

KG
11365
141

F.12^a

KG 11365.141

Interval between V_{st} and last min. is about 155^s.

			Corr. Chw.	Ad. Rate
Jan 8	15 37	-27.61	0.176	-0.18
13	15 46	68.71	0.182	-0.18
14	15 16	53.08	0.170	-0.18
16	15 32	62.20	0.190	-0.17
18	15 12	71.31	0.197	-0.19
19	1 15	78.21		-0.20
21	15 48	-84.40	-0.181	
23	15 05	-93.19		
27	14 54	-109.83	-0.180	
28	15 54	-154.16		

Clock - corrections reduced to (Rogers)

		C. Cor	Rate
July 5	16 28	+25.803	-0.064
9	15 46	19.204	0.010
12	15 54	15.820	0.052
13	16 46	14.473	0.060
14	16 19	12.967	0.063
16	17 19	10.025	0.060
18	18 6	6.980	0.060
19	15 24	5.712	-0.060

KG 11365.141



1864 June 8th M.V.

W.A.R. Stars for Azimuth on Chronograph.

Z. Humber			E. Leon			12 Baum von.		
13	27	33.3	13	38	42.0	14	38	12.5
		40.1			46.7			22.7
		46.6			51.6			33.3
		53.6			56.6			44.5
		58.5			61.7			53.2

Level
Telescope E

W.A.R.

13^h 10^m

W.	S
91.9	89.9
91.8	89.5
99.0	82.0
99.1	82.8
209	24.2
95.22	86.05
86.05	
91.17	
4.58	

Round change = - 40

Telescope E

A.M.

15^h 4^m

W.	S
103.9	85.8
103.8	85.8
103.6	86.0
93.9	96.0
94.1	96.4
93.8	96.0
393.1	346.0
98.85	91.00
91.00	
77.85	
3.92	

Telescope E

J.H.S.

15^h 25^m

96.3	95.5+	0.8
96.8	94.5+	2.3
96.0	95.0+	1.0
103.0	90.0	13.0
103.7	88.7	15.0
105.0	87.2	17.8
		6149.2
		18.48
		4.24

Raised level after
each trial and
replaced it on a
different part of
pivot

Home & All N. W. A.R.

15 Canon W	20 Canon W	Q Bootis E	12 Bootis E	42 Bootis E
14 3 27.00	14 14 20.50	14 16 10.80	14 26 52.00	14 23 80.00
46.50	38.10	27.30	12.20	28.20
8.50	57.20	44.40	32.50	48.00
31.51	17.01	59.80	52.90	9.00
55.00	36.60	14.50	10.50	24.50
108.57	109.3	156.80	160.10	115.7
14 4 9.70	14 14 57.86	14 17 48.36	14 26 32.02	14 23 47.14

Level

742.90

+23.20 19.80

+11.20 22.00

-24.00 23.00

-45.30 23.70

+37.36

18.76 17.60

+0.67 15.05

-19.14 18.81

-38.64 20.50

+92.56

+76.06 16.50

+58.96 19.10

+43.56 17.40

+28.86 16.70

+40.02

+19.82

-4.8

-20.88

-38.48

+39.14

+18.94

-8.6

-19.86

-37.36

236 compared with S.C. at 15^h 4^m 5^s

5

10

15

20

25

30

15 4 15.00

2C

15 2 27.68
 32.68
 37.66
 42.66
 47.65
 52.63
 57.62

15 2 42.65

236 fast J.C. 1 32.35^s at 15^h 37^m

E.C. correction = +64.73 at 15^h 47^m
 -10

Rate - .062

+ .01
 64.74

1 32.35

+ ~~32.35~~

- 27.61

Jan 8 15^h 37^m

1164

June 13 Ill. S.
Stans on Chionograph N.S.R.
3 Herenli's 12 Canum (N.S. at 2nd.)

13	26	41.8	14	37	20.4
		47.3			31.8
		53.6			42.3
		0.2			54.4
		6.5	38		40

6 Canum N 19 Canum N

13	56	20.00		2.00
		33.20		24.80
		45.50		48.80
		58.20		112.0
		8.80		30.50
		16.57		117.3
13	56	45.4	14	3
		5.1		4

+25.14	+25.46
+11.94	+2.66
-36	-21.34
-13.06	-43.74
-23.66	-63.04

Level at 14^h 35^m

N	S
85.0	92.5
86.8	91.3
81.8	96.0
82.2	96.2
158	160
83.95	94.00
	83.95
	210.05
	-5.02

236 Compand with EC
at 14^h 45^m

30
35
40
45
50
55
60

Level 13^h 30^m 48

N	S
80.5	88.2
83.0	86.0
78.8	82.1
79.3	82.1
82.8	88.6
77.3	85.8
48.17	54.38
80.28	90.63
	80.28
	103.5
	5.17

#10 Canum	of Bortis E	20 Canum W	22 Bortis
14 11 11.00	14 17 32.40	14 14 47.30	14 26 13.00
24.20	47.00	4.50	30.20
37.00	2.00	21.40	50.30
50.50	16.40	37.50	10.50
02.50	35.30	52.20	31.50
125.2	135.1	162.9	135.5
14 11 37.04	14 18 30.2	14 15 20.58	14 26 57.10
+26.04	+30.62	+33.28	+38.10
+12.84	+16.02	+16.08	+20.90
+0.4	+1.02	-0.82	+80
-13.46	-15.38	-16.92	-19.40
-25.46	-32.28	-31.62	-40.40

This may be
5th in error
as I cannot
be ahead of an
even ten seconds.
Perhaps it should
be divided by 5th

14 43 44.58
49.57
54.57
59.53
4.54
9.55
14.51

14 43 59.55 SE
14 45 45.00 236.
+ 1 45.45 236-EC
56.74

E.C. correction +56.74 at 14^h 14^m
E.C. Rate = -.052

3 June 1864

AM

J. Boates

5^h 18^m 22.50

34.50

45.00

56.50

66.00

224.5

16^h 18^m 44.9

+22.4

+10.4

-1

-11.6

-21.1

1869
 14^h 14^m 11^s W.
 in Corona E 6 Cannon W

13	48	36.40	13	56	24.40
		48.60			35.50
		00.80			48.10
		12.30			0.40
		22.50			13.40
		120.60			121.8

Level 13 49 0.12 13 56 48.36
 - 16

+23.72	+23.96
+11.52	+12.86
- .68	+ .26
-12.18	-12.04
-22.38	-25.04

19 Cannon W

14	3	57.50
		12.50
		34.10
		56.50
		19.50
		174.1

14 4 3482
 - 15

+43.32
+22.32
+ .72
-21.68
-44.68

10 Cannon W 4 Bortie

14	11	14.40	14	17	26.80
		26.00			43.50
		39.30			00.50
		52.40			16.20
		6.50			30.30
		138.6			117.3

14 11 3972 # 14 17 5946
 - 14

+25.32	
+13.72	10 ^h 10 ^m 10 ^s ?
+ .42	+32.66
-12.68	+15.96
-26.78	-1.04
	-16.74
	-30.84

Level at 13^h 30^m 11^s E.

	W	S
x 1	812	803
	828	793
	767	861
x 3	758	869
	316.5	332.6
	7912	8315
	7912	
	4.03	
	2.01	

Hourly change = +.81

Level at 15^h 0^m 11^s W.

	W	S
x 3	810	853
	821	855
x 1	879	818
	885	822
x 3	817	886
x 1	918	804
	57.30	238
	85.50	8.397
	83.97	
	21.53	
	-.76	

236 Campanul tower
 E.C. at

15 ^h 17 ^m	45 ^s
	50
	55
	00
	5
	10
	15

11 ^{Caum} ~~11~~ 22 Burtis E

14 21	51.20	14 26	18.50
	6.10		39.0
	21.50		59.0
	38.90		19.1
	56.20		36.5
	173.9		172.1
14 22	22.78	14 26	58.42
			-1.2

+31.58	+39.92
+16.68	+19.42
+1.28	-.58
-16.12	-20.68
-33.42	-38.08

S.C.

15	15	51.19
		56.15
		1.12
		6.09
		11.10
		16.21
		21.14
15	16	6.14
15	18	0.00
-1		53.86

S.C. correction at $15^h 59^m = 55.75$
 Rate = -.044

5 should be subtracted from this giving $-1^m 48.86$

+ 55.78
 - 53.08 at $15^h 16^m$

14 June 1864

Am. H. K.

B. Boates

7 Books

v²/Lortis

§ Books

Three wires not
observed afterwards

1864	9	46.5-	16 $\frac{1}{2}$ 18 ^m	27.0
		2.0		36.5-
		18.0		48.0
		35.0		58.5-
		52.5-		70.0
		94.0		240.0
16	10	18.8	16 $\frac{1}{2}$ 18 ^m	48.0
		+32.3		+21.0
		+16.8		+11.5
		+ .8		0
		-16.2		-10.5
		-33.7		-22.0

16 29 5.0
23.0
42.0
57.0

Level 16⁺₄₅ JW

8 38	8
94.0	79.0
94.4	78.5
93.8	79.4
85.8	89.0
85.2	89.0
85.4	88.8
538.6	503.7
89.8	83.9
83.9	
2) 5.9	
2.95	

236. Swamp with clock

16 [±]	54	0	16	52	11.00
		5			15.77
		10			20.92
		15			26.00
		20			30.92
		25			(36.25)
		30			41.10

0.02	0.03	0.15	0.03
13 48 46.4	13 56 33.5	14 4 0.5	14 11 23.9
56.7	46.5	24.2	37.1
8.5	55.7	46.7	57.0
20.8	11.5	8.3	83.1
33.1	22.6	28.5	15.4
165.5	173.8	108.2	130.5
13 49 9.10	13 56 58.96	14 4 45.64	14 11 50.10
			14 22 33.52

+ 22.70
+ 12.40
+ 11.60
- 11.70
- 24.00

+ 25.26
+ 12.26
- 0.94
- 12.74
- 23.84

+ 45.14
+ 21.44
- 1.06
- 22.66
- 42.86

+ 26.2
+ 13.0
- 0.9
- 13.0
- 25.3

+ 33.12
+ 16.22
- 8.8
- 16.88
- 31.58

by K over 6
2 7.10081
0 0.53630
3 32.45
7 8.37986
18 0.02

over 7
2 7.52081
0 0.61321
2 34.765
7 8.20181
18

over 23
6 7.80081
0 1.04822
6 0.61742
21 9.16245
56

over 8
2 7.50081
0 1.60206
2 37.110
8 8.48397
20

by K - over 26

over 45

over 12

over 40

J. E. Level at 13^h 30^m
N S
x4 740 742 x8 723 863 x8 725 870
718 716 x4 771 823 x4 756 842
x8 707 802 2 777 814 2 771 823
795 818 x8 741 857 x8 760 841
770 761 212 157 216 176
x8 764 834 7530 8392 754 8440
204 478.3 7530 7540
7340 7888 7530 7540
2340 7548
- 2.74

236 comp and meter
EL at
15.4 33 28
25
30
35
40
45
50

0.05

0.10

0.10

0.10

4^h Bootis E	L_1 Bootis	L_2 Bootis	20 Can
14 17 46.8	44.0	14 26 24.0	
1.3	2.0	45.4	
17.1	20.5	5.3	
33.4	40.3	21.7	
50.3	0.5	46.5	
148.9	107.3	150.9	
14 18 17.78	14 24 21.46	14 27 6.18	

+ 30.98

+ 37.46

+ 38.78

+ 16.48

+ 19.46

+ 20.98

+ 0.68

+ 1.96

+ .88

- 15.62

- 18.84

- 19.52

- 32.52

- 39.04

- 40.32

11	16	16
4 7.5081	5 7.5081	6 7.5081
0 0.96340	0 0.96340	0 0.96340
3 8.508	5 8.508	5 8.508
11 8.92532	18 8.92532	18 8.92532
29	44	45
000 000 58	000 000 88	000 000 9

15 31 24.49

29.50

34.47

39.46

44.45

49.44

54.49

15 31 39.48

15 33 35.00

55.52

53.32

- 1 0220 at 15 32

E.C. correction at $15^h 20^m = 53.32$
 Rate - .050

16 June 1864 Old South
Am

30 B Hercules	B Bootis	γ Bootis	δ Bootis	30 B Hercules
15 56 56.0	16 9	16 18 37.0	Lost	15 56 56.
57 35.0		47.5		57 35
58 19.0		59.0		58 19
59 7.0		68.0		59 7
59 54.0		79.0		59.4

Level 15 30.5 W Level 17 20.2 W R236 lamp with clock

ed N	S	ed N	S	17 24 0	22 4.29
80.5	81.3	84.5	87.1	5	9.26
80.4	81.0	85.2	87.0	16	14.19
80.2	81.5	85.4	86.8	15	19.24
78.5	84.2 ed	83.6	89.8	20	24.30
78.2	85.0	83.4	89.9	25	29.27
78.1	85.0	83.8	89.8	(30)	(34.47)
475.9	497.8	505.9	530.4		
77.31	82.96	84.31	88.40		
	77.31		84.31		
	3) 3.65		3) 4.09		
	1.82		2.04		

17 June 1864 Mt South

AM

30 Bore	3 Boats	1 Boats	2 Boats	2 Boats
15 34 59.5 ^{East}	16 10 8.0 ^{West}	18 20 41.0 ^{West}	16 28 19.0 ^{West}	21 Boats
57 39.0	26.0	52.0	39.5	
58 22.5	42.5	64.0	29 11.0	
59 9.0	57.5	14.0	20.0	
59 59.0		23.5	37.5	

Level	Level	No 236 compared with clock
15 ^h 25 ^m	17 ^h 0 ^m	17 ^h 5 ^m 0 ^s
N S. J. E	N S. J. W.	17 3 1.10
99.0 97.0	102.0 101.5	5- 6.00
99.3 97.2	101.5 103.0	10 11.9
98.8 97.7	101.1 102.8	15 or 20 15.77
93.2 104.3	95.8 108.3	Late 20 21.30
93.5 104.1	95.8 107.8	25 26.10
94.0 104.8	96.0 107.8	30 31.16

30 B Here
part

June 18 1864 All N.

4 Coronae E

6 Canum W

19 Canum W

10 Canum W

20 Canum W

53.80

41.7

7.50

31.70

2.3

7.80

52.8

28.10

53.00

19.2

20.10

4.8

50.40

53.80

38.4

31.40

17.9

13.20

09.80

58.1

41.80

30.7

36.20

23.40

18.3

156.9

147.9

135.4

163.7

136.3

13 49 1938

13 54 558

14 4 5108

14 12 5674

14 15 3926

#

1558.2

+23.58

+23.88

+43.58

+25.04

+36.96

+11.58

+22.78

+22.98

+13.74

+20.06

-72

+40.78

+68

+94

+86

-1202

-1232

-22.12

-1306

-18.84

-2242

-25.12

-45.12

-26.66

-39.04

Level at 13^h 45^m13^h 52^m14^h 5^m15^h 10^m

	N	S									
x 8	803	798	x 8	802	804	x 8	803	804	x 8	85.8	83.6
x 11	82.4	78.4	x 11	83.2	78.2	x 11	82.2	78.8	x 11	90.5	77.7
	163.7	158.2		163.4	158.6		162.5	159.2		89.4	78.7
	81.85			81.7			81.25		x 8	84.0	85.0
	79.10			79.30			79.60			349.7	325.0
	2/275			2/24			2/165			87.42	81.25
	+1.37			+1.20			+82			81.25	
										76.17	
										+3.08	

The lamp was removed at 14^h 28^m

Chromograph

Portis E	11 FI	W	1, Portis E	2, Portis E	
56.90		8.41	54.00	38.10	15 24 54.8
13.30		23.2	14.20	57.80	58.9
29.70		40.8	34.10	18.30	3.5
46.00		56.2	52.40	38.50	8.4
59.80		12.3	10.70	56.30	13.1
205.7		140.9	165.4	209.0	
14 18 29.14	14 21 40.18		14 24 33.08	14 24 17.80	
	59.82				
+32.24	+31.78		+39.08	+39.70	
+15.84	+16.98		+18.88	+20.00	
-.56	-.62		-1.02	-.50	
-16.86	-16.02		-19.32	-20.70	
-30.66	-32.12		-37.62	-38.50	

236 compared with S.C. at

15	14	0.5	12	58.05
		5		3.08
		10		8.98
		15		13.09
		20		18.07
		25		23.07
		30		28.06

S.C. correction at $16^h 1^m = +50.67$
 Ratio = -0.52

15	12	13.07
15	14	15.09
-	2	02.02
+		50.71
-	1	11.31

June 1864

M N

A M

30/B Hercules & B Bootis			v Bootis			v ² Bootis			30/B Hercules		
15 ^h	57	10.8	16	10	3.5	16	18	44.5	16 ^h	28	21.0
		54.0			19.0			53.5			39.0
	58	41.5			34.5	19		04.0			53.5
	59	27.0			57.5			15.0	29		18.5
16	10	19.0			68.0			26.0			39.0
											56.0
											52 9.5
											51 24.0
											50 41.5

Level		Level	
15 ^h 40 ^m		17 ^h 10 ^m	
N	S 58	N	S
89.0	80.8	88.8	83.2
90.2	80.6	98.8	83.6
90.6	80.9	90.0	83.8
	88.0		81.0
85.0	88.0	90.5	91.8
85.4	88.6	90.8	92.1
85.3	89.0	90.3	92.1

No 236 Compared with clock			
17	22	0	19 57.85
		5	2.75
		10	7.70
		15	12.92
		20	17.79
		25	22.80
Total	(30)		(28.50)

1864
 July 19 M.S.
 N.Y.P.

4 Canon	6 Canon	15 Canon	10 Canon	0 Port
5840	4720	152		5830
09.10	5990	27.3		1300
20.80	1280	01.5		29.00
32.70	2550	23.3	17.5	45.50
45.10	3710	43.1	29.2	2.00
16612	1825	120.4		147.8
13 49 21.22	13 57 12.10	14 5 0.08		14 18 29.56
+22.82	+24.90	+45.6		+31.26
+12.12	+12.20	+33.5		+16.56
+42	-70	-7		+56
-11.48	-13.40	-22.5		-15.94
-23.88	-25.00	-42.3		-32.44

Level	13	30	15	10
x N	674	78.1	x S	74.4
x 8	651	826	x N	78.7
x 8	660	803		80.2
x N	678	81.9		75.7
	263	3725		3090
	6657			7725
	8072			8892
	214.15			511.67
	-7.04			-5.83

236	Compound	with E.C.
12	10	48
14	14	53.87
	45	38.81
	50	43.85
	55	48.81
	60	53.84
	65	59.88
	70	64.87
	75	69.85
	80	74.83
	85	79.81
	90	84.79
	95	89.77
	100	94.75
	105	99.73
	110	104.71
	115	109.69
	120	114.67
	125	119.65
	130	124.63
	135	129.61
	140	134.59
	145	139.57
	150	144.55
	155	149.53
	160	154.51
	165	159.49
	170	164.47
	175	169.45
	180	174.43
	185	179.41
	190	184.39
	195	189.37
	200	194.35
	205	199.33
	210	204.31
	215	209.29
	220	214.27
	225	219.25
	230	224.23
	235	229.21
	240	234.19
	245	239.17
	250	244.15
	255	249.13
	260	254.11
	265	259.09
	270	264.07
	275	269.05
	280	274.03
	285	279.01
	290	283.99
	295	288.97
	300	293.95
	305	298.93
	310	303.91
	315	308.89
	320	313.87
	325	318.85
	330	323.83
	335	328.81
	340	333.79
	345	338.77
	350	343.75
	355	348.73
	360	353.71
	365	358.69
	370	363.67
	375	368.65
	380	373.63
	385	378.61
	390	383.59
	395	388.57
	400	393.55
	405	398.53
	410	403.51
	415	408.49
	420	413.47
	425	418.45
	430	423.43
	435	428.41
	440	433.39
	445	438.37
	450	443.35
	455	448.33
	460	453.31
	465	458.29
	470	463.27
	475	468.25
	480	473.23
	485	478.21
	490	483.19
	495	488.17
	500	493.15
	505	498.13
	510	503.11
	515	508.09
	520	513.07
	525	518.05
	530	523.03
	535	528.01
	540	532.99
	545	537.97
	550	542.95
	555	547.93
	560	552.91
	565	557.89
	570	562.87
	575	567.85
	580	572.83
	585	577.81
	590	582.79
	595	587.77
	600	592.75
	605	597.73
	610	602.71
	615	607.69
	620	612.67
	625	617.65
	630	622.63
	635	627.61
	640	632.59
	645	637.57
	650	642.55
	655	647.53
	660	652.51
	665	657.49
	670	662.47
	675	667.45
	680	672.43
	685	677.41
	690	682.39
	695	687.37
	700	692.35
	705	697.33
	710	702.31
	715	707.29
	720	712.27
	725	717.25
	730	722.23
	735	727.21
	740	732.19
	745	737.17
	750	742.15
	755	747.13
	760	752.11
	765	757.09
	770	762.07
	775	767.05
	780	772.03
	785	777.01
	790	782.00
	795	787.00
	800	792.00
	805	797.00
	810	802.00
	815	807.00
	820	812.00
	825	817.00
	830	822.00
	835	827.00
	840	832.00
	845	837.00
	850	842.00
	855	847.00
	860	852.00
	865	857.00
	870	862.00
	875	867.00
	880	872.00
	885	877.00
	890	882.00
	895	887.00
	900	892.00
	905	897.00
	910	902.00
	915	907.00
	920	912.00
	925	917.00
	930	922.00
	935	927.00
	940	932.00
	945	937.00
	950	942.00
	955	947.00
	960	952.00
	965	957.00
	970	962.00
	975	967.00
	980	972.00
	985	977.00
	990	982.00
	995	987.00
	1000	992.00

11 H W L. Bortis E L. Bortis E

14.70

56.00

39.20

31.90

13.20

57.20

49.00

32.30

16.50

4.50

51.90

37.50

29.10

11.80

58.10

129.2

165.2

208.5

14 02 49.84

14 24 33.04

14 27 17.70

+35.14

+37.04

+38.50

+17.94

+17.84

+20.50

+8.4

+8.4

+1.20

-14.66

-18.86

-17.80

-39.26

-38.76

-40.40

Σ.C. Correction at $13^h 23^m = +49.45$
Rate = -.06

- 2 6.95

+ 48.74

- 1 18.21

June 1864 All N
AM

30 B Herculis & B Bootis			N			1 Bootis			N			30 B Herc W		
57	24.5		10	19.0		16	18		57.0			16	50	530
58	7.5			33.5					7.5				51	33.5
58	55.5			47.0					17.0				52	19.5
59	39.0			05.0					28.5				53	65
60	24.0			22.5					39.5				53	520

Level		Level	
16 ^h 30 ^m		17 ^h 10 ^m	
N	S	N	S W
ed 104.1	94.8	ed 109.0	95.8
98.8	101.7 ed	101.1	105.7 ed
98.9	101.8 ed	101.3	105.6 ed
ed 107.5	94.0	ed 109.5	98.2

N 236 Compared with clock

17 ^h 16 ^m 0	17	13	48.67
5			53.71
10			58.81
15			3.70
20			8.71
25			13.81
30			18.86

line 21, Ill. N
W, S, K,
In. 2293

In. 2317

20 H Canum

114 B Brötis

2 Miculis

5030

510

1880

3170

4340

15030

24 23 18.06

1640

2820

4090

5210

250

140.1

14 25 40.02

105

33.9

59.8

25.8

51.5

181.5

4 29 0.30

14 37 240

38 28-

38 40.0

39 29.0

40 11.5-

1140

14 38 46.8

2890

40.00

62.50

4.0

237

189.1

14 52 57.82

+26.76

+12.96

- .74

-13.64

-25.34

+23.62

+11.82

- .88

-12.08

-22.48

+49.80

+26.40

+ .50

-25.50

-51.20

49.8

26.4

25.5

51.2

+82.80

+44.30

- .20

-42.20

-84.70

+22.92

+11.82

- .68

-12.18

-21.88

Level 14^h 10^m
X N 93.2 88.0
X S 88.4 56.9
181.6 181.9
90.8
90.9
21.1
0.5

Level 14^h 10^m
X S 83.2 89.8
X N 89.1 84.3
172.3 174.1
86.15 87.05
86.15
21.90
45

Level 15^h 0^m
X N 94.7 89.0
X S 91.5 93.2
186.2 182.2
93.1 91.1
91.1
22.0
1.00

The order of the levels is always N S

2 36		Σ 6
15 46 50	15	48 38.84
50 55		43.83
0		48.86
5		53.84
10		58.82

	19
15 48	48.84
15 50	00.
- 2	11.16
+	46.76
-	84.40

Correction of EC at $16^h 28^m = +46.71$
 Ratio = -0.54

1864 June 23 M.S.
 AM

275 Hercules 336 B. Here 275 Bootis

Level
 N S Points W
 d 71.8 80.7 16.4
 73.0 85.3 cl
 73.2 85.7 cl
 d 79.8 78.8

236

18 4 0
 5
 10
 15
 20
 25
 30

23^d June
 8.42.18
 47.14
 52.00
 57.17
 52.19
 7.07
 12.27

164
June 23 Ill. S.

20 Canon	ln. 2253	ln. 2317	20 H Canon
263	58.3	241	2380
465	10.1	345	4890
62	23.2	461	1690
253	37.0	579	4200
421	57.0	5.9	0590
1464	179.6	1725	1375
14 16 528	14 28 2392	14 20 465	14 29 1750

+ 390 +25.62
+ 187 +13.82
- 1.9 + .72
20.0 -13.08
36.8 -2708

+22.40
+12.00
+4.0
-11.40
-23.40

+5370
+280
+ .60
-24.50
-48.40

+874
+41.4
-2.60
-44.6
-81.6

0000017

4
0
5
17
43

35
9
0
7
29
80

0000009

0000004

0000003

0000006

Level 14 10^m
N S

xS 600 712
xN 620 703
655 692
xS 603 754
2478 661
6195 7152
6195
7957
478

Level 14 45^m
N S

xS 725 720
xN 660 802
1385 1522
6925 7610
6925
3685
342

Level 15 06^m
N S

xS 677 814
xN 735 768
1412 1582
706 791
706
285
425

114 B Bortis 2 Hercules

14 37 370	36.90
38 230	47.00
39 70	58.00
39 480	10.00
40 260	21.10
142	1730
14 39 4.4	14 52 58.60

+87.40	+21.70	217
+41.40	+11.60	
-2.60	+ .60	
-44.60	-11.40	
-81.60	-22.50	

Q36

15-46^m

50

55

0

5

10

15

20

15-4 32.57

37.56

42.52

47.57

52.54

57.53

62.53

34

15-4 47.56

15-6 5.00

-1 17.45

+ 44.26

-33.19

26 AT = +44.27 at 14^h 58^m
 Rate = -0.51

864 June 27 M X

AM

70 B Comm N 275 Hercules E 7219 Bootis N 336 B Hercules E 1 Bootis N

Points East		Points West	
15 th 20 th Level		16 th 14 th Level	
N	S	N	S
cl 98.6	91.6	cl 104.2	90.8
93.2	97.3 cl	95.8	98.8 cl
92.8	97.6 cl	96.8	98.0 cl
cl 99.0	92.0	cl 105.0	91.0
383.6	378.5	401.8	378.6
93.9	94.62	100.45	94.65
94.62		94.65	
712.8		35.80	
264		2.90	

No Comm

done 97 M N
W. 4. 2.

20 H Cannon

355

588

243

50.2

16.8

185.6

14 28 25.72

114 S Bortis

37 450

38 260

39 75

39 505

40 325

161.5

14 39 8.3

2 Hercules

557

078

188

300

401

1524

14 53 18.48

Level
J E 14^h 5^m
N S

820

854

910

861

173.1

163.5

8655

81.75

8655

7480

240

J W 14^h 40^m

x8 899

999

xN 1004

854

190.3

100.6

95.16

90.06

21510

2.55

J E 14^h 55^m

x8 80.9

97.2

xN 101.1

88.2

192.0

185.7

96.0

92.7

73.3

1.65

The lamp was first used at 14^h 50^m

a Lewis Chronograph

15 3 304
 342
 382
 424
 467

286
 15 6 40
 50
 55
 0
 5
 10

ΣC ΣC

4 10.3 4 15.67
 12.67 2062
 2466
 3059
 3566
 4065

15 4 2464
 15 6 55.00
 - 2 29.36
 + 39.53
 - 1 49.83

ΣC AT 01-14.54 + 39.54
 Rate = -.05

1864 June 28 Mds

AM

7013 *decumana* W 275 *Herculis* E F 219 *Bootis* W 336 *B. Herculis* v *Bootis* W

Points East		Points West	
15 ^h 6 ^m Local		15 ^h 10 ^m Local	
cl 81.2	85.7	cl 85.1	90.4
81(747	93.2 cl	80.6	90.8 cl
81(748	94.3 cl	80.7	91.0 cl
cl 80.5	88.5	88.8	89.6
1311.2	361.7	1335.2	361.8
1778	91.42	83.8	90.45
331.2	82.8		83.8
828	277.62		276.65
	3.81		3.325

June 28 Ill. I
W. 4.12.

20 Canon

480

070

264

449

041

130.4

14 16 26.08

20 H Canon

425

11.2

38.2

02.2

25.0

119.3

14 29 35.86

Perhaps 10⁵ micron

114 B Boats

37 565

38 415

39 250

40 65

40 43.5

1730

14 39 22.60

2 Merculin

57.9

08.0

18.5

30.8

41.9

157.1

14 53 19.42

Level

June 28 Ill. I. S. E.

	A	B		
x ad	80.3	84.8	73.9	93.7
x dv	76.2	85.0	82.0	85.6
	156.5	173.8	155.9	179.3
	78.25	86.90	77.95	89.65
		78.25		77.55
		2/865		2/1170
		4.32		5.85

236

15-h 57-10⁵

15-

20

highest 25

30

35

40

34 38.41

43.45

48.44

53.42

58.40

3.25

8.43

98.0

15-34 53.40

15-57 25.00

- 2 21.60

$$\begin{array}{r}
 -2 \ 3160 \\
 +3744 \\
 \hline
 1 \ 5416
 \end{array}$$

ΔT for E.C. $+37.39$ at $15.21^h 21^m$
 Rate -0.8

1864 June 29 M W

AM

70 B Leonum W 275 Herculis E 219 Bootis W 336 B Hers E. 21 Bootis W

Points East	Points West
15 ^h 0 Level	16 ^h 15
N S	N S
cl 86.1 77.4	cl 98.4 77.8
81.8 83.4 cl	87.6 83.6 cl
81.7 83.2 cl	88.2 83.8 cl
cl 88.2 78.0	cl 95.0 78.6

cl 236	EC
16 ^h 4 5	16 1 50.30
10	35.21
15	40.31
20	45.23
25	50.31
30	55.35
35	0.20

1864 June 30 M.S.

M

13^h 13^m 13^s 275 Hercules E F219 Points W

v' Bootis W

Faint comes
before dark

Points East

13^h 40^m Level

N S

cl 82.7 84.8

78.7 92.1 cl

78.6 92.5 cl

cl 82.8 88.0

Points West

16^h 8^m Level

N S

cl 84.6 87.8

81.3 91.2 cl

81.3 91.5 cl

cl 85.8 88.9

No 236

16^h 33 10.

15-

20

25-

30

35-

40

E C

30 32.00

37.07

42.00

46.97

51.95

56.86

1.98

0
7
5
6
-

1864 July 5 All A
AM

275 Herulis E I 219 Boats W 336 B Herulis V Boats W

15	56	17.5	16	26	55.0
		30.0		27	05.0
		41.5			
		53.5			
		63.5			

Telescope points E telescope points W No 236 Compared with E & C

Level	Level	Level	Level	Level	Level
15 ^h 5 ^m	16 ^h 14 ^m	15 ^h 42 ^m 0 ^s	42	49.55	
X S	X S	5		54.64	
cl 73.1 65.8	cl 83.0 67.05	10		59.58	
70.3 70.1 cl	76.8 74.2 cl	15		4.66	
69.7 70.2 cl	77.1 74.0 cl	20		9.63	
cl 75.8 65.0	cl 84.8 67.0	25		14.67	
		30		19.82	

1864 July 5 - M. V.
W. H. R.

1864pha

297 B. Herculis	5 B. Lynce	271 B. ^{Mercure} ~~Lynce~~	423. E. Lynce	226 B. Lynce
18 29 11.7	18 40 40.7	18 46 48.4	57 45.5	14.5
28.8	41 18.4	0.0	58 25.2	28.5
49.0	~~57.2~~	13.7	59 5.1	42.0
9.2	38.1	27.5	59 44.7	55.3
29.2	43 ~~17.4~~	40.9	60 21.1	7.3
127.9	171.8	130.5	141.6	147.6
297.9	291.8	70.5	21.6	207.6
18 29 49.58	18 41 58.36	18 47 14.10	18 59 4.32	41.52
			57 45.3	3 143
			<u>45.8</u>	147
			11	
			58 24.8	416
			25.7	425
			59 48	
			5.4	4 7.0
				7.6
			59 44.5	
			44.9	
			0 20.9	
			21.4	

Level

N	S	N	S	N	S
810	791	93.6	73.8	91.8	76.9
85.9	74.0	85.6	81.9	87.9	80.5
85.9	73.9	86.9	80.4		
79.9	81.2	90.0	74.9		
332.7	308.7	356.1	314.0	179.5	156.9
83.8		89.02	78.50	89.75	
770.5		78.50		78.45	
76.13		714.52		711.30	
43.06		5.25		5.65	

J. E.

18^h 20^mJ. W. 19^h 20^mJ. W. 19^h 35^m

116 13.4 min

10 5.4

10 36.2

11 35.8

11 34.6

12 00.0

82.0

22.0

19 11 04.4

10 35.4
36.6

11 35.8

11 34.0
35.211 54.8
12

1864 July 8 M.S.
J.M.

F 219 Here

336 B Here

84 Prots

15 ^h 41	19.0	16 ^h 27 ^m	85-
	29.5-		29.0
	39.0		49.0
	49.5-		80
	(11.0)		26.5

Telescope points E Telescope points W

Level

Level

15^h 0^m16^h 0^m

N S

N S

cl 73.8 77.8

cl 79.0 80.7

71.0 84.3 cl

74.4 86.2

70.7 84.3 cl

74.2 86.5-

cl 78.2 77.0

cl 81.8 80.8

295.7 323.4

307.4 334.2

73.92 80.85-

77.35 83.55-

73.92

77.35-

76.93

76.2

3.46

3.1

No 236

15^h 43 0

5-

10

15-

20

25-

30

43 40.95-

45.97

50.99

55.97

0.89

5.94

10.90

18th July 7 AM

275th Ave

336th B Ave

15-23 540

23 4.5-

210

315-

400

15 49 43.0

Telescope points &

Level

1540

cl 78.6 } 66.1

76.0 } 71.3 cl

75.3 } 71.8 cl

cl 80.2 } 67.8

(15 or 20)
(In room)

236

16th / 10

5-

10

15-

20

25-

30

16 1 38.27

48.23

48.28

53.20

58.16

3.22

8.21

1864 July 9
MAR. All. S.

5 B Lyrae	271 B Lyrae	226 B Cygni	116 B Cygni
18 40 490	46 54.8	3 21.6	10 12.4
32.2	47 8.8	33.2	38.0
11.6	21.8	46.4	11 5.7
494	35.6	59.5	36.1
<u>242</u>	46.9	4 13.7	12 15.2
166.7	167.9	174.4	97.4
46.7	117.9	234.4	37.4
18 42 9.34	18 47 23.58	19 3 46.88	19 11 7.48

40 48.8
49.341 31.9
32.5

42 11.6

42 470
32.4

43 24.2

N 8
75.6 82.9
82.9 76.5
157.8 159.4
7890 7970
7890
780
7.80
-40
35.0

N S
84.3 76.3
78.1 83.0
1624 1593
81.2 7965
7965
7155
+77
77N 18 50

N S
85.7 78.7
80.0 84.9
78.5 86.7
83.8 81.4
3280.1 3320
8205 8300
8205
7.95
-45
19N 10.0

40	29.08
	34.11
	39.13
	43.98
	49.16
	54.10
	59.13

1864 July 12

near all N.

29713 Herc

513 Lynce

27113 Herc

2 Lynce

5423 Lynce

29 20.5
38.4
57.7
18.6
39.3

40 50.3
27.3
6.2
46.7
35.0

46 57.7
7.4
22.7
36.5
30.2

57.4
37.5
17.3
55.8
33.6

174.5
294.5

155.5
35.5

176.5
116.5

201.6
81.6

18 29 58.9

18 42 7.10

18 47 23.30

18 59 16.32

18 40 49.8
30.9

41 26.7
27.8
3.7

42 5.7
6.7

42 46.7
2.3

43 25.0

57 56.9
57.3
58.1
2.3

58 37.2
37.9

59 17.3

53.8

0 33.3
34.0

N 8
75.3 78.9
80.2 64.1
163.3 138.0
81.65 69.0
69.00
120.5
+6.32

N 5
89.3 72.6
83.7 82.9
86.2 80.0
91.8 75.6
35.0 31.06
87.5 77.65
27.65

N 8
91.9 75.3
87.9 79.1
179.8 15.44
89.9
77.20
12.70
+6.35

Y/N 18^h 20^m

211.10 = +6.115
Y/E 19^h 21^m

Y/W 19^h 45^m

	30613 Lygni	22013 Lygni	116 Lygni
74	3 25.31		10 17.2
75	39.5		46.2
73	53.3		17.1
58	6.6		45.6
36	19.0		11.7
116	148.7		157.8
16	263.7		77.8
32	19 3 52.74		19 11 15.56

10 16.9
17.6

46.0
46.4

11 16.7
17.0

45.4
45.8
11.7

12 11.7

1864 July 13

M. S.

27113 Hare + 423 Cygni

18 57 58.7

38 32.3

11.4

57 51.1

0 33.1

1866

666

14 39 13.32

22613 Cygni

19 3 26.9

38.5

51.5

4 5.5

19.9

1423

262.3

19 3 52.46

11613 Cygni

10 17.4

44.1

11 11.9

416

12 12.4

1274

67.4

19 11 13.48

N	S
788	788
887	746
162.5	153.4
872.5	767.0
767.0	
745.5	
+ 2.27	

N	S
60.4	77.9
79.9	78.9
15.99	15.68
79.95	78.40
78.40	
71.55	
+ .75	

19^h 25^m19^h 30^m

51

1864 July 14 WAK. All S# The illumination is undoubtedly at

513 Lynn	271 B Ave	7423 Lynn	226 B Lynn	226 B Lynn
40 52.8	47 45-	58 00	19 3 28.8	10 20.2
295	12.5-	41.3	42.4	50.3
42 9.3	25.8	20.3	56.7	11 18.7
14.4	37.7	59.6	4.1	48.2
29.3	52.9	36.1	21.3	12 14.5-
1003	131.4	159.3	158.3	151.9
50.3	18 47 26.28	49.3	278.3	91.9
18 42 10.06	18 47 26.28	18 59 19.86	19 3 55.66	19 11 18.38

41 29.2
29.7/4

57 59.8
0.3

3 28.8
42.4

58 41.1
41.5

42 49.2
49.5/4

59 22.3

59 59.6

0 35.8
36.4

N. S.
83.4 78.8
91.2 71.7
174.6 150.5
87.3
75.25
12.05
6.02

N S
90.6 73.0
82.1 82.1
172.7 155.1
86.35
77.55
78.60
44.0

N S
82.3 81.9
53.0 41.6
175.3 153.5
87.75
76.75
11.00
5.50

N S
91.9 72.5
85.4 79.8
177.3 152.3
88.65
76.15
12.50
10.25

7 N 18 5

7 E 18 15³⁰

7 N 18 20

7 E 18 28

1
2
3
7
-
9
8

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40 Boats	W	W Lyrac	E	30 Hercules	W	E Lyrac	E	E Lyrac	E
36	18.0	16	48	46.5	16	57	9.0	38	1.0
	30.5		49	29.0			16.0		13.0
	42.0		50	16.5			28.5		25.0
	54.5		51	5.0			40.0		37.0
37	4.5			48.5			57.0		48.0

Mx points N		Mx points E	
16	18m	117	15m
N	S	N	S
d 85.3	65.3	d 88.0	71.1
80.2	69.8 cl	82.0	78.8
79.4	70.0 cl	82.1	79.1
d 84.5	67.1	89.1	74.0
329.4	272.2		
82.7	68.5		

No 236 Chromometer		E. C.	
17	4 0	17	4 30.20
	5		25-14
	10		30.15-
	15-		35-03
	20		40.13
	25-		45.08
	30-		50.11

8 *H. Boats M*
1.0
3.0
250
7.0
8.0

1864 July 16 M.S.

16 ^h 29	43.0	16 36	21.5	16 49	10	16 57	16.5	16 58	8.5
	56.0		31.5		47.0		21.5		18.5
	8.5		43.5		50 37.0		38.0		30.0
	26.5		53.0		51 21.0		46.0		41.5
	32.0		7.5		52 0.0		58.0	58	54.5

M.S. Points W	M.S. Points E
16 ^h 16	17 ^h 16 ^m
N S	N S
cl 82.0 74.8	cl 86.1 80.8
76.3 80.7 cl	79.5 89.3
76.8 80.8 cl	79.2 91.1
cl 83.7 75.9	87.3 83.7
318.8 313.2	
79.7 78.05	
78.05	
7.65	

No 236 Chronometer	E b
17 ^h 3 40.	17.4 57.30
Slates (45)	2.40
50	7.26
55	12.14
4 0	17.17
5	22.16
10	27.20

8 11 *Bortus M*
8.5 17 24 57.5
18.5 9.3
30.0 18.9
41.5 49.0
45 37.3

1864 July 16

WASP

M. N.

297 B Herc	513 Lynxi	271 B Herc	423 B Lynxi	226 B Lynxi
18 29 23.1	40 52.6	47 2.4	55 3.7	3 32.8
42.0	41 26.7	14.1	45.5	47.3
30 1.3	4.4	27.6	59 26.0	0.5
30 22.3	49.2	41.0	0 6.1	14.0
43.2	43 25.4	55.0	43.0	25.8
1239	158.3	110.1	126.3	120.4
3.9	38.3			~~6.4~~
18 30 0.78	18 42 7.66	18 47 28.02	18 59 25.26	19 4 .01

over 16

5

0

5

18

44

over 0.9

over 6.5

19

0

20

70

174

over 35

over 8

3

0

3

8

22

over 4

over 4.3

18

0

19

69

199

over 36

over 9

2

0

8

8

22

over 12.1

44.5
44.8
46.0
46.9
22.2
55.0

N	S	N	S
818	85.3	55.8	75.2
96.3	88.0	88.0	86.1
114.4	163.3	114.4	165.3
92.20	81.65	92.2	
81.65		82.65	
710.55		79.53	
5.21		4.77	

N	S
55.3	82.3
85.8	88.7
91.3	87.3
8.4	80.5
375.1	88.8
93.78	84.4
84.70	
19.08	
45.4	

J N 16^h 25^m J N 18^h 35^mJ E 19^h 20^m

p1613 Eysmi

10 27.4

55.1

11 26.1

53.5

21.4

183.5

123.5

19 11 24.70

0000037

10

0

9

38

94

000019

54.6

54.9

53.5

15.7

52.9

54.2

1864 Aug 18 M.H.
M.H.

1864phae.

17 Bootis W. M. Lysae E				30 Hercules W. E. Lysae E				12 Lysae E.				
16	29	48.0	37.0	16	48	53.0	16	57	17.5-	16	58	15.0
Haze not	58.0!	16	36	48.5	49	38.5-		30.0			26.5	
well sun	12.0	37	01.	50	25.0			41.5			39.5	
	24.5-		08.0	51	10.0			54.5-			52.0	
	37.0		17.5-		55.0		58	4.0		59	3.0	

M.H. points W		M.H. points E	
16 ± 18"		17 ± 16"	
N. S		N. S	
cl 86.1	69.4	cl 88.0	68.1
80.8	74.2 cl	84.3	77.7 cl
81.8	76.6 cl	84.4	78.1 cl
cl 85.0	70.8	cl 88.8	69.1

p 236 Chromium					
17	4	0	17	4	12.10
		5-			17.06
		10			22.06
		15-			27.07
		20			31.97
		25-			37.03
		30			42.05

Booth's M
17^h 25-60
14.1
235-
330
43.1

July 18
WAB all S.

277B	5B	271B	F423	226B
29 32.5	41 4.3	47 8.6	58 0.8	3 33.3
32.3	45.3	21.8	36.5	45.5
13.1	26.5	36.2	15.4	58.4
31.2	43 6.0	48.5	54.2	11.9
49.9	38.0	1.1	38.5	25.6
1790	120.1	116.2	144.4	174.7
~~59.2~~		176.2	84.4	294.7
18 30 11.80	18 42 24.02	18 47 35.24	18 54. 16.88	19 3 58.94

29 31.8
33.3

32.3

13.1

31.2

30 49.9

37.6
38.5-

N S

85.4 80.6

80.7 86.4

82.4 86.2

87.1 82.3

15.6 15.5

83.90 83.84

83.84

7.08

7.07

15.11 m

N S

82.0 91.9

87.9 86.7

89.2 86.6

86.0 90.1

28.1 35.3

86.28 88.82

86.28

72.50

7.28

58 0.3
1.459 13.2
15.653.5
54.5-

0 38.5-

716 B

3.3	10	22.4
5.5		48.6
8.4		16.1
1.9		47.7
3.2		17.6
4.7		152.4
4.7		92.4
9.4	19 11	184.8

10 22.2
22.7

48.3
48.8

16.1

47.5
48.0
(46.9)

12 17.6

1464 July 17. All S
AM

40 <i>Quercus</i> (W) n Lynae (E)				30 <i>Asculus</i> (W) E ¹ Lynae (E)				E ² Lynae (E)						
16	29	55.0	16	36	34.0	16	49	11.5	16	57	19.0	16	58	16.0
30		8.5-			44.5	50		1.0			30.0			27.0
		20.0			56.5			47.5-			41.0			29.0
		33.5-	37		7.5-	57		32.0	Not a good Record		51.0	Not a good Record		57.0
		45.0			20.5-	52		11.0			5.8	30	3.0	

All 5 points W All 5 points E
 16¹/₂ 18^m 17¹/₂ 18^m
 Level Level
 N S N S
 cl 77.8 77.1 cl 75.8 75.7
 74.9 70.6 cl 73.5-79.4 cl
 cl 70.2 78.6 73.8 79.9 cl
 74.8 75.7 cl a 77.2 77.0

 297.7 302.0
 74.42 75.5-
 74.42
 1.08
 .54

No 236 Chron			Clock		
17	15	40	17	15	48.90
		45-			53.40
	16	50.			58.89
		55-			3.86
	16	50			8.89
	16	5-			13.93
		10			18.91

(E) 11 Boats

16.0	17 th 25 th	12.3
27.0		21.9
4.0		31.8
7.0		41.3
8.0		49.0

1864 July 19

WARR all W

297 B

513

271 B

F 423

22613

29 305

40 58.4

47 7.6

3 36.6

48.3

36.3

19.9

52.1

30 7.7

42 14.9

32.4

7.0

28.1

53.0

46.0

17.0

48.1

43 34.5

59.9

28.9

162.7

199.1

165.8

136.6

42.7

79.1

16.6

18 30 8.54

18 40

158.2

47 33.16

19 4 3.32

N

S

W

S

W

S

80.6

743

80.1

762

80.2

749

83.7

717

83.1

735

83.7

777

85.1

703

163.2

149.7

80.6

71.9

81.9

739

81.6

75.3

87.6

75.3

11.3

10.2

748.5

254

238

83.77

76.75

86.28

759.6

73.40

+ 3.37

75.55

710.33

+ 6.16

710.37

+ 5.19

715.56

18 15

718 35

719 25

11613

10 28.5-

58.0

11 27.5-

11 56.2

12 22.4

19.26

13.26

19 11 26.52

1864 July 20th AM

40 Bootis (W) u Lyrae (E)				30 Hercules (W) ε Lyrae (E)				ε ² Lyrae (E) u			
16	29	57.0	16 36	40.0	16	49	8.0	16	57	26.0	16 58
		8.5		51.5			50.5			38.0	
		21.0	37	4.5		50	37.5			50.0	
		33.5		16.0		51	23.0		58	1.5	
		46.5		26.0		52	8.5			12.5	59
							12.75				
							18.75				
							37.50				

All N. points W		All N. points E	
16 th 10 th		17 th 14 th	
Level		Level	
N	S	N	S
d 77.7	63.2	d 80.4	68.2
75.4	67.8 d	81.1	68.2 d
76.2	67.1 d	81.2	68.7 d
d 79.6	66.7	d 81.6	68.8

No 236 Chronometer			E
17	2	0	
		5-	
		10	
		15-	
		20	
		25-	
		30	

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(E) 11 Bortus
22. 17h 25 145
35.0 23.0
46.0 33.0
53. 42.5
9.5 52.0

1864 July 21 MBS
MM

401 Pootis			M Lyrae			30 Hercules			E ¹ Lyrae			E ² Lyrae		
16	30	2.5-	16	36	43.5-	16	49	17.0	16	57	29.0	16 ⁺	58	26.0
		15.0			34.0		50	4.0			39.5-			37.0
		27.5-		37	0.5-			52.0			51.5-			48.5
		41.0			17.5-		57	36.0		58	3.5-			1.0
		52.0			29.5-		52	16.5-			16.0			13.0

All S points W		All S points E	
16 [±] 10 m		17 [±] 14 m	
Level		Level	
N	S	N	S
d 90.8	80.7	d 93.2	86.0
83.4	89.1 cl	85.8	95.0 d
84.2	89.8 cl	86.0	95.1
d 88.2	81.9	93.6	87.0

No 236 Chronometer				E 6	
17	8	45.0	17	8	48.28
		50.0			53.29
		55.0			58.34
9		0.0			3.30
		5.0			8.41
		10.0			13.32
		15.0			18.36

End of 3^d series (dlu)

n/Boots

17 25-205-

30.6

39.7

48.8

57.0

Resumé of raw interviews

Jan 8	10	Camille W	Camille W	+8.05	+273	+104	-258	-539
+5.05	5.12	2 Camille W	2 Camille W	+5.12	+271	+10	-263	-534
+273	Jan 8	Camille W	Camille W					
+0.34	Hev	1, Boots E	1, Boots E	5.05	277	+107	-164	-534
-278		2, Boots E	2, Boots E	5.10	274	+12	255	-538
-5.35				5.080	2732	+108	-1610	5.362

10 Camille W	5.02	278	+108	253	5.34
19 Camille W	5.05	279	.15	269	5.42

Jan 13	10 Camille W	5.06	265	+16	265	5.37
Hev	2 Camille W	5.04	277	+11	258	5.39
	1, Boots	5.040	2730	+117	2565	5.367

Jan 14	10 Camille W	5.02	274	+16	258	5.33
Hev	6 Camille W	5.08	274	+106	255	5.32
	19 Camille W	5.08	263	+108	257	5.39
	10 Camille W	5.10	276	+108	257	5.43
	Camille W	5.08	276	+16	265	5.43
	2, Boots E	5.02	274	+108	258	5.32
		5.065	2740	+108	2583	5.378

Jan 15	10 Camille W	5.08	278	+13	263	5.35
Hev	6 Camille W	5.05	268	+18	261	5.38
	19 Camille W	5.04	268	+13	254	5.37
	10 Camille W	5.10	263	+18	263	5.31
	Camille W	5.11	273	+12	259	5.40
	1, Boots E	5.11	266	+14	258	5.37
	2, Boots E	5.04	275	+12	260	5.38
		5.076	2703	+144	2597	5.371

10 Camille W	5.08	278	+13	263	5.35
--------------	------	-----	-----	-----	------

u Corone E	508	268	+0.13	2.63	5.38				
Canum W	505	269	+0.18	2.61	5.38				
19 Canum W	504	268	+0.13	2.54	5.37				
June 10 10 Canum W	510	273	+0.18	2.63	{5.31}	June 24 Gr. 2317 E	507	2.72	+0.09 2.58 5.31
Ill. S 1/2 Bootis E	5.11	2.73	+0.12	2.59	5.40	Ill. S 20 H Canum W	4.92	2.70	+0.06 2.95 5.55
1/2 Bootis E	5.11	2.66	+0.14	2.58	5.37	114 B Bootis W	4.94	2.74	+0.16 2.61 5.56
1/2 Bootis E	5.04	2.75	+0.12	2.60	5.38	η Hercules W	5.09	2.72	+0.14 2.70 5.27
	5.075	2.717	+0.148	2.592	5.368		5.025	2.697	+0.118 2.673 5.420
					382				
u Coronae E	500	2.69	+0.16	2.61	{5.31}	20 H Canum W	504	2.69	+0.08 2.59 5.35
June 18 6 Canum W	505	2.71	+0.17	2.61	5.35	June 27 114 B Bootis W	501	(2.58)	+0.15 2.63 5.32
Ill. K. 19 Canum W	512	2.71	+0.08	2.62	5.37	Ill. N. η Hercules E	506	2.70	+0.07 {2.51} 5.36
10 Canum W	504	2.76	+0.18	2.65	5.41		5.037	2.698	+0.100 2.677 5.343
20 Canum W	506	2.76	+0.12	2.63	5.39				
1/2 Bootis E	506	2.79	+0.10	2.62	5.35	20 Canum W	5.20	(2.58)	+0.04 2.63 5.27
1/2 Bootis E	5.12	2.63	+0.14	2.59	5.38	June 28 20 H Canum W	5.00	2.71	+0.24 2.55 5.54
1/2 Bootis E	5.08	2.74	+0.07	2.66	{5.30}	Ill. S 114 B Bootis W	4.89	2.69	+0.15 2.58 5.47
	5.066	2.724	+0.128	2.624	5.398	η Hercules E	5.04	2.67	+0.21 2.68 5.29
							5.032	2.697	+0.160 2.610 5.392
u Coronae E	5.11	2.71	+0.09	2.58	5.37	297 B Hercules W	5.10	(2.57)	+0.13 2.58 5.28
June 19 6 Canum W	5.21	2.76	+0.06	2.68	5.38	5 B Lyrae W	5.12	2.66	+0.08 2.70 5.43
Ill. S 19 Canum W	5.06	2.74	+0.16	2.71	5.35	July 5 271 B Herc. W	5.08	2.79	+0.08 2.66 5.32
1/2 Bootis E	5.17	2.74	+0.10	2.64	5.38	Ill. K. 4423 Cygni E	5.04	2.68	+0.05 2.65 5.39
1/2 Bootis E	5.04	2.71	+0.10	2.60	5.34	226 B Cygni E	5.11	2.73	+0.10 2.58 5.37
1/2 Bootis E	5.09	2.72	+0.16	2.64	5.40	116 B Cygni E	5.02	2.74	+0.13 2.59 5.45
	5.113	2.730	+0.112	2.642	5.370		5.078	2.695	+0.095 2.627 5.373
								720	
Gr. 2293 E	5.03	2.70	+0.14	2.59	5.35	5 B Lyrae W	5.07	2.70	+0.15 2.63 5.52
Gr. 2317 E	5.09	2.74	+0.20	2.67	5.35	July 9 271 B Herc. W	4.60	2.37	2.93 5.74
20 H Canum W	5.07	2.70	+0.05	2.63	5.38	226 B Cygni E	5.02	2.71	+0.10 (2.50) 5.33
June 21 114 B Bootis W	4.99	2.70	+0.12	2.64	5.37	Ill. S 116 B Cygni E	5.00	2.70	+0.16 2.64 5.36
Ill. K. η Hercules E	5.13	2.86	+0.16	2.77	5.39		4.888	2.620	2.650 5.480
	5.062	2.740	+0.134	2.660	5.358		4.883	2.705	18 2.577 5.403
							5.03		2.635

July 12 Ill. N.	297 B Lyræ W 512	2.74	+0.16	2.64	5.44	297 B Her. W. 508	(2.60)	+0.17	2.62	5.30
	5 B Lyræ W 506	2.65	+0.06	2.69	5.35	5 B Lyræ W 509	2.81	+0.17	2.64	5.49
	271 B Her. W 506	2.75	+0.12	2.62	5.34	July 18 271 B Her. W 512	2.63	+0.20	2.66	5.28
	F 423 Cygni E 507	2.61	+0.07	2.62	5.40	Ill. S F 423 Cygni E 501	2.70	+0.11	2.52	5.58
	226 B Cygni E 520	2.75	+0.10	2.62	5.45	226 B Cygni E 509	2.66	+0.10	2.58	5.29
	116 B Cygni E 506	2.72	+0.14	2.70	5.39	116 B Cygni E 507	2.72	+0.22	2.68	5.46
	5.095	2.703	+1.08	2.648	5.395	5.093	2.687	+1.62	2.617	5.40
							704			

July 13 Ill. S	F 423 Cygni E 506	2.72	+0.13	(2.56)	5.46	297 B Her. W 506	2.70	+0.11	2.63	(5.33)
	226 B Cygni E 507	2.77	+0.20	2.58	5.45	July 19 5 B Lyræ W 508	(2.62)	+0.06	2.66	5.40
	116 B Cygni E 506	2.67	+0.15	2.58	5.44	Ill. N 271 B Her. W 506	(2.63)	+0.16	2.54	5.30
	5.083	2.720	+1.60	2.580	5.450	226 B Cygni E 507	2.71	+0.14	2.62	(5.31)
						116 B Cygni E 504	2.69	+0.09	2.61	5.35
						5.062	2.680	+1.12	2.612	5.38
										30

July 14 Ill. N	5 B Lyræ W 509	2.70	+0.05	2.60	5.41					
	271 B Her. W 510	2.73	+0.10	2.66	(5.28)					
	F 423 Cygni E 4.99	2.63	+0.16	2.61	5.46					
	226 B Cygni E 507	2.65	+0.20	2.64	5.35					
	116 B Cygni E 506	2.70	+0.03	(2.48)	5.37					
	5.062	2.682	+1.08	2.598	5.380					
				628	405					

July 16 Ill. N	297 B Her. W 502	2.77	+0.20	2.61	5.43					
	5 B Lyræ W 503	2.72	+0.22	2.81	(5.32)					
	271 B Her. W 506	2.75	+0.08	2.57	5.36					
	F 423 B Cygni E 508	2.70	+0.05	2.69	5.43					
	226 B Cygni E 510	2.77	+0.10	2.52	5.41					
	116 B Cygni E 511	2.61	+0.13	2.71	(5.28)					
	5.070	2.720	+1.30	2.652	5.372					
	67				408					

530
549
528

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* ~~Sum 5065 x 4~~ ~~278 x 4~~ ~~4.05 x 4~~

Jan 5-4	2036	10.13	0.43	1044	21.45	5050	2.732	1.08	2610	5.362	
Jan 13	3	15.12	8.20	35	766	16.10	5040	2.733	1.17	2.563	5.367
Jan 14	6	30.39	16.37	62	1550	32.14	5065	2.745	1.20	2.583	5.378
Jan 15	7	35.53	18.92	101	1818	37.60	-	-	-	-	-
Jan 16	7	35.53	18.92	101	1818	37.60	5075	2.704	1.17	2.552	5.382
Jan 18	8	40.53	21.79	102	2099	42.86	5066	2.724	1.28	2.624	5.395
Jan 19	6	30.68	16.38	67	1585	32.22	5113	2.730	1.12	2.642	5.370
Jan 21	5	25.31	13.70	67	1330	26.76	5062	2.740	1.34	2.660	5.368
Jan 24	6	30.15	16.18	71	1604	32.52	5025	2.730	1.18	2.623	5.420
Jan 27	3	15.11	7.97	20	773	16.03	5039	2.698	1.00	2.610	5.345
Jan 28	4	20.13	10.65	64	1044	21.57	5032	2.698	1.19	2.610	5.350
July 5	6	30.47	16.17	57	1576	32.24	5078	2.720	0.55	2.622	5.323
July 9	3	14.95	8.11	41	767	16.21	5080	2.703	1.37	2.635	5.403
July 12	6	30.57	16.22	65	1589	32.37	5095	2.703	1.08	2.648	5.355
July 13	3	15.03	8.16	48	772	16.35	5063	2.720	1.60	2.580	5.450
July 14	5	25.31	13.41	54	1299	26.90	5062	2.682	1.08	2.628	5.400
July 16	6	30.30	16.32	78	1591	32.23	5050	2.720	1.30	2.612	5.409
July 18	6	30.26	16.12	97	1570	32.40	5099	2.703	1.62	2.617	5.400
July 19	5	25.31	13.35	56	1306	26.69	5062	2.700	1.12	2.612	5.350
92	460.51	248.95	11.28	240.83	494.64	909.63	48690	2156	47008	96801	
	5.005	2.706	1.123	2.618	5.377	5.068	2.705	1.20	2.612	5.378	
	60						7.16				

I
+5060 0.70415
-2.706 0.43233
-0.123 9.08980
-2.618 0.41787m
-5.377 0.73084m

Date 1864	Star	Transit	Corr W	Observer
June 8. 13. 14. 16. 18. 19	19 Canum	14 3	West	WAL
June 8. 13. 19. 23. 28	20 Canum	14 15	West	"
June 8. 14. 16. 18. 19	0 Bootis	14 16	East	"
June 8. 13. 16. 18. 19	v ² Bootis	14 25	East	"
June 8. 16. 18. 19	v ¹ Bootis	14 23	East	"
June 13. 14. 16. 18. 19	6 Canum	13 57	West	"
June 13. 14. 16. 18. 19	10 Canum	14 11	West	"
June 14. 16. 18. 19	11 Coronae	13 49	East	"
June 14. 16. 19	11 H Canum	14 22	West	"
June 16. 17. 18. 21	30 B Herculis	15 58	East	AM
June 14. 16. 17. 18. 21	B Bootis	16 10	West	AM
June 14. 17. 18. 21	y Bootis	16 18	West	"
June 14. 17. 18	v ² Bootis	16 29	West	"
June 21. 23	gr 22 93	14 23		WAL
June 21. 23	gr 23 17	14 25		"
June 21. 23. 27. 28	20 H Canum	14 29		"
June 21. 27. 28	114 B Bootis	14 38		"
June 21. 27. 28	11 Herculis	14 52		"
June 27. 28. 29	170 B Canum	15 8	West	AM
June 27. 28. 29. 30. 5. 9	275 Herculis	15 23		"
June 27. 28. 29. 30. 5	219 Bootis	15 34		"
June 27. 28. 29. 30. 5. 8. 9	336 B Herc	15 48		"
June 27. 28. 29. 30. 5. 8	v ¹ Bootis	16 27		"
July 5. 12. 16. 18. 19	297 B Herculis	18 28		WAL
July 5. 9. 12. 14. 16. 18. 19	5 B Lyrae	18 41		"
July 5. 9. 12. 14. 16. 18. 19	271 B Herculis	18 46		"
July 5. 12. 13. 14. 16. 18	F 423 Cygni	18 59		"
July 5. 9. 12. 13. 14. 16. 19	226 B Cygni	19 3		"
July 5. 9. 12. 13. 14. 16. 19	116 B Cygni	19 11		"
July 13. 16. 18. 19. 20. 21	40 Bootis	16 29	West	AM
July 13. 16. 18. 19. 20. 21	11 Lyrae	16 30	East	"
July 13. 16. 18. 19. 20. 21	30 Herculis	16 48	West	"
July 13. 16. 18. 19. 20. 21	E ¹ Lyrae	16 55	East	"
July 13. 16. 18. 19. 20. 21	E ² Lyrae			"
July 15. 16. 18. 19. 20. 21	11 Bootis	17 24	West	"

<i>Numerus Piazzi</i>	<i>lett Bay</i>	<i>num El. al</i>	<i>lt sura</i>	<i>1840 APR</i>	<i>δ</i>	<i>Mag</i>	<i>#</i>
XIII 35		19	F.G.	197° 5'	+41° 42'	6	x
48		20	F.P.	197° 35'	+41° 25'	5.4	
XV 147	0	54	F.G.	233° 1'	+40° 38'	5.	
112	v	53	F.G.	231° 31'	+41° 27'	4	8
1081		52	F.G.	231° 18'	+41° 23'		9
XII 79		6	F.G.	184° 29'	+39° 54'	5.6	x
171		10	F.A.	189° 21'	+40° 9'	6	x
XV 135	n	6	F.P.	232° 21'	+39° 33'	5	
XIII 27		114	L.G.	196° 37'	+41° 0'	5	
				237° 58'	+40° 9'		12
				241° 37'	+39° 28'		13
		204	F.B.	204° 51'	+41° 54'	6.5	x
		114	F.B.	211° 59'	+42° 16'	6	x
XVI 173	n	44	F.A.	249° 21'	+39° 14'	3	
		297	F.B.	262° 1'	+41° 22'	6	
		513	F.B.	272° 40'	+42° 6'	6.5	
		271	F.B.	259° 7'	+40° 8'	5	
		423	L.G.	292° 22'	+42° 4'	6	
		226	F.B.	308° 26'	+40° 1'	6	
		116	L.G.	298° 8'	+41° 50'	6	

1864phae.proj..141R

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