

NOTES FROM THE OBSERVATORIES

Photoelectric Magnitudes and Colours for Bright Southern Stars

by

P. M. Corben

This list is a continuation of those given previously by R. Lake (MNASSA, XXI, 56 & 191, 1962; XXII, 79, 1963; XXIII, 14 & 136, 1964; XXIV, 41, 1965). It contains the results of observations of HR stars between -4° and -64° , made with the Cape Astrographic Refractor. Each star has been observed at least four times and more often if the results were not reasonably consistent. The internal standard errors of the magnitudes and colours given in the table are $\pm 0^m.01$ or less, except where a value is followed by a colon. In this case the range of the observations is given in the notes at the end of the table.

In November 1965 the EMI photo-cell was replaced by a similar one of slightly lower sensitivity. The transformations to B-V and $(U-B)_c$ remain unchanged but the linear transformation to V is slightly different for observations with the new cell.

HR	HD	α	(1950)	δ	Spectrum		V	B - V	$(U-B)_c$	Notes
					HD	Other				
116	2632	00 ^h 27 ^m .3		-32° 24'	K0		6.57	+1.34	2.44	
247	5098	50.2		-24 17	K0	K2	5.46	+1.24	2.28	
507	10658	01 41.4		-05 01	K0		6.22	+1.53	2.55	
658	13936	02 13.0		-09 42	A0		6.55	-0.01	1.45	
693	14728	19.7		-17 53	K0		5.88	+1.23	2.34	
1050	21530	03 25.6		-11 28	K0	K2	5.73	+1.10	2.21	
1060	21665	27.2		-06 58	G5		5.97	+1.02	2.10	
1098	22409	33.6		-11 22	G0	G7	5.57	+0.91	1.96	
1120	22905	37.9		-15 23	G5		6.33	+0.88	1.94	
1121	22920	38.2		-05 22	B8		5.53	-0.15	1.27	
1235	25165	57.2		-12 43	G5	K5	5.60	+1.48	2.53	
1435	28732	04 27.2		-62 38	K0		5.73	+1.00	2.09	
1505/6	30020/1	41.2		-08 53	F5	F3/G6	5.98	+0.64	1.77	D
1661	32996	05 04.3		-13 11	A0		6.05	-0.06	1.44	
1671	33224	05.9		-08 44	B8		5.76	-0.05	1.34	R

HR	HD	α (1950) δ		Spectrum		V	B - V	(U-B) _c	Notes
				HD	Other				
1731	34447	05 ^h 14. ^m 6	-17°12'	B3	B2	6.56	-0.16	1.24	
1813	35765	23.4	-44 16	K0		6.08	+1.20	2.26	
1967	38089	40.5	-06 49	F5		5.97	+0.44	1.57	D
2039	39421	49.7	-09 03	A0		5.94	+0.10	1.55	
2086	40151	54.1	-22 51	K0	dK0	5.96	+1.11	2.21	
2171	42078	06 05.1	-42 17	A2		6.16	+0.25	1.59	
2255	43760	15.2	-10 42	F0	gF2	6.74	+0.38	1.63	
2265	43940	15.4	-37 14	A2		5.87	+0.14	1.57	
2306	44953	21.6	-19 45	B8		6.60	-0.14	1.26	B
2445	47475	35.3	-41 31	K0		6.34	+1.15	2.17	
2447	47536	35.9	-32 18	G5	K2	5.23	+1.17	2.22	
2465	48087	38.2	-38 07	K0		6.58	+1.18	2.29	
2482	48543	40.6	-38 21	A3		6.27	+0.36	1.61	B
2535	49980	48.1	-17 01	K0		5.78	+1.43	2.36	
2549	50235	49.0	-34 18	K0	K5	4.98	+1.38	2.44	
2604	51682	55.0	-35 16	K0		6.26	+1.27	2.37	
2614	51925	56.1	-27 06	B3		6.35	-0.20	1.21	D
2683	54118	07 03.4	-56 40	A0		5.17	-0.04	1.44	
2705	54958	08.0	-18 36	F0		6.23	+0.40	1.59	R
2761	56455	13.3	-46 46	A0p		5.70	-0.11	1.32	
2789	57197	16.5	-43 54	B9		5.82	-0.11	1.32	
2829	58420	22.2	-35 44	B8		6.30	-0.15	1.30	
2842/3	58634/5	23.0	-37 12	A3		6.16	+0.27	1.61	D
2856	59026	24.8	-34 02	B3	B3n	5.90	-0.17	1.24	
2863	59256	26.0	-29 03	B9		5.54	-0.06	1.42	
2895	60312	30.6	-35 51	B9		6.33	-0.10	1.36	D
2908	60574	31.6	-42 59	K0		6.52	+0.92	1.96	
2941	61394	35.0	-55 47	G5		6.38	+1.18	2.26	
2955	61642	36.8	-38 40	G5		6.19	+1.02	2.10	
2986	62376	40.2	-38 25	B8		6.53	-0.09	1.34	
3002	62713	42.0	-40 49	K0	K3	5.12	+1.10	2.21	
3025	63308	44.8	-39 56	B5		6.56	-0.13	1.24	
3037	63578	46.0	-46 29	B2		5.20	-0.15	1.18	
3069	64181	49.1	-44 27	K0		6.45	+0.90	1.98	
3073	64238	50.0	-14 43	F2	cF3	5.69	+0.37	1.64	
3099	65183	54.4	-30 09	Mb		6.4:	+1.61	2.3:	V
3126	65750	55.9	-58 59	K5		6.25	+1.93	2.62:	R
3151	66255	59.0	-48 44	A0p		6.12	-0.11	1.28	
3199	67977	08 07.3	-35 18	G5		6.20	+0.89	1.97	
3205	68242	08.1	-42 30	A0		6.28	-0.04	1.37	B
3227	68657	09.7	-48 19	B3		5.83	-0.16	1.28	
3242	69123	12.3	-35 20	K0		5.78	+1.02	2.12	
3250	69302	12.8	-45 41	B3		5.80	-0.13	1.22	
3251	69445	13.9	-30 46	G5		6.22	+0.78	1.84	B
3266	70002	16.4	-35 18	K2		5.58	+1.24	2.32	
3276	70302	18.3	-22 46	K0		6.10	+1.04	2.07	

HR	HD	α (1950) δ		Spectrum		V	B - V	(U-B) _c	Notes
				HD	Other				
3280	70514	08 ^h 17. ^m 8	-65° 27'	K0		5.05	+1.15	2.25	
3296	70946	21.4	-38 07	Ma		6.32	+1.64	2.52	
3298	70982	20.4	-63 57	G5		6.10	+0.93	2.00	
3315	71176	22.9	-23 53	K5		5.28	+1.48	2.56	
3327/8	71487/8	24.5	-38 54	A0		6.1:	-0.02	1.45	V
3336	71622	25.3	-31 30	K0		6.33	+0.90	1.94	
3339	71688	25.8	-25 58	A2		6.62	+0.11	1.57	
3349	71919	26.2	-54 51	A0		6.53	-0.02	1.50	
3371	72350	29.0	-44 34	B5	B5n	6.30	-0.04	1.29	
3382	72650	30.1	-54 13	K2		6.32	+1.29	2.39	
3385	72688	31.0	-34 28	K0		6.36	+0.95	2.02	
3390	72900	31.9	-46 48	K2		6.24	+1.56	2.54	
3399	72993	32.6	-37 26	K5		6.27:	+1.55:	2.44:	B, V
3435	73952	37.3	-52 55	B9		6.45	-0.10	1.37	
3448	74196	38.9	-52 50	B5	B5s	5.56	-0.14	1.31	
3498	75311	45.4	-56 35	B3	B3ne	4.50	-0.18	1.22	
3520	75710	48.1	-45 07	A2		4.92	+0.04	1.48	
3525	75759	48.5	-41 54	B2		5.98	-0.10	1.14	
3583	77020	56.3	-48 23	K0		5.88	+1.06	2.12	
3597	77361	59.0	-26 28	K0		6.20	+1.13	2.22	
3615	78045	09 01.7	-66 12	A5	A5 V	4.01	+0.15	1.58	
3802	82660	30.5	-13 18	K5		5.95	+1.50	2.52	
3914	85656	49.5	-62 31	K0		5.55	+1.31	2.32	
3956	87199	10 00.6	-30 20	K0		6.54	+1.19	2.25	
3978	87816	04.2	-51 57	K0		6.49	+1.00	2.09	
4045	89273	14.7	-50 57	Mb		6.2:	+1.52:	2.32:	V
4050	89388	15.4	-61 05	K5		3.36	+1.56	2.48	
4053	89442	16.4	-36 33	K0		6.30	+1.28	2.35:	R
4055	89455	16.8	-12 17	F0		6.00	+0.26	1.56	B
4102	90589	23.4	-73 47	F5	F2s	3.99	+0.37	1.58	
4123	91120	28.5	-13 20	B9	B9ne	5.58	-0.02	1.40	SB
4140	91465	30.2	-61 26	B5p	B5ne	3.32:	-0.10	1.22	V
4153	91793	33.0	-39 18	Nb	N	5.8:	+3.4:	3.2:	V
4163	92055	35.1	-13 07	Nb	C73	4.96	+2.76	3.2:	R
4164	92063	34.4	-59 18	K0	sgK0	5.08	+1.17	2.25	
4174	92305	34.9	-78 21	Ma	M0	4.15	+1.57	2.58	
4190	92770	40.1	-13 43	K2		6.24	+1.54	2.54	
4214	93397	44.4	-17 02	A0	A3m	5.43	+0.12	1.56	
4261	94619	52.7	-20 24	K0		6.44	+1.10	2.16:	R
4297	95441	58.5	-15 31	K0		6.34	+1.18	2.27	
4305	95808	11 00.7	-11 02	K0	G6	5.50	+0.94	2.04	
4307	95857	00.9	-31 41	Ma		6.46	+1.62	2.59	
4321	96584	04.2	-50 41	K2		6.29	+1.18	2.23	
4348	97428	10.1	-21 29	K0		6.40	+1.38	2.45	
4353	97550	10.6	-49 28	K0		6.10	+1.05	2.11	

HR	HD	(1950)		Spectrum		V	B - V	(U-B) _c	Notes
		α	δ	HD	Other				
4360	97651	11 ^h 11 ^m .4	-52° 58'	K2		5.74	+1.30	2.37	
4364	97866	12.6	-43 28	K5		6.21	+1.61	2.57	
4376	98233	15.3	-36 16	K0		6.68	+0.98	2.06	
4409	99322	23.1	-35 47	K0	G5	5.22	+0.99	2.08	
4445	100307	29.9	-26 28	Ma		6.16	+1.66	2.59	
4451	100418	30.7	-16 00	G0	gG0	6.05	+0.60	1.70	
4471	100920	34.4	-00 33	K0	G8	4.31	+0.99	2.06	
4488	101198	36.1	-12 56	G0	F5	5.48	+0.52	1.60	
4491	101370	37.3	-16 21	Ma	gM2	6.19:	+1.63	2.50	V
4506	101695	39.5	-20 01	K0		6.22	+0.95	2.03	
4520	102249	43.2	-66 27	A5	A5 V	3.62	+0.16	1.60	
4530	102584	45.8	-66 32	K5	M2	4.76	+1.53	2.58	
4539	102845	47.8	-15 35	K0		6.13	+0.95	2.01	
4542	102888	48.1	-27 00	K0		6.48	+0.98	2.06	
4558	103462	52.2	-25 26	G5	G4	5.30	+0.88	1.93	
4588	104307	58.1	-21 34	K0		6.28	+1.22	2.30	
4607	104933	12 02.3	-60 41	Ma		5.96	+1.70	2.60	
4616	105211	04.3	-64 20	F0	F2	4.14	+0.36	1.58	SB
4621	105435	05.8	-50 27	B3p	B3ne	2.53	-0.12	1.19	D
4647	106198	10.6	-33 51	Mb		6.5:	+1.62	2.18	V
4729	108250	23.7	-62 51	B5		4.83	-0.16	1.28	
4730/1	108248/9	23.8	-62 49	B1		0.76:	-0.26	1.13	D
4735	108323	24.2	-32 33	A0		5.55	+0.01	1.48	
4747	108530	25.6	-61 31	K0		6.20	+1.25	2.32	
4748	108541	25.7	-38 46	B8		5.44	-0.08	1.38	
4755	108759	27.3	-41 28	Mb		6.02	+1.52	2.42	
4758	108799	27.5	-13 07	G0	F8	6.38	+0.59	1.67	D
4823	110335	39.1	-59 25	B8p	B8e	4.91	-0.05	1.32	
4830	110432	39.9	-62 47	B1p	B1ne	5.29	+0.25	1.20	
4835	110532	40.6	-58 38	K0		6.37	+1.07	2.11	
4839	110666	41.3	-28 03	K2	K4	5.48	+1.34	2.42:	R
4912	112374	53.8	-26 11	G0	cF6	6.62	+0.68	1.74	
4938	113523	13 02.0	-40 56	Mb		6.28:	+1.66	2.56	V
4941	113778	03.7	-41 19	K0		5.59	+1.05	2.13	
4955	114038	05.3	-10 28	K0	K3	5.14	+1.13	2.22	
4973	114474	08.5	-43 06	K0	G8	5.25	+1.05	2.13	
4988	114835	11.1	-58 25	K0	K2	5.89	+1.08	2.16	
5006	115310	14.1	-31 15	K0	K1	5.10	+0.96	2.00	
5041	116243	20.6	-64 16	G0	G4	4.52	+0.84	1.91	
5044	116292	20.3	-17 28	K0	K3	5.33	+0.99	2.04	
5060	116835	24.0	-41 14	K2		5.69	+1.47	2.52	
5106	118054	32.0	-12 58	A0	A1n	5.91	+0.02	1.47	R
5121	118354	34.4	-46 10	B8		5.90	-0.12	1.33	
5124	118520	35.5	-57 22	K0		6.01	+1.14	2.10	D
5141	118991	38.5	-54 18	B9		4.98	-0.06	1.40	B

HR	HD	α (1950)	δ	Spectrum		V	B - V	$(U-B)_c$	Notes
				HD	Other				
5155	119250	13 ^h 39 ^m .9	-41°09'	K0		5.98	+1.02	2.10	
5157	119361	40.7	-41 49	B8		5.98	-0.08	1.34	R
5165	119605	41.8	-15 56	G0	F9	5.57	+0.81	1.83	
5170	119786	42.9	-15 31	A0	A0n	6.19	+0.05	1.51	
5171	119796	43.7	-62 20	G5p	eG	6.51:	+2.00	2.30:	V
5176	119971	44.5	-50 04	K0	K5	5.46	+1.34	2.38	
5198	120457	47.3	-39 39	K0		6.44	+0.99	2.09	
5207	120641/2	48.8	-52 34	A3/B8		5.14	-0.06	1.36	D
5217	120908	50.5	-53 08	B5	B7	5.85	+0.01	1.33	
5223	120991	50.8	-46 53	B3p	B3e	6.0:	-0.05	1.15	V
5230	121190	52.0	-51 55	B8	B8n	5.66	-0.08	1.40	
5236	121384	53.2	-54 27	G0		6.00	+0.78	1.80	
5267	122451	14 00.3	-60 08	B1	B3	0.61	-0.25	1.12	R, SB
5272	122703	01.1	-22 11	F2		6.30	+0.45	1.60	
5289	123151	04.5	-62 58	K0		6.40	+1.01	2.04:	R
5296	123515	06.3	-51 16	B9		5.96	-0.01	1.38	
5301	123934	08.1	-16 04	Ma	M3	4.85	+1.69	2.61	
5311	124195	10.3	-54 24	B9		6.2:	+0.07	1.36	V
5319	124454	12.0	-53 17	K2		6.39	+1.57	2.55	
5349	125158	16.2	-61 03	A3	Am	5.20	+0.29	1.63	
5376	125745	19.3	-34 34	B8	B8n	5.56	-0.09	1.32	
5383	126035	20.7	-11 29	K0	G7	6.21	+0.99	2.08	
5390	126218	22.0	-24 35	K0	G8	5.32	+0.96	2.06	
5399	126400	22.9	-26 38	G5	G7	6.48	+0.94	2.00	
5417	127152	27.8	-40 37	K2		6.39	+1.44	2.48	
5419	127193	28.1	-38 39	K0		5.97	+1.06	2.14	
5421	127297	28.9	-56 40	F5		7.0:	+1.0:	2.0:	V
5449	128207	33.6	-40 00	B8	B8n	5.74	-0.12	1.32	
5486	129462	41.2	-58 16	K0		6.11	+1.00	2.06	
5495	129893	43.5	-52 10	K0	G6	5.21	+0.98	2.07	
5508	130055	43.9	-38 05	K0		5.94	+1.33	2.41	
5527	130701	48.5	-63 36		F5+A2	5.9:	+0.74	1.75	V, B
5556	131562	52.7	-52 36	A2		5.38	+0.13	1.59	SB
5564	131918	54.1	-11 13	K0	K4	5.46	+1.49	2.49	
5585	132604	58.0	-37 52	K2		5.89	+1.24	2.34	
5595	132955	59.9	-32 27	B3	B5	5.44	-0.13	1.29	
5615	133550	15 03.1	-36 04	K5		6.27	+1.65	2.63	
5623	133792	05.2	-63 27	A0p		6.28	+0.06	1.51	
5637	134270	07.5	-55 09	G5		5.43	+1.12	2.04	
5657	134987	10.5	-25 07	G5	dG4	6.44	+0.70	1.84	
5680	135591	14.8	-60 19	0e5	09s	5.43	-0.09	1.13	
5738	137465	24.8	-51 25	K0		6.08	+1.06	2.04	D
5742	137709	25.9	-46 34	K0	M0	5.23	+1.76	2.54	
5743	137744	25.4	-16 33	K0	K4	5.64	+1.55	2.52	
5753	138221	28.7	-32 43	B8		6.46	+0.09	1.37	

HR	HD	α	(1950)	δ	Spectrum		V	B - V	(U-B) _c	Notes
					HD	Other				
5784	138816	15 ^h	32 ^m .7	-44°14'	K5	M0	5.45	+1.49	2.56	
5801	139160		34.5	-26 07	B9		6.18	-0.01	1.36	
5807	139271		35.4	-38 58	A3		6.04	+0.21	1.60	
5882	141544		47.9	-46 55	K0		6.00	+1.14	2.22	
5900	142049		51.3	-60 02	A3	Am	5.76	+0.36	1.62	D
5906	142165		50.9	-24 23	B5	B6n	5.36	0.00	1.36	
5910	142250		51.5	-27 12	B5		6.13	-0.06	1.34	
5918	142448		52.8	-39 43	B9		6.03	+0.15	1.45	
5937	142919		56.0	-53 53	B5	B9n	6.10	0.00	1.30	
5943	143009		56.1	-41 36	G5	G8	4.98	+0.98	2.08	
5951	143238		58.5	-62 24	A0		6.22	-0.04	1.46	
5975	143928	16	01.3	-37 44	F0		5.90	+0.40	1.56	
6049	145921		11.9	-42 46	K0		6.14	+1.11	2.22	
6054	146001		11.9	-25 21	B9		6.06	+0.03	1.37	
6077	146835/6		16.4	-30 47	F8/F2		5.30	+0.48	1.60	D
6100	147628		21.2	-37 27	B8	B8n	5.42	-0.11	1.34	D
6125	148291		26.4	-61 32	K0	K2	5.20	+1.23	2.27	
6131	148379		26.1	-46 08	B1p	B1s	5.34	+0.56	1.36	
6145	148760		28.3	-26 26	K0		6.10	+1.08	2.19	
6178	149886		35.7	-37 07	A0		5.92	-0.03	1.46	
6210	150608		40.4	-38 04	A0		6.05	-0.06	1.37	
6211	150638		40.4	-32 01	B9		6.46	-0.08	1.37	
6273	152431		51.4	-30 30	A5		6.34	+0.22	1.59	
6316	153613		58.6	-32 04	B8	B8n	5.03	-0.10	1.36	
6338	154153	17	02.2	-44 02	A3		6.18	+0.29	1.53	
6350	154418		03.2	-21 30	A0		6.30	+0.13	1.57	
6422	156325		15.1	-32 30	B8	B6ne	6.38	+0.14	1.34	
6450	157038		19.2	-37 45		B8p+G	6.32	+0.74	1.46	
6456	157097		19.5	-37 10	K0		5.92	+1.07	2.16	
6474	157588		22.0	-24 12	K0	K1	6.19	+1.10	2.19	
6539	159312		32.3	-37 24	A0		6.48	+0.01	1.50	
6777	165978	18	06.7	-32 44	G5		6.43	+1.02	2.09	
6780	166023		06.9	-30 44	K0		5.53	+0.98	2.01	D
6818	167096		12.2	-44 13	K0		5.46	+0.96	2.00	
6819	167128		12.9	-56 02	B5		5.34	-0.06	1.22	SB
6948	170773		29.5	-39 56	F0		6.22	+0.42	1.59	
7422	184035	19	30.7	-40 09	A2		5.9:	+0.09	1.55	V, SB
7706	191584	20	08.9	-42 56	K0	K2 III	6.20	+1.22	2.33	
7714	191829		10.5	-52 36	K5		5.65	+1.50	2.56	
7909	196917		38.3	-31 47	Ma	M0 III	5.75	+1.54	2.57	
8658	215456	22	43.1	-49 15	G0		6.62	+0.63	1.71	
8920	221051	23	26.3	-44 46	K0		6.41	+1.17	2.27	
9102	225200	00	01.8	-29 33	A2		6.38	+0.01	1.47	

The following stars, marked with a V in the "Notes" column are either known variables or are suspected of variability.

HR 3099	Range in V 0.42 in 8 obs (U-B) _c 0.13 in 8 obs	
3327/8	Range in V 0.23 in 8 obs	Triple star
3399	Range in V 0.09 in 9 obs B-V 0.09 in 9 obs (U-B) _c 0.15 in 8 obs	
4045	Range in V 0.32 in 9 obs B-V 0.08 in 9 obs (U-B) _c 0.11 in 9 obs	
4140	Range in V 0.09 in 7 obs	
4153	Range in V 0.25 in 8 obs B-V 0.34 in 9 obs (U-B) _c 0.27 in 9 obs	U Ant
4491	Range in V 0.09 in 9 obs	
4647	Range in V 0.28 in 8 obs	
4938	Range in V 0.09 in 6 obs	
5171	Range in V 0.08 in 8 obs (U-B) _c 0.08 in 8 obs	
5223	Range in V 0.29 in 6 obs B-V 0.08 in 7 obs	
5311	Range in V 0.48 in 8 obs	
5421	Range in V 0.37 in 6 obs B-V 0.22 in 6 obs (U-B) _c 0.21 in 6 obs	V Cen
5527	Range in V 0.27 in 8 obs	
7422	Range in V 0.13 in 7 obs	

The following stars are marked with an R in the "Notes" column.

HR 1671	Triple star	
1967	Quadruple system	
2705	Triple star	
3126	Range in (U-B) _c 0.09 in 6 obs	a red star
4053	Range in (U-B) _c 0.07 in 9 obs	a red star
4163	Range in (U-B) _c 0.10 in 4 obs	a very red star U Hya
4261	Range in (U-B) _c 0.07 in 6 obs	a red star
4839	Range in (U-B) _c 0.11 in 8 obs	a red star
5106	Triple star	
5157	Triple star	
5289	Range in (U-B) _c 0.010 in 7 obs	

Other letters in the "Notes" column indicate as follows:

B	Visual binary
D	Two stars close enough together to be measured as one
SB	Spectroscopic binary

Photoelectric Magnitudes and Colours of Eleven FK4 Stars

The observations were obtained on the Cape Astrographic in the same way as the Bright Southern Stars listed above.

FK4-No	HD	α (1950) δ		Spectrum		V	B - V	$(U-B)_c$
				HD	Other			
1090	20301	03 ^h 12. ^m 7	-35° 45'	G0		6.87	+0.74	1.82
1092	20504	14.9	-31 32	A0		7.14	+0.20	1.62
1119	27528	04 17.9	-16 33	B9		6.80	-0.03	1.45
1143	33331	05 05.9	-44 53	A0		6.90	-0.09	1.34
1236	77640	09 01.2	-04 58	A0		6.80	-0.06	1.42
1257	86082	53.6	-07 24	K0		6.72	+1.43	2.46
1285	95695	11 00.1	-03 15	G5		6.80	+0.95	2.05
1334	112074	12 51.4	-17 46	A0		6.80	+0.28	1.59
1359	120500	13 47.3	+08 39	A0		6.59	+0.13	1.54
1366	123177	14 03.6	-08 39	A0		6.53	+0.02	1.52
1404	136703	15 20.0	-26 31	K0		6.52	+1.12	2.17

Royal Observatory,
Cape of Good Hope.
1966 July