

6

SB 1421 Friday eve. 13 Aug, '54

					Suma	Dir	Rem.
26	143.005	15 090	120.544	3.721			8
	002	089	549	723			
	005	087	551	727			
	143 0040	15 0880	120 5480	3.7237	263.5520	18.8117	↗
			959				
27	143 589	15 161	119 949	3.640			
	595	159	960	639			
	592	161	961	637			
	143 5920	15 1603	119 9580	3.6387	.5500	7990	
28	144 314	14 778	119 243	4.004			
	313	781	242	009			
	316	777	239	005			
	144 3143	14 7787	119 2413	4.0060	.5556	7847	
131	140 709	9 299	122 828	9.493			
	723	312	828	505			
	714	318	841	479			
	716	306	829	486			
	716	311	849	484			
	140 7156	9 3092	122 8350	9.4894	.5506 ^{br}	7986 ^{br}	
191	134 864	18 922	128 699	-1.880			
	868	912	692	(1.68) .881			
	867	922	709	881			
	877	922	700	889			
	876	930	707	885			
	134 8704	18 9206	128 7014	-1.8832	br	br	
				0.1168	5718	8048	
205	132 637	16 466	130 895	2.310			
	640	478	903	344			
	655	467	904	333			
	653	467	900	323			
	644	476	896	318			
	132 6470	16 4708	130 8956	2.3256	br	br	↗
					5426	7964	

scale = 26.3 13.15
 $22^a = 5.5182, +5.5850$

26 22.4560 11.3643
 222.732 75.998

27 23.6340 11.5216
 238.223 78.066

28 25.0730 10.7727
 257.146 68.218

131 17.8806 -0.1802
 br 162.566 -75.812

191 6.1690 19.0384
 br 8.558 176.9122

205 1.7514 14.1452
 br -49.533 112.567

ft	V	132.984	12.385	130.585	6.424		
		993	383	573	431		
		989	385	573	422		
		989	388	562	428		
		997	391	570	433		
		132.9904	12.3864	130.5726	6.4276	263.5630	18.8140
16		133.112	13.657	130.443	5.166		
		111	662	440	163		
		113	657	448	166		
		133.1120	13.6587	130.4437	5.1650	5557	18.8207
17		133.213	14.539	130.335	4.267		
		217	538	334	276		
		220	537	330	270		
		133.2167	14.5380	130.3330	4.2710	5497	.8090
229		134.531	12.200	129.022	6.606		
		537	195	018	614		
		537	194	016	611		
		538	191	016	612		
		538	198	018	610		
		134.5362	12.1958 ⁶	129.0180	6.6106	5542	8064 ²
23		136.160	12.703	127.391	6.112		
		161	701	390	109		
		162	699	390	109		
		136.1610	12.7010	127.3903	6.1100	5513	8110
24		138.353	14.679	125.204	4.129		
		347	678	196	125		
		347	682	195	126		
				201			
				201			
		138.3490	14.6797	125.1994	4.1267	5484	18064

$$\begin{array}{r} \checkmark \quad 2.4178 \quad 5.9588 \\ - \quad 40.770 \quad 4.915 \end{array}$$

$$\begin{array}{r} 16 \quad 2.6683 \quad 8.5937 \\ - 39.476 \quad 39.564 \end{array}$$

$$\begin{array}{r} 17 \quad 2.8837 \quad 10.2670 \\ - 34.644 \quad 61.568 \end{array}$$

$$\begin{array}{r} 22a \quad 5.5182 \quad 5.5858 \\ 0.008 \checkmark \quad 0.0 \checkmark \end{array}$$

$$\begin{array}{r} 23 \quad 8.7707 \quad 6.5910 \\ 42.770 \quad 13.229 \end{array}$$

$$\begin{array}{r} 24 \quad 13.1496 \quad 10.5530 \\ 100.3529 \quad 65.329 \end{array}$$

8	129	417	11	116	134	132	7	698		
		414		111		131		706		
		411		114		129		699		
	129	4140	11	1137	134	1307	7	7010	263.5447	18.8147
9	129	842	10	000	133	716	8	806		
		839		001		716		808		
		845	9	998		716		813		
	129	8420	9	9997	133	7160	8	8090	5580	18.8087
10	130	343	11	666	133	210	7	142		
		344		667		209		145		
		346		674		209		133		
	130	3450	11	6697	133	2093	7	1400	5543	.8097
11	131	509	9	134	132	045	9	178		
		510		135		046		182		
		509		134		049		180		
	131	5093	9	1343	132	0467	9	1800	5560	8140!
12	133	193	8	085	130	367	10	214		
		188		082		365		212		
		191		085		363		218		
	133	1907	8	0840	130	3650	10	2147	5557	2987!
13	131	922	12	382	131	629	16	434		
		931		378		636		440		
		920		383		624		442		
		921								
		920								
		924								
	131	9214	12	3810	131	6297	16	4387	5511	.8197
14	131	983	11	961	131	574	6	848		
		983		962		577		847		
		799		961		574		853		
	131	9817	11	9613	131	5760	6	8493	5567	.8106

one value
off by .5

Ditto

$$8 - 4.7167 \quad 3.4127$$

$$- 134.589 \quad - 285.66$$

$$9 - 3.8740 \quad 1.1907$$

$$- 123.507 \quad - 57.785$$

$$10 - 2.8643 \quad 4.5297$$

$$- 110.230 \quad - 13.877$$

$$11 - 0.5374 \quad - 0.5457$$

$$- 79.631 \quad - 80.619$$

$$12 + 2.8257 \quad - 2.6307$$

$$- 35.406 \quad - 108.036$$

$$13 \quad 0.2917 \quad + 5.9423$$

$$- 68.728 \quad - 4.6577$$

$$4.698$$

$$14 + 0.4067 \quad + 5.1120$$

$$- 67.216 \quad - 6.088$$

$$- 6.220$$

Start here
→ 9-locks
high by page

SB 1421

Angle A = $356^{\circ}50'$ Reversed $176^{\circ}51'$

2.	126. 167	11. 870	137 375	11 812	↓	↓
	176	867	382	811	$\pi=0K$	γ must have been changed after *5
	175	877	383	806		
	167	870				
	173	868				

	126 1716	11 8704	137 3800	11 8097	263.5516	23.6801
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3	127.074	11. 661	136 479	12 010		
	074	663	480	020		
	076	669	481	022		

	127 0747	11 6643	136 4800	12 0173	.5547	.6816
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1	125.925	13 214	137 627	10 462		
	924	217	628	462		
	927	218	629	468		

	125 9253	13 2163	137 6280	10 4640	.5533	.6803
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4	127. 603	13. 282	135. 945	9 896		
	606	289	949	897		
	608	281	947	904		

error of .5 in γ	127 6057	13 2840	135 9470	9.8990	.5527	23.1830
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5	128 021	14. 096				
	016	091	omit			
	020	089				

	128 0190	14 0920				
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6 under index marks

Did 2 more γ
at this point return?

7	129. 200	14. 734	134 354	4 078		
	200	736	354	074		
	202	733	356	081		

	129 2007	14 7343	134 3547	4 0777	.5554	18.8120
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av. hereafter 18.8
(prec. H₂)

2 -11.1084 unit y
-218.640

3 -9.4053 unit y
-196.244

1# -11.7027 unit y
-226.455

4 -8.³⁴¹³₃₃ unit y
-182.252

7 -5.1540 +10.6566
-140.339 66.692

Saturday 14 Aug 54

A scale = 194 091

Revered 14° 091

m - ready necessary

+

X 6629

1.	97 084	23 297	166 403	25 815		
	078	297	401	813		
	077	294	401	816		
	078	299				
	078	300				
	97 0790	23 2974	166 4017	25 8147	263.4807	491121

2	96 927	24 123	166 560	24 986		
	931	123	559	987		
	929	119	562	987		
	96 9290	24 1217	166 5603	24 9867	4893	.1084

Weak	3	96 373	24 234	167 087	24 865		
		373	236	097	863		
		381	236	092	860		
		381	239	097	858		
		377	232	094	861		
		96 3770	24 2354	167 0934	24 8614	4704	.0968

weak	4	96 047	22 949	167 422	26 161		
		047	949	436	157		
		047	948	429	159		
		043	952	433	161		
		043	949	433	156		
		96 0454	22 9494	167 4306	26 1588	4760	.1082

6	95 751	19 357	167 741	29 756		
	746	359	749	748		
	748	357	743	757		
	750					
	749					
	95 7488	19 3577	167 7443	29 7517	4931	.1094

Scale 42.4 21.2

22a - 798784 7.1934

1 69.3227 +2.5173
-223.781 -99.133

2 69.6313 +0.8650
-217.239 -134.162

3 70.7164 +0.6260
-194.234 -139.229

4 71.3852 3.2094
-180.056 -84.461

6 71.9955 10.3940
-167.117 +67.853

7 95 102 19 393 168 ³⁸⁵ 29 217

104 390 ³⁸⁶ 217

107 390 389 218

95 1043 19 3910 168 ³⁸⁵ 29 2173 263.4897

⁺⁵
48.6083 7
~~9.8203~~
49.1083

Very weak 8 94 933 21 ⁶²⁷ 168 546

934 ⁶²⁵ 553

937 ⁶³² 559

94 9347 21 6268 168 5527

9 94 686 22 286 168 777 26 820

684 286 803 819

688 284 800 819

94 6860 22 2853 168 8007 26 8193 263.4867 49.1046

weak 10 94 357 21 245 169 117 27 857

367 242 112 855

356 241 117 854

367 243

369 246

94 3636 21 2434 169 1153 27 8533 263.4789 49.0967

11 93 660 22 824 169 830 26 280

655 823 825 281

659 826 823 278

93 6580 22 8243 169 8260 26 2797 .4840 49.0040

12 92 632 23 461 170 845 25 540

638 464 846 539

639 464 841 541

92 6363 23 4630 170 8440 25 5400 .4803 49.0030

13 Defective

$$\begin{array}{r} 7 \quad 73.2811 \quad 10.3263 \\ - 139.863 \quad + 66.417 \end{array}$$

$$\begin{array}{r} 9 \quad 74.1147 \quad 4.5340 \\ - 122.190 \quad - 56.379 \end{array}$$

$$\begin{array}{r} 10 \quad 74.7517 \quad 6.6099 \\ - 108.686 \quad - 12.370 \end{array}$$

$$\begin{array}{r} 11 \quad 76.1680 \quad 3.4554 \\ - 78.660 \quad - 79.246 \end{array}$$

$$\begin{array}{r} 12 \quad 78.2077 \quad 2.0770 \\ - 35.419 \quad - 108.468 \end{array}$$

14	93	370	21	092	170	111	28	015		
		369		094		110		012		
		369		092		112		011		
	93	3693	21	0927	170	1110	28	0127	263.4803	419.1054
✓	92	747	20	845	170	731	28	254		
		745		840		735		253		
		749		841		728		248		
		746		849		731		257		
		749		846		737		256		
	92	7472	20	8442	170	7324	28	2536	263.4796	.0978
16	92	677	20	058	170	803	29	047		
		677		064		801		048		
		684		067		802		050		
	92	6800	20	0630	17	08026	29	0483	263.4820	.1103
17	92	606	19	520	170	876	29	584		
		610		526		873		582		
		613		522		869		585		
	92	6097	19	5227	170	8727	29	5837	4824	1064
22a	91	807	20	951	171	686	28	147		
		802		956		683		147		
		810		958		683		149		
		805		951		684		147		
		804		956		684		149		
	91	80 ⁵⁶ 72	20	9544	171	6840	28	1478	4896 4932	1022
23	90	819	20	147	172	663	28	447		
		814		145		663		448		
		815		152		660		448		
	90	8160	20	6480	172	6620	28	4477	4780	49.0957

$$\begin{array}{r}
 14 \quad 76.7417 \quad 6.9200 \\
 - 46.498 \quad - 51.796
 \end{array}$$

$$\begin{array}{r}
 \checkmark \quad 77.9852 \quad 7.4094 \\
 - 40.136 \quad + 4.579
 \end{array}$$

$$\begin{array}{r}
 16 \quad 78.1220 \quad 8.9853 \\
 - 37.2357 \quad 37.988
 \end{array}$$

$$\begin{array}{r}
 17 \quad 78.2630 \quad 10.0610 \\
 - 34.246 \quad 60.793
 \end{array}$$

$$\begin{array}{r}
 22^a \quad 79.8784 \quad 7.1934 \\
 0.0 \checkmark \quad 0.0
 \end{array}$$

$$\begin{array}{r}
 23 \quad 81.8460 \quad 7.7997 \\
 41.713 \quad 12.854
 \end{array}$$

205	92	961	18	343	170	508	30	758	
		986		340		515		746	
		988		829		506		760	
		974		340		504		755	
		974		349		512		761	
	92	9764	18	3402	170	5090	30	7560	2634856 49.0962

191	91	621	16	846	171	872	32	269	
		615		837		870		253	
		610		847		873		257	
		614		841		873		253	
		615		839		870		254	

	91	6150	16	8420	171	8716	32	2576	4846 0996
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damage
add
omit

24	89	487							
		475							

26	86	626	19	188	176	851	29	909	
		631		189		853		909	
		633		189		852		907	
		630		191					
		631		190					

	86	6342	19	1894	176	8520	29	9083	4822 0977
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27	86	273	19	146	177	206	29	947	
		276		145		204		951	
		275		147		208		951	
		273		142					
		274		146					

	86	2742	19	1452	177	2060	29	9499	4802 0949
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205 77.5324 12.4158

- 49.735 110.715

191 80.2566 15.4156

+ 8.018 174.311

26 90.2218 10.8189

219.280 76.861

27 90.9318 10.8045

234.332 76.555

28	85	838	19	366	177	640	29	225		
		834		364		644		233		
		840		367		646		228		
	85	8373	19	3657	177	6433	29	7287	263.4806	9.0 48.5944
								388		
131	88	045	22	700	175	456	26	373		
		044		706		439		390		
		037		709		438		388		
		037		697		444		387		
		039		703		440		386		
						4434				
	88	0404	22	7030	175	4374	26	3878	263.4838	49.0908

28 91.8060 10.3630

252.865 67.196

131 87.4030 3.6848

159.522 - 74.382

Saturday 14 Aug 54

SB2817

Angle $A = 6^{\circ} 37.5'$ Reversed $186^{\circ} 37.5' = \text{general}$

1. 142 ~~443~~ 33 408
~~444~~ 411
 450 Refocus
 +

1	142	449	33	404	121	073	21	371		
		445		397		076		364		
		446		406		071		371		
	142	4467	33	4023	121	0733	21	3687	263.5200	54.7710
2	142	204	34	731	121	326	20	036		
		201		740		323		030		
		203		737		318		037		
	142	2027	34	7360	121	3223	20	0343	6250	7703
3	141	306	34	940	122	209	19	831		
		307		943		202		832		
		310		945		208		838		
	141	3077	34	9427	122	2063	19	8337	5140	7764
6	140	302	27	004	123	226	27	772		
		297		001		224		767		
		300		004		222		772		
	140	2997	27	0030	123	2240	27	7703	5237	7733
7	139	194	27	086	124	333	27	682		
		190		089		335		686		
		186		088		333		684		
	139	1900	27	0877	124	3337	27	6840	5237	7717
9	138	562	31	767	124	964	22	996		
		561		768		961		995		
		559		770		962		998		
	138	5607	31	7690	124	9623	22	9963	5230	7653

Scale 26.3 13.15
 22^a 4.2832, 4.4502

25

1 21.3734 12.03³86
 224.736 99.722

2 20.8804 14.7017
 218.253 134.807

3 19.1014 15.1090
 194.859 140.163

6 17.0757 -0.7673
 168.221 -68.610

7 14.8563 -0.5963
 139.036 -66.361

9 ¹³13.5984 + 8.7727
 122.495 56.841

10	138 061	30 109	125 466	24 656		
	067	110 113	458	662		
	064	113 118	459	660		
	138 0646	30 1126	125 4610	24 6593	263.5250	54.7719
14	136 446	29 831	127 078	24 935		
	443	834	081	927		
	443	834	080	931		
	136 4440	29 8330	127 0797	24 9310	.5237	.7640
✓	135 435	29 430	128 091	25 343		
	428	432	093	342		
	428	428	091	345		
	431	428	092	339		
	433	426	088	342		
	135 4310	29 4288	128 0910	25 3422	1.5220	7710
11	136 909	32 641	126 612	22 119		
	907	643	619	126		
	915	645	616	123		
	911					
	913					
	136 9110	32 6430	126 6157	22 1227	5267	7657
12	135 242	33 679	128 271	21 092		
	240	678	271	085		
	244	677	277	088		
	135 2420	33 6780	128 2730	21 0883	5150	54.7663
16	135 315	27 171	128 204	26 597		
	317	171	204	602		
	319	165	204	601		
	135 3170	28 1687	128 2040	26 6000	5210	4 54.7690

10 $12.\overset{6030}{\cancel{3970}}$ 5.4533
 109.405 13.191

14 9.3643 4.9020
 166.816 $\cancel{5.0980}$
 5.941

✓ 7.3400 4.0866
 40.197 -4.781

11 10.2953 10.5203
 79.059 79.822

12 6.9690 12.5897
 35.318 107.034

16 7.1130 1.5690
 37.212 -37.888

17	135	218	27	289	128	305	27	484		
		218		296		306		479		
		214		290		308		478		
	135	2167	27	2917	128	3063	27	4803	263.5230	54.7720
22a	133	902	29	609	129	621	25	158		
		904		609		617		158		
		907		607		623		161		
		901		612		620		163		
		904		610		621		156		
	133	9036	29	6094	129	6204	25	1592	5240	.7686
23	132	290	29	114	131	229	25	653		
		296		110		231		659		
		291		110		233		662		
	132	2923	29	1113	131	2310	25	6586	5233	7693
205	135	799	25	393	129	733	31	811		
		788		407		941		808		
		814		412		949		828		
		818		396	5	937	151	824		
		781		412	★	951	★	812		
	135	8000	25	4040	205	127	205	3744	5354	7784
191	133	595	22	931	127	742	29	365		
		582		941		738		379		
		580		937	5	742	505	371		
		580		938	2	729	2	371		
		571		932	★	726	★	386		
	133	5816	22	9358	191	129	191	8166	5238	7524

131

$$17 \quad 6.9004 - 0.1886$$

$$34.416 - 61.000$$

$$229 \quad 4.2832 \quad 4.4502$$

$$0.10 \quad 0.10$$

$$23 \quad 1.0613 \quad 3.4533$$

$$- 42.368 + 13.109$$

$$205 \quad 8.9354^{0646} - 3.9704$$

$$49.725 - 110.731$$

$$191 \quad 3.6394 - 8.8808$$

$$- 8.466 - 175.303$$

131	127	814	32	512	135	726	22	259		
		822		525		738		250		
		816		529		734		240		
		818		518		708		252		
		805		520		730		246		
	127	8150	32	5208	135	7272	22	2494	263.5422	54.7702
26	125	515	26	749	138	010	28	017		
		517		753		014		010		
		516		752		015		012		
	125	5160	26	7513	138	0130	28	0130	.5290	.7643
27	124	929	26	682	138	601	28	087		
		930		683		597		092		
		930		682		595		086		
	124	9297	26	6823	138	5977	28	0883	.5274	7706
28	124	210	27	060	139	305	27	710		
		211		058		311		708		
		209		060		312		710		
	124	2100	27	0593	139	3093	27	7093	.5193	7686

$$\begin{array}{rcl} 131 & -7.9122 & 10.2714 \\ & -160.370 & 76.549 \end{array}$$

$$\begin{array}{rcl} 26 & -12.4970 & -1.2617 \\ & -220.660 & -75.111 \end{array}$$

$$\begin{array}{rcl} 27 & -13.6680 & -1.4060 \\ & -236.058 & -77.009 \end{array}$$

$$\begin{array}{rcl} 28 & -15.0993 & -0.6500 \\ & -254.880 & -67.068 \end{array}$$

S B 2818

Sunday Aug 15, 1954

Angle A = $180^{\circ} 42'$ Reversed $0^{\circ} 42'$

No readjust. necessary.

+

-

1.	136 567	22 523	126.989	19 486		
	563	529	996	490		
	562	534	991	489		
	136 5640	22 5287	126 9920	19 4883	263.5560	42 0 170
2	136 324	23 850	127.231	18 159		
	323	853	231	161		
	325	854	230	163		
	136 3240	23 8523	127 2307	18 1610	5547	.0133
3	135 431	24 075	128 137	17 951		
	436	076	127	944		
	435	080	129	947		
	135 4340	24 0770	128 1310	17 9473	5650	.0243
4	134 915	21 958	128 643	20 064		
	901	954	648	058		
	915	954	653	066		
	910	956				
	903	956				
	134 9088	21 9556	128 6480	20 0627	5568	.0183
6	134 424	16 121	129 119	28 882		
	423	123	126	875		
	425	121	128	877		
error y?	134 4240	16 1217	129 1243	28 8780	5483	42.9 997
7	133 315	16 192	130.235	25 805		
	323	205	228	807		
	322	195	235	808		
	133 3200	16 1973	130 2327	25 8067	5527	42.0040
9	132 694	20 883	130 873	21 127		
	691	885	871	124		
	693	891	873	129		
	132 6927	20 8863	130 8723	21.1267	.5650	42.0130

$$22^{\circ} - 7.4968 - 4.5646$$

$$1 \quad 9.5720 \quad 3.0404 \\ 224.455 \quad 100.006$$

$$2 \quad 9.0933 \quad 5.6913 \\ 218.160 \quad 134.865$$

$$3 \quad 7.3030 \quad 6.1297 \\ 194.617 \quad 140.630$$

$$4 \quad 6.2608 \quad 1.8929 \\ 180.912 \quad 84.916$$

$$6 \quad 5.2997 \quad -9.7563 \\ \text{Poor y} \quad 168.274 \quad -68.271$$

$$7 \quad 3.0873 \quad -9.6094 \\ 139.181 \quad -66.339$$

$$9 \quad 11.8204 \quad -0.2404 \\ 122.521 \quad 56.8632$$

10	132	186	19	236	131	364	22	775		
		194		233		356		772		
		189		230		361		781		
	132	1897	19	2330	131	3610	22	7760	263.5507	42.0090
11	131	039	21	754	132	513	20	249		
		041		761		525		252		
		045		759		522		251		
	131	0417	21	7580	132	5200	20	2507	5617	42.0087
12	129	375	22	791	134	182	19	220		
		377		791		182		213		
		377		796		180		223		
	129	376 ³	22	7927	134	1813	19	2187	5576	42.0114
14	130	572	18	949	132	983	23	063		
		571		952		987		070		
		572		952		988		070		
	130	5717	18	9510	132	9860	23	0677	5577	42.0187
✓	129	570	18	536	134	007	23	489		
		562		549		002		481		
		554		541		004		493		
		555		537		004		483		
		560		542		-002		483		
	129	5602	18	5410	134	0030	23	4897	5632	42.0307
<i>side marks open edge</i>	16	130	446	17	273	134	107	24	737	
		441		284		107		724		
		441		283		110		729		
				284						
				288						
	¹²⁹ 130	4427	17	2824	134	1080	24	7300	263.5507	.0124

$$\begin{array}{r} 10 \quad 0.8287 \quad -3.5430 \\ 109,480 \quad - \quad 13,434 \end{array}$$

$$\begin{array}{r} 11 \quad 1.4783 \quad 1.5073 \\ 79,143 \quad 79,845 \end{array}$$

$$\begin{array}{r} 12 \quad -4.8050 \quad 3.5740 \\ +35,397 \quad 107,023 \end{array}$$

$$\begin{array}{r} 14 \quad -2.4143 \quad -4.1167 \\ 66,835 \quad 5,890 \end{array}$$

$$\begin{array}{r} \checkmark \quad -4.4428 \quad -4.9487 \\ 40,160 \quad -5,051 \end{array}$$

$$\begin{array}{r} 16 \quad -4.6653 \quad -7.4476 \\ 37,234 \quad -37,911 \end{array}$$

17	129 348	16 410	134 211	25 609		
	340	405	213	617		
	340	411	211	600		
	129 3427	16 4087	134 2117	25 6087	263.5544	42.0174
205	129 918	14 489	133 659	27 507		
	916	498	652	515		
	913	501	663	508		
	918	494	658	516		
	915	495	667	505		
	129 9160	14 4984	133 6598	27 5017 ⁵¹⁰²	.5758	0056
191	127 709	12 083	135 863	29 919		
	713	084	865	937		
	711	084	865	917		
	708	083	866	918		
	706	081	864	926		
	127 7094	12 0830	135 8646	29 9234	5740	.1064
22a	127 033	18 726	135 530	23 289		
	8 032	18 723	530	290		
	035	727	525	290		
	031	723	527	291		
	025	727	528	289		
	127 ⁸ 0312	18 ⁸ 7252	135 5280	23 2898	³ 5592	² 43.0150
23	126 429	18 227	137 138	23 778		
	422	228	136	777		
	427	243	136	775		
	126 4260	234				
		233				
		18 2330	137 1367	23 7767	263.5627	42.0097

17 -4.8690 -9.2000
34.556 -60.956

205 -3.7438 -13.0148
49.352 -111.120

191 -8.1552 -17.⁸⁴⁰⁴₈₈₀₄
- 8.658 -174.577

22a -7.4968 -4.5648
0.0 0.0

23 -10.7107 -5.5437
- 42.263 -12.875

131	121	941	21	587	141	647	20	411		
		934		591		647		417		
		930		585		653		428		
		928		592		648		428		
		932		590		644		420		
	121	9330	21	5890	141	6478	20	4208	263.5808	42.0098
26	119	644	15	870	143	919	26	160		
		641		868		917		154		
		645		874		915		152		
	119	6433	15	8707	143	9170	26	1553	5603	42.0260
27	119	058	15	794	144	503	26	225		
		062		791		504		223		
		065		789		504		220		
	119	0617	15	7913	144	5037	26	2227	5654	42.0140
28	118	340	16	173	145	217	25	853		
		344		171		216		842		
		338		173		216		846		
	118	3407	16	1723	145	2163	25	8470	5470	42.0193

$$131 -19.7148 + 1.1682 \\ - 160.667 + 75.386$$

$$26 -24.2737 -10.2846 \\ - 220.616 - 75.218$$

$$27 -26.4420 -10.4319 \\ 235.979 - 77.148$$

$$28 -26.8756 -9.6747 \\ 254.831 - 67.198$$

HD 302686 HD B3 SQ462 = B3V Apr 19, 1954

ADH. 2235 has H β e

PEP obs. indicate possible variable

m_v 9.8, 8.7, 9.7

ADH 2235 H β e Mar. 7, 1954

1736 No e poor but obs. Mar 8, '53

2232 Weak e Mar 2, 1954

1729 " but e Mar 5, 1953

1728 Poor - no e possible " "

1647 Off edge

MF do not show H β

Chart Plates Blue

ADH 1889 off

1701 "

1709 "

1839

1932 Brighter than neighbors; Don't change

Red

1841 fainter neigh

1919 No change

AM Plates 1948-52 too dense.

About ¹⁰⁰ early shown no appreciable variation.

One plate ^{AX4686} shows K5 star ^{HD. 89373} much fainter than usual

Mar 19-20, 1952 = 34091

Orion Stars

Dec. 4-5, 1953

Filter	HD	Obj	Time	Dia	Ratio	B	γ	D
Bok	35912				2:1	83.3	39.5	2.0
Johnson	"					54.7	34.3	2.0
Bok	"					85.3	41.4	1.9
			05:25					
Bok	"							
Johnson	"				2:2			
Bok	"							

Orion Stars Dec 4-5, 1953

Seeing Poor
air dusty

Object	Time	2:2		Reading	Scale 2:2			
		Dia.	Ratio Factor		B-D	Y-D	B-D	Y-D
HD 35912	1		2:1					
			1.268					
Dark	13			2.0				
Blue Blue	14			83.5	81.5		103.34	
Blue Y	15			39.5		37.4		47.42
Dark	16			2.2				
Blue	17			54.0	51.9		65.81	
Blue Y	18			34.0	34.1	32.0		40.58
Dark	5 19			1.9				
Blue Y	20			35.5	34.5	32.6		41.34
Blue	21			55.7	53.9		68.35	
Dark	22			1.8	John 52.9	32.35		
Blue Y	23			41.5		39.7		50.34
Blue Blue	24			85.0	83.1		105.37	
Dark	05:25			1.9	John 82.3	38.55		

HD 35912				1.1				
Dark	5 26			1.9				
Blue B	27			84.4	82.5		104.61	
Blue Y	28			40.8		38.8		49.20
Dark	29			2.0				
Dark	30			3.7				
John B	31	2:2		71.0	67.4		67.4	
" Y	32	1.0		44.4		40.8		40.8
Dark	5 33			3.5				
John Y	34			44.2		40.7		40.7
B	35			70.0	70.1	66.6	66.6	
Dark	36			3.5	John 67.0	40.75		
Dark	37			2.1				
Blue B	38	1.268		84.0	83.0	80.9	102.58	
Blue Y	39	"		40.1		38.0		48.18
Dark	40			2.1	John 81.7	38.4		38.0

Means

sky given only at end :: can't be applied as it varies then

Bok B Bok y John B John y Time

104.36 67.08 \leftrightarrow 48.88 40.96 5:19g_B

Obs.

HD 35912 ST₄

Ratio T ST

 $m_B = 6.17$ $cdm = -.18$ $m_V = 6.35$

Sharpless

fundamental value

std

⁶⁰
~~103.58~~ 48.69 67.0 40.75 5:33

std

	Time	Dir	Ratio	Reading	B-D	y-D	Scale 2:2	
HD 34317			2:3 0.8024				B-D y-D	
Dark	44			2.7				
Boke B	45			87.0	84.2	67.56		?
" y	46			52.6	49.7	39.88		?
Dark	47			3.0				
Dark	48			2.9				
John. B	49		2:4 0.6277	92.7	89.7	56.30		
John. y	50			64.5	61.5	38.60		
Dark	51			3.0				
John. y	52			64.4	61.4	38.54		
" B	53			92.3	89.2	55.99		
Dark	54			3.1				
Dark	55			4.2				
Boke B	56		0.8024	98.1	93.8	58.88		
Boke y	05:57		"	60.8	56.4	35.40		
Dark				4.5				
HD 34959			2:3 0.8024					
Dark	58			4.1				
Boke B	59			92.8	88.8	71.25		
" y	60			52.0	48.0	38.52		
Dark	1			3.9				
Dark	1		2:4 0.6277	5.4				
John. B	2			79.8	74.4	46.70		
Dark	3			5.3				
Tel. Floating								
Dark	4			4.6				
John. B	5		0.8024	81.6	77.0	48.33		
" y	6		"	55.1	50.5	31.70		
Dark	7			4.6				
cont								

Numerous
trials. This
one is the
best; all
others

?
This is probably
the better

$$m_y = 6.35 - \Delta m$$

 Sharpless
 m_y
 c

means

	Bot B	Bot y	John B	John y	
Late	75.271	45.261	56.15	38.57	51.51
Cor.	71.421	42.571			

✓	{ .734	.941			
	{ .695	.889	.844	.962	
✓	{ -.35	-.08	-.20	-.05	Δm
	{ -.41	-.14			

 $\frac{obs}{std.}$

{ 6.43	6.25	6.40	m	6.41
{ 6.49				-1.02

+1.15

6.19

AV 6.46

c -1.27

	70.33	37.68	47.52	31.64	6.06
✓	.697	.798	.723	.790	
✓	-.40	-.25	-.36	-.27	Δm
	6.47	6.60	6.53	6.62	m
	-1.15		-0.9		

6.50

-1.11

Scale 5:2

34959 cont

			B-D	g-D	B-D	g-D
John Y	8		55.0		50.3	31.57
" B	9		81.7	76.9	48.27	
Dark	10		4.9			
Dark	11		4.5			
Bob B	12	.8024	91.0	86.5	69.41	54.30
" Y	6113	"	50.51	45.9	36.83	28.81
Dark			4.6			

HD 35407

Dark	14	2.1 1.268	4.9			
Bob B	14		86.0	81.1	102.83	
" Y	15		44.4	39.4	49.96	
Dark	16		5.0			
Dark	17	2.2	4.6			
John B	18	1.0 2.2	74.1	69.5	69.50	
" Y	19		48.4	43.7	43.7	
Dark	20		4.7			
John Y	21		48.2	43.5	43.5	
" B	22		73.7	69.0	69.0	
Dark	23		4.7			
Dark	24		5.3			
Bob Y	25	1.268	44.8	39.4	49.96	39.4
" B	26	1.268	85.9	80.3	101.72	80.3
Dark	06127		5.7			

HD 36133

Dark	29	2.4 .6277	4.6			
Bob B	30		81.4	76.8	48.21	
cont.						

✓ ✓ ✓ ✓

Beta B B-y g-B g-y Time

102.32 49.96 69.25 43.60 6:20 6:20

1.030 1.07⁶⁵ 1.075 1.10

✓ 7.03 7.07 7.08 7.10 Δm

6.24 6.28 6.28 6.25 m

-0.41 -0.21 c

6.31

-1.16

Scale 2:2

36133 cont.

B-D y-D B-D y-D

		B-D	y-D	B-D	y-D
Boh y	1	42.5	37.9	23.79	

Dark	2	4.7			
------	---	-----	--	--	--

Dark	3	4.6			
------	---	-----	--	--	--

John B	4	42.4	67.8	42.56	
--------	---	------	------	-------	--

" y	5	49.5	44.9	28.18	
-----	---	------	------	-------	--

dark	6	4.6			
------	---	-----	--	--	--

dark	7	4.9			
------	---	-----	--	--	--

John y	8	46.3	41.5	26.05	
--------	---	------	------	-------	--

" B	39	40.5	65.9	41.37	
-----	----	------	------	-------	--

dark	40	4.5			
------	----	-----	--	--	--

dark	1	5.1			
------	---	-----	--	--	--

Boh y	2	42.7	37.4	23.60	
-------	---	------	------	-------	--

" B	3	83.5	78.4	49.21	
-----	---	------	------	-------	--

dark	4	5.1			
------	---	-----	--	--	--

dark	5	5.2			
------	---	-----	--	--	--

Boh B	6	81.5	76.3	47.89	
-------	---	------	------	-------	--

dark	0	46.47	5.3		
------	---	-------	-----	--	--

HD 35501

Dark	48	2.6	5.4		
------	----	-----	-----	--	--

Boh B	49	83.5	78.1	31.47	
-------	----	------	------	-------	--

Boh y	50	49.6	44.2	19.81	
-------	----	------	------	-------	--

dark	51	5.4			
------	----	-----	--	--	--

dark	52	3.9			
------	----	-----	--	--	--

John B	53	74.6	70.6	22.03	
--------	----	------	------	-------	--

" y	54	51.7	47.6	14.86	
-----	----	------	------	-------	--

dark	54	5.2?			
------	----	------	--	--	--

dark	54	4.2			
------	----	-----	--	--	--

John y	55	52.1	47.9	14.95	
--------	----	------	------	-------	--

cont.-

	B ₁₂		y _{ph}		
	B	y	B	y	
	48.38	23.70	41.96	27.12	06 ³⁷
/	.493	.515	.660 ⁺	.695	
/	-.78	-.73	-.46	-.41	Δm
	7.03	7.08	6.71	6.76 [✓]	m
	-.05		-.05		c

6.94

7.09

	31.55	17.73	22.08	14.90	6 ⁵⁴
/	.329	.390	.358	.385	
✓	-1.22	-1.03	-1.13	-1.05	Δm
	7.19	7.38	7.32	7.40 [✓]	
	-.19		-.08		

7.42

7.06

Scale 2:2

35501 cont.

B-D y-D B-D y-D

John B	56		75.0	70.9	22.13	
dark	57		4.1			
dark	57		5.9			
Boke y	58	4029	49.7	43.8		17.65 13.67 31.63 24.50
Boke B	59	4029	84.5	78.5		
dark	07:00		6.0			

ND 35588

Dark	5	2:1	3.3			
Boke B	6	1.268	97.7	94.5	119.83	
" y	7		47.9	44.7	56.68	
Dark	6		3.1			
Dark	9		5.0			
John B	10	2:2 1.0	82.6	77.6	77.6	
" y	11		53.4	48.3	48.3	
dark	12		5.1			
John y	13		53.5	48.4	48.4	
dark	14		5.1			
John B	15		83.5	78.4	78.4	
dark	16		5.1			
dark	17		2.5			
Boke y	18	1.268	48.3	45.8	58.07 45.7	
" B	19	"	97.6	94.6	119.95 94.6	
dark	07:20		2.4			

ND 35673

dark	21	2:3	5.1			
Boke B	22	1.8024	88.2	83.1	66.68	
Boke y	23		55.2	50.2	40.28	
cont.						

✓ ✓ ✓ ✓

Bola
B YJohn
B Y119.89 57.38 78.00 48.35 7¹³

✓ 1.28 - 1.29 1.285 1.24

✓ +.27 +.28 +.27 +.23 Δm

6.07 - 6.12[✓]

-0.1. +.04.

6.15

-1.18

OVER

Scale 2:2

35673

B-D g-D B-D y-D

Dark

5.0

Dark

24

4.9

John B

25

2:4 81.6 76.6 48.05

" y

26

.6277 59.1 54.1 33.96

Dark

27

5.1

John y

28

59.0 53.9 33.83

John B

29

81.8 76.8 48.21

Dark

5.0

Dark

30

5.1

Bok y

31

.8024 53.3 48.2 35.68

Bok B

32

" 85.8 80.8 50.72

dark

7:33

5.0

HD 35912

2:2

Dark

34

1.0

5.0

Bok B

35

95.0 90.0 90.0

" y

36

48.1 43.1 43.1

Dark

37

5.0

Dark

4.5

John B

38

2:3 75.7 71.2 59.13

" y

39

.8024 50.5 45.9 36.83

dark

40

4.6

John y

40

51.0 46.4 37.23

" B

41

79.3 74.7 59.94

dark

41

4.6

Repeat

HD 35912

dark

42

4.6

John y

42

50.8 46.2 37.07

cont.

✓ ✓ ✓ ✓

65.76 39.48 48.14 33.90 7^{32}

✓ .717 .895 .808 .893

1 - .37 - .13 - .24 - .14 om

6.48

6.49'

4.50

- .24

- .10'

±0

89.55 43.45 58.52 36.93 7^{42}

m = 2 2 4 4

116

Scale 2:2

35912 cont.

B-D y-D B-D y-D

John B			72.5	73.0	58.57
dark	42		4.5		
John B	43		77.5	73.0	58.58
Dark			4.6		
Dark	44		4.9		
Boke y	46	1.0	48.7	43.8	43.8 35.15
" B	46	"	93.9	89.1	89.1 71.49
Dark	47		4.8		
Dark			4.6		
Johnny	48	OK	50.3	45.6	36.59
" B	07:49	OK	72.6	72.8	58.41
Dark			4.9		

HD 35730

Dark	53	2:5	5.6		
		.4941			
Boke B	4		84.2	78.6	38.84
" y	6		45.7	40.2	19.86
dark	6		5.5		
Dark	7	2:7	4.6		
John B	8	.3121	88.5	83.9	26.19
" y	59		59.2	54.6	17.04
Dark	0		4.6		
Johnny	1		59.3	54.7	17.07
John B	2		88.0	83.3	25.99
Dark	3		4.8		
Dark	4		5.2		
Boke y	5	.4941	45.3	39.9	19.71 12.45
" B	08:06	"	83.5	77.9	38.49 24.21
Dark	06		5.8		

Cont.

✓ / ✓ /

38.66	19.78	26.09	17.06	<u>8⁰⁰</u>
✓ .450	.465	.440	.467	
✓ -.88	-.84	-.90	-.84	Δm
	7.19		7.19 [✓]	
-1.04		-1.06		

7.20

-1.15

Scale 2:2

Δ 35881

B-δ y-δ B-δ y-δ

Dark	7	2:8	6.5			
Bok-B	8	.2548	85.9	79.5	20.26	
" J	9		50.0	43.7	11.13	
Dark	10		6.3			
Dark	11	2:9	4.0			
John B	12	.2061	73.5	69.3	14.28	
" y	13		51.8	47.4	9.769	
Dark	14		4.6			
John y	15		51.0	46.5	9.584	
John B	16		72.6	68.1	14.04	
Dark	17		4.4			
Dark	18		5.9			
Bok y	18	.2548	49.3	43.6	11.11	
" b	19	"	83.0	77.7	19.80	
Dark	20	Seeing Poor	5.1			
Dark	21		4.9		11.13	
Bok y	22	.2548	48.7	43.8	11.16	
" b	08:23	"	82.6	77.7	19.80	
Dark	24	"	4.9			
Dark	27	" →	7.8			
Sky (Bok B)	28	4:8	63.0	55.5	12.77	
" y	29	.0023	44.5	37.2	.0856	sky.
Dark	30		7.0			
John B	31	4:8	49.5	42.5	.0978	
John y	32	.0023	39.0	32.0	.0736	
Dark	33		7.0			

Δ 35912

Dark	34	2:2	4.9			
Bok B	35	1.0	84.5	79.5	79.5	
cont.						

20.03 11.13 14.16 9.68 8^{14}
 ✓ .242 .265 .255 .268
 (-1.55 -1.45 -1.50 -1.44 Δm
 7.80 7.79'
 -1.10 -1.06

7.77
 -1.09

		B-D	Y-D	B-D	Y-D
				2.2	
Dark	4.9				
25 Sky	5.3		0.4	.10	.08
26 Sky	5.6	0.6		.15	
Dark	5.0			.12	

Sky. 0.14 0.09 0.10 0.07 8^{30}
 .002 .002 .002 .002

Scale 2:2

35 9/2 cont

B-D y-D B-D y-D

Bok y	35		45.5	40.5	40.5
dark		2:3 .5024	5.1		
dark	36		7.6		
John B			70.2	65.6	52.64
" y	37		47.5	42.9	34.42
dark			4.6		
John y	36		48.2	43.5	34.90
" B			72.0	67.1	53.84
dark	39		5.0		
dark			5.1		
Bok y	110	1.0	45.0	39.8	39.8 31.94
" B		1.0	83.0	77.6	77.6 62.27
Dark	111		5.6		

ND 35 9/2

Dark			5.3		
Bok B	43	1.0	82.5	77.2	77.2 61.95
Bok y		1.0	45.5	40.2	40.2 32.21
Dark	44		5.4		
Dark			5.1		
John B	45	OK	70.0	64.9	52.08
" y		OK	47.9	42.9	34.42
Dark	46		5.0		
John y		OK	48.8	43.8	35.15
" B	47	OK	71.6	66.6	53.44
Dark			5.0		
Dark	48		5.3		
Bok B		1.0	83.0	77.7	77.7 62.35
5 by Dark	49	2:2	5.3		1.1
B		1.0	6.4	1.1	
y	88.50	2:3	5.9	0.6	48.14
Dark		.8024	5.3		
End					

78.55 40.15 53.24 34.66 8^{32}

Sta

77.45 40.2 52.76 34.78 8^{45}
(1)

Sta

Sky

1.1 048

8^{50}

Orion Stars - Dec 31, 1953 - Jan 1, 1954

Object	Time	Dia	Ratio	Reading	Scale 2:2			
HD 35912	STD	17	2:1	B-D	Y-D	B-D	Y-D	
Dark			1.268	4.4				
Bok B				82.4	77.9	98.78		
" y				43.0	38.5	48.82		
Dark				4.6				
Dark			2:2	11.8				
John B			1.0	75.8	72.8	73.8		
" y				52.1	39.9	39.9		
" B				76.2	73.8	73.8		
Dark				12.6				
Dark			2:1	4.8				
Bok y			1.268	42.5	37.8	47.93		
" B	03:24			82.4	77.9	98.78		
Dark				4.4				
Dark	25			4.6	20.4			
Dark		17		4.6	20.4			
Bok B	26		.0037	47.6	27.9	.1032		
" y	27			39.2	20.0	.074		
Dark				18.5				
Bok B	28			46.0	28.5	.1055		
Dark				16.5?				
Dark	29			4.7	27.5			
Dark			.0028	50.0?	24.1:	.0675		
John B	30			24.3				
Dark	31			47.0	24.0:	.0672		
John y	32			21.6				
Dark	32			45.5	24.8:	.0694		
John B	33			19.8				
Dark	03:34							
HD 36741			2:2					
Dark			1.0	5.4				
Bok B				93.0	87.4	87.4		
" y				47.4	41.7	41.7		
cont.			dark	5.9				

98.78 48.38 73.80 39.9 3¹⁹
(1)

98.67 48.31 73.73 39.8

std

slang

0.104 .074 .068 .072 3³⁹
1

Scale 2:2

3674/cont.

B-D y-D B-D y-D

Dark			5.9			
Dark		2.3	11.9			
John B		.8024	81.3	69.3	55.61	
" y			54.9	42.7	34.26	
" B	03:46		81.2	68.8	55.21	
Dark		2:2	5.5			
Dark		1.0				
Boke y			45.7	40.2	omit 40.2	
(Dome) Boke B			92.0	86.6	86.6	see 7
" y			46.3	41.0	41.0	✓
Dark			5.3			

HD 36627

Dark		2:6	6.7			
Boke B		.4029	83.2	76.6	30.86	
" y			47.4	40.8	16.44	
Dark			6.5			
Dark		2:7	14.7			
John B		.3121	80.5	66.0	20.60	
" y			57.1	42.8	13.36	
" B	03:59		80.5	66.4	20.72	
Dark		2:6	13.9			
Dark		.4029	4.8			
Boke y			45.3	40.4	16.28	
" B			81.8	76.9	30.98	
Dark			5.0			

HD 36429

Dark		2:6	9.4			
Boke B		.4029	91.6	82.2	33.12	
" y			51.4	41.9	16.88	
cont			9.5			

87.00	41.35	55.41	34.26	3 ⁴⁶	
86.90	41.28	55.34	34 ⁽¹⁾ .19		
✓ 85.8	84.7	782	856		
✓ -1.8	-1.19	-1.28	-1.18	Δm	
	6.54		6.53 [✓]		6.58
	4.01	-1.0 [✓]			-1.20

30.92	16.36	20.66	13.36	3 ⁵⁹	
30.82	16.29	20.60	13.29		
✓ .302	.332	.295	.332		
✓ -1.31	-1.21	-1.34	-1.21	Δm	7.56
	7.56		7.56 [✓]		-1.11
	-1.0		-1.3 [✓]		

✓ 32.98	16.88	21.40	13.98	4 ⁰⁵	
32.89	16.81	21.64	13.91		
✓ .320	.344	.313	.347	Δm	7.56
✓ -1.25	-1.17	-1.27	-1.16	Δm	-1.13
-0.8	7.52	-1.1	7.51 [✓]		

Scale 2:2

36429 cont

B-D B-g B-D B-g

Dark			9.5			
Dark		2:7	18.9			
John B		.3121	88.4	69.5	21.69	
" g			63.6	44.8	13.98	
" B			88.3	69.6	21.72	
Dark			18.7			
Dark		2:6	11.0			
Bob y		.4029	53.0	41.9	16.88	
" B	04:11		92.6	81.5	32.84	
Dark			11.2			

HD 36133 STD

16.5

Dark		2:4	9.4			
Bob B		.6277	92.5	83.3	52.29	
" g			49.8	40.8	25.61	
Dark			8.9			
Dark	04:19	2:5	12.5			
John B		.4941	87.5	69.9	34.54	
" g			63.6	45.8	22.63	
" B			87.8	69.9	34.54	
Dark			18.0			
Dark		2:4	9.3			
Bob y		.6277	50.8	41.5	26.05	
" B			93.5	84.1	52.79	
Dark			9.4			

HD 35910

Dark		2:6	7.8			
Bob B		.4029	87.0	79.2	31.91	
Cont.						

52.54	25.83	34.54	22.63	4'9"	
52.45	25.76	34.48	22.57		
✓ 50.7	.527	.505	.558		
✓ -.75	-.71	-.75	-.65	Δm	
	7.06		7.001		6.94
	-.04		-.10.		-1.09

Scale 3:3

35910 cont

B-D B-y B-D B-y

Bok y			49.3	41.6	16.76
Dark			7.7		
Dark	04:28	2:4	16.3		
John B		.3121	84.4	68.2	21.29
" y			60.2	44.1	13.76
John B			84.5	68.5	21.38
Dark			16.0		
Dark			7.0		
Bok y		.4029	48.7	41.5	16.72 12.95
" B		.4029	87.2	79.8	32.15 24.91
Dark			7.5		

ND 35912 STD

Dark		2:1	5.8		
Bok B		1.268	88.7	82.9	105.12
" y			45.1	39.2	49.71
Dark			5.9		
Dark		2:2	13.0		
John B		1.0	79.5	66.4	66.4
" y	04:40		54.0	40.7	40.7
" B			79.9	66.5	66.5
Dark			13.5		
Dark		2:1	6.0		
Bok y		1.268	44.9	39.0	49.45
" B			88.3	82.6	104.74
Dark			5.6		
Sky Dark	17	4.6	28.0		
Bok B		.0037	45.5	17.8	.0659
" y			43.0	15.5	.0574
Cont.					

✓ ✓ ✓ ✓

32.03	16.74	21.34	13.76	4 ²⁸
31.95	16.68	21.29	13.70	
✓ .306	³⁴⁰ 338	⁸ .315	⁸ .339	
✓ -1.30	-1.19	-1.26	-1.19	
	7.54		7.54 [✓]	
	-1.11	-1.07		

7.58
-1.10

104.93	49.58	66.45	40.7	4 ⁴⁰
104.86	49.52	66.40	40.7	

sta

shy

.0657	0574	.0430	.0507	4 ⁵⁰
-------	------	-------	-------	-----------------

Scale 2:2

35 912 cont

B-D B-y B-D B-y

Bok B			45.0	17.7	.0655
Dark			27.0		
Sky Dark		4:17	41.9		
? John B		.0028	57.2	15.5	.0434
? " y			59.5	18.1	.0507
? " B			56.5	15.2	.0426
Dark			41.1		

ND 34317

Dark		2:2	7.9		
Bok B		1.0	85.8	77.9	77.9
" y			55.4	47.5	47.5
Dark			7.9		
Dark	05:01	2:3	14.9		
John B		.8024	87.3	72.4	58.09
Light time on horizon N " y			64.7	49.7	39.88
" B			87.8	72.6	58.35
Dark			15.2		
Dark		2.2	7.9		
Bok y		1.0	55.7	47.6	47.6
" B			88.0	79.7	79.7
Dark			8.4		

HD 35407

Dark		2:1	6.1		
Bok B		1.268	92.2, 86.0	109.05	
" y			48.6	42.2	53.51
Dark			6.5		
Dark		2:2	14.9		
Cont		1.0			

✓ - ✓ | ✓ ✓

48.80	44.55	58.17	39.88	5°1
78.73	47.49	58.13	39.83	
✓ 74.8	96 ⁸ 3	1.879	980 1973	
✓ -1.33	-1.05	-1.15	-1.04	
	640		6.39 [✓]	
	-1.28	-1.11		

6.41

-1.02

111.33	54.52	72.20	45.4	5"
111.26	54.46	72.16	45.4	
1.0 ⁶ 9	1.11	1.085	1.11	
✓ +1.0 ⁶ 9	+1.11	+1.09	+1.11	
	6.24		6.24 [✓]	
	-1.05	-1.02		

6.31

-1.16

Scale 2:2

35407 cont.

John B

" y

" B

Dark

Dark

Bok y

" B

Dark

repeat 14.9 B-D y-D B-S y-D

87.4

72.3

72.3

60.8

45.4

45.4

87.7

72.1

72.1

15.8

2:7 7.6

3:21 51.4

43.8

55.54

13.67

1.268?

94.5

86.9

113.61

27.12

7.6

ND 35501

Dark

Bok B

" y

Dark

Dark

John B

" y

" B

Dark

Dark

Bok y

" B

Dark

2:5 9.7 ?

4941

79.5

69.6

34.39

05:21

48.0

38.0

18.78

10.2

2:6 18.3

4029

76.5

58.6

23.61

56.5

38.9

15.67

76.8

59.5

23.97

16.9

2:5 9.1

4941

48.6

39.3

19.42

05:27

79.7

70.2

34.69

9.7

ND 35912

Dark

Bok B

" y

Dark

cont.

2:1 6.0

1.268

88.6

82.8

104.99

44.6

38.9

49.33

5.6

34.54	19.10	23.79	15.67	5 ²²
34.47	19.04	23.74	15.62	
.327	.389	.358	.383	
-1.23	-1.04	-1.13	-1.05	4m
	7.39		7.40	
	-1.19		-1.08	

7.42
-1.06

104.55	49.02	66.50	40.8	5 ³⁵
104.48	48.96	66.45	40.8	

5¹⁰¹

35912 cont.

B-D y-D B-D y-D

Dark

2:2 13.8

John B

1.0

80.4 66.8 66.8

" y

54.5 40.8 40.8

" B

80.0 66.2 66.2

Dark

13.8

Dark

2:1 6.3

Boke y

1.268

44.8 38.4 48.69

" B

88.6 82.1 104.10

Dark

6.5

AD 35588

Dark

2:1 5.4

Boke y

1.268

53.6 48.2 61.12

Dark

5.4

Boke y

34.6 29.2 37.03

" B

90.6 85.3 108.16

" y

33.8 28.6 36.26

Dark

2:1 5.1

John B

1.268

71.1 66.0 83.69

" y

45.4 40.4 51.23

" B

71.0 66.0 83.69

Dark

5.0

Dark

2:1 5.5

Boke y

1.268

53.9 48.6 61.63

Dark

5.1

Boke y

33.6 28.5 36.14

" B

87.8 82.7 104.86

" y

05:55

33.0 27.9 35.38

Dark

?

Cont

Book B	?	gelm. B	gelm. Y	Book Y	?
106.51	36.20?	83.69	51.23	5 ⁵⁰	61.38
106.44	36.14	83.64	51.18		61.32
1.035	.745 ²	1.27	1.27 ⁹		1.26
+ .04	- .3 ⁴ / ₇	+ .26	+ .28		+ 0.25
	6.69		6.07 = gelm. Y	6.10 = Book Y	6.15
	??	- .02		- .21	- .18

must use smaller
aperture because of
neighboring stars

Scale 2:2

HD 36133

B-D B-y B-D B-y

Dark

16.5 2:4 7.5

Bok B

.6277 90.3 87.0 54.61

" y

47.5 40.5 25.42

Dark

6.8

Dark

2:5 14.9

John B

4941 83.0 68.0 33.60

" y

59.2 44.1 33.50 21.79

" B

82.8 67.6 33.40

" y

59.0 43.7 21.59

Dark

15.4

telescope blocking

HD 36133

Dark

2:5 15.0

John B

4941 82.5 67.6 33.40

" y

58.5 43.7 33.50 21.59

" B

83.1 68.4 33.80

Dark

14.6

Dark

06:13 2:4 6.1

Bok y

.6277 45.2 39.0 24.48

" B

84.1 77.8 48.84

Dark

6.4

HD 35673

2:2

Dark

1.0 6.0

Bok B

78.0 71.8 71.8

" y

49.6 43.3 43.3

Dark

6.4

Dark

2:3 13.9

John B

.8024 78.5 64.6 51.84

cont.

✓ ✓ ✓ ✓

51.73?? 24.95:33.55 21.64 6⁰⁰

ar of
54.61
48.54

51.66: 24.89: 33.50 21.59

✓ .504 .513 .512 .539

✓ -.76 -.74 -.74 -.68

7.09

7.03 ✓

6.94

- .02

- .06

-1.09

72.00 43.35 51.80 35.63 6²⁰

71.92 43.29 51.75 35.57

✓ .710 .897 .802 .890

✓ -.38 -.13 -.25 -.14

6.48

6.49 ✓

6.50

- .25

- .11

± .00

35673 cont

B-D B-y B-D B-y

John y			58.3	44.4	35.63
" B			78.4	64.5	51.75
Dark			13.9		
Dark		2:2	6.3		
Boh y	06:24	1.0	49.7	43.4	43.4
" B			78.4	72.1	72.1
Dark			6.3		72.2
Boh B			78.5	72.3	72.3
Dark			6.0		

ND 34959

Dark		2:2	5.6		
Boh B		1.0	76.6	71.0	71.0
" y			43.3	37.6	37.6
Dark			5.7		
Dark		2:3	13.3		
John B	.8024		73.1	59.6	47.82
" y			52.9	39.3	31.53
John B			73.3	59.6	47.82
Dark			13.8		
Dark		2:2	6.3		
Boh B		1.0	76.6	70.3	70.3
" y			44.0	37.7	37.7
Dark			6.3		

ND 35730

Dark		2:4	9.4		
Boh B	.6277		81.8	72.4	45.45
" y			45.0	35.6	22.35
Cont.					

70.65	37.65	47.82	31.53, 6.30	
70.57	37.59	47.77	31.47	
✓ 70.6	37.81	47.42	31.88	
↓ -1.39	-1.28	-1.34	-1.27	
	6.63		6.62 ↓	6.50
	-1.11	-1.07		-1.11

(over)

84

Scale 210

35 730 cont

B-D B-y B-D B-y

Dark

9.4

Dark

2:5 18.3

John B

06:45

4941

78.8 60.3

29.79

" y

56.5

37.9

18.73

" B

78.8 60.0

29.65

Dark

18.9

Dark

2:4 9.3

Boh y

.6277

45.0

35.7

22.41

" B

81.5 72.2

45.32

Dark

9.3

AD 36133 STD

16.5

Dark

2:4 8.9

Boh B

.6277

88.1 77.4

49.84

" y

47.0

38.5

24.17

Dark

8.3

Dark

2:5 17.4

John B

.4941

82.9 65.4

32.31

" y

59.4

41.9

20.70

" B

83.3 66.7

32.96

Dark

17.7

Dark

2:4 8.6

Boh y

07:01

.6277

48.0

39.7

24.91

" B

85.6 77.5

48.65

Dark

7.8

AD 35881

Dark

2:7 9.4

Boh B

.3121

87.1 77.5

24.19

Cont

✓ ✓ ✓ ✓

45.39	22.38	29.72	18.73	6 ⁴⁵	
45.31	22.32	29.67	18.67		
1 .460	.467	.467	.471 ³		
1 -.85	-.84	-.84	-.83		
	7.19		7.18 ¹		7.20
-0.1		-.01			-.15

49.25	24.54	32.64	20.70	6 ⁵⁰	
49.17	24.48	32.59	20.64		
1 .501	.514	.514	.523		
1 -.74	-.74	-.74	-.72		
	7.09		7.07 ¹		6.94
-.02		-.02			-.09

Scale 2:2

35881 cont

B-D y-D B-D y-D

Bok y		51.5	41.8	13.05
Dark		9.9		
Dark	2:5	22.2		
John B	.2548	86.2	64.2	16.36
" y		63.8	42.0	10.70
" B		85.5	63.8	16.26
Dark		21.5		
Dark	2:7	12.3		
Bok y	.5121	52.8	40.8	12.73
" B	07:17	87.6	76.0	23.72
Dark		11.3		
shy - Dark	4.6	29.9		
Bok B	.0027	51.5	21.7	.0803
" y		48.0	18.3	.0677
" B		51.8	22.1	.0818
Dark		29.6		
shy Dark	4:7	45.4		
John B	.0028	64.0	18.6	.0521
" y		66.5	21.0	.0588
" B		63.5	18.0	.0504
Dark		45.5		

HD 35912 STD
 Dark
 Bok B
 Bok y
 Dark
 Dark
 John B
 " y

2:1	8.?		
1:268	83.0	75.2	95.35
	44.3	36.6	46.41
	7.6		
2:2	16.1		
1:0	77.5	61.4	61.4
	54.7	38.5	38.5

v v v v v

23.96	10.89	16.31	10.70	7 ¹⁵
23.88	12.82	16.26	10.64	
.248	.273	.260	.273	
✓ -1.52	-1.42	-1.48	-1.42	4m
	7.77		7.77✓	
	-1.10	-1.06		

7.77
7.09

shy

.0811	.0677	.0513	.0588	7 ²⁰
-------	-------	-------	-------	-----------------

95.16	46.79	61.40	38.5	7 ²⁵
95.08	46.72	61.35	38.4	

std

Scale 2:2

35912 cont.

B-D B-D B-D B-D

John B

77.7 61.4 61.4

Dark

16.3

Dark

2:1 7.3

Bok y

07:29

1.268

44.9 37.2 47.17

Bok B

83.0 74.9 94.97

Dark

8.5?

Orion Stars - Jan. 3-4, 1953

Scale 2:2

ND 35912

STD

17

B-D B-y B-D B-y

Dark

2:1 7.2

Bok B

1.268 80.6 73.3 92.94

" y

44.0 36.7 46.54

Dark

7.4

Dark

2:2 15.1

John B

03:13

1.000

76.4 61.3 61.3

" y

53.7 38.7 38.7

" B

75.9 61.0 61.0

Dark

14.9

Dark

2:1 7.6

Bok y

1.268 43.9 36.4 46.16

" B

81.1 73.6 93.32

Dark

7.4

Sky Dark

4:7 25.1

Bok B

.0028 52.0 28.3 0792

" y

44.0 21.6 0605

" B

48.0 26.7 0753

Dark

19.7

cont.

Dark?

54-135

✓

✓

✓

✓

93.13 46.35 61.15 38.7 3¹³

93.05 46.29 61.10 38.7

std

std

.0773 .0605 .0488 .0522 3²⁰

35912 cont.

Scales 2:2
B-D B-y B-D B-δ

Shy Dark

4.8 37.0

.0023

John B

55.0 21.1 .0485

" y

53.5 22.7 .0522

" B

03.24

49.0 21.4 .0492

Dark

24.5

HD 36741

Dark

2:2 9.7

1.00

Boh B

90.2 80.9 80.9

" y

48.1 39.1 39.1

Dark

8.6

Dark

2:3 15.7

John B

0.8024

81.0 65.4 52.48

" y

56.4 40.9 32.82

" B

80.2 64.8 51.99

Dark

15.4

Dark

2:2 8.7

1.0

Boh y

48.5 39.5 39.5

" B

90.7 81.4 81.4

Dark

9.6

HD 36627

Dark

2:6 7.9

.04029

Boh B

78.6 70.9 28.57

" y

45.6 38.1 15.35

Dark

7.4

Dark

2:7 15.3

John B

0.3121

77.9 62.8 19.60

" y

56.4 41.4 12.92

Cont

✓ ✓ ✓ ✓

81.15	39.30	52.24	32.82	✓ 3 ³⁰	
81.08	39.24	52.19	32.77		
1 .860 ³	.838	.839	.838		
1 -1.17	-1.20	-1.20	-1.20		
	6.55		6.55 ¹		6.58
	+1.03		±1.00		-1.20

28.81	15.49	19.58	12.92	3 ⁴⁰	
28.74	15.43	19.53	12.87		
✓ .302	.328 ³⁰	.314	.330		
-1.31	-1.22	-1.27	-1.22		
	7.57		7.57		7.56
-1.09		-1.05			-1.11

Scale 2:2

36627 cont

B-D y-D B-D y-D

John B

77.5 62.7 19.57

Dark

14.7

Dark

2:6 6.4

Boh y

.4029

45.1

38.8

15.63

" B

03:44

78.3

72.1

29.05

Dark

6.1

HD 36429

Dark

2:6 5.9

Boh B

.4029

81.9

76.0

30.62

" y

45.8

40.0

16.11

Dark

5.8

Dark

2:7 13.8

John B

03:50

.3121

79.2

65.9

20.57

" y

56.6

43.2

13.48

" B

79.4

66.0

20.60

Dark

13.4

Dark

2:6 5.6

Boh y

.4029

45.5

40.0

16.12

" B

81.9

76.5

30.82

Dark

5.3

HD 36133 STD

16.5

Dark

2:4 8.1

Boh B

.6277

88.1

77.9

50.15

" y

48.1

39.8

24.98

Dark

8.4

Dark

2:5 16.4

John B

03:59

.4941

82.8

66.4

32.81

Cont

✓ ✓ ✓ ✓

30.72	16.12	20.58	13.48	35°
30.65	16.06	20.53	13.43	
✓ .317	.339	.326	.344	
✓ -1.26	-1.19	-1.23	-1.17	
	7.54		7.52 [✓]	
-1.07		-1.06		

7.56

-1.13

50.15	24.74	32.96	22.23	40°
50.08	24.70	32.91	22.18	
✓ 51 ⁶	52 ²	51 ²⁰	56 ⁵	
✓ -1.74	-1.72	-1.72	-1.63	
	7.07		6.98 [✓]	
-1.02		-1.09		

6.94

-1.09

Scale 2:2

36133 cont

B-D y-D B-D y-D

John y	61.4	45.0	22.23
" B	83.4	67.0	33.10
Dark	16.4		
Dark	2:4 8.3		
Boh y	.6277 47.3	39.1	24.54
" B	88.0	79.9	50.15
Dark	8.0		

ND 35910

Dark	2:6 7.6		
Boh B	.4029 80.7	73.5	29.61
" y	46.1	39.4	15.87
Dark	6.3		
Dark	2:7 14.4		
John B	.3121 79.4	41.9	20.36
" y	04:09 57.1	42.6	13.30
" B	79.0	64.4	20.10
Dark	14.6		
Dark	2:6 6.1		
Boh y	.4029 45.4	39.5	15.91
" B	80.0	74.4	29.98
Dark	5.4		

ND 35912

Scattered
Clouds on horizon

Dark	2:1 7.2		
Boh B	1.268 85.6	78.5	99.54
" y	44.7	37.6	47.68
Dark	2.0		

Cont

✓ ✓ ✓ ✓

29.80	15.89	20.18	13.30	4 ⁰⁸
29.73	15.83	20.13	13.25	
.303	.334	.315	.337	
-1.31	-1.20	-1.27	-1.19	
	7.55		7.54 [✓]	
-1.11		-1.08		

7.58

-1.10

Scale 2:2

35 912 cont

B-D g-D B-D y-D

Dark

2:2 14.7

John B

04:18

1.0

78.8 64.2

64.2

" y

54.0

39.5

39.5

" B

78.4 64.0

64.0

Dark

14.3

Dark

2:1 6.0

Bok y

1.268

43.8

37.8

47.93

" B

84.6 78.9

99.79

Dark

5.9

ND 34317

Dark

2:2 8.4

Bok B

1.0

83.0 74.8

74.8

" y

53.8

45.8

45.8

Dark

7.9

Dark

2:3 15.4

John B

.8024

83.6 68.2

54.72

" y

62.9

47.4

38.03

" B

83.6 68.0

54.56

Dark

15.6

Dark

2:2 8.4

Bok y

04:31

1.0

54.0

45.6

45.6

" B

82.7 74.3

74.3

Dark

8.4

Sky Dark

4:7 32.6

Bok B

.0028

53.2 21.0

.0588

" y

50.6

18.6

.0521

" B

52.8 21.2

.0594

Dark

3.2

cont

✓ ✓ ✓ ✓

99.66 47.80 64.10 39.5 4¹⁹

99.59 47.74 64.06 39.5

sta

74.55 45.70 54.64 38.03 4³⁰

74.49 45.64 54.60 37.98

1 .725⁷ .937⁸ .829⁹⁴³ .938⁸

1 -.36 -1.08 -1.21 -1.08

6.43

6.43✓

6.41

-28

-13

-1.02

3 hy

.0591 .0521 .0404 .0462 4³⁵

Scale 2:2

34317 cont.

B-D y-D B-D y-D

Sky Dark

17 4.8 44.2

John B

.0023

66.5 17.7 .0407

" y

63.5 20.1 .0462

" B

60.5 17.4 .0400

Dark

42.7

HD 35407

Dark

2:1 6.4

Boh B

1.268 87.5 81.0 102.71

" y

46.6 40.0 50.72

Dark

6.4

Dark

2:2 14.5

John B

1.0 83.6 69.1 69.1

" y

58.1 43.5 43.5

" B

04:46 83.5 68.8 68.8

Dark

14.7

Dark

2:1 6.6

Boh y

1.268 47.7 41.2 52.24

" B

89.4 82.5 104.61

Dark

6.4

HD 35501

Dark

2:5 7.0

Boh B

.4941 74.9 67.9 33.55

" y

44.0 37.1 18.33

Dark

6.9

Dark

2:6 14.4

John B

.4029 71.9 57.2 23.05

" y

04:54 .49 52.8 37.9 15.27

Cont.

✓ ✓ ✓ ✓

103.66	51.48	68.95	43.5	4 ⁴⁵	
103.60	51.43	68.91	43.5		
✓ 1.00	1.04 ⁵⁵	1.038	1.07		
✓ 1.00	+1.06	+1.04	+1.07		
	6.29		6.28 [✓]		6.31
	-1.06		-1.03		-1.16

33.50	18.23	23.11	15.27	4 ⁵⁵	
33.44	18.18	23.07	15.23		
✓ .320 .318	.371 .367	1.345	1.374 ⁵		
✓ -1.25	-1.09	-1.17	-1.08		
	7.44		7.43 [✓]		7.42
	-1.16		-1.09		-1.06

100

Scale 2:2

35501 cont

B-D y-D B-D y-D

John B	72.6	57.5	23.17
Dark	15.4		
Dark	2:3	8.4	
Boke y	.4941	44.9	36.7 18.13
" B		75.8 67.7	33.45
Dark		8.0	

HD 35912

Boke B

" y

Dark

Dark

John B

" y

John B

Dark

Dark

Boke y

" B

Dark

2:1	7.2		
1.265	90.6	83.2	105.50
	46.2	38.9	49.33
	7.3		
2:2	13.5		
1.0	81.1	67.4	67.4
05:05	55.0	41.2	41.2
	81.0	67.1	67.1
	14.1		
2:1	6.4		
1.268	44.9	38.5	48.82
	89.2	82.8	104.99
	6.4		

ND 35588

Dark

Boke y

Dark

de off scale

Boke y?

" B

Dark y?

2:1	5.8		
1.268	53.6	47.8	60.61
	5.9		
	27.8	21.8	27.64
	83.3	72.1	97.76
		55.7	70.63
	27.5	21.1	26.75

Dark 6.5

✓ ✓ ✓ ✓

cont

105.25 49.08 67.25 41.20 5.05

105.19 49.03 67.21 41.15

512

Scale 2:2

B-D y-D B-D y-D

35585 cent					
Dark		2:1	6.5		
John B		1.268	72.3	65.7	83.31
" y			46.9	40.2	50.97
" B			72.3	65.5	83.05
Dark	06:16		6.9		
Boh y			27.9	21.0	26.63
" B			83.2	76.2	96.62
" y			27.9	20.8	26.37
Dark			7.0		
Dark		2:1	7.2		
Boh y		1.268	54.5	47.8	59.98
Dark			7.2		

HD 36133	16.5				
Dark		2:4	6.7		
Boh B		.6277	89.5	82.7	52.04
" y			46.7	40.1	↓ 2.35 25.17
Dark			6.5		↑
repeat Boh B			90.7	83.9	52.66
Dark			7.1		
Dark		2:5	14.1		
John B		.4941	83.4	69.2	34.24
" y	05:27		58.5	44.3	21.89
" B			84.4	70.2	34.69
" y			59.8	45.6	22.53
" B			84.4	70.1	34.64
Dark			14.3		15.7
Dark		2:4	6.3		
Boh B		.6277	88.8	82.4	51.72
cont					

✓ ✓ ✓ ✓

97.19 60.30? 83.18 50.97 5¹⁵

confused

d-c off?

?? other signals?

97.13 60.25: 83.14 50.92

.92 1.221 1.235²⁵ 1.235²⁵

1 -1.10 +1.22 +1.22 +1.22

6.13 4.13 ✓

6.15

-1.33 ±1.00

-1.18

scale off?

52.04 25.14 34.52: 22.20 5²⁵

24.65:

51.98 25.09 34.6: 22.15

.489⁵ .503 .51 1.530⁵

1 -1.80 -0.76 -1.74 -1.69

7.11 7.04 ✓

6.94

-1.04 7.05

-1.09

Scale 3:2

B-D y-D B-D y-D

36133 cont.

Boh y
Dark

46.5	40.0	25.11
6.6		

ND 35673

Dark

2:2 6.4

Boh B

1.0 79.4 73.2 73.2

" y

48.5 42.5 42.5

Dark

5.8

Dark

2:3 12.4

John B

.8024 77.4 65.0 52.16

" y

57.3 45.0 36.11

" B

05:38

76.6 64.5 51.75

Dark

12.1

Dark

12.0

22.6
7zero
drifts John B

76.5 64.0?? 51.35

Dark

13.0

Dark

2:2 5.3

Boh y

1.0 47.7 42.4 42.4

" B

77.9 72.4 72.6

Dark

5.3

HD 34959

Dark

2:2 5.5

Boh B

1.0 79.1 73.6 73.6

" y

45.0 39.4 39.4

Dark

5.6

Dark

2:3 12.0

John B

05:49

.8024 73.7 61.6 49.43

" y

53.1 40.9 32.82

cont.

72.90	42.45	51.75	36.11	5 ³⁷	
72.84	42.40	51.71	36.06		
✓ .680	.855 ⁰	.76	.187		
1 -1.43	-1.19	-1.31	-1.16	Std. cloudy	
	6.54		6.511		6.50
	-24		-15		± 00

Scale 2:2

34959 cont

B-δ y-δ B-δ y-δ

John B

74.3 62.0 49.75

Dark

12.4

counted John B

73.9 61.5 49.35

Dark

12.4

Dark

2:3 12.7

John B

.8024 73.1 60.3 48.38

" y

52.8 39.9 32.02

" B

74.0 61.0 48.95

Dark

13.1

Dark

2:2 5.9

Boh K

1.0 44.7 38.7 38.7

" B

78.6 72.5 72.5

Dark

06:02

6.2

shy Dark

4:7 29.7

Boh B

.0028 52.0 22.4 .0627

Boh y

47.9 18.4 .0515

" B

52.2 22.8 .0638

Dark

29.3

shy Dark

4:8 46.4

John B

.0023 66.5 20.4 .0469

" y

66.5 20.7 .0476

" B

65.5 20.0 .0460

Dark

45.3

Dark

6.8

ND 35730

Dark

2:4 12.1

Boh B

.6277 86.8 75.2 47.20

" y

47.5 36.4 22.85

cont

Dark

10.7

73.05 39.05 49.17 32.42 5.55

72.99 39.00 49.13 32.37

✓ 1685² .795 .73 .787

Had cloudy

1 - .42 - .26 - .35 - .27

6.61

6.621

6.50

- .16

- .08

- .11

Stary

.0632 0515 0464 0476 6⁰⁵

Scale 2:2

B-D y-D B-D y-D

5730 cont

Dark	10.7			
Boh B	85.2	74.7	46.89	
" y	47.2	36.9	23.16	
Dark	18.1			
Dark	2:5	19.0		
John B	.4941	81.0	61.7	30.49
" y		58.4	38.8	19.17
" B		81.0	61.1	30.19
Dark		20.1		
Dark	2:4	10.4		
Boh y	.6277	47.0	36.6	22.97
" B		84.3	74.0	46.45
Dark		10.3		

ND 36133

16.5

Dark	2:4	10.0		
Boh B	.6277	91.4	81.3	51.03
" y		48.9	38.7	24.29
Dark		10.3		
Dark	2:5	19.3		
John B	.4941	87.9	68.7	33.94
" y		65.9	46.8	23.12
" B		88.1	69.1	34.14
Dark		18.9		
Dark	.6277	9.7		
Boh y		50.0	40.3	25.30
" B	05:29	93.6	83.9	44.45
Dark		9.7		

cont

✓ ✓ ✓ ✓

46.81	22.91	30.34	19.17	6 ¹⁵	
46.75	22.86	30.30	19.12		
✓ .445	.477 ⁵	.458 ⁶⁰	.476 ⁸		Std cldy
✓ -1.89	-1.82	-1.85	-1.81		
	7.17		7.16 [✓]		7.20
	-1.07		-1.04		-1.15

51.84	24.80	34.04	23.12	6 ²⁵	
51.78	24.75	33.99	23.07		
✓ .497	.522	.522 ⁴	.583 ⁵		
✓ -1.77	-1.72	-1.71	-1.59		
	7.07		6.94 [✓]		6.94
	-1.05		-1.12		-1.09

4035881

Scale 2:2

B-D y-D B-D y-D

Dark

2:7 6.3

Boh B

.3121 86.8 80.8

25.22

" y

49.2

43.5

13.58

Dark

5.4

Dark

2:8 15.9

John B

.2548 82.6 66.6

16.97

" y

59.4

43.3

11.03

" B

? 83.5 67.4

17.17

Dark

16.2

Dark

2:7 9.3

Dark

.3121 9.7

Boh y

50.4

40.7

12.70

" B

88.3 78.6

24.53

Dark

9.7

35881

Dark

2:7 7.9

Boh B

.3121 87.8 77.8

24.91

" y

50.1

42.0

13.11

Dark

8.2

Dark

2:8 17.8

John B

.2548 82.8 65.1

16.59

" y

60.1

42.5

10.83

" B

82.2 64.7

16.49

Dark

17.4

Dark

2:7 8.0

Boh y

.3121 49.2

41.4

12.92

" B

06:50

85.9 78.2

24.41

Dark

7.5

Cont

Stopped by clouds! - ST 35912

24.88 13.14 17.07 11.03 6^{35}

24.82 13.09 17.02 10.98

✓ .244 .279 .266 .280² Stalclchy

✓ -1.54 -1.40 -1.45 -1.39

7.75 7.741

7.77

-1.14 -1.06

-1.09

24.66 13.02 16.54 10.83 6^{45}

24.60 12.97 16.49 10.78

.246 .274⁶⁰ .259⁶⁰ .273⁶⁰

✓ -1.53 -1.41 -1.48 -1.42

+1.2 7.76 7.84 +1.06 7.771

7.77
-1.09

Roughly at 650^+ 35912 } 2.1

B_{1/2} B 86.5 - D 8.5 = 78.0 1.268 .989 98.8

B_{0.2} y 45.4 - 8.5 = 36.9 1.468 46.7 Stal

John. B 81.4 - 18.0 = 63.4 1.648 16.18 16.1

y 57.1 - 18.0 = 39.1 1.792 17.9

Orion Stars Jan 4-5, 1954

Shy Dark
Bok B

17 4:7 35.0 8-0 8-0 8-0 8-0
.0028 84.5 51.5 .1442

" 4

60.0 29.0 .0812

" B

03:45 76.0 47.0 .1316

Dark

27.0

Dark

4:8 34.5

John B

.0023 66.5^{32.5} 34.0 .10782

" 4

58.0^{30.0} 28.0 .0644

" B

58.0^{27.2} 30.8 .0708

Dark

23.±2

HD 35912

Dark

2:1 10.0

Bok B

1.268 83.0 73.0 92.56

" 4

45.9 36.0 45.65

Dark

9.9

Dark

2:2 16.1

John B

1.0 76.9 60.8 60.8

" 4

54.8 38.6 38.6

" B

76.9 60.7 60.7

Dark

16.2

Dark

2:1 10.3

Bok 4

1.268 46.2 35.9 45.52

" B

83.5 73.3 92.94

Dark

10.2

HD 36133

Dark

16.5 2:4 12.8

Bok B

.6277 89.1 76.4 47.96

cont

✓ ✓ ✓ ✓

sky

.1379 0812 0745 0644 3¹⁵

92.75 45.58 60.75 38.6 -3²⁵

92.64 45.51 60.69 38.5

std

Scale 2:2

36133 cont

B-D y-D B-D y-D

Boh y			50.3	37.6	23.60
Dark			12.6		
Dark		2:5	20.3		
John B	03:31	.4941	85.0	64.8	32.02
John y			65.0	44.9	22.19
" B			85.6	65.6	32.41
Dark			19.9		
John y			65.1	45.3	22.38
" B			85.5	65.8	32.51
Dark			19.6		
Dark		2:4	12.5		
Boh y		.6277	49.9	37.4	23.48
" B			90.1	77.7	48.77
Dark			12.4		
Sky Dark		1.4	4:7	28.8	
Boh B		.0028	51.5 ^{27.2}	24.3	.0680
" y			46.0 ^{36.0}	20.0	.0560
" B			49.0 ^{24.8}	24.2	.0678
Dark			23.8		
Sky Dark		4:8	33.2		
John B		.0023	52.0	19.7	.0453
" y	03:42		53.5	22.2	.0511
" B			54.0	20.6	.0474
Dark			29.5		

N 36429

Dark

Boh B

" y

cont

2:6	9.5			
.4029	89.6	79.8	32.15	
	51.5	41.5	16.42	
	10.3			
	✓	✓	✓	✓

46

.41

- 74

6.97 ✓

-10

6.94

7.09

Story

0679 0560 0464 0511 3⁴⁰

116

Scale 2:2

B-D g-D B-D g-D

36429 cont

Dark		10.3			
Dark		2:7 18.7			
John B		.3121 86.8	68.1	51.25	
" g		63.7	45.1	14.08	
" B	03:52	87.4	68.8	21.47	
Dark		18.6			
Dark		2:6 11.9			
Boh y		.4029 52.8	41.2	16.60	
" B		91.4	80.1	30.27	
Dark		11.0			

ND 36627

Dark		2:6 11.3			
Boh B		.4029 87.1	75.9	30.58	
" g		51.6	40.5	16.32	
Dark		11.0			
Dark		2:7 16.9			
John B	03:39	.3121 82.6	65.7	20.50	
" g		60.2	43.3	13.51	
" B		83.2	66.4	20.72	
Dark		16.8			
Dark		2:6 18.1			
Boh y		.4029 49.9	39.8	16.04	
" B		85.8	75.7	30.50	
Dark		10.1			

ND 35730

Dark		2:4 8.4			
Boh B		.6277 83.4	75.1	47.14	
Cont					

✓ ✓ ✓ ✓

32.21 16.66 21.36 14.08 350

32.14 16.60 21.31 14.03

✓ .328 .353 .333² .350

-1.22 -1.14 -1.21 -1.14

7.49

7.49✓

7.56

-1.08

-1.07

-1.13

30.54 16.18 20.61 13.51 400

30.47 16.13 20.55 13.45

✓ .305 .335² .316⁴ .335

1 -1.30 -1.19 -1.26 -1.20

7.54

7.55✓

7.56

-1.11

-1.06

-1.11

118

Scale 2:2

35730 cont

B-D B-y B-D B-y

Boh y			45.8	37.5	23.54
Dark			8.2		
Dark		2:5	14.2		
John B	04:09	4941	76.9	62.7	30.98
" y			54.4	40.2	19.86
" B			77.1	62.9	31.08
Dark			14.2		
Dark		2:4	8.6		
Boh y		.6277	45.8	37.2	23.35
" B			83.4	74.7	46.89
Dark			8.7		

HD 35912

Dark		2:1	9.6		
Boh B		1.268	90.4	80.8	102.45
" y			48.4	38.8	49.20
Dark			9.6		
Dark		2:2	15.6		
John B		1.0	82.2	66.4	66.4
" y			57.3	41.3	41.3
" B			82.8	66.6	66.6
Dark			16.3		
Dark		2:1	10.4		
Boh y		1.268	48.9	38.5	48.82
" B	04:22		90.9	80.5	102.07
Dark			10.4		

HD 36741

Dark		2:2	7.9		
cont		1.0			

✓ ✓ ✓ ✓

47.02 23.44 31.03 19.84 4¹⁰

46.95 23.39 30.98 19.81

.464 .480² .470³ .487

-.85 -1.81 -1.83 -.79

7.16

7.141

7.20

-.04

-.04

-.15

102.26 49.01 66.50 41.30 4²⁰

102.19 48.95 66.45 41.25

std

Scale 2:2

36741 cont

Bot B

" y

Dark

Dark

John B

" y

" B

Dark

Dark

Bot y

Bot B

Dark

repeat (7.9) B-D y-D B-D y-D

96.8 89.0 89.0

49.7 42.0 42.0

7.6

2:3 12.2

.8024 83.6 71.3 57.21

56.1 43.7 35.06

84.0 71.5 57.37

12.6

2:2 8.4

1.0 50.3 41.9 41.9 →

98.8 89.6 ← 89.6

8.4

ND 35881

Dark

2:7 8.7

Bot B

.3121 90.2 81.3 25.37

" y

51.6 42.6 13.30

Dark

9.1

Dark

2:8 15.4

John B

04:36

.2548 83.1 67.5 17.20

" y

59.5 43.8 11.16

" B

83.6 67.8 17.28

Dark

15.9

Dark

2:7 10.4

Bot y

.3121 52.7 42.3 42.3 13.20

" B

91.4 80.9 80.9 25.25

Dark

10.5

cont

✓ ✓ ✓ ✓

89.30 41.95 57.29 35.00 4³⁰

89.23 41.89 57.24 35.01

.870⁵ .850⁵ .862⁵ .852⁵

-.16 -.18 -.18 -.18

6.53

6.53✓

6.58

+02

00

-.20

25.31 13.25 17.24 11.16 4³⁷

25.24 13.19 17.19 11.11

.247⁵ .269⁵ .259⁵ .268⁵

-1.54 -1.44 -1.49 -1.43

7.79

7.78✓

7.79

-.10

-.06

-.09

ND 35910

B-D y-D B-D y-D

Dark		2:6	8.6			
Boh B		.4029	86.6	78.0	31.43	
" y			49.4	40.8	16.44	
Dark			8.6			
Dark		2:7	15.7			
John B	04:46	.3121	83.9	68.2	21.29	
" y			60.1	44.3	13.83	
" B			83.9	68.1	21.25	
Dark			15.8			
Dark		2:6	9.3			
Boh y		.4029	49.8	40.6	16.36	
" B			87.1	78.0	31.43	
Dark			9.0			

ND 36133

16.5

Dark		2:4	7.9			
Boh B		.6277	90.9	83.0	52.10	
" y			48.4	40.6	25.48	
Dark			7.8			
Dark		{ 2:5	13.9			
→ Dark	04:53	{ .4941	8.2	→		
Boh y		{ 2:4	48.4	40.2	25.23	
" B		{ .6277	92.1	83.9	52.66	
Dark			8.2			

ND 35912

Dark

Boh B

" y

cont.

2:1	5.6			
1.268	86.6	80.9	102.58	
	44.1	38.4	48.69	

✓ ✓ ✓ ✓

31.43 16.40 21.27 13.83 4⁴⁷
 31.36 16.34 21.22 13.78
 303 .328³¹ .318 .333
 ✓ -1.31 -1.21 -1.25 -1.21
 7.56 7.56 ✓ 7.58
 -1.10 -1.04 -1.10

52.38 25.36 34.96 22.04 4⁵²
 52.31 25.30 34.91 21.99
 1508 1510 1520⁴ 1534
 -1.75 -1.74 -1.71 -1.69 ✓
 7.09 -1.02 7.04
 -1.01 B-D Y-D
 John B - 84.8 70.9 35.03
 1 g - 58.5 44.6 22.04
 John B - 84.5 70.6 34.88
 Dark - 13.9 ✓ ✓

35912 cont

Dark

5.8

Dark

2:2 10.4

John B

05:01

1.0

76.8 66.4

66.4

" y

51.4

41.1

41.1

" B

77.0 66.8

66.8

Dark

10.2

Dark

2:1 5.5

Bokey

1.268

43.6

38.1

48.31

" B

86.2 80.8

102.45

Dark

5.4

sky Dark

4:7 27.9

Bokey B

.0028

54.5 26.7

.0747

" y

49.0

21.3

.0596

" B

53.5 25.9

.0725

Dark

27.5

sky Dark

05:09

4:8 39.6

John B

.0023

60.2 21.6

.0497

" y

62.5

24.3

.0559

John B

60.0 22.2

.0511

Dark

37.5

✓

✓

✓

✓

102,52 48.50 66.60 41.10 50²

102.45 48.44 66.55 41.104

std.

slay

.0736 0596 0504 0559 50⁶

