

KG
16365
682

C. I. Peirce's
Photometric Observations
Vol. 7
May 28 to Aug 4.
1874.
Original Record

KG 11365.682

These observations made
on the Hoosac Mountain
Florida Mass

1874phae.p00j . 60
H.G. 11365-1682



May 28, 1874.

* 31 is the pr. of 2

J Uramay.

Comp. of J

31. Uramay.

Cap 2 Pinhole 5

Cap 0 Pinhole 5

Cap 0 Pinhole 5

1	+35.8	1.19	+41.3	0.92	+28.0	1.67
2	^{33.2} +146.8	1.33	^{45.7} +134.3	0.74	^{28.1} +157.9	1.67
3	^{33.4} -146.6	1.32	^{44.5} +135.5	0.79	^{28.0} -152.0	1.67
4	143	⁸⁴ 1.28		⁵ 0.82	186	1.67
	¹⁴	<u>1.52</u>			<u>19</u>	
		-0.24				

19 Leon. min.

43 Lynceis

42 Lynceis

Cap 0 Pinhole 5

Cap 0 Pinhole 5

Cap 0 Pinhole 5

1	+28.8	1.62	+25.1	1.90	+29.7	1.55
2	^{36.0} +149.0	1.47	^{27.1} +152.9	1.74	^{32.3} +147.7	1.39
3	^{29.3} -150.7	1.58	^{25.6} -154.4	1.86	^{28.5} -157.5	1.64
4		<u>1.56</u>		<u>1.83</u>		<u>1.53</u>
		173			176	
		17			17	
		<u>56</u>			<u>3</u>	

V. Clear, bright moonlight. Groups 18 & 19

† 22H is the n.p. of a triangle.

P. IX. 169	22H	
Cap 0 Pinhole 5	Cap 0 Pinhole 5	Pix 115
+25.7	+26.7	19
30.5	25.3	42
+149.5	+154.7	43
29.5	26.5	
-150.5	-153.5	
Reaching		
-157.5		
-150.5		
1.57	1.77	
2	1.88	
1.64	1.79	
183	1.81	
18		
	2.02	

$$xviii - xix = +.43$$

38	0.23	-1.02
Pix 115	1.12	-13
19	1.56	+31
42	1.53	+28
43	1.83	+58
	1.27	
	1.25	
0	-0.24	-1.48
Pix 169	1.64	+42
22H	1.81	+59
31	1.67	+45
	.88	
	1.22	
Compd	0.82	-40

P. IX. 115	+38 Lynx	‡38 Lynx
Cap 0 Pinhole 5	Cap 0 Pinhole 5	Cap 2 Pinhole 5
+40.4	+64.0	0.24 +30.7
35.7	58.3	0.36 +154.8
+144.3	+121.7	0.00 -155.6
35.1		
-144.9	-88.4	
1.22		
1.12		
125	1.78	
13	20	
112	1.58	
	19	
	1.58	
		1.58
		0.23
		1.52
		0.26

‡ 3rd round: 38 may be hidden by roof.

‡ Posture very uncomfortable

Jun 13, 1874 Groups 24 & 25

★ 8/11 may. has a Comp. following it.

67. 11 may.

~~149 Bn.~~

+42.3 0.88

6 can. venat.

~~349 B 11 may.~~

Observer has a headache
Lamp fails to work, till the stars are too low.

Jan. 12, 1894

Groups 54 & 55

τ Cygni		σ Cygni		τ Cygni (Cap 1)	
+70.8	0.13	+50.9	63 0.56	+58.3	0.36
~~85.0~~		~~55.0~~		~~55.5~~	
+95.0	0.01	+125.0	49 0.44	+124.5	0.43
		~~79.7~~		~~51.3~~	
		-100.3	04 0.04	-128.7	0.55
		116	1.04		1.34
		39	0.35		.45
	0.07				36
					0.09

~~368 Cygni is the southernmost of 3~~ By naked eye, ψ is $\frac{1}{3}$ in 2, brighter than 2. ϕ is the middle one of 3

ϕ Cygni		ψ Cygni		ϕ Cygni	
+29.4	1.57	+20.8	1.84	+27.2	1.73
~~+18.9~~	~~2.49~~	~~20.5~~		~~32.6~~	~~1.49~~
32.8	1.36	+159.5	2.32	+149.4	
+147.2	1.29	~~14.0~~	3.14	~~24.8~~	
~~33.9~~		-166.0	1.30	-155.2	1.92
-146.1	1.41		2.43		2.14
			1.52		1.71
			+0.91		

{ Observer in very bad
condition for work -

σ Cygni
Cap 1

69	+49.0	0.62
	^{41.3}	
102	+138.7	0.92
	^{42.5}	
97	-137.5	0.87
<u>268</u>		
89	⁸⁰	0.80
	³⁵	0.36
	⁴⁵	0.44
Cap 0	0.35	
	0.40	

τ Cygni
Cap 2

+24.3	1.97
^{23.1}	
+156.9	2.07
^{19.7}	
-160.3	2.41
	<u>45</u>
2.15	2.15
<u>0.45</u>	1.52
1.70	0.63
Cap 1	0.09
Cap 0	0.07
	<u>0.28</u>

A. Cygni
Cap 0.07+

+18.9	2.49
^{28.5}	
+157.5	1.64
^{18.7}	
-161.3	2.52
	<u>6.65</u>
2.47	2.22
<u>7.0</u>	
22	

Anon.

+21.2	2.25
^{25.2}	
+154.8	1.89
^{23.6}	
-156.4	2.03
	<u>17</u>
	2.06

22
23

f' is brighter than Anonyma

f' Cygni

+34.9	1.24
^{32.3}	
+147.7	1.39
^{22.6}	
-157.9	2.16
	<u>1.79</u>
	1.60

178

f² Cygni

+46.3	0.72
^{48.1}	
+131.9	0.65
^{50.4}	
-129.6	0.58
	<u>15</u>
	0.65

Groups

PXX 429 is the S.f. of 3

P.XX.429

$$\begin{array}{r}
 +23.6 \quad 2.03 \\
 +149.1 \quad 1.47 \\
 -147.5 \quad 1.37 \\
 \hline
 4.87 \\
 1.62
 \end{array}$$

335B

$$\begin{array}{r}
 +26.0 \quad 1.82 \\
 +153.0 \quad 1.75 \\
 -150.4 \quad 1.56 \\
 \hline
 3 \\
 1.71
 \end{array}$$

191

331B is the Southernmost of 2.

331B

$$\begin{array}{r}
 +18.6 \quad 2.53 \\
 +155.7 \quad 1.97 \\
 -155.4 \quad 1.94 \\
 \hline
 44 \\
 2.15
 \end{array}$$

239
23Diff of 4 m. between
335B + 331B

1.18

181
15
163

$$\begin{array}{r}
 \tau \quad 0.26 \quad - .85 \quad - 1.32 \quad - .82 \quad - 1.02 \\
 G \quad 0.40 \quad - .71 \quad - 1.18 \quad - .68 \quad - .88 \\
 \text{between } G \quad [+1.18] [+1.18] [1.18] [1.18] \\
 A \quad 2.22 \quad +1.11 \quad +0.64 \quad +1.14 \quad +0.94 \\
 G8 \quad 1.41 \quad +0.30 \quad -0.17 \quad +.33 \quad +0.13 \\
 \Sigma \quad 0.91 \quad +1.32 \quad +0.85 \quad - .17 \quad -0.37 \\
 \hline
 5.72
 \end{array}$$

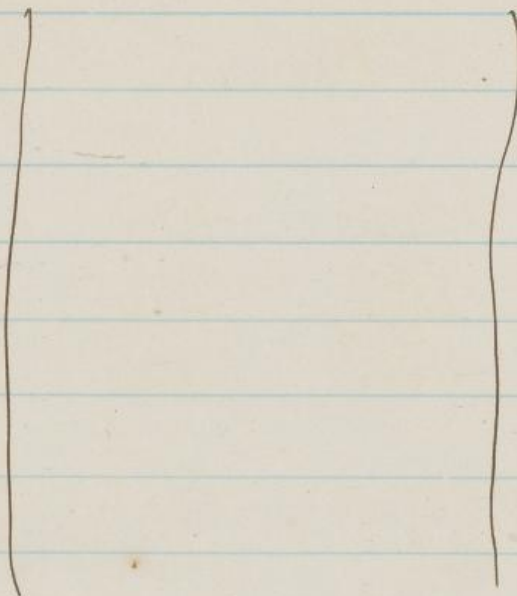
6.72 mean =

$$\begin{array}{r}
 1.18 \\
 5.54 \\
 1.18 \\
 7.90 \\
 1.58 \\
 \hline
 11.28 \\
 1.28
 \end{array}$$

$$\begin{array}{r}
 265 \quad 227 \\
 167 \quad 225
 \end{array}$$

$$LIV - LV = -.36$$

27



21

2

f_2	0.65	- 99
f_1	1.60	- 04
60	1.71	+ 07
Anon	2.06	+ 42
315B	1.71	+ .07
335B	2.15	+ .51
	<u>9.383</u>	
	1.64	
Pxx429	1.62	- .02

June 21

92 B.
 Capo Penhole 5
 + 24.4 1.96

81 B.
 + 20.8 2.29

77 B.
 + 28.1 1.67

11
 + 20.1 2.36

29 B.
 + 17.5 2.66

4
 + 23.3 2.05

Groups 24 and 25

11 60 B

56 B

6 Cam. Ken

+ 31.4 1.44

+ 24.6 1.94

+ 38.6 1.04

6 1.04 - 69

67m 1.13 - 60

2 1.76 + 03

4 2.05 + 32

29B	2.66	+ 93
	3 64	
	1.73	

2

67

+ 26.9 1.76

+ 36.9 1.13

60B 1.44 - .59

92B 1.96 - 07

77B 1.67 - 36

81B 2.29 + 26

56B 1.94 - 09

11 2.36 + 33

11.66

11.66
53
12.19
2.03

26	39
33	36
53	36
112	11

Mean 2.03

60 B is readist

XXIV - XXV = - 0.30

June 29

n Ura. Maj.		29355	175 B
Capo 2	Pinhole 5	Capo	Pinhole 5
+ 49.9	0.59	+ 14.3	3.10
+ ^{57.5} 122.5	0.38	+ ^{16.3} 163.7	2.81
- ^{68.5} 111.5	0.16	- ^{17.0} 163.0	2.72
- 69.4	0.15	- 18.9	2.49
	128		3.12
	0.32		2.78
	1.52	310	
- 1.30		31	
		79	

- 147 B	P. H. 71
Capo	Pinhole 5
+ 21.8	2.19
+ ^{25.0} 153.0	1.91
- ^{24.2} 155.8	1.97
- 27.8	1.69
	376
	1.94
214	
21	
83	

is south following of two.
P.H. 71 if result follow, is true

Groups 27 and 29

168 B

24 Can. Ven.

21 Can. Ven.

5 Capro

Pinhole 5 Capro

Pinhole 5 Capro

Pinhole 5

$$\begin{array}{r}
 +22.0 \\
 -22.3 \\
 +157.7 \\
 -21.5 \\
 -158.5 \\
 -28.9 \\
 \hline
 22.7 \\
 23 \\
 \hline
 2.03
 \end{array}$$

$$\begin{array}{r}
 +39.5 \\
 -45.0 \\
 +135.0 \\
 -46.1 \\
 -133.9 \\
 -49.1 \\
 \hline
 87
 \end{array}$$

$$\begin{array}{r}
 +29.6 \\
 -32.5 \\
 +147.5 \\
 -37.3 \\
 -142.7 \\
 -34.1 \\
 \hline
 148 \\
 15 \\
 \hline
 1.33
 \end{array}$$

$$24 \quad 0.78 \quad -1.13$$

$$\eta \quad -1.30 \quad -2.89$$

$$21 \quad 1.33 \quad -58$$

$$160B \quad 2.03 \quad +0.44$$

$$147B \quad 1.94 \quad +03$$

$$Lal \quad 2.78 \quad +0.19$$

$$nf24$$

$$175B \quad 2.85 \quad +1.26$$

$$\begin{array}{r}
 P_{x117L} \quad 2.30 \quad +.39 \\
 \hline
 6.35 \\
 .39 \\
 41 \\
 51 \\
 \hline
 7.66 \\
 1.91
 \end{array}$$

$$\begin{array}{r}
 6.36 \\
 1.59
 \end{array}$$

$$xxvii - xxix = +.32$$

June 27

6 Cam. Ven		29 B		4 Cam Ven	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+ 36.1	1.17	+ 10.4	2.93	+ 20.2	2.35
+ ^{35.5} 144.5	1.20	+ ^{31.3} 158.2	2.19	+ ^{22.4} 137.6	2.13
- ^{38.3} 141.7	1.06	- ^{15.1} 164.9	2.98	- ^{24.2} 133.8	1.97
- 44.5	<u>0.79</u>	- 21.5	<u>2.22</u>	- 25.8	<u>1.84</u>
	22		<u>2.32</u>		<u>29</u>
	1.05		2.58		2.07
117		288		231	
12		29		23	
		59		08	

62 B		92 B		81 B	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+ 33.9	1.29	+ 24.5	1.95	+ 22.4	2.10
+ ^{36.9} 143.1	1.13	+ ^{28.2} 151.8	1.66	+ ^{33.6} 137.9	2.16
- ^{36.8} 143.2	1.13	- ^{35.4} 154.6	1.87	- ^{19.8} 160.2	2.40
- 45.6	<u>0.74</u>	- 34.3	<u>1.27</u>	- 24.1	<u>1.98</u>
	29		<u>275</u>		<u>64</u>
120	1.07	188	1.69	241	2.16
12		19		24	

Lenses considerably blown by the wind.

Groups 24 & 25

2 Can. Ven

67 Ursa Majoris

56 13

Capo

Pinhole 5

Capo

Pinhole 5

Capo

Pinhole

$$\begin{array}{r}
 +25.6 \quad 1.87 \\
 +152.7 \quad 1.72 \\
 -148.4 \quad 1.48 \\
 -31.6 \quad 1.44 \\
 \hline
 246 \\
 1.61 \\
 179 \\
 18
 \end{array}$$

$$\begin{array}{r}
 +29.9 \quad 1.54 \quad 1.72 \\
 +143.8 \quad 1.28 \quad 1.42 \\
 -145.1 \quad 1.24 \quad 1.38 \\
 -36.6 \quad 1.14 \quad 1.28 \\
 \hline
 110 \quad 1.80 \\
 1.27 \quad 1.45
 \end{array}$$

$$\begin{array}{r}
 +22.3 \quad 2.14 \\
 +158.2 \quad 2.19 \\
 -160.3 \quad 2.41 \\
 -20.0 \quad 2.37 \\
 \hline
 111 \\
 2.28
 \end{array}$$

$$6 \text{ Can Ven } 1.05 - 67$$

$$67 \text{ U.M. } 1.27 - 45$$

$$2 \text{ C.V. } 1.61 - 11$$

77 13

11 Can. Ven.

Capo

Pinhole 5

Capo

Pinhole 5

$$4 \text{ " } 2.07 + 35$$

$$\begin{array}{r}
 +27.1 \quad 1.74 \\
 +134.5 \quad 1.87 \\
 -133.1 \quad 1.91 \\
 -31.7 \quad 1.42 \\
 \hline
 294 \\
 1.73 \\
 193
 \end{array}$$

$$\begin{array}{r}
 +23.0 \quad 2.08 \\
 +109.5 \quad 2.32 \\
 -169.3 \quad 2.41 \\
 -24.0 \quad 1.99 \\
 \hline
 80 \\
 2.20
 \end{array}$$

$$\begin{array}{r}
 29B \text{ " } 2.58 + 86 \\
 3.58 \\
 1.72 \\
 \hline
 60B \quad 1.07 - 87 \\
 92B \quad 1.69 - 25 \\
 77B \quad 1.73 - 21 \\
 81B \quad 2.16 + 22 \\
 56B \quad 2.28 + 34 \\
 11s \quad 2.20 + 26 \\
 \hline
 5.13 \\
 53 \\
 6) 5.66 \\
 1.94
 \end{array}$$

$$XXIV - XXV = -.22$$

South med. of two

June 27

12 Can Ven	61 ~~81~~ Can Ven	10 Can. Ven.
Capro	Pinhole 5 Capro	Pinhole 5
+ 38.8 1.03	+ 22.0 2.17 2.42	+ 21.9 2.18
+ ^{34.5} 145.5 1.26	+ ^{20.5} 159.5 2.32 2.59	+ ^{2.5} 158.4 2.22
1.14	2.24 250	2.20
1.52		
- 0.38	250 25	245 25
125 16		

24 Can. Ven.	21 Can. Ven.	147 B Can. Ven.
Capro	Pinhole 5 Capro	Pinhole 5
+ 35.7 1.19	+ 31.4 1.44 1.61	+ 21.3 2.24
+ ^{38.3} 141.7 1.06	+ ^{31.6} 146.4 1.43 1.59	+ ^{22.1} 157.9 2.16
1.12	1.43 1.60	2.20
125	161 16 145	222 22 200

Group 26 and 27

9 Can Ven
Capo Pinhole 5

$$\begin{array}{r} +20.9 \quad 2.28 \\ 15.9 \\ +164.1 \quad \underline{2.87} \\ 2.57 \end{array}$$

$$\begin{array}{r} 286 \\ 29 \\ \hline 57 \end{array}$$

8 Can. Ven
Capo Pinhole 5

$$\begin{array}{r} +55.3 \quad 0.43 \\ 48.7 \\ +131.3 \quad \underline{0.63} \\ 0.53 \end{array}$$

$$\begin{array}{r} 1105 \\ 53 \\ \hline 52 \end{array}$$

8 Can Ven
Capo Pinhole 5

$$\begin{array}{r} +38.8 \quad 1.03 \\ 37.9 \\ +142.1 \quad \underline{1.08} \\ 1.05 \\ 0.36 \\ \hline 0.69 \end{array}$$

$$0.61$$

$$\begin{array}{r} 117 \\ 12 \end{array}$$

$$12 CV -0.38 -1.81$$

$$8 \quad " \quad 0.53 -0.90$$

$$6H \quad " \quad 2.24 +0.80$$

$$10 \quad " \quad 2.20 +0.78$$

$$9 \quad " \quad \underline{2.57} +1.14$$

$$7.16$$

$$1.43$$

$$24 \quad 1.12 -1.01$$

$$21 \quad 1.43 -1.32$$

$$147B \quad 2.20 +0.9$$

$$P_{VII} 71.4 \quad \underline{2.40} +2.9$$

$$3.15$$

$$39$$

$$41$$

$$51$$

$$\underline{4.46}$$

$$2.11$$

Piazzi 871

6.5 Capo Pinhole 5

$$\begin{array}{r} +19.7 \quad 2.41 \\ 19.8 \\ +160.2 \quad \underline{2.40} \\ 2.40 \end{array}$$

$$2.67$$

$$XXVI - XXVII = -.68$$

Piazzi 871 is South

Vol. of two

June 27

22 Can. Ven.

Capo Pinholes Capo

$$\begin{array}{r}
 + 37.8 \quad 1.08 \\
 + 37.7 \\
 + 142.3 \quad 1.09 \\
 - 38.4 \\
 - 141.6 \quad 1.05 \\
 - 42.3 \quad 0.88 \\
 \hline
 10 \\
 1.02
 \end{array}$$

114

21 Can. Ven.

Capo Pinhole 5

$$\begin{array}{r}
 + 28.3 \quad 1.65 \\
 + 29.5 \\
 + 150.5 \quad 1.57 \\
 - 32.7 \\
 - 147.5 \quad 1.36 \\
 - 34.6 \quad 1.25 \\
 \hline
 183 \\
 1.46
 \end{array}$$

163
16
147

19713 Can. Ven.

Capo Pinhole 5

$$\begin{array}{r}
 + 23.6 \quad 2.03 \\
 + 23.2 \\
 + 156.8 \quad 2.06 \\
 - 22.3 \\
 - 157.8 \quad 2.15 \\
 - 25.3 \quad 1.88 \\
 \hline
 12 \\
 2.03
 \end{array}$$

226
23
203

20 Can. Ven.

Capo Pinhole 5 Capo

$$\begin{array}{r}
 + 36.2 \quad 1.17 \\
 + 37.6 \\
 + 142.4 \quad 1.09 \\
 - 38.3 \\
 - 141.7 \quad 1.06 \\
 - 41.3 \quad 0.79 \\
 \hline
 11 \\
 1.03
 \end{array}$$

114

19 Can. Ven.

Capo Pinhole 5

$$\begin{array}{r}
 + 23.5 \quad 2.04 \\
 + 22.9 \\
 + 159.1 \quad 2.09 \\
 - 34.0 \\
 - 156.0 \quad 1.99 \\
 - 19.0 \quad 2.48 \\
 \hline
 60 \\
 2.15
 \end{array}$$

239

279

11 H.

Capo Pinhole 5

$$\begin{array}{r}
 + 37.4 \quad 1.10 \quad 1.23 \\
 + 33.8 \\
 + 140.2 \quad 1.30 \quad 1.45 \\
 - 35.4 \\
 - 144.6 \quad 1.21 \quad 1.35 \\
 - 40.1 \quad 0.97 \quad 1.68 \\
 \hline
 58 \\
 1.14 \quad 1.11 \\
 1.28
 \end{array}$$

127

125
12

Groups 27 and 28

10. 871

Capo Pinhole

+ 18.4	2.55
+ 168.9	2.47
- 166.9	2.73
- 17.6	2.65
	240
	2.60

$$\begin{array}{r} 290 \\ 29 \\ \hline 261 \end{array}$$

3871 N.P.

Pinhole 5 caps

+ 17.3	2.68	2.99
+ 164.7 ¹⁵³	2.95	3.29
- 168.8 ^{16.2}	2.83	3.15
- 17.6	2.65	2.95
	<u>3 1 1</u>	38
	2.78	~~24.00~~

288

3.09	24 CV	1.02	-	1.12
3	21 "	1.46	-	.68
2.78	14 TB	2.03	-	.11
	P _{VIII} 71st	2.60	+	.46
	P _{VIII} 71st	2.78	+	.64

$$\begin{array}{r} 4.89 \\ 39 \\ 41 \\ \hline 5.69 \\ 2.14 \end{array}$$

17 beam. View.
leaps Pinhole 5

23.9	2.00
8.4	
+ 101.6	2.55
21.0	
- 159.0	2.27
- 2.42	1.97
	79
	2.20
2.44	

2044

15 Can. Venn

Cap 0 Pinhole 0

$$\begin{array}{r} 723.7 \\ + 16.7 \\ \hline + 163.3 \\ \hline - 163.7 \\ \hline - 19.5 \\ \hline 243.2 \end{array}$$
$$\begin{array}{r} 2.02^2 \\ 2.76^3 \\ 2.68^3 \\ 2.43^2 \\ \hline 1.89 \\ \hline 2.47 \end{array}$$

279 2.43

$$\begin{array}{r} 28 \\ \hline 151 \\ 3 \end{array}$$

$$\begin{array}{r} 279 \\ 28 \\ \hline 151 \end{array}$$

$$\frac{2.93}{3}$$

2125			
20CV	1.03	-77	
11H	1.14	-66	
23	1.82	+02	
17	2.20	+40	
19	2.15	+35	
27	2.47	+67	
33	4.81		
9279	1.80		

$$xxvii - xxviii = +0.34$$

70.871 S. Fi

17 is a little brighter

June 27

2.00 13
loop 2

$$\begin{array}{r}
 +16.0 \quad 285 \\
 \underline{1.52} \\
 1.33
 \end{array}$$

$$\begin{array}{r}
 318 \\
 37 \\
 \hline
 6
 \end{array}$$

28

Pinhole loop 0

$$+ 24.1 \quad 198$$

$$\begin{array}{r}
 021 \\
 27
 \end{array}$$

194 13

Pinhole 5 loop 0 Pinhole 5

$$+ 23.7 \quad 202$$

loop

Pinhole

loop

Pinhole

loop

Pinhole

Groups 30 and 31

21 H		for 21 H.		170 B	
Cap	Pinhole	Cap	Pinhole	Cap	Pinhole
+32.0	1.41	+26.6	1.78	+20.9	2.28
	1.58		1.98		2.54

June 28

η Urs. Maj.		Sal 25355		175 B	
Capo 2	Pinhole 5	Capo 0	Pinhole 5	Capo 0	Pinhole 5
+ 49.6	0.60	+ 16.7	2.76	+ 24.0	1.99
+ ^{60.2} 119.8	0.31	+ ^{17.3} 162.7	2.68	+ ^{16.7} 163.3	2.76
- ^{67.2} 112.8	0.18	- ^{15.3} 164.7	2.95	- ^{15.5} 164.5	2.92
- 89.5	0.00	- ^{15.0} 165.0	2.99	- 17.6	2.65
	1.09		33'8		~~2.32~~
	0.27		2.84		~~2.58~~
	1.52				3)2.33
	- 1.25				2.78
80		317			
		82			

$$\begin{array}{r} 287 \\ 37 \\ \hline 258 \end{array}$$

K Bootis		θ Bootis		ι Bootis	
Capo 0	Pinhole 5	Capo 1	Pinhole 5	Capo 1	Pinhole 5
+ 43.0	0.85	+ 37.9	1.08	+ 24.9	1.91
+ ^{47.5} 132.5	0.67	+ ^{36.9} 143.1	1.13	+ ^{27.6} 152.4	1.70
- ^{46.4} 133.6	0.71	- ^{37.3} 142.7	1.11	- ^{26.7} 153.3	1.77
- 54.8	0.45	- 45.7	0.74	- 29.6	1.56
	268		6		294
	0.67		1.01		1.73
		1.01	36		36
		42	0.65		1.37
		0.59			0.87
		1.12			2.24
					1.12
					1.23
					mean

Groups 29 and 31

160 B		θ Bootis		ι Bootis	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+ 22.1	2.16	+ 47.6	0.67	+ 35.3	1.21
+ 159.7 ^{30.3}	2.34	+ 182.3 ^{47.7}	0.67	+ 143.4 ^{36.6}	1.14
- 159.0 ^{21.0}	2.27	- 118.2 ^{61.8}	0.28	- 142.1 ^{37.9}	1.08
- 27.6	1.70	- 78.0	0.05	- 40.7	0.95
30	30		1.67		348
	2.07		0.42		0.87
- 236		46			38
25	47			127	1.10
132	12				

K Bootis		θ Bootis		K Bootis	
Capo 1	Pinhole 5	Capo 2	Pinhole 5	Capo 2	Pinhole 5
+ 29.3	1.58	+ 17.4	2.67	1.12 + 17.2	2.70
+ 149.8 ^{30.2}	1.52	+ 163.2 ^{16.8}	2.75	1.28 + 163.6 ^{16.4}	2.80
- 151.7 ^{28.3}	1.65	- 162.8 ^{17.2}	2.70	1.42 - 165.5 ^{14.5}	3.07
- 36.5	1.15	- 19.2	2.46	1.37 - 18.7	2.52
	19.0		2.58		30.9
1.47	1.47	2.64	2.64	2.77	2.77
67	36	1.01	1.52	1.47	1.52
0.80	1.11	1.63	1.12	1.30	1.25
			0.65		1.11
164			0.42		0.67
16			2.19		3
48		mean	2.73	mean	1.01

June 28

13 Bootes		13 Bootes		J 481	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole
+ 28.7	1.62	+ 26.7	1.77	+ 20.6	2.31
^{22.13} + 157.7	2.14	^{21.12} + 158.8	2.25	^{23.22} + 156.8	2.06
^{29.5} - 150.5	1.57	^{25.4} - 154.6	1.87	^{19.3} - 150.7	2.45
- 34.5	1.26	- 26.4	1.80	- 26.5	1.79
	<u>2.59</u>		<u>3.69</u>		<u>61</u>
	1.65		1.92		2.15
$\begin{array}{r} 184 \\ 18 \\ \hline 6 \end{array}$		$\begin{array}{r} 214 \\ 21 \\ \hline 8 \end{array}$		$\begin{array}{r} 240 \\ 24 \\ \hline 16 \end{array}$	

9 H. Bootes		10 III 289	
Capo	Pinhole 5	Capo	Pinhole 5
+ 29.8	1.55	+ 17.7	2.64
^{30.7} + 149.3	1.49	^{16.1} + 160.9	2.47
^{32.7} - 147.3	1.36	^{16.1} - 163.9	2.84
- 34.2	1.28	- 21.7	2.20
	<u>168</u>		<u>215</u>
	1.42		2.54
$\begin{array}{r} 118 \\ 118 \\ \hline 0 \end{array}$		$\begin{array}{r} 2181 \\ 218 \\ \hline 0 \end{array}$	

Groups 29 and 31

λ Bootis			λ Bootis			λ Bootis		
Capo	Pinhole 5	Cap 1	Pinhole 5	Cap 2	Pinhole 5	Cap 2	Pinhole 5	
+48.3	0.65	.43	+37.8	1.08	1.38	+19.2	2.46	
+131.8	0.65	.62	+140.7	1.27	1.25	+161.3	2.52	
-136.4	0.82	.51	-146.8	1.33	.77	-157.2	2.10	
-75.4	0.07	.50	-50.7	0.57	1.31	-25.3	1.88	
	2.19			2.5			9.6	
	0.55			1.06			2.24	
				36			1.52	
Cap 0	Cap 1	Cap 2	1-0	2-1	0.70	1.18	0.72	
~~0.42~~	~~0.87~~	~~0.69~~					0.70	
0.42	0.65	2.64	0.59	1.63			0.55	
0.87	1.73	2.77	0.86	1.04			1.97	
0.69	1.47	2.77	0.78	1.30			mean 0.66	
0.55	1.06	2.24	0.51	1.18				

η	-1.25	-2.66	θ	0.73	-.37
1608	2.07	+1.28	λ	0.66	-.44
del	2.84	+1.28	K	1.01	-.09
175B	2.78	+1.47	L	1.12	+0.2
	5.44		13	1.65	+0.55
	1.86		9H	1.42	+0.32
180B	2.16	+0.56		.59	
				1.10	
			P ₂₁₁₂₈₉	2.54	+1.44
			F ₄₈₁	2.15	+1.05
			g	1.92	+0.82

$$xxix - xxxi = +26 + 0.51$$

June 28

O ₁ Cygni fol			O ₂ Cygni			O ₁ Cygni proo.		
Capo	Pinhole	Capo	Pinhole	Capo	Pinhole	Capo	Pinhole	Capo
+45.0	0.77		+40.0	0.98	1.09	+33.0	1.34	1.50
^{46.9} (slutted 58) +133.1	0.70		^{41.2} +138.8	0.92	1.03	^{31.0} +149.0	1.47	1.64
^{50.1} -129.9	0.59		^{39.6} -140.4	1.00	1.11	^{31.7} -148.3	1.42	1.59
-58.0	0.36		-49.5	0.61	0.68	-38.4	1.05	1.17
<u>242</u>			<u>3.51</u>	<u>391</u>		<u>128</u>	<u>198</u>	
0.66			~~36~~	98		1.32	1.47	
<u>36</u>			0.88					
0.24			<u>36</u>					
		112	0.52					
		<u>11</u>						
		101						

between 165 & 178 13			θ Bootae			ι Bootae		
Capo	Pinhole	Capo	Pinhole	Capo	Pinhole	Capo	Pinhole	Capo
+19.8	2.51	2.67	+37.6	1.09	1.22	+27.3	1.72	
+160.0	2.37	2.65	^{36.1} +143.9	1.17	1.30	^{24.3} +155.7	1.97	
^{18.9} -161.1	2.49	2.78	^{34.8} -145.2	1.24	1.38	^{26.1} -153.9	1.82	
-20.3	2.34	2.61	-50.3	0.58	0.65	-32.0	1.41	
<u>171</u>	<u>31</u>		<u>8</u>	<u>15</u>		<u>292</u>		
2.43	2.68		1.02	14		1.73		
2.68			36			36		
<u>27</u>			0.66			<u>1.37</u>		
2.41								
		11.3						

Groups 31 and 51

178 B Cygni			182 B Cygni			165 B Cygni		
Capo	Pinhole 5		Capo	Pinhole 5		Capo	Pinhole 5	
50	+ 18.4	2.55	+ 30.6	1.49		+ 22.7	2.11	
64	+ ^{21.6} 158.4	2.21	+ ^{27.6} 152.4	1.70		+ ^{22.5} 157.5	2.12	
89	- ^{30.5} 139.8	2.32	- ^{30.5} 154.0	1.87		- ^{19.1} 160.9	2.47	
17	- 18.2	2.58	- 25.1	1.90		- 20.3	2.34	
98		<u>1.66</u>		<u>296</u>			<u>104</u>	
47		2.41		1.74			2.26	
	268		1.93			351		

15 Bootae			13 Bootae			9 Bootae		
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	
+ 30.6	1.49	1.67	+ 30.1	1.53		+ 21.4	2.23	
+ ^{22.6} 147.4	1.37	1.53	+ ^{27.5} 152.5	1.71		+ ^{23.4} 156.6	2.05	
- ^{30.5} 149.0	1.50	1.67	- ^{30.0} 148.0	1.41		- ^{23.3} 156.7	2.05	
- 41.7	0.90	1.01	- 35.0	1.23	(altitudes 4)	- 28.6	1.63	
	<u>126</u>	<u>188</u>		<u>188</u>			<u>396</u>	
	1.31	47		1.47			1.99	
148	36		1.63			2.21		
115	<u>0.95</u>							
113								

June 28

(altitude 56)

L 481		λ Bootae		γ H Bootae	
Capo	Pinhole 5 Capo	Capo	Pinhole 5	Capo	Pinhole
+19.4	2.44	+36.0	1.18	+32.5	1.37
^{20.2} +139.8	2.35	^{36.2} +143.8	1.17	^{32.3} +147.7	1.39
^{22.2} -139.8	2.35	^{31.2} -148.8	1.46	^{28.6} -151.4	1.63
-27.7	1.69	-43.2	0.84	-37.7	1.09
	<u>83</u>		<u>65</u>		<u>148</u>
	2.21		1.16		1.37
2.46		1.29	<u>36</u>	1.52	
			0.80		

Groups 31 and 51

P_{XIII} 289
Capo Pinhole 5

$$\begin{array}{r}
 +20.1 \quad 2.36 \\
 +160.6 \quad 2.44 \\
 -160.3 \quad 2.41 \\
 -24.3 \quad 1.97 \\
 \hline
 118 \\
 2.29
 \end{array}$$

2.84

$$\begin{array}{r}
 \theta \quad 0.66 - .44 \\
 \lambda \quad 0.80 - .30 \\
 \kappa \quad 0.95 - .15 \\
 \iota \quad 1.37 + 27 \\
 \text{is} \quad 1.47 + 37 \\
 \text{qH} \quad 1.37 + 27 \\
 \hline
 62 \\
 1.10 \\
 2.29 + 1.19 \\
 2.21 + 1.11 \\
 1.99 + .89 \\
 \hline
 9
 \end{array}$$

P_{XIII} 289

F481

9

$$\begin{array}{r}
 c, f \quad 0.24 - 1.32 \\
 o_2 \quad 0.52 - 1.04 \\
 o, pr \quad 1.32 - .24 \\
 \text{idB} \quad 1.74 + .18 \\
 \text{isB} \quad 2.26 + .70 \\
 - \quad 2.43 + 87 \\
 178B \quad 2.41 + 85 \\
 \hline
 10.92 \\
 1.56
 \end{array}$$

$$xxx1 - L1 = -46$$

Night very hazy.

#50

July 14

θ Bootae		ι Bootae		κ Bootae	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+38.8	1.03	+32.0	1.34	+37.3	1.10

21H	2.62	-67	θ	1.03	-27
pr21H	2.93	-36	λ	0.82	-48
20H	3.75	+46	κ	1.10	-20
174B	3.07	-22	ι	1.34	+04
150B	3.63	+34	13	1.84	+54
170B	3.35	+06	2H	1.68	+38
210B	3.71	+42		1.81	
	2.08			1.30	
	3.29			3.16	+1.86

xxx-xxxi ±1.99

Prxiii 289		210 B		20 B	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+13.9	3.16	+10.8	3.71	10.6	3.75

852
25

613
41
70

Groups 30 and 31

13 Bootae			λ Bootae			9 β Bootae	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5		
+25.8	1.84	+43.7	0.82	+27.9	1.68		

7205

186
15
7

174 B			21 β			pr 21 β	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5		
+14.5	3.07	+17.8	2.62	+15.4	2.93		

742
24
68

292
29
63

327
33
34

July 14

Cap 170 73 150 73

Capo Pinholes Capo Pinhole & Capo

+12.7 3.35

+11.2 3.68

$$\begin{array}{r} 374 \\ 37 \\ \hline 37 \end{array}$$

Seeing especially bad

July 14

γ Bootae		149 B	F 219
Capo	Pinhole 5	Capo	Pinhole 5
+ 53.4	0.49	+ 12.0	3.48
66.2		14.1	
+ 113.8	0.20	+ 165.9	3.13
	<u>0.34</u>		<u>3.30</u>

γ	0.34 - 2.22
114 B	3.36 + 0.80
F 219	3.24 + 0.68
149 B	3.30 + 0.74
	<u>10.24</u>
	2.56

260
25
1

$$xxxi - xxxi = - \cancel{30.77}$$

θ Bootae		i Bootae		κ Bootae	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+ 31.1	1.46	+ 29.5	1.57	32.0	1.41
288		25.0		292	
+ 151.2	1.62	+ 155.0	1.91	+ 150.8	1.59
	<u>1.54</u>		<u>1.74</u>		<u>1.50</u>

There is a star between 149 B

and γ

Groups 31 and 32

11473

9 Feb.

λ Bootae

Capo

Pinholes Capo

Pinholes Capo

Pinholes

$$\begin{array}{r}
 +12.4 \\
 12.9 \\
 +1671 \\
 \hline
 3.36
 \end{array}$$

$$\begin{array}{r}
 +18.9 \\
 163.2 \\
 \hline
 2.75 \\
 124 \\
 \hline
 2.62
 \end{array}$$

$$\begin{array}{r}
 +37.6 \\
 31.7 \\
 +148.3 \\
 \hline
 1.42 \\
 \hline
 1.25
 \end{array}$$

$$\begin{array}{r}
 292 \\
 29 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 140 \\
 14 \\
 \hline
 6
 \end{array}$$

θ	1.54	-2.56	0.88	30
λ	1.25	-5.40	0.45	13
κ	1.50	-2.95	0.55	03
ι	1.74	-0.87	0.37	25
13	2.11	+3.247	0.64	6
9H	2.62	+8.337	1.25	

$$\begin{array}{r}
 6)4.76 \\
 \hline
 1.79
 \end{array}$$

$$\begin{array}{r}
 289 \\
 0.58
 \end{array}$$

13 Bootae

Capo

Pinholes

$$\begin{array}{r}
 +121.7 \\
 23.7 \\
 +156.3 \\
 \hline
 2.02 \\
 \hline
 2.11
 \end{array}$$

July 15

B Boostae		L Boostae		K Boostae	
Capo	Pinholes	Capo	Pinholes	Capo	Pinholes
+46.0	0.73	+33.1	1.34	+39.5	1.00
21H	81	B	0.73	-42	149
pr21H		λ	0.71	-.36	112
20H	2.04	K	1.00	-.15	
17HB	2.55	i	1.34	+19	
150B		13	1.61	+46	
170B		9M	1.50	+35	
210B	3.22		89		
			1.15		

D XIII 269		210 73		20 76	
Capo	Pinholes	Capo	Pinholes	Capo	Pinholes
+16.9	2.73	+13.5	3.22	+23.5	2.04
	241				

Groups 30 and 31

13 Bostae	2 Bostae	9 H Bostae
Capo Pinhole 5	Capo Pinhole 5	Capo Pinhole 5
+28.9 1.61	+46.6 0.71	+30.5 1.50
179	78	166

174 B	21 H	
Capo - Pinhole 3	Capo Pinhole 5	Capo Pinhole 5
+18.4 2.55		

July 15

60 Cygni		Anon		L1 Cygni	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+ 26.8	1.76	+ 22.0	2.17	+ 29.4	1.57
^{22.5}		^{22.8}		^{27.0}	
+ 157.5	2.12	+ 157.2	2.10	+ 153.0	1.75
^{21.4}		^{16.8}		^{22.0}	
- 158.6	2.23	- 163.2	2.75	- 168.0	2.17
	<u>1.1</u>		<u>1.02</u>		<u>2.49</u>
	2.04		2.34		1.83

21

216
16

Pxx 429		74 Cygni		L 24 south		
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	
+ 23.5	2.04	+ 28.6	1.63	2.61	+ 20.3	2.34
^{20.3}		^{26.4}			^{15.8}	
+ 159.7	2.34	+ 153.6	1.80	3.21	+ 154.2	2.88
^{20.1}		^{20.8}			^{17.3}	
- 159.9	2.36	- 159.2	2.29	2.89	- 162.7	2.68
	<u>74</u>		<u>2.72</u>			<u>1.90</u>
	2.25		1.91	2.81		2.63
				94	2.87	
					<u>2.9</u>	
					2.60	

Pxx 429 is the southernmost of 3

Groups 55 and 56

L ² bygni		335 B bygni		334 B bygni	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+38.0	1.07	+20.0	2.28	+23.6	2.03
41.6		22.9		22.8	
+138.4	0.91	+157.1	2.09	+157.2	2.10
35.5		18.8		19.8	
-144.5	1.20	-161.2	2.51	-160.2	2.40
	<u>1.8</u>		<u>88</u>		<u>53</u>
	1.06		2.29		2.18

L ²⁴ middle		L ²⁴ north		Ann	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+21.2	2.25	+23.8	2.01	+14.1	3.13
17.8		25.5		14.0	
+162.2	2.62	+154.5	1.87	+166.0	3.14
19.1		21.5		16.0	
-160.9	2.47	-158.5	2.22	-169.0	3.67
	<u>1.34</u>		<u>1.0</u>		<u>94</u>
	2.45		2.03		3.31
		2.18			
		2.22			
		<u>8</u>			
			2.27		
				7.68	

July 15

75 Cygni

Capo	Pinhole	Capo	Pinhole	Capo	Pinhole
------	---------	------	---------	------	---------

+ 25.2	1.89	2.11	$\frac{1}{2}$	1.06	- 0.90
--------	------	------	---------------	------	--------

+ 152.8 ^{27.2}	1.73	1.93	$\frac{1}{2}$	1.83	- 0.13
-------------------------	------	------	---------------	------	--------

- 156.1 ^{23.9}	2.00	2.23	60	2.04	+ 0.08
-------------------------	------	------	----	------	--------

2.62	2.27	2.34	+ 0.38
1.87	2.09		

3.5B	2.18	+ 0.22
------	------	--------

335B	2.29	+ 0.33
------	------	--------

5.7³⁴

1.96

2.25	+ 0.29
------	--------

19	226
$\frac{17}{207}$	$\frac{23}{203}$

LV - LVI = - 0.22

Capo	Pinhole	Capo	Pinhole	Capo	Pinhole
------	---------	------	---------	------	---------

Groups

Cap	Pinhole	Cap	Pinhole	Cap	Pinhole
75	1.87 - .31				
74	1.91 - .27				
F24n	2.03 - .45				
F24m	2.45 + .27				
F24s	2.63 + .45				
	<u>89</u>				
	<u>2.88</u>				
Anon	3.31 + 1.13				

Cap Pinhole

$$\begin{array}{r} 1.52 \\ 36 \\ \hline 1.16 \\ 1.55 \\ \hline 3.01 \end{array}$$

7674

July 17

O Bootae

c Bootae

K Bootae

Cap 2

Pinhole 5 Cap 2

Pinhole 5 Cap 2

Pinhole 5

$$\begin{array}{r} 2.06 + 25.7 \quad 1.85^* \quad 3.01 \\ 3.52 + 16.6 \quad 3.16 \quad 3.16 \\ \hline -16.6 \quad 3.41 \\ \hline 3.09 \\ 1.52 \\ \hline + 1.57 \end{array}$$

$$\begin{array}{r} 116.5 \quad 2.79 \\ 11.2 \\ + 168.8 \quad 3.63 \\ \hline -16.7 \quad 3.61 \\ \hline 3.21 \\ 1.52 \\ \hline + 1.69 \end{array}$$

$$\begin{array}{r} + 16.7 \quad 2.76 \\ 12.2 \\ + 167.8 \quad 3.14 \\ \hline -170.5 \quad 3.99 \\ \hline 26 \\ 3.10 \\ 1.52 \\ \hline + 1.58 \end{array}$$

* Perhaps Cap 1 was used by accident

λ Bootae

λ Bootae

9 H Bootae

Cap 1

Pinhole 5 Cap 2

Pinhole 5 Cap 0

Pinhole 5

$$\begin{array}{r} + 36.1 \quad 1.77? \\ 28.5 \\ + 156.4 \quad 1.63 \\ 32.4 \\ \hline -117.6 \quad 1.38 \\ \hline 146 \\ 36 \\ \hline 8.84 \\ 1.69 \\ \hline 73 \\ \hline \text{Mean } 1.37 \end{array}$$

$$\begin{array}{r} + 12.8 \quad 3.34 \\ 14.4 \\ + 165.6 \quad 3.08 \\ \hline -16.2 \\ \hline 3.21 \\ 1.52 \\ \hline 1.69 \end{array}$$

$$\begin{array}{r} + 32.4 \quad 1.38 \\ 25.4 \\ + 154.6 \quad 1.87 \\ \hline -27.6 \\ \hline + 152.4 \quad 1.25 \\ \hline 181 \\ 18 \\ \hline 1.63 \end{array}$$

Groups 30 and 31

13 Bostae	13 Bostae	13 Bostae
Capo	Pinhole 5 Capo	Pinhole 5
+ 28.9 1.61	+ 19.5 2.43	+ 19.0 4.11
^{25.1}	^{19.2}	^{9.6}
+ 154.9 1.90	+ 160.8 2.46	+ 170.4 3.96
^{24.3}	^{17.6}	^{8.6}
~~+ 155.7~~ 1.97	~~+ 162.4~~ 2.65	~~+ 171.4~~ 4.21
195		
1.75	2.45	4.04
2.09	0.36	1.52
2.52	2.09	2.52
.36		
mean 2.12	272	
	27	

21 H Cam. Tenn	pro 21 H Cam. Tenn.	20 H Cam. Tenn.
Capo	Pinhole 5 Capo	Pinhole 5
+ 24.7 1.93	+ 19.2 2.46	+ 15.5 2.92
^{19.2}	^{16.0}	^{19.3}
+ 160.8 2.46	+ 164.0 2.85	+ 160.7 2.45
³⁹	^{2.65}	¹³⁷
2.20	2.65	2.69
244	296	
	30	
	266	

July 17

210 B Can Ven	174 B Can Ven	170 B Can Ven
Capo	Pinhole 5	Capo
Pinhole 5	Capo	Pinhole 5
+114.5 3.07 3.42	+114.8 3.02	+13.4 3.23
¹⁴⁴ +165.6 3.08 3.43	¹⁶² +163.8 2.83	Altitude 45 ^{15.9} +164.1 2.87
337 <u>34</u> 303	293 <u>293</u> 293	339
21 H 2.20 -.59	0 1.57 -.09	
pr 21 H 2.65 -.14	λ 1.37 -.29	
20 H 2.69 -.10	κ 1.58 -.08	
174 B 2.93 +.14	ι 1.69 +.03	
150 B 2.93 +.14	13 2.12 +.46	
170 B 3.05 +.26	9 H 1.63 -.03	
210 B 3.07 +.28	<u>3.98</u>	
<u>5.52</u>	32 5 1.66	
2.79		

$$xxx - xxx1 = +1.43$$

210 B, is the preceding
of four (H)

Groups (continued)
30 and 31

150 B Bow Vent.

5 Lapo Pinhole 5

$$\begin{array}{r}
 + 14.5 \quad 3.07 \\
 + 163.5 \quad 2.79 \\
 \hline
 \quad 186 \\
 2.93
 \end{array}$$

$$\begin{array}{r}
 326 \\
 33 \\
 \hline
 93
 \end{array}$$

July 17

θ Bootae

ι Bootae

κ Bootae

Cap 2

Pinhole 5 Cap 2

Pinhole 5

Cap 2

Pinhole 5

-167.6 3.41

-168.7 3.61

-170.5 3.99

-17.6 2.65

-11.3 3.61

-13.8 3.17

3.033.613.501.521.521.521.512.092.06

40

39.8

λ Bootae

λ Bootae

γ Bootae

Cap 1

Pinhole 5 Cap 2

Pinhole 5

Cap 0

Pinhole 5

-147.6 1.38

-166.2 3.17

-152.4 1.70

-29.9 1.54

-14.8 3.02

-30.7 1.49

1.463.101.60

36

1.521.101.581.50

3.10

4.66

7.64

163
19
47

Mean 1.34

178

3.10

3.21

31

Group 31 and 33

13 Bootae		13 Bootae		13 Bootae	
Capo	Pinholes	Capo 1	Pinholes	Capo 2	Pinholes
-155.7	1.97	-162.4	2.68	-171.4	4.21
-290	1.60	-22.1	2.16	-10.6	3.75
	<u>1.79</u>		<u>2.40</u>		<u>7.96</u>
189	2.04	2.40	0.36	3.98	3.98
	<u>2.46</u>	0.61	<u>2.04</u>	2.40	<u>1.52</u>
	.29			1.58	<u>2.46</u>
Mean	2.10	2.68			
		27			
		241			

14 Bootae		I Bootae		South pr. I	
Capo	Pinholes	Capo	Pinholes	Capo	Pinholes
-162.5	2.66	-163.9	1.82	-167.0	3.30
-23.3	2.05	-36.6	1.20	-14.8	3.02
	<u>2.35</u>		<u>1.51</u>		<u>3.16</u>
	<u>2.06</u>				
Mean	2.20				
	2.62	168		352	
	125	15		35	
		145		170	

1874

July 17

39 Bootae

H Bootae

33 Bootae

Capo

Pinhole 0 Capo

Pinhole 5 Capo

Pinholes

$$\begin{array}{r} 31.1 \\ -158.9 \\ \hline \end{array}$$

$$\begin{array}{r} -24.9 \\ 191 \\ \hline 4.17 \end{array}$$

2.09

281

$$\begin{array}{r} 4.6 \\ -165.4 \\ \hline \end{array}$$

$$\begin{array}{r} 3.05 \quad 3.40 \\ -18.3 \quad 2.56 \quad 2.86 \\ \hline 5.61 \quad .26 \\ 2.80 \quad 3.13 \end{array}$$

$$\begin{array}{r} 313 \\ 31 \\ \hline 82 \end{array}$$

$$\begin{array}{r} 28.8 \\ -168.8 \\ \hline \end{array}$$

$$\begin{array}{r} 2.37 \\ -19.4 \quad 2.44 \\ \hline 81 \end{array}$$

2.40

$$\begin{array}{r} 268 \\ 27 \end{array}$$

Groups (continued)
31 and 33

θ	1.51	- .27	i Bootai	1.51	- .72
λ	1.34	- .44	39 "	2.09	- .14
κ	2.06	+ .28	k "	2.35	+ .12
"	2.09	+ .31	33 "	2.40	+ .17
μ	2.10	+ .32	h "	2.80	+ .57
η	1.60	- .18		<u>1.15</u>	
	<u>4.78</u>			<u>2.23</u>	
	1.78		sp i	3.16	+ .83

$$xxx1 - xxx111 = + \overline{0.63} \\ = 0.45$$

874

July 22

γ Bootae	Between γ and 1119 B. Bootae	¹³ Bootae
Cape 2	Pinhole 5 Cape 0	Pinhole 5 Cape 0
+25.3 1.88	+16.0 2.85	+15.0 2.99
^{27.8} +152.2 1.69	^{15.6} +164.4 2.91	^{15.8} +164.2 2.88
^{23.8} -156.2 2.01	^{12.5} -167.5 3.39	^{12.6} -166.4 3.20
-31.4 1.44	-18.8 2.51	-16.3 2.81
	<u>3.66</u>	<u>3.88</u>
186 1.75	324 2.91	331 2.97
1.52	32	
+23		

I Bootae.	South pr. I Bootae	39 Bootae
Cape 0	Pinhole 5 Cape 0	Pinhole 5 Cape 0
+26.1 1.82	+12.4 3.41	+18.0 2.60
^{29.7} +150.3 1.55	^{15.8} +164.2 2.88	^{20.4} +159.6 2.33
^{28.1} -151.9 1.67	^{15.1} -164.9 2.98	^{19.5} -160.5 2.43
-31.8 1.42	-16.3 2.81	-22.0 2.17
	<u>4.08</u>	<u>1.53</u>
179 1.61	336 3.02	264 2.38
		27
		9

Groups 32 and 33.

F 219		114 B Bootae		K Bootae	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+14.8	3.02	+15.0	2.99	+17.8	2.62
^{14.2} +165.8	3.11	^{16.8} +163.2	2.75	^{14.1} +165.9	3.13
^{12.2} -167.8	3.44	^{13.7} -166.3	3.19	^{15.7} -164.3	2.89
-16.0	<u>2.85</u>	-17.6	<u>2.65</u>	-21.3	<u>2.24</u>
	42		3.58	303	288
	3.10		2.89	30	2.72
346		322		273	
30		37			

γ	+0.23	-2.07
114B	2.89	+ .59
F219	3.10	+ .80
149B	<u>2.97</u>	+ .67
	1.19	
	<u>2.30</u>	
	2.91	+ .61

H Bootae		33 Bootae		Beta	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+17.5	2.66	+20.0	2.37	c	1.61 - .66
^{19.2} +160.8	2.46	^{20.5} +159.5	2.32	39	2.38 + .11
^{16.3} -163.7	2.81	^{21.5} -158.5	2.22	h	2.72 + .45
-23.4	<u>2.05</u>	-27.9	<u>1.68</u>	33	2.15 - .12
	198		59	h	<u>2.49</u> + .22
	2.49		2.15		1.35
278		200			<u>2.27</u>
38		24		spi	3.02 + .75
250					xxxii - xxxiii = + 13

874

July 22

θ Bootae		r^2 Bootae		r^1 Bootae	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+19.8	2.40	+20.8	2.29	+21.7	2.20
^{21.8} +158.2	2.19	^{22.9} +157.1	2.09	^{24.8} +155.2	1.92
^{23.2} -156.8	2.06	^{21.8} -158.2	2.19	^{24.2} -155.8	1.97
	<u>65</u>		<u>2.19</u>		<u>2.03</u>
	2.22		2.38		2.34
	<u>2.60</u>		<u>2.28</u>		<u>2.18</u>
	46		19		31
Mean	2.45				

r^1 Bootae		μ Bootae		μ Bootae	
Capo 1	Pinhole 5	Capo 1	Pinhole 5	Capo 2	Pinhole 5
+15.6	2.91	+23.5	2.04	+11.0	3.67
^{19.1} +160.9	2.47	^{23.0} +157.0	2.08	^{11.7} +168.3	3.53
^{17.1} -162.9	2.71	^{24.5} -155.5	1.95	^{11.0} -169.0	3.67
	<u>209</u>		<u>2.02</u>		<u>3.62</u>
	2.70		.36		1.52
	0.36		1.66		2.10
	<u>2.34</u>		<u>2.10</u>		<u>2.10</u>
			3.76		
		Mean	1.88		

Groups 33 and 34

408 B. Bootae.

Capo	Pinhole 5	Capo
+ 17.7	2.64	
^{18.9}		
+ 161.1	2.49	
^{18.6}		
- 161.4	2.53	
2.55		

$$\begin{array}{r} 2.85 \\ 2.9 \\ \hline 2.56 \end{array}$$

⊕ Bootae

Capo	Pinhole 5	Capo
+ 13.7	3.19	
^{16.5}		
+ 163.5	2.79	
^{14.1}		
- 165.9	3.13	
3.04		
0.36		
2.68		
2.22		
.46		

$$\begin{array}{r} 3.04 \\ 2.22 \\ \hline .82 \end{array}$$

√² Bootae

Capo	Pinhole 5	Capo
+ 16.2	2.88	
^{17.3}		
+ 162.7	2.68	
^{17.1}		
- 162.9	2.71	
2.74		
36		
2.38		

$$\begin{array}{r} 2.74 \\ 2.12 \\ \hline .55 \end{array}$$

305
31
74

β Bootae		K Bootae		I Bootae	
Cap 2	Pinhole 5	Cap 0	Pinhole 5	Cap 0	Pinhole 5
+19.3	2.45	+17.6	2.65	+24.8	1.92
^{20.1} +159.9	2.36	^{16.9} +163.1	2.73	^{27.1} +152.9	1.74
^{18.6} -161.4	2.53	^{15.7} -164.3	2.89	^{28.7} -151.3	1.62
	2.45		2.76		1.76
	1.52				
	0.93				
243		3107		196	
27		31			

July 22

South pr. I Bootae

39 Bootae

II Bootae

Capo

Pinhole 5 Capo

Pinhole 5 Capo

Pinholes

$$\begin{array}{r}
 +10.9 \quad 3.69 \\
 +168.4 \quad 3.55 \\
 -170.2 \quad 3.92 \\
 \hline
 \quad 2.16 \\
 \quad 3.72 \\
 \hline
 415 \\
 42 \\
 \hline
 73
 \end{array}$$

$$\begin{array}{r}
 +16.1 \quad 2.84 \\
 +162.3 \quad 2.64 \\
 -164.2 \quad 2.88 \\
 \hline
 \quad 2.38 \\
 \quad 2.79 \\
 \hline
 310 \\
 31
 \end{array}$$

$$\begin{array}{r}
 +15.6 \quad 2.91 \\
 +161.9 \quad 2.59 \\
 -165.2 \quad 3.02 \\
 \hline
 \quad 2.52 \\
 \quad 2.84 \\
 \hline
 316 \\
 32 \\
 \hline
 55
 \end{array}$$

$$\begin{array}{r}
 i \quad 1.76 \quad -.76 \\
 39 \quad 2.79 \quad +.27 \\
 k \quad 2.76 \quad +.24 \\
 33 \quad 2.46 \quad -.06 \\
 h \quad 2.84 \quad +.32 \\
 \hline
 \quad 2.61 \\
 \quad 2.52 \\
 \hline
 sp \dot{u} \quad 3.72 \quad +1.20
 \end{array}$$

$$\begin{array}{r}
 \beta \quad 0.93 \quad -1.11 \\
 \mu \quad 1.88 \quad -.16 \\
 v_2 \quad 2.28 \quad +.24 \\
 v_1 \quad 2.18 \quad +.14 \\
 \varphi \quad 2.45 \quad +.41 \\
 408B \quad 2.55 \quad +.51 \\
 \hline
 \quad .27 \\
 \quad 2.04
 \end{array}$$

$$XXIII - XXIV = +0.48$$

Groups 33 and 34

33 Bootae

Capo Pinholes

+18.8 2.51

+168.9 2.47

-160.3 2.41

139
2.46

274
27

July 22

τ Hercules		ϕ Hercules		ν Hercules	
Cap 2	Pinhole 5	Cap 2	Pinhole 5	Cap 2	Pinhole 5
+18.0	2.60	+11.8	3.51	+10.5	3.77
+16 ^{16.0} _{4.0}	2.85	+16 ^{15.2} _{4.8}	2.96	+16 ^{11.7} _{8.3}	3.53
-16 ^{12.5} _{7.5}	3.39	-16 ^{10.1} _{9.9}	3.86	-17 ^{8.3} _{1.7}	4.29
	<u>2.84</u>		<u>1.33</u>		<u>2.59</u>
328	2.95	383	3.44	430	3.86
33	<u>1.52</u>	38	<u>1.52</u>	43	<u>1.52</u>
	1.43		1.92	287	2.34

South pro I		39 Bootae		HI Bootae	
Cap 0	Pinhole 5	Cap 0	Pinhole 5	Cap 0	Pinhole 5
+10.8	3.71	+16.8	2.75 3.06	+17.3	2.68
+16 ^{11.3} _{8.7}	3.61	+16 ^{18.3} _{4.7}	2.56 2.86	+16 ^{14.5} _{5.5}	3.07
-16 ^{0.7} _{9.3}	3.73	-16 ^{15.3} _{4.7}	2.81 3.29	-16 ^{15.7} _{4.3}	2.89
	<u>2.5</u>		<u>2.12</u> 2.1		<u>2.88</u>
	3.68		2.71 3.07		
410		307		321	
41		31		32	
69		96		289	

Groups 33 and 35

F 270		K Bootae		I Bootae	
Capo	Pinhole 5	Capo	Pinholes	Capo	Pinhole 5
+14.6	3.05	+16.4	2.80	+25.3	1.88
^{15.6} +164.4	2.91	^{15.8} +164.2	2.88	^{31.0} +149.0	1.47
^{14.1} -165.9	3.13	^{5.8} -164.2	2.88	^{25.3} -154.7	1.88
	<u>9</u>		<u>2.85</u>		<u>2.23</u>
337	3.03	318		195	1.74
<u>34</u>		<u>32</u>			
		<u>86</u>			

F 270 is the south
preceding of two
33 Bootae

Capo	Pinhole 5
+19.7	2.41
^{19.1} +160.9	2.47
^{20.9} -159.1	2.28
	<u>1.18</u>
	2.39

266
27

c	1.74	- .77	τ	1.43	- .75
39	2.71	+ .20	φ	1.92	- .26
k	2.85	+ .34	υ	2.34	+ .16
33	2.39	- .12	F 270	3.03	+ .85
h	2.88	+ .37		8.73	
	<u>2.57</u>			2.18	
	2.51				
sp. i	<u>3.68</u>	1.17			

$$xxxiii - xxxv = +.33$$

89H

July 30

5

p Cygni.

Pinhole 5 Cap 2

$$\begin{array}{r}
 +28.1 \quad 1.67 \\
 \underline{36} \\
 1.31
 \end{array}
 \quad 1.13$$

p Cygni

Pinhole 5 Cap 0

$$\begin{array}{r}
 +16.4 \quad 2.80 \\
 \underline{1.52} \\
 1.28
 \end{array}$$

G Cygni

Pinhole 5 Cap 0

$$\begin{array}{r}
 +19.5 \quad 2.43
 \end{array}$$

1.30

$$\begin{array}{r}
 1.30 - 0.90 \\
 1.61 - 0.59 \\
 2.62 + 0.42 \\
 2.57 + 0.37 \\
 \underline{2.92 + 0.72} \\
 1.03
 \end{array}$$

2.20

$$\begin{array}{r}
 \text{Jul } 2.06 - 0.14 \\
 \text{Aug } 2.92 + 0.72
 \end{array}$$

 Π^2

Pinhole 5 Cap 1

$$\begin{array}{r}
 +34.0 \quad 1.28
 \end{array}$$

 Π^2

Pinhole 5 Cap 0

$$\begin{array}{r}
 +20.6 \quad 2.31 \\
 \underline{36} \\
 1.95
 \end{array}$$

Following p

Pinhole 5 Cap 0

$$\begin{array}{r}
 +23.2 \quad 2.06
 \end{array}$$

1.03

$$\begin{array}{r}
 \underline{1.03} \\
 1.61
 \end{array}$$

This star is decidedly

red.

Groups 57 and 58.

	G. Lygni	for G	Lab.
25	Capo	Pinhole 5 Capo	Pinhole 5
3	+14.4	+15.5	+17.8
	3.08	2.92	2.62
	36		
115 65	<u>2.72</u>		
	2.57		

This star precedes a cluster

	4 B Ler.	10 B Ler.	22 B Ler.
25	Capo	Pinhole 5 Capo	Pinhole 5
6	+15.1	+18.8	+15.7
	2.98	2.51	2.89

1874

July 30

ρ bygni		ρ bygni		G bygni	
Cap 1	Pinhole 5	Cap 2	Pinhole 5	Cap 0	Pinhole 5
+ 29.0	1.60	+ 13.0	3.30	+ 18.9	2.49
31.6		15.4		19.6	
+ 148.4	1.43	+ 164.6	2.93	+ 160.4	2.42
32.7		13.2		21.1	
- 147.3	1.36	- 166.8	3.27	- 158.9	2.26
- 29.9	1.54	- 15.5	2.93	- 19.3	2.45
	19.3		42		2.40
	1.48	3.10			
	36	1.48			
165	1.12	1.62			
17		1.35			
			3.10		
			1.52		
			1.58		
			346		
			35		
			311		

π^2		π^2		Following ρ	
Cap 0	Pinhole 5	Cap 1	Pinhole 5	Cap 0	Pinhole 5
+ 32.0	1.40	+ 21.2	2.25	+ 20.2	2.35
35.1		28.4		21.7	
+ 144.9	1.22	+ 151.6	1.64	+ 156.3	2.20
34.7		24.1		20.6	
- 145.3	1.25	- 155.9	1.98	- 159.4	2.31
? - 26.9	1.76	- 27.8	1.69	- 23.5	2.04
	163		3.56		90
	1.41		1.89		2.22
	1.25		36		
			1.53		
36.9	1.13				
1.76					
.63					
16					
141					
125					
189					
.69					
157					
16					
		1.47			
			211		
			21		
			190		

This star is decidedly red

Groups 57 and 58

G. Cygni		pr. G		Lal.	
Capo	Pinhole	Capo	Pinhole	Capo	Pinhole
+14.0	3.14	+15.1	2.98	+18.6	2.53
^{14.9} +165.1	3.01	^{17.1} +162.9	2.71	^{19.6} +160.4	2.42
^{3.4} -166.6	3.23	^{14.7} -165.3	3.04	^{18.4} -161.6	2.55
-16.3	2.81	-17.3	2.68	-21.0	2.27
	<u>3.05</u>		<u>3.41</u>		<u>1.77</u>
	36		2.85		2.44
^{.65} 2.55	2.69	3.18			
	340	32			
	34	86			
	06				

This star precedes a cluster

272
37

47 B. Ler.		10 B. Ler. star		22 B. Ler.	
Capo	Pinhole	Capo	Pinhole	Capo	Pinhole
262 +14.3	3.10	+21.4	2.23	3.22 + 15.7	2.89
265 ^{18.4} +161.6	2.55	^{22.5} +157.7	2.14	^{18.4} +161.6	2.55
268 ^{18.8} -161.2	2.51	^{22.9} -157.1	2.09	^{16.2} -163.8	3.11
277 -17.6	2.65	-24.4	1.96	-18.2	2.58
^{19.2} -19.2	2.81		42	08	3.13
2.48	2.70	2.10		3.02	2.78
20					
	301	235		300	
		24		30	
				272	

1874

July 30

6 L.

11 L

6 L

leap 0

Pinholes - leap 0

Pinholes 5 leap 1

Pinholes 5

$$\begin{array}{r}
 +29.4 \quad 75 \quad 1.57 \\
 +150.5 \quad 75 \quad 1.57 \\
 -147.3 \quad 52 \quad 1.36 \\
 -27.4 \quad 91 \quad 1.72 \\
 \hline
 293 \\
 1.73 \quad 1.55
 \end{array}$$

$$\begin{array}{r}
 +30.5 \quad 1.50 \quad 45 \quad +21.6 \quad 2.21 \\
 +147.5 \quad 1.37 \quad 42 \quad +158.0 \quad 2.17 \\
 -147.0 \quad 1.34 \quad 44 \quad -158.2 \quad 2.19 \\
 -35.2 \quad 1.22 \quad 74 \quad -192 \quad 2.46 \\
 \hline
 1.36 \quad 2.57 \quad 2.26 \quad 2.26 \\
 \quad \quad 78 \quad 71 \quad 36 \\
 \quad \quad \quad \quad 1.90
 \end{array}$$

1.72

$$\begin{array}{r}
 8 \quad 1.35 - 78 \\
 \pi_2 \quad 1.47 - 66 \\
 Lal \quad 2.44 + 31 \\
 9 \quad 2.55 + 42 \\
 prj \quad 2.85 + 72 \\
 \quad .66 \\
 \quad 2.13 \\
 \quad 2.22 + 09
 \end{array}$$

$$\begin{array}{r}
 " \quad 1.54 - 62 \\
 6 \quad 1.72 - 44 \\
 10B \quad 2.10 - 06 \\
 13 \quad 2.14 - 02 \\
 22B \quad 2.78 + 62 \\
 4B \quad 2.70 + 54 \\
 \quad 98 \\
 \quad 2.16
 \end{array}$$

$$\begin{array}{r}
 237 \\
 21 \\
 \hline
 210
 \end{array}$$

$$LVII - LVIII = -0.03$$

Groups 57 and 58

11 L

13 L

Capt 1

Pinhole 5

Capt 0

Pinhole 5

$$2.46 + 22.8 = 2.10$$

$$+ 22.1 = 2.16$$

$$2.42 + 156.7 = 2.05$$

$$+ 157.1 = 2.09$$

$$2.44 - 156.6 = 2.05$$

$$- 158.0 = 2.17$$

$$2.74 - 22.6 = 2.12$$

$$- 22.3 = 2.14$$

$$2.06$$

$$2.51 - 2.08 = 2.08$$

$$2.5 - 1.86 = 36$$

$$6 - .72 = 1.72$$

$$1.54$$

$$232$$

$$23$$

$$09$$

239

July 30

4 B Lave.

Capo Penhole 5 Capo

 $+16.0 \quad 2.85$
$$\begin{array}{r} 18.6 \\ + 161.4 \\ \hline 2.53 \end{array}$$
$$\begin{array}{r} 165.9 \\ -164.1 \\ \hline 2.87 \end{array}$$
$$\begin{array}{r} -16.6 \\ 2.77 \\ \hline 22 \\ 2.75 \end{array}$$

304
31

10 13 Len

Pinholes 5 leaves Pinholes 6

+ 204 2.33

$$+ 155.4 \quad 24.6 \quad 1.94$$

-155.4 1.94

$$\begin{array}{r} - 25.0 \\ 1.91 \\ \hline 2.03 \end{array}$$

226

22 B. Lex.

+16.1 2.84

$$+162.2 \quad 2.62$$
$$-1632 \quad 2.75$$
$$\begin{array}{r} -16.7 \\ 2.76 \\ \hline 17 \\ 2.74 \end{array}$$

305

14 Lerr

Capo Pinhole 5 Capo

+13.7 3.19

$$+ 165.2 \quad 3.02$$

$-165.4^{14.6}$ 3.05

$$-15.0 \quad \underline{\underline{2.99}}$$

11	1.67	-53
6	1.95	-25
10B	2.03	-17
13	2.08	-12
22B	2.74	+54
4B	2.75	+55
	<u>122</u>	
	2.20	

2.20

$$LVIII - LX = -0.13$$

15 Ler

Pinhole 5 Cap 0 Pinhole 5 Cap

 $+24.7 \quad 1.93$
$$+ 1534 \quad 1.78$$
$$\begin{array}{r} 27.0 \\ - 153.0 \\ \hline 1.75 \end{array}$$
$$\begin{array}{r} -27.6 \\ 26-407 \end{array} \quad \begin{array}{r} 1.70 \\ \hline \end{array}$$

0 And	1.26	-107
15 Lac	1.79	-54
2 And	2.23	-10
16 Lac	2.68	+35
14 "	3.06	+73
Gr-	2.97	+64
	<u>1.99</u>	

2.33

Groom.

no Penhole 5 Co

+14.8 3.02

$$\begin{array}{r} 15.9 \\ + 164.1 \\ \hline 280 \end{array}$$
$$-16\overset{1}{5},\overset{4}{6} \quad 3.08$$

$-15.6 \quad \underline{2.91}$

388
297

Groups 58 and 60

6 Ser		11 Ser		13 Ser	
Cap 1	Pinhole 5	Cap 1	Pinhole 5	Cap 0	Pinhole 5
+18.8	2.51	+19.8	2.40	+21.3	2.24
^{20.9} +159.1	2.28	^{24.3} +155.7	1.97	^{24.1} +158.9	1.98
^{22.8} -157.2	2.10	^{27.2} -152.8	1.73	^{24.6} -158.4	1.94
-20.3	2.34	-23.5	2.04	-22.1	2.16
	<u>1.23</u>		<u>1.4</u>		<u>3.2</u>
	2.31		2.03		2.08
	<u>36</u>		<u>36</u>		
	1.95		1.67		

16 Ser		2 Androm.		0 Androm.	
Cap 0	Pinhole 5	Cap 0	Pinhole 5	Cap 2	Pinhole 5
+16.6	2.77	+18.3	2.56	+14.6	3.05
^{17.3} +162.7	2.68	^{22.3} +157.7	2.14	^{17.3} +162.7	2.68
^{16.4} -163.6	2.80	^{22.16} -157.4	2.12	^{16.5} -162.5	2.79
-19.2	2.46	-22.6	2.12	-18.0	2.60
	<u>2.71</u>		<u>5.4</u>		<u>3.12</u>
	2.68		2.23		2.78
					<u>1.52</u>
					1.26

874

July 31

o Androm.			o Androm.			o Androm.		
Capo	Pinhole	Capo	Pinhole	Capo	Pinhole	Capo	Pinhole	Capo
+49.3	0.61	$\frac{1.36}{61}$ 75	+32.7	1.36	$\frac{36}{1.00}$	3.08	+14.6	3.05
0	1.05	-1.47	~~0.40~~			$\frac{1.36}{1.69}$	1.53	$\frac{1.52}{1.53}$
15	2.15	- .37				$\frac{1.00}{61}$		
2	2.31	- .21				$\frac{.14}{1.05}$		
16	3.19	+ 67						
14	3.25	+ 73						
Gr	3.20	+ 68						
	3.15							
	2.52							

15 Androm.			Groom.			o Androm		
Capo	Pinhole	Capo	Pinhole	Capo	Pinhole	Capo	Pinhole	Capo
+22.2	2.15		13.6	3.20		+29.4	1.57	

Bright moonlight, and light
clouds continually passing
over the field

Groups 60 and 62

2 Androm.

16 Androm.

14 Androm.

65 Capso Pinhole 5 Capso

Pinhole 5 Capso Pinhole 5

+20.6 2.31

+13.7 3.19

+13.3 3.25

K Andromedae

1 Androm

K Androm

5 Capso Pinhole 5 Capso

Pinhole 5 Capso Pinhole 5

+34.5 1.32

+24.7 1.93

+21.7 2.20

$$\begin{array}{r} 1.07 \\ \hline 36 \end{array}$$

$$\begin{array}{r} 1.33 \\ \hline .88 \end{array}$$

874

Notes
made Aug 3.

1874

August 2

0 Androm.		0 Androm.		2 Androm.	
Cap 1	Pinhole 5	Cap 2	Pinhole 5	Cap 0	Pinhole 5
+42.0	0.89	+18.0	2.60	+25.3	1.88
36.3		22.5		23.6	
+143.7	1.16	+157.5	2.12	+156.4	2.03
39.4		20.6		22.3	
-140.6	1.01	-159.4	2.31	-157.8	2.15
42.3	0.88	-19.0	2.48	-24.8	1.92
	<u>3.94</u>		<u>1.51</u>		<u>3.98</u>
	0.99	2.38	2.38		2.00
	0.36	85	1.52		
	<u>0.63</u>	1.39	0.86		
		265			
		28			
		0.74			

43° 4331

E. Androm.		c Androm.		K Androm.	
Cap 0	Pinhole 5	Cap 1	Pinhole 5	Cap 1	Pinhole 5
+17.6	2.65	+26.5	1.79	+29.8	1.55
16.6		25.8		31.2	
+163.4	2.77	+154.2	1.84	+148.8	1.46
15.8		29.2		29.7	
-164.2	2.88	-150.8	1.59	-150.3	1.55
-18.7	2.52	-27.0	1.75	-28.1	1.67
	<u>2.82</u>		<u>1.7</u>		<u>2.3</u>
	2.71		1.74		1.56
		194	36		36
			<u>1.38</u>		<u>1.20</u>

Groups 60 & 62

DM 40° 4949

16 Lercentae

41° 4623

14 Lercentae

42° 4521

15 Ler.

	Capo	Pinhole	Capo	Pinhole	Capo	Pinhole
8	+16.5	2.79	+16.9	2.87	+29.1	1.60
	21.7		18.2		30.4	
03	+158.3	2.20	+161.8	2.58	+149.6	1.51
	18.0		13.9		27.6	
15	-162.0	2.60	-166.1	3.16	-152.4	1.70
92	-17.1	2.71	-16.7	2.76	-31.0	1.47
98		230		347		66
00		2.58		2.87		2.28
	287		316		3.16	
	24		320			
	258		84			

42° 4672

1 Androm

12 Androm.

13 Androm

	Capo	Pinhole	Capo	Pinhole	Capo	Pinhole
5	+14.7	3.04	+13.7	3.19	+16.7	2.76
	15.0		14.0		21.0	
6	+165.0	2.99	+166.0	3.14	+159.0	2.27
	12.6		13.1		16.7	
05	-167.4	3.37	-166.9	3.29	-163.3	2.76
7	-12.4	3.41	-12.7	3.35	-18.5	2.54
3		81		97		
6	3.26	3.20	3.24	3.24		
6	1.74	1.52	1.564	1.52		
0	1.46	1.68	1.681	1.72		

1.53

1.46

1874

Aug. 2

41° 4752

9 Androm

Capo

Pinholes

Capo

$$\begin{array}{r}
 +15.6 \quad 2.91 \\
 \quad 14.9 \\
 +162.4 \quad 2.61 \\
 \quad 17.2 \\
 -162.8 \quad 2.70 \\
 -18.6 \quad 2.53 \\
 \hline
 \quad 275 \\
 229 \quad 2.69
 \end{array}$$

40° 5043

Youth fir 9 Androm

Pinholes Capo

$$\begin{array}{r}
 +14.4 \quad 3.08 \quad 41^{\circ} \\
 \quad 15.6 \\
 +164.4 \quad 2.91 \\
 \quad 11.5 \\
 -168.5 \quad 3.57 \\
 -15.2 \quad 2.96 \\
 \hline
 348 \quad 3.13
 \end{array}$$

41° 4902

~~Hebrew~~

32 B.

Pinholes

$$\begin{array}{r}
 +15.8 \quad 2.88 \\
 \quad 15.3 \\
 +164.7 \quad 2.95 \\
 \quad 16.1 \\
 -163.9 \quad 2.84 \\
 -15.5 \quad 2.92 \\
 \hline
 \quad 39 \\
 323 \quad 2.90 \\
 \hline
 37 \\
 91
 \end{array}$$

$$0 \text{ And} \quad 0.74 \quad -1.34 \quad K \quad 1.46 \quad -93$$

$$15 \text{ Lac} \quad 1.57 \quad - .51 \quad U \quad 1.53 \quad -86$$

$$2 \text{ And} \quad 2.00 \quad -08 \quad 9 \quad 2.69 \quad +30$$

$$16 \text{ Lac} \quad 2.58 \quad +50 \quad 13 \quad 2.58 \quad +19$$

$$14 \text{ Lac} \quad 2.87 \quad +79 \quad 32B \quad 2.90 \quad +51$$

$$Gr- \quad 2.71 \quad +63 \quad 23 \quad 2.68 \quad +29$$

$$\begin{array}{r}
 47 \\
 \hline
 2.08
 \end{array}$$

$$\begin{array}{r}
 408 \quad 2.91 \quad +52 \\
 \hline
 2.75
 \end{array}$$

$$\begin{array}{r}
 2.39 \\
 \hline
 3.13
 \end{array}$$

$$\begin{array}{r}
 sp \quad 9 \quad 3.13 \quad +.74 \\
 40B \quad 3.16 \quad +.77
 \end{array}$$

$$LX - LXII = -0.31$$

*

After this wanted for stars to get higher

41° 49' 20"

for 40 B

Capo

Pinhole 5 Capo

+15.6

2.91

+166.7^{3.3}

3.25

-167.0^{13.0}

3.30

46°

-18.8

3.17

63

3.16

352
30

41° 49' 33"

40 B

Pinhole 5 Capo

+18.6

2.53

+164.3^{15.7}

2.89

-165.9^{14.1}

3.13

-14.4

3.08

363

2.91

40 B is the fol. one
of a right angled triangle

324
32

Groups 60 + 62

40° 29' ?

23 And.

Pinholes

+18.1

2.59

+162.7^{17.3}

2.68

-163.6^{16.4}

2.80

-17.5

2.66

273

2.68

299
30

Aug 2

λ Androm		ψ Androm.		18 Androm.	
Capo	Pinhole	Capo	Pinhole	Capo	Pinhole
+32.6	1.37	+26.1	1.82	+18.9	2.49
+138.6 ^{41.4}	0.91	+153.4 ^{26.6}	1.78	+156.6 ^{23.4}	2.05
-140.2 ^{39.8}	0.99	-150.9 ^{29.1}	1.60	-160.2 ^{19.8}	2.40
-33.5	1.32	-25.9	1.83	-19.7	2.41
	59		3.03		135
128	1.15	196	1.76	258	2.34
	36			26	
	0.79				

λ Androm		Groome.		141 B.	
Capo	Pinhole	Capo	Pinhole	Capo	Pinhole
+22.1	2.16	+14.8	3.02	+13.7	3.19
+159.1 ^{20.9}	2.28	+165.8 ^{14.2}	3.11	+165.0 ^{15.0}	2.99
* -154.6 ^{25.4}	1.87	-166.0 ^{14.0}	3.14	-165.4 ^{14.6}	3.05
-22.6	2.12	-14.0	3.14	-14.1	3.13
	43		3.10		36
234	2.11	λ 0.79 - .93		18H 2.11 - 32	
	0.36	ψ 1.76 + .04		ν 1.60 - .83	
	1.75	22 2.00 + .28		17H 2.23 - 20	
	1.19	10 2.34 + .62		141B 3.09 + 66	
	1.60	2.89		9m 3.10 + 67	
		1.72		2.13	
		3.63 + 1.91		2.43	

* This time cloud
to pass mean 1.60

LXIII - LXIV = -0.71

Groups 63 and 64

22 Androm				fol. 22 Androm.				v Androm.			
leap 0	Pinhole	5	leap 0	Pinhole	5	leap 0	Pinhole	5	leap 0	Pinhole	5
9 2.78	+22.9	2.09		+13.4	3.23	3.61	+30.5	1.50			
25 2.28	^{24.6} +155.4	1.94		^{11.3} +168.7	3.61	4.02	^{31.6} +148.4	1.43			
0 2.67	^{25.3} -154.7	1.88		^{9.8} -170.2	3.92	4.37	^{30.9} -149.1	1.47			
41 2.68	-23.0	2.08		-10.6	3.75	4.18	-32.6	1.37			
35		399			251	18		177			
34		2.00			3.63	4.04		1.44			
				210.8							
				4.0							
				16.7							
							1.60				

18 H				18 H				17 H			
leap 0	Pinhole	5	leap 0	Pinhole	5	leap 0	Pinhole	5	leap 0	Pinhole	5
9 +23.6	2.03			+17.2	2.70		+18.0	2.60			
99 ^{25.8} +154.2	1.84			^{18.3} +161.7	2.56		^{24.2} +155.8	1.97			
25 ^{23.8} -156.2	2.01			^{17.4} -162.6	2.67		^{21.4} -158.6	2.23			
3 -26.3	1.80			-17.1	2.71		-22.6	2.12			
36	368				24			92			
99	1.92			2.66	2.66			2.23			
				^{1.92}	36						
				0.74	2.30						
				2.11							

1874

Aug 2

17 JE

18 JE

14173

Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+18.3	2.56	+25.4	0.87	+17.5	2.66
^{24.8} +155.2	1.92	^{25.0} +155.0	1.91	^{15.1} +164.9	2.98
^{21.8} -156.2	2.19	^{26.4} -153.6	1.80	^{16.1} -163.9	2.84
-23.1	2.07	-25.2	1.89	-13.4	3.23
	<u>7²</u> 2.19		<u>1.87</u> 1.87		<u>3.23</u> 3.71

18 JE is a little reddish

206
2
1.85323
32

Bradley

o basupp.

f basupp

Capo	Pinhole	Capo	Pinhole 5	Capo	Pinhole 5
+15.5	2.92	+27.4	1.72	+28.0	1.67
^{17.2} +162.8	2.70	^{26.8} +153.2	1.76	^{30.9} +149.1	1.47
^{14.3} -165.7	3.10	^{25.6} -154.4	1.86	^{24.0} -156.0	1.99
-164.6	2.51	-340.34	1.51	-20.7	1.55
	<u>323</u> 2.81		<u>5</u> 1.71		<u>2.68</u> 2.68
		18H 1.87 -49		Q And 1.77 -20 -63	
		y 1.45 -91		O Cw 1.71 -26 -16	
		17H 2.19 -17		Σ " 4.63 -30 -20	1.67
		141B 2.93 +57		π " 1.91 -06 +04	
		Cr. 3.34 +98		Pms 2.81 +84 +94	
		<u>1.78</u> 2.36		<u>4.87</u> 1.77	
				<u>1.19</u> -78	
					186
					19
					167

$$LXIV - LXV = +0.39$$

Groups 64 and 65

Groom		v And.		π Casiope.	
Cape	Pinhole 5	Cape	Pinhole 5	Cape	Pinhole 5
66	+12.2 3.44	+31.9 1.41 1.57	+25.1 1.90		
	^{14.0}	^{33.9}	^{24.2}		
78	+166.0 3.14	+146.1 1.35 1.44	+155.8 1.97		
	^{11.2}	^{29.2}	^{22.2}		
84	-168.8 3.63	-150.8 1.59 1.77	-157.8 2.15		
23	-14.0 3.14	-31.6 1.43 1.59	-28.7 1.62		
71		¹⁸	²³⁷		
73	3.34	1.45	1.59		
	372	153	213		
	37	16	21		
		143			

ε Casiope		♀ And.		♀ And.	
Cape 2	Pinhole 5	Cape 2	Pinhole 5	Cape 1	Pinhole 5
7	+15.3 2.95	+9.0 4.11	+23.2 2.06		
	^{17.1}	^{13.4}	^{28.2}		
7	+162.9 2.71	+166.6 3.23	+151.8 1.66		
	^{17.0}	^{16.6}	^{24.1}		
19	-163.0 2.72	-168.4 3.55	-155.9 1.98		
	^{17.0}				
55	-19.2 2.46	-12.8 3.34	-27.2 1.73		
68	2.84	223	343		
67	2.71	3.56 1.86	3.56 1.86		
	1.52	2.25 68	1.86 36		
	1.19	1.31 1.18	4.70 1.50		
		1.18			
		49			
		1.24			
		387			
			1.77		

Aug 3

♄ Persei			♄ Persei			♄ Persei		
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	Capo
+33.0	1.34		+28.0	1.67		+44.4	0.79	
^{34.9}			^{24.3}			^{35.2}		
+145.1	1.24		+155.7	1.97		+144.8	1.22	
^{33.8}			^{26.0}			^{35.4}		
-146.2	1.30		-154.0	1.82		-144.6	1.21	
-39.2	<u>1.02</u>		-27.5	<u>1.71</u>		-39.0	<u>1.02</u>	
	90			3.14			24	
136	1.220	1.79		1.79			1.06	
14	1.43	1.23		36		117	36	
<u>128</u>	1.61	<u>57</u>		<u>1.43</u>		<u>105</u>	0.70	
	3) 1.26		200					
	-1.42							

♄ Persei is orange

♄ Androm.			♄ Androm.			Piazzi I 69		
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	Capo
+25.5	1.87		+26.7	1.77		+12.6	3.37	3.1
^{24.5}			^{35.9}			^{14.0}		3.1
+155.5	1.95		+154.1	1.83		+160.0	3.14	3.1
^{23.7}			^{24.0}			^{11.6}		3.1
-156.3	2.02		-156.0	1.99		-168.4	3.53	3.1
-23.8	<u>1.84</u>		-29.4	<u>1.57</u>		-13.3	<u>2.95</u>	3.1
	368			31.6			1.07	2
	1.92			1.79			3.25	3.1
214			199			363		
<u>21</u>						<u>36</u>		
						27		

Piazzi I 69 is the following one
of a triangle

Groups 66 and 67

Persei		v Persei		A Andromedae	
Cap 2	Pinhole 5	Cap 2	Pinhole 5	Cap 0	Pinholes
+18.2	2.58	+21.2	2.25	+17.5	2.66
^{12.0} +168.0	3.48	^{17.8} +162.2	2.62	^{19.2} +160.8	2.46
^{12.8} -167.2	3.34	^{16.5} -163.5	2.79	^{19.8} -160.2	2.40
-14.2	<u>3.11</u>	-18.2	<u>2.58</u>	-22.4	<u>2.13</u>
3.13	51	2.56	<u>2.24</u>		<u>1.65</u>
1.79	3.13	1.06	2.56		
1.34	1.52	1.50	1.52		
	<u>1.61</u>		<u>1.04</u>		2.41
348		285		268	
31	0.87	28		27	
		256			

41 Androm.			164 73.			44 Androm		
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	
3.76	+18.0	2.60	+13.6	3.20	+14.8	3.02		
3.50	+ ^{23.7} 156.3	2.02	+ ^{15.1} 164.9	2.98	+ ^{15.6} 164.4	2.91		
3.96	- ^{20.6} 159.4	2.31	- ^{14.6} 165.4	3.05	- ^{15.1} 164.9	2.98		
3.28	-23.9	2.00	-18.9	2.49	-17.8	2.62		
<u>281</u>		<u>93</u>		<u>3.42</u>		<u>353</u>		
3.63		2.23		2.93		2.88		
	249		324		321			
	25		23		27			
			94		85			

Aug 3

39 Androm

Capo

Pinhole 5

$$\begin{array}{r}
 +12.2 \quad 3.44 \\
 +13.0 \\
 +167.0 \quad 3.30 \\
 -11.4 \\
 -168.6 \quad 3.59 \\
 -14.2 \quad 3.11 \\
 \hline
 144 \\
 3.38
 \end{array}$$

$$\begin{array}{r}
 374 \\
 37- \\
 \hline
 7
 \end{array}$$

LXVI

$$\begin{array}{r}
 41 \text{ And} \quad 2.23 \quad -.70 \\
 44 \text{ " } \quad 2.88 \quad -.05 \\
 39 \text{ " } \quad 3.36 \quad +.43 \\
 164 \text{ B " } \quad 2.93 \quad .00 \\
 \text{PI 69 " } \quad 3.25 \quad +.32 \\
 \hline
 4.65 \\
 2.93
 \end{array}$$

$$\text{LXVI} - \text{LXVII} = +1.25$$

(continued)
Groups 66 and 67

LXVII

$$v \quad 0.87 - .81$$

$$\phi \quad 1.42 - .22$$

$$\xi \quad 1.79 + .11$$

$$\omega \quad 1.92 + .24$$

$$A \quad 2.41 + .73$$

$$3.41$$

$$1.68$$

Stars generally taken with Pinhole 5

Aug 3

16473		41 And.		424 And.	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+12.6	3.37	3.76	+22.3	2.14	2.39
^{15.2} +164.8	2.96	3.30	^{2.7} +157.3	2.11	2.35
^{14.5} -165.5	3.07	3.42	^{19.0} -161.0	2.48	2.77
-15.5	2.92	3.25	-20.0	2.37	2.65
	<u>.32</u>	173		<u>110</u>	2.16
	3.08	3.43		2.27	2.84
					
344			257		
071			25		
310			9		

22713 And.		41 B. And.		v Androm	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+13.6	3.20	+22.3	2.14	27	+36.7
^{15.2} +164.8	2.96	^{23.3} +156.7	2.05	12	^{39.5} +140.5
^{15.0} -165.0	2.99	^{22.3} -157.7	2.14	35	^{35.3} -144.7
-17.9	2.61	-22.5	2.12	13	-39.3
	<u>3.76</u>		<u>5</u>	37	<u>36</u>
	2.94		2.11	1.22	1.09
		236	2.40		1.52
		<u>24</u>	2.25		1.66
		12			1.27
					1.42
328					
33					
9					

Groups 66 and 68

39 And.			Polaris 69			X Androm		
5 leaps	Pinhole 5	leaps	5 leaps	Pinhole 5	leaps	5 leaps	Pinhole 5	leaps
87	+11.8	3.51	3.91	+13.5	3.22	+19.4	2.44	
76	+16 ^{14.1} 5.9	3.13	3.48	+16 ^{13.1} 6.9	3.29	+15 ^{2.5.2} 4.8	1.89	
11	-16 ^{12.8} 7.2	3.34	3.72	-16 ^{12.2} 7.8	3.44	-15 ^{21.0} 9.0	2.27	
83	-15.7	2.89	3.22	-14.6	3.05	-24.5	1.95	
57		87	2.33		100		3.5	
9		3.22	3.58		3.25	2.38	2.14	
	356			362			2.50	
	36			36			64	
	20			6			2.32	

X Androm.			41 Pl And.			v And.		
5 leaps	Pinhole 5	leaps	5 leaps	Pinhole 5	leaps	5 leaps	Pinhole 5	leaps
	+14.5	3.07	+16.6	2.77	14	+24.8	1.92	
	+16 ^{16.8} 3.2	2.75	+16 ^{16.7} 3.8	2.76	07	+15 ^{25.6} 4.4	1.86	
	-16 ^{16.5} 3.5	2.79	* -16 ^{16.1} 3.9	2.84	03	-15 ^{26.0} 4.0	1.82	
	-16.1	2.84	-17.4	2.67	18	-24.6	1.94	
		3.45		4	40		34	
	2.86	2.86	2.76	2.76	2.10	1.88	1.88	
	2.14	36	2.11	36	88	1.09	36	
	172	2.50	65	2.40	.79		1.52	
	318							
	82							

Very light passing clouds.

1874

Aug 3

v Androm

Cap 2 Pinhole 5 Cap 0

+12.0 3.48

$$\begin{array}{r} 14.6 \\ +165.4 \\ \hline \end{array}$$
 3.05

$$\begin{array}{r} 12.8 \\ -167.2 \\ \hline \end{array}$$
 3.34

$$\begin{array}{r} -16.0 \\ 2.85 \\ \hline 7.25 \\ \hline \end{array}$$

$$\begin{array}{r} 3.18 \\ 1.88 \\ \hline 1.30 \end{array}$$

$$\begin{array}{r} 3.57 \\ 3.0 \\ \hline \end{array}$$

$$\begin{array}{r} 3.18 \\ 1.52 \\ \hline 1.66 \end{array}$$

55 And.

Pinhole 5

+16.9 2.73

$$\begin{array}{r} 19.2 \\ +168.8 \\ \hline \end{array}$$
 2.46

$$\begin{array}{r} 16.0 \\ -164.0 \\ \hline \end{array}$$
 2.85

$$\begin{array}{r} -19.0 \\ 2.48 \\ \hline 2.52 \end{array}$$

290

2.63

y And

Cap 2 Pinhole 5

+38.7 1.04

$$\begin{array}{r} 43.4 \\ +136.6 \\ \hline \end{array}$$
 0.83

$$\begin{array}{r} 37.5 \\ -142.5 \\ \hline \end{array}$$
 1.10

$$\begin{array}{r} -37.5 \\ 1.10 \\ \hline 0.7 \end{array}$$

1.02

113

(continued)
Groups 66 & 68

γ Androm.

Cape Pinhole 3

$$+23.3 \quad 2.05$$

$$+159.7 \quad 2.34$$

$$-161.8 \quad 2.58$$

$$-20.3 \quad 2.34$$

$$\hline 13.1$$

$$2.33$$

$$1.47$$

$$\hline 0.86$$

$$2.33$$

$$1.02$$

$$\hline 1.31$$

$$\text{Phasing } 1.47$$

$$0.94$$

$$1.52$$

$$\hline -0.58$$

$$2.17$$

$$2.6$$

$$3.3$$

$$41 \quad 2.27 \quad - .67 \quad 65 \text{ And}$$

$$44 \quad 2.89 \quad - .05 \quad 64 "$$

$$39 \quad 3.22 \quad + .28 \quad 6 \text{ Per}$$

$$164B \quad 3.08 \quad + .14 \quad 2 "$$

$$P.1.69 \quad 3.25 \quad + .31 \quad 63 \text{ And}$$

$$\hline 4.71$$

$$2.94$$

$$\Sigma 162$$

$$3 \text{ Per}$$

$$\gamma \quad -0.58 \quad -2.41$$

$$\nu \quad 1.42 \quad -0.41$$

$$41H \quad 2.25 \quad +0.42$$

$$\chi \quad 2.32 \quad +0.49$$

$$55 \quad 2.63 \quad +0.80$$

$$227B \quad 2.94 \quad +1.11$$

$$\hline 6 \overline{) 10.98}$$

$$1.83$$

$$1.11$$

67M

Aug 3

X Andromeda		41 B And		v Androm	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+15.7	2.89	+14.3	3.10	+22.8	2.10
+16.0	2.85	+16.0	2.85	+23.6	2.03
+16.5 ^{17.5}	2.66	+16.5 ^{18.5}	2.54	+25.6 ^{28.4}	1.64
-17.9	2.61	-16.7	2.76	-25.4	1.84
	<u>3.01</u>		<u>3.25</u>		<u>3.81</u>
80	2.75	31	2.81	212	1.90
3	36	31	36	21	36
	<u>2.39</u>	12	<u>2.45</u>		<u>1.54</u>

65 Androm		64 Androm		63 Androm	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+24.8	1.92	+19.1	2.47	+14.8	3.02
+27.4	1.72	+23.5	2.04	+14.7	3.04
+147.6 ^{32.4}	1.38	+157.6 ^{32.4}	2.13	+164.3 ^{15.7}	2.89
-31.2	1.46	-23.3	2.05	-18.5	2.54
	<u>2.48</u>		<u>69</u>		<u>3.49</u>
180	1.62	242	2.17	326	2.87
1		24		32	

Groups 68 and 69

22773

55 And

y And

Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+15.6	2.91	+16.3	2.81	+33.9	1.29
+14.7	3.04	+17.7	2.64	+36.6	1.14
^{18.1} +161.9	2.59	^{19.3} +160.7	2.45	^{40.7} +139.3	0.95
-16.4	2.80	-21.4	2.23	-41.2	0.92
	<u>3.34</u>		<u>2.13</u>		<u>30</u>
315	2.83	282	2.53	120	1.07
32		28		12	1.52
		4			<u>-0.45</u>

6 Persei

3 Persei.

3 Persei

Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+18.4	2.55	+13.5	3.39 3.59	+15.2	2.96
+16.8	2.75	+12.1	3.46 3.85	+13.2	3.27
^{18.7} +161.3	2.52	^{14.6} +165.4	3.05 3.40	^{16.3} +163.7	2.81
-18.5	2.54	-18.3	2.56 2.86	-16.5	2.79
	<u>2.36</u>		<u>46 170</u>		<u>383</u>
288	2.59	342	3.11 42	320	2.96
29		34		33	
1		308		6	

Aug 3

 $\Sigma 162$

loop Penhole 5

+12.0	3.48	
+11.6	3.67	
+166.7 ¹³³	3.25	
-12.9	3.32	
	<u>172</u>	382
	3.43	<u>38</u>
		344

γ	-0.45	-2.33
v	1.54	-0.34
41H	2.45	+0.57
χ	2.39	+0.51
55	2.53	+0.65
227B	2.83	+0.95
	<u>6) 11.29</u>	
	1.88	

G5 And	1.62	-1.06
G4 "	2.17	-0.51
G Pen	2.59	-0.09
2 Pen	3.11	+0.43
G3 And	2.87	+0.19
$\Sigma 162$	3.43	+0.75
3 Pen	2.96	+0.28
	<u>4.75</u>	
	2.88	

-0.80

(continued)
Groups 68 + 69

Aug 3

Ter Ter
nad Persen

12873 Per

29 Per

31 Per

Capo Pinhole 5 Capo Pinhole 5 Capo Pinhole 5

+24.1 1.98

+18.4 2.55 2.84

+17.9 2.61

+159.1^{20.9} 2.28+159.8^{20.2} 2.35 2.62+159.2^{20.8} 2.29-158.6^{21.4} 2.23-162.8^{21.2} 2.70 3.00-161.0^{19.5} 2.48

-22.0 2.17

-18.3 2.56 2.86

-23.6 2.03

α -0.76 -2.53 66

Pin 53 2.45 +0.68 2.16

34 1.87 +0.10

29 2.54 +0.37

288 2.16 +0.39

31 2.35 +0.58

6) 10.61
1.772.42
2.5
8283
25
58262
26
36

8 Per

ψ Per

36 Per

Capo Pinhole 5 Capo Pinhole 5 Capo Pinhole 5

+29.7 4.55

+27.2 1.73

+14.9 3.01

+146.8^{3.32} 1.33+148.7^{3.13} 1.45+158.6^{2.14} 2.23-150.7^{29.3} 1.58+150.1^{29.9} 1.54-161.7^{18.3} 2.56

-31.8 1.42

-36.0 1.18

-22.3 2.14

6 - 1.47 - 1.17 1.88

ψ - 1.47 - 1.17 1.47

36 - 2.48 - 1.6 16

16 - 2.98 + 1.34 16

NO - 3.55 + 1.91

157B - 3.87 + 1.23

15.82

2.64

-0.87

16

190
1.47277
28
49

Groups 3 and 4

 α Per.

34 Per.

Piazzi III 53

5	Capo 2	Pinholes	Capo	Pinhole 5	Capo	Pinhole 5	
	+146.3	0.72	+25.2	1.89	2.92	+17.8	2.62
	^{25.7}		^{26.8}			^{22.2}	
9	+134.3	0.74	+153.2	1.76	2.40	+157.8	2.15
	^{41.3}		^{24.6}			^{6.9}	
8	-138.7	0.92	-155.4	1.94	3.05	-163.1	2.73
3	-48.3	0.65	-25.3	1.88	2.58	-20.6	2.31
		<u>3.03</u>		<u>2.7</u>	<u>2.95</u>		<u>1.87</u>
5	084	0.76	208	1.87	7.42	7.4	2.45
	<u>0</u>	<u>1.52</u>	<u>21</u>		<u>2.7</u>	<u>4.7</u>	
		-0.76					

157 B Per.

fol 5

North of 5

	Capo	Pinhole	Capo	Pinhole	Capo	Pinhole
5	+10.3	3.81	+16.1	2.84	+12.0	3.14
	^{10.4}		^{5.0}		^{12.5}	
	+169.6	3.79	+165.0	2.99	+168.0	3.48
	^{7.7}		^{3.9}		^{10.0}	
	-172.3	4.45	-166.1	3.16	-170.0	3.88
	-12.3	3.42	-15.4	2.93	-12.7	3.35
		<u>3.47</u>		<u>3.92</u>		<u>2.19</u>
	431	3.87	332	2.98	3.95	3.55
	<u>43</u>		<u>3</u>		<u>4.0</u>	
	88					

157 B Per. is the following of

two near to one another Time at closing 4^h 6^m

Growing light rapidly during these observations

574

Aug 4

210 γ B Androm
Cap 0 Pinhole 5

$$\begin{array}{r}
 +15.4 \quad 293 \\
 +5.9 \\
 +164.1 \quad 2.87 \\
 +7.6 \\
 -165.4 \quad 3.05 \\
 -15.8 \quad 2.88 \\
 \hline
 3.73 \\
 327 \\
 \hline
 23 \\
 2.93
 \end{array}$$

41 β Androm.
Cap 0 Pinhole 5

$$\begin{array}{r}
 +25.6 \quad 1.86 \\
 +23.5 \\
 +156.5 \quad 2.04 \\
 +22.7 \\
 -157.6 \quad 2.13 \\
 -22.7 \quad 2.11 \\
 \hline
 14 \\
 227 \\
 \hline
 23 \\
 2.03
 \end{array}$$

 ν Androm.
Cap 0 Pinhole 5

$$\begin{array}{r}
 +110.9 \quad 0.94 \\
 +37.8 \\
 +142.2 \quad 1.08 \\
 +39.3 \\
 -140.7 \quad 1.01 \\
 -40.2 \quad 0.97 \\
 \hline
 0 \\
 1.00 \\
 1.38 \\
 1.70 \\
 \hline
 1.08 \\
 1.36
 \end{array}$$

 γ Androm.
Cap 2 Pinhole 5

$$\begin{array}{r}
 +44.7 \quad 0.82 \\
 +42.1 \\
 +137.9 \quad 0.88 \\
 +38.2 \\
 -141.8 \quad 1.06 \\
 -37.6 \quad 1.09 \\
 \hline
 5.85 \\
 0.96 \\
 1.52 \\
 \hline
 -0.56
 \end{array}$$

$$\begin{array}{r}
 \nu \quad 0.79 \quad -1.01 \\
 \phi \quad 1.59 \quad -0.21 \\
 \xi \quad 1.99 \quad +0.19 \\
 \omega \quad 2.20 \quad +0.40 \\
 A \quad 2.43 \quad +0.63 \\
 \hline
 9.00 \\
 1.80
 \end{array}$$

+1.07

Groups 67 and 68

v Androm.		v Androm.		55 Androm		
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	
+26.2	1.81	+13.6	3.20	2.98	+174	2.67
25.9		14.8		2.1.1		
+154.1	1.83	+165.2	3.02	2.52	+158.9	2.26
35.2		1.7		17.2		
-152.8	1.89	-168.3	3.53	3.00	-162.8	2.70
-31.4	1.44	-14.0	3.14	2.90	-18.0	2.60
1.74	2.97	3.22	89	3.40		
1.00	1.74	1.74	3.22	2.85		2.23
74	36	1.48	1.52			2.56
19	1.38	318	1.70	282		
		36		28		
		20		54		
γ	-0.56	-2.29				
ν	1.36	- .37				
41H	2.03	+ .30				
χ	2.04	+ .31.				
55	2.56	+ .83				
227B	2.93	+1.20				
	10.36					
	1.73					

Aug 4

χ And.		22713		4186	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+21.2	2.25	+14.1	3.13	+21.4	2.23
^{23.3} +156.7	2.05	^{18.0} +162.0	2.60	^{24.5} +155.5	1.95
-155.5	1.95	^{16.4} -163.6	2.80	^{33.0} -157.0	2.08
-23.8	2.01	-17.5	2.66	-24.2	1.97
	<u>26</u>		<u>3.19</u>		<u>23</u>
236	2.06	311	2.80		2.06
23		31			

[c]

B And.		P And.		* 4786 And.	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+25.7	1.85	+19.4	2.44	+15.6	2.91
^{27.3} +152.7	1.72	^{19.3} +160.7	2.45	^{16.4} +163.6	2.80
^{34.8} -155.2	1.92	^{18.2} -161.8	2.58	^{14.9} -165.1	3.01
-25.7	1.85	-20.2	2.35	-16.1	2.84
	<u>14</u>		<u>18.2</u>		<u>3.56</u>
6 And 183 - .52		273	2.45	342	2.89
12 Per 1.96 - .39	1.83	37		32	
C And 2.45 + .10		46		90	
14 Per 2.61 + .26	2.04				
47H 2.89 + .54					
1.74					
2.35					

$$LXVIII - LXX = -.63$$

P And. is the pri. of two.

* This star has a companion N. of it

Groups 68 and 70

	v And.		55 And		γ And.	
	Capo	Pinhole 5	Capo	Pinhole 5	Capo 2	Pinholes
3	+128.2	1.66	+18.8	2.51	+37.5	1.10
5	+155.5	1.95	+160.0 ^{20.0}	2.37	+146.3 ^{33.7}	1.30
8	-154.6 ^{25.4}	1.87	-159.9 ^{20.1}	2.36	-138.5 ^{41.5}	0.91
7	-28.2	1.66	-19.3	2.45	-39.6	1.00
3		<u>3.14</u>		<u>1.69</u>		<u>3.1</u>
6	19	1.78	276	2.42	120	1.52
		36	27		12	
		<u>1.42</u>				<u>-0.44</u>

	14 And.		12 And.			
	Capo	Pinholes	Capo	Pinholes	Capo	Pinhole
3	+17.0	2.72	+23.3	2.05	γ	-0.44 -2.16
2	+161.7 ^{18.3}	2.56	+154.4 ^{25.6}	1.86	υ	1.42 - .30
1	-162.2 ^{17.8}	2.62	-156.0 ^{24.0}	1.99	4/A	2.06 +.34
4	-18.6	2.53	-24.4	1.96	35	2.06 +.34
6		<u>2.43</u>		<u>3.86</u>	55	2.42 +.70
9	29.1	2.61	219	1.96	227B	2.80 +1.08
	20		27			
			97			
			12 And. has a companion			
			W. of it.			
						<u>6) 10.32</u>
						1.72

877

Aug. 4

B And.		b. And		47 86	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+25.5	1.87	+18.6	2.53	+13.8	3.17
^{27.4}		^{18.9}		^{16.0}	
+152.6	1.72	+161.1	2.49	+164.0	2.85
^{26.4}		^{18.7}		^{15.1}	
-153.6	1.80	-161.3	2.52	-164.9	2.98
-26.7	1.77	-18.1	2.59	-15.3	2.95
	3.16		13		3.95
	1.79	282	2.53	333	2.99
		20			
		4			

64 Androm			63 And.			6 Persei		
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5	Capo
+23.3	2.05	2.29	+16.3	2.81	2.76	+29.1	2.47	
^{33.0}			^{16.7}			^{20.0}		
+157.0	2.08	2.32	+163.3	2.76	2.65	+160.0	2.37	
^{19.4}			^{16.0}			^{17.8}		
-160.6	2.44	2.72	-164.0	2.85	2.92	-162.2	2.62	
-23.1	2.07	2.31	-18.3	2.56	2.59	-20.5	2.32	
	64	164		298	292		198	
241	2.13	2.41	306	274	73	273	2.44	
24			75			27		
17						46		

B. And. is orange color

Groups 69 & 70

14 And		12 And		65 And		
Capo	Pinhole	Capo	Pinhole	Capo	Pinhole	
+18.9	2.49	+23.1	2.07	2.11	+25.2	1.89
^{16.9}		^{25.9}			^{27.7}	
+163.1	2.73	+154.1	1.83	1.89	+152.3	1.69
^{18.1}		^{25.6}			^{25.6}	
-161.9	2.59	-154.4	1.86	2.07	-154.4	1.86
-17.2	2.70	-24.7	1.93	1.66	-30.7	1.49
	<u>2.51</u>		<u>3.69</u>	<u>3.73</u>		<u>2.93</u>
293	2.63	214	1.92	93	1.93	1.73
<u>29</u>		<u>21</u>		<u>19</u>		<u>85</u>
5		3				

2 Persei		3 Persei		Σ 162	
Capo	Pinhole 5	Capo	Pinhole 5	Capo	Pinhole 5
+14.9	3.01	+15.3	2.95	+12.9	3.32
^{15.4}		^{14.7}		^{13.5}	
+164.6	2.93	+165.3	3.04	+166.5	3.22
^{13.7}		^{15.9}		^{12.4}	
-166.3	3.19	-164.1	2.87	-167.6	3.41
-17.5	2.66	-17.4	2.67	-13.6	3.20
	<u>3.79</u>		<u>3.53</u>		<u>11.5</u>
328	2.95	321	2.88	366	3.29
28		<u>32</u>		<u>37</u>	
				1	

2 Persei is blue

Cap	Pinhole	Cap	Pinhole	Cap	Pinhole
-----	---------	-----	---------	-----	---------

65	1.73	-.86
64	2.13	-.46
6	2.44	-.15
2	2.95	+36
63	2.74	+15
$\Sigma 162$	3.29	+70
3	2.88	+29

$$\begin{array}{r} 6) 15.42 \\ \underline{12.75} \\ 2.67 \\ 2.56 \\ \hline 7) 18.16 \\ \underline{14.14} \\ 4.02 \end{array}$$

Cap

2.59

6	1.79	-58
12	1.92	-45
e	2.53	+16
14	2.63	+26
474	2.99	+62
	<u>1.86</u>	
	2.37	

$$LXIX - LXX = +22$$

6

Cap Pinhole Cap Pinhole Cap Pinhole

Cap

le Cap Pinhole 1 —

