 III
$\alpha$ Sct	6973	18 35 56.5	-08 14 01		3.85	+1.54	+1.33	K3 III
	6985	18 37 06.5	+09 08 02	6	5.39	-0.02	+0.37	F5 IIIs
3 $\alpha$ Lyr	7001	18 37 23.8	+38 47 49	asd	0.03	-0.01	0.00	A0 Va
$\delta$ Sct	7020	18 43 00.8	-09 02 19	vd6	4.72	+0.14	+0.35	F2 III (str. met.)
$\epsilon$ Sct	7032	18 44 15.4	-08 15 39	d	4.90	+0.87	+1.12	G8 IIb
$\zeta$ Pav	6982	18 44 36.3	-71 24 52	d	4.01	+1.02	+1.14	K0 III
6 $\zeta^1$ Lyr	7056	18 45 14.3	+37 37 12	d6	4.36	+0.16	+0.19	A5m
50 Dra	7124	18 45 55.7	+75 26 57	6	5.35	+0.04	+0.05	A1 Vn
110 Her	7061	18 46 14.6	+20 33 36	d	4.19	+0.01	+0.46	F6 V
27 $\phi$ Sgr	7039	18 46 29.9	-26 58 33	6	3.17	-0.36	-0.11	B8 III
	7064	18 46 37.1	+26 40 38		4.83	+1.23	+1.20	K2 III
111 Her	7069	18 47 37.1	+18 11 51	d6	4.36	+0.07	+0.13	A3 Va <sup>+</sup>
$\beta$ Sct	7063	18 47 53.4	-04 43 57	6	4.22	+0.81	+1.10	G4 IIa
R Sct	7066	18 48 12.2	-05 41 23	s	5.20	+1.64	+1.47	K0 Ib:p Ca-1
$\eta^1$ CrA	7062	18 49 48.9	-43 39 51		5.49		+0.13	A2 Vn
10 $\beta$ Lyr	7106	18 50 34.7	+33 22 44	cvd6	3.45	-0.56	0.00	B7 Vpe (shell)

## BRIGHT STARS, J2013.5

H25

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
47 <i>o</i> Dra	7125	18 51 24.0	+59 24 18	dv6	4.66	+1.04	+1.19	G9 III Fe-0.5
<i>λ</i> Pav	7074	18 53 27.8	-62 10 14	d	4.22	-0.89	-0.14	B2 II-III
52 <i>v</i> Dra	7180	18 54 13.7	+71 18 54	6	4.82	+1.10	+1.15	K0 III CN 0.5
12 <i>δ</i> <sup>2</sup> Lyr	7139	18 54 58.6	+36 54 59	d	4.30	+1.65	+1.68	M4 II
13 R Lyr	7157	18 55 44.8	+43 57 52	s6	4.04	+1.41	+1.59	M5 III (var)
34 <i>σ</i> Sgr	7121	18 56 06.1	-26 16 44	d	2.02	-0.75	-0.22	B3 IV
63 <i>θ</i> <sup>1</sup> Ser	7141	18 56 53.4	+04 13 19	d	4.61	+0.11	+0.16	A5 V
<i>κ</i> Pav	7107	18 58 20.1	-67 12 53	v	4.44	+0.71	+0.60	F5 I-II
37 <i>ξ</i> <sup>2</sup> Sgr	7150	18 58 32.1	-21 05 16		3.51	+1.13	+1.18	K1 III
14 <i>γ</i> Lyr	7178	18 59 26.9	+32 42 32	d	3.24	-0.09	-0.05	B9 II
<i>λ</i> Tel	7134	18 59 32.4	-52 55 10	6	4.87		-0.05	A0 III+
13 <i>ε</i> Aql	7176	19 00 14.1	+15 05 15	d6	4.02	+1.04	+1.08	K1- III CN 0.5
<i>χ</i> Oct	6721	19 02 23.7	-87 35 14		5.28	+1.60	+1.28	K3 III
12 <i>α</i> Aql	7193	19 02 24.1	-05 43 09		4.02	+1.04	+1.09	K1 III
38 <i>ζ</i> Sgr	7194	19 03 28.2	-29 51 35	d67	2.60	+0.06	+0.08	A2 IV-V
39 <i>o</i> Sgr	7217	19 05 29.5	-21 43 14	d	3.77	+0.85	+1.01	G9 IIIb
17 <i>ζ</i> Aql	7235	19 06 01.8	+13 53 04	d6	2.99	-0.01	+0.01	A0 Vann
16 <i>λ</i> Aql	7236	19 06 57.9	-04 51 41		3.44	-0.27	-0.09	A0 IVp (wk 4481)
40 <i>τ</i> Sgr	7234	19 07 46.9	-27 38 59	6	3.32	+1.15	+1.19	K1.5 IIIb
18 <i>ι</i> Lyr	7262	19 07 47.0	+36 07 19	d	5.28	-0.51	-0.11	B6 IV
<i>α</i> CrA	7254	19 10 23.3	-37 52 56		4.11	+0.08	+0.04	A2 IVn
41 <i>π</i> Sgr	7264	19 10 33.9	-21 00 04	d7	2.89	+0.22	+0.35	F2 II-III
<i>β</i> CrA	7259	19 10 57.4	-39 19 05		4.11	+1.07	+1.20	K0 II
57 <i>δ</i> Dra	7310	19 12 33.3	+67 41 07	d	3.07	+0.78	+1.00	G9 III
20 <i>α</i> Aql	7279	19 13 24.6	-07 54 58		5.34	-0.44	+0.13	B3 V
20 <i>η</i> Lyr	7298	19 14 13.1	+39 10 11	d6	4.39	-0.65	-0.15	B2.5 IV
60 <i>τ</i> Dra	7352	19 15 17.1	+73 22 49	6	4.45	+1.45	+1.25	K2+ IIIb CN 1
21 <i>θ</i> Lyr	7314	19 16 50.2	+38 09 30	d	4.36	+1.23	+1.26	K0 II
1 <i>κ</i> Cyg	7328	19 17 24.9	+53 23 38	6	3.77	+0.74	+0.96	G9 III
43 <i>σ</i> Sgr	7304	19 18 25.4	-18 55 40		4.96	+0.80	+1.02	G8 II-III
25 <i>ω</i> <sup>1</sup> Aql	7315	19 18 27.0	+11 37 14		5.28	+0.22	+0.20	F0 IV
44 <i>ρ</i> <sup>1</sup> Sgr	7340	19 22 27.3	-17 49 15		3.93	+0.13	+0.22	F0 III-IV
46 <i>v</i> Sgr	7342	19 22 30.0	-15 55 43	6	4.61	-0.53	+0.10	Apep
<i>β</i> <sup>1</sup> Sgr	7337	19 23 36.4	-44 25 57	d	4.01	-0.39	-0.10	B8 V
<i>β</i> <sup>2</sup> Sgr	7343	19 24 11.5	-44 46 23		4.29	+0.07	+0.34	F0 IV
<i>α</i> Sgr	7348	19 24 49.2	-40 35 22	6	3.97	-0.33	-0.10	B8 V
31 <i>α</i> Aql	7373	19 25 36.8	+11 58 27	d	5.16	+0.42	+0.77	G7 IV H8 1
30 <i>δ</i> Aql	7377	19 26 10.7	+03 08 33	d6	3.36	+0.04	+0.32	F2 IV-V
6 <i>α</i> Vul	7405	19 29 16.0	+24 41 35	d	4.44	+1.81	+1.50	M0.5 IIIb
10 <i>ι</i> <sup>2</sup> Cyg	7420	19 30 02.8	+51 45 32		3.79	+0.11	+0.14	A4 V
6 <i>β</i> Cyg	7417	19 31 16.0	+27 59 19	cd	3.08	+0.62	+1.13	K3 II + B9.5 V
36 <i>α</i> Aql	7414	19 31 22.2	-02 45 35		5.03	+2.05	+1.75	M1 IIIab
8 <i>γ</i> Cyg	7426	19 32 16.4	+34 28 56		4.74	-0.65	-0.14	B3 IV
61 <i>σ</i> Dra	7462	19 32 19.9	+69 41 03	asd	4.68	+0.38	+0.79	K0 V
38 <i>μ</i> Aql	7429	19 34 44.9	+07 24 30	d	4.45	+1.26	+1.17	K3- IIIb Fe 0.5
<i>ι</i> Tel	7424	19 36 12.9	-48 04 08		4.90		+1.09	K0 III
13 <i>θ</i> Cyg	7469	19 36 48.3	+50 15 10	d	4.48	-0.03	+0.38	F4 V
41 <i>ι</i> Aql	7447	19 37 25.2	-01 15 21	d	4.36	-0.44	-0.08	B5 III
52 <i>σ</i> Sgr	7440	19 37 31.6	-24 51 10	d	4.60	-0.15	-0.07	B8/9 V
39 <i>κ</i> Aql	7446	19 37 37.0	-06 59 48		4.95	-0.87	0.00	B0.5 IIIn



Designation		BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
			h m s	° ' "					
5	$\alpha$ Sge	7479	19 40 42.0	+18 02 45	d	4.37	+0.43	+0.78	G1 II
		7495	19 41 15.2	+45 33 27	sd	5.06	+0.15	+0.40	F5 II-III
54	Sgr	7476	19 41 29.7	-16 15 41	d	5.30	+1.06	+1.13	K2 III
6	$\beta$ Sge	7488	19 41 39.3	+17 30 29		4.37	+0.89	+1.05	G8 IIIa CN 0.5
16	Cyg	7503	19 42 10.5	+50 33 25	sd	5.96	+0.19	+0.64	G1.5 Vb
16	Cyg	7504	19 42 13.5	+50 32 57	s	6.20	+0.20	+0.66	G3 V
55	Sgr	7489	19 43 17.4	-16 05 29	6	5.06	+0.09	+0.33	F0 IVn:
10	Vul	7506	19 44 16.6	+25 48 18		5.49	+0.67	+0.93	G8 III
15	Cyg	7517	19 44 45.8	+37 23 15		4.89	+0.69	+0.95	G8 III
18	$\delta$ Cyg	7528	19 45 23.8	+45 09 51	d67	2.87	-0.10	-0.03	B9.5 III
50	$\gamma$ Aql	7525	19 46 54.1	+10 38 49	d	2.72	+1.68	+1.52	K3 II
56	Sgr	7515	19 47 08.9	-19 43 40		4.86	+0.96	+0.93	K0+ III
7	$\delta$ Sge	7536	19 47 59.4	+18 34 06	cd6	3.82	+0.96	+1.41	M2 II + A0 V
63	$\epsilon$ Dra	7582	19 48 07.2	+70 18 08	d67	3.83	+0.52	+0.89	G7 IIIb Fe-1
		$\nu$ Tel	7510	19 49 07.0	-56 19 44		5.35		+0.20
	$\chi$ Cyg	7564	19 51 05.1	+32 56 56	vd	4.23	+0.96	+1.82	S6+/Ie
53	$\alpha$ Aql	7557	19 51 26.5	+08 54 17	dv	0.77	+0.08	+0.22	A7 Vnn
51	Aql	7553	19 51 31.3	-10 43 42	d	5.39		+0.38	F0 V
		7589	19 52 23.5	+47 03 46	s	5.62	-0.97	-0.07	O9.5 Iab
v3961	Sgr	7552	19 52 45.4	-39 50 21	sv6	5.33	-0.22	-0.06	A0p Si Cr Eu
9	Sge	7574	19 52 57.9	+18 42 26	s6	6.23	-0.92	+0.01	O8 If
55	$\eta$ Aql	7570	19 53 09.6	+01 02 28	v6	3.90	+0.51	+0.89	F6-G1 Ib
v1291	Aql	7575	19 54 01.1	-03 04 43	s	5.65	+0.10	+0.20	A5p Sr Cr Eu
60	$\beta$ Aql	7602	19 55 58.6	+06 26 29	ad	3.71	+0.48	+0.86	G8 IV
		$\iota$ Sgr	7581	19 56 11.4	-41 49 54		4.13	+0.90	+1.08
21	$\eta$ Cyg	7615	19 56 48.8	+35 07 12	d	3.89	+0.89	+1.02	K0 III
61	Sgr	7614	19 58 42.9	-15 27 17		5.02	+0.07	+0.05	A3 Va
12	$\gamma$ Sge	7635	19 59 21.5	+19 31 46	s	3.47	+1.93	+1.57	M0- III
	$\theta^1$ Sgr	7623	20 00 36.7	-35 14 20	d6	4.37	-0.67	-0.15	B2.5 IV
15	NT Vul	7653	20 01 39.4	+27 47 30	6	4.64	+0.16	+0.18	A7m
	$\epsilon$ Pav	7590	20 02 07.9	-72 52 23		3.96	-0.05	-0.03	A0 Va
62	v3872 Sgr	7650	20 03 29.2	-27 40 17		4.58	+1.80	+1.65	M4.5 III
1	$\kappa$ Cep	7750	20 08 24.7	+77 45 05	d7	4.39	-0.11	-0.05	B9 III
	$\xi$ Tel	7673	20 08 24.9	-52 50 27	6	4.94	+1.84	+1.62	M1 IIab
28	v1624 Cyg	7708	20 09 55.7	+36 52 48	6	4.93	-0.77	-0.13	B2.5 V
	$\delta$ Pav	7665	20 10 02.3	-66 08 46		3.56	+0.45	+0.76	G6/8 IV
65	$\theta$ Aql	7710	20 12 00.0	-00 46 50	d6	3.23	-0.14	-0.07	B9.5 III+
33	Cyg	7740	20 13 42.6	+56 36 34	6	4.30	+0.08	+0.11	A3 IVn
31	$\sigma^1$ Cyg	7735	20 14 03.4	+46 46 58	cvd6	3.79	+0.42	+1.28	K2 II + B4 V
67	$\rho$ Aql	7724	20 14 54.1	+15 14 22	6	4.95	+0.01	+0.08	A1 Va
32	$\sigma^2$ Cyg	7751	20 15 53.4	+47 45 22	cvd6	3.98	+1.03	+1.52	K3 II + B9: V
24	Vul	7753	20 17 21.8	+24 42 48		5.32	+0.67	+0.95	G8 III
34	P Cyg	7763	20 18 17.1	+38 04 32	s	4.81	-0.58	+0.42	B1pe
5	$\alpha^1$ Cap	7747	20 18 23.7	-12 27 56	d6	4.24	+0.78	+1.07	G3 Ib
6	$\alpha^2$ Cap	7754	20 18 48.1	-12 30 08	d6	3.57	+0.69	+0.94	G9 III
9	$\beta$ Cap	7776	20 21 46.1	-14 44 16	cd67	3.08	+0.28	+0.79	K0 II: + A5n: V:
37	$\gamma$ Cyg	7796	20 22 42.8	+40 18 02	asd	2.20	+0.53	+0.68	F8 Ib
		7794	20 23 50.8	+05 23 13		5.31	+0.77	+0.97	G8 III-IV
39	$\alpha$ Pav	7806	20 24 24.0	+32 14 04	s	4.43	+1.50	+1.33	K2.5 III Fe-0.5
		7790	20 26 42.5	-56 41 26	d6	1.94	-0.71	-0.20	B2.5 V

## BRIGHT STARS, J2013.5

H27

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type	
		h m s	° ' "						
2	$\theta$ Cep	7850	20 29 48.4	+63 02 23	6	4.22	+0.16	+0.20	A7m
41	Cyg	7834	20 29 56.9	+30 24 51		4.01	+0.27	+0.40	F5 II
69	Aql	7831	20 30 21.3	-02 50 24		4.91	+1.22	+1.15	K2 III
73	AF Dra	7879	20 31 18.9	+75 00 02	6	5.20	+0.11	+0.07	A0p Sr Cr Eu
2	$\epsilon$ Del	7852	20 33 51.5	+11 20 59		4.03	-0.47	-0.13	B6 III
6	$\beta$ Del	7882	20 38 10.9	+14 38 34	d6	3.63	+0.08	+0.44	F5 IV
	$\alpha$ Ind	7869	20 38 30.7	-47 14 36	d	3.11	+0.79	+1.00	K0 III CN-1
71	Aql	7884	20 39 02.1	-01 03 26	d6	4.32	+0.69	+0.95	G7.5 IIIa
29	Vul	7891	20 39 07.5	+21 14 57		4.82	-0.08	-0.02	A0 Va (shell)
7	$\kappa$ Del	7896	20 39 47.1	+10 08 04	d	5.05	+0.21	+0.72	G2 IV
9	$\alpha$ Del	7906	20 40 15.9	+15 57 37	d6	3.77	-0.21	-0.06	B9 IV
15	$\nu$ Cap	7900	20 40 48.9	-18 05 25		5.10	+1.99	+1.66	M1 III
49	Cyg	7921	20 41 35.4	+32 21 21	sd6	5.51		+0.88	G8 IIb
50	$\alpha$ Cyg	7924	20 41 53.5	+45 19 45	asd6	1.25	-0.24	+0.09	A2 Ia
11	$\delta$ Del	7928	20 44 05.4	+15 07 25	v6	4.43	+0.10	+0.32	F0m
	$\eta$ Ind	7920	20 45 01.4	-51 52 18		4.51	+0.09	+0.27	A9 IV
3	$\eta$ Cep	7957	20 45 33.7	+61 53 29	d	3.43	+0.62	+0.92	K0 IV
		7955	20 45 41.2	+57 37 43	d6	4.51	+0.10	+0.54	F8 IV-V
	$\beta$ Pav	7913	20 46 09.6	-66 09 13		3.42	+0.12	+0.16	A6 IV-
52	Cyg	7942	20 46 13.2	+30 46 11	d	4.22	+0.89	+1.05	K0 IIIa
53	$\epsilon$ Cyg	7949	20 46 45.5	+34 01 17	ad6	2.46	+0.87	+1.03	K0 III
16	$\psi$ Cap	7936	20 46 53.6	-25 13 18		4.14	+0.02	+0.43	F4 V
12	$\gamma^2$ Del	7948	20 47 17.1	+16 10 25	d	4.27	+0.97	+1.04	K1 IV
54	$\lambda$ Cyg	7963	20 47 56.1	+36 32 27	d67	4.53	-0.49	-0.11	B6 IV
2	$\epsilon$ Aqr	7950	20 48 24.3	-09 26 44		3.77	+0.02	0.00	A1 III-
3	EN Aqr	7951	20 48 26.9	-04 58 39		4.42	+1.92	+1.65	M3 III
	$\iota$ Mic	7943	20 49 23.8	-43 56 18	d7	5.11	+0.06	+0.35	F1 IV
55	v1661 Cyg	7977	20 49 23.9	+46 09 53	sd	4.84	-0.45	+0.41	B2.5 Ia
18	$\omega$ Cap	7980	20 52 37.5	-26 52 04		4.11	+1.93	+1.64	M0 III Ba 0.5
6	$\mu$ Aqr	7990	20 53 22.9	-08 55 55	d6	4.73	+0.11	+0.32	F2m
32	Vul	8008	20 55 08.2	+28 06 34		5.01	+1.79	+1.48	K4 III
	$\beta$ Ind	7986	20 55 51.3	-58 24 08	d	3.65	+1.23	+1.25	K1 II
		8023	20 57 03.4	+44 58 38	s6	5.96	-0.85	+0.05	O6 V
58	$\nu$ Cyg	8028	20 57 40.7	+41 13 11	d6	3.94	0.00	+0.02	A0.5 IIIn
33	Vul	8032	20 58 52.6	+22 22 43		5.31		+1.40	K3.5 III
59	v832 Cyg	8047	21 00 17.1	+47 34 27	d6	4.70	-0.93	-0.04	B1.5 Vnne
20	AO Cap	8033	21 00 22.1	-18 58 56	sv	6.25		-0.13	B9psi
	$\gamma$ Mic	8039	21 02 07.0	-32 12 15	d	4.67	+0.54	+0.89	G8 III
	$\zeta$ Mic	8048	21 03 49.5	-38 34 41		5.30		+0.41	F3 V
62	$\xi$ Cyg	8079	21 05 25.4	+43 58 56	s6	3.72	+1.83	+1.65	K4.5 Ib-II
	$\alpha$ Oct	8021	21 06 18.5	-76 58 15	cv6	5.15	+0.13	+0.49	G2 III + A7 III
23	$\theta$ Cap	8075	21 06 42.3	-17 10 43	6	4.07	+0.01	-0.01	A1 Va+
61	v1803 Cyg	8085	21 07 30.3	+38 48 59	asd	5.21	+1.11	+1.18	K5 V
61	Cyg	8086	21 07 31.6	+38 48 31	sd	6.03	+1.23	+1.37	K7 V
24	Cap	8080	21 07 54.9	-24 57 04	d	4.50	+1.93	+1.61	M1- III
13	$\nu$ Aqr	8093	21 10 19.7	-11 18 59		4.51	+0.70	+0.94	G8+ III
5	$\gamma$ Equ	8097	21 10 59.9	+10 11 12	d	4.69	+0.10	+0.26	F0p Sr Eu
64	$\zeta$ Cyg	8115	21 13 30.7	+30 16 58	sd6	3.20	+0.76	+0.99	G8+ III-IIIa Ba 0.5
		8110	21 14 05.2	-27 33 49		5.42	+1.69	+1.42	K5 III
	$o$ Pav	8092	21 14 35.1	-70 04 12	6	5.02	+1.56	+1.58	M1/2 III

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
7 $\delta$ Equ	8123	21 15 08.3	+10 03 44	d67	4.49	-0.01	+0.50	F8 V
65 $\tau$ Cyg	8130	21 15 19.9	+38 06 12	d67	3.72	+0.02	+0.39	F2 V
8 $\alpha$ Equ	8131	21 16 29.9	+05 18 15	cd6	3.92	+0.29	+0.53	G2 II-III + A4 V
67 $\sigma$ Cyg	8143	21 17 56.8	+39 27 06	6	4.23	-0.39	+0.12	B9 Iab
66 $\nu$ Cyg	8146	21 18 28.4	+34 57 15	d6	4.43	-0.82	-0.11	B2 Ve
$\epsilon$ Mic	8135	21 18 45.2	-32 06 55		4.71	+0.02	+0.06	A1m A2 Va <sup>+</sup>
5 $\alpha$ Cep	8162	21 18 54.1	+62 38 35	d	2.44	+0.11	+0.22	A7 V <sup>+</sup> n
$\sigma$ Oct	7228	21 20 07.1	-88 54 00	v	5.47	+0.13	+0.27	F0 III
$\theta$ Ind	8140	21 20 49.3	-53 23 31	d7	4.39	+0.12	+0.19	A5 IV-V
$\theta^1$ Mic	8151	21 21 37.2	-40 45 06	dv	4.82	-0.07	+0.02	Ap Cr Eu
1 Peg	8173	21 22 42.7	+19 51 46	d6	4.08	+1.06	+1.11	K1 III
32 $\iota$ Cap	8167	21 22 59.8	-16 46 35		4.28	+0.58	+0.90	G7 III Fe-1.5
18 Aqr	8187	21 24 55.7	-12 49 10	d	5.49	+0.29		F0 V <sup>+</sup>
69 Cyg	8209	21 26 20.2	+36 43 34	sd	5.94	-0.94	-0.08	B0 Ib
34 $\zeta$ Cap	8204	21 27 26.1	-22 21 08	d6	3.74	+0.59	+1.00	G4 Ib: Ba 2
$\gamma$ Pav	8181	21 27 32.6	-65 18 15		4.22	-0.12	+0.49	F6 Vp
8 $\beta$ Cep	8238	21 28 49.8	+70 37 12	vd6	3.23	-0.95	-0.22	B1 III
36 Cap	8213	21 29 29.5	-21 44 52		4.51	+0.60	+0.91	G7 IIIb Fe-1
71 Cyg	8228	21 29 56.9	+46 36 02		5.24	+0.80	+0.97	K0- III
2 Peg	8225	21 30 33.6	+23 41 55	d	4.57	+1.93	+1.62	M1+ III
22 $\beta$ Aqr	8232	21 32 16.1	-05 30 40	asd	2.91	+0.56	+0.83	G0 Ib
73 $\rho$ Cyg	8252	21 34 29.4	+45 39 07		4.02	+0.56	+0.89	G8 III Fe-0.5
74 Cyg	8266	21 37 29.5	+40 28 29		5.01	+0.10	+0.18	A5 V
9 v337 Cep	8279	21 38 17.0	+62 08 35	as	4.73	-0.53	+0.30	B2 Ib
5 Peg	8267	21 38 23.4	+19 22 47		5.45	+0.14	+0.30	F0 V <sup>+</sup>
23 $\xi$ Aqr	8264	21 38 28.2	-07 47 35	d6	4.69	+0.13	+0.17	A5 Vn
75 Cyg	8284	21 40 43.0	+43 20 08	sd	5.11	+1.90	+1.60	M1 IIIab
40 $\gamma$ Cap	8278	21 40 50.2	-16 36 03	6	3.68	+0.20	+0.32	A7m:
11 Cep	8317	21 42 06.9	+71 22 25		4.56	+1.10	+1.10	K0.5 III
$\nu$ Oct	8254	21 42 55.9	-77 19 44	6	3.76	+0.89	+1.00	K0 III
$\mu$ Cep	8316	21 43 55.3	+58 50 32	asd	4.08	+2.42	+2.35	M2- Ia
8 $\epsilon$ Peg	8308	21 44 50.9	+09 56 15	sd	2.39	+1.70	+1.53	K2 Ib-II
9 Peg	8313	21 45 09.1	+17 24 45	as	4.34	+1.00	+1.17	G5 Ib
10 $\kappa$ Peg	8315	21 45 15.5	+25 42 27	d67	4.13	+0.03	+0.43	F5 IV
9 $\iota$ PsA	8305	21 45 44.8	-32 57 49	d6	4.34	-0.11	-0.05	A0 IV
10 $\nu$ Cep	8334	21 45 50.3	+61 11 00		4.29	+0.13	+0.52	A2 Ia
81 $\pi^2$ Cyg	8335	21 47 17.6	+49 22 21	d6	4.23	-0.71	-0.12	B2.5 III
49 $\delta$ Cap	8322	21 47 47.1	-16 03 56	vd6	2.87	+0.09	+0.29	F2m
14 Peg	8343	21 50 26.6	+30 14 15	6	5.04	+0.03	-0.03	A1 Vs
$\sigma$ Ind	8333	21 51 54.4	-69 33 57		5.53	+1.63	+1.37	K2/3 III
16 Peg	8356	21 53 40.7	+25 59 21	6	5.08	-0.67	-0.17	B3 V
51 $\mu$ Cap	8351	21 54 01.8	-13 29 16		5.08	-0.01	+0.37	F2 V
$\gamma$ Gru	8353	21 54 44.5	-37 18 03		3.01	-0.37	-0.12	B8 IV-Vs
13 Cep	8371	21 55 20.5	+56 40 32	s	5.80	-0.02	+0.73	B8 Ib
$\delta$ Ind	8368	21 58 49.7	-54 55 40	d7	4.40	+0.10	+0.28	F0 III-IVn
17 $\xi$ Cep	8417	22 04 11.0	+64 41 39	d6	4.29	+0.09	+0.34	A7m:
$\epsilon$ Ind	8387	22 04 23.0	-56 43 47		4.69	+0.99	+1.06	K4/5 V
20 Cep	8426	22 05 25.2	+62 51 07		5.27	+1.78	+1.41	K4 III
19 Cep	8428	22 05 33.8	+62 20 45	sd	5.11	-0.84	+0.08	O9.5 Ib
34 $\alpha$ Aqr	8414	22 06 28.6	-00 15 14	sd	2.96	+0.74	+0.98	G2 Ib

## BRIGHT STARS, J2013.5

H29

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
$\lambda$ Gru	8411	22 06 55.4	-39 28 40		4.46	+1.66	+1.37	K3 III
33 $\iota$ Aqr	8418	22 07 09.9	-13 48 13	6	4.27	-0.29	-0.07	B9 IV-V
24 $\iota$ Peg	8430	22 07 38.4	+25 24 41	d6	3.76	-0.04	+0.44	F5 V
$\alpha$ Gru	8425	22 09 04.7	-46 53 42	d	1.74	-0.47	-0.13	B7 Vn
14 $\mu$ PsA	8431	22 09 10.1	-32 55 20		4.50	+0.05	+0.05	A1 IVnn
24 Cep	8468	22 10 03.8	+72 24 28		4.79	+0.61	+0.92	G7 II-III
29 $\pi$ Peg	8454	22 10 35.3	+33 14 41		4.29	+0.18	+0.46	F3 III
26 $\theta$ Peg	8450	22 10 52.8	+06 15 53	6	3.53	+0.10	+0.08	A2m A1 IV-V
21 $\zeta$ Cep	8465	22 11 19.5	+58 16 05	6	3.35	+1.71	+1.57	K1.5 Ib
	8546	22 11 52.0	+86 10 31	6	5.27	-0.11	-0.03	B9.5 Vn
22 $\lambda$ Cep	8469	22 11 58.2	+59 28 53	s	5.04	-0.74	+0.25	O6 If
	8485	22 14 27.6	+39 46 56	d6	4.49	+1.45	+1.39	K2.5 III
16 $\lambda$ PsA	8478	22 15 04.5	-27 41 58		5.43	-0.55	-0.16	B8 III
23 $\epsilon$ Cep	8494	22 15 32.2	+57 06 40	d6	4.19	+0.04	+0.28	A9 IV
1 Lac	8498	22 16 33.6	+37 48 59		4.13	+1.63	+1.46	K3- II-III
43 $\theta$ Aqr	8499	22 17 32.7	-07 42 56		4.16	+0.81	+0.98	G9 III
$\alpha$ Tuc	8502	22 19 24.9	-60 11 30	6	2.86	+1.54	+1.39	K3 III
$\epsilon$ Oct	8481	22 21 28.3	-80 22 18		5.10	+1.09	+1.47	M6 III
31 IN Peg	8520	22 22 11.0	+12 16 25		5.01	-0.81	-0.13	B2 IV-V
47 Aqr	8516	22 22 20.0	-21 31 49		5.13	+0.92	+1.07	K0 III
48 $\gamma$ Aqr	8518	22 22 21.2	-01 19 08	d6	3.84	-0.12	-0.05	B9.5 III-IV
3 $\beta$ Lac	8538	22 24 05.6	+52 17 49	d	4.43	+0.77	+1.02	G9 IIIb Ca 1
52 $\pi$ Aqr	8539	22 25 58.0	+01 26 47		4.66	-0.98	-0.03	B1 Ve
$\delta$ Tuc	8540	22 28 16.7	-64 53 50	d7	4.48	-0.07	-0.03	B9.5 IVn
$\nu$ Gru	8552	22 29 26.4	-39 03 47	d	5.47		+0.95	G8 III
55 $\xi^2$ Aqr	8559	22 29 31.6	+00 02 58	cd	4.49	0.00	+0.37	F2.5 IV-V
27 $\delta$ Cep	8571	22 29 40.5	+58 29 04	vd6	3.75		+0.60	F5-G2 Ib
29 $\rho^2$ Cep	8591	22 29 59.4	+78 53 37	6	5.50	+0.08	+0.07	A3 V
$\delta^1$ Gru	8556	22 30 04.3	-43 25 34	d	3.97	+0.80	+1.03	G6/8 III
5 Lac	8572	22 30 05.7	+47 46 35	cd6	4.36	+1.11	+1.68	M0 II + B8 V
$\delta^2$ Gru	8560	22 30 33.5	-43 40 47	d	4.11	+1.71	+1.57	M4.5 IIIa
6 Lac	8579	22 31 04.4	+43 11 34	6	4.51	-0.74	-0.09	B2 IV
57 $\sigma$ Aqr	8573	22 31 21.6	-10 36 31	d6	4.82	-0.11	-0.06	A0 IV
7 $\alpha$ Lac	8585	22 31 51.0	+50 21 08	d	3.77	0.00	+0.01	A1 Va
17 $\beta$ PsA	8576	22 32 16.2	-32 16 35	d7	4.29	+0.02	+0.01	A1 Va
59 $\nu$ Aqr	8592	22 35 25.8	-20 38 19		5.20	0.00	+0.44	F5 V
62 $\eta$ Aqr	8597	22 36 03.0	-00 02 51		4.02	-0.26	-0.09	B9 IV-V:n
31 Cep	8615	22 36 06.1	+73 42 48		5.08	+0.16	+0.39	F3 III-IV
63 $\kappa$ Aqr	8610	22 38 27.3	-04 09 29	d	5.03	+1.16	+1.14	K1.5 IIIb CN 0.5
30 Cep	8627	22 39 08.0	+63 39 18	6	5.19	0.00	+0.06	A3 IV
10 Lac	8622	22 39 52.2	+39 07 15	ad	4.88	-1.04	-0.20	O9 V
	8626	22 40 11.1	+37 39 48	sd	6.03		+0.86	G3 Ib-II: CN-1 CH 2 Fe-1
11 Lac	8632	22 41 06.5	+44 20 49		4.46	+1.36	+1.33	K2.5 III
18 $\epsilon$ PsA	8628	22 41 24.0	-26 58 22		4.17	-0.37	-0.11	B8 Ve
42 $\zeta$ Peg	8634	22 42 08.1	+10 54 08	d	3.40	-0.25	-0.09	B8.5 III
$\beta$ Gru	8636	22 43 28.1	-46 48 49		2.10	+1.67	+1.60	M4.5 III
44 $\eta$ Peg	8650	22 43 38.2	+30 17 32	cd6	2.94	+0.55	+0.86	G8 II + F0 V
13 Lac	8656	22 44 41.7	+41 53 25	d	5.08	+0.78	+0.96	K0 III
47 $\lambda$ Peg	8667	22 47 11.0	+23 38 13		3.95	+0.91	+1.07	G8 IIIa CN 0.5
$\beta$ Oct	8630	22 47 21.9	-81 18 37	6	4.15	+0.11	+0.20	A7 III-IV

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type	
		h m s	° ' "						
46	ξ Peg	8665	22 47 22.1	+12 14 33	d	4.19	-0.03	+0.50	F6 V
68	Αqr	8670	22 48 16.5	-19 32 34		5.26	+0.59	+0.94	G8 III
	ε Gru	8675	22 49 21.8	-51 14 44		3.49	+0.10	+0.08	A2 Va
32	ι Cep	8694	22 50 09.9	+66 16 18	s	3.52	+0.90	+1.05	K0 <sup>-</sup> III
71	τ Aqr	8679	22 50 18.3	-13 31 16	d	4.01	+1.95	+1.57	M0 III
48	μ Peg	8684	22 50 39.4	+24 40 23	s	3.48	+0.68	+0.93	G8 <sup>+</sup> III
		8685	22 51 48.0	-39 05 06		5.42	+1.69	+1.43	K3 III
22	γ PsA	8695	22 53 16.4	-32 48 13	d7	4.46	-0.14	-0.04	A0m A1 III-IV
73	λ Aqr	8698	22 53 19.1	-07 30 27		3.74	+1.74	+1.64	M2.5 III Fe-0.5
		8748	22 54 15.6	+84 25 06		4.71	+1.69	+1.43	K4 III
76	δ Aqr	8709	22 55 21.9	-15 44 56		3.27	+0.08	+0.05	A3 IV-V
23	δ PsA	8720	22 56 41.6	-32 28 02	d	4.21	+0.69	+0.97	G8 III
		8726	22 57 01.7	+49 48 21	s	4.95	+1.96	+1.78	K5 Ib
24	α PsA	8728	22 58 23.6	-29 33 02	a	1.16	+0.08	+0.09	A3 Va
		8732	22 59 19.9	-35 27 04	s	6.13		+0.58	F8 III-IV
v509	Cas	8752	23 00 39.5	+57 01 05	s	5.00	+1.16	+1.42	G4v 0
	ζ Gru	8747	23 01 40.2	-52 40 53	6	4.12	+0.70	+0.98	G8/K0 III
1	ο And	8762	23 02 32.7	+42 23 56	d6	3.62	-0.53	-0.09	B6pe (shell)
	π PsA	8767	23 04 14.4	-34 40 34	6	5.11	+0.02	+0.29	F0 V:
53	β Peg	8775	23 04 25.8	+28 09 22	d	2.42	+1.96	+1.67	M2.5 II-III
4	β Psc	8773	23 04 33.8	+03 53 35		4.53	-0.49	-0.12	B6 Ve
54	α Peg	8781	23 05 26.1	+15 16 41	6	2.49	-0.05	-0.04	A0 III-IV
86	Αqr	8789	23 07 24.2	-23 40 12	d	4.47	+0.58	+0.90	G6 IIIb
	θ Gru	8787	23 07 38.1	-43 26 50	d7	4.28	+0.16	+0.42	F5 (II-III)m
55	Peg	8795	23 07 41.1	+09 28 57		4.52	+1.90	+1.57	M1 IIIab
33	π Cep	8819	23 08 19.8	+75 27 38	d67	4.41	+0.46	+0.80	G2 III
88	Αqr	8812	23 10 09.9	-21 05 56		3.66	+1.24	+1.22	K1.5 III
	ι Gru	8820	23 11 07.1	-45 10 24	6	3.90	+0.86	+1.02	K1 III
59	Peg	8826	23 12 25.1	+08 47 37		5.16	+0.08	+0.13	A3 Van
90	φ Aqr	8834	23 15 01.3	-05 58 34		4.22	+1.90	+1.56	M1.5 III
91	ψ <sup>1</sup> Aqr	8841	23 16 35.9	-09 00 50	d	4.21	+0.99	+1.11	K1 <sup>-</sup> III Fe-0.5
6	γ Psc	8852	23 17 51.9	+03 21 22	s	3.69	+0.58	+0.92	G9 III: Fe-2
	γ Tuc	8848	23 18 12.5	-58 09 42		3.99	-0.02	+0.40	F2 V
93	ψ <sup>2</sup> Aqr	8858	23 18 36.3	-09 06 31		4.39	-0.56	-0.15	B5 Vn
	γ Scl	8863	23 19 33.0	-32 27 30		4.41	+1.06	+1.13	K1 III
95	ψ <sup>3</sup> Aqr	8865	23 19 39.8	-09 32 13	d	4.98	-0.02	-0.02	A0 Va
62	τ Peg	8880	23 21 18.4	+23 48 52	v	4.60	+0.10	+0.17	A5 V
98	Αqr	8892	23 23 40.7	-20 01 36		3.97	+0.95	+1.10	K1 III
4	Cas	8904	23 25 26.6	+62 21 25	d	4.98	+2.07	+1.68	M2 <sup>-</sup> IIIab
68	υ Peg	8905	23 26 03.3	+23 28 43	s	4.40	+0.14	+0.61	F8 III
99	Αqr	8906	23 26 45.2	-20 34 04		4.39	+1.81	+1.47	K4.5 III
8	κ Psc	8911	23 27 37.5	+01 19 47	d	4.94	-0.02	+0.03	A0p Cr Sr
10	θ Psc	8916	23 28 39.2	+06 27 12		4.28	+1.01	+1.07	K0.5 III
	τ Oct	8862	23 29 40.3	-87 24 28		5.49	+1.43	+1.27	K2 III
70	Peg	8923	23 29 50.3	+12 50 06		4.55	+0.73	+0.94	G8 IIIa
		8924	23 30 13.9	-04 27 33	s	6.25	+1.16	+1.09	K3 <sup>-</sup> IIIb Fe 2
	β Scl	8937	23 33 41.5	-37 44 37		4.37	-0.36	-0.09	B9.5p Hg Mn
		8952	23 35 34.7	+71 43 00	s	5.84	+1.73	+1.80	G9 Ib
	ι Phe	8949	23 35 47.9	-42 32 25	d	4.71	+0.07	+0.08	Ap Sr
16	λ And	8961	23 38 13.7	+46 31 53	vd6	3.82	+0.69	+1.01	G8 III-IV

BRIGHT STARS, J2013.5

H31

Designation	BS=HR No.	Right Ascension	Declination	Notes	<i>V</i>	<i>U-B</i>	<i>B-V</i>	Spectral Type
		h m s	° ' "					
	8959	23 38 34.3	-45 25 03	6	4.74	+0.09	+0.08	A1/2 V
17 <i>ι</i> And	8965	23 38 48.2	+43 20 34	6	4.29	-0.29	-0.10	B8 V
35 <i>γ</i> Cep	8974	23 39 54.8	+77 42 27	as	3.21	+0.94	+1.03	K1 III-IV CN 1
17 <i>ι</i> Psc	8969	23 40 38.7	+05 41 58	d	4.13	0.00	+0.51	F7 V
19 <i>κ</i> And	8976	23 41 04.6	+44 24 31	d	4.15	-0.21	-0.08	B8 IVn
<i>μ</i> Scl	8975	23 41 20.5	-31 59 54		5.31	+0.66	+0.97	K0 III
18 <i>λ</i> Psc	8984	23 42 44.2	+01 51 16	6	4.50	+0.08	+0.20	A6 IV-
105 <i>ω</i> <sup>2</sup> Aqr	8988	23 43 25.3	-14 28 13	d6	4.49	-0.12	-0.04	B9.5 IV
106 Aqr	8998	23 44 54.0	-18 12 07		5.24	-0.27	-0.08	B9 Vn
20 <i>ψ</i> And	9003	23 46 42.4	+46 29 43	d	4.99	+0.81	+1.11	G3 Ib-II
	9013	23 48 34.0	+67 52 55	6	5.04	-0.04	-0.01	A1 Vn
20 Psc	9012	23 48 38.2	-02 41 11	d	5.49	+0.70	+0.94	gG8
<i>δ</i> Scl	9016	23 49 37.6	-28 03 20	d	4.57	-0.03	+0.01	A0 Va <sup>+</sup> n
81 <i>φ</i> Peg	9036	23 53 10.6	+19 11 43		5.08	+1.86	+1.60	M3 <sup>-</sup> IIIb
82 HT Peg	9039	23 53 18.5	+11 01 21		5.31	+0.10	+0.18	A4 Vn
7 <i>ρ</i> Cas	9045	23 55 03.9	+57 34 28		4.54	+1.12	+1.22	G2 0 (var)
84 <i>ψ</i> Peg	9064	23 58 26.9	+25 12 59	d	4.66	+1.68	+1.59	M3 III
27 Psc	9067	23 59 21.8	-03 28 52	d6	4.86	+0.70	+0.93	G9 III
<i>π</i> Phe	9069	23 59 37.5	-52 40 14		5.13	+1.03	+1.13	K0 III

Notes to Table

- a anchor point for the MK system
- c composite or combined spectrum
- d double star given in Washington Double Star Catalog
- o orbital position generated using FK5 center-of-mass position and proper motion
- s MK standard star
- v star given in Hipparcos Periodic Variables list
- 6 spectroscopic binary
- 7 magnitude and color refer to combined light of two or more stars

 A searchable version of this table appears on *The Astronomical Almanac Online*.



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