

KG
11365
68

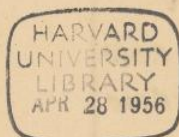
A. 68

A. 68
Meridian Circle
1865 July 20th
1865 August 1st
by J. Groom & Co., Stationers, India Building, 82 State St., Boston.

KG 11365.68

	143	144	145
	July 17	July 27	July 29
	July 26	July 28	Aug 15
μ	-0.025	+0.023	+0.063
σ	-0.286	-0.220	-0.220
	<u>Lactone</u>		

KG 11365.68



Jul
A.M.
P.
13

13

13

July 20, 1885. U. W.

A. N.

J. H. L.

near

Polaris	α Virginis	α Gornae	γ Gornae	γ Bortis
13 5 11.9	30.2	22.7	40.7	21.7
7 21.9	34.3	27.4	46.2	27.0
9 53.4	36.9	30.3	49.4	30.5
11 33.9	40.5	34.4	54.3	35.4
14 19.4	43.9	38.1	58.4	37.6
140.5	185.8	153.1	248.9	154.4
20.05				

13 9 40.10 13 17 37.16 15 28 30.62 15 29 49.78 15 32 30.88

13 5 8.4
 11.4
 15.8
 5.6 11.9
 7 17.8
 21.6
 26.3
 5.7 21.9
 9 49.1
 53.2
 57.9
 10.2 53.4
 11 29.9
 32.6
 34.3
 38.8
 15.6 33.9
 14 16.5
 19.2
 22.6
 28.3 19.4

July 20. 1865 M. W.

1865phae.proj...685

α Urs. Min.	α Serpentis	α Scorpis	α Aphrodisi	α Draconis	
28.0	3.1	34.2	32.6	—	
46.8	7.0	38.7	36.6	—	
58.6	9.6	41.5	39.1	46.9	
16.4	13.3	45.7	42.7	57.3	
31.6	16.7	49.3	45.9	6.4	
181.4	49.7	209.4	196.9		
1.4					
15 35 2.8	15 37 9.94	16 20 41.88	16 23 39.38	16 27 47.83	16

-18.52 47.88
 -9.67 47.83
 +0.88 47.78

								next				
17 Draconis. pm XVI 195				30 Uphiuchi		h Draconis		E Uss. Min.				
23.2		30.3		23.0		—	16	58	37.8			
30.1		49.1		27.0		43.1		59	7.9			
34.6		0.9		29.6		49.2			26.7			
40.6		18.2		33.3		58.0			54.2			
45.9		33.4		36.6		5.9	17	0	18.3			
174.4		131.9		149.5					144.9			
		11.9										
16	33	34.88 1/6	36	2,138	16	53	29.90	16	54	16	59	28.98

- 15.87	50.03
- 8.12	49.88
+ 0.76	49.96
+ 6.88	49.98
	<u>49.96</u>

July 20, 1885. M. W.

H. S.

r. Draconis		77 Uas Min. B.		L. Herantis		271 B Herantis		P Herantis		7	
53.3		2.3		55.5		41.7		25.7			
5.0		17.9		59.7		46.9		30.8			
4.5		28.4		2.3		50.3		34.0			
10.9		42.9		6.1		55.3		38.6			
16.4		56.3		7.4		59.4		42.7			
83.1		147.8		133.0		253.6		171.8			
25.1				13.0							
17 2 50.2	17 5 29.56	17 8 2.60	17 16 50.72	17 18 34.36	17						

next

74 Carmel B. sp	2 Herculis	2 Uphiensis	Gr. 2456	5 Urs. Min.
46.5	42.5	6.2	17 28 47.0	18 13 39.9
58.9	46.8	10.3	29 10.3	14 47.3
13.5	49.5	12.8	25.4	15 29.3
22.9	53.8	16.8	47.3	16 33.2
38.2	57.2	20.0	30 6.0	17 27.4
180.0	249.8	66.1	136.0	177.1
60.0				

36 17 21 12.00 17 24 49.96 17 28 13.22 17 29 27.20 18 15 35.42

18 13 39.9
 14 47.3
 15 28.4
 29.1
 30.3
 27.8
 27.3
 16 32.7
 33.8
 33.2
 17 27.0
 27.7

proj

H. S.

A. M.

End

L. Lyrae

51 *leptus* Ib. s.p.

Polaris

46.5	18	33	11.3	1	5	31.4
51.5		34	18.1		8	11.2
54.7		35	35.0		9	53.2
59.6		36	27.5		12	22.7
3.7		37	50.8		14	34.5
216.0			142.7			153.0
276.0						33.0

18 31 55.20 18 35 28.54 1 10 6.60

18	33	10.6	1	5	29.3	
		11.3			31.2	
		<u>12.2</u>			33.7	
		4.1			<u>42</u>	31.4
		11.3				
34		<u>18.1</u>		8	6.9	
					7.0	
					12.7	
					<u>16.2</u>	
35	35.0				44.8	11.2
				9	<u>51.1</u>	
36	27.5				53.1	
					55.4	
37	50.8				<u>96</u>	53.2
				12	19.5	
					22.7	
					<u>25.9</u>	
					8.1	22.7
				14	29.3	
					33.4	
					40.8	
					<u>103.5</u>	345

July 20 AM

July 20 1865 TNS

13 ^h 18 ^m	37.16	+0.29	7.29	30.42
15 29	30.62	+0.34	0.71	30.48
15 37	9.94	+0.29	39.96	30.34
16 22				
17 8	2.60	+0.29	32.63	30.32
17 28	13.22	+0.29	43.26	30.33
18 32	55.20	+0.39	25.25	30.44
16 51		(5)		30.366

no change of rate.

for

50.06
22
11

July 21. 1865

AM

13 18	37.50	+0.29	7.28	30.07
15 29	30.90	+0.34	0.70	30.44
<u>15 37</u>	10.58	+0.29	39.94	<u>30.05</u>
14 48				30.087

July 22. 1835. M.W.

H.S.

A. 16.

S. 6

1865phae.p

Polaris s.p			α Virginis		E. Bootis		α Bootis		2 α Librae						
13	5	14.1	—		40.7		55.7		51.3						
	7	25.3	35.1		45.0		59.9		53.4						
	9	54.7	37.8		47.7		2.7		58.0						
	11	37.7	41.5		51.6		6.5		1.8						
	14	19.7	44.8		55.0		10.0		5.2						
		151.5			240.0		134.8		171.7						
		211.5					14.8		291.7						
13	9	4230	13	17	[38.06]	13	217	48.00	14	9	2.96	14	42	58.34	14

13	5	9.1		
		14.5		
		18.6		
		12.2	14.1	
	7	21.6		
		23.2		
		24.9		
		37.0		
		30.0		
		46.7	25.3	
	9	52.3		
		53.5		
		54.8		
		58.3		
		18.7	54.7	
	11	34.0		
		37.2		
		37.8		
		38.9		
		40.6		
		38.5	37.7	
	12	15.8		
		17.3		
	14	20.5		
		23.3		
		78.9	19.7	

37.87

38.06

38.14

38.02

38.02

S. B. 13.

A. W.

next

1865phae. p.

	B Urs. Min.	γ Urs. Min.	θ Coronae	α Coronae	μ Coronae
7.3	12.9	7.1	53.8	23.5	46.7
3.4	27.6	19.7	58.6	28.0	50.0
8.0	37.9	28.8	1.6	30.9	52.8
1.8	52.0	40.5	6.0	35.1	59.0
5.2	3.9	51.0	9.8	38.8	
11.7	134.3	147.1	129.8	156.3	
1.7	194.3		9.8		
34	141 50 38.86	15 20 29.42	15 27 1.96	15 28 31.26	15 29

50.36

.42

.41

.45

50.41

July 22, 1885. M. W.

M.

γ Bootis	α Serpentis	β Serpentis	δ Lupi	δ Gornae	
22.6	3.6	23.7	49.6	21.3	
27.7	7.6	27.7	54.4	25.9	
31.1	10.3	30.3	57.4	28.7	
36.0	13.9	34.2	1.9	32.8	
40.1	17.2	37.6	5.7	36.5	
157.5	52.6	153.5	169.0	145.2	
			289.0		
15 32 31.50	15 37 10.52	15 39 30.70	15 41 57.80	15 43 29.04	15

next

	Librae			49 Lephei 26.4)			π Scorpii			E Coronae			Gr. 766 . sp.		
3			58.9			31.0			7.9			25.4			49.2
9			1.1			50.4			12.4			29.8			18.9
7			3.7			12.2			15.3			32.6			50.3
8			7.8			27.7			19.4			36.8			13.6
3			11.1			51.4			22.9			40.5			48.7
2			80.6			172.7			77.9			165.1			180.7
			20.6			52.7									240.7
04	15	45	4.12	15	47	10.54	15	50	15.58	15	57	33.02	15	56	48.14

July 22, 1885. M. W.

Mr.

Mr. 774, s.p.		r^2 Scorpii		87 Drac. B.		o Coronae		o Scorpii	
16.0		36.2		12.1		2.0		26.0	
42.5		40.3		22.8		7.0		30.4	
11.9		43.2		29.6		10.0		33.3	
32.7		46.8		39.5		14.5		37.3	
6.4		50.4		48.4		18.5		40.9	
109.5		217.1		152.4		52.0		167.7	
49.5									
9.90	16 0	16 3	43.42	16 5	30.48	16 9	10.40	16 12	33.58 16

next

19 Urs. Min. 13.		5 Coronae	2 Scorpii	2 Uphiensis	A Draconis										
	46.4	15.6	34.9	32.2	29.0										
	3.1	20.0	39.3	37.3	40.3										
	13.9	23.1	42.0	39.9	47.3										
	29.8	27.5	46.3	43.6	57.8										
	42.7	31.2	49.8	46.8	61.7										
	135.9	117.4	212.3	200.8	181.1										
	75.9				241.1										
58	16	14	15.18	16	16	23.48	16	20	42.46	16	23	40.16	16	27	48.22

July 22, 1865, M. W.

M.

1865phae.

17 Opac, pr		XVI 195		3' Scorpi		53 Herantis		10 Camel, sp		3					
24.2		30.6		54.9		16.3		43.6							
30.7		19.1		0.3		20.8		50.1							
35.0		1.1		3.8		23.9		57.8							
41.0		18.2		8.7		28.4		3.0							
46.3		33.4		13.1		32.1		11.1							
177.2		132.4		80.8		121.5		165.6							
		12.4		20.8				285.6							
16	32	35.44	16	36	2.48	16	44	4.16	16	217	24.30	16	50	57.12	16

next

T.H.S.

	30 Aphricchi	L Draconis	Rad. 1377			u Draconis (H ₂)			
6	23.7	34.3		—		53.8			245.0
1	27.6	43.7		—		0.7			0.9
8	30.2	49.9	57	53.6		5.1			11.0
0	34.0	58.6	58	26.3		11.6			25.6
1	37.3	6.2	59	16.4		17.3			38.7
6	152.8	192.7				88.5			121.2
6		252.7				28.5			61.2
2	16 53 30.56	16 54 50.54	16			17 2 5.70	17 4		12.24

July 22, 1885. Ill. W.

H.S.

77	Wrs. Min	B	α Herculis	ρ Herculis	λ Herculis	δ Apollonius	
	2.7		58.3	26.2	43.0	7.0	
	18.7		0.2	31.6	47.6	11.0	
	28.7		3.0	34.6	50.4	13.6	
	43.6		6.8	39.5	54.5	17.6	
	56.7		10.3	43.1	58.0	20.8	
	150.4		76.6	175.0	253.5	70.0	
			16.6				
17	5	30.08	17	8	3.32	17	18
					35.00	17	24
					50.70	17	28
							14.00

meat

Gr. 2456	ϵ Herculis	α Draconis	γ Aphrodisi	Gr. 1030, s.p.
—	3.0	59.5	34.9	37.0
11.1	8.8	10.4	38.7	49.7
25.7	12.5	17.7	41.2	4.9
47.9	17.8	28.0	45.0	15.4
7.2	22.4	36.9	48.2	31.1
	64.5	152.5	208.0	138.1
		92.5		18.1
17 29 27.90	17 35 12.90	17 37 18.50	17 40 41.60	17 46 3.62

28.09

27.90

27.57

28.05

27.90.

July 22, 1885. M. W.

1865phae.proj...685

f Herculis			δ Herculis			35 Draconis			γ Sagittarii			b Herculis		
	19.2			2.5			—			35.4			19.9	
	24.5			7.7			—			40.0			24.5	
	27.8			10.8			3.2			42.9			27.3	
	32.5			15.4			19.6			47.2			31.8	
	36.7			19.5			34.0			50.9			35.6	
	140.7			55.9						216.4			139.1	
17	48	28.14	17	51	11.18	17	55	4.59	17	56	43.38	18	1	27.82

4.61
4.57
4.60
4.59

net

1865phae-1

Gr. 2517		A Herculis		36 Draconis		8 Urs. Min.		24 Urs. Min.	
9	49.3	15.3	25.4	18	13	40.7	18	19.4	
5	54.7	19.9	34.8		14	47.4	19	36.8	
3	58.1	23.0	40.5		15	30.2	20	23.2	
8	3.2	27.3	49.4		16	32.6	21	34.5	
6	7.8	30.9	56.5		17	28.0	22	34.5	
1	173.1	116.4	208.6			178.9		148.4	
	293.1								
82	18 2 58.62	18 6 23.28	18 12 41.32	18 15 35.78	18 20 29.68				

1865phae.proj...689

July 22, 1865. Ill. W.

H. J.

End

2 Draconis			3 Hb Senti			L Lyrae			51 Lepkui Hb. sp		
		53.6			19.2			47.2	18	33	12.2
		3.2			23.2			52.3		34	20.2
		9.4			25.9			53.6		35	35.8
		18.0			29.6			0.3		36	28.6
		26.0			32.8			4.4		37	51.3
		110.2			130.7			159.8			148.1
		50.2						279.8			
18	25	10.04	18	27	26.14	18	31	55.96	18	35	29.62

18	33	11.7	
		12.8	
		4.3	12.2
	34	19.9	
		20.6	
		.5	20.2
	35	33.5	
		36.0	
		11.5	35.8
	36	27.9	
		28.6	
		29.3	
		25.6	28.6
	37	49.9	
		50.8	
		53.1	
		153.8	51.3

July 22 1875

JHS

13 18

38.06 -0.29

7.27

29.50

13^h 44^m

29.535 (2)

14 10

2.96 -0.34

32.22

29.57

17 8

3.32 -0.29

32.61

29.58

17 28

14.00 -0.29

43.25

29.54

17 43

29.597 (3)

18 32

55.96 -0.39

25.24

29.67

Am

14 43

58.34 -0.29

27.72

29.67

15 29

31.26 -0.34

0.68

29.76

15 32

29.680 (4)

15 37

10.52 -0.29

39.93

29.70

16 21

42.46 -0.36

11.74

29.59

Personal equation

 $+0.114$

Shows later than M.

July 24, 1865 U.L.W.

M.

Polaris s.p.			α Virginis			α Bootis			α Coronae			α Serpentis		
13	5	17.2			31.6			58.2			24.4			4.4
	7	27.9			35.8			0.5			28.7			8.4
	9	56.2			38.3			3.2			31.6			10.9
	11	39.9			42.0			7.1			35.8			14.6
	14	21.0			45.2			10.6			39.5			17.9
		162.2			192.9			77.6			160.0			56.2
		222.2						17.6						
13	9	44.44	13	17	38.58	14	9	3.52	15	28	32.00	15	37	11.24
13	5	11.9												
		16.0												
		19.4												
		21.7												
		69.0		17.2										
	7	24.1												
		27.6												
		31.9												
		23.6		27.9										
	9	33.4												
		55.6												
		59.5												
		18.5		36.2										
	11	34.9												
		38.7												
		40.7												
		45.7												
		39.4		39.9										
	14	17.4												
		19.6												
		22.0												
		25.2												
		4.2		21.0										

next

1865phae

	271	B	Herculis	p	Herculis	fol.	L	Herculis.	L	Aphrodisia	Gr.	2456		
4			43.3			27.1		43.7		7.8		(49.1)		
4			48.4			32.0		48.1		11.8		(8.4)		
9			51.8			35.3		51.0		14.3		26.9		
6			56.6			40.0		54.9		18.1		48.2		
9			0.8			43.9		58.5		21.4		7.1		
2			200.9			178.3		256.2		73.4				
			260.9											
24	17	16	52.18	17	18	35.66	17	24	51.24	17	28	14.68	17	29

29.39
~~25.25~~
~~25.03~~
~~24~~

(29.39)
~~(25.25)~~
~~28.87~~
~~28.20~~
~~27.99~~
~~28.35~~

July 24, 1885. M. W.

-16.

1865phae. p

Draconis		Gr. 1030, sp.		f Herculis		θ Herculis		35 Draconis						
	0.2		36.8		—		3.4		34.5					
	11.1		50.0		—		8.1		52.5					
	18.0		5.4		—		11.4		3.2					
	28.5		15.0		20.0		16.1		20.3					
	37.3		31.0		24.3		20.1		34.7					
	95.1		138.2				59.1		145.2					
			18.2						25.2					
17	37	19.02	17	216	3.64	17	47	17	51	11.82	17	55	5.04	17

15.65
15.58
 15.62

nat.

	γ Sagittarii	δ Herculis	Or. 2517	A Herculis	36 Draconis
5	36.0	20.7	49.9	15.9	—
5	40.6	25.3	53.4	20.6	—
2	43.8	28.2	58.9	23.5	41.2
3	47.9	32.4	3.9	27.9	49.8
7	51.6	36.1	8.4	31.8	37.3
2	219.9	142.7	176.5	119.7	
2			296.5		
04	17 56 43.98	18 1 28.54	18 3 59.30	18 6 23.94	18 12

42.00
41.98
41.93
41.97

July 24, 1885. M. W.

No.

1865phae.

Mrs. Min.		24 Mrs. Min		42 Draconis		d Lyrae		51 Iephei H. sp.					
13	39.9												
14	46.1	18	18	18.0	54.1	47.9	18	33	13.4				
15	30.8		19	35.8	9.6	53.2		34	19.1				
16	32.5		20	25.4	9.8	56.3		35	37.0				
17	26.9		21	33.8	18.8	0.9		36	28.3				
			22	37.6	26.7	5.1		37	53.3				
	176.2			150.6	113.0	165.4			151.1				
					53.0	283.4							
18	35.24	18	20	30.12	18	25	10.60	18	31	566.18	35	30.22	18

next

sp.	0 Draconis	18 B Aquilae	γ Lyrae	16 Lyrae	18 Aquilae
3.4	34.0	42.1	20.3	2.0	5.1
9.1	41.9	46.0	25.0	7.7	9.2
7.0	46.7	49.0	27.9	11.6	11.7
8.3	54.0	52.7	32.3	17.0	15.7
3.3	6.5	55.9	36.2	21.6	18.9
1.1	177.1	245.7	141.7	60.1	60.6
	237.1				
22	18 48 47.42	18 51 49.14	18 53 28.34	18 57 12.02	19 0 12.12

July 24. 1865. M. W.

M.

1865phae. f.

Lyrae	B Lyrae	59 Draconis	VII 67, s.p.	<u><u>τ Draconis</u></u>
53.5	35.9	—	0.6	42.9
1.4	40.9	30.3	9.1	56.0
3.5	44.3	41.2	19.6	6.9
8.1	49.0	57.1	26.7	
11.9	53.1	10.5	37.9	
79.4	223.2		93.9	
19.4				
19 2 3.88 19 8 44.64 19 13 42.56 19 16 18.78 19 17				

0.6246
 - 28.02_{42 48}
 - 14.32₇₈
 + 1.34₅₄
 + 12.14₄₄
 + 28.86

meat

c Cygni		Gr 2900		28 Cassio. H. s.p.		y Aquilae		d Aquilae						
	42.0		29.6		34.7		18.3		39.8					
	48.4		10.7		55.2		22.5		43.8					
	52.8		24.4		17.3		25.1		46.2					
	58.5		44.6		33.7		28.8		50.0					
	3.8		2.4		57.9		32.2		53.4					
	205.5		131.7		198.8		126.9		233.2					
	265.5				78.8									
19	25	53.10	19	29	26.34	19	33	15.76	19	39	25.38	19	43	46.64

July 24. 1835. Ill. W.

102

End

July 24. 1865

13 18	38.58	~~70.29~~	7.24	⁸ 28.92		
14 10	3.52	-0.34	32.19	28.98	^{N m}	
15 29	32.00	-0.34	0.65	28.99	14 39	28.970
15 38	11.24	-0.29	39.91	<u>28.96</u>		
17 29	14.68	-0.29	43.24	28.85		
18 32	56.68	-0.39	25.23	28.94		
19 40	25.38	-0.30	54.01	28.93	19 3	28.932
19 44	46.64	-0.29	15.34	28.99		
19 49	15.82	~~70.29~~	44.48	<u>28.98</u>		

17 6 +28.949

No great change in rate.

July 26. 1885. M. W.
A. M.

1865phae-p

α Serpentis		β Serpentis		δ Coronae		α Librae (faint)		π Scorpii							
	4.8		24.8		22.4		58.0		9.2						
	8.8		28.8		27.0		2.3		13.7						
	11.4		31.5		29.8		4.9		16.6						
	15.1		35.3		34.0		9.0		20.5						
	18.3		38.8		37.6		12.4		24.0						
	58.4		159.2		150.8		86.6		84.0						
							26.6								
15	37	11.68	15	39	31.84	15	43	30.16	15	45	5.32	15	50	16.80	15

S. G. 13.

A. M.

next

1865phae. p.

			E Coronae			B Scorpii pr.			5 Uphiensis			o Coronae			o Scorpii		
9.2			26.5			3.5			44.5			3.3			27.2		
7			30.9			7.7			48.3			8.0			31.5		
6			33.8			10.3			50.4			11.3			34.4		
5			38.0			14.3			54.8			15.7			38.5		
4			41.5			17.8			57.9			19.5			42.2		
0			170.7			53.6			255.9			57.8			173.8		
80	15	51	34.14	15	57	10.72	16	6	51.18	16	9	11.56	16	12	34.76		

1865phae.proj...689

July 26. 1885. M. W.

16.

1865phae.

Coronae		α Scorpii		γ Uphiensis		A Draconis		ζ Scorpii (^{not} faint)		5					
	16.7		35.9		32.5		30.0		55.9						
	21.1		40.3		38.3		41.1		1.4						
	24.2		43.2		40.9		48.2		4.6						
	28.5		47.3		44.7		58.7		9.9						
	32.4		51.0		47.8		7.8		14.3						
	122.9		217.7		206.2		185.8		86.1						
							245.8		26.1						
16	16	24.58	16	20	43.54	16	23	41.24	16	27	49.16	16	44	5.22	16

next

	53 Herulis	10 Gamel., sp.	30 Ophiuchi	E Urs. Min.	u Draconis	
7	17.3	45.0	24.9	16 58	98.4	54.8
4	22.0	51.5	28.7	59	7.1	1.7
6	25.0	59.1	31.3		26.9	6.2
9	29.4	4.3	35.0		54.0	12.4
3	33.1	12.3	38.3	17 0	18.6	18.0
1	126.8	172.2	158.2		145.0	93.1
1		292.2				33.1
2	16 48 25.36	16 50 58.44	16 53 31.64	16 59 29.00	17 2	6.62

July 26. 1885. U.L.W.

M.

1865phae

7	Urs. Min. 13.	2	Herulis	40	Ophiuchi	271	B Herulis	2	Herulis	1					
	3.4		57.2		22.2		43.5		27.5						
	19.0		1.4		27.5		48.6		32.5						
	28.9		3.9		30.2		52.0		35.7						
	44.1		7.9		34.1		56.8		40.3						
	57.0		11.3		37.8		1.0		44.3						
	152.4		81.7		152.8		201.9		180.3						
			21.7				261.9								
17	5	30.48	17	8	4.34	17	12	30.56	17	16	52.38	17	18	36.06	17

next

	<i>L. Herculis</i>			<i>L. Appianchi</i>			<i>Gr. 2456</i>			<i>z. Herculis</i>			<i>α Draconis</i>		
25			44.2			8.1			48.5			4.0			0.4
5			48.6			12.0			11.1			9.8			11.4
7			51.4			14.8			26.6			13.5			18.5
9			53.6			18.6			48.2			18.7			28.9
9			59.2			21.9			7.4			23.5			37.7
3			259.0			75.4			141.8			69.5			96.9
6	17	24	51.80	17	28	15.08	17	29	28.36	17	35	13.90	17	37	19.38

July 26. 1885. Ill. W.

= 16.

1865phae. p.

Uphiuchi.			Gr. 1030, sp.		5 Urs. Min.		24 Urs. Min.		42 Draconis							
35.9			27.7	18	13	40.2	18	18	19.5	54.4						
39.7			51.0		14	47.4		19	34.7	4.0						
42.3			6.3		15	29.3		20	22.6	10.3						
46.0			16.4		16	32.2		21	33.4	19.0						
49.3			32.5		17	27.7		22	34.5	27.0						
213.2			143.7			176.8			144.7	114.7						
			23.9							57.7						
17	40	42.64	17	46	4.78	18	15	35.36	18	20	28	94	18	25	10.94	18

next

3 H. Senti	2 Lyrae	51 Lepthai H. sp	4 Aquilae	B. Cygni
20.3	48.3	33 14.9	29.8	44.0
24.1	53.4	34 21.5	33.7	48.6
26.9	58.5	35 38.7	36.1	51.4
30.6	1.3	36 31.6	39.9	55.7
33.9	5.5	—	43.2	59.3
135.8	165.0		182.7	251.0
	285.0			
18 27 27.16	18 31 57.00	18 25 32.06	18 37 36.54	19 24 57.80

32.31

31.77

32.14

32.04

July 26. 1865. 24. W.

No.

End

<i>h Sagittarii</i>			<i>γ Aquilae</i>			<i>α Aquilae</i>			<i>β Aquilae</i>		
57.8			18.8			40.1			9.5		
2.1			22.9			44.0			13.3		
4.8			25.4			46.8			15.8		
9.0			29.2			50.5			19.6		
12.2			32.5			53.7			23.0		
85.9			128.8			235.1			81.2		
25.9											
19 27 5.18	19	39	25.76	19	43.	47.02	19	48	16.24		

July 26th 1865
Am

a	15 38	11.68 ± 0.29	39.88	28.49	
	16 21	43.54 ± 0.37	11.70	28.47	
	17 9	4.34 ± 0.29	32.58	28.53	16 ^h 39 ^m 28.478 (4)
	17 29	15.08 ± 0.29	43.24	28.42	
	18 32	57.00 ± 0.39	25.21	28.60	
	19 40	25.76 ± 0.30	54.01	28.55	
	19 44	47.02 ± 0.29	15.35	28.62	19 26 28.578 (4)
	19 49	16.24 ± 0.29	44.49	28.54	

Change of Rate

July 27. 1885. U. W.
N. S.

A. M.

Polaris. s.p.	L. Virginis	L. Bootis	L. Coronae	L. Serpentis	B
3 5 25.2	32.5	57.3	25.2	5.3	
7 36.1	36.7	1.5	29.6	9.2	
10 8.0	39.3	4.3	32.5	11.9	
11 50.2	43.1	8.2	36.8	15.8	
14 31.5	46.4	11.6	40.2	18.8	
151.0	198.0	82.9	164.3	61.0	
271.0		22.9			
13 9 54.20	13 17 39.60	14 9 4.58	15 28 32.86	15 37 12.20	15
13 5 21.0					
24.9					
26.0					
28.9					
30.8	25.2				
33.3					
35.4					
36.6					
39.0					
44.5	36.1				
5.1					
5.9					
7.3					
8.3					
9.5					
12.0					
48.1	8.0				
47.0					
48.7					
49.9					
51.3					
54.3					
12	53.2				
14 27.9					
29.7					
31.0					
32.4					
36.7					
77	31.5				

J. C. B.

next

B Serpens	S Coronae	π Scorpii	E Coronae	B Scorpii	pr.	fol.
25.3	22.9	27.2	26.9	15 57	3.8	4.5
27.3	27.5	17.1	31.3		8.3	8.8
32.0	30.3	21.1	34.2		10.9	11.3
35.8	34.4	24.7	38.3		14.9	15.3
39.2	38.0		42.2		18.1	18.6
161.6	153.1	86.8	172.9		56.0	58.5

15 39 32.32 15 43 30.62 15 50 17.36 15 51 34.58 15 57 { 11.20 pr
 { 11.76 fol
 11.45 mean

July 27. 1885. M W

M.

S.C.13.

A.16.

S.C.13

α Scorpii	δ Ophiuchi	α Scorpii ^(for illumination)	β Hercules	γ Scorpii
37.8	44.9	38.7	—	57.4
41.8	48.8	41.0	—	4.8
44.6	51.5	43.9	—	9.2
48.5	53.1	47.9	4.3	12.4
52.0	58.3	51.4	7.3	
224.7	258.6	220.9		

16 3 44.94 16 6 51.72 16 20 44.18 16 24 16 27 16

max

3 Uphiuchi				3 Herculis				2 Herculis				E Scorpis			
XVI 182															
12.3				15.7				~~34.5~~				42.0			~~53.8~~
16.3				38.8				38.9				46.0			55.5
18.9				50.7				43.5				50.5			58.5
22.6				10.8				middle wire 46.4				55.3			1.7
26.0				27.7				50.8				59.3			6.0
96.1				141.7				~~54.6~~							9.9
				261.7				234.2				253.1			131.6
															11.6
16	29	19.22	16	32	52.34	16	35	46.84	16	37	50.62	16	41		2.32

July 27 1885. Ill. W.

6.73.

A.M.

3' Scorpii		3 ² Scorpii		E Urs. Min.		u Draconis		77 Urs. Min. B.			
56.5		32.9	16	58	38.3		—		2.9		
1.9		38.5		59	27.8		2.4		19.3		
5.3		42.0			54.3		6.7		29.6		
10.4		47.0	17	0	17.7		13.0		43.9		
14.6		51.3					14.5		57.0		
88.7		211.7			145.3				152.7		
28.7											
16	44	5.74	16	44	42.34	16	59	29.06	17	2	7.20
									17	5	30.54

7.06
7.15
7.25
7.36
7.20

not

	α Herculis	271 B Herculis	ρ Herculis	λ Herculis	α Upphinechi
9	57.9	44.0	28.2	44.5	8.7
3	2.0	49.2	33.0	49.1	12.7
6	4.6	52.5	36.3	51.8	15.4
9	8.4	57.4	40.8	56.0	19.1
0	11.8	1.6	44.8	59.6	22.4
1	84.7	204.7	183.1	261.0	78.3
	24.7	264.7			
54	17 8 4.94	17 16 52.94	17 18 36.62	17 24 52.20	17 28 15.66

July 27. 1885. U. W.

J. H. S.

17. 5456

c Heracles

5 hrs. Min.

24 hrs. Min.

hr Draconis

48.2

4.5

18

13

40.0

18

18

18.4

10.8

10.4

~~14~~

~~41.1~~

20

22.6

4.8

26.7

13.8

14

~~46.7~~

21

31.9

11.8

48.4

19.3

15

29.5

22

33.3

19.6

7.4

24.0

16

31.6

27.4

141.5

72.0

17

27.4

175.2

140.7

17

29

28.30

17

35

14.40

18

15

35.04

18

20

28.14

18

25

11.54

18

11.45

11.44

11.56

11.71

11.54

next

316 Senti.		45 Druconis		d. Lyrae		51 Lepthai H. sp.		24 Camul. H. sp.	
	21.2		38.0		49.0	18	33	18.2	22.5
8	24.9		45.2		54.1		34	24.6	37.1
8	27.6		49.9		57.3		35	41.2	53.6
6	31.2		56.5		2.0		36	34.8	4.8
4	34.6		2.6		6.2		37	56.7	22.9
	139.5		192.2		168.6			175.5	140.9
			252.2		288.6				260.9
4	18 27 27.90	18 29	50.44	18 31	57.72	18 33	35.10	18 39	52.18

July 27. 1885. Ill. W.

H. S.

♂ Sagittarii			♂ Sagittarii			♂ Draconis			18 B Aquilae			♂ Aquilae		
		30.4			26.6			35.1			43.1			10.9
		34.6			31.1			43.0			47.3			14.6
		37.5			33.8			48.0			50.0			17.3
		41.6			37.6			55.3			53.9			21.1
		45.1			41.4			1.5			57.4			24.5
		189.2			170.5			182.9			251.7			88.4
								242.9						
18	45	37.84	18	46	34.10	18	48	48.58	18	51	50.34	19	18	17.68

EndEnd*L. Sagittarii*

58.5

2.9

5.7

9.9

13.4

90.4

30.4

6.08

19 28

July 27

J.H.S.

13 18

39.60 - 0.22 7.20 27.82

14 10

44.58 - 0.22 32.15 27.80

am

15 29

32.86 - 0.24 0.61 27.99

15 38

12.20 - 0.22 39.87 27.89

16 21

44.18 - 0.26 11.69 27.77

17 9

44.94 - 0.22 32.57 27.85

17 29

15.66 - 0.22 43.21 27.77

J.H.S.

18 32

57.72 - 0.26 25.20 27.74

NA. 19 18

17.68 - 0.22 45.02 27.56

NA. 19 28

6.08 - 0.25 33.44 27.61

13^h44^m 27.810 (2) *J.H.S.*16 25 27.874 (5) *A.M.*19 6 27.637 (3) *J.H.S.* including *♂ Aquilae* and *L. Sagittarii*16 57 27.706 (5) *J.H.S.* no ch. of rate. *N.A. Stars.**I observe later than M. by*+0.151 wt 3.6

July 28, 1875, Ill. W.

N.

1865phac.

Serpentis	ζ Coronae	λ Scorpii	λ Uphiuchi	A Draconis
5.7	17.5	36.7	35.2	30.8
9.7	22.0	41.3	39.2	41.5
12.2	25.1	44.1	41.7	48.8
15.9	29.5	48.2	45.4	58.9
19.2	33.2	51.9	48.7	8.1
62.7	127.3	222.2	210.2	188.1
				248.1
15 37 12.54 16 16 25.46 16 20 44.44 16 23 42.04 16 27 49.62 16				

next

1865phae. p.		Herculis		3' Scorpii (faint)		53 Herculis		10 Camel, s.p.		1 Herculis				
8		39.0		57.2		18.2		46.5		45.0				
5		43.7		2.6		22.9		53.1		49.4				
8		46.7		—		25.9		1.3		52.3				
9		51.1		—		30.3		5.7		56.4				
1		54.7		—		34.0		13.7		59.9				
1		235.2				131.3		119.2		263.0				
1								299.3						
62	16	35	47.04	16	44	16	47	26.26	16	50	59.86	17	24	52.60

July 28, 1885. M. W.

h.

α Uphiuchi	Gr. 2456	ϵ Herulis	α Draconis	γ Uphiuchi	δ
8.9	—	4.9	1.0	36.8	
13.0	—	10.7	12.0	40.7	
15.6	25.9	14.2	19.1	43.2	
19.4	48.6	19.7	29.4	46.9	
22.7	7.4	24.4	38.4	50.1	
79.6		73.9	99.9	217.7	
17 28 15.92	17 29	17 35 14.78	17 37 19.98	17 40 43.54	17

28.29
 28.60
27.77
 28.22 ✓

next

	Gr. 1030, s.p.	δ Herculis	35 Draconis	γ Sagittarii	δ Herculis
8	39.9	11.5	35.4	37.2	21.8
7	52.8	9.5	52.7	41.9	26.6
2	8.0	12.6	4.3	44.9	29.5
9	17.9	17.3	20.3	49.1	33.8
1	33.7	21.4	35.9	52.8	37.6
7	152.3	65.3	148.6	225.9	149.3
	32.3		28.6		
4	17 216 6.46	17 51 13.06	17 55 5.72	17 56 45.18	18 1 29.86

July 28, 1865. M. W.

16.

Mr. 2517		A Herculis		η Sagittarii		36 Draconis		5 Urs. Min.		
51.0		17.1		58.1		27.0		—		24
56.6		21.8		3.2		36.4	14	45.8		18
5.0		24.7		6.3		42.1	15	28.3		
4.9		29.1		11.3		50.8	16	30.7		
9.5		32.8		15.1		58.4	17	26.4		
122.0		125.5		94.0		214.7				
7.0				34.0						
18 3	0.40	18 6	25.10	18 8	6.80	18 12	42.94	18 15	34.98	18

34.47
32.47
30.64
24.31

neat

24 Wrs. Mini. 13.	42 Draconis	3 1/6 Senti	2 Lyrae	51 Lephe 16, s.p.
18 18 14.2	55.5	21.1	49.2	18 33 19.8
19 31.7	4.8	25.2	54.3	34 26.0
20 21.1	11.5	27.7	57.4	35 42.5
21 32.3	19.9	31.5	2.0	36 36.3
22 33.5	27.7	35.0	6.3	37 56.0
136.8	119.4	140.5	169.2	180.6
	594		289.2	
18 20 27.36	18 25 11.88	18 27 28.10	18 31 57.84	18 35 36.12

18	33	17.7
		19.6
		22.0
		27.3 12.8
		25.2
	34	26.4
		12.0 26.0
	35	42.5
	36	36.3
	37	56.0

July 28, 1885. M. N.

11.

4 Camel. N. s. p.	♂ Sagittarii	♂ Sagittarii	♂ Draconis	18 13 Aquilae	y
22.3	30.6	26.7	—	43.3	
37.1	34.8	31.0	42.9	47.5	
53.5	37.6	33.9	47.7	50.0	
4.7	41.5	37.9	55.3	53.9	
22.9	45.1	41.3	1.4	57.3	
140.5	189.6	170.8		252.0	
260.5					
18 39 52.10	18 45 37.92	18 46 34.16	18 48 48.50	18 51 50.40	18

48.47
48.68
48.32
48.57
48.50

near

	γ Lyrae	16 Lyrae	18 Aquilae	ϵ Lyrae	η Lyrae
3	21.4	3.0	6.5	56.6	37.1
5	26.0	9.0	10.6	1.4	42.0
7	29.2	12.7	13.2	4.8	45.4
9	33.6	18.1	17.0	9.2	50.2
11	37.5	22.9	20.2	13.2	54.3
13	147.7	65.7	67.5	85.2	229.0
15				25.2	
17	18 53 29.54	18 57 13.14	19 0 13.56	19 2 5.04	19 8 45.80

July 28, 1865. Ill. W.

N.

1865phae

III 67 s.p.	z Draconis	z Lygni	Gr. 2900	28 Camul. 16. sp	y
2.2	—	43.4	49.7	37.9	
11.7	35.0	49.8	11.7	57.9	
21.7	43.7	53.8	25.3	20.9	
29.0	56.6	59.7	44.4	36.2	
40.0	7.6	5.0	2.9	0.2	
104.6		211.7	134.0	153.1	
		271.7		93.1	
19 16 20.92 19 17	19 25	54.34	19 29 26.80	17 33 18.62	19

End

sp	y	Aquilar	VII 187, s.p.	B Aquilae	L Wds. Min.			
9		19.6	16.7	10.3	19	53	37.3	
9		23.7	36.4	14.4		56	59.2	
9		26.4	38.8	16.8		59	18.2	
2		30.1	11.2	20.7	20	2	26.4	
2		33.4	33.5	23.9		5	18.0	
1		133.4	154.6	86.1			159.1	
1			274.6					
62	19	39	26.68	19	42	54.92	19	48
						17.22	19	59
							31.82?	

July 28 AM.

15 38	12.54	-0.22	5	5
16 21	44.44	-0.26	39.86	+27.54
17 29	15.92	-0.22	11.68	27.50
18 32	57.84	-0.26	43.21	27.51
19 40	26.68	-0.22	25.20	27.62
19 49	17.22	-0.22	54.02	27.56
19 55		(6)	44.50	+27.50
				+27.538

19	53	29.9	
		31.9	
		34.7	
		37.1	
		40.5	
		42.8	
		44.5	
		261.4	37.3
	56	54.2	
		56.9	
		59.9	
		1.7	
	57	3.4	
		176.1	59.2
	59	11.8	
		15.0	
		17.4	
		20.8	
		26.0	
		91.0	18.2
20	2	19.3	
		23.0	
		26.8	
		30.5	
		32.6	
		132.2	26.4
	5	13.0	
		15.0	
		18.0	
		20.5	
		23.5	
		90.0	18.0

July 29, 1885. M. W.

M.S.

Polaris, s.p.	Mr. 766, s.p.	Mr. 776 s.p.	γ^2 Scorpii	87 Drac. B.
13 5 28.7	56 55.4	21.0	38.1	13.9
7 39.9	24.0	48.3	42.4	24.7
	56.4	17.2	45.0	31.3
11 52.5	18.6	38.7	48.8	41.3
14 34.7	37 52.8	11.2	52.1	49.9
	207.2	136.4	226.4	161.1
	267.2	76.4		
13 9 57.16	15 56 53.44	16 0 15.28	16 3 45.28	16 5 32.22

13 5 27.9
28.7
29.6

7 37.5
40.0
42.2

11 48.6
51.5
52.5
53.7
56.3

14 31.1
33.7
34.5
35.4
38.6

4 28.57 57.27
2 17.35 57.25
1 56.41 56.04
4 36.69 57.01

next

	Γ Uphiuchi	Γ Coronae ^(m. 4.2)	σ Scorpii	ξ Coronae	α Scorpii
3					
9	45.3	4.3	28.2	17.7	37.0
7	49.2	9.1	32.6	22.2	41.4
3	51.8	12.2	35.4	25.3	44.2
3	55.6	16.6	39.4	29.6	48.2
9	58.9	20.5	43.0	33.3	51.8
1	260.8	62.7	178.6	128.1	222.6
22	16 - 6 52.16 16	9 12.54 16	12 35.72 16	16 25.62 16	20 44.52

July 29, 1865. M. W.

H. S.

1865phae. p

h Uphiensis		A Draconis		3 Herculis?		53 Herculis		30 Ophiensis							
	35.4		30.8		39.1		18.4		26.2						
	39.4		41.8		43.8		23.0		29.7						
	41.9		49.1		46.8		26.1		32.3						
	45.6		59.6		51.1		30.3		36.0						
	48.4		8.6		54.9		34.2		39.2						
	211.1		190.9		235.7		132.0		163.4						
			250.4												
16	23	42.22	16	27	50.18	16	35	47.14	16	47	26.40	16	53	32.68	16

1865phae. proj.

	to Draconis			Rad. 1377 sp			in Drac		271 B Heronulis			Heronulis foll		
2			36.2	16	56	31.1		—			44.5		28.5	
7			45.2		57	13.7		—			49.6		33.7	
3			57.4		58	0.5		7.2			53.0		36.8	
0			0.3			33.5		13.5			57.7		41.2	
2			8.2		59	23.1		19.2			2.0		45.3	
4			141.3			101.9					206.8		185.5	
			261.3			281.9					266.8			
68	16	54	52.26	16	57	56.38	17	2		17	16	53.36	17 : 18	37.10

next

7.76
7.65
7.75

7.72

July 29. 1885. U. W.

176.1.

<i>L. Herantis</i>			<i>L. Aphinichi</i>			Gr 2456			<i>L. Herantis</i>			<i>ω Draconis</i>		
		45.1			7.1			48.1			4.8			1.0
		49.5			13.2			11.3			10.6			12.2
		52.4			15.8			26.3			14.6			19.2
		56.5			19.6			48.3			19.7			29.3
		5.0			22.8			7.6			24.2			37.9
		203.5			80.5			141.6			73.9			99.6
		263.5												
17	24	52.70	17	28	16.10	17	29	28.32	17	35	14.78	17	37	19.92

	γ Aphinichi	θ Herulis	γ Sagittarii	δ Herulis	α Sagittarii
0	36.8	4.7	37.4	22.0	10.7
2	40.7	9.7	42.0	26.7	15.1
2	43.3	12.9	44.9	29.5	17.8
3	47.2	17.5	49.2	33.8	21.7
9	50.3	21.5	53.0	37.7	25.5
6	218.3	66.3	226.5	149.7	90.8
92	17 40 43.66	17 51 13.26	17 56 45.30	18 1 29.94	18 5 18.16

1865phae.proj...685

371.5

End

5 hrs. Min

13	37.9
14	44.1
15	28.4
16	31.9
17	25.9
	168.2

18 15 33.64

July 30

A.M.

End

Polaris

1	5	37.3
	7	16.2
	9	59.4
	12	26.9
	14	44.6
		184.4
		64.4
1	10	12.88

1	5	26.4
		34.1
		38.0
		42.1
		46.0
		<u>36.6</u>
		8.2
	7	11.1
		14.0
		17.5
		21.4
		25.1
		<u>97.3</u>
		16.2
	9	37.5
		39.1
	10	<u>4.6</u>
		28.2
		59.4
	12	16.8
		19.9
		24.7
		29.7
		33.6
		37.0
		<u>181.7</u>
		26.9
	14	36.5
		39.0
		45.1
		48.2
		54.2
		<u>23.0</u>
		44.6

July 29 T.M.S

16.21	44.52	-0.28	11.67	+27.43
17.29	16.10	-0.21	43.20	+27.31
16.55				+27.370

July 31, 1865. Ill. W.

No.

Polaris s.p.			L Virginis			L Bortus			L Serpentinis			E Coronae		
13	5	33.8			34.0			58.6			6.8			28.5
	7	42.3			38.1			2.8			10.8			33.0
	10	13.3			40.7			5.6			13.5			35.9
	11	54.6			44.5			7.5			17.1			40.8
	14	36.7			47.8			12.9			20.5			43.7
		180.7			205.1			89.4			68.7			181.1
		0.7						29.4						
13	10	0.14	13	17	41.02	14	9	5.88	15	37	13.74	15	51	36.22

13	5	30.5	
		33.6	
		37.4	
		11.3	33.8
7		37.2	
		40.2	
		43.7	
		48.3	
		9.4	42.3
10		7.4	
		11.3	
		15.8	
		18.9	
		53.4	13.3
11		50.5	
		55.3	
		57.9	
		13.7	54.6
14		34.8	
		36.6	
		38.7	
		20.1	36.7

next

1865phae-p

	α Scorpii	ξ Coronae	α Scorpii	γ Uphiuchi	β Herulis
5	29.3	18.6	38.4	36.5	19.5
0	33.7	23.3	42.5	40.4	24.0
9	36.5	26.3	45.4	43.1	27.0
8	40.5	30.6	49.6	46.8	31.5
7	44.1	34.4	53.2	50.0	35.3
1	184.1	133.2	229.1	216.8	137.3
22	16 12 36.82	16 16 26.64	16 20 45.82	16 23 43.36	16 47 27.46

July 31, 1885. U. W.

M.

10 Garnet, s. p.	30 Aphrodisia	Rad. 1377.	u Draconis	77 Urs Min. 13.	
47.9	26.7	16 56 32.2	56.8	5.0	
54.8	31.0	57 15.0	3.7	20.4	
2.0	33.5	58 2.8	8.0	30.9	
7.2	37.0	34.6	14.5	45.3	
15.3	40.5	59 24.9	20.0	58.4	
127.2	168.7	109.5	103.0	160.0	
7.2		289.5	43.0		
16 31 144	16 53 33.74	16 57 57.90	17 2 8.60	17 5 32.00	17

next

13.	L Heroulis	271 B. Heroulis	p Heroulis foll.	74 Gamet B. sp	L Heroulis
0	—	45.5	29.7	51.7	46.3
4	3.4	50.7	34.4	4.6	50.6
9	6.2	54.0	37.8	19.3	53.4
3	10.0	58.9	42.4	28.3	57.7
4	13.4	3.2	46.6	43.7	1.4
0		211.3	190.9	147.6	209.4
		271.3		87.6	269.4
00	17 8 6.49	17 16 54.26	17 18 .38.18	17 21 17.52	17 24 53.88

.58
 .50
 .53
 .36

 6.49

July 31, 1865. Ill. W.

N.

1865phae.proj...685

α Uphiuchi	Gr.	2458	ε Herculis		ω Draconis	γ Uphiuchi									
10.2		48.8	6.1		2.2	37.9									
14.3		12.3	11.8		13.2	41.9									
16.9		27.3	15.6		20.1	44.4									
20.6		49.4	20.8		30.4	48.3									
24.0		7.8	25.5		39.0	51.4									
86.0		145.6	79.8		104.9	223.9									
17	28	17.20	17	29	29.12	17	.35	15.96	17	37	20.98	17	40	44.78	17

next

α Herculis		γ Draconis		γ Sagittarii		δ Herculis		Gr. 2517	
	5.7		36.3		38.6		23.2		52.4
	10.6		54.2		43.2		27.7		57.8
	14.0		4.8		46.2		30.8		1.4
	18.5		21.7		50.4		35.0		6.5
	22.7		36.2		54.2		38.7		11.0
	71.5		153.2		232.6		155.4		129.1
			33.2						9.1
17	51 14.30	17	55 6.64	17	56 46.52	18	1 31.08	18	3 1.82

July 31, 1865. M. W.

N.

1865phae. f.

A Herculis			B Sagittarii			36 Draconis			P. W. Min.			42 Draconis			3
		18.3			59.7			28.6	18	14	45.7			38.4	
		23.1			4.4			37.6		15	29.8			6.0	
		26.1			7.5			43.6		16	32.4			12.1	
		30.4			12.4			52.1		17	25.5			21.0	
		34.3			16.5			59.7						29.1	
		132.2			100.3			221.6						124.6	
					40.5									64.6	
18	6	26.44	18	8	8.10	18	12	44.32	18	15	34.53	18	25	12.92	18

33.59

35.17

35.14

34.21

34.53

next

	376. Scuti	45 Draconis	L. Lyrae	51 Cephei 76, sp. 5 Sagittarii	
4	22.5	39.1	50.5	18 33 20.0	31.7
0	26.4	46.6	55.5	34 28.6	36.0
1	29.0	51.2	58.7	35 46.4	38.9
0	32.8	58.1	3.4	36 37.5	42.6
1	35.9	4.0	7.6	38 1.8	46.3
6	146.6	199.0	175.7	134.3	195.7
6		259.0	295.7	194.3	
2	18 27 29.32 18	27 51.86 18	31 59.14 18	35 38.86 18	45 39.14

July 31, 1885. Ill. W.

A. M.

1865phac. p

δ^2 Sagittarii		γ Lyrae		16 Lyrae		18 Aquilae		ϵ Lyrae						
28.1		22.8		4.4		7.8		58.0						
32.3		27.5		10.1		11.9		3.7						
35.0		30.5		13.9		14.5		5.9						
39.3		32.9		19.4		18.3		10.5						
42.8		38.7		24.0		21.4		14.5						
177.5		154.4		71.8		73.9		91.6						
								31.6						
18	46	35.50	18	53	30.88	18	57	14.36	19	0	14.78	19	2	6.32

next

	η Lyrae	β' Sagittarii (faint)	ϵ Draconis	ϵ Cygni	yr. 2900
20	38.4	24.8	22.5	—	51.1
7	43.5	30.6	36.0	—	12.8
9	46.8	34.6	45.4	55.1	26.3
5	51.5	39.7	57.8	0.9	45.2
5	55.8	44.2	9.0	6.4	3.4
6	236.0	173.9	170.7		138.8
6			230.7		175.8
2	19 8 47.20	19 12 34.78	19 17 46.14	19 25	19 29 27.76

July 31. 1865, U.L. W.

H.

End

28	Garnet. H. sp.	y	Agulac	VII 187.	s.p.	L. Uns. Min.
	39.9		21.1	18.8	19	53 34.4
	58.5		25.1	36.8		56 51.0
	23.3		27.8	58.4		59 10.8
	37.5		31.6	12.9	20	2 28.3
	2.0		34.9	34.7		5 17.2
	161.2		140.5	161.6		141.7
	101.2			281.6		
19	33	20.24	19	39	28.10	19 42 56.32 19 59 28.34

19	53	28.0	
		30.9	
		34.7	
		37.8	
		40.8	
		172.2	34.4
56		42.5	
		44.8	
		47.9	
		53.9	
		57.1	
		10.0	
		246.2	51.0
59		1.8	
		5.8	
		7.8	
		10.9	
		14.3	
		16.6	
		19.4	
		25.6	10.8
20	2	24.1	
		26.6	
		29.9	
		32.5	
		113.1	28.3
5		7.7	
		10.6	
		13.3	
		16.6	
		20.3	
		23.9	
		28.0	
		120.4	17.2

July 31. AM

13 18	41.02	-0.23	7.15	26.36	
14 10	5.88	-0.21	32.09	26.42	low 2
15 38	13.74	-0.21	39.82	26.29	14 52 +26.292
16 21	45.82	-0.28	11.64	26.10	
17 8	6.49	-0.21	32.53	26.25	
17 29	17.20	-0.21	43.18	26.19	18 12 +26.208
18 32	59.14	-0.23	25.17	26.26	
19 40	28.10	-0.24	54.02	26.13	

16 32 +26.250 (8)

No change of rate

1865 Aug. 1. M. West.
TNS.

Planis sp			x Proctis			o Scorpi			f Corona			a Scorpi		
13	5	34.3			59.3			29.8			19.0			38.7
	7	43.7			3.5			34.2			23.9			43.1
Cloudy at m. line	10	(58)			6.5			37.0			26.8			46.0
	11	53.7			10.3			41.0			31.0			50.0
	14	39.1	14	9	13.6	16	12	44.8	16	16	34.9	16	19	53.8
					93.2			186.8			135.6			231.6
					33.2									
13	10	146	14	9	6.64	16	12	37.36	16	16	27.12	16	19	46.32

13 5
 29.2
 35.3
 38.3
 102.8 34.3
 12.0
 112.92
 43.8
 44.9
 47.8
 122.4 43.7
 5.8 ref.
 50.7
 55.6
 57.54
 59.7
 235.7 55.9
 34.6
 38.85
 410.0
 117.4 39.1

5 28.61 2.91
 2 17.86 1.06
 12.82 (52.98)
 1 56.42 57.48
 4 36.72 2.38
 583

1865 Aug 1. Dr. West
J.H.S.

next page

2 Ursae minor

2 Ophiuchi	5 Hercules	53 Hercules	30 Ophiuchi	2 Ursae minor
37.0	40.8	19.9	27.4	59.0 39.6
41.0	45.5	24.6	31.5	8.8
43.6	48.5	27.6	34.0	28.0
47.3	52.8	32.0	37.8	53.4
16 23 50.6	16 35 56.6	16 47 35.8	16 53 41.0	17 2 19.6
219.5	244.2	139.9	171.7	151.4
16 23 43.90	16 35 48.84	16 47 27.98	16 53 34.34	17 1 30.28

1865 Aug. 1 Mr. West

J.H.S.

ultra-violet

17 Hermin B			α Herculis			ζ Herculis			ϵ Herculis			α Ophiuchi		
		57.4			0.0			30.2	26		46.8			10.7
		4.2			4.2			35.2			51.2			14.9
		8.6			6.8			38.4			54.0			17.4
		14.9			10.5			43.0			58.2			21.3
17	4	20.7	17	10	13.9	17	20	47.0	17	27	1.8	17	30	24.6
		105.8			35.4			193.8			212.0			88.9
		45.8									272.0			
17	4	9.16	17	10	7.08	17	20	38.76	17	27	54.40	17	30	17.78

1865 Aug. 1. M. W. H.

End

Am
Polaris

1	5	38.8
	8	18.6
	10	00.4
	12	34.9
	14	45.7
		138.4
		78.4
1	10	15.68

1865 Aug. 1. JWS

1	5	35.5
		37.0
		39.6
		43.2
		35.3
		15.1
		18.5
1	8	27.2
		25.8
		38.5
		0.4
109		2.4
		1.3
		0.4
		31.0
		34.4
12		39.2
		44.6
		43.6
		45.7
14		47.8
		17.1
		45.7

14 10	6.64	-0.21	32.07	25.64
16 20	46.32	-0.28	11.63	25.59
17 10	7.08	-0.21	32.52	25.65
17 29	17.78	-0.21	43.17	25.60

16 17 + 25.620 (4)

No special change of rate

