KG
11366
v.763

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Investigation of Errors of West Circle from Stops, for Single Degree Spaces.

Apr. 15 1885 to June 2 1885

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Investigation of Errors of West Circle.
from Stops 5 single degrees.

Apr. 15 to June 2 1885 87° to 72° inclusive.

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87° — 102°

Apr. 15. 1885 Single degrees. Attd=46

S.

87°–88° = Circle

ζ	26.6	26.8	25.8	26.8		33.8	33.7	33.1	32.2
F	43.1	43.6	43.2	43.4		50.0	50.1	50.0	50.2
4	57.3	57.7	57.4	57.2		41.0	3.8	3.6	3.8
76	37.0	37.4	37.0	37.0		43.9	44.4	44.0	43.7

mean

ζ	+7.2	6.9	7.3	8.4	+6.70
F	6.9	6.5	6.8	5.8	6.50
4	6.7	6.1	6.2	6.6	6.40
76	6.9	7.0	7.0	6.7	6.90
	~~+6.12~~	~~6.6~~	~~6.8~~	~~6.12~~	

repeated

88°–89°

	30.2	30.7	29.9	29.1	29.4
	47.6	47.4	46.8	46.4	46.6
	1.0	1.2	0.1	59.9	59.9
	40.8	41.1	39.7	40.3	40.2

repeated

	37.8	37.2	37.5	36.1	35.3	36.4
	53.0	53.8	53.1	52.0	51.8	52.0
	7.0	7.4	7.2	6.0	6.2	6.1
	47.1	47.1	47.0	46.1	46.0	46.0

7.6	6.5	7.6	7.0	5.9	6.92
5.4	6.4	6.3	5.6	5.2	5.78
6.0	6.2	7.1	6.1	6.3	6.54
6.3	6.0	7.3	5.8	5.8	6.24
~~6.3~~	~~6.2~~	~~7.08~~			

repeated

89°–90°

	20.3	20.1	22.7	23.4	23.2
	35.9	35.8	38.8	38.6	38.3
	50.2	49.7	52.2	52.2	52.3
	29.3	28.8	32.6	32.1	32.3

repeated

	25.0	25.2	24.8	28.5	28.8	27.3
	41.4	41.8	41.8	44.9	45.0	44.6
	55.4	55.5	55.4	58.4	58.7	58.6
	35.4	35.1	35.8	38.2	38.2	38.2

4.7	5.1	5.8	5.4	4.1	5.02
5.5	6.0	6.1	6.4	6.3	6.06
5.2	5.8	6.2	6.5	6.3	6.00
6.1	6.3	5.6	6.1	5.7	6.00

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	S			N			
90°-91°	30.9	30.9	30.1	36.1	36.4	36.0	
	47.0	47.0	46.8	43.1	52.8	52.6	
	0.3	0.2	0.2	6.8	6.8	6.3	
	40.6	40.9	40.9	46.0	46.6	46.8	
North Shift − South Shift =				5.2	6.1	6.5	5.4
				5.3	5.8	6.6	5.7
				5.9	5.8	6.1	5.9
					5.90	6.40	5.67
91°-92°	28.4	28.0	28.2	34.6	33.4	33.7	
	44.4	44.4	44.8	50.6	50.6	50.7	
	57.0	57.6	58.1	4.7	4.2	5.1	
	38.2	38.2	38.2	44.0	44.6	44.0	
				6.2	6.2	7.4	5.8
				5.1	6.2	6.6	6.4
				5.5	5.9	7.0	5.8
					6.10	7.10	6.00
92°-93°	29.6	29.2	29.2	34.7	34.3	34.9	
	45.8	45.2	46.3	51.8	52.0	52.0	
	0.0	59.2	59.7	5.8	5.3	5.6	
	39.1	38.7	39.6	45.2	45.3	45.2	
				5.1	6.0	5.8	6.1
				5.1	6.8	6.1	6.6
				5.7	5.7	5.9	5.4
					6.17	5.93	6.03

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93°-94°

30.8	31.0	29.7	35.1	34.0	34.3
46.8	46.0 (7.6)	46.9	53.0	53.6	53.6
0.4	0.2	0.7	5.9	5.9	5.9
40.2	40.0	40.6	45.4	45.7	45.7

ε	ϑ	ϕ	ν
4.3	6.2	5.5	5.2
3.0	6.0	5.7	5.7
4.6	6.7	5.2	5.1
3.97	6.30	5.47	5.33

94°-95°

30.0	30.1	28.8 (5)	33.4	33.6	34.1
47.8	47.2	47.4	52.7	53.1	53.4
0.2	0.4	59.7	5.3	5.9	5.9
40.0	39.9	40.0	45.4	45.7	45.4

3.4	4.9	5.1	5.4
3.5	5.9	5.5	5.8
5.3	6.0	6.2	5.4
4.73	5.60	5.60	5.53

95°-96°

38.6	39.1	38.6	43.8	44.4	44.0
57.2	57.6	58.1	3.7	4.7	3.8
9.9	10.1	9.6	15.9	16.0	16.0
49.7	49.9	50.0	55.6	55.2	55.1

5.2	6.5	6.0	5.9
5.3	7.1	5.9	5.3
5.4	5.7	6.4	5.1
5.30	6.43	6.10	5.40

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96°-97°

28.8	29.0	29.0	34.9	35.1	35.1
47.8	48.1	47.7	53.0	53.6	53.6
0.0	0.1	0.0	5.2	5.9	5.1
40.0	39.6	39.7	45.0	46.2	45.9

6.3	5.2	5.2	5.0
6.1	5.5	5.8	6.6
6.1	5.9	5.1	6.2
6.17	5.52	5.37	5.93

97°-98°

35.8	35.6	35.9	42.0	41.7	40.9
52.7	53.1	53.6	58.2	59.0	58.7
4.8	4.9	5.6	11.2	11.7	11.4
45.8	45.4	45.3	50.4	51.7	51.7

6.2	5.5	6.4	4.6
6.1	5.9	6.8	6.3
5.0	5.1	5.8	6.4
5.77	5.50	6.33	5.10

98°-99°

28.8	29.2	22.4	28.8	27.8	28.2	28.8	28.8	33.6	33.8	34.7	32.8	34.0	33.8	33.7
45.1	45.2	40.2	45.1	45.0	44.6	44.4	44.9	50.6	51.0	51.0	50.7	50.7	50.9	50.7
56.0	57.7	52.1	57.7	57.0	57.6	57.2	57.2	3.1	3.3	3.2	3.6	4.2	4.0	3.4
38.1	37.8	38.8	38.8	38.4	38.1	38.0	38.2	43.6	43.9	43.0	43.8	43.8	43.7	43.5

4.8	5.5	5.1	5.5
4.6	5.8	5.6	6.1
6.9	5.5	5.5	4.2
5.0	5.5	6.6	5.4
5.8	6.1	6.6	5.7
5.2	6.5	6.8	5.7
4.9	6.6	6.2	5.3
5.31	5.90	6.06	5.42

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Mars Alt 7h 47.2 at end

99° – 100°	44.9	27.2	28.0 (6)	28.1 (5)	31.3	32.8	31.9	
	5[illegible]	43.3	42.4	43.0	48.2	48.4	48.0	
	[illegible]3.4	55.1	55.0	55.2	0.7	1.1	0.7	
	[illegible]3.3	35.6	34.7	35.9	40.3	41.0	41.1	
					41	49	5.6	4.7
					68	60	6.1	6.3
					68	50	5.5	5.2
					5.90	159	5.73	5.40
						5.30		
100° – 101°	25.6	25.4	25.0		29.8	29.7	30.0	
	40.2	40.2	40.2		45.0	45.0	44.9	
	52.4	52.6	52.8		58.4	58.6	58.7	
	33.8	33.0	33.6		38.1	38.0	38.2	
					42	48	6.0	4.3
					43	48	6.0	5.0
					50	47	5.9	4.6
					4.52	4.77	597	4.63
101° – 102°	28.1	28.7	28.0		32.6	32.8	33.0	
	42.1	41.4	42.4		47.1	47.0	47.6	
	55.8	55.1	55.3		1.2	1.3	1.3	
	85.0	86.0	35.9		40.9	41.2	41.0	
					45	50	5.4	5.9
					4	56	6.2	5.2
					5.0	52	6.0	5.1
					4.53	5.27	5.87	5.40

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Resumé Mm 15 87°–102°

Micrometer			Fr		♀		♃	
87-88	+6.90	+1.28	+6.50	+69	+6.40	+34	+6.90	+1.14
88-89	6.92	+1.50	+5.78	−04	6.54	+48	6.24	+57
89-90	5.02	−.40	6.06	+25	6.00	−06	6.00	+34
90-91	5.53	+.11	5.90	+08	6.40	+34	5.67	+.00
91-92	5.70	+.28	6.10	+29	7.10	+1.04	6.00	+34
92-93	5.30	−.13	6.17	+35	5.93	−.13	6.03	+36
93-94	3.97	−1.45	6.30	+49	5.47	−.59	5.33	−33
94-95	4.73	−.69	5.60	−.21	5.60	−.46	5.53	−14
95-96	5.30	−.13	6.43	+62	6.10	+04	5.40	−26
96-97	6.17	+.75	5.59	−.22	5.37	−.69	5.93	+.26
97-98	5.77	+.35	5.50	−32	6.33	+.27	5.10	−55
98-99	5.31	−.12	5.90	+09	6.06	+00	5.42	−25
99-100	5.90	+.48	5.30	−52	5.73	−.33	5.40	−26
100-101	4.50	−.92	4.77	−1.04	5.97	+.09	4.63	−1.04
101-102	4.53	−.90	5.27	−.54	5.87	−.19	5.40	−.26
	87	35	87	21	9087		84.98	
	5.423		5.814		+6.058		+5.665	

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Apr 16 1885 Alt γ = 42. 87° - 102 Single degrees

	S			N.		
87° - 88°	ε	35.2	35.9	35.6	43.0	43.6	43.8
	H	52.1	52.1	52.2	0.8	0.9	0.8
	g	7.6	8.0	7.8	16.2	15.6	15.4
	M	46.7	47.2	45.1	55.2	55.5	55.1

N - S =	ε.	H.	g.	M.
	+7.8	8.7	8.6	8.5
	7.7	7.8	7.6	8.3
	8.2	8.6	7.6	10.0
	7.90	8.37	7.93	8.93

88° - 89°	27.2	46.1	26.8		46.1	33.2	33.2	33.8
	42.9	42.8	42.8		42.8	49.1	49.8	50.1
	57.3	57.6	57.6		57.6	4.2	4.7	4.6
	36.9	37.6	37.2		37.6	43.8	44.0	44.4
					6.0	6.2	6.9	6.9
					7.1	7.0	7.1	6.4
					7.0	7.3	7.0	7.2
					6.70	6.83	7.00	6.83
89 - 90	26.3	26.6	26.0		31.0	31.6	31.3	
	41.2	41.0	41.8		48.2	48.2	48.3	
	56.1	56.4	56.8		3.3	3.2	3.6	
	36.0	36.0	36.1		42.6	43.2	42.8	
					5.7	7.0	7.2	6.6
					5.0	7.2	6.8	7.2
					5.3	6.5	6.8	6.7
					5.33	6.90	6.93	6.83

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90-91	24.3	24.1	23.8		29.7	29.6	29.0
	40.0	39.8	39.8		46.2	46.8	46.4
	55.2	54.2	54.1		1.3	1.2	1.3
	34.0	34.1 ~~33.4~~	34.9		41.2	41.6	41.2

	ε	≠	9,	ν+
+	5.4	6.2	6.1	7.2
	5.5	7.0	7.0	7.5
	5.2	6.6	7.2	6.3
+	5.37	6.93	6.77	7.00

91-92	33.7	33.2	32.6		38.8	38.9	38.7
	49.7	49.7	49.2		56.0	55.8	55.6
	3.8	3.6	3.8		11.0	10.8	10.7
	43.8	43.9	44.0		50.2	49.8	49.9

+	5.1	6.3	7.2	6.4
	5.7	6.1	7.2	5.9
	6.1	6.4	6.9	5.9
	5.97	6.27	7.10	6.07

92-93	28.8	28.3	29.0		34.2	34.1	33.8
	44.8	44.5	45.1		51.6	52.3	52.5
	59.8	59.7	0.0		6.4	6.3	6.0
	40.1	39.8	39.2		45.8	46.0	46.1

	5.4	6.8	6.6	5.7
	5.8	7.8	6.6	6.2
	4.8	7.4	6.0	6.9
	5.33	7.33	6.40	6.27

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Apr 16 1885

93 – 94

24.9	23.0	22.8	22.6
40.1	40.1	39.8	39.8
55.7	53.6	54.1	54.0
36.1	33.7	33.0	34.3

27.9	27.3	27.0
46.1	46.6	47.1
59.6	59.7	59.3
39.8	39.9	39.6

Σ	7r	Cy.	Ψ
4.9	6.0	6.0	6.1
4.5	6.8	5.6	6.9
4.4	7.3	5.3	5.3
4.60	6.70	5.63	6.10

94 – 95

22.3	22.4	21.5
40.0	40.3	40.0
53.8	53.2	53.2
34.0	33.2	33.3

27.0	27.9	26.6
45.9	46.3	45.7
59.3	0.1	59.1
40.1	40.0	39.1

4.7	5.9	5.5	6.1
5.5	6.0	6.9	6.8
5.1	5.9	5.9	5.8
5.10	5.93	6.10	6.23

95 – 96

26.6	26.2	25.7
44.2	44.6	43.6
57.4	57.1	57.2
37.3	37.4	37.0

31.2	30.9	30.9
50.6	50.2	50.1
4.2	3.3	3.0
43.2	43.0	43.0

4.6	6.4	6.8	5.9
4.7	5.6	5.6	5.6
5.2	6.5	5.8	6.0
4.83	6.17	6.07	5.83

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96–97

34.4	34.2	32.7 (3)
37.8	52.2	52.2
5.1	5.6	5.1
44.7	45.2	44.1

40.0	40.3	40.7
58.7	59.0	59.8
11.6	12.0	12.8
51.9	52.4	53.1

E	F.	G	H.
5.6	6.9	6.5	7.2
6.1	6.8	6.4	7.2
7.0	7.6	7.7	9.0
6.23	7.10	6.87	7.80

97–98

40.9	41.1	40.8
58.7	59.2	58.2
11.8	11.9	11.3
52.5	52.9	52.3

46.7	46.6	46.6
4.1	4.6	5.0
17.7	17.8	17.7
58.0	58.3	58.2

5.8	5.4	5.9	5.5
5.5	5.4	5.9	5.4
5.8	6.8	6.4	5.9
5.70	5.87	6.07	5.60

98–99

28.9	29.6	29.0
45.6	45.9	46.1
59.5	57.3	58.9
39.7	39.8	39.8

34.9	34.6	36.3
52.0	53.0	53.0
56.2	56.3	6.5
45.6	45.8	46.3

6.0	6.4	6.7	5.9
5.0	7.1	7.0	6.0
7.3	6.9	7.6	6.5
6.10	6.80	7.10	6.13

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Apr 16.

99 – 100

29.0	29.1	27.0		35.2	34.8	34.7
43.8	44.0	43.2		49.7	50.0	50.2
57.2	56.7	57.3		4.0	3.8	3.2
36.9	37.0	37.2		43.6	43.2	43.8
			6.2	5.9	6.8	6.7
			5.7	6.0	7.1	6.2
			7.7	7.0	5.9	6.6
			6.53	6.30	6.60	6.50

100° – 101°

29.9	30.6	30.4		36.5	37.0	36.2
44.7	44.7	44.9		50.8	51.6	51.0
58.1	58.1	57.8		5.2	5.8	5.9
38.7	38.6	39 44.0		45.0	45.1	45.0
			6.6	6.1	7.1	7.3
			6.4	6.9	7.7	6.5
			5.8	6.1	8.1	6.0
			6.27	6.37	7.63	6.60

101° – 102°

37.0	37.1	23.8	23.9	24.1	43.8	30.9	30.9	30.4
50.3	50.0	37.8	37.8	37.9	57.7	45.8	45.2	44.9
4.2	4.7	51.6	51.6	51.7	12.2	59.4	59.9	59.9
44.2	45.2	32.1	31.8	31.4	52.2	39.9	39.9	40.0
					7.1	8.0	7.8	7.8
					7.0	7.4	8.3	8.1
					6.3	7.0	8.2	8.6
					6.80	7.47	8.10	8.17

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Apr. 16. Resumé Single degrees 87° – 102°

	Microscope E		H		ej		H	
87°	~~6.90~~	+1.18	~~7.37~~	+1.42	~~6.98~~	+1.11	~~7.99~~	+2.31
88°	6.70	+.78	6.83	+.27	7.00	+.18	6.83	+.10
89°	5.33	−.59	6.90	+.15	6.93	+.11	6.83	+.11
90.	5.37	−.55	6.93	+.17	4.77	−.05	7.00	+.27
91	5.97	+.05	6.27	−.48	7.10	+.28	6.07	−.65
92	5.33	−.59	7.33	+.57	6.40	−.42	6.27	−.46
93	4.60	−1.32	6.70	−.05	5.63	−1.19	6.10	−.62
94	5.10	−.82	5.93	−.83	6.10	−.72	6.23	−.50
95	4.83	−1.09	6.17	−.58	6.07	−.75	5.83	−.89
96	6.23	+.31	7.10	+.34	6.87	+.05	7.80	+1.07
97	5.70	−.22	5.87	−.88	6.07	−.75	5.60	−1.12
98	6.10	+.18	6.80	+.04	7.10	+.28	6.13	−.63
99	6.53	+.61	6.30	−.45	6.60	−.22	6.50	−.32
100	6.27	+.35	6.37	−.39	7.63	+.81	6.60	−.13
101	6.80	+.88	7.47	+.72	8.10	+1.28	8.17	+1.45
	84.76		101.34		+102.30		100.89	
	~~+5.917~~		+6.756		+6.820		+6.726	

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Apr 16 1885 Mt Hamilton: 102° – 117° Single degrees.

102 – 103	Σ	27.9	26.8	27.6	32.8	32.4	32.9
	δ	41.1	40.7	40.8	47.2	46.4	46.8
	γ	55.3	55.4	55.2	2.6	1.4	1.7
	η	34.8	35.6	35.0	41.2	40.8	41.1

	Σ	δ	γ	η
	4.9	6.1	7.3	6.4
	5.6	5.7	6.0	5.2
	5.3	6.2	6.5	6.1
Mean	5.27	6.00	6.60	5.90

103 – 104		24.1	24.1	24.6	30.0	30.9	30.3
		34.7 → 37.4	37.4	37.1	44.7	44.9	44.9
		51.6	52.4	52.4	57.0	58.8	58.8
		31.6	32.1	31.6	39.4	39.6	40.1

	5.9	7.3	7.4	7.8
	5.8	7.5	6.4	7.5
	5.7	7.8	6.4	6.5
Mean	5.80	7.53	6.73	7.93

104 – 105		33.4	32.3	32.7	38.9	38.7	38.6
		46.2	46.2	46.6	53.7	53.3	53.6
		0.6	0.7	1.2	8.6	8.2	8.4
		41.0	41.0	41.8	48.4	47.3	48.0

	5.5	7.5	8.0	7.4
	6.4	7.1	7.5	6.3
	5.9	7.0	7.2	6.2
Mean	5.93	7.20	7.57	6.63

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105–106	34.9	34.1	33.8	40.8	40.0	39.7	
	48.7	49.2	48.0	55.6	55.1	54.6	
	3.3	3.2	2.8	10.1	9.3	9.2	
	43.4	43.2	42.7	60.1	48.6	49.0	
	+5.9	6.9	6.8	6.7			
	5.9	5.9	6.1	5.4			
	5.9	6.6	6.4	6.3			
	5.90	6.47	6.43	6.13			
106–107	28.0	28.2	28.7	35.0	34.5	34.6	
	42.7	42.6	43.0	49.6	50.0	49.8	
	57.6	57.4	57.2	4.4	4.5	4.3	
	37.6	37.0	37.5	44.7	44.7	44.0	
	7.0	6.9	6.8	7.1			
	6.3	7.4	7.1	7.7			
	5.9	6.8	7.1	6.5			
	6.40	7.03	7.00	7.10			
107–108	28.3	28.1	26.8	32.6	32.8	33.1	
	42.1	41.4	41.8	48.7	48.6	48.2	
	56.1	55.9	56.0	3.2	3.0	3.2	
	36.6	36.2	36.1	42.4	42.7	42.1	
	4.3	6.6	7.1	5.8			
	4.7	7.2	7.1	6.5			
	6.3	6.4	7.2	6.0			
	5.10	6.73	7.13	6.10			

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Apr 16

108–109	22.6	22.3	23.0		28.7	28.7	28.7	
	38.1	38.0	38.2		44.1	44.8	44.8	
	52.3	52.2	52.3		00	59.9	59.8	
	33.0	32.0	33.0		400	39.9	398	
				E	J	S	H.	
				6.1	6.0	7.7	7.0	
				6H	6.8	7.9	7.9	
				5.7	6.6	7.5	6.8	
				6.07	6.47	7.63	7.23	

109 – 110	30.9	28.0 ~~24.9~~	27.8	27.5	33.4	34.0	33.7	
	43.8	43.1	43.6	43.0	49.1	49.2	49.0	
	58	58.4	58.6	59.0	5.4	5.8	5.8	
	44.1	38.0	38.6	38.2	44.1	44.7	43.8	
					5.4	6.0	7.0	6.1
					6.2	5.6	7.2	6.1
					6.2	6.0	6.8	5.6
					5.93	5.87	7.00	5.93

110 – 111	40.9	41.0	40.3		46.3	46.6	47.4	
	55.3	55.7	55.8		1.7	1.9	2.1	
	11.6	11.6	11.9		18.5	18.2	18.2	
	50.7	50.7	51.2		57.8	58.1	57.8	
					5.4	6.4	6.9	7.1
					5.6	6.2	6.6	7.4
					7.1	6.3	6.3	6.6
					6.03	6.30	6.60	7.03

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111–112	27.9	27.0	27.1		33.6	33.1	33.5
	40.2	40.8	41.4 ~~42.1~~		~~48.1~~ 47.9		~~48.0~~
	57.7	~~57.0~~	~~58.2~~		3.8	4.3	4.3
	36.8	36.6	37.4		43.7	43.7	44.0
					E	F	G.	H.
					5.7	7.9	6.1	6.9
					6.1	7.1	7.3	7.1
					6.4	6.6	6.1	6.6
					6.07	7.20	6.50	6.87
112–113	~~42.5~~	26.8	26.4	~~26.4~~	32.8	33.0	33.1	
	~~39.0~~	40.1	40.5	40.9	47.2	47.1	46.9	
		56.1	55.4	56.3	3.6	3.1	2.8	
		36.4	36.1	35.8	42.8	43.0	42.7	
					6.0	7.1	7.5	6.4
					6.6	6.6	7.7	6.9
					6.7	6.0	6.5	6.9
					6.43	6.28	7.23	6.73
113–114	34.1	33.0	13.7		39.8	38.7	20.2	
	46.3	46.1	27.8		51.8	51.5	33.2	
	1.8	2.4	43.2		9.2	9.0	50.6	
	42.1	41.8	23.7		49.4	48.7	30.3	
					5.7	5.5	7.4	7.3
					5.7	5.1	6.6	6.9
					6.5	5.4	7.4	6.6
					5.97	5.33	7.13	6.93

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Single degrees.

April 16 1885 Att Sh = 46.6 at end 102° – 117

114 – 115	21.9	21.5	20.8		27.0	27.1	27.1
	33.8	34.1	33.7		40.0	40.0	39.3
	51.2	51.2	51.1		57.8	57.2	57.7
	30.8	30.8	30.8		37.6	37.8	37.0
					E.	H.	G.	H
				+	5.1	6.2	6.6	6.8
					5.6	5.9	6.0	7.0
					6.3	5.6	6.6	6.2
				+	5.67	5.90	6.40	6.67
115 – 116	25.7	25.7	26.9		32.4	31.9	31.9	
	38.1	38.0	38.1		44.6	44.8	44.8	
	55.9	56.1	55.9		2.6	2.6	2.7	
	35.8	35.8	36.3		42.1	42.3	42.2	
					E.	H.	G.	H.
					6.7	6.5	6.7	6.3
					6.2	6.8	6.5	6.5
					5.0	6.7	6.8	5.9
					5.97	6.37	6.67	6.23
116 – 117	46.8	45.9	45.6		53.6	53.0	5×2 (3)	
	58.8	58.2	58.0		5.9	4.9	5.3 ~~6.2~~	
	16.6	16.8	16.1		23.5	23.3	23.8	
	56.3	57.2	56.2		3.7	4.2	3.9	
					6.8	7.1	6.9	7.4
					7.1	6.7	6.5	7.0
					7.6	7.3	7.7	7.7
					7.17	7.03	7.03	7.37

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Resumé Apr 16 Single degrees from 102° – 117°.

	Microscope E			F		G		H	
102–103°	+ 5.27	-.71	-71	+6.00	-.51	+6.60	-.31	+5.90	-.82
103–104	5.80	-.18	-89	7.53	+1.02	6.73	-.18	7.93	+1.21
104–105	5.93	-.05	-93	7.20	+.69	7.57	+.66	6.63	-.09
105–106	5.90	-.08	-101	6.47	-.04	6.43	-.48	6.13	-.59
106–107	6.40	+.42	-59	7.03	+.52	7.00	+.09	7.10	+.38
107–108	5.10	-.88	-147	6.73	+.22	7.13	+.22	6.10	-.61
108–109	6.07	+.09	-138	6.47	-.04	7.63	+.72	7.23	+.51
109–110	5.93	-.05	-143	5.87	-.64	7.00	+.09	5.93	-.79
110–111	6.03	+.05	-138	6.30	-.21	6.60	-.31	7.03	+.31
111–112	6.07	+.09	-1.29	7.20	+.69	6.50	-.41	6.87	+.15
112–113	6.43	+.45	-84	6.28	-.23	7.23	+.32	6.73	+.01
113–114	5.97	-.01	-85	5.33	-1.18	7.13	+.22	6.93	+.21
114–115	5.67	-.31	-1.13	5.90	-.61	6.40	-.51	6.67	-.05
115–116	5.97	-.01	-1.14	6.37	-.14	6.67	-.24	6.23	-.49
116–117	+ 7.17	+ 1.19	+.05	7.03	+.52	7.03	+.12	7.37	+.65
	89.71			97.71		103.65		100.78	
	+ 5.981			+ 6.514		+ 6.910		+ 6.719	

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Single degrees.

Apr 17 1885 Att Sh = 41.5 87° to 10°

87° – 88°	E	29.5	29.7	30.8	39.9	39.3	39.2
90	H	45.2	45.8	46.8	55.8	56.2	55.8
	G	59.7	0.0	0.9	10.2	9.2	9.3
	W	38.9	39.1	40.1	50.6	50.1	49.7

	E.	H.	G.	W.
North Hof. – South Shift =	~~+10.4~~	10.6	~~10.5~~	~~10.7~~
	~~9.6~~	10.4	9.2	11.0
	8.4	9.0	8.4	9.6
	~~+9.47~~	~~10.00~~	~~9.37~~	~~10.77~~
	+9.47	+10.00	+9.37	+10.77
Subtract	1.5	1.5	1.5	1.5
	+7.97	8.50	7.87	+9.27

88 – 89	E	23.0	22.7	22.6	30.2	31.1	30.9
	H	38.2	38.7	38.2	46.5	46.6	46.6
	G	52.3	52.6	52.1	59.8	59.8	0.3
	W	32.1	32.9	32.9	40.4	40.7	40.3

	7.2	8.3	7.5	8.3
	8.4	7.9	7.2	7.8
	8.3	8.4	8.2	7.4
+7.97		8.20	7.63	7.83

89 – 90	E	28.0	28.5	27.6	34.3	34.0	33.6
	H	42.6	42.6	42.2	49.6	50.8	49.9
	G	56.4	56.4	56.3	3.8	4.1	4.6
	W	36.4	37.0	36.8	44.6	44.2	44.0

	6.3	7.0	7.4	8.2
	5.5	8.2	7.7	7.2
	6.0	7.7	8.3	7.2
+5.93		7.63	7.80	7.53

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90–91	38.1	36.7	38.2		45.6	44.9	44.2
	54.0	54.2	54.0		0.8	1.3	1.2
	7.8	8.2	7.9		15.3	14.7	15.1
	48.6	48.7	48.8		56.1	56.7	56.8
				C.	7.	2.	N
				7.5	6.8	7.5	7.5
				8.2	7.1	6.5	6.0
				6.0	7.2	7.2	8.0
				+7.23	7.03	7.07	7.63
91–92	30.3	29.4	28.8		36.6	35.9	36.1
	45.2	45.8	45.1		53.6	52.4	52.7
	59.3	59.3	59.2		7.0	7.0	7.2
	39.9	39.8	39.9		47.4	46.6	47.2
				6.3	8.4	8.7	7.5
				6.5	6.6	7.7	6.8
				7.3	7.6	8.0	7.3
				+6.70	7.53	8.13	7.20
92–93	28.6	28.9	28.6		36.1	35.8	35.6
	45.6	44.2	44.8		52.7	52.6	52.8
	59.2	59.1	58.7		6.7	6.5	6.3
	39.2	39.0	38.9		46.6	46.6	46.8
				7.5	7.1	7.5	7.4
				6.9	8.4	7.4	7.6
				7.0	6.0	7.6	7.9
				+7.13	7.83	7.50	7.63

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Apr 17 1885 Single degrees

93–94	27.4	28.2	27.2		33.7	33.8	23.6	
	45.1	45.0	44.7		52.5	52.9	52.8	
	58.0	58.8	58.2		5.6	5.2	5.6	
	39.2	39.3	38.0		45.1	45.0	45.8	
					L.	H.	G.	H
				+	6.3	7.4	7.6	5.9
					5.6	7.9	6.4	5.7
					6.4	6.1	7.4	7.8
					6.10	7.80	7.13	6.47
94–95	22.8	23.3	22.1		29.6	29.9	29.1	
	40.8	41.0	40.7		48.6	48.6	47.8	
	54.1	54.0	53.7		1.2	0.9	0.9	
	34.0	34.1	34.1		41.2	41.9	41.2	
				+	6.8	7.8	7.1	7.2
					6.6	7.6	6.9	7.8
					7.0	7.1	7.2	7.1
					6.80	7.50	7.07	7.37
95–96	24.1	23.9	18.3 / ~~17.9~~	19.1	18.8	31.0	26.3	26.1	26.3
	42.1	42.6	37.2	36.8	37.2	3.50	45.6	45.1	45.0
	55.1	55.2	49.7	49.9	50.1	2.4	57.6	57.3	57.5
	35.3	36.0	30.0	30.1	30.2	42.5	37.8	37.6	37.2
						+ 7.0	7.7	7.3	6.9
						8.0	8.4	7.9	7.8
						7.0	8.3	7.4	7.5
						7.5	7.8	7.4	7.0
						7.38	8.05	7.50	7.30

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96 – 97

36.4	36.9	35.9
54.8	55.8	55.1
7.4	7.2	7.3
47.3	47.6	47.4

43.7	44.0	43.1
1.7	2.0	1.6
13.9	14.1	13.7
54.4	54.4	55.0

E	F	G	H
7.3	6.9	6.5	7.1
7.1	6.2	6.9	6.8
7.2	6.5	6.4	7.6
7.20	6.53	6.60	7.17

97 – 98

40.9	41.5	40.1
58.8	58.8	58.6
10.1	10.5	10.6
52.7	51.8	50.8

48.8	48.8	47.0
5.8	5.9	5.1
18.6	18.4	17.8
59.2	59.2	58.8

7.9	7.0	7.5	6.5
7.3	7.1	7.9	7.4
6.9	6.5	7.2	8.0
7.37	6.87	7.53	7.30

98 – 99

25.0	25.2	24.6
41.5	41.8	40.8
54.2	54.3	53.8
34.9	34.6	34.6

32.3	32.1	32.3
48.8	49.1	48.8
2.2	1.4	1.6
42.2	40.9	41.7

7.3	7.3	6.0	7.3
6.9	7.3	7.1	6.3
7.7	6.0	7.8	7.1
7.30	7.53	7.63	6.80

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Apr 17 1885 Mt Sl = 43.5

99 – 100	28.0	28.7	28.0				35.9	36.2	36.2		
	44.4	45.1	44.2				51.4	52.0	51.8		
	57.8	57.8	57.3				4.2	4.7	4.0		
	38.0	38.6	37.1				44.6	45.0	45.9		
					ε	ζ	ϑ	ϰ			
				+	7.9	7.0	6.4	6.6			
					7.5	6.9	6.9	6.4			
					8.2	7.6	6.7	8.8			
					7.87	7.17	6.70	7.27			
100 – 101	30.3	30.0		14.4	14.4	14.2	37.1	22.0	21.4	22.1	
	45.6	45.0		28.7	29.1	29.2	51.1	36.1	36.6	35.8	
	57.1	58.0		42.2	42.2	42.0	4.7	49.6	49.6	49.6	
	37.9	38.1		23.2	23.7	22.0	45.2	29.9	29.1	29.2	
			+	7.0	5.8	6.2	7.2				
				7.6	7.4	7.4	6.7				
				7.0	7.5	7.4	6.4				
				7.9	6.6	7.6	7.2				
				7.38	6.82	7.15	6.88				
101 – 102	32.2	31.3	31.8				38.7	38.2	38.2		
	45.9	45.2	44.8				53.0	52.8	51.1		
	58.8	58.8	59.1				6.1	6.1	6.6		
	39.0	39.2	38.1				46.1	46.3	47.0		
				+	6.5	7.1	7.3	7.1			
					6.9	7.6	7.3	7.1			
					6.4	6.3	7.5	8.9			
					6.60	7.00	7.37	7.70			

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Resumé Apr 17 Single degrees 87° – 102°

Microscope "C"			F		G		H	
87°.88°	~~7.97~~ ~~+9.47~~	+.84	8.50 +1.00	+1.03 +2.44	7.87 +7.87	+.57 +7.87	8.27 +8.27	+1.83 +2.27
88–89	+7.97	+.84	8.20	+.63	7.63	+.32	7.83	+.39
89–90	5.93	−1.20	7.63	+.17	7.80	+.50	7.53	+.09
90–91	7.23	+.00	7.03	−.54	7.07	−.24	7.83	+.39
91–92	6.70	−.53	7.53	+.07	8.13	+.83	7.20	−.24
92–93	7.13	−.40	7.83	+.36	7.50	+.19	7.63	+.19
93–94	6.10	−1.03	7.80	+.34	7.13	−.17	6.47	−0.97
94–95	6.80	−.33	7.50	+.08	7.07	−.24	7.37	−.07
95–96	7.38	+.25	8.05	+.59	7.50	+.20	7.30	−.14
96–97	7.20	+.07	6.53	−.94	6.60	−.71	7.17	−.27
97–98	7.37	+.24	6.87	−.50	7.53	+.23	7.30	−.14
98–99	7.30	+.17	7.53	+.06	7.63	+.32	6.80	−.64
99–100	7.87	+.74	7.17	−.30	6.70	−.60	7.27	−.17
100–101	7.38	+.25	6.82	−.65	7.15	−.16	6.88	−.56
101°–102°	+ 6.60	−.83	+7.00	−.46	7.37	+.07	+7.70	+.26
	+108.43		+113.49		+111.18		+113.05	
	+ ~~7.229~~ 7.129		+ ~~7.566~~ 7.466		+ ~~7.405~~ 7.305		+ ~~7.537~~ 7.437	

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Apr 17 Single degrees 117° – 132°

117°–118°	E	24.2	23.6	23.5	32.1	31.6	31.6
	F	35.0	35.2	35.3	43.6	44.0	43.6
	G	52.5	52.4	52.5	1.3	0.6	0.9
	H	33.0	33.3	33.1	41.2	40.4	40.7

	E.	F.	G.	H
+	7.9	8.6	8.8	8.2
	8.0	8.8	8.2	7.1
	8.1	8.3	8.4	7.6
	8.00	8.57	8.47	7.63

118–119		29.9	29.9	16.4	16.9	36.6	24.3	24.6	23.7
		41.2	41.0	28.3	28.2	48.7	36.8	36.1	36.1
		58.8	57.7	46.0	45.6	55.8	52.8	52.8	53.0
		38.3	38.2	26.0	25.8	46.8	34.2	33.8	34.6

	6.7	7.6	7.2	8.6
	7.9	8.5	6.8	8.2
	7.2	7.9	7.3	8.4
	7.27	8.00	7.10	8.40

119–120		41.9	39.5	39.6	46.4	46.2	45.6
		51.1	51.1	51.7	58.3	58.9	58.6
		8.2	8.0	8.6	15.2	15.3	15.2
		49.6	49.7	50.6	56.9	56.8	56.2

+	4.5	7.2	7.0	7.3
	6.7	7.8	7.3	7.1
	5.0	6.9	6.6	5.6
	5.40	7.30	6.97	7.00

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120 – 121	35.1	36.3	36.3	44.6	44.2	44.0
	48.0	48.6	48.8	55.4	56.1	55.8
	4.6	5.1	5.8	12.8	12.7	12.5
	46.3	46.3	47.6	55.0	54.1	53.6

	E	F	G	H
+	9.5	7.4	8.2	8.7
	7.9	7.5	7.6	7.8
	7.7	7.0	6.7	6.0
	8.37	7.30	7.50	7.50

121 – 122	36.4	36.8	36.8	43.9	44.5	43.8
	48.6	48.7	48.7	56.8	56.7	56.7
	5.7	5.3	5.8	13.7	13.3	13.3
	47.2	47.9	47.0	54.7	54.9	55.2

+	7.5	8.2	8.0	7.5
	7.7	8.0	8.0	7.0
	7.0	8.0	7.5	8.2
+	7.40	8.07	7.83	7.57

122 – 123	39.8	38.6	38.8	46.8	47.2	48.6
	51.9	51.7	51.2	59.4	59.8	0.9
	8.3	8.0	7.7	15.9	16.0	17.6
	50.0	50.3	49.2	57.9	58.6	57.2

+	7.0	7.5	7.6	+7.9
	8.6	8.1	8.0	8.3
	9.8	9.7	9.9	10.0
+	8.47	8.43	8.50	+8.73

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Apr 17 1885

	start							
123 – 124	37.2	26.9	31.8	31.4		39.8	40.1	40.6
	44.2	33.9	43.6	44.1		52.2	52.6	52.4
	0.9	55.3	1.2	0.6		10.0	9.4	9.4
OK	42.9	36.6	42.7	42.0		50.8	51.1	50.9

	ε	γ	ζ	ν
+	7.6	8.0	9.1	7.9
	8.3	9.0	8.2	8.4
	9.2	8.3	8.8	8.9
	+8.37	8.43	8.70	8.40

124 – 125	38.5	39.0	38.7			46.9	46.2	44.9
	57.0	50.3	49.9			59.0	57.4	57.8
	7.9	8.0	7.5			16.2	16.1	16.1
	49.2	49.2	48.3			56.8	58.0	57.4

8.4	8.0	8.3	7.6
7.2	9.1	8.1	8.8
6.2	9.9	8.6	9.1
7.27	9.00	8.33	8.17

125 – 126	35.8	35.2	35.2			43.5	43.3	43.6
	47.8	47.8	47.7			56.3	57.0	56.8
	5.0	4.3	5.6			14.2	14.8	14.2
	46.3	46.2	46.3			54.3	55.0	54.9

7.7	8.5	9.2	8.0
8.1	9.2	10.5	8.8
8.4	9.1	8.6	8.6
8.07	8.93	9.43	8.47

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126-127

29.0	29.0	29.1
41.7	41.9	42.2
59.0	59.4	59.2
39.7	39.9	40.2

36.2	37.2	36.7
49.7	50.6	50.1
7.4	7.8	7.9
49.0	49.4	49.2

7.2	8.0	8.4	10.3
8.2	8.7	8.4	9.5
7.6	7.9	8.7	9.0
7.67	8.20	8.50	9.60

127-128

36.1	35.9	35.1
48.3	48.3	49.0
6.1	7.0	6.2
47.4	46.9	48.7

45.0	45.6	45.2
57.3	57.7	57.2
14.9	15.8	14.4
56.7	57.2	56.8

8.9	9.0	8.8	9.3
9.7	9.4	8.8	10.3
10.1	8.2	8.2	8.1
9.57	8.87	8.60	9.23

128-129

36.9	36.6	30.8	36.6
48.8	48.9	43.6	49.1
5.9	6.4	1.8	7.0
47.2	48.1	42.1	48.7

46.0	45.6	45.2	45.6
58.0	58.6	58.6	57.6
15.2	14.9	14.7	14.2
56.8	56.6	56.9	56.7

9.1	9.2	9.3	9.6
9.0	9.7	8.5	8.5
8.8	9.0	7.4	8.1
8.97	9.30	8.40	8.73

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Apr 17 Single degrees 117°–132° Ht 72 = 47.0

129°–130°	30.4	30.0	29.5		38.2	38.6	38.7		E.	H.	G.	N.
45	41.6	41.9	42.0		50.8	52.0	51.3		7.8	9.2	9.7	8.7
	57.7	58.2	59.0		7.4	7.8	7.2		8.6	10.1	9.6	9.5
	40.6	39.9	41.0		49.3	49.4	49.4		9.2	9.3	8.2	8.4
									8.53	9.53	9.17	8.87
130 –131	24.6	24.1	24.7		32.6	32.9	33.0					
	36.4	36.3	37.0		45.8	46.1	46.1					
	53.2	53.8	53.3		2.9	2.6	2.5					
	36.0	~~35.3~~	36.0		44.2	44.6	44.7					
									8.0	9.4	9.7	8.2
									8.8	9.8	8.8	9.3
									8.3	9.1	9.2	8.7
									8.37	9.43	9.23	8.73
131°–132°	31.9	32.6	32.5		40.9	40.6	39.8					
	45.2	45.2	44.9		53.2	54.0	53.7					
	1.6	0.9	2.1		9.1	9.1	9.4					
	42.8	42.3	~~43.0~~ 43.6		50.7	50.9	51.6					
									+9.0	8.0	7.5	7.9
									8.0	8.8	8.2	8.6
									7.3	8.8	7.3	8.6
									8.10	8.53	7.67	8.87

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Resumé April 17 Spiga degrees 117°–132°

Micrs.	E.		F.		G.		H	
117°–118°	+8.00	+.01	+8.57	+05	+8.47	+.18	+7.63	−.73
118–119	7.27	−.72	8.00	−53	7.10	+81	8.40	+ 4
119–120	5.40	−2.59	7.30	−122	6.97	−1.32	7.00	−1.36
120–121	8.37	+.38	7.30	−1.23	7.50	−.79	7.50	−.86
121–122	7.40	−.59	8.07	−.45	7.83	−46	7.57	−.79
122–123	8.47	+.48	8.43	−.10	8.50	+.21	8.73	+.37
123–124	8.37	+.38	8.43	−09	8.70	+.41	8.40	+.04
124–125	7.27	−.72	9.00	+.47	8.33	+.04	8.17	−.19
125–126	8.07	+.08	8.93	+.41	9.43	+1.14	8.47	+.11
126–127	7.67	−.32	8.20	−.33	8.50	+.21	9.60	+1.24
127–128	9.57	+1.58	8.87	+.35	8.60	+31.	9.23	+.87
128–129	8.97	+.98	9.30	+.77	8.40	+.11	8.73	+.37
129–130	8.53	+.54	9.53	+1.01	9.17	+.88	8.87	+.51
130–131	8.37	+.38	9.43	+.90	9.23	+.94	8.73	+.37
131°–132°	+8.10	+.11	+8.53	+.01	+7.67	−62	+8.37	+.01
	+119.83		+127.89		+124.40		+125.40	
	+7.988		+8.526		+8.293		+8.360	

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Apr 27 1885 Mer Sh = 49.0 Single degrees

	Circle S			new set			N			new set		
87° - 88°	22.8	22.7	23.2	27.8	27.6	28.0	31.2	30.6	31.2	35.0	35.2	34.9
	41.6	41.9	42.0	46.8	47.3	47.0	50.4	50.2	50.4	54.6	54.9	54.9
	2.1	2.2	2.5	7.6	8.2	8.0	10.2	10.2	10.2	15.1	15.0	15.2
	39.3	40.2	41.6	45.8	45.8	45.0	48.7	46.6	49.4	51.8	51.6	52.3

North Shifts - South Shifts =

E	F.	G.	H.	E	F.	G.	H.
+ 8.4	+ 8.8	+ 8.1	+ 9.4	7.2	7.8	7.5	6.0
7.9	8.3	8.0	8.4	7.6	7.6	6.8	6.8
8.0	8.4	7.7	7.8	6.9	7.9	7.2	7.3
+ 8.10	8.50	7.93	8.53	+7.23	7.77	7.17	+6.70

88° - 89°	28.6	29.9	28.4	37.1	37.9	37.6	
	47.0	48.1	48.2	55.1	55.8	55.6	
	8.0	8.0	7.4	15.2	15.8	16.0	
	44.9	46.6	45.6	53.8	54.8	54.0	

E	F.	G.	H.
+ 8.5	8.1	7.2	+ 8.9
8.0	7.5	7.8	8.2
9.2	7.4	8.6	8.4
+ 8.57	7.67	7.87	8.50

89° - 90°	34.2	34.2	34.8	42.9	43.3	42.8	
	52.9	53.1	53.2	1.9	2.0	1.7	
	13.6	13.2	13.3	21.6	22.0	21.9	
	50.8	51.1	50.8	0.7	0.4	0.4	

E	F.	G.	H.
+ 8.7	9.0	8.0	+ 9.9
9.1	8.9	8.8	9.3
8.0	8.5	8.6	9.6
+ 8.60	8.80	8.47	+ 9.60

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90°–91°

39.7	39.0	39.5
57.6	58.1	58.0
18.0	18.2	17.7
55.8	56.4	56.6

47.3	47.3	47.1	
6.4	6.4	6.2	
26.6	26.8	26.8	
4.7	5.0	4.8	

ε	A.	g.	H
+ 7.6	8.8	8.6	+ 8.9
8.3	8.3	8.6	8.6
7.6	8.2	9.1	8.2
+ 7.83	8.43	8.77	+ 8.57

91°–92°

26.5	26.9	26.9
45.7	45.9	45.9
5.3	5.2	5.1
44.3	44.0	44.1

34.9	34.9	34.9	
53.8	54.6	54.2	
14.6	14.0	14.3	
52.2	52.8	52.2	

ε	A.	g.	H
+ 8.4	8.1	8.3	+ 7.9
8.0	8.7	8.8	8.8
8.0	8.3	9.2	8.1
+ 8.13	8.37	8.77	+ 8.27

92°–93°

31.8	31.9	31.9
50.4	50.8	50.6
10.9	10.8	10.7
49.3	49.0	48.3

39.9	40.0	40.0	
0.1	59.8	59.6	
18.9	19.2	19.2	
56.8	57.2	56.9	

ε	A.	g.	H.
+ 8.1	9.7	8.0	+ 7.5
8.1	9.0	8.4	8.2
8.1	9.0	8.5	8.6
+ 8.10	9.23	8.30	+ 8.10

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Apr 27 1885

93° - 94°	37.3	36.4	35.8		42.8	43.9	43.4
	56.3	56.1	55.9		4.4	4.7	4.3
	15.4	15.2	15.6		23.6	23.4	23.6
	54.3	54.4	53.3		1.7	1.0	2.0

ε	δ	γ	H_1
+5.5	8.1	8.2	7.4
7.5	8.6	8.2	6.6
7.6	8.4	8.0	8.7
+6.87	8.37	8.13	+7.57

94 - 95	38.0	37.1	37.5		45.2	45.6	45.2
	58.7	58.4	58.7		6.8	6.7	6.9
	17.7	17.1	16.9		25.3	25.2	25.7
	56.0	55.3	56.8		3.8	3.8	3.7

ε	δ	γ	H_1
+7.2	8.1	7.6	7.8
8.5	8.3	8.1	8.5
7.7	8.2	8.8	6.9
+7.80	8.20	8.17	+7.73

95 - 96	29.1	28.6	28.6		36.7	37.5	37.1
	49.8	50.3	50.0		58.8	58.8	58.3
	8.6	8.6	8.3		16.5	16.4	16.3
	46.9	46.8	46.3		54.2	54.7	54.9

ε	α	γ	H_1
+7.6	9.0	7.9	7.3
8.9	8.5	7.8	7.9
8.5	8.9	8.0	8.6
+8.33	8.60	7.90	+7.93

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96–97	31.6	31.5	mean 31.6
	53.8	53.9	53.8
	11.8	11.2	11.5
	49.9	49.7	49.8

40.0	40.4	39.7
0.1	1.6	0.4
18.7	19.4	19.0
57.0	56.9	56.1

E.	H.	G.	M.
+6.4	6.3	6.9	7.1
6.8	7.7	8.2	9.2
6.1	6.6	7.5	6.8
+6.43	6.87	7.53	+8.20

97–98	24.6	24.4	24.9
	45.0	45.0	45.2
	3.6	3.0	3.3
	41.8	42.0	42.6

~~24.4~~	32.7	32.3	32.9
	51.8	52.3	52.8
	11.2	11.2	11.3
	49.7	49.6	49.3

E.	H.	G.	M.
+6.1	6.8	7.6	7.9
7.9	7.3	8.2	7.6
6.0	7.6	6.0	6.7
+6.00	7.23	7.93	+7.40

98–99	34.1	33.2	33.1
	52.3	53.1	52.2
	11.1	11.2	11.1
	4/29.7	50.4	50.3

42.1	40.4	41.9
0.0	0.4	0.5
19.8	19.6	19.9
58.2	58.1	58.0

E.	H.	G.	M.
+8.0	7.7	8.7	+8.5
7.2	7.3	8.4	7.7
8.8	8.3	8.8	7.7
+8.00	7.37	8.63	+7.97

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Apr 27 1885 Mt Ida: 57.5 87°–102°

99 – 100	31.2	32.4	31.7	39.9	39.9 ~~42.0~~	39.5
	50.2	50.2	50.9	58.0	57.6	57.7
	9.8	9.7	9.7	16.4	16.7	16.4
	48.2	48.0	48.0	54.0	55.1	55.1

ε	f.	g.	h
+8.7	7.8	6.6	5.8
7.5	7.4	90	7.1
7.8	6.8	6.7	7.1
+8.00	+7.33	6.77	+6.67

100° – 101°	22.0	21.4	21.3	28.6	28.6	29.7
	39.0	39.2	39.2	45.4	45.6	45.8
	57.6	57.4	57.8	5.1	49	5.3
	36.3	36.3	36.0	43.0	42.8	42.9

ε	f.	g.	h.
+6.6	6.4	7.5	6.7
7.2	6.4	7.5	6.5
6.4	6.6	7.5	6.9
+7.40	647	7.50	+6.70

101° – 102°	33.8	33.2	32.6	40.7	41.0	40.0
	49.8	50.0	49.3	57.1	57.1	56.6
	9.6	9.8	8.3	17.0	17.1	17.2
	47.3	48.0	46.8	54.9	54.9	55.1

ε	f.	g.	h.
+6.9	+7.3	+7.4	+7.6
7.8	7.1	7.3	6.9
7.4	7.3	8.9	8.3
+7.37	7.23	7.87	+7.60

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Resumé Apr 27 1885 87° – 102° Single degrees.

	Mierss E.		H		L		M.	
87° – 88°	+ 8.10	+ 13	+ 8.50	+ 57	+ 7.93	– 11	+ 8.53	+ 58
88 – 89	8.57	+ .60	7.67	– 24	7.87	– 17	8.50	+ 54
89 – 90	8.60	+ .63	8.80	+ .89	8.47	+ 43	9.60	+ 1.65
90 – 91	7.83	– 14	8.43	+ .52	8.77	+ 73	8.57	+ .61
91 – 92	8.13	+ 16	8.37	+ .46	8.77	+ 73	8.27	+ 32
92 – 93	8.10	+ 13	9.23	+ 32	8.30	+ 26	8.10	+ .14
93 – 94	6.87	– 1.10	8.37	+ .46	8.13	+ 09	7.57	– .38
94 – 95	7.80	– 17	8.20	+ .29	8.17	+ 13	7.73	– .23
95 – 96	8.33	+ .36	8.60	+ .69	7.90	– 14	7.93	– .02
96 – 97	8.43	+ .46	6.87	– 1.04	7.53	– .51	8.20	+ .24
97 – 98	8.00	+ 03	7.23	– .68	7.93	– 11	7.40	– .55
98 – 99	8.00	+ 03	7.37	– .54	8.63	+ .59	7.97	+ 01
99 – 100	8.00	+ 03	7.33	– .58	6.77	– 1.27	6.67	– 1.28
100 – 101	7.40	– .57	6.47	– 1.44	7.52	– .54	6.70	– 1.26
101 – 102	7.37	– .60	7.23	– .68	7.87	– 17	7.60	– .35
	119.53		118.67		120.57		119.34	
	+ 7.969		+ 7.911		+ 8.038		+ 7.956	

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Apr 27 1885 Simple degrees 132° – 147°

Circle

132° – 133°	18.6	17.5	18.8	18.0	28.1	28.0	28.5
45° = Wrocław arc	31.5	30.9	33.2	32.6	41.8	41.8	42.1
	54.5	53.8	55.1	54.1	.41	3.9	4.3
	37.1	35.0	36.6	36.2	45.1	45.0	45.6

North Shift – South Shift =

E.	S.	W.	N.
+ 9.5	+ 10.3	+ 9.6	+ 10.1
10.5	10.9	10.1	10.0
+ 10.1	9.2	9.7	+ 9.2
+ 10.03	10.13	9.80	+ 9.77

133° – 134°	31.1	31.9	31.7		40.0	40.3	39.7
	45.2	45.5	46.0		53.1	53.4	53.0
	7.6	7.6	7.6		15.0	15.1	15.6
	48.0	48.2	48.0		56.6	56.8	57.7

E.	S.	W.	N.
+ 8.9	7.9	7.4	+ 8.6
8.4	7.9	7.5	8.6
8.0	7.0	8.0	9.7
+ 8.43	7.60	7.63	+ 8.97

134° – 135°	29.5	30.0	30.6		37.6	38.2	37.7
	42.6	42.8	44.0		51.6	50.8	51.8
	4.9	5.0	5.6		13.7	13.7	13.7
	46.2	47.0	47.1		54.6	53.7	54.0

E.	S.	W.	N.
+ 8.1	9.0	8.8	+ 8.4
8.2	8.0	8.7	6.7
7.1	7.8	8.1	6.9
+ 7.80	8.27	8.53	7.33

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135 – 136

41.0	40.6	40.4
53.8	53.5	53.4
15.9	16.4	16.4
56.6	56.6	56.4

47.0	46.2	46.4
0.2	0.6	0.1
22.9	23.0	23.0
4.1	4.2	3.9

	E.	F.	G.	H.
+	6.0	6.4	7.0	+7.5
	5.6	7.1	6.6	7.6
	6.0	6.7	6.6	7.5
+	5.87	6.73	6.73	+7.53

136 – 137

26.0	26.6	25.0
39.9	39.8	40.2
2.6	2.6	1.6
43.8	43.1	42.7

32.7	33.7	33.7
47.7	48.2	48.3
9.9	10.6	10.0
51.2	51.2	52.0

	E.	F.	G.	H.
+	6.7	7.8	7.3	7.4
	7.1	8.4	8.0	8.1
	8.7	8.1	8.4	8.3
+	7.50	8.10	7.90	+7.93

137 – 138

29.8	29.9	30.8
44.7	45.4	45.2
7.6	7.3	7.7
47.8	48.7	48.7

39.7	39.6	40.4
55.4	54.9	54.7
16.6	16.0	16.0
59.3	58.2	58.1

	E.	F.	G.	H.
+	9.9	10.7	9.0	11.5
	9.7	9.5	8.7	9.5
	9.6	9.5	8.3	9.4
+	9.73	9.90	8.67	+10.13

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Apr. 27

132° – 147°

138 – 139	28.3	28.0	28.0	36.2	35.6	36.3	
	43.1	43.6	43.2	51.1	51.4	51.4	
	4.3	3.8	5.2	13.1	13.3	13.2	
	46.3	46.4	47.0	54.7	54.6	55.0	
				ε	δ	γ	ν
				+ 7.9	8.0	8.8	8.4
				7.6	7.8	9.5	8.2
				8.3	8.2	8.0	8.0
				+ 7.93	8.00	8.77	+ 8.20
139 – 140	32.2	31.6	32.2	41.1	41.0	40.9	
	46.4	47.0	47.6	56.4	56.7	56.8	
	8.4	9.3	9.2	18.2	17.7	17.6	
	50.7	51.0	51.2	58.8	59.0	59.7	
				ε	δ	γ	ν
				+ 8.9	10.0	9.8	8.1
				9.4	9.7	8.4	8.0
				8.7	9.2	8.4	8.5
				+ 9.00	9.63	8.87	+ 8.20
140° – 141°	37.7	38.6	38.6	48.9	49.3	48.4	
	52.7	53.1	54.3	3.3	3.0	3.3	
	14.0	15.1	14.9	25.7	26.1	26.2	
	53.8	57.0	56.7	8.0	7.6	7.7	
				ε	δ	γ	ν
				+ 11.2	10.6	11.7	12.2
				10.7	9.9	11.0	10.6
				9.8	9.0	11.3	11.0
				+ 10.57	9.83	11.33	+ 11.27

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141 – 142

39.0	39.8	40.0
55.1	55.8	55.6
17.3	17.6	16.8
57.8	58.8	58.8

49.7	49.2	49.3	
4.9	4.8	4.6	
26.7	26.8	26.7	
8.0	8.8	9.3	
E	S.	G.	H.
+10.7	9.8	9.4	+10.2
9.4	10.0	9.2	10.0
9.3	9.0	9.9	10.5
+9.80	9.60	9.50	+10.23

142 – 143

38.8	38.8	39.2
55.0	~~55.0~~	55.1
16.7	17.6	16.7
58.6	58.9	58.6

49.9	49.2	50.0	
3.7	3.6	4.1	
26.8	26.3	26.2	
8.0	8.0	7.9	
E	S.	G.	H.
+11.1	6.7	10.1	+9.4
10.7	6.6	8.7	9.1
10.8	9.0	9.5	9.3
+10.87	8.77	9.43	+9.27

143 – 144

33.8	33.8	33.9
48.0	47.7	48.2
10.8	10.5	10.8
51.8	51.7	52.1

42.4	42.8	43.1	
57.2	57.7	58.0	
19.8	20.1	19.7	
2.0	2.2	2.6	
E	S.	G.	H.
+8.6	9.2	9.0	10.2
9.0	10.0	9.6	10.5
9.2	9.8	8.9	10.5
+8.93	9.67	9.17	+10.40

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Apr. 27 Alt Pr 54.2 end. 182°-147° Single degrees

144°-145°	25.4	25.6	25.9	35.0	35.6	35.6
33' N. arc	40.6	40.0	40.6	48.8	49.8	49.8
	2.3	2.4	2.6	11.9	11.8	12.0
	45.0	45.1	45.0	55.2	54.0	54.0

E	h.	g.	H.
+9.6	9.2	9.6	+10.2
10.0	9.8	9.4	8.9
9.7	9.2	9.4	9.0
+9.77	9.40	9.47	+9.37

145°-146°	28.4	29.1	29.4	38.6	37.8	37.8
	43.1	42.9	43.6	52.7	53.0	52.9
	5.6	4.9	5.3	15.2	15.8	15.1
	47.6	47.6	47.8	56.6	57.2	57.6

E	h.	g.	H.
+10.2	9.6	9.6	9.0
8.7	10.1	10.9	9.6
8.4	9.3	9.8	9.8
+9.10	9.67	10.10	+9.47

146°-147	24.6	24.6	24.4	34.6	34.2	34.0
	39.2	39.1	39.2	48.0	48.7	48.9
	1.8	1.9	1.2	11.3	11.4	11.4
	44.7	43.8	44.3	54.1	54.7	54.6

E	h.	g.	H.
+10.0	8.8	9.5	9.4
9.6	9.6	9.5	10.9
9.6	9.7	10.2	10.3
+9.73	9.37	9.73	+1020

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Resumé Apr 27 1885 132° – 147° Single degrees

Micros.	E.		J.		H.	
132°-133°	+10.03	+1.03	+10.13	+1.15	+9.80	+.76	+9.77	+.55
133-134	8.43	-.57	7.60	-1.38	7.63	-1.41	8.97	-.25
134-135	7.80	-1.20	8.27	-.71	8.53	-.51	7.33	-1.89
135-136	5.87	-3.13	6.73	-2.25	6.73	-2.31	7.53	-1.69
136-137	7.50	-1.50	8.10	-.88	7.90	-1.14	7.93	-1.29
137-138	9.73	+.73	9.90	+.92	8.67	-.37	10.13	+0.91
138-139	7.93	-1.07	8.00	-.98	8.77	-.27	8.20	-1.02
139-140	9.00	00	9.63	+.65	8.87	-.17	8.20	-1.02
140-141	10.57	+1.57	9.83	+.85	11.33	+2.29	11.27	+2.05
141-142	9.80	+.80	9.60	+.62	9.50	+.46	10.23	+1.01
142-143	10.87	+1.87	8.77	-.21	9.43	+.39	9.27	+.05
143-144	8.93	-.07	9.67	+.69	9.17	+.13	10.40	+1.18
144-145	9.77	+.77	9.40	+.42	9.47	+.43	9.37	+.15
145-146	9.10	+.10	9.67	+.69	10.10	+1.06	9.47	+.25
146°-147°	+9.73	+.73	+9.37	+.39	+9.73	+.78	+10.20	+.98
	+135.06		+134.67		+135.63		+138.27	
	+9.004		+8.978		+9.042		+9.218	

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Apr 30 1885 — Single degrees 87°-102° Mt Sh = 48.0

87-88

28.3	29.4	29.7	30.8	30.1	30.8	39.6	39.3	39.2	39.0	39.0
45.4	46.6	47.5	47.8	48.0	48.2	57.2	57.3	57.2	56.7	56.3
5.8	7.0	7.7	9.1	8.7	9.0	17.2	16.7	16.7	15.9	16.2
44.5	44.8	44.9	46.4	46.1	46.8	54.8	55.0	55.0	54.2	54.8

	E.	K.	G.	H.
+	10.5	10.6	10.2	10.0
	10.6	9.8	9.6	10.1
	8.4	9.4	7.6	8.6
	8.9	8.7	8.2	8.1
	8.2	8.1	7.2	8.0
	+9.32	9.32	8.24	8.96

88°-89°

20.3	20.0	18.4	27.8	27.2	27.7
36.4	36.7	36.3	44.2	44.3	44.3
55.8	56.0	55.8	4.3	4.9	4.7
34.6	34.0	34.2	41.3	41.9	42.0

	E	K.	G.	H
+	7.5	7.8	8.5	6.7
	7.2	7.6	8.9	7.9
	8.3	8.0	8.9	7.8
	+7.67	7.80	8.77	7.47

89°-90°

16.3	16.1	15.1	23.9	24.1	23.9
33.0	32.6	31.5	41.2	41.8	41.2
52.9	51.9	51.1	0.3	0.6	1.1
31.6	30.3	29.0	38.3	38.7	38.2

	E	K.	G.	H
+	7.6	8.2	7.4	6.7
	8.0	9.2	8.7	8.4
	8.8	9.1	10.0	9.2
	+8.13	9.03	8.70	8.03

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90.–91.

24.8	25.0	24.7
41.9	41.7	41.6
2.1	1.3	1.0
40.0	40.1	40.1

32.2	32.8	33.6	
49.6	50.0	50.0	
9.8	10.1	9.8	
47.5	48.0	47.8	
E	H.	G.	N
+7.4	7.7	7.7	7.5
7.8	8.3	8.8	7.9
8.9	8.4	8.8	7.7
+8.03	8.13	8.43	7.70

91–92.

25.2	25.7	25.6
43.0	43.8	42.7
2.6	3.9	2.6
40.9	41.1	40.8

34.5	34.6	34.8	
51.9	51.6	52.1	
11.6	12.0	12.1	
49.2	49.2	49.7	
E	H.	G.	N
+9.3	8.9	9.0	8.3
8.9	7.8	8.1	8.1
9.2	9.4	9.5	8.9
+9.13	8.70	8.87	8.43

92–93.

19.7	19.3	19.9
37.2	36.3	37.6
57.0	56.3	57.0
34.9	34.9	35.1

28.6	28.1	28.6	
46.7	46.3	46.3	
5.1	6.1	5.6	
44.0	43.3	43.0	
E	H.	G.	N.
8.9	9.5	8.1	9.1
8.8	10.0	9.8	8.4
8.7	8.7	8.6	7.9
+8.80	9.40	8.83	8.47

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Apr 30 1885

93°-94°

40.2	40.2	32.8	32.0	31.6	40.2	
57.6	57.6	52.6	52.9	53.0	57.6	
16.5	16.7	10.0	9.7	9.2	16.6	
54.9	54.6	47.6	47.3	46.2	51.7	

46.8	47.9	47.4	
6.2	7.2	6.7	
24.6	25.7	25.3	
3.2	3.6	4.0	

E	F.	G.	H.
6.6	8.6	8.1	8.3
7.7	9.6	9.0	9.0
7.2	9.1	8.7	9.3
+ 7.11	9.10	8.60	8.87

94-95

3.2	3.8	3.8
22.4	23.0	23.1
40.2	40.8	41.8
19.8	19.6	19.9

11.9	12.6	11.8	
31.2	32.2	31.9	
49.7	50.1	50.6	
27.8	28.3	27.7	

E.	F.	G.	H
+ 8.7	8.8	9.5	8.0
8.8	9.2	9.3	8.7
8.0	8.8	8.8	7.8
+ 8.50	8.93	9.20	8.17

95-96

16.7	16.2	mean 16.4	
36.2	36.0	36.1	
53.6	53.2	53.4	
32.7	31.8	32.2	

25.0	25.7	25.2	
45.7	45.7	45.3	
2.7	3.0	3.0	
40.8	41.0	40.8	

E.	F.	G.	H
8.3	9.5	9.1	8.1
9.5	9.7	9.8	7.2
8.8	9.2	9.6	8.6
8.87	9.47	9.50	7.97

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96-97 = 24.4 24.8 25.0
44.6 44.1 43.6
2.2 1.6 2.0
40.6 40.2 40.0

33.6 33.6 34.0
52.0 52.1 52.8
10.0 10.6 10.8
50.8 49.3 49.3

C, N, S, A,
9.2 7.4 7.8 10.2
8.8 8.0 9.0 9.1
9.0 9.2 8.8 9.3
+9.00 8.20 8.53 9.53

97-98 = 19.7 19.6 19.7
37.3 38.0 38.1
55.1 54.2 54.8
34.0 34.1 34.2

29.1 29.3 29.4
46.8 47.0 46.8
5.1 5.1 5.2
43.6 43.6 43.6

C. S. O. A.
9.4 9.5 10.0 9.6
9.7 9.0 10.9 9.5
9.7 8.7 10.4 9.4
9.60 9.07 10.43 9.50

98-99 = 21.1 13.2 6.8 6.0 6.4
31.0 31.9 23.2 22.8 23.2
5.5 25.6 41.3 41.1 41.7
36.8 29.1 21.1 20.0 20.2

13.2 13.1 13.2
29.7 30.3 30.6
48.7 48.6 48.7
27.1 27.0 26.7

C. S. O. A.
+7.4 6.5 7.4 6.0
7.1 7.5 7.5 7.0
6.8 7.4 7.0 6.5
+7.10 7.13 7.30 6.50

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Apr. 30 1885

99°-100°

22.8	20.1	20.4	19.7
39.3	36.3	36.7	37.0
57.7	54.8	55.0	54.9
36.8	34.2	33.7	34.0

27.7	28.6	28.2	
42.6	43.0	44.0	
1.9	2.0	1.7	
39.7	40.1	40.2	

ε	A	ζ	H
7.6	6.3	7.1	5.5
8.2	6.3	7.0	6.4
8.5	7.0	6.8	6.2
+8.10	6.53	6.97	6.03

100-101

32.8	38.8	38.7	39.4
48.8	54.4	54.9	54.7
6.8	12.7	12.9	13.1
15.2	51.1	51.6	52.0

45.6	45.1	45.7	
59.8	0.5	0.4	
19.0	19.7	19.7	
57.0	57.4	57.1	

ε	A	ζ	H
+6.8	5.4	6.3	5.9
6.4	5.6	6.8	5.8
6.3	5.7	6.6	5.1
+6.50	5.57	6.57	5.60

101-102

24.7	28.9	24.4	
38.7	38.7	38.8	
57.7	58.7	57.3	
36.3	36.2	36.6	

30.8	30.1	31.0	
45.8	45.4	45.8	
5.1	5.0	5.2	
43.4	43.2	43.7	

ε	A	ζ	H
+6.1	7.1	7.4	7.1
6.2	6.7	7.3	6.9
7.6	8.0	8.9	8.1
+6.63	7.27	7.87	7.70

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Apr 30 1885 87°–102° Single degrees

	Micros C.		Fl.		g.		H.	
87°-88°	+8.32	+1.15	+9.32	+1.08	8.24	−.21	8.96	+1.05
88-89	7.67	−.50	7.80	−.84	8.77	+.32	7.47	−.44
89-90	8.13	−.04	9.03	+.79	8.70	+.25	8.03	+.12
90-91	8.03	−.14	8.13	−.11	8.43	−.02	7.70	−.21
91-92	9.13	+.96	8.70	+.46	8.87	+.42	8.43	+.52
92-93	8.80	+.63	9.40	+1.16	8.88	+.38	8.47	+.56
93-94	7.17	−1.00	9.10	+.86	6.60	+.15	8.87	+.96
94-95	8.50	+.33	8.93	+.69	9.20	+.75	8.17	+.26
95-96	8.87	+.70	9.47	+1.23	9.50	+1.05	7.97	+.06
96-97	9.00	+.83	8.20	−.04	8.53	+.08	9.53	+1.62
97-98	8.60	+1.43	8.07	+.83	8.43	+1.98	8.50	+1.59
98-99	8.10	−1.07	8.13	−1.11	8.30	−1.15	7.50	−1.41
99-100	9.10	−.07	7.53	−1.71	7.97	−1.48	8.03	−1.88
100-101	7.50	−1.67	6.57	−2.67	7.57	−1.88	7.60	−2.31
101-102	6.63	−1.54	7.27	−.97	8.87	−.58	9.40	−.51
		+8.05		+12365		+126.81		+118.63
		+8.170		+8.243		+8.454		+7.909

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Apr 30

147° – 162°

147° – 148° Circle

30° = Prodlin Circle	29.0	29.5	29.3	38.1	38.0	37.7	
	39.0	39.0	40.2	48.1	48.0	47.8	
	1.6	2.3	3.2	11.3	11.1	10.3	
	46.2	46.8	47.3	57.0	57.7	57.1	

	ε	ζ	η	H
+	9.1	9.1	9.7	10.8
	8.5	9.0	8.8	10.9
	8.4	7.6	7.1	9.8
+	8.67	8.57	8.53	10.50

148 – 149

	26.6	26.9	26.7	32.6	33.1	33.2	
	37.6	37.2	37.1	43.8	44.6	44.2	
	59.8	59.2	59.0	6.1	6.2	5.8	
	46.0	45.8	45.3	51.4	52.0	52.0	

	ε	ζ	η	H
+	6.0	6.2	6.3	5.4
	6.2	7.4	7.0	6.2
	6.5	7.1	6.8	6.7
+	6.23	6.90	6.70	6.10

149 – 150

	26.1	26.1	26.4	32.4	32.9	32.8	
	37.0	37.6	38.2	44.1	44.0	43.9	
	58.9	58.8	59.0	5.2	5.4	5.3	
	44.2	44.2	44.3	50.7	50.6	50.8	

	ε	ζ	η	H
	6.3	7.1	6.3	6.5
	6.8	6.4	6.6	6.4
	6.4	5.7	6.3	6.5
+	6.50	6.40	6.40	647

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1905phae.proj.1707.

150 – 151	29.6	29.8	29.8			36.8	36.8	36.6	
	41.2	41.3	41.4			48.8	48.8	48.7	
	2.8	2.3	2.4			9.1	9.8	10.1	
	47.8	47.8	47.8			53.0	55.0	55.0	
						E	H.	G.	H
						7.2	7.6	6.8	7.2
						7.0	7.5	7.5	7.2
						6.8	7.3	7.7	7.2
						7.00	7.47	7.33	7.20

						Latitude mean			
151 – 152	23.9	23.6	21.6	21.3	21.6	28.7	29.9	29.1	28.7 28.5
	35.1	35.1	33.8	33.6	33.6	41.4	42.1	42.2	42.2 42.1
	55.1	55.9	54.2	54.7	54.9	2.2	3.0	3.0	2.4 3.0
	41.6	41.6	39.1	39.1	41.0	48.0	48.2	47.9	47.6 47.7
						E.	H.	G.	H.
						+ 7.7	8.0	8.4	9.0
						7.6	8.6	8.0	8.7
						6.9	8.5	8.1	6.7
						+7.40	8.37	8.17	8.13

152 – 153	22.7	22.9	23.8			30.7	30.9	31.3	
	36.4	36.4	36.9			44.6	44.9	44.2	
	56.7	56.8	57.6			5.0	5.6	6.0	
	42.1	42.6	42.6			50.1	50.2	52.9	
						E	H.	G.	H.
						8.0	8.2	8.3	8.0
						8.0	8.5	8.8	7.6
						7.5	7.3	8.4	8.3
						7.83	8.00	8.50	7.97

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Apr 30 1885 Simple degrees

153° – 154°	33.1	33.8	33.6		41.8	41.8	41.9
	46.9	47.2	45.8		53.8	54.2	54.2
	8.0	7.6	7.3		15.1	15.2	14.6
	52.8	53.0	52.0		1.2	1.1	0.6

E	F.	G	H.
+ 8.7	6.9	7.1	8.4
8.0	7.0	7.6	8.1
8.3	8.4	7.3	8.6
+ 8.33	7.43	7.33	8.37

154° – 155°	30.7	30.5	30.7		39.1	39.9	40.0
	42.8	42.9	43.4		52.0	52.3	52.1
	3.6	3.9	4.2		12.6	13.0	12.9
	49.8	48.7	50.0		58.0	58.2	58.7

E	F.	G	H.
+ 8.4	9.2	9.0	8.2
9.4	9.4	9.1	9.5
9.3	8.7	8.7	8.9
+ 9.03	9.10	8.93	8.80

			mean				
155° – 156°	37.2	36.6	36.9		45.0	45.0	45.6
	50.0	49.8	49.9		56.8	56.6	57.2
	9.4	9.9	9.6		18.2	18.7	17.7
	55.8	55.8	55.8		3.8	3.7	4.2

E	F.	G.	H.
+ 7.8	6.8	8.8	8.0
8.4	6.8	8.8	7.9
8.7	7.3	8.1	8.4
+ 8.30	6.97	8.57	8.10

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April 15, 1885

156° – 157°	30.8	31.2	31.8	40.2	40.6	40.0
	43.1	42.9	43.4	41.2	50.8	51.2
	4.1	3.8	4.0	12.3	12.8	12.6
	50.2	50.2	50.1	58.7	58.7	59.0

	E.	H.
	8.2	8.5
	9.0	8.5
	8.6	8.9
3	8.60	8.63

157° – 158°	24.4	24.7	25.	.8	33.1	
	35.6	35.6	36	4.6	44.1	
	56.9	57.1	57	5.4	5.4	
	42.8	42.6	4	1.9	51.6	

	E.	H.
0	8.3	8.9
0	8.3	9.3
.0	7.8	7.8
3	8.13	8.67

158° – 159°	22.4	21.2	21.6	.3	30.6	
	32.0	31.8	32.8	39.2	39.9	39.7
	53.7	53.8	53.8	2.0	2.3	2.1
	39.7	39.7	40.0	48.2	49.0	48.2

	E.	R.	E.	H.
+	7.9	7.2	8.3	8.5
	9.1	8.1	8.5	9.3
	9.0	6.9	8.3	8.2
+	8.67	7.40	8.37	8.67

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156° – 157°	30.8	31.2	31.8		40.2	40.6	40.0
	43.1	42.9	43.4		41.2	50.8	51.2
	4.1	3.8	4.0		12.3	12.8	12.6
	50.2	50.2	50.1		58.7	58.7	59.0

ε	h.	ℓ.	H.
+ 9.4	8.1	8.2	8.5
9.4	7.9	9.0	8.5
8.2	7.8	8.6	8.9
+ 9.00	7.93	8.60	8.63

157° – 158°	24.4	24.7	25.0		33.1	32.8	33.1
	35.6	35.6	36.1		43.6	44.6	44.1
	56.9	57.1	57.6		5.2	5.4	5.4
	42.8	42.6	43.8		51.7	51.9	51.6

ε	h.	ℓ.	H.
+ 8.7	8.0	8.3	8.9
8.1	9.0	8.3	9.3
8.1	8.0	7.8	7.8
+ 8.30	8.33	8.13	8.67

158° – 159°	22.4	21.2	21.6		30.3	30.3	30.6
	32.0	31.8	32.8		39.2	39.9	39.7
	53.7	53.8	53.8		2.0	2.3	2.1
	39.7	39.7	40.0		48.2	49.0	48.2

ε	h.	ℓ.	H.
+ 7.9	7.2	8.3	8.5
9.1	8.1	8.5	9.3
9.0	6.9	8.3	8.2
+ 8.67	7.40	8.37	8.67

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1885phae.proj.1767.

Apr 30 1885 Att Th = 53.8 147°-162°

159°-160°	23.3	23.9	23.0
	33.6	33.2	33.7
	55.4	56.0	56.1
	41.1	41.6	42.3

	31.7	32.5	32.7
	41.0	41.2	41.0
	3.0	3.3	3.4
	49.3	50.0	50.2

	E	F.	G.	H.
+	8.4	8.0	7.6	8.2
	8.6	8.0	7.3	8.4
	8.1	7.3	7.3	7.9
+	8.90	7.77	7.40	8.17

160°-161°	38.6	38.2	39.1
	47.2	46.8	47.4
	10.0	9.3	10.1
	56.9	56.1	56.3

	47.0	46.8	46.2
	56.2	55.8	56.0
	17.7	17.9	18.1
	5.7	4.7	4.1

	E	F.	G.	H.
+	8.4	9.0	7.7	8.8
	8.6	9.0	8.6	8.6
	7.1	8.6	8.0	7.8
+	8.03	8.87	8.10	8.40

161°-162°	41.3	39.9	39.8
	49.6	49.5	49.7
	11.4	11.9	11.9
	57.8	58.3	59.0

	47.5	48.6	48.6
	57.0	56.3	57.0
	19.6	19.9	19.0
	6.0	6.6	6.8

	E	F.	G.	H.
+	6.2	7.4	8.2	8.2
	8.7	6.8	8.0	8.3
	8.8	7.3	7.1	7.8
+	7.90	7.17	7.77	8.10

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1885phae.proj.1767.

Apr 30 1885 147°–162° Single degrees.

	Pickard corpe E		J.		ej.		H.	
147–148	+8.67	+.67	+8.57	+.79	+8.53	+.61	+10.50	+2.35
148–149	+6.23	−1.78	6.90	−.88	6.70	−1.22	6.10	−2.05
149–150	6.50	−1.50	6.40	−1.38	6.40	+1.52	6.47	−1.68
150–151	7.00	−1.01	7.47	−.31	7.33	−.59	7.20	−1.95
151–152	7.40	−.60	8.07	+.59	8.17	+.25	8.13	−.02
152–153	7.83	−.18	8.00	+.22	8.50	+.58	7.97	−.18
153–154	8.33	+.33	7.43	−.35	7.33	+.59	8.37	+.22
154–155	9.03	+1.02	9.10	+1.32	8.93	+1.01	8.80	+.65
155–156	8.30	+.30	6.97	−.81	8.57	+.65	8.10	−.05
156–157	9.00	+.99	7.93	+1.5	8.60	+.68	8.63	+.48
157–158	830	+.30	8.33	+.55	8.13	+.21	867	+.52
158–159	867	+.66	7.40	−.38	8.37	+.45	8.67	+.52
159–160	8.90	+.90	7.77	−.01	7.40	−.52	8.17	+.02
160–161	8.03	+.02	8.87	+1.09	8.10	+.18	8.40	+.25
161–162	7.90	−.10	7.17	−.61	7.77	−.15	8.10	−.05
	120.09		116.68		118.83		122.28	
	+ 8.006		+7.779		+ 7.922		+ 8.152	

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1885phae.proj.1767.

May 1 '1885 — Att Th = 51.8 — 87° – 102°

	S.			N.		
87° – 88°	E 34.2	35.0	34.7	45.1	45.3	45.2
90° = Woodward	F 52.1	52.1	51.4	2.3	2.7	2.1
	G 12.6	13.7	12.6	23.3	22.9	28.2
	H 51.1	50.7	51.1	0.9	1.3	1.8

North Shft – South Shft

	E.	F.	G.	H.
+	10.9	10.2	10.7	9.8
	10.3	10.6	9.2	10.6
	10.5	10.7	10.6	10.7
+	10.57	10.50	10.17	1037
–	2.00			
	8.57	8.50	8.17	8.37

88° – 89°	33.6	33.8	32.3	32.8	43.8	44.2	43.1
	50.0	51.3	49.8	50.6	59.6	0.2	1.2
	10.3	11.6	9.9	10.8	21.2	21.2	21.6
	49.1	49.6	48.7	49.6	59.1	59.0	58.8

	E	F.	G.	H.
+	10.2	9.6	10.9	10.0
	10.41	8.9	9.6	10.4
	10.3	10.6	10.8	9.2
	10.30	9.70	10.43	9.87
	8.30	7.70	8.43	7.87

Changed the flow of water (South) in the plunger, by tightening screw

89° – 90°	31.1	31.6	32.3	31.2	38.7	39.0	38.8
	47.1	46.0	48.7	47.8	55.1	54.8	55.6
	7.8	8.8	8.7	8.4	15.8	16.2	16.2
	46.0	46.2	46.6	47.0	54.2	54.8	54.7

	C.	F.	G.	H.
	7.1	7.1	7.0	8.0
	6.7	7.1	7.5	8.2
	7.6	7.8	7.8	7.7
+	7.13	7.33	7.43	7.97

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1885phae.proj.1767.

90–91

23.1	23.5	~~21.9~~ 22.8
39.6	39.0	39.1
0.6	0.0	59.7
38.2	38.0	38.7

30.0	29.1	29.9	
47.0	46.8	46.9	
7.2	7.2	7.2	
45.8	46.0	45.9	
E	H	Q.	N
+6.9	7.4	6.6	7.6
5.6	7.8	7.2	8.0
7.1	7.8	7.5	7.2
+6.50	7.67	7.10	7.60

91–92

~~30.6~~ 29.3	29.3	28.8
45.9	46.2	45.7
6.2	6.6	5.9
45.6	45.2	44.1

36.2	37.5	38.7	37.8
53.7	54.8	55.6	54.1
14.9	16.0	16.8	14.7
52.6	53.0	54.6	54.0
E	H	Q.	N
8.2	8.9	9.8	7.4
9.4	9.4	10.2	9.4
9.0	8.4	8.8	9.9
+6.87	8.90	9.60	8.90

92–93

35.3	35.6	35.0
52.0	51.6	51.1
13.0	12.8	12.6
50.6	50.9	50.0

42.6	42.4	42.4	
0.2	59.0	59.8	
20.3	20.6	20.6	
58.1	58.7	58.1	
E	H	Q.	N
+7.3	8.2	7.0	7.5
6.8	7.4	7.8	7.8
7.4	8.7	8.0	6.1
+7.17	8.10	7.60	7.80

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May 1 " 1885

93 - 94	33.6	33.2	31.8	39.4	39.6	40.1
	50.8	50.6	50.4	58.6	58.8	58.8
	10.8	10.8	11.1	17.7	18.6	18.2
	49.3	49.8	48.2	56.9	56.1	56.1

	E.	F.	G.	H.
	+ 5.8	7.8	6.9	7.6
	6.4	8.2	7.8	6.3
	8.3	8.4	7.1	7.9
	+ 6.83	8.13	7.27	7.27

94 - 95	30.0	30.1	29.6	37.1	37.2	36.8
	48.8	48.6	48.7	56.2	56.2	56.1
	8.1	7.9	8.2	15.4	15.9	16.0
	46.8	46.0	47.2	54.1	53.6	54.1

	E.	F.	G.	H.
	+ 7.1	7.4	7.3	7.3
	7.1	7.6	8.0	7.6
	7.2	7.4	7.8	6.9
	+ 7.13	7.47	7.70	7.27

95 - 96	24.1	23.0	24.3	30.9	31.2	31.8
	42.9	42.7	42.8	50.2	50.8	50.2
	2.0	1.9	2.1	10.1	9.8	10.0
	41.0	40.1	40.4	48.0	48.2	47.8

	E	F.	G	H
	+ 6.8	7.3	8.1	7.0
	8.2	8.1	7.9	8.1
	7.5	7.4	7.9	7.4
	+ 7.50	7.60	7.97	7.50

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96–97

	28.8	28.0	28.7
	48.1	47.7	47.8
	6.7	7.1	6.6
	45.0	45.8	45.8

	35.6	36.6	35.7	35.6
	54.1	55.8	54.9	54.0
	12.6	14.2	12.9	12.9
	51.6	53.6	52.2	52.2

	E.	F.	G.	H.
+	6.8	6.0	5.9	6.1
	7.7	7.2	5.8	6.4
	6.9	6.2	6.3	6.4
+	7.13	6.47	6.00	6.30

97–98

	26.8	26.0	26.1
	44.3	44.8	44.0
	3.1	3.3	3.6
	43.8	43.0	43.0

	34.2	34.3	34.2
	52.0	51.5	51.4
	11.3	10.9	10.7
	50.1	49.7	49.9

	E.	F.	G.	H.
+	7.4	7.7	8.2	6.3
	8.3	6.7	7.6	6.7
	8.1	7.4	7.1	6.9
+	7.93	7.27	7.63	6.63

98–99

	23.3 ~~24.2~~	23.8	23.6
	40.3	40.1	40.8
	0.0	59.2	0.1
	40.2	38.8	39.8

	31.1	31.7	31.2
	47.6	48.0	47.6
	8.1	7.7	8.1
	46.3	46.2	46.4

	E.	F.	G.	H.
+	7.8	7.3	8.1	6.1
	8.9	7.9	8.5	7.4
	7.6	6.8	8.0	6.6
+	8.10	7.33	8.20	6.70

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May 1st 1885 Mt Ht = 52.2

99° – 100°	28.8	27.8	27.8
	44.0	44.0	44.0
	4.0	3.6	3.6
	42.6	42.1	42.6

	36.1	35.6	35.2
	57.0	57.8	57.8
	10.8	10.4	10.6
	49.0	49.0	49.8

E	F.	G.	H.
+7.3	7.1	6.8	6.4
7.8	7.8	6.8	6.9
7.4	6.8	7.0	7.2
+7.50	7.23	6.87	6.83

100 – 101	26.8	27.0	26.4
	41.8	42.1	41.2
	1.7	1.3	0.6
	40.7	39.7	39.8

	33.8	33.2	33.1
	48.2	48.2	47.8
	8.4	8.2	8.0
	46.8	46.1	46.6

E	F.	G.	H.
7.0	6.4	6.7	6.1
6.2	6.1	6.9	6.4
6.7	6.6	7.4	6.8
+6.63	6.37	7.00	6.43

101° – 102°	23.5	23.1	24.0
	38.2	37.8	38.2
	58.2	58.0	57.8
	37.0	36.8	37.0

	31.8	34.1	31.2
	46.1	46.1	46.3
	6.8	6.6	6.2
	44.1	45.0	45.6

E	F.	G.	H.
+8.3	7.9	8.6	7.1
8.0	8.3	8.6	8.2
7.2	8.1	8.4	8.6
+7.83	8.10	8.53	7.97

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Results – May 1st 1885 Single degrees 87°-102°

	Micrometer E.	Residuals	F		G.		H.	
87-88°	+8.57	+2.76 +1.03	+8.50	+2.62 +89	+8.17	+2.20	+8.37	+2.68
88-89	8.30	+2.59 +76	8.70	+1.82 +09	8.43	+2.46	7.87	+1.18
89-90	7.13	-.68 -41	7.33	-.55 -28	7.43	-.54	7.97	+28
90-91	6.50	-1.31 -1.04	7.67	-.21 +06	7.10	-.87	7.60	-09
91-92 8.674	8.87	+1.06 +1.33	8.90	+1.02 +129	9.60	+1.63	8.90	+1.21
92-93	7.17	-.64 -37	8.10	+.22 +49	7.60	+.37	7.80	+11
93-94	6.83	-.98 -71	8.13	+.25 +52	7.27	+.20	7.27	-42
94-95	7.13	-.68 -41	7.47	-.41 -14	7.70	+.27	7.27	-.42
95-96	7.60	-.31 -04	7.60	-.28 -01	7.97	00	7.50	-19
96-97 7.152	7.13	-.68 -41	6.47	-1.41 -14	6.00	-1.97	6.30	-1.39
97-98	7.93	+.12 +39	7.27	-.61 -34	7.63	-.34	6.63	-1.06
98-99	8.10	+.29 +56	7.33	-.55 -28	8.20	+.23	6.70	-.99
99-100	7.50	-.31 -04	7.23	-.65 -38	6.87	-1.10	6.83	-.86
100-101	6.63	-1.18 -91	6.37	-1.51 -1.24	7.00	-97	6.43	-1.26
101°-102° 7.598	7.83	+.02 +29	8.10	+.22 +.49	8.53	+.56	7.97	+.28
	+11810[2]		118.17		119.50		115.41	
	+7808[3]		+7.678[4]		+7.964[5]		+7.694[1]	
	7.541		7.611		7.700		7427	

	Residuals E	h	G	H
87-88°	+1.03 +103	+89	+47	+94
88-89	+76 +179	+09	+73	+44
89-90	-41 +108	-28	-27	+54
90-91	-1.04 +34	+06	-60	+17
91-92	+1.33 +167	+1.29	+190	+1.47
92-93	-37 +130	+49	-10	+37
93-94	-71 +59	+.52	-43	-16
94-95	-41 +18	-14	+00	-16
95-96	-04 +14	-01	+27	+07
96-97	-41 -27	-14	-170	-113
97-98	+39 +12	-34	+07	-80
98-99	+56 +68	-28	+50	-73
99-100	-04 +64	-38	-83	-60
100-101	-91 -27	-1.24	-70	-150
101°-102°	+29 +02	+.49	+83	+54

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May 4th Att Nt = 43.7 267° – 282° Single degrees.

Circle	South Stf				North Stf			
267°–268°	28.1	29.6	34.9	33.4	35.0	38.0	43.1	42.8	42.7
	27.7								
	28	36.0	43.0	42.8	43.6	47.1	52.1	52.7	52.8
	6.1	7.0	11.3	11.6	12.3	16.8	21.9	21.8	21.9
	54.2	54.7	1.0	0.0	0.9	8.7	9.2	9.2	9.6

E	Z.	G.	Nt
+ 8.2	9.1	10.6	+8.2
9.4	9.9	10.2	9.2
7.7	9.2	9.6	8.7
+ 8.43	9.40	10.13	8.70

268 – 269	33.4	33.0	33.8	41.9	42.2	42.0
	43.2	42.6	43.0	51.9	52.1	52.6
	11.8	12.1	12.3	21.0	21.3	21.3
	0.0	0.0	0.0	8.7	9.0	8.7

E			
8.5	8.7	9.2	8.7
9.2	9.5	9.2	9.0
8.2	9.6	9.0	8.7
+ 8.63	9.27	9.13	8.70

269–270	35.4	34.9	35.0	42.6	43.1	43.6
	44.1	44.2	44.3	52.8	53.7	53.7
	13.2	13.6	14.4	22.4	22.6	22.1
	1.0	1.0	1.9	9.7	9.0	9.0

E			
+ 7.2	8.7	9.2	8.7
8.2	9.5	9.0	8.0
8.6	9.4	7.7	7.1
+ 8.00	9.20	8.63	7.93

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270 - 271

37.9	38.6	37.7
46.8	47.2	47.0
16.4	16.4	15.6
3.4	2.9	4.0

44.3	44.9	44.4	
56.1	56.4	55.8	
25.1	24.7	25.1	
11.3	11.4	11.6	
ε	γ.	ϕ.	H
6.4	9.3	8.7	7.9
6.3	9.2	8.3	7.5
6.7	8.8	9.5	7.6
+ 6.47	9.10	8.83	7.67

271 - 272

26.8	26.9	26.4
38.8	37.8	38.4
7.1	6.7	7.0
54.0	53.8	54.0

34.0	34.2	34.7	
45.0	45.0	45.1	
14.3	15.0	14.7	
0.8	1.2	1.3	
ε	γ.	ϕ.	H
+ 7.2	6.7	7.2	6.8
7.3	7.2	8.3	7.4
8.3	6.7	7.7	7.3
+ 7.60	6.87	7.73	7.17

272 - 273

31.6	31.0	30.3
41.0	41.0	41.2
10.3	10.0	10.0
57.8	57.0	57.3

38.1	38.6	38.0	
49.2	49.7	49.0	
17.8	17.6	17.7	
5.8	5.7	5.7	
ε	γ.	ϕ.	H
6.5	8.2	7.5	8.0
7.6	8.7	7.6	8.7
7.7	7.8	7.7	8.4
+ 7.27	8.23	7.60	8.37

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May 4th 1885

273 - 274

36.8	35.8	35.3
45.9	45.8	45.6
14.2	14.1	13.8
2.6	2.7	2.4

41.6	42.3	42.6
53.2	53.8	53.9
20.9	21.7	21.6
11.9	11.0	10.9

ε			
4.8	7.3	6.7	8.3
6.5	8.0	7.6	8.2
7.3	8.3	7.8	8.5
+6.20	7.87	7.37	8.37

274 - 275

41.8	41.7	40.8
51.3	51.4	52.1
19.2	19.4	19.8
8.8	9.0	9.6

49.6	48.8	48.6	
58.8	59.1	59.8	
27.7	27.7	27.7	
16.3	16.8	17.0	

ε			
7.8	7.5	6.5	7.5
7.1	7.7	8.3	7.8
6.8	7.7	7.9	7.4
+7.23	7.63	8.23	7.57

275 - 276

33.0		
~~34.9~~	32.8	34.4
44.0	44.1	44.6
12.2	12.2	12.2
1.8	2.1	2.1

40.5	40.0	40.8	
51.2	51.8	52.0	
19.6	19.9	19.7	
9.1	9.7	9.9	

ε			
7.5	7.2	7.4	7.3
7.2	7.7	7.7	7.6
6.4	7.4	7.5	7.8
+7.03	7.43	7.53	7.57

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276 - 277

37.2	36.1	35.7
46.1	46.0	46.4
14.3	14.7	15.0
4.2	5.0	4.2

41.2	42.6	42.2	
53.2	54.0	54.2	
22.2	22.9	23.2	
11.8	11.2	11.0	
ε	h.	g.	H.
4.0	7.1	7.9	7.6
6.5	8.0	8.2	6.2
6.5	7.8	8.2	7.8
+5.67	7.63	8.10	7.20

277 - 278

29.8	29.0	29.4
39.8	39.8	40.1
7.8	8.5	8.6
56.6	57.0	57.4

35.7	36.1	35.7	
46.8	47.7	47.7	
17.0	17.1	16.4	
4.3	5.0	4.7	
ε	h.	g.	H.
5.9	7.0	9.2	7.7
7.1	7.9	8.6	8.0
6.3	7.6	7.8	7.3
+6.43	7.50	8.53	7.67

278 - 279

26.6	26.4	27.0
37.9	38.0	38.5
7.2	7.5	7.2
55.6	55.9	55.6

33.8	33.6	33.2	
44.2	44.4	44.2	
14.6	14.9	15.1	
1.9	1.9	2.1	
ε	h.	g.	H.
7.2	6.3	7.4	6.3
7.2	6.4	7.4	6.0
6.2	5.7	7.9	6.5
+6.87	6.13	7.57	6.27

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May 4 1885 Mt Th=

279° - 280°

38.2	39.0	38.8	44.7	45.0	44.9
48.6	49.1	49.7	55.4	55.6	55.6
19.2	19.6	19.0	26.8	27.2	27.1
6.4	6.7	6.8	12.9	12.9	13.1

e	h.	e.	H.
6.5	6.8	7.6	6.5
6.0	6.5	7.6	6.2
6.1	5.9	8.1	6.3
+6.20	6.40	7.77	6.33

280 - 281

27.4	26.9	27.1	34.8	34.2	34.6
38.7	38.8	38.8	44.3	45.0	44.7
9.3	9.6	9.2	16.1	16.6	16.8
54.0	54.6	55.2	1.3	1.7	2.0

E	h.	e.	H.
7.4	5.6	6.8	6.3
7.3	6.2	7.6	7.1
7.5	5.9	7.6	6.8
7.40	5.90	7.13	6.73

281° - 282°

25.0	24.4	24.7	31.6	31.2	31.5
35.2	35.4	35.7	42.0	42.2	43.2
7.0	6.9	7.1	13.6	13.7	13.2
52.8	52.3	52.3	58.2	58.7	58.8

E	h.	e.	H.
6.6	6.8	6.6	5.4
6.8	6.8	6.8	6.4
6.8	7.5	6.1	6.5
+6.73	7.03	6.50	6.10

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Results May 4 1885 267°-282°

Microscope E.			F		G.		H.	
267 - 268	+8.43	+1.35	9.40	+1.70	10.13	+2.07	8.70	+1.21
268 - 269	+8.63	+1.55	9.27	+1.56	9.13	+1.07	8.70	+1.21
269 - 270	+0.00	+.92	9.20	+1.50	8.63	+.57	7.93	+.44
270 - 271	+6.47	-.61	9.10	+1.39	8.83	+.77	7.67	+.18
271 - 272	+7.60	+.52	6.87	-.83	7.73	-.33	7.17	-.32
272 - 273	+7.27	+.19	8.23	+.52	7.60	+.46	8.37	+.88
273 - 274	+6.20	-.88	7.87	+.17	7.37	-.69	8.37	+.88
274 - 275	+7.23	+.15	7.63	-.07	8.27	+.21	7.57	+.08
275 - 276	+7.03	-.05	7.43	-.28	7.53	-.53	7.57	+.08
276 - 277	+5.67	-1.41	7.63	-.07	8.10	+.04	7.20	-.29
277 - 278	+6.43	-.65	7.50	-.21	8.53	+.47	7.67	+.18
278 - 279	+6.87	-.21	6.13	-1.57	7.57	-.49	6.27	-1.22
279 - 280	+6.20	-.88	6.40	-1.31	7.77	-.29	6.33	-1.16
280 - 281	+7.40	+.32	5.90	-1.80	7.13	-.93	6.73	-.76
281 - 282	+6.73	-.35	7.03	-.68	6.50	-1.56	6.10	-1.39
	+106.16		115.59		120.92		112.35	
	+7.077		+7.706		+8.061		+7.490	

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May 4 1885 $162^\circ - 147^\circ$ Simple degrees

$162^\circ - 163^\circ$ circle	35.1	36.8	36.0	37.6	38.0	38.7	44.8	45.0	45.6	44.6	45.6
15° = Woodenare	46.2	47.0	47.0	48.8	48.8	49.6	57.6	57.4	57.6	56.8	56.6
	6.6	7.6	7.1	8.3	8.0	8.1	16.0	16.4	16.1	14.7	15.4
	54.0	54.9	54.8	56.9	56.4	56.2	3.8	4.2	4.6	3.0	4.0

	E	Y.	G.	H
+	8.0	10.6	8.4	8.9
	9.0	10.4	9.3	9.4
	8.6	8.8	7.8	7.7
	6.6	8.0	6.7	6.6
	6.9	7.0	7.3	7.8
	+7.70	8.96	7.90	8.08

$163^\circ - 164^\circ$	23.3	22.7	23.1	29.1	28.2	28.6
	33.6	33.7	34.7	40.8	40.8	41.0
	51.4	52.2	52.2	58.8	58.8	59.1
	40.0	40.3	41.0	47.0	47.0	47.2

E	Y.	G.	H.
5.8	7.2	7.4	7.0
5.5	7.1	6.6	6.7
5.5	6.3	6.9	6.2
+5.60	6.87	6.97	6.63

$164^\circ - 165^\circ$	39.4	39.4	40.1	45.0	44.8	44.9
	50.0	50.5	50.2	56.7	57.0	56.9
	8.0	7.7	7.9	13.6	13.2	14.3
	56.1	56.8	56.9	3.2	3.0	3.0

E	Y.	G.	H.
5.6	6.7	5.6	7.1
5.4	6.5	5.5	6.2
4.8	6.7	6.4	6.1
+5.27	6.63	5.83	6.47

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165-166	31.9	31.2	31.0		36.4	36.7	37.2
	42.6	42.8	42.1		48.9	48.9	49.0
	59.9	59.7	59.1		5.0	5.6	5.8
	49.2	49.0	49.0		54.9	55.0	55.0

C	H.	Cy.	H
4.5	6.2	5.1	5.7
5.5	6.1	5.9	6.0
6.2	6.9	6.7	6.0
+5.40	6.40	5.90	5.90

166-167	20.0	20.0	20.3		26.0	26.0	25.9
	31.0	31.8	31.6		36.4	36.6	37.0
	47.3	46.0	47.8		54.7	54.6	53.8
	37.6	37.7	38.3		44.0	44.3	44.9

C	H.	Cy.	H.
6.0	5.4	7.4	6.4
6.0	4.8	6.6	6.6
5.6	5.4	6.0	6.6
+5.87	5.20	7.00	6.53

167-168	26.4	26.1	26.7		31.7	32.3	32.4
	37.1	37.0	37.0		42.7	42.8	42.3
	54.3	54.3	54.9		0.6	0.7	1.3
	45.0	45.4	45.8		50.2	51.0	50.7

C	H.	Cy.	H.
5.3	5.6	6.3	5.2
6.2	5.8	6.4	5.6
5.7	5.3	6.4	4.9
+5.73	5.57	6.37	5.23

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May 4 1885

168°–169°	39.0	39.6	38.6
	49.6	50.0	50.0
	7.7	8.0	8.4
	57.8	58.0	58.7

	44.6	44.9	43.8
	55.7	56.0	55.9
	14.1	14.7	14.3
	4.0	4.0	4.4

E.	F.	G.	H.
5.6	6.1	6.4	6.2
5.3	6.0	6.7	6.0
5.2	5.9	5.9	5.7
+5.37	6.00	6.37	5.97

169–170	32.1	32.0	32.5
	42.4	43.0	43.2
	1.6	1.4	2.1
	52.0	52.0	52.1

	38.6	38.2	38.2
	49.1	49.2	49.3
	7.0	7.0	7.0
	57.2	57.4	57.7

E.	F.	G.	H.
6.5	6.7	5.4	5.2
6.2	6.2	5.6	5.4
5.7	6.1	4.9	5.6
+6.13	6.33	5.30	5.40

170–171	26.2	26.8	26.7 ~~24.8~~
	36.2	37.0	37.2
	55.1	55.1	54.9
	45.0	45.0	44.4

	32.0	32.8	32.6
	42.2	43.1	43.3
	0.3	0.9	0.8
	51.2	51.3	51.4

E.	F.	G.	H.
5.8	6.0	5.2	6.2
6.0	6.1	5.8	6.3
5.9	6.1	5.9	7.0
5.90	6.03	5.63	6.50

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171 – 172

24.7	24.8	25.6
34.4	35.0	35.2
52.6	53.0	53.2
44.8	44.0	45.0

31.2	30.7	30.6
42.0	41.9	41.4
59.7	0.0	59.7
50.9	51.6	50.2

ε	h.	ℓ.	H
6.5	7.8	7.1	6.1
5.9	6.9	7.9	7.6
5.0	6.2	6.5	5.2
+5.80	6.97	6.87	6.30

172 – 173

26.9	26.6	26.4
37.6	37.8	38.6
55.4	56.1	56.1
47.0	47.0	47.0

32.7	32.2	32.2
42.9	43.9	43.2
1.6	1.9	1.9
52.7	53.0	52.8

ε	h.	ℓ.	H.
5.8	5.3	6.2	5.7
5.6	6.1	5.8	6.3
5.8	4.6	5.8	5.8
+ 5.73	5.33	5.63	5.93

173 – 174

30.0	29.7	29.6
40.6	40.2	40.4
58.3	58.7	58.2
49.9	49.4	49.4

36.4	36.4	36.0
45.8	46.7	46.2
4.6	4.5	4.8
54.7	54.8	54.7

ε	h.	ℓ.	H
6.4	5.2	6.3	4.8
6.7	6.5	5.8	5.4
6.4	5.8	6.6	5.3
+ 6.50	5.83	6.23	5.17

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May 4 1885 Mt Hk = 49.0

174°-175°	29.2	29.2	29.7	35.0	34.2	35.0	162°-177°
	38.2	38.2	38.7	44.1	44.3	45.3	
	57.0	57.2	57.3	2.8	2.8	3.1	
	47.2	47.6	46.9	52.6	53.6	53.0	

	E	Y.	Y.	H.
	+ 5.8	5.9	5.8	5.4
	5.0	6.1	5.6	6.0
	5.3	6.6	5.8	6.1
	+ 5.37	6.20	5.73	5.83

175°-176°	16.6	16.7	16.0	22.0	21.6	21.8	
	25.3	25.3	25.7	30.2	30.7	31.0	
	43.2	43.9	43.6	50.0	50.7	50.6	
	33.6	33.8	33.8	39.7	39.8	39.4	

	E	Y.	Y.	H.
	+ 5.4	4.9	6.8	6.1
	4.9	5.4	6.8	6.0
	5.8	5.3	7.0	5.6
	+ 5.33	5.20	6.87	5.90

176°-177°	31.7	31.0	31.2	37.8	37.4	38.0	
	40.3	39.9	41.2	46.0	46.8	46.3	
	59.4	59.4	0.2	5.4	5.3	5.3	
	48.7	49.1	49.0	55.0	55.2	55.1	

	E	Y.	Y.	H.
	+ 6.1	5.7	6.0	6.3
	6.4	6.9	5.9	6.1
	6.8	5.1	5.1	6.1
	+ 6.43	5.90	5.67	6.17

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Results May 4 1885 162°-177° Single degrees

Micrometer	E		F.		G		H.	
162-163	7.70	+1.83	8.96	+2.63	7.90	+1.62	8.08	+1.95
163-164	5.60	-.28	6.87	+.64	6.97	+.68	6.63	+.50
164-165	5.27	-.60	6.63	+.40	5.83	-.45	6.47	+.34
165-166	5.40	-.48	6.40	+.17	5.90	-.39	5.90	-.23
166-167	5.87	.00	5.20	-1.03	7.00	+.72	6.53	+.40
167-168	5.73	-.15	5.57	-.66	6.37	+.08	5.23	-.90
168-169	5.37	-.50	6.00	-.23	6.37	+.09	5.97	-.16
169-170	6.13	+.25	6.33	+.10	5.30	-.99	5.40	-.73
170-171	5.90	+.03	6.03	-.20	5.63	-.65	6.50	+.37
171-172	5.80	-.08	6.97	+.74	6.87	+.58	6.30	+.17
172-173	5.73	-.14	5.33	-.90	5.63	-.65	5.93	-.20
173-174	6.50	+.62	5.83	-.40	6.23	-.06	5.17	-.96
174-175	5.37	-.50	6.20	-.03	5.73	-.55	5.83	-.30
175-176	5.33	-.55	5.20	-1.03	6.87	+.58	5.90	-.23
176-177	6.43	+.56	5.90	-.33	5.67	-.61	6.17	+.04
	88.43		93.23		94.17		92.01	
	+5.875		+6.228		+6.285		+6.134	

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May 5 1885 I Mt St = 47.5 267° - 282°

267 - 268	12.8	13.8	13.9	~~14.9~~ 13.6	22.8	22.8	23.0
	21.9	23.6	23.2	23.9	32.0	33.0	32.6
	53.0	54.1	53.6	54.7	3.0	3.1	3.1
	40.9	42.3	42.4	42.8	50.1	50.8	50.8

ε	ζ	η	ιι
9.0	8.4	8.9	7.8
8.9	9.8	9.5	8.4
9.4	8.7	8.4	8.0
+ 9.07	8.97	8.93	8.07
− 1.2	− 1.2	− 1.2	− 1.2
7.81	7.77	7.73	6.87
6.83	7.37	7.47	6.33
+ 7.82	7.57	7.60	6.60

see p 79

268 - 269	29.6	29.4	28.8		36.3	36.3	36.1
	39.2	39.8	39.1		46.1	46.3	46.2
	9.3	9.8	10.0		16.8	17.3	17.4
	57.4	58.0	58.8		4.1	5.0	4.8

ε	ζ	η	ιι
+ 6.7	6.9	7.5	6.7
6.9	6.8	7.5	7.0
7.3	7.1	7.4	8.0
+ 6.97	+ 6.93	+ 7.47	+ 7.23
6.43	+ 6.23	+ 6.70	+ 5.93
+ 6.70	6.58	7.08	6.58

see p 79

269 - 270	20.0	19.0	20.0		26.3	26.8	26.6
	29.3	29.9	30.0		36.8	36.8	36.8
	59.6	59.9	0.3		6.8	6.6	7.0
	47.4	47.2	47.2		53.4	53.8	53.7

ε	ζ	η	ιι
6.9	7.5	7.2	6.0
7.5	6.9	6.7	6.6
6.6	6.8	6.7	6.5
+ 6.90	7.07	6.87	6.37
+ 5.57	6.57	6.10	5.63
+ 6.23	6.82	6.48	6.10

see p 79

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270 - 271

	28.0	27.6	26.1	27.3
	37.2	37.3	36.8	37.2
	7.1	7.4	7.2	7.0
	54.5	53.7	54.8	54.7

33.3	33.8	33.1	
44.8	44.8	44.9	
13.7	15.0	14.7	
0.8	1.1	0.8	

ε	η	ϕ	H
6.0 ~~5.8~~	7.6	7.7	5.1
6.2	7.5	7.6	7.4
7.0	6.1	7.5	6.0
~~6.7~~			
+6.40	7.33	7.60	6.17

271 - 272

	23.2	23.1	23.1	22.2	22.8
	34.3	34.0	34.2	34.2	34.2
	3.8	3.6	4.0	3.9	3.6
	51.0	49.9	51.0	50.7	50.6

28.6	28.8	29.1	28.7	28.4
39.2	39.8	40.1	39.9	39.7
9.9	9.9	10.0	9.4	9.9
57.0	57.4	57.1	58.8	57.0

ε	η	ϕ	H
5.4	4.9	6.1	6.0
5.7	5.8	6.3	7.5
6.0	5.9	6.0	6.1
~~6.5~~	5.7	5.5	6.1
5.6	5.5	5.3	6.4
+5.84	5.56	5.84	6.42

272 - 273

	27.0	25.8	26.4	25.6	28.2
	36.3	36.6	36.7	36.4	33.4
	6.6	6.7	7.0	6.2	
	53.6	54.6	54.0	53.0	

32.0	33.0	34.9	31.9	32.4
42.8	43.3	43.0	43.0	43.2
12.3	12.8	13.0	12.4	12.3
0.1	1.1	0.8	0.6	0.2

	ε	η	ϕ	H
+	5.0	6.5	5.7	6.5
	7.2	6.7	6.1	6.5
	5.5	6.3	6.0	6.8
	6.3	6.6	6.2	7.6
	6.8	6.8	6.1	7.2
	+6.16	6.58	6.02	6.92

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May 5 I Series

273 - 274

~~9.3~~	31.0	29.0	29.6	29.9	29.7	34.7	35.6	35.0	35.4	35.6
~~58.7~~	40.2	39.8	40.1	40.6	40.3	46.1	46.2	46.8	46.1	46.4
~~58.7~~	9.3	9.0	9.2	9.8	9.7	15.2	14.7	15.0	15.2	15.2
~~58.7~~	57.7	57.8	57.8	58.0	57.7	4.3	4.2	4.3	4.8	4.7

ε	h.	g.	H.
~~3.7~~			
6.6	6.4	5.7	6.4
5.4	6.7	5.8	6.3-
5.5	5.5	5.4	6.8
5.9	6.1	5.5-	7.0
+ 5.85	6.18	5.68	6.68

274 - 275

30.0	30.0	31.1	35.9	37.4	36.9
41.2	41.2	40.9	47.4	47.8	47.2
10.0	9.9	9.3	16.6	16.9	16.4
57.7	57.9	57.3	6.0	6.4	5.8

ε	h.	g.	H
5.9	6.2	6.6	6.3
7.2	6.6	7.0	6.3-
5.8	6.3	7.1	6.5-
18.9			
+ 6.30	6.37	6.90	6.43

275 - 276

24.6	25.1	25.3	28.7	25.0	29.8	30.8	31.0	29.7	29.8
35.0	35.0	35.0	84.2	35.1	40.9	41.0	41.2	40.8	41.0
4.0	4.1	4.1	3.7	4.0	10.2	10.2	10.3	10.2	9.8
53.3	53.3	53.3	53.0	53.0	59.8	59.8	59.4	59.9	59.8

ε	h	g.	H.
5.2	5.9	6.2	6.5-
5.7	6.0	6.1	6.5-
5.7	6.2	6.2	6.1
6.0	6.6	6.5	6.9
4.8	5.9	5.8	6.8
~~5.3~~			
~~5.7~~			
+ 5.48	6.12	6.16	6.56

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276 - 277

30.7			35.4	36.4	36.1
~~31.2~~	30.6	30.8	46.3	47.0	45.8
40.9	40.4	41.0	16.4	16.7	17.2
10.2	~~10.0~~	10.2	5.0	5.2	5.0
59.2	59.9	0.3			

E	H.	G.	I
4.7	5.4	6.2	5.8
5.8	6.6	6.7	5.3
5.3	4.8	7.0	4.7
+ 5.27	5.60	6.63	5.27

277 - 278

31.2	30.4	30.7	36.4	36.9	36.0
41.0	41.2	41.8	47.6	47.6	47.7
11.2	10.9	11.9	18.3	18.3	19.3
0.5	0.8	0.9	6.0	6.0	6.0

E	H.	G.	I
5.2	6.6	7.1	5.5
6.5	6.4	7.4	5.2
5.3	5.9	7.4	5.1
+ 5.67	6.30	7.30	5.27

278 - 279

27.8	27.8	28.0	34.3	33.6	34.2
38.1	38.5	38.7	44.0	44.2	44.8
9.1	9.3	9.2	15.8	15.9	15.8
57.1	56.8	57.8	3.0	3.2	3.3

E	H.	G.	I
6.5	5.9	6.7	5.9
5.8	5.7	6.6	6.4
6.2	6.1	6.6	5.5
+ 6.17	5.90	6.63	5.93

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May 5 1885 I 267° - 282° Scale degrees.

279 - 280

32.0	32.0	32.0
41.2	41.8	41.9
13.2	13.2	13.0
0.8	0.2	0.1

36.8	37.2	37.6	
47.0	47.1	47.8	
19.9	19.7	19.9	
5.0	5.8	5.8	
E	Z	Y	H
4.8	5.8	6.7	4.2
5.2	5.3	6.5	5.6
5.6	5.9	6.9	5.7
+ 5.20	5.67	6.70	5.17

280 - 281

26.7	26.3	26.0
36.2	36.4	36.2
9.0	8.7	9.1
54.8	54.9	54.9

33.2	32.8	32.3	
43.6	43.1	43.0	
16.2	15.6	15.8	
1.3	1.1	0.3	
E	Z.	M.	H.
+ 6.5	7.4	7.2	6.5
6.5	6.7	6.9	6.2
6.3	6.8	6.7	5.4
+ 6.43	6.97	6.93	6.03

281 - 282

31.1	30.6	29.9
40.2	40.8	40.8
13.0	13.2	13.0
58.1	58.7	59.0

36.0	36.1 37.7	36.0	
46.6	46.8	47.0	
18.7	19.0	18.7	
3.9	4.2	3.9	
E	Z	Y.	H
4.9	6.4	5.7	5.8
5.5	6.0	5.8	5.5
6.1	6.2	5.7	4.5
16.5 5.50	6.20	5.73	5.40

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1005phae.proj.1767.

Close of series. First three repeated.

267 - 268	30.3	29.9	30.6	36.9	37.0	37.4	
	40.1	40.6	40.4	47.4	48.0	47.8	
	9.7	10.8	10.7	17.6	17.8	18.2	
	58.3	58.7	58.2	4.2	5.0	5.0	

	E	h	q	H
+	6.6	7.3	7.9	5.9
	7.1	7.4	7.0	6.3
	6.8	7.4	7.5	6.8
+	6.83	7.37	7.47	6.33

for mean values see p 74

268 - 269	33.0	33.9	32.8	39.1	39.8	40.1	
	43.2	43.3	43.7	49.3	49.7	49.9	
	13.4	13.4	13.2	19.9	20.1	20.1	
	0.1	0.8	1.1	6.4	6.7	6.7	

	E	h	q	H
+	6.1	6.1	6.5	6.3
	5.9	6.4	6.7	5.9
	7.3	6.2	6.9	5.6
+	6.43	6.23	6.70	5.93

269 - 270	38.3	39.1	39.4	44.0	45.1	44.4	4
	48.7	48.2	48.4	54.8	55.1	55.1	
	18.8	18.9	19.3	25.0	25.1	25.2	
	5.8	6.1	6.7	11.7	11.8	12.0	

	E	h	q	H
+	5.7	6.1	6.2	5.9
	6.0	6.9	6.2	5.7
	5.0	6.7	5.9	5.8
+	5.57	6.57	6.10	5.83

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May 5 1885 II Series reversed order 287° - 282° motion

281° - 282° = Circle

30.3	29.9	30.3		36.1	36.8	36.8
39.9	38.8	40.1		46.6	46.0	46.8
12.8	11.9	12.9		14.6	14.2	18.5
58.2	58.2	58.4		3.4	3.3	3.4

ε	π	ψ	μ
5.8	6.7	5.8	5.2
6.9	7.2	6.3	5.1
6.5	6.7	5.6	5.0
+6.40	6.87	5.90	5.10

280 - 281

30.7	30.7	31.3		37.4	36.6	36.8
40.2	40.7	41.0		47.3	47.7	47.0
13.3	13.3	13.4		20.2	20.0	20.1
59.2	58.9	59.0		5.0	5.1	5.7

6.7	7.1	6.9	5.8
5.9	7.0	6.7	6.2
5.5	6.0	6.7	6.7
+6.03	6.70	6.77	6.23

279 - 280

32.2	32.7	32.3	31.8	32.2		37.2	37.0	37.0	36.7	37.2
42.3	42.7	42.1	42.0	42.6		46.6	47.3	46.8	46.8	47.0
14.6	14.7	15.1	14.1	14.1		20.4	20.2	20.9	20.6	20.9
2.0	1.7	1.7	1.1	1.2		6.2	6.0	5.9	6.1	6.2

ε	π	ψ	μ
5.0	4.3	5.8	4.2
4.3	4.6	5.5	4.3
4.7	4.7	5.8	4.2
4.9	4.8	6.5	5.0
5.0	4.4	6.8	5.0
+4.78	4.56	6.08	4.54

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1995phae.proj.1767.

of telescope dome

278 - 279	36.8	37.0	37.1		41.8	41.6	42.1
	47.0	47.0	47.3		52.1	51.3	51.2
	19.2	19.2	19.1		24.1	24.0	24.2
	6.3	6.1	6.7		10.2	10.8	10.8

E	h.	y.	H
5.0	5.1	4.9	3.9
4.6	4.3	4.8	4.7
5.0	3.9	5.1	4.1
26			
+4.87	4.43	4.93	4.23

277 - 278	26.2	25.1	24.9	24.8	29.6	30.6	29.7
	35.8	35.7	35.6	35.4	40.0	40.4	40.7
	5.3	6.2	6.1	6.6	12.2	12.1	11.7
	54.0	54.2	54.2	55.1	59.2	59.1	59.1

E	h.	y.	H.
4.5	4.3	6.0	5.0
5.7	4.8	6.0	4.9
4.9	5.3	5.1	4.0
1			
+5.03	4.80	5.70	4.63

replaced screws south plunger

276 - 277	38.0	38.2	37.2	37.0	36.8	41.3	41.2	40.7	41.6	40.0
	46.8	47.2	48.0	47.0	46.7	52.2	52.8	51.8	52.1	52.1
	17.8	17.7	17.0	17.2	17.6	23.4	23.5	22.8	23.3	23.8
	6.2	6.9	7.2	6.1	6.6	11.4	12.0	11.6	11.2	12.2

E	h	y.	H.
4.6	5.1	6.1	5.1
3.2	5.4	6.2	5.6
+3.90	5.25	6.15	5.35

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May 5 II Series Reversed order

275 - 276	30.7	31.8	31.7	37.0	37.6	37.3
	40.2	41.7	41.4	46.9	47.0	47.0
	11.4	12.1	11.8	17.3	17.6	17.2
	35.8	0.8	0.9	6.4	7.0	6.9

E	Y.	ey.	H.
6.3	6.7	5.9	6.6
5.8	5.3	5.5	6.2
5.6	5.6	5.4	6.0
+ 5.90	5.87	5.60	6.27

274 - 275	31.8	31.8	31.2	38.6	39.0	39.0
	41.8	41.7	42.6	48.2	48.6	47.9
	12.2	12.3	12.6	18.8	19.9	18.7
	1.8	0.7	1.6	7.2	7.3	6.9

E	Y.	ey.	H.
6.8	6.4	6.6	5.4
7.2	6.9	7.6	6.6
7.8	5.3	6.1	5.3
+ 7.~~00~~ 27	6.20	6.77	5.77

273 - 274	36.3	36.6	33.9	35.6	35.7	35.8	41.1	40.7	40.9	41.4	41.6
	45.3	45.2	44.2	46.2	45.8	45.8	50.9	51.5	51.0	51.2	51.8
	15.8	16.3	14.2	17.0	16.4	17.0	21.7	22.1	21.9	22.2	22.0
	3.6	3.8	2.2	4.1	3.7	4.7	9.9	10.8	10.2	10.6	11.0

E	Y	ey	H.
4.8	5.6	5.9	6.3
4.1	6.3	5.8	7.0
5.3	4.8	4.9	6.1
5.7	5.4	5.8	6.9
5.8	6.0	5.0	6.3
+ 5.14	5.62	5.48	6.87

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272 – 273	19.2	19.3	19.4
	26.2	27.4	28.0
	59.9	59.3	0.0
	45.8	45.2	45.9

	24.4	24.1	24.2
	34.4	34.7	34.6
	5.1	5.2	5.1
	52.0	52.2	52.6

ε.	δ.	γ.	N.
5.02	6.2	5.2	6.2
4.8	7.3	5.9	7.0
48	6.6	5.1	6.7
+4.87			
+4.93	6.70	5.40	6.63

271 – 272	27.2	28.0	28.0
	37.7	38.2	37.7
	9.0	9.2	9.2
	54.7	55.0	55.2

	32.7	33.7	35.0
	42.7	42.7	43.0
	15.2	14.7	15.7
	0.7	1.2	1.4

ε	δ	γ	N
5.5	5.0	6.2	6.0
5.7	4.5	5.5	6.2
7.0	5.3	6.8	6.2
18.2			
+6.07	+4.93	6.07	6.13

270 – 271	29.6	29.2	29.6
	37.7	38.6	38.7
	10.1	10.2	10.0
	56.1	55.8	56.7

	34.6	35.1	34.2
	45.1	45.0	44.9
	16.6	16.6	16.4
	2.1	1.7	2.3

ε	δ	γ	N
5.0	7.4	6.5	6.0
5.9	6.4	6.4	5.9
4.6	6.2	6.4	5.6
15			
+5.14	6.67	6.43	5.83

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May 5 1885 II Mt Sh = 53.8° 267°-282° Reversed order

269 - 270

21.7	22.1	22.6		28.9	28.3	28.9
30.8	31.2	32.2		37.6	37.8	37.8
3.2	3.2	3.9		9.4	10.2	9.2
50.0	49.3	50.0		55.7	53.2	53.3

E	H.	V.	H.
7.2	6.8	6.2	5.7
6.2	6.6	7.0	5.9
6.3	5.6	5.3	5.3
6.6			
+ 6.57	6.33	6.17	5.63

268 - 269

25.8	26.2 27.0	27.2		32.7	33.2 35.0	33.1
35.7	36.2	36.3		42.1	41.8	42.2
7.9	7.9	8.8		14.9	14.8	15.0
54.0	54.3	55.8		0.6	0.1	0.8

E	V.	V.	H.
6.9	6.4	7.0	6.6
7.0	5.6	6.9	5.8
5.9	5.9	6.2	5.0
+ 6.60	5.97	6.70	5.80

267 - 268

16.7	19.1	18.7	18.9	17.8	17.6	17.8	23.3	24.1	24.1	23.6	24.3
27.0	26.8	27.2	27.6	27.1	27.2	27.3	33.8	33.8	33.7	33.2	34.7
59.2	59.1	59.8	59.9	59.2	59.0	59.9	6.0	5.6	5.1	5.8	6.1
46.0	45.8	46.6	45.8	47.0	45.9	46.0	51.4	51.8	51.7	51.7	52.6

E	H	V.	H.
46	6.8	6.8	5.4
50	7.0	6.5	6.0
54	6.5	5.3	5.1
47	5.6	5.9	5.9
65	7.6	6.9	5.6
6.4	5.9	6.8	5.3
6.8	6.3	6.1	6.6
3.94			
+ 5.63	6.51	6.33	5.73

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Results May 5 — 267° - 282° Series I + II

Series II reversed order

Microscope E.	I	II	Mean.		F. I	II	Mean		G. I	II	Mean		H. I	II	Mean	
267 - 268	+7.32	5.63	6.48	+.72 .65	7.57	6.51	7.04	+.94	7.60	6.33	6.96	+.64	6.60	5.73	6.16	+.29
268 - 269	6.70	6.60	6.65	+.86 .82	6.58	5.97	6.28	+.17	7.08	6.70	6.89	+.56	6.58	5.80	6.19	+.31
269 - 270	6.23	6.57	6.40	+.64 .57	6.82	6.33	6.58	+.48	6.48	6.17	6.32	.00	6.10	5.63	5.86	-.01
270 - 271	6.40	5.17	5.78	+.02 -.05	7.33	6.67	7.00	+.89	7.60	6.43	7.02	+.69	6.17	5.83	6.00	+.12
271 - 272	5.84	6.07	5.96	+.20 .13	5.56	4.93	5.24	-.86	5.84	6.07	5.96	-.36	6.42	6.13	6.28	+.41
272 - 273	6.16	4.93	5.54	-.22 .29	6.58	6.70	6.64	+.53	6.02	5.40	5.71	-.62	6.92	6.63	6.78	+.90
273 - 274	5.85	5.14	5.50	-.26 .33	6.18	5.62	5.90	-.20	5.68	5.48	5.58	-.74	6.68	6.87	6.78	+.91
274 - 275	6.30	7.27	6.78	+.101 +.95	6.37	6.20	6.28	+.17	6.90	6.77	6.84	+.51	6.43	5.77	6.10	+.22
275 - 276	5.48	5.90	5.69	-.08 .14	6.12	5.87	6.00	-.10	6.16	5.60	5.88	-.44	6.56	6.27	6.42	+.55
276 - 277	5.27	3.90	4.58	-1.17 .25	5.60	5.25	5.42	-.69	6.63	6.15	6.39	+.06	5.27	5.35	5.31	-.57
277 - 278	5.67	5.03	5.35	-.42 .48	6.30	4.80	5.55	-.55	7.30	5.70	6.50	+.18	5.27	4.63	4.95	-.92
278 - 279	6.17	4.87	5.52	-.25 .31	5.90	4.43	5.16	-.95	6.63	4.93	5.78	-.55	5.93	4.23	5.08	-.80
279 - 280	5.20	4.78	4.99 .00	-.77 .84	5.67	4.67	5.16	-.99	6.70	6.08	6.39	+.07	5.17	4.54	4.85	-1.02
280 - 281	6.43	6.03	6.23	+.46 .40	6.97	6.70	6.84	+.73	6.93	6.77	6.85	+.52	6.03	6.23	6.13	+.25
281 - 282	5.50	6.40	5.95	+.19 .12	6.20	6.87	6.54	+.44	5.73	5.90	5.82	-.50	5.40	5.10	5.25	-.62
			5.761				91.58				94.89				13.14	
			8.740													
			+5.827				+6.105				+6.326				+5.876	chkd

24.0	24.6
33.1	33.6
5.8	6.0
57.2	52.8

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May 6 1885 I Mt Sh = 49.8 267° – 282°

S.

267 – 268	20.4	20.6	20.6
	33.6	34.2	34.4
	5.2	5.3	5.9
	54.0	53.6	54.1

N.

27.1	27.0	27.3
41.1	41.0	41.5
12.2	12.2	12.2
59.2	59.9	59.7

ε	I.	II.	III.
+ 6.7	7.5	7.0	5.2
6.4	6.8	6.9	6.3
6.7	7.1	6.3	5.6
+ 6.60	7.13	6.73	5.70

268 – 269	20.6	20.7	20.8
	34.6	34.6	35.2
	5.9	6.2	5.7
	53.2	52.8	53.0

27.0	26.8	27.0	
40.4	40.4	40.7	
11.9	12.2	12.0	
59.2	00	59.7	

ε	I.	II.	III.
+ 6.4	6.8	6.0	6.0
6.1	5.8	6.0	7.2
6.2	5.5	6.3	6.7
+ 6.23	6.03	6.10	6.63

269 – 270	29.1	29.1	29.8
	42.2	42.1	43.0
	14.1	14.3	14.2
	1.6	1.8	2.0

34.9	35.2	34.9	
48.8	48.7	48.8	
20.4	20.7	19.8	
7.2	7.6	7.2	

ε	I.	II.	III.
5.8	6.6	6.3	5.6
6.1	6.6	6.4	5.8
5.1	5.8	5.6	5.2
+ 5.67	6.33	6.10	5.53

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270 – 271

35.9	36.2	36.1
49.0	48.8	49.1
20.2	20.7	20.7
7.4	8.1	7.9

41.4	40.2	40.0	
55.3	55.8	55.7	
27.3	26.9	27.0	
18.8	13.1	13.2	

E	F	G	H
5.3	6.3	7.1	5.4
4.0	7.0	6.2	5.0
3.9	6.6	6.3	5.3
+ 4.47	6.63	6.53	5.23

271 – 272

27.0	25.8	24.3
41.5	41.8	41.5
12.9	12.6	12.6
58.7	58.8	59.1

32.2	32.4	32.6	
46.3	46.7	46.6	
18.2	18.6	18.0	
4.9	5.1	4.8	

E	F	G	H
+ 5.2	4.8	5.3	6.2
5.6	4.9	6.0	6.3
6.2	5.1	5.4	5.7
+ 5.67	4.93	5.57	6.07

272 – 273

28.1	26.1	27.4
40.6	40.1	40.2
11.8	11.7	12.3
59.0	59.0	59.0

32.2	34.6	33.0	
47.3	47.0	45.7	
18.0	18.2	18.0	
5.0	5.6	5.0	

E	F	G	H
+ 6.1	6.7	6.2	6.0
6.3	6.9	6.5	6.6
5.6	6.5	5.7	6.0
+ 6.00	6.70	6.13	6.20

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May 6. 1885 I Series

273 - 274

33.6	33.2	33.6		39.0	39.2	38.9	
47.7	47.5	47.7		53.2	53.4	53.4	
18.4	17.8	18.4		23.0	24.0	23.7	
5.6	5.8	6.0		12.0	12.9	13.0	

E	H.	G.	H.
5.4	5.5	4.6	6.6
6.0	5.9	6.2	7.1
5.3	5.7	5.3	7.0
+ 5.57	5.70	5.37	6.90

274 - 275

42.0	42.1	42.1	41.6	42.2		46.6	47.3	47.8	46.7	47.2
55.2	56.8	56.1	55.9	55.6		1.4	1.2	1.6	1.0	1.1
26.3	26.4	26.3	26.7	26.8		32.1	33.0	32.8	32.6	33.4
15.3	15.6	15.6	15.8	15.1		20.8	21.4	21.0	20.9	21.0

E	H.	G.	H.
+ 4.6	6.2	5.8	4.5
5.2	5.4	6.6	5.8
5.7	5.5	6.5	5.4
~~5.1~~	5.1	5.9	5.1
5.0	5.5	6.6	5.9
+ 5.12	5.54	6.28	5.34

275 - 276

23.0	23.0	22.0		27.3	27.0	27.7	
37.0	37.0	36.7		41.8	41.6	41.8	
7.4	8.0	7.9		13.0	12.6	13.2	
56.6	56.1	56.1		1.3	2.0	2.0	

E	H.	G.	H.
4.3	48	5.6	4.7
4.0	46	4.6	5.9
5.7	51	5.3	5.9
~~+ 4.83~~			
+ 4.67	4.83	5.17	5.50

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276 – 277

20.8	20.7	21.6		25.6	25.9	26.1
35.1	34.7	34.9		41.0	41.2	40.9
5.9	5.9	6.1		12.4	12.4	12.6
55.1	55.0	55.6		59.6	0.6	0.6

	ε	ϑ.	φ.	Ν.
	4.8	5.9	6.5	4.5
	5.2	6.5	6.5	5.6
	4.5	6.0	6.5	5.0
+	4.83	6.13	6.50	5.03

277 – 278

28.1	28.2	27.3		32.2	32.8	33.2
41.7	41.7	42.3		47.9	48.0	47.8
13.6	13.1	14.3		19.7	20.2	20.0
1.0	1.1	1.6		7.0	7.0	6.9

	ε	ϑ.	φ.	Ν.
+	4.1	6.2	6.1	6.0
	4.6	6.3	7.1	5.9
	5.9	5.5	5.7	5.3
+	4.87	6.00	6.30	5.73

278 – 279

36.3	36.2	36.0		41.3	41.2	41.6
50.2	50.2	50.2		56.0	55.0	55.1
23.2	23.6	23.2		29.3	28.8	28.8
9.9	10.7	9.7		15.4	15.1	15.0

	ε	ϑ.	φ.	Ν.
+	5.0	5.8	6.1	5.5
	5.0	4.8	5.2	4.4
	5.6	4.9	5.6	5.3
+	5.20	5.17	5.63	5.07

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May 6 1885 I Series 267° - 282°

279 - 280	38.2	38.1	38.2		42.9	42.8	42.8
	51.4	51.8	52.0		56.7	56.8	56.6
	25.4	25.3	25.1		31.7	31.8	31.3
	11.0	11.3	11.6		16.7	16.4	16.8

	E	H.	G.	H.
+	4.7	5.3	6.3	5.7
	4.7	5.0	6.5	5.1
	4.6	4.6	6.2	5.2
+	4.67	4.97	6.33	5.33

280 - 281	26.7	26.7	37.2	36.2	31.9	31.9	42.0	41.8
	39.6	40.1	50.0	50.2	45.8	45.3	55.8	55.6
	14.3	14.3	24.0	23.8	20.3	20.7	30.8	30.6
	0.0	0.0	10.1	10.7	5.1	5.7	15.3	15.8

	E	H.	G.	H.
	5.2	6.2	6.0	5.1
	5.2	5.2	6.4	5.7
	4.8	5.8	6.8	5.2
	5.6	5.4	6.8	5.1
+	~~4.95~~ 5.20	5.65	6.50	5.28

281 - 282	29.2	29.8	29.6		35.7	34.9	35.0
	43.0	43.2	43.6		49.2	49.6	49.0
	17.3	17.4	18.2		24.1	23.4	25.0
	3.1	3.2	3.1		8.6	9.0	8.7

	E	H.	G.	H.
	6.5	6.2	6.8	5.5
	5.1	6.4	6.0	5.8
	5.4	5.4	6.8	5.6
+	5.67	6.00	6.53	5.63

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May 6 ~~II~~ Series Reversed Order 267°-282°

281 - 282 + 28.6 28.7 27.8
42.3 42.3 42.3
15.4 16.0 16.0
2.8 2.4 3.1

33.9
32.3 ~~28.7~~ 33.0 32.9
47.0 47.8 46.8 47.2
21.9 22.8 21.9 22.4
7.1 7.4 6.8 6.8

	E	F	G	H
3.7	5.3	5.5	7.4	4.6
5.2	4.3	4.5	5.9	4.4
5.2	5.1	4.9	6.4	3.7
14.1				
4.70	+ 4.90	4.97	6.57	4.23
5.20				

280 - 281 + 21.2 21.3
35.6 35.6
8.0 8.6
35.0 55.4

27.0 26.4
40.8 40.7
14.0 13.6
0.2 59.7

E	F	G	H
5.8	5.2	6.0	5.2
5.1	5.1	5.0	4.3
+ 5.45	5.15	5.50	4.75

279 - 280 + 35.6 35.8
49.8 50.0
21.8 22.4
9.3 10.0

40.8 41.4
55.7 56.7
28.3 28.2
15.2 14.7

E	F	G	H
5.2	5.9	6.5	5.9
5.6	5.7	5.8	4.7
+ 5.40	5.80	6.15	5.30

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278 - 279

21.4	22.1		27.7	27.1
36.3	36.4		41.9	42.0
6.3	7.8		14.0	14.1
56.1	56.2		1.2	1.0

ε	λ.	γ.	H.
6.3	5.6	7.7	5.1
5.0	5.6	6.3	4.8
11.3			
+ 5.62	5.60	4.00	4.95

277 - 278

22.7	41.3	41.8	46.1	45.8
36.7	55.5	55.8	0.1	1.2
5.1	27.2	27.2	32.1	32.2
56.2	14.9	14.9	20.8	21.2

ε	λ.	γ.	H.
4.8	4.6	4.9	5.9
4.0	5.4	5.0	6.3
+ 4.40	5.00	4.95	6.10

276 - 277

27.2	21.0	20.8	32.2	25.5 25.6
41.3	33.6	34.0	47.0	40.0 39.8
12.2	4.1	5.1	16.5	11.6 11.2
0.4	53.6	54.3	6.3	59.3 59.9

ε	λ	γ	H.
5.0	5.7	6.3	5.9
4.5	6.4	7.5	5.7
4.8	5.8	6.1	5.6
4.4			
+ 4.77	5.97	6.63	5.73

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May 6 1885 II Reversed order 267-282°

275 - 276 × 27.4 27.2 | 33.6 32.4
42.4 41.8 | 48.2 47.4
13.0 13.4 | 19.4 18.2
0.2 0.3 | 7.7 7.1

Σ	y.	ȳ.	H
6.2	5.8	6.4	7.5
6.2	5.6	4.8	6.8
+ 6.20	5.70	5.60	7.15

274 - 275 × 25.0 26.0 | 31.4 31.4
39.2 39.8 | 45.0 45.8
11.2 12.2 | 17.2 17.3
58.2 57.8 | 4.0 4.2

Σ	y.	ȳ.	H
6.4	5.8	6.0	5.8
5.4	6.0	5.1	6.4
11.8			
+ 5.90	5.90	5.55	6.10

273 - 274 × 28.1 28.2 | 32.1 32.8
40.9 41.2 | 46.1 46.0
12.7 12.8 | 18.8 17.8
58.6 58.7 | 4.2 4.2

Σ	y.	ȳ.	H
4.0	5.2	6.1	5.6
4.6	4.8	5.0	5.5
+ 4.30	5.00	5.55	5.55

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272 – 273

21.0	22.2		27.1	~~25.6~~ 26.8
34.9	34.7		40.4	41.3
6.3	7.2		12.5	13.2
52.8	53.1		58.9	58.8

ε	η	φ	ν
6.1	5.5	6.2	6.1
4.6	6.6	6.0	5.7
10.7			
+ 5.35	6.05	6.10	5.90

271 – 272

23.4	23.2		28.8	29.1
36.1	36.5		42.0	41.9
8.8	9.0		14.2	15.0
54.8	55.0		0.6	0.8

ε	η	φ	ν
5.4	5.9	5.4	5.8
5.9	5.4	6.0	5.8
+5.65	5.65	5.70	5.80

270 – 271

39.7	39.8		45.8	46.0
52.6	53.2		58.3	58.7
25.2	26.0		31.3	31.2
11.8	11.8		17.8	17.8

ε	η	φ	ν
6.1	5.7	6.1	6.0
6.2	5.5	5.2	6.0
+ 6.15	5.60	5.65	6.00

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May 6 II Att. Lt. = 53.5 Reversed order 267°-282°

269 - 270 + 45.8 46.1 51.2 50.9
5 48.8 59.1 4.1 4.8
31.0 31.4 37.4 37.3
17.6 16.3 23.6 23.6

	E.	L.	Cy.	H.
5H		5.3	6.4	6.0
48		5.7	5.9	5.3
2				
+ 5.10		5.50	6.15	5.65

268 - 269 + 33.4 33.7 36.7 39.1
45.8 45.8 51.8 57.3
18.2 18.0 24.3 24.0
3.2 3.2 11.0 11.2

	E	L.	Cy.	H
5.3		6.0	6.1	7.8
54		5.5	6.0	8.0
+5.35		5.75	6.05	7.90

267 - 268 + 2 47.8 3 4&2 42.3 47.8 47.4 46.9
54.2 53.3 53.6 59.3 59.8 59.3
27.0 27.1 27.2 31.9 32.3 32.2
11.7 12.2 12.1 187.9 18.6 17.3

	E.	L.	Cy.	H.
5.0		5.1	4.9	6.2
4.2		6.5	5.2	6.4
4.6		5.7	5.0	5.2
+ 4.60		5.77	5.03	5.93

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Results May 6 1885 — 267°-282° Series I + II; Series II reversed order

Microscope E	I	II	Mean		H. I	II	Mean		ej I	II	Mean		A I	II	Mean	
267°-268°	+6.60	4.60	5.60	+.28	7.13	5.77	6.45	+.75	6.73	5.03	6.38	+.35	5.70	5.93	5.82	+.08
268-269	6.23	5.35	5.79	+.47	6.03	5.75	5.89	+.18	6.10	6.05	6.08	+.05	6.63	7.90	7.26	+1.52
269-270	5.67	5.10	5.38	+.06	6.33	5.50	5.92	+.22	6.10	6.15	6.12	+.09	5.53	5.65	5.59	-.15
270-271	4.47	6.15	5.31	-.01	6.63	5.60	6.12	+.41	6.53	5.65	6.09	+.06	5.23	6.00	5.62	-.12
271-272	5.67	5.65	5.66	+.34	4.93	5.65	5.29	-.41	5.57	5.70	5.64	-.39	6.07	5.80	5.94	+.20
272-273	6.00	5.35	5.68	+.36	6.70	6.05	6.38	+.67	6.13	6.10	6.12	+.09	6.20	5.90	6.05	+.31
273-274	5.57	4.30	4.94	-.38	5.70	5.00	5.35	-.35	5.37	5.55	5.46	-.57	6.90	5.55	6.22	+.48
274-275	5.12	5.90	5.51	+.19	5.54	5.90	5.72	+.01	6.28	5.55	5.92	-.11	5.34	6.10	5.72	-.02
275-276	4.67	6.20	5.44	+.12	4.83	5.70	5.26	-.44	5.17	5.60	5.38	-.65	5.50	7.15	6.32	+.58
276-277	4.83	4.77	4.80	-.52	6.13	5.97	6.05	+.34	6.50	6.63	6.56	+.53	5.03	5.73	5.38	-.36
277-278	4.87	4.40	4.64	-.68	6.00	5.00	5.50	-.20	6.30	4.95	5.62	-.41	5.73	6.10	5.92	+.18
278-279	5.20	5.62	5.41	+.09	5.17	5.60	5.38	-.33	5.63	7.00	6.32	+.29	5.07	4.95	5.01	-.73
279-280	4.67	5.40	5.04	-.28	4.97	5.80	5.38	-.32	6.33	6.15	6.24	+.21	5.33	5.30	5.32	-.42
280-281	5.20	5.45	5.32	.00	5.65	5.15	5.40	-.31	6.50	5.50	6.00	-.03	5.28	4.75	5.02	-.72
281°-282°	5.67	4.90	5.28	-.04	6.00	4.97	5.48	-.22	6.53	6.57	6.55	+.52	5.63	4.23	4.93	-.81
			4.80				10.57				.48				11.12	
			+5.320				+5.705				+6.032				+5.741	

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May 8 1885 Alt Sh = 49.0 Reversed order 267° - 282°

	S.			N.		
281 - 282	34.6	36.0	36.8	36.7	43.6	43.6	43.6
	47.6	48.8	49.0	49.6	57.0	57.2	56.8
	21.8	23.2	23.6	23.8	31.3	30.8	30.2
	6.8	7.2	7.6	8.2	15.2	15.2	14.2

E.	Sh.	Sf.	H
7.6	8.2	8.1	8.0
6.8	8.2	7.2	7.6
6.9	7.2	6.4	6.0
+7.10	7.87	7.23	7.20

280 - 281	31.8	31.0	31.7	38.3	38.7	38.7
	43.8	44.0	44.8	51.2	51.2	51.4
	18.0	18.2	18.7	25.9	26.0	25.0
	2.8	3.1	4.1	10.8	10.1	10.0

E	Sh.	Sf.	H
6.5	7.4	7.9	8.0
7.7	7.2	7.8	7.0
7.0	6.6	6.3	5.9
+7.01	7.07	7.33	6.97

279 - 280	29.8	29.6	30.4	34.7	35.3	36.0
	42.1	42.1	43.0	49.3	49.6	49.3
	15.4	15.1	15.6	23.2	23.2	23.4
	1.5	1.8	2.8	8.1	8.2	8.6

E	Sh.	Sf.	H
5.9	7.2	7.8	6.6
5.7	7.5	8.1	6.4
5.6	6.3	7.8	5.8
+5.73	7.00	7.90	6.27

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278 - 279

34.3	33.6	33.6
47.0	46.9	47.0
18.7	18.9	19.6
5.9	6.1	6.1

40.9	40.2	40.2	
53.2	53.2	52.8	
26.2	26.7	26.2	
12.7	12.2	13.0	
E	H.	ey.	H
6.6	6.2	7.5	6.8
6.6	6.3	7.8	6.1
6.6	5.8	6.6	6.9
+6.60	6.10	7.30	6.60

277 - 278

26.3	25.6	26.2
39.7	38.8	39.9
11.2	10.4	11.0
58.7	58.2	58.8

32.8	32 8	32.1	
46.8	46.2	46.0	
18.7	18.7	18.2	
5.7	5.6	5.2	
E	H	Ey.	H
6.3	7.1	7.5	7.0
7.2	7.4	8.3	7.4
5.9	6.1	7.2	6.4
19 6			
6.53	6.87	7.67	6.93

276 - 277

24.6	24.8	24.7
37.1	86.8	37.3
8.0	7.9	8.6
57.0	56.7	57.3

30.0	30.1	29.9	
44.0	44.0	44.4	
15.2	15.3	15.3	
3.6	3.0	3.2	
E	H.	Ey.	H
5.4	6.9	7.2	6.6
5.3	7.2	7.4	6.3
5.2	7.1	6.7	5.9
+5.30	7.07	7.10	6.27

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May 8 1885 Reversed order 267° - 282°

	S.			N.		
275 - 276	25.9	24.7	24.5	30.9	31.6	31.6
	37.2	37.0	37.3	43.8	44.1	44.2
	8.3	7.9	8.6	15.2	15.3	14.9
	56.6	56.1	56.7	4.0	4.0	3.9

E	F	G	H
5.0	6.6	6.9	7.4
6.9	7.1	7.4	7.9
7.1	6.9	6.3	7.2
+ 6.33	6.87	6.87	7.50

274 - 275	35.2	35.6	36.0	35.9	35.1	34.9	41.8	41.4	41.7	41.1	41.3	41.5
	47.7	47.8	48.6	48.2	48.1	47.9	54.7	54.2	54.1	55.1	54.1	54.1
	18.2	18.6	18.7	18.2	18.0	18.7	25.9	25.8	25.4	25.1	25.2	26.0
	7.0	7.2	7.2	7.0	7.2	7.6	14.3	13.8	13.2	14.0	14.0	14.2

E	E	F. F	G. G.	H. H.
6.6	5.2	7.0 6.9	7.7 6.9	7.3 7.0
5.8	6.2	6.4 6.0	7.2 7.2	6.6 6.8
5.7	6.6	5.5 6.2	6.7 7.3	6.0 6.6
+ 6.03	6.00	6.30 6.37	7.20 7.13	6.83 6.80
	6.01	6.34	7.16	6.72

273 - 274	39.9	39.2	40.1	47.0	46.8	48.0	46.2				
	52.2	52.4	53.6	0.0	0.0	0.7	59.4				
	23.9	23.9	24.1	30.2	30.6	31.8	29.7				
	11.2	11.4	11.2	19.0	19.7	20.3	19.3				

E	F.	G.	H.
7.1	7.8	6.3	7.8
7.6	7.6	6.7	8.3
6.1	5.8	5.6	8.1
+ 6.93	7.07	6.20	8.07

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	S.			N.		
272 – 273	28.1	28.2 27.7	28.9	35.4	35.8	35.5
	40.0	40.3	40.9	48.2	48.0	48.7
	12.4	12.0	12.8	19.3	20.0	19.3
	59.2	58.7	58.7	6.6	6.8	7.1

E	F.	G.	H
7.3	8.2	6.9	7.4
7.6	7.7	8.0	8.1
6.6	7.8	6.5	8.4
+ 7.17	7.90	7.13	7.97

271 – 272	24.7	23.9	23.8	30.0	30.1	31.2
	36.2	36.6	37.0	43.6	43.6	42.9
	8.1	8.2	8.7	15.6	14.3	14.2
	54.1	54.5	54.4	1.1	0.3	1.0

E	F	G	H
5.3	7.4	7.5	7.0
6.2	7.0	6.1	5.8
7.4	5.2	5.5	6.6
+ 6.30	6.53	6.37	6.43

270 – 271	34.0	34.9	34.6	41.1	39.9	40.2
	45.9	46.1	46.3	53.2	53.8	54.0
	18.0	18.3	18.2	25.4	25.8	25.6
	3.9	4.1	4.2	11.0	11.0	10.7

E	F.	G.	H
7.1	7.3	7.4	7.1
5.0	7.7	7.5	6.9
5.6	7.7	7.4	6.5
17.7	7.57	7.43	6.83
+ 5.90			

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May 8. Mt. Th = 50.0° Reversed order 267-282

	S.			N.		
269 - 270	35.9	35.9	35.6	42.9	43.2	43.0
	47.4	47.8	47.9	54.2	54.3	55.1
	19.9	19.8	20.2	26.7	26.7	27.0
	6.3	6.7	6.7	12.2	12.2	12.8

E	h.	eq.	H
7.0	6.8	6.8	5.9
7.3	6.5	6.9	5.5
7.4	7.2	6.8	6.1
+7.23	6.83	6.83	5.83

268 - 269	44.4	44.6	44.9	51.3	51.0	51.1
	57.0	56.8	56.7	3.7	3.0	3.5
	28.9	28.7	29.2	35.6	36.2	36.3
	15.0	15.2	15.1	22.1	22.3	22.1

E	h	eq.	H
6.9	6.7	6.7	7.1
6.4	6.2	7.5	7.1
6.2	6.8	7.1	7.0
+6.50	6.57	7.10	7.07

267° - 268°	28.6	28.3	28.3	34.8	34.7	350
	40.2	39.8	39.8	47.1	47.7	46.7
	11.9	11.7	12.2	18.9	19.3	18.9
	58.2	58.4	59.7	5.0	4.8	5.0

E	h.	eq.	H
6.2	6.9	7.0	6.8
6.4	7.9	7.6	6.4
6.7	6.9	6.7	6.3
+6.43	7.23	7.10	6.50

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Results May 4 267°-282° and May 8 Reversed order 267°-282°

Micrometer E.

	May 4 (acc. p. 62 for May 4)	May 8	Mean			J. May 4	J. May 8	J. Mean			G. May 4	G. May 8	G. Mean			H. May 4	H. May 8	H. Mean		
267-268	+ 8.43	6.43	7.43	+66	+1.66	+9.40	7.23	8.32	+91	+1.91	+10.13	7.10	8.62	+1.04	+1.04	+8.70	6.50	7.55	+37	+37
268-269	8.63	6.50	7.56	+69	+1.35	9.27	6.57	7.92	+50	+1.41	9.13	7.10	8.11	+.52	+1.56	8.70	7.07	7.88	+76	+1.07
269-270	8.00	7.23	7.62	+.85	+2.20	9.20	6.83	8.02	+.6	+2.02	8.63	6.83	7.73	+.15	+1.71	7.93	5.83	6.88	−30	+.77
270-271	6.47	5.90	6.18	−.59	+1.61	9.10	7.57	8.34	+92	+2.54	8.83	7.43	8.13	+.54	+2.25	7.67	6.83	7.25	+07	+.84
271-272	7.60	6.30	6.95	+18	+1.77	6.87	653	6.70	−71	+2.23	7.73	6.37	7.05	−53	+1.72	7.17	6.43	6.80	−36	+.46
272-273	7.27	7.17	7.22	+.45	+2.24	8.23	7.90	8.06	+64	+2.87	7.60	7.13	7.36	−.23	+1.49	8.37	7.97	8.17	+.99	+1.45
273-274	6.20	693	6.56	−.21	+2.03	787	7.07	7.47	+06	+2.93	7.37	6.20	6.78	−.80	+.65	8.37	8.07	8.20	+1.02	+2.47
274-275	7.23	6.01	6.62	−.15	+1.88	7.63	6.34	6.98	−.44	+2.49	8.23	7.16	770	+.11	+.80	7.57	6.72	7.14	−04	+2.43
275-276	7.03	6.33	6.68	−.09	+1.79	7.43	6.87	7.15	−.26	+2.23	7.53	6.87	7.20	−.38	+.42	7.57	7.50	7.54	+.36	+2.79
276-277	5.67	5.30	5.48	−1.29	+.50	7.63	7.07	7.35	−.07	+2.16	8.10	7.10	7.60	+.01	+.43	7.20	6.27	674	−.46	+2.35
277-278	6.43	6.53	6.48	−.29	+.21	7.50	687	7.18	−.23	+1.93	8.53	767	8.10	+.52	+.95	7.67	6.93	7.30	+.12	+2.47
278-279	6.87	6.60	6.74	−.03	+.18	6.13	6.10	6.11	−1.31	+.62	7.57	7.30	7.48	−.11	+.84	6.27	6.60	6.44	−.74	+1.73
279-280	6.20	5.73	5.96	−.81	−.63	6.40	7.00	7.70	+.29	+.91	7.77	7.90	7.84	+.26	+1.10	6.33	6.27	6.30	−.88	+.85
280-281	7.40	7.01	7.20	+.43	−.20	5.90	7.07	6.48	−.94	−.03	7.13	7.33	7.23	−.36	+.74	6.73	6.97	6.85	−.33	+.52
281-282	6.73	7.10	692	+.15		7.03	7.87	7.45	+04	+.01	6.50	7.23	6.86	−.72	+.02	6.10	7.20	665	−.53	−.01
			101.60					111.23					113.79					107.69		
			+6.773					+7.415					+7.586					+7.179		

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May 8 1885 $177^\circ - 192^\circ$

177 - 178 = circle	39.0	39.0	40.8	40.1	41.3
O = mean anc	49.6	49.7	51.2	51.0	51.8
	12.8	12.7	13.8	13.9	14.0
	56.8	0.8	1.3	0.8	1.8

Epoch	ε	20.7	20.6	20.9
γ Leonis	η	31.0	30.8	31.8
	θ	52.3	52.5	53.2
	ι	40.7	41.1	40.6

	48.8	49.0	49.0	48.0	47.8
	59.2	59.0	59.0	57.8	58.7
	22.1	22.2	21.4	21.3	21.2
	10.0	9.9	9.2	9.2	9.1

ε	η	γ	ι
6.7	6.6	7.6	7.4
7.2	7.2	7.4	6.9
6.1	6.2	5.6	7.5
+6.67	6.67	6.87	7.27

27.4	27.8	27.0
37.6	38.0	38.0
59.9	59.9	58.8
48.1	48.0	48.1

178 - 179	37.0	37.8	37.9
	48.4	48.6	48.4
	10.4	10.3	10.0
	58.2	58.6	59.0

	43.8	43.7	43.8
	54.2	56.0	54.7
	16.3	16.9	16.8
	5.1	6.0	5.7

ε	η	γ	ι
6.3	5.8	5.9	6.9
5.9	6.4	6.6	7.4
5.9	6.3	6.8	6.7
6.03	6.17	6.43	7.03

179 - 180	29.9	30.0	29.8
	40.4	40.1	40.5
	2.0	1.9	1.3
	51.0	50.9	50.8

	36.4	36.1	35.3
	47.3	46.8	46.8
	8.7	9.1	9.3
	57.3	57.9	58.2

ε	η	γ	ι
6.5	6.9	6.7	6.3
6.1	6.7	7.2	7.0
5.5	6.3	8.0	7.4
+6.03	6.63	7.30	6.90

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180 – 181

29.6	30.1	30.6
39.9	39.3	40.1
2.1	2.3	2.5
50.9	50.2	50.8

35.4	35.8	35.6
45.8	45.9	46.0
8.2	8.3	8.3
56.7	56.1	56.4

E	H.	G.	H
5.8	5.9	6.1	5.8
5.7	6.6	6.0	5.9
5.0	5.9	5.8	5.6
+ 5.50	6.13	5.97	5.77

181 – 182

40.8	41.2	41.4
50.4	51.2	51.3
12.4	12.8	13.0
1.6	1.8	1.8

46.4	46.5	46.6
55.8	56.6	56.6
18.3	18.4	18.7
6.4	6.7	6.4 ~~8.4~~

E	H.	G.	H.
5.6	5.4	5.9	4.8
5.3	5.4	5.6	4.9
5.2	5.3	5.7	4.6
+ 5.37	5.37	5.73	4.77

182 – 183

26.6	26.3	25.2
35.3	35.1	36.3
57.4	57.2	57.6
44.2	45.6	46.2

31.8	32.0	31.9
41.7	41.7	41.8
3.4	4.0	2.9
51.6	51.7	52.0

E	H.	G.	H.
5.2	6.4	6.6	7.4
5.7	6.6	6.8	6.1
6.7	5.5	6.3	5.8
+ 5.87	6.17	6.37	6.43

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May 8

177° – 192°

S.

183 – 184	25.7	26.2	26.0
	35.1	35.2	34.8
	56.6	56.7	57.2
	45.0	45.2	45.0

E	H.	ℓ.	H
6.2	6.1	6.2	5.8
5.8	6.2	6.6	5.8
6.1	6.2	5.8	6.0
+6.03	6.17	6.20	5.87

N.

	31.9	32.0	32.1
	41.2	41.4	41.0
	2.8	3.3	3.0
	50.8	51.0	51.0

184 – 185	34.4	33.8	33.1 ~~32.6~~
	41.3	42.5	42.3
	4.2	3.8	4.1
	52.0	52.3	51.7

E	H.	ℓ.	H.
5.4	6.7	5.9	5.3
6.0	5.8	6.9	5.6
~~5.8~~	6.4	7.0	6.3
+6.07	6.30	6.60	5.73

	39.8	39.8	39.9
	48.0	48.3	48.7
	10.1	10.7	11.1
	57.3	~~46.~~ 57.9	58.0

185 – 186	31.1	31.1	30.9
	38.9	39.3	39.2
	1.8	1.8	1.7
	49.0	49.0	49.0

E	H.	ℓ.	H
6.9	7.2	6.9	7.2
7.3	7.4	6.9	8.0
7.9	6.9	6.9	8.2
+7.70 37	7.17	6.90	7.80

	38.0	38.4	38.8
	46.1	46.7	46.1
	8.7	8.7	8.6
	56.2	57.0	57.2

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186 – 187

37.9	37.6	37.9
44.8	45.8	45.1
7.6	7.7	7.7
56.0	55.6	55.8

42.8	43.0	42.8
51.2	51.0	51.2
14.1	14.7	14.3
1.9	2.8	1.8

Σ	f.	g.	H
4.9	6.4	6.5	5.9
5.4	5.2	7.0	7.2
4.9	6.1	6.6	6.0
+5.07	5.90	6.70	6.37

187 – 188

43.6	43.2	42.8
50.2	50.8	50.2
13.2	13.3	13.2
1.3	2.0	1.1

49.0	49.0	48.7
56.8	57.0	56.8
20.9	20.4	20.3
9.1	9.1	9.2

Σ	f.	g.	H.
5.4	6.6	7.7	7.8
5.6	6.2	7.1	7.1
5.9	6.6	7.1	8.1
+5.70	6.47	7.30	7.67

188 – 189

43.8	43.7	42.8
51.2	51.2	52.0
14.2	14.6	14.7
3.0	3.8	3.6

49.9	49.2	49.8
57.2	57.3	57.2
20.3	19.5	20.3
9.8	9.9	9.9

Σ	f.	g.	H.
6.1	6.0	6.1	6.8
5.5	6.1	5.3	6.1
7.0	5.2	5.6	6.3
6.20	5.77	5.67	6.40

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May 8. 1885 Arc = 177° - 192°

189° - 190°	40.2	40.9	40.9		45.1	45.9	46.2	
	48.6	48.2	48.7		54.1	54.8	54.6	
	10.7	10.3	11.3		15.9	16.8	16.4	
	0.8	0.6	0.7		5.0	6.9	6.8	
Σ								
4.9	5.5	5.2	7.2					
5.0	6.6	6.5	8.3					
5.3	5.9	5.1	8.1					
5.07	6.00	5.60	7.87					
190 - 191	31.0	30.9	31.0		36.1	36.5	37.0	
	39.1	39.8	39.9		45.7	45.7	46.0	
	1.4	1.3	1.2		8.5	8.4	8.9	
	52.8	53.7	53.1		59.2	59.9	59.8	
Σ								
5.1	6.6	7.1	6.4					
5.6	5.9	7.1	6.2					
6.0	6.1	7.7	6.7					
5.57	6.20	7.30	6.43					
191 - 192	33.7	34.1	33.4		39.8	40.2	40.6	
	42.3	42.3	42.6		49.0	49.0	49.7	
	5.1	4.8	5.3		12.0	12.0	12.1	
	56.0	57.0	57.2		2.8	3.1	3.3	
Σ								
6.8	6.7	6.9	6.8					
6.1	6.7	7.2	6.1					
7.2	7.1	6.8	6.1					
6.50	6.83	6.97	6.33					

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Results May 8 1885 177°-192°

Microscope E.		Σ	J.		Σ	Jf.		Σ	Jf.		Σ
177-178	6.67	+.73	+73	6.67	+.41	+41	6.87	+.34	+34	7.27	+.70	+70
178-179	6.03	+.09	+82	6.17	-.09	+32	6.43	-.10	+24	7.03	+.45	+115
179-180	6.03	+.09	+91	6.63	+.37	+69	7.30	+.77	+101	6.90	+.33	+148
180-181	5.50	-.44	+47	6.13	-.13	+56	5.97	-.56	+45	5.77	-.81	+67
181-182	5.37	-.57	-10	5.37	-.89	-33	5.73	-.80	-35	4.77	-1.80	-113
182-183	5.87	-.07	-17	6.17	-.09	-42	6.37	-.16	-51	6.43	-.15	-128
183-184	6.03	+.09	-.08	6.17	-.09	-51	6.20	-.33	-84	5.87	-.70	-198
184-185	6.07	+.13	+.05	6.30	+.04	-47	6.60	+.07	-77	5.73	-.85	-283
185-186	7.37	+1.43	+1.48	7.17	+.91	+.44	6.90	+.37	-40	7.80	+1.23	-160
186-187	5.07	-.87	+61	5.90	-.36	+08	6.70	+.17	-23	6.37	-.21	-181
187-188	5.70	-.27	+34	6.47	+.21	+29	7.30	+.77	+54	7.67	+1.10	-70
188-189	6.20	+.26	+60	5.77	-.49	-20	5.67	-.86	-32	6.40	-.18	-88
189-190	5.07	-.87	-27	6.00	-.26	-46	5.60	-.93	-125	7.87	+1.30	+42
190-191	5.57	-.37	-.64	6.20	-.06	-52	7.30	+.77	-48	6.43	-.15	+27
191-192	6.50	+.56	-.08	6.83	+.57		6.97	+.44	-.04	6.33	-.24	+03
	89.05			3 95			97.91			6 98 84		
	+5.987			6.263			6.527			6.596		

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May 11 I All- Th = 50.0

192° - 207°

Slide 2nd

193° - 194°

	33.3	33.6	32.7	40.9	40.9	40.8
	40.6	40.8	41.3	49.2°	48.9	48.7
	1.7	1.8	1.9	10.7	10.9	11.0
	54.1	54.2	54.8	2.6	3.0	3.0

ε			
7.6	8.4	9.0	8.5
7.3	8.1	9.1	8.8
8.1	7.4	9.1	8.2
+7.67	7.97	9.07	8.50
-.7	-.7	-.7	-.7
7.07	7.27	8.37	7.80

1st

192 - 193 × 360

-15° = wooden arc

	36.7	37.1		44.2	44.6	44.9
	43.8	44.1	44.7	52.0°	52.6	52.5
	5.1	5.6	5.9	12.9	13.8	13.3
	57.1	57.8	57.6	59	63	6.1

ε			
8.2	8.2	7.8	8.8
7.9	8.5	8.2	8.5
7.8	7.8	7.4	8.5
+7.97	8.17	7.80	8.60
6.93	7.93	7.50	8.53
7.45	8.05	7.65	8.56
+1.04	+.24	+.30	0.07 (=+.41)

see p. 115

3rd

194 - 195 × 30.6

	30.9	31.2		38.2	37.6	38.6
	38.2	38.2		45.9	46.9	46.4
	59.8	0.2		7.3	7.8	7.8
	52.6	52.7		59.2	59.1	59.9

ε			
7.6	7.9	8.3	6.4
7.7	8.7	8.0	6.5
7.4	8.2	7.6	7.2
+7.57	8.27	7.97	6.70
7.57	8.17	7.80	8.60
6.45	6.35	6.20	6.85
1.12	1.82	1.60	1.75

Mean 179 1/2 7.85

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195° – 196°

23.7	23.3	23.0		30.0	30.8	31.1
30.2	30.6	29.9		38.0	39.0	39.2
51.9	51.8	51.4		59.1	59.7	59.7
43.8	44.1	43.9		50.8	50.8	51.0

E	F.	G.	H.
6.3	7.8	7.2	7.0
7.5	8.4	7.9	6.7
8.1	9.3	8.3	7.1
+7.30	8.50	7.80	6.93

196° – 197°

29.7	30.0	29.8		37.0	37.6	37.0
37.0	37.4	37.6		44.8	44.9	45.2
57.8	58.2	58.1		6.8	6.6	6.6
49.7	50.0	50.2		57.4	57.6	57.7

E	F.	G.	H.
7.3	7.8	9.0	7.7
7.6	7.5	8.4	7.6
7.2	7.6	8.5	7.5
+7.37	7.63	8.63	7.60

Dust

197° – 198°

26.4	26.2	26.7		33.8	34.6	33.6
32.9	33.0	33.2		40.2	41.3	41.1
55.2	54.6	55.2		2.7	3.1	2.9
45.9	46.1	46.0		53.2	53.6	54.1

E	F.	G.	H.
7.4	7.3	7.5	7.3
8.4	8.3	8.5	6.5
6.9	7.9	7.7	8.1
7.57	7.83	7.90	7.30

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May 11 1885 I

S.

198-199	36.7	36.9	37.6
	45.0	45.5	45.7
	7.2	7.0	7.0
	57.8	57.3	57.1

192° - 207°

N.

45.6	45.9	45.3
52.4	52.8	52.9
14.3	14.8	14.5
4.8	4.9	5.0

E	f.	g.	H
6.9	7.4	7.1	7.0
7.0	7.3	7.8	7.6
7.1	7.2	7.5	7.9
+7.20	7.30	7.47	7.50

199-200	30.0	30.1	30.0
	36.7	37.2	37.0
	58.3	58.7	58.4
	48.7	49.1	48.8

35.8	36.1	35.6	
44.0	44.1	44.0	
4.1	5.2	5.5	
55.2	55.4	55.2	

E	f.	g.	H.
+5.8	7.3	5.8	6.5
6.0	6.9	6.5	6.3
5.6	7.0	7.1	6.4
+5.80	7.07	6.47	6.40

200-201	30.3	30.0	30.1
	38.6	38.8	37.9
	59.2	59.1	59.0
	49.7	49.8	49.9

36.4	36.3	35.9	
44.4	45.1	44.2	
5.9	6.0	5.8	
55.8	56.3	55.8	

E	f.	g.	H.
6.1	5.8	6.7	6.1
6.3	6.3	6.9	6.5
5.8	6.3	6.8	5.9
+6.07	6.13	6.80	6.17

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201 - 202			mean
	25.4	26.2	25.8
	33.6	33.7	33.6
	55.1	55.2	55.2
	45.0	45.0	45.0

32.2	32.8	32.2
39.7	40.2	40.4
2.1	2.3	2.3
52.9	53.2	53.6

Σ	H	K	L
6.8	6.1	7.0	7.9
6.6	6.5	7.1	8.2
6.4	6.8	7.1	8.6
+6.60	6.47	7.07	8.23

202 - 203			
	27.9	27.7	27.9
	35.2	35.1	35.6
	57.2	57.2	56.7
	47.9	48.2	48.2

33.8	33.8	34.2
42.2	42.5	42.8
4.1	4.1	4.3
54.6	54.9	55.2

Σ	H	K	L
5.9	7.0	6.9	6.7
6.1	7.4	6.9	6.7
6.3	7.2	7.6	7.0
+6.10	7.20	7.13	6.80

203 - 204			
	25.2	25.7	25.0
	33.0	33.2	33.3
	54.8	55.3	53.8
	45.9	45.9	47.0

30.6	31.9	31.7
40.1	40.2	40.6
1.6	1.8	2.0
52.1	52.7	52.6

Σ	H	K	L
5.4	7.1	6.8	6.2
6.2	7.0	6.5	6.8
6.7	7.3	8.2	5.6
+6.10	7.13	7.17	6.20

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May 11 1885 I

192° - 207°

204 - 205

27.0	26.8	27.0
35.2	36.0	35.2
57.4	57.6	57.3
48.0	48.1	48.0

32.2	32.5	31.6
42.4	42.4	42.2
4.0	4.1	4.1
54.8	54.8	55.0

Σ	H.	y.	N.
5.2	7.2	6.6	6.8
5.7	6.4	6.5	6.7
4.6	7.0	6.8	7.0
+5.17	6.87	6.93	6.83

205 - 206

20.1	19.8	19.8
30.2	29.6	29.2
50.9	51.1	51.6
42.2	42.3	42.0

26.4	27.1	26.8
36.1	36.5	36.2
58.2	58.7	58.4
48.8	48.9	48.3

Σ	H.	y.	N
6.3	5.9	7.3	6.6
7.3	6.9	7.6	6.6
7.0	7.0	6.8	6.3
+6.87	6.60	7.23	6.50

206 - 207

34.8	35.0	34.4
43.9	44.6	44.4
5.3	5.1	5.6
56.8	56.8	56.9

42.2	41.6	42.0
50.9	50.8	50.9
12.9	13.7	13.7
3.4	3.9	3.8

Σ	H.	cf.	N.
7.4	7.0	7.6	6.6
6.6	6.2	8.6	7.1
7.6	6.5	8.1	6.9
+7.20	6.57	8.10	6.87

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End I Series and II Series 192° - 207°

	S	S	S	N	N	N
			New Series II			New Series
192°. 193°	30.0	29.7	29.6	30.1 30.1 30.1	37.0	36.8 36.3	36.0 36.0 36.8
	37.0	37.0	37.4	38.2 37.2 37.2	45.0	45.1 45.1	44.0 44.3 44.0
	56.2	58.3	58.7	59.7 59.0 59.4	5.9	6.1 5.7	5.3 5.4 5.8
	48.8	49.7	50.0	51.0 50.6 50.2	57.8	58.1 58.2	56.8 57.7 58.0

2° New Series

S	S	N	N
29.9	30.3	36.4	36.4
37.8	37.3	43.7	44.2
59.0	59.3	5.1	5.2
50.3	50.6	57.8	57.7

ε	η	ψ	ν
7.0	8.0	7.7	9.0
7.1	8.1	7.8	8.4
6.7	7.7	7.0	8.2
6.93	7.93	7.50	8.53
6.22	6.50	6.08	7.38
sep. 120 6.45	6.35	6.20	6.55
+ 6.53	6.93	6.59	7.49
6.57	7.20	6.79	7.95
6.45	6.38	6.20	6.95
+ .12	+ .85	.55	+1.40 +.74
		37.8	37.4 37.3
		44.8	45.3 45.1
		6.8	6.8 6.5
		58.8	59.4 59.2

ε	η	ψ	ν
5.9	5.8	5.6	5.8
5.9	7.1	6.4	7.7
6.7	6.8	6.4	7.8
6.5	5.9	6.1	7.5
6.1	6.9	5.9	7.1
6.22	6.50	6.08	7.38

ε + ψ ν

6.5
6.1
6.20

193-194

30.9	31.6	30.3
39.1	38.9	38.8
0.2	0.2	59.8
52.1	52.4	52.8

ε	η	ψ	ν
6.9	5.7	6.6	6.7
5.8	6.6	6.6	7.0
7.0	6.3	6.7	6.4
+ 6.57	6.20	6.63	6.70

194-195

20.3	20.9	20.4
27.1	27.5	26.4
48.7	48.8	49.1
41.2	41.6	40.7

27.2	27.0	27.0
33.7	34.0	34.0
55.5	55.5	55.6
47.0	47.2	47.0

ε	η	ψ	ν
6.9	6.6	6.8	5.8
6.1	6.5	6.7	5.6
6.6	6.6	6.5	6.3
+ 6.53	6.57	6.67	5.90

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May 11 II Persei 192°-20°

195-196.	37.4	37.9		43.2	44.1		
	44.7	44.0		50.6	50.9		
	5.8	5.9		11.7	12.6		
	56.1	56.3		4.6	3.8		
	Σ			f.	g.	H	
	5.8			5.9	5.9	6.5	
	6.2			6.9	6.7	5.5	
	+6.00			6.40	6.30	6.00	

196-197.	37.3	36.7		43.2	42.7		
	44.1	43.3		49.2	50.1		
	5.4	5.2		11.9	12.0		
	56.8	56.1		2.8	13.2		
	Σ			f.	g.	H.	
	5.9			5.1	6.5	6.0	
	6.0			6.8	6.8	7.1	
	+5.95			5.95	6.65	6.55	

197-198.	37.6	38.7	38.7	38.9	37.7	46.6	46.1	45.6	45.1
	44.3	45.4	44.5	45.3	44.8	51.7	51.8	51.8	51.8
	6.4	6.6	7.2	7.2	6.6	14.3	14.2	14.1	14.0
	58.0	58.1	56.4	58.3	58.0	4.3	4.2	4.2	4.2

Σ	f.	g.	H.
7.9	7.2	7.1	5.9
7.4	6.4	7.6	6.1
6.7	6.5	6.9	5.9
7.4	7.0	7.4	6.2
+7.35	6.78	7.25	6.02

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198 - 199

31.1	30.8
37.4	37.6
0.2	59.8
50.0	50.0

37.7	37.1
43.9	44.1
6.8	6.2
56.0	55.7

E	H	4	H
6.6	6.5	6.6	6.0
6.3	6.5	6.4	5.7
6.45	6.50	6.50	5.85

199 - 200

35.4	35.9
42.2	42.2
4.7	4.6
54.6	55.0

40.7	40.7
48.3	48.6
10.0	10.1
0.3	0.2

E	H	4	H
5.3	6.1	5.3	5.7
4.8	6.4	5.5	5.2
5.05	6.25	5.40	5.45

200 - 201

25.1	25.8
34.0	33.2
55.3	55.4
46.0	45.6

32.8	31.8
39.8	39.0
1.2	1.6
57.2	54.7

E	H	4	H
7.1			
6.0	5.8	6.2	6.1
6.55	5.80	6.20	6.10
+ 6.00			

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May 11 II Series 192°-207°

201 - 202

39.8	39.4
47.4	47.0
9.3	9.2
59.6	59.6

46.1	46.0
53.0	53.4
16.2	16.2
7.1	7.0

Σ	A	Cy.	H
6.3	5.6	6.9	7.5
6.6	6.4	7.0	7.4
6.45	6.00	6.95	7.45

202 - 203

26.1	26.4
33.9	33.6
56.4	56.1
46.9	46.7

32.1	32.1
39.8	40.1
2.4	2.4
53.0	53.2

Σ	A.	Cy.	H.
6.0	5.9	6.0	6.1
5.7	6.5	6.3	6.5
5.85	6.20	6.15	6.30

203 - 204

29.7	29.6
36.8	37.2
0.0	0.3
57.0	56.3

34.6	34.9
43.1	43.6
6.0	6.1
56.7	56.6

Σ	A.	Cy.	H.
4.9	6.3	6.0	5.7
5.3	6.4	5.8	6.3
5.10	6.35	5.90	6.00

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204 - 205

27.2	26.8	30.9	31.3
34.7	34.8	40.7	41.2
57.3	57.4	3.0	3.4
48.0	48.1	53.3	54.1

Σ	h.	y.	H.
3.7	6.0	5.7	5.3
4.5	6.4	6.0	6.0
2			
4.10	6.20	5.85	5.65

205 - 206

38.6	38.3	44.8	44.4 44.4
48.2	47.6	55.0	54.0 53.2
10.0	9.8	17.2	15.2 15.3
1.0	0.3	7.8	6.2 5.6

Σ	h	y.	H.
~~6.8~~	5.8	5.2	5.2
5.8			
6.1	5.6	5.5	5.8
11.9			
5.95	5.70	5.35	5.25

206 - 207

24.3	24.0	31.0	30.7
33.3	34.0	39.4	39.8
56.3	56.5	2.8	2.3
46.8	46.1	52.1	52.3

Σ	h.	y.	H
6.7	6.1	6.5	5.3
6.7	5.8	5.8	6.2
6.70	5.95	6.15	5.75

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May 11 II Att Th = 538 192° - 207°

192-193	28.8	28.6	16.7	16.0	36.6	36.5	22.7	22.9
	35.2	36.2	24.4	23.4	43.7	44.0	30.2	30.3
	57.8	58.2	46.9	45.4	6 3	3 8	52.1	52.6
	48.4	48.9	37.6	36.2	57.1	57.1	43.6	43.3

	Σ	Σ	I	II	I
~~78~~	6.0	5.8	5.2	6.0	
~~79~~	6.9	6.9	7.2	7.1	
+ 785	6.45	6.35	6.20	6.55	

See p 115 for mean value 192°-193°

F

II Σ	I II	Mean		Σ	I	II	Mean	Q	Σ+I/2	N
7.40	7.92	7.66	+38	+38	7.85	7.46	7.65	-13	-13	+13
7.50	7.78	7.64	+36	+75	8.18	7.56	8.37	+05	+46	+60
7.51	7.73	7.62	+35	+1.10	8.13	7.65	7.89	+.18	+64	+87
7.08	7.52	7.27	+.00	+1.10	8.02	7.32	7.67	+.11	+53	+81
7.04	7.64	7.34	+.06	+1.16	8.50	7.64	8.27	+.49	+1.02	+1.09
8.50	7.90	8.20	+.93	+2.09	8.23	8.40	8.31	+.53	+1.55	+1.62
7.65	7.58	7.63	+.35	+2.44	7.85	7.70	7.77	+.01	+1.54	+1.98
6.31	6.24	6.27	-1.00	+1.44	6.51	6.66	6.58	-1.00	+.54	+.55
7.32	6.56	6.94	-.33	+1.11	7.29	7.52	7.40	-.38	+.16	+.63
7.82	7.14	7.48	+.21	+1.33	7.61	8.32	7.96	+.18	+.34	+.86
7.28	6.70	6.99	-.28	+1.04	7.73	7.58	7.65	-.13	+.21	+.82
6.58	6.75	6.66	-.61	+.41	7.82	7.38	7.60	-.18	+.03	+.22
5.65	5.58	5.76	-1.52	-1.11	7.64	7.40	7.52	-.26	-.23	-.67
7.55	7.63	7.59	+.32	-.79	7.99	6.85	7.47	-.31	-.54	-.66
8.36	8.01	8.18	+.90	+.11	8.91	7.81	8.36	+.58	+.04	+.07
		+ 7.475					7.88			

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Results May 11 1885 192° – 207° Series I + II

both forward.

Microscope	I	II			I	II			I	II			I	II		
192° – 193°	7.97	6.53	7.25	+81 +81	8.17	6.93	7.55	+75 +75	7.80	6.59	7.20	+27 +28	8.60	7.49	8.04	+135 +135
	+5	+87			+5	+87			+5	+87			+5	+87		
192 – 194	7.67	6.57	7.12	+68 +145	7.97	6.20	7.68	+27 +102	9.07	6.63	7.85	+92 +115	8.50	6.70	7.60	+85 +134
	+11	+93			+11	+93			+11	+83			11	93		
194 – 195	7.57	6.53	7.05	+60 +210	8.27	6.57	7.42	+62 +164	7.97	6.67	7.32	+39 +158	6.70	5.90	6.30	−35 +155
	+16	+98			+16	+98			+16	+88			16	48		
195 – 196	7.30	6.00	6.65	+24 231	8.50	6.40	7.45	+44 +245	7.80	6.30	7.05	+12 +170	6.93	6.00	6.46	−19 +130
	+22	1.23			+22	+103			+22	+1.03			22	103.		
196 – 197	7.37	5.95	6.66	+22 +253	7.63	6.65	7.14	+31 +262	8.63	6.55	7.59	+66 +236	7.60	6.55	7.07	+42 +232
	+27	1.09			+27	+1.09			+27	+1.09			27	1.09		
197 – 198	7.57	7.35	7.46	+102 +255	7.83	6.78	7.40	+46 +311	7.90	7.25	7.57	+64 +300	7.30	6.02	6.66	+08 +232
	+33	1.15			+33	+1.15			+33	+1.15			33	1.15		
198 – 199	7.20	6.45	6.83	+35 +354	7.30	6.50	6.85	+05 +316	7.47	6.50	6.98	+04 +304	7.50	5.85	6.67	+02 +234
	+38	1.20			+38	1.20			+38	+1.20			38	1.20		
199 – 200	5.80	5.05	5.43	+01 +253	7.07	6.25	6.66	−14 +302	6.47	5.40	5.88	+05 +185	6.40	5.45	5.93	−72 +152
	+44	1.26			+44	+1.26			+44	+1.26			44	1.26		
200 – 201	6.08	6.00	6.04	−48 +253	6.13	5.80	5.96	−85 +217	6.80	6.20	6.50	−43 +156	6.17	6.10	6.13	−58 +100
	+49	1.32			+49	1.32			+49	+1.32			44	1.32		
201 – 202	6.60	6.45	6.53	+68 +262	6.47	6.00	6.24	−56 +161	7.07	6.95	7.01	+08 +164	6.23	7.45	7.84	+118 +215
	+54	1.37			+54	1.37			+54	+1.37			54	1.37		
202 – 203	6.10	5.85	5.97	−42 +215	7.20	6.20	6.70	−10 +157	7.13	6.15	6.64	−29 +135	6.80	6.30	6.55	−10 +109
	60	1.43			60	1.43			+60	+1.43			60	1.43		
203 – 204	6.10	5.10	5.60	−84 +131	7.13	6.35	6.74	−07 +144	7.17	5.90	6.53	−40 +55	6.20	6.00	6.10	−56 +113
	65	1.48			65	1.48			+63	+1.48			65	1.48		
204 – 205	5.17	4.10	4.64	−180 −44	6.87	6.20	6.53	−27 +117	6.93	5.85	6.39	−54 +41	6.83	5.65	6.24	−41 +112
	71	1.55			71	1.55			+71	+1.55			71	1.55		
205 – 206	6.87	5.95	6.41	−03 −52	6.60	5.70	6.15	−66 +57	7.23	5.35	6.29	−64 −23	6.50	5.25	5.87	−78 +34
	76	1.60			76	1.60			+78	+1.60			76	1.60		
206 – 207°	7.20	6.70	6.55	+52 +00	6.57	5.95	6.26	−54 00	8.10	6.15	7.13	+20	6.87	5.75	6.31	−34 +00
	+81	1.66			81	1.66			+81	+1.66			81	1.66		
	102.56	90.58	96.57	+45	109.71	94.50	102.03		113.54	94.44	103.93		107.13	92.46	99.97	
	6.857	6.039	6.439		7.314	6.300	6.802		7.569	6.296	6.929		7.142	6.164	6.652	

E	G	$\frac{E+G}{2}$
+81	+27	+04
+145	+119	+1.34
+210	+158	+1.84
+231	+170	+2.00
+253	+236	+2.44
+355	+300	+3.27
+354	+302	+3.49
+293	+199	+2.46
+253	+156	+2.04
+262	+164	+2.14
+215	+133	+1.75
+131	+95	+1.13
−46	+41	−.04
−52	−23	−0.37
+00		.00

F	$\frac{F+46}{2}$
+158	+107
+102	+1.68
+164	+1.81
+228	+2.04
+262	+2.42
+311	+2.66
+316	+2.70
+302	+2.27
+217	+1.58
+161	+1.90
+151	+1.80
+144	+1.48
+117	+1.15
+57	+0.42
+106	0.00

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May 12 I Att λ = 48.8 207° - 222°

207°-208° circle	34.6	34.3	34.4	34.6	42.6	42.8	42.0	42.6
	44.7	45.4	45.3	46.2	53.7	53.7	53.2	54.0
	6.8	7.2	7.2	7.2	15.1	15.2	15.4	15.4
	57.4	56.8	57.2	58.2	6.4	6.6	6.3	6.6

Σ	Σ	λ	φ	H.
7.6	8.0	9.0	8.3	9.0
7.0	7.5	8.3	8.0	9.8
7.80	7.6	7.9	8.2	9.1
	8.0	8.8	8.2	8.4
	+7.78	8.50	8.18	9.08

208-209	33.0	33.3			40.4	40.6		
	44.0	44.0			50.9	51.3		
	5.0	5.4			13.3	13.8		
	56.7	57.1			4.6	4.7		

Σ	λ	φ	H.
7.4	6.9	8.3	7.9
7.3	7.3	8.4	7.6
7.35	7.10	8.35	7.75

209-210	30.0	29.6			37.0	37.6		
	40.8	40.5			48.0	48.7		
	3.0	3.1			10.9	11.2		
	53.3	53.8			1.0	0.8		

Σ	λ	φ	H.
7.0	7.2	7.9	7.7
8.0	8.2	8.1	7.0
7.5	7.70	8.00	7.35

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210 – 211

18.8	18.9
30.4	29.8
52.7	52.8
42.2	42.6

26.4	26.3
36.8	37.0
59.9	0.6
49.9	49.9

Σ	7.	4.	14
7.6	6.4	7.2	7.7
7.4	7.2	7.8	7.3
+4.50	6.80	7.50	7.50

211 – 212

23.0	22.8
33.2	33.0
56.3	56.1
45.7	46.0

30.8	30.2
41.1	41.1
8.0	3.1
53.6	53.7

Σ	7h	4.	14.
7.8	7.9	6.7	7.9
7.4	8.1	7.0	7.7
+7.60	8.00	6.85	7.80

212 – 213

20.8	21.4
31.8	31.9
53.9	54.7
44.1	45.3

28.0	28.2
38.6	38.7
1.3	1.8
51.4	52.0

Σ	7h	4.	H
7.2	6.8	7.4	7.3
6.8	6.8	7.1	6.7
+7.00	6.80	7.25	7.00

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May 12 1885 Series I 204° - 222°

213° - 214°

34.2	34.6
44.3	44.1
6.9	6.8
58.0	57.2

41.0	40.9
51.7	52.1
14.0	14.4
5.1	5.7

E	Y.	U.	H
6.8	7.4	7.1	7.1
6.3	8.0	7.6	8.5
6.55	7.70	7.35	7.80

214

41.2	40.8
51.3	51.6
14.0	14.0
5.1	4.0

47.8	49.0
59.0	59.8
22.6	22.7
12.8	12.3

E	Y.	U.	H
~~5.6~~			
6.6	7.7	8.6	7.7
8.2	8.2	8.7	8.3
7.40	7.95	8.65	8.00

215 - 216

31.6	31.8
42.5	42.6
5.0	5.2
55.7	55.2

39.7	40.0
50.8	50.6
12.6	12.4
2.3	3.0

E	Y.	U.	H.
8.1	8.3	7.6	6.6
8.2	8.0	7.2	7.8
8.15	8.15	7.40	7.20

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216 – 217

31.7	30.9
41.8	41.6
4.0	3.7
53.9	53.5

37.3	38.2
49.1	49.8
12.0	11.9
0.9	1.2

Σ	γ.	φ.	H
5.6	7.3	8.0	7.0
7.43	8.2	8.2	7.7
12.4			
~~6.90~~	7.75	8.10	7.35
6.45			

217 – 218

40.8	40.3
52.1	51.7
14.3	14.1
3.2	3.0

47.3	48.3
58.6	58.6
21.3	21.2
10.7	11.3

Σ.	γ.	Q.	H.
6.5-	6.5-	7.0	7.5-
8.0	6.9	7.1	8.3
14.5-			
+7.25	6.80	7.05	7.90

218 – 219

29.7	29.7
39.9	40.0
2.3	2.9
52.7	53.0

36.7	37.0
47.1	47.4
10.3	10.9
1.0	1.4

Σ	γ.	φ.	H.
7.0	7.2	8.0	8.3
7.3	7.4	8.0	8.4
+7.15	7.30	8.00	8.15

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May 12 1885 I 207° - 222°

219 - 220

30.8	30.8
40.6	40.2
3.4	3.3
55.1	54.7

Σ			
8.1	7.4	8.9	6.6
8.4	8.0	8.8	7.6
+ 8.25	7.70	8.85	7.10

38.9	39.2
48.0	48.2
12.3	12.1
1.7	2.3

220 - 221

29.0	29.0
38.7	39.0
2.8	3.2
52.7	53.1

Σ			
7.0	6.7	7.2	7.0
6.7	6.9	6.7	7.7
6.85	6.80	6.95	7.35

36.0	35.7
45.4	45.9
10.0	9.9
39.7	0.8

221 - 222

24.2	24.3
33.2	33.9
56.9	57.1
47.4	48.0

Σ			
6.1	6.9	6.2	7.2
6.5	6.2	6.8	6.0
+ 6.30	6.55	6.50	6.60

30.3	30.8
40.1	40.1
3.1	3.9
54.6	54.0

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New Series 207-222 Reversed order II Series

221-222	25.0	24.7 ~~23.8~~	30.7	30.6
	34.1	33.4	40.1	40.2
	57.8	57.5	3.7	3.9
	48.0	47.6	53.9	53.9

Σ			
5.7	6.0	5.9	5.9
5.9	6.8	6.4	6.3
+ 5.80	6.40	6.15	6.10

220-221	42.9	42.6	49.9	49.6
	52.3	52.8	59.6	59.6
	16.9	16.9	23.9	23.8
	6.2	6 7.9	13.7	13.2

Σ			
7.0	7.3	7.0	7.5
7.3	6.8	6.9	6.3
7.15	7.05	6.95	~~6.70~~ 6.90

219-220	29.3	8 29.4	36.2	6.6 ~~36.1~~
	39.1	39.4	46.6	46.4
	2.8	2.8	11.1	11.4
	53.1	53.1	0.9	0.9

Σ	✻		
+ 6.9	7.5	8.3	7.8
~~8~~ 7.2	7.0	8.6	7.8
~~7.05~~ 7.1	7.25	8.45	7.80
7.55			

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May 12 1885 II Reversed order 207° - 222°

218 - 219	16.6	16.4		23.7	22.9		
	26.4	26.8		33.5	33.3		
	49.6	49.6		57.3	56.6		
	39.7	39.1		47.6	47.0		
	Σ		I	II	III	IV.	
	7.1		7.1	7.7	7.9		
	6.5		6.7	7.0	7.9		
	6.80		6.90	7.35	7.90		
217 - 218	29.6	30.4		36.7	36.9		
	40.9	41.5		47.3	47.2		
	4.3	4.1		10.1	10.1		
	52.8	51.6		59.1	59.1		
	Σ		I	II	III	IV.	
	7.1		6.4	5.8	6.3		
	6.9		5.7	6.0	7.5		
	7.00		6.05	5.90	6.90		
216 - 217	34.6	34.8		40.6	40.9		
	45.2	46.2		52.2	52.2		
	8.1	8.3		15.0	15.3		
	57.8	57.2		3.1	3.8		
	Σ		I	II	III	IV.	
	6.0		7.0	6.9	5.3		
	6.1		6.0	7.0	6.6		
	6.05		6.50	6.95	5.95		

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215 – 216

36.8	36.3	36.6	36.4
47.0	47.1	47.4	47.2
10.7	10.6	10.6	10.8
59.9	59.3	59.3	59.9

43.2	43.5	42.8	42.7
54.3	54.4	54.2	54.7
16.7	17.2	17.3	17.4
6.1	5.9	5.6	5.9

Σ	ϒ	y	N	Σ	ϒ	y	N
6.4	7.3	6.0	6.2	6.2	6.8	6.7	6.3
7.2	7.3	6.6	6.6	6.3	7.5	6.6	6.0
6.80	7.30	6.30	6.40	6.25	7.15	6.65	6.15
6.25	7.15	6.65	6.15				
10.5	45	55	55				
6.55	7.22	6.47	6.28				

214 – 215

22.8	23.0	28.7	28.6
33.0	32.6	39.1	39.2
55.6	55.6	2.9	3.0
46.0	45.0 46.6	51.6	51.2

Σ			
5.9	6.1	7.3	5.6
~~6.8~~	6.6	7.4	~~4.6~~ 6.2
5.85	6.35	7.35	~~5.10~~ 5.90

213 – 214

30.0	29.1	35.8	35.6
39.9	39.4	45.9	45.8
3.0	2.2	9.1	8.8
52.3	51.9	59.0	58.2

Σ			
5.8	6.0	6.1	6.7
6.5	6.4	6.6	6.3
6.15	6.20	6.35	6.50

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May 12 II Reversed order 207° - 222°

212 - 213	34.0	33.6	40.0	40.0
	44.9	44.8	50.5	50.3
	8.2	7.2	14.5	14.3
	57.4	57.0	26	3.2

Σ	ϝ	ϛ	H
+ 6.0	5.6	6.3	5.2
6.4	5.5	7.1	6.2
+ 6.20	5.55	6.70	5.70

211 - 212	35.0	34.5	41.0	41.6
	46.6	46.0	51.8	52.8
	9.8	9.2	15.9	15.9
	58.3	58.1	4.7	4.9

Σ	ϝ	ϛ	H
6.0	5.2	6.1	6.4
7.1	6.8	6.7	6.8
+ 655	600	640	6.60

210 - 211	26.2	26.3	31.9	32.2
	37.8	37.9	43.3	43.3
	1.2	1.1	7.1	7.3
	50.8	50.1	56.1	55.2

Σ	ϝ	ϛ	H
5.7	5.5	5.9	5.3
5.9	5.4	6.2	5.1
+ 5.80	5.45	6.05	5.20

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All H = 53.0 end

209-210	28.6	27.6 ~~28.4~~	34.6	33.8
	39.0	38.7	45.6	45.3
	2.1	1.8	9.2	8.9
	57.6	51.1	57.6	56.8

E	F	G	H
6.0	6.6	~~7.1~~	6.0
6.2	6.6	7.1	5.7
+6.10	6.60	7.10	5.85

208-209	19.3	18.6	24.3	25.1
	31.1	29.9	35.6	35.8
	52.6	52.6	59.0	59.0
	42.7	42.2	48.1	48.7

E	F	G	H
5.0	4.5	6.4	5.4
6.5	5.9	6.4	6.5
+5.75	5.20	6.40	5.95

207-208	30.0	29.8	36.0	36.3
	40.9	41.1	47.1	47.6
	3.3	3.6	9.9	9.8
	52.8	52.2	59.3	0.1

E	F	G	H
6.0	6.2	6.6	6.5
6.5	6.5	6.2	7.9
+6.25	6.35	6.40	7.20

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207°-222° Results May 12 1885 Series I + II. II

Micrometer	E I	E II		F		G		H		
207-208	7.78	6.25	7.01 +16	+16	8.50	6.35	7.42 +53	+53	8.18 6.40	7.29 +10 +10	9.08	7.20	8.14
208-209	7.85	5.35	6.55 -30	-14	7.10	5.20	6.15 -34	-21	8.35 6.40	7.38 +18 +28	7.75	5.95	6.85
209-210	7.50	6.10	6.80 -05	-19	7.70	6.60	7.15 +26	+05	8.00 7.10	7.55 +36 +64	7.35	5.85	6.60
210-211	7.50	5.80	6.65 -20	-35	6.80	5.45	6.13 -76	-31	7.50 6.05	6.77 -43 +21	7.50	5.20	6.35
211-212	7.60	6.55	7.07 +22	+17	8.00	6.00	7.00 +11	-60	6.85 6.40	6.63 -56 -35	7.80	6.60	7.20
212-213	7.00	6.40	6.60 -26	-43	6.80	5.55	6.17 -63	-73	7.25 6.70	6.97 -22 -57	7.00	5.70	6.35
213-214	6.55	6.15	6.35 -50	-93	7.70	6.20	6.95 +06	-19	7.35 6.35	6.85 +35 -92	7.80	6.50	7.15
214-215	7.40	6.85	7.12 +27	-66	7.95	6.35	7.15 +26	-81	8.65 7.30	8.00 +81 -11	8.00	5.80	6.85
215-216	8.15	6.52	7.33 +48	-18	8.15	7.22	7.68 +59	-12	7.40 6.47	6.94 -25 -36	7.20	6.28	6.74
216-217	6.45	6.05	6.25 -60	-78	7.75	6.50	7.12 +23	+11	8.10 6.55	7.53 +33 -03	7.35	5.95	6.65
217-218	7.25	7.00	7.12 +26	-52	6.80	6.05	6.43 -47	-36	7.05 5.50	6.48 -72 -75	7.90	6.90	7.40
218-219	7.15	6.80	6.97 +12	-40	7.30	6.80	7.10 +62	-15	8.00 7.35	7.67 +48 -27	8.15	7.50	8.02
219-220	8.25	7.55	7.90 +105	+65	7.70	7.25	7.46 +59	+52	8.85 8.45	8.65 +146 +119	7.10	7.80	7.45
220-221	6.85	7.15	7.00 +15	+80	6.80	7.05	6.93 +04	+56	6.95 6.91	6.93 -27 +68	7.35	6.90	7.12
221-222	6.30	5.80	6.05 -80		6.55	6.40	6.47 -42	+14	6.50 6.15	6.33 +86 -91	6.60	6.10	6.35
	109.08	96.52	102.77		111.60	95.07	103.31		114.88	100.83	107.96	113.39	96.23	105.33
	7.272	6.435	6.852		7.440	6.338	6.887		7.658	6.729	7.197	7.596	6.449	7.022

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least order, Bright Sunshine May 12 1885

Adjusted all 4 microscopes for focus after all the observations for this date

		E	G			F	N	
+1.12	+1.12							
-.17	+.55							
-.42	+.53							
-.67	-.14							
+.18	+.01							
-.68	-.64							
+.13	-.51	+.16	+.10	+.26	+.13	+.53	+1.12	+1.65	+.82
-.07	-.58	-.14	+.28	+.14	+.07	-.21	+.85	+.74	+.37
-.28	-.86	-.19	+.64	+.45	+.22	+.05	+.53	+.58	+.29
-.38	1.24	-.35	+.21	-.18	-.09	-.71	-.14	-.85	-.42
+.38	-.86	+.17	-.35	-.18	-.09	-.60	+.04	-.56	-.28
+1.00	+.14	-.43	-.57	-1.00	-.50	-1.23	-.64	-1.87	-.93
+.43	+.57	-.93	-.92	-1.85	-.92	-1.17	-.51	-1.68	-.84
+.10	+.67	+.66	-.11	-.77	-.38	-.91	-.58	-1.49	-.74
-.68	-.01	-.18	-.36	-.54	-.27	-.12	-.86	-.98	-.49
		-.78	-.03	-.81	-.40	+1.11	-1.24	-1.13	+.56
		-.52	-.75	-1.27	-.63	-.36	-.86	-1.22	-.61
		-.40	-.27	-.67	-.33	-.10	+.14	-.01	-.01
		+.65	+1.19	+1.84	+.92	+.42	+.57	+.99	+.50
		+.80	+.82	+1.62	+.81	+.46	+.67	+1.13	+.56
		+.00	-.04	-.04	-.02	+.04	-.01	+.03	+.00

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May 13 1885 Mt H = 51.8° 222° – 237°

	I		II	
222 - 223	19.0	19.1	25.7	26.0
	5.0	5.1	11.7	12.2
	14.1	15.0	21.3	22.1
	23.0	23.2	29.3	29.3

	I		II	
	25.7	26.3	30.0	30.1
	11.7	12.2	17.3	17.1
	21.7	21.2	27.0	27.0
	31.3	31.2	35.0	35.6

I				II			
E	H	G	H	E	H	G	H
6.7	6.7	7.6	8.3	4.3	5.6	5.7	5.7
7.2	7.1	6.2	8.0	4.1	4.9	4.9	6.3
+6.95	6.90	6.90	8.15	4.20	5.25	5.30	6.00

	I		II	
223 - 224	36.6	36.7	36.1	36.7
	23.3	22.7	22.5	23.4
	32.6	32.8	33.2	33.6
	41.8	42.1	41.1	42.0

	I		II	
	43.8	43.8	42.6	42.1
	29.9	30.7	28.6	28.7
	39.7	40.1	39.1	39.6
	49.0	49.0	46.9	46.7

I				II			
E	H	G	H	E	H	G	H
7.2	6.6	7.1	7.2	6.3	4.1	5.9	5.8
7.1	8.0	7.3	6.9	5.4	5.3	6.0	4.7
+7.15	7.30	7.20	7.05	5.95	4.70	5.95	5.25

	I		II	
224 - 225	40.5	41.3	40.9	40.9
	27.0	27.2	27.8	27.3
	37.4	37.6	37.5	37.4
	46.0	46.1	46.2	46.8

	I		II	
	39.7	40.6	39.7	40.6
	26.7	26.7	26.7	26.7
	37.5	37.4	37.5	37.4
	45.1	44.9	45.1	44.9

	I		II	
	46.2	46.7	46.6	46.9
	33.6	34.3	33.8	34.2
	43.1	43.8	43.3	43.0
	52.2	52.3	52.2	52.2

	I		II	
	44.1	45.0	44.1	45.0
	31.7	32.2	31.7	32.2
	41.7	41.9	41.7	41.9
	49.8	49.7	49.8	49.7

I				II			
E	H	G	H	E	H	G	H
5.7	6.6	5.7	6.2	5.7	6.0	5.8	6.0
5.4	7.1	6.2	6.2	6.0	6.9	5.6	5.4
+5.57	6.90	5.95	6.20	5.85	6.45	5.70	5.70
5.65	6.65	5.70	5.70				
+5.70	6.65	5.82	5.95				

II			
E	H	G	H
4.4	5.0	4.2	4.7
4.4	5.5	4.5	4.8
4.40	5.25	4.35	4.75

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HH Yk = 55.5 at end. Series II Reversed order

	I		II	
225–226	21.1	19.8	30.2	29.9
	7.0	7.4	17.3	17.8
	16.3	16.8	27.0	27.0
	26.0	26.0	35.1	35.3

	I		II	
	27.8	27.9	35.6	35.7
	14.0	14.0	22.6	23.3
	23.3	24.0	33.6	32.4
	32.0	32.1	39.9	39.6

ε	β	γ	δ
8.7	7.0	7.0	6.0
8.1	6.6	7.2	6.1
7.90	6.80	7.10	6.05

ε	η	γ	H
5.4	5.3	6.6	4.8
5.8	5.5	5.4	4.3
6.60	5.40	6.00	4.55

	I		II	
226–227	23.3	35.6	35.7	19.6 20.0
	10.7	22.9	22.7	6.2 5.8
	20.6	33.0	32.2	16.5 16.2
	27.8	40.8	40.6	23.8 24.0

	I		II	
	42.4	41.9	23.9	24.7
	28.6	29.0	10.3	10.4
	39.7	39.4	22.0	21.9
	45.8	46.1	28.0	28.7

ε	η	β	H
6.8	5.7	6.7	5.0
6.2	6.3	7.2	5.5
6.50	6.00	6.95	5.25

ε	η	γ	H
4.3	4.1	5.5	4.2
4.7	4.6	5.1	4.7
4.50	4.35	5.60	4.45

	I		II	
227–228	20.7	21.4	16.0	14.7
	6.9	6.7	0.9	1.1
	17.3	17.9	12.3	12.8
	24.9	25.2	19.2	19.3

	I		II	
	26.7	27.8	21.2	21.2
	12.2	12.9	6.4	6.2
	23.3	23.8	17.8	17.7
	30.4	30.6	24.0	24.1

ε	η	γ	H
6.0	5.3	6.0	5.5
6.4	6.2	5.9	5.4
6.20	5.75	5.95	5.45

ε	η	γ	H
5.2	5.5	5.5	4.8
5.5	5.1	4.9	4.8
5.35	5.30	5.20	4.80

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May 13 I Series 222–

	I		II	
228–229	36.4	37.0	23.1	
	22.6	22.1	8.7	4
	33.0	32.6	19.3	
	39.7	39.9	26.8	

I		II	
42.4	42.8	28.6	28.8
28.0	28.0	13.9	13.7
38.6	39.1	25.1	25.1
45.8	45.8	31.9	31.4

ε	h	g	H
6.0	5.4	5.6	6.1
5.8	5.9	6.5	5.9
5.90	6.15	6.05	6.00
	5.65		

ε	h	g	H
5.5	5.5	5.6	5.1
5.7	5.3	5.8	4.6
5.60	5.40	5.80	4.85

	I		II	
229–230	20.4	20.4	29.3	29.7
	5.8	5.7	14.8	14.2
	16.7	16.1	25.7	25.5
	24.6	24.1	31.6	32.4

I		II	
26.2	26.7	34.1	33.8
11.3	12.2	19.0	19.2
23.2	23.0	30.6	30.6
30.0	30.6	37.3	37.0

ε	h	g	H
5.8	5.5	6.5	5.4
6.3	6.5	6.9	6.5
6.25	6.00	6.70	5.95
1.05			

ε	h	g	H
4.6	4.2	4.5	5.7
4.1	5.0	5.1	4.6
4.45	4.60	4.80	5.15
		5.00	

	I		II	
230–231	34.7	34.6	36.1	35.5
	20.2	19.9	20.9	21.2
	31.2	31.4	32.9	32.7
	38.8	38.0	39.7	39.1

I		II	
41.0	41.0	40.3	40.7
26.6	27.0	26.3	27.4
37.9	37.9	37.9	38.2
44.0	44.7	43.9	44.0

ε	h	g	H
6.3	6.4	6.7	5.2
6.4	7.1	6.5	6.7
6.35	6.75	6.60	5.95

ε	h	g	H
4.2	5.4	5.0	4.2
5.2	6.2	5.5	4.9
4.70	5.80	5.25	4.55

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	I		II	
231-232	31.0	29.8	28.9	28.8
	16.4	16.1	15.0	15.2
	26.9	26.8	26.4	26.3
	34.9	33.9	32.6	32.6

I		II	
35.9	36.7	33.1	32.8
22.4	22.7	19.7	19.8
33.2	33.6	30.9	31.0
40.3	40.9	37.1	37.7

Σ	ϰ	I g	H
4.9	6.0	6.3	6.54
6.9	6.6	6.8	7.0
5.90	6.30	6.55	6.80

II Σ	ϰ	g	H
4.2	4.7	4.5	4.5
4.0	4.6	4.7	5.1
4.10	4.65	4.60	4.80

	I		II	
232-233	37.0	36.7	33.4	33.0
	23.6	23.2	19.7	19.2
	33.2	33.7	32.1	30.0
	40.8	41.2	37.2	36.9

I		II	
42.2	42.8	37.0	37.7
29.1	29.1	24.2	24.1
40.4	40.6	35.5	35.6
48.0	48.1	42.6	42.7

Σ	ϰ	I g	H
5.47	5.5	7.2	7.2
6.1	5.9	6.9	6.9
5.85	5.70	7.05	7.05

II Σ	ϰ	g	H
3.6	4.3	5.4	5.4
4.7	4.9	5.6	5.8
4.15	4.70	5.50	5.60

	I		II	
233-234	27.2	27.0	27.7	28.3
	13.9	13.8	14.1	13.8
	25.0	24.9	25.6	25.2
	32.7	32.4	32.8	33.0

I		II	
33.0	33.6	32.5	33.1
19.3	19.7	18.0	18.6
31.6	31.3	30.2	30.6
38.0	37.8	37.2	37.2

Σ	ϰ	I g	H
5.8	5.4	6.6	5.3
6.6	5.9	6.4	5.4
6.20	5.65	6.50	5.35

II Σ	ϰ	g	H
4.8	3.9	4.6	4.4
4.8	4.8	5.4	4.2
4.80	4.35	5.00	4.30

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Sun shining about half the time.

May 13 1885

S

	I		II	
234 – 235 –	16.7	16.2	52.8	52.9
	2.2	2.1	38.9	39.2 (38.8)
	14.4	14.4	50.5	50.9
	21.3	21.0	57.1	57.7

222° – 237°

N

I		II		
21.8	21.9	57.7	56.8	57.0
8.4	8.6	45.1	43.6	43.2
20.4	20.8	57.6	56.6	56.3
27.2	27.6	5.2	2.6	2.3

Σ	h	I g	H
5.1	6.2	6.0	5.9
5.6	6.5	6.4	6.6
5.35	6.35	6.20	6.25

Σ	h	II g	H
4.0	4.7	6.1	5.5
4.1	4.4	5.4	4.6
4.05	4.55	5.75	5.05

S

			II	
235 – 236	24.0	24.2	32.2	32.2
	11.0	10.4	18.3	18.4
	23.2	23.2	30.9	31.0
	29.9	29.6	37.1	37.2

N

		II	
31.2	31.3	38.7	39.6
17.8	18.1	25.5	25.9
30.0	29.6	38.2	38.2
36.2	36.0	43.2	43.8

Σ	h	I g	H
7.2	6.8	6.8	6.3
7.1	7.7	6.4	6.4
7.15	7.25	6.60	6.35

Σ	h	II g	H
6.5	7.2	7.3	6.1
7.4	7.5	7.1	6.6
6.95	7.35	7.20	6.35

S

			II	
236 – 237 –	16.0	15.5	16.2	16.0
	2.2	2.2	2.1	2.0
	13.6	14.0	14.2	14.1
	20.6	20.6	20.3	19.8

N

		II	
21.1	22.0	20.9	21.6
8.7	8.8	7.6	8.3
20.2	20.6	19.6	19.7
26.4	26.3	25.8	26.0

Σ	h	I g	H
+ 5.1	6.5	6.6	5.8
6.5	6.6	6.6	5.7
+ 5.80	6.55	6.60	5.75

Σ	h	II g	H
4.7	5.5	5.4	5.5
5.6	6.3	5.6	6.2
5.15	5.90	5.50	5.85

Checked differences + means from this date inclusive

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222°-237° Results May 13 Series I forward Series II reversed order

Micrometer E

	I	II	Mean		I	II			I	II			I	II		
222 - 223	6.95	4.20	5.57	+.07	6.90	5.25	6.07	+.30	6.90	5.30	6.10	+.08	8.15	6.00	7.07	+1.44
223 - 224	7.15	5.95	6.55	+.43	7.30	4.70	6.00	+.23	7.20	5.95	6.57	+.54	7.05	5.25	6.15	+.51
224 - 225	5.70	4.40	5.05	-.57	6.65	5.25	5.95	+.18	5.82	4.35	5.08	-.54	5.95	4.75	5.35	-.28
225 - 226	7.40	5.60	6.50	+.53	7.80	5.40	6.10	+.33	7.10	6.00	6.55	+.52	6.05	4.55	5.30	-.34
226 - 227	6.50	4.50	5.50	-.10	6.00	4.35	5.17	-.60	6.95	5.60	6.28	+.26	5.25	4.45	4.85	-.78
227 - 228	6.20	5.35	5.78	+.17	5.75	5.30	5.52	-.25	5.95	5.20	5.57	-.46	5.45	4.80	5.12	-.53
228 - 229	5.90	5.60	5.75	+.14	5.65	5.40	5.53	-.25	6.05	5.80	5.93	-.09	6.00	4.85	5.42	-.21
229 - 230	6.05	4.45	5.25	-.35	6.00	4.60	5.30	-.47	6.70	5.00	5.85	-.18	5.95	5.15	5.55	-.09
230 - 231	6.35	4.70	5.52	-.07	6.75	5.80	6.28	+.51	6.60	5.25	5.93	-.09	5.95	4.55	5.25	-.38
231 - 232	5.90	4.10	5.00	-.60	6.30	4.65	5.46	-.31	6.55	4.60	5.57	-.46	6.20	4.80	5.50	-.14
232 - 233	5.65	4.15	4.90	-.70	5.70	4.70	5.20	-.57	7.05	5.50	6.28	+.26	7.05	5.60	6.32	+.69
233 - 234	6.20	4.80	5.50	-.10	5.65	4.35	5.00	-.77	6.50	5.00	5.75	-.28	5.35	4.30	4.83	-.81
234 - 235	5.35	4.05	4.70	-.90	6.35	4.55	5.45	-.32	6.20	5.75	5.97	-.05	6.25	5.05	5.65	+.08
235 - 236	7.15	6.95	7.05	+1.44	7.25	7.35	7.30	+1.52	6.60	7.20	6.90	+.87	6.35	6.35	6.35	+.72
236 - 237	5.66	5.15	5.38	-.27	6.55	5.90	6.23	+.46	6.60	5.50	6.05	+.03	5.75	5.85	5.80	+1.62
	94.25	73.95	84.80		95.60	77.55	86.56		98.67	82.00	90.38		92.75	76.30	84.51	
	6.283	4.930	5.607		6.373	5.170	5.771		6.578	5.467	6.025		6.183	5.086	5.634	

E	G	E+G	½(E+G)	F	H	F+H	½(F+H)
+.04	+.09	+.13	+.06	+.30	+1.44	+1.74	+.87
+.98	+.62	+1.60	+.80	+.53	+1.95	+2.48	+1.24
+.42	-.32	+.10	+.05	+.71	+1.67	+2.38	+1.19
+1.32	+.20	+1.52	+.76	+1.04	+1.33	+2.37	+1.18
+1.21	+.46	+1.67	+.83	+.44	+.51	+.95	+.48
+1.38	+.00	+1.38	+.69	+.19	+.03	+.22	+.11
+1.52	-.09	+1.43	+.71	-.06	-.18	-.24	-.12
+1.17	-.27	+.90	+.45	-.53	-.27	-.80	-.40
+1.08	-.36	+.72	+.36	-.02	-.65	-.67	-.33
+.47	-.82	-.35	-.17	-.88	-.79	-1.67	-.84
+.23	-.56	-.33	-.16	-.90	-.10	-1.00	-.50
-.33	-.91	-1.24	-.62	-1.67	-.91	-2.58	-1.29
-1.24	-.89	-2.13	-1.06	-1.99	-.90	-2.89	-1.44
-.20	-.02	-.22	-.11	-.47	-.18	-.65	-.32
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Half an hour interval between Series I and II

Series II to the right of Series I

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Series I forward Series II Reversed order.

May 14 1885 M.T. = 5.16

237° - 252°

° = Circle

S I

237 - 238

~~28.4~~	~~28.7~~	28.4	28.1	~~28.7~~	25.3 26.0
		14.8			
15.1	15.6	15.0	15.3	15.4	12.4 12.5
30.2	30.3	29.1	29.6	30.1	27.1 27.3
~~33.8~~	~~34.0~~	32.6	33.4	33.7	30.6 31.0

N I

~~35.6~~	35.6	35.7	34.4	34.2	31.6 31.9
23.3	23.1	22.6	21.0	21.4	18.6 18.8
39.7	39.0	38.7	38.2	37.6	35.2 34.8
41.2	41.1	41.1	40.9	40.3	37.3 38.1

II S

33.6	32.6	ξ	32.7 33.0
19.6	20.1	η	20.2 19.9
34.3	34.9	ψ	34.8 34.8
38.1	38.2	H	37.5 38.3

N II

37.7	38.5	38.7	38.2
25.0	24.6	25.6	25.8
41.6	41.8	42.1	41.3
44.1	44.4	44.4	43.9

I

ξ	η	ψ	H
7.2	8.2	9.5	7.4
6.9	7.3	8.7	7.1
7.3	7.8	9.6	8.5
6.3	5.7	8.6	7.5
5.5	6.0	7.5	6.6
+6.64	7.00	8.78	7.42

I

ξ	η	ψ	H
6.3	~~6.6~~	8.1	6.7
5.9	6.3	7.5	7.0
6.10	6.45	7.80	6.85
	25		

II

ξ	η	ψ	H
5.0	4.8	6.8	4.6
5.5	4.7	7.6	6.1
5.25	4.75	6.90	6.85

I

238-239	15.0	14.6	15.1 14.8
	1.8	1.6	1.5 1.8
	17.8	18.0	17.2 17.2
	20.9	20.4	21.0 21.1

II

35.3	35.4
22.1	22.8
38.8	38.8
41.2	41.2

I

20.8	21.0	21.4	21.8
6.7	6.7	7.0	6.8
23.4	23.7	23.6	23.8
27.0	26.9	26.6	26.7

II

41.7	~~42.4~~
27.6	27.4
44.7	44.3
46.8	47.0

I

ξ	η	ψ	H
5.8	4.9	5.6	6.1
6.4	5.1	5.7	6.5
6.10	5.00	5.65	6.30
6.65	5.25	6.50	5.60
+6.38	5.12	6.07	5.75

ξ	η	ψ	H
6.3	5.5	6.4	5.6
7.0	5.0	6.6	5.6
6.65	5.25	6.50	5.60

II

ξ	η	ψ	H
6.4	5.5	5.9	5.6
7.0	4.6	5.5	5.8
6.70	5.05	5.70	5.70

I

239-240	37.2	37.7	
	22.1	23.1	
	39.7	39.2	
	42.1	43.0	

II

25.9	26.2
10.7	11.3
28.6	28.4
30.4	30.7

I

43.4	43.6
28.7	28.7
45.9	45.8
48.8	48.7

II

32.5	32.2
16.7	17.6
34.6	34.3
36.1	36.8

I

ξ	η	ψ	H
6.2	6.6	6.2	6.7
5.9	5.6	6.6	5.7
6.05	6.10	6.40	6.20

II

ξ	η	ψ	H
6.6	6.0	6.0	~~6.7~~ 5.7
6.0	6.3	5.9	6.1
6.30	6.15	5.95	5.90

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[illegible] All $h = 52.5°$ end

240-241

I		II	
16.9	16.6	27.9	~~27.7~~
~~1.6~~ 1.3	1.3	12.3	12.0
17.7	17.8	29.9	29.0
20.9	21.0	31.5	31.5

I		II	
23.4	23.0	~~37.4~~ 33.7	33.8
8.3	18.3	18.8	18.7
25.9	24.7	36.4	36.4
27.8	27.7	38.2	38.1

I	Σ	h	y	H
	6.5	7.0	8.2	6.9
	6.4	7.0	6.9	6.7
	6.45	7.0	7.55	6.80

II	Σ	h	y	H
	5.8	6.5	6.5	6.7
	6.9	6.7	7.4	6.6
	6.35	6.60	6.95	6.65

H	Σ	h	y	H
	5.7	6.0	7.8	6.3
	5.6	5.7	6.4	5.7
	5.65	5.85	7.10	6.00
	5.21	4.71	6.50	6.33
	5.30	5.30	7.00	6.17

241-242

I			II	
26.7	20.6	26.2	17.0	16.6
11.6	5.8	12.0	1.6	2.1
29.4		28.8	19.1	19.2
31.8		32.0	21.3	20.6

I		II	
33.9	34.0	23.0	23.6
18.3	19.2	7.7	8.2
36.2	34.7	25.2	25.0
38.0	38.6	27.0	27.2

I	Σ	h	y	H
	7.2	6.7	6.8	6.2
	7.8	7.2	5.9	6.6
	7.50	6.95	6.35	6.40

II	Σ	h	y	H
	6.0	6.1	6.1	5.7
	7.0	6.1	5.8	6.6
	6.55	6.10	5.95	6.15

242-243

I		II	
32.3	33.0	34.7	35.2
16.9	17.0	20.0	20.1
34.0	34.0	36.9	36.6
36.7	36.3	38.8	39.3

I		II	
37.5	36.0	40.3	41.2
23.6	23.8	26.1	26.1
40.7	41.2	43.3	43.5
42.3	42.8	44.7	45.3

I	Σ	h	y	H
	5.2	6.7	6.7	5.6
	5.0	6.8	7.2	6.5
	5.10	6.75	6.95	6.05

II	Σ	h	y	H
	5.6	6.1	6.4	5.9
	5.8	6.0	6.9	6.0
	5.70	6.05	6.65	5.95

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May 14 1885

243 - 244

I		II	
25.3	25.9	39.8	40.9
10.6	10.8	25.9	25.3
28.6	26.2	42.9	42.4
29.9	30.1	44.0	44.0

I		II	
31.4	32.0	46.7	46.6
16.8	16.8	31.6	31.2
34.1	34.6	49.6	49.2
36.0	36.1	50.8	50.3

I	Σ	H	G	H
	6.1	6.2	5.5	6.1
	6.1	6.0	6.4	6.0
	6.10	6.10	5.95	6.05

II	Σ	H	G	H
	6.9	5.7	6.7	6.8
	5.7	5.9	6.8	6.3
	6.30	5.80	6.75	6.55

244 - 245

I		II	
25.7	24.6	26.0	25.9
9.7	9.8	10.1	10.5
27.3	27.1	28.3	28.0
29.9	29.5	29.8	29.8

I		II	
31.0	30.8	31.5	31.9
16.2	16.2	16.0	16.1
34.3	34.1	34.0	34.4
36.1	36.2	35.6	35.9

I	Σ	H	G	H
	5.3	6.5	7.0	6.2
	6.2	6.4	7.0	6.7
	5.75	6.45	7.00	6.45

II	Σ	H	G	H
	5.5	5.9	5.7	5.8
	6.0	5.6	6.4	6.1
	5.75	5.75	6.05	5.95

245 - 246

I		II	
25.5		27.4	28.6
27.0	26.1	11.6	12.0
11.0	11.1	30.3	30.9
28.8	29.0	32.1	32.6
31.0	30.9		

I		II	
30.6	31.1	32.3	32.9
26.7	17.6	18.4	18.6
35.8	35.8	37.0	37.3
37.9	38.1	39.1	38.6

I	Σ	H	G	H
	4.6	5.7	7.0	6.9
	5.6	6.5	6.8	7.2
	5.10	6.10	6.90	7.05

II	Σ	H	G	H
	4.9	6.8	6.7	7.0
	5.3	6.6	6.4	6.0
	5.10	6.70	6.55	6.50

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246 - 247

I		II	
31.4	31.0	23.8	24.1
17.2	17.4	10.1	9.9
36.1	36.1	28.3	28.7
36.1	38.2	30.1	30.7

I		II	
38.0	37.9	30.6	30.1
22.9	23.8	16.0	16.2
42.6	42.1	35.0	34.9
44.1	44.8	37.0	36.9

I	Σ	γ	ψ	H
	6.6	5.7	6.5	6.0
	6.9	6.4	6.0	6.6
	6.75	6.05	6.25	6.30

II	Σ	γ	ψ	H
	6.8	5.9	6.7	6.9
	6.0	6.3	6.2	6.2
	6.40	6.10	6.45	6.55

247 - 248

I		II	
34.7	35.1	26.7	27.1
20.8	20.9	11.7	11.8
39.6	38.9	31.3	31.2
42.1	41.8	33.1	33.6

I		II	
41.4	41.0	32.8	33.0
27.6	28.2	18.6	19.2
47.0	47.1	38.2	38.1
48.8	48.8	39.7	39.8

I	Σ	γ	ψ	H
	6.7	6.8	7.4	6.7
	5.9	7.3	6.2	7.0
	6.30	7.05	7.80	6.85

II	Σ	γ	ψ	H
	6.1	6.9	6.9	6.6
	5.9	7.4	6.9	6.2
	6.00	7.15	6.70	6.40

248 - 249

I		II	
11.8	12.1	23.8	24.3
57.8	57.6	8.7	9.3
17.0	17.0	28.3	28.6
18.7	19.1	29.8	30.2

I		II	
17.1	17.8	29.0	29.6
3.8	3.7	15.7	15.7
23.4	24.0	34.9	35.0
26.1	26.4	37.2	37.6

I	Σ	γ	ψ	H
	5.3	6.0	6.4	7.4
	5.7	6.1	7.0	7.3
	5.50	6.05	6.70	7.35

II	Σ	γ	ψ	H
	5.2	7.0	6.4	7.4
	5.3	6.4	6.4	7.4
	5.25	6.70	6.40	7.40

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May 14 1885 Cloudy Series II Reversed order 237° - 252°

249 - 250

I		II	
30.2	30.7	25.2	25.8
16.5	17.1	12.6	12.6
36.1	36.1	30.9	31.6
38.8	39.1	34.1	34.1

I		II	
36.3	36.7	32.2	32.6
23.1	24.0	18.7	18.4
42.9	42.8	38.1	38.2
46.2	46.4	41.6	41.2

I	Σ	h	y	H
	6.1	6.6	6.8	7.4
	6.0	6.9	6.7	7.3
	6.05	6.75	6.75	7.35

II	Σ	h	y	H
	7.0	6.1	7.2	7.5
	6.8	5.8	6.6	7.1
	6.90	5.95	6.90	7.30

250 - 257

I		II	
26.8	26.7	22.0	21.8
12.6	13.2	7.4	7.7
32.7	32.6	27.2	27.0
35.6	36.1	30.5	31.2

I		II	
33.2	33.8	26.0	28.2
19.6	19.2	14.2	14.6
39.2	39.2	34.7	34.5
41.7	42.0	37.0	37.2

I	Σ	h	y	H
	6.4	7.0	6.5	6.1
	7.1	6.0	6.6	5.9
	6.75	6.50	6.55	6.00

II	Σ	h	y	H
	6.0	6.8	7.5	6.5
	6.4	6.9	7.5	6.0
	6.20	6.85	7.50	6.25

251 - 252

I		II	
25.3	~~26.9~~ 25.8	25.8	25.6
11.4	11.4	11.6	11.6
31.6	32.1	31.3	31.3
34.7	34.3	34.4	33.7

I		II	
30.6	31.4	31.2	31.4
17.1	17.7	17.3	17.4
38.1	37.5	38.2	37.3
40.3	40.2	40.2	40.2

I	Σ	h	y	H
	5.3	5.7	6.5	5.6
	~~5.45~~ 5.6	6.3	5.4	5.9
	~~5.80~~ 5.45	6.00	5.95	5.75

II	Σ	h	y	H
	5.4	5.7	6.9	5.8
	5.8	5.8	6.0	6.5
	5.60	5.75	6.45	6.15

Checked

No interval between Series I and II

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Results May 14. 1885 Series I and II 237°-252° II Reversed order

Microscope E.		f		y		H	
237 - 238	6.10	5.30	6.25	5.30	7.80	7.00	6.85	6.17
238 - 239	6.38	6.70	5.12	5.05	6.07	5.70	5.95	5.70
239 - 240	6.05	6.30	6.10	6.15	6.40	6.95	6.20	5.90
240 - 241	6.45	6.35	7.00	6.60	7.55	6.95	6.80	6.65
241 - 242	7.50	6.55	6.95	6.10	6.35	5.95	6.40	6.15
242 - 243	5.10	5.70	6.75	6.05	6.95	6.65	6.05	5.95
243 - 244	6.10	6.30	6.10	5.80	5.95	6.75	6.05	6.55
244 - 245	5.75	5.75	6.45	5.75	7.00	6.05	6.45	5.95
245 - 246	5.10	5.10	6.10	6.70	6.90	6.55	7.05	6.50
246 - 247	6.75	6.40	6.05	6.10	6.25	6.45	6.30	6.55
247 - 248	6.30	6.00	7.05	7.15	7.80	6.90	6.85	6.40
248 - 249	5.50	5.25	6.05	6.70	6.70	6.40	7.35	7.40
249 - 250	6.05	6.90	6.75	5.95	6.75	6.90	7.35	7.30
250 - 251	6.75	6.20	6.50	6.85	6.55	7.50	6.00	6.25
251 - 252	5.45	5.60	6.00	5.75	5.95	6.45	5.75	6.15

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Mostly cloudy, but not entirely

May 18 1885 M.T. N. = 52.4

252° – 26?°

252° – 253° circle

I

27.0	27.0	26.0	26.6	27.1	27.6	27.8	27.8
14.0	14.7	12.1	13.5	14.1	14.2	14.2	14.0
34.5	34.3	32.6	32.9	34.3	34.8	34.3	34.4
36.3	36.0	34.2	36.1	36.3	36.8	36.5	36.3

ε	η	ψ	H
9.1	9.7	9.2	9.6
8.6	8.2	8.3	8.0
8.85	8.95	8.75	8.80

I

ε		η		ψ		H		ε		η		ψ		H	
7.1	7.1	7.3	6.4	6.2	7.0	7.9	6.5	7.0	6.6	6.5	6.4				
7.0	7.1	6.7	6.5	7.0	7.3	7.8	6.7	7.3	6.7	7.8	7.1				
7.05	7.10	7.00	6.45	6.60	7.15	7.85	6.60								
7.15	6.65	7.15	6.75												
6.90	6.87	7.33	6.60												

Mean I = + 6.93

I

35.1	35.2	34.2	34.6	34.0	34.8	34.0	34.3
21.8	21.7	21.2	21.3	21.2	21.3	20.6	21.4
42.8	42.2	41.6	41.5	42.2	42.2	41.0	42.1
43.8	44.1	42.7	43.3	43.0	43.0	42.7	43.1

252 – 253

II

27.9	27.9	26.8	27.6
14.9	15.6	15.6	15.7
36.3	36.3	36.1	36.0
36.0	36.1	36.1	36.1

II

33.0	32.3	34.0	33.6
19.9	20.2	20.1	20.3
42.4	41.9	42.8	42.8
41.8	41.1	41.2	41.2

II

ε	η	ψ	H
5.1	5.0	6.1	5.8
5.4	4.6	5.6	5.0
5.25	4.80	5.85	5.40
5.60	4.90	6.75	5.10
5.42	4.85	6.30	5.25

Mean II = +

II

ε	η	ψ	H
5.2	4.5	6.7	5.1
6.0	5.3	6.8	5.1
5.60	4.90	6.75	5.10

253 – 254

I

18.0	16.9	39.4	39.4
4.1	3.8	26.1	25.8
25.2	24.0	46.3	46.3
25.8	25.9	47.6	47.8

I

ε	η	ψ	H
7.1	7.0	6.9	5.9
7.9	6.4	6.9	5.5
7.50	6.70	6.90	5.70

I

25.1	24.8	44.6	45.1
11.1	11.2	31.4	31.2
32.1	31.9	53.0	53.0
31.7	32.4	52.3	52.2

II

ε	η	ψ	H
5.2	5.3	4.7	4.7
5.7	5.4	4.7	4.4
5.45	5.35	4.70	4.55

254 – 255

I

32.0	32.8	34.8	33.9
19.1	19.0	21.8	21.8
39.8	39.7	43.1	42.8
40.5	40.8	42.8	42.8

I

ε	η	ψ	H
7.5	7.2	7.3	7.2
7.8	7.6	7.9	7.3
7.65	7.40	7.60	7.25

I

39.5	40.6	41.3	41.0
26.3	26.6	27.0	27.0
47.1	47.6	49.0	49.2
47.7	48.1	48.3	47.7

II

ε	η	ψ	H
6.5	5.2	5.9	5.5
7.1	5.2	6.4	4.9
6.80	5.20	6.15	5.20

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Mt. Lk = 56.8 end.

255-256

I		II	
29.4	29.5	36.8	37.0
15.2	16.1	23.3	23.6
36.0	36.0	44.9	44.8
36.6	37.6	44.0	44.3

I	ε	η	ψ	H
	7.0	7.4	7.3	6.5
	7.6	7.1	7.1	6.2
	7.30	7.25	7.50	6.35

I	II			
36.4	37.1	41.6	42.2	
22.6	23.2	28.7	28.6	
43.3	43.7	49.6	50.3	
43.1	43.8	48.3	48.3	

II	ε	η	ψ	H
	4.8	5.4	4.7	4.3
	5.2	5.0	5.5	4.0
	5.00	5.20	5.10	4.15

256-257

I		II			
27.7	28.0	32.1	32.0	32.9	32.2
14.0	14.0	18.9	19.2	19.6	18.7
34.7	34.8	40.1	40.9	39.9	40.8
34.8	35.0	38.8	39.5	38.6	39.1

I	ε	η	ψ	H
	6.0	7.0	6.9	7.0
	4.9	7.2	6.9	6.8
	5.45	7.10	6.90	6.90

I	II			
32.7	32.9	36.1	36.6	36.8 36.8
21.0	21.2	23.6	23.8	23.8 23.7
42.6	41.7	46.1	46.1	45.7 46.3
41.8	41.8	44.2	44.3	44.2 44.9

II	ε	η	ψ	H
	4.0	4.7	6.0	5.4
	4.6	4.6	5.2	5.0
	4.30	4.65	6.60	5.20
	4.25	4.60	5.65	5.70
	4.28	4.62	5.62	5.45

II	ε	η	ψ	H
	3.9	4.2	5.8	5.6
	4.6	5.0	5.5	5.8
	4.25	4.60	5.65	5.70

257-258

I		II	
37.6	38.3	27.6	27.9
25.1	25.2	15.6	15.0
46.8	46.0	37.2	37.2
46.2	45.9	36.0	36.1

I	ε	η	ψ	H
	7.0	6.7	6.4	6.9
	6.6	6.7	7.6	6.9
	6.80	6.70	7.06	6.90

I	II			
44.6	44.9	33.4	34.5	
31.8	31.9	21.4	21.6	
53.2	53.6	43.0	43.0	
53.1	52.8	41.7	41.1	

II	ε	η	ψ	H
	5.8	5.8	5.8	5.7
	6.6	6.6	5.8	5.0
	6.20	6.20	5.80	5.35

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May 18 1885

258 – 259

I		II			I		II	
23.6	23.1	31.0	30.9	31.1 31.8	30.2	30.9	36.3	37.0 367 370
11.8	10.8	18.7	18.5	18.7 19.1	18.2	19.6	24.3	24.7 24.6 24.3
31.8	31.8	41.3	40.4	40.2 41.2	39.2	39 40.2	47.3	47.2 46.9 46.8
31.4	31.3	39.3	39.3	38.8 39.4	37.9	38 38.6	44.2	44.1 44.0 44.0

I Σ Y. y. H
6.6 6.4 6.6 6.5
7.8 8.8 7.4 7.3
7.20 7.60 7.0 6.90
7.4 6.98

II Σ Y. y H
5.3 5.6 8.0 4.9
6.1 6.2 6.8 4.8
5.70 5.80 6.40 4.85
540 555 615 4.90
+5.55 5.68 6.28 4.88

II Σ Y. y H
5.6 5.9 6.7 5.2
5.2 5.2 5.6 4.6
540 555 615 4.90

259 - 260

I		II			I		II	
27.0	27.9	28.4	28.0		34.6	34.4	34.3	33.6
15.1	15.4	16.4	16.2		22.4	22.1	22.6	22.2
36.6	36.7	37.7	37.8		44.9	44.0	44.2	44.0
34.7	35.2	345.9	35.2		42.2	41.6	41.5	41.1

I Σ Y. y. H.
7.6 7.3 6.3 7.5
6.5 6.7 7.3 6.4
7.05 7.00 6.80 6.95
7.80

II Σ Y. y. H
5.9 6.2 6.5 5.6
5.6 6.0 6.2 5.9
5.75 6.10 6.35 5.75

260 - 261

I		II			I		II	
37.6	37.5	39.0	39.7	39.0	43.7	44.6	45.9	45.1 45.0 45.3
25.2	25.1	27.1	27.6	27.3	31.2	31.4	32.4	32.3 33.0 33.1
46.2	46.6	49.0	49.6	49.6	53.6	53.6	55.3	55.6 55.7 55.7
44.3	44.7	46.7	46.6	46.5	52.0	51.9	52.7	52.2 52.9 53.0

I Σ Y. y. H
6.1 6.0 7.4 7.7
7.1 6.3 7.0 7.2
6.60 6.15 7.20 7.45

Σ Y y H
6.9 5.3 6.3 6.0
5.4 4.7 6.0 5.6
6.20 5.00 6.15 5.80

II Σ Y y H
6.0 5.7 6.1 6.4
6.3 5.8 6.1 6.5
6.15 5.75 6.10 6.45

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261-262

I		II	
30.6	30.9	28.7	28.7
18.6	18.2	16.1	16.1
40.2	40.3	38.7	38.9
38.9	39.1	36.9	36.5

I		II	
37.9	37.9	35.0	35.1 ~~39.2~~
25.0	25.0	22.7	22.7
46.8	46.9	44.7	44.6
45.0	44.9	42.1	41.8

I

Σ	X	Y	H
7.3	6.4	6.6	6.1
7.0	6.8	6.6	5.8
7.15	6.60	6.60	~~5.95~~ 6.45

II

Σ	X	Y	H
6.3	6.6	6.0	5.2
6.4	6.6	5.7	5.3
6.35	6.60	5.85	5.25

262-263

I		II	
42.9	43.1	49.0	49.6
30.6	30.8	37.4	37.4
52.2	52.7	58.8	59.4
50.6	51.3	47.0	56.7

I		II	
49.2	49.6	56.3	54.6
37.1	37.0	43.0	43.2
58.6	58.7	4.7	5.0
57.0	57.1	2.9	2.6

I

Σ	X	Y	H
6.3	6.5	6.4	6.4
6.5	6.2	6.0	5.8
6.40	6.35	6.20	6.10

II

Σ	X	Y	H
6.3	5.6	5.9	5.9
5.0	5.8	5.6	5.9
6.65	5.70	5.75	5.90

263-264

I		II			
29.4	29.6	36.4	37.0	35.9	36.7
16.7	17.3	24.8	24.8	24.2	25.1
38.2	38.4	46.3	46.6	46.3	46.8
37.2	37.2	43.6	44.7	43.7	44.0

I		II			
35.6	35.6	42.0	41.8	42.3	42.9
24.0	23.9	30.9	31.2	31.4	30.9
45.0	45.1	52.2	52.2	52.6	52.3
44.1	43.7	50.3	50.8	51.0	50.6

I

Σ	X	Y	H
6.2	7.3	6.8	6.9
6.0	6.6	6.7	6.5
6.10	6.95	6.75	6.70

II

Σ	X	Y	H
5.6	6.1	5.9	6.7
4.8	6.4	5.1	6.1
5.20	6.25	5.75	6.40

II

Σ			
6.4	7.2	6.3	7.8
6.2	5.8	5.5	6.6
6.30	6.50	5.90	6.95

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May 18. Series II Reversed order. 252°-267°

264-265

I		II	
26.4	26.6	39.4	40.2
14.8	14.7	27.6	28.0
36.0	35.9	49.3	49.0
34.6	34.1	47.7	48.1

I ε. ϒ. ϑ. H.
6.7 6.4 6.6 7.2
7.0 7.0 6.7 7.9
6.85 6.70 6.50 7.55

I		II	
33.1	33.6	46.8	46.6
21.2	21.7	34.9	34.7
42.6	42.3	55.5	55.1
41.8	42.0	54.6	54.7

II ε. ϒ. ϑ. H.
7.4 7.3 6.2 6.9
6.84 6.7 6.1 6.6
7.10 7.00 6.15 6.75
6.90

265-266

I		II	
34.6	35.6	39.1	38.7
23.1	23.3	27.2	27.2
44.0	43.9	47.5	48.7
43.0	43.9	47.2	47.9

I ε ϒ. ϑ. H
6.3 6.8 6.2 7.0
6.0 6.8 6.7 6.1
6.15 6.80 6.45 6.55

I		II	
40.9	41.6	45.4	45.1
29.9	30.1	33.6	33.9
50.2	50.6	54.3	54.1
50.0	50.0	54.3	53.9

II ε ϒ ϑ H
6.3 6.4 6.8 7.1
6.4 6.7 5.4 6.0
6.35 6.55 6.10 6.55

266-267

I		II	
23.6	24.1	24.2	23.2
12.2	13.0	12.2	12.2
32.6	32.2	32.4	32.7
32.8	32.6	32.6	32.7

I ε. ϒ. ϑ. H
6.0 6.2 6.5 6.9
5.8 5.7 6.7 7.9
5.90 5.95 6.60 7.40

I		II	
29.6	29.9	29.7	30.0
18.4	18.7	18.7	18.2
39.1	38.9	39.1	39.1
39.7	40.5	40.1	40.1

II ε ϒ ϑ H
5.5 6.7 6.7 7.5
6.8 6.0 6.4 7.4
6.15 6.35 6.55 7.45

No interval between Series I and II

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Results May 18 Series I and II 252°-267° II Reversed order.

Microscope E I	II	F I	II	G I	II	H I	II
252 - 253							
253 - 254	7.50	7.20		7.40		6.20	
254 - 255	7.65	7.40		7.60		7.25	
255 - 256	7.30	7.25		7.50		6.35	
256 - 257	5.45	7.10		7.40		6.90	
257 - 258	6.80	6.70		7.00		6.90	
258 - 259	7.20	7.60		7.90		7.40	
259 - 260	7.05	7.00		7.80		6.95	
260 - 261	6.60	6.15		7.20		7.45	
261 - 262	7.15	6.60		6.60		6.45	
262 - 263	6.40	6.30		6.20		6.10	
263 - 264	6.10	6.95		6.75		6.70	
264 - 265	6.65	6.70		6.50		7.55	
265 - 266	6.15	6.80		6.45		6.55	
266 - 267	5.90 6.15	5.95 6.35		6.60 6.55		7.40 7.45	

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for 267°-282° see May 4 p62 + May 5. 6. 8.

May 19 1885 — H = 56.0 — 282° - 297°

282°-283°

I

36.2	37.0	37.6	36.9	37.6	37.2
25.3	27.0	26.1	26.8	26.8	27.0
51.6	50.9	51.7	51.3	51.2	51.6
48.6	49.6	48.8	49.1	48.7	48.8

I	Σ	h	y	H
	5.6	5.6	5.6	5.1
	4.6	4.0	5.1	3.7
	5.20	4.80	5.75	4.90

I	Σ	h	y	H
	4.2	4.3	5.3	4.4
	4.3	4.0	6.1	3.7
	4.25	4.15	5.70	4.05
	4.20	3.60	5.50	4.35
	4.22	3.88	5.60	4.20

I

41.8	41.6	41.8	41.2	41.6	41.6
30.9	31.0	30.4	30.8	30.5	30.5
57.2	57.0	57.0	57.4	57.0	56.8
43.7	43.3	53.2	52.8	53.1	53.1

Σ	h	y	H
4.0	3.7	5.8	4.4
4.4	3.5	5.2	4.3
4.20	3.60	5.50	4.35

282-283

II

42.3	42.6
32.1	31.9
57.0	56.3
52.6	53.0

II	Σ	h	y	H
	3.9	3.9	4.8	3.7
	4.0	4.2	5.6	3.7
	3.95	4.05	5.20	3.70

II

46.2	46.0
36.0	36.1
1.8	1.9
56.3	56.7

283-284

I		II	
29.9	28.0	34.1	34.2
17.6	17.3	23.2	23.6
43.1	42.9	49.2	49.8
38.7	39.6	44.0	44.3

I	Σ	h	y	H
	2.7	3.4	4.5	5.5
	5.2	4.8	4.8	5.2
	3.95	4.25	4.65	5.35

I		II	
32.6	33.2	38.1	37.9
21.3	22.1	28.3	27.6
47.6	47.7	53.2	53.2
44.2	44.8	49.0	49.1

II	Σ	h	y	H
	4.0	5.1	5.0	5.0
	3.7	4.0	3.4	4.8
	3.85	4.55	3.70	4.90

284-285

I		II	
17.7	19.0	19.1	29.6	29.1
7.3	8.3	7.6	19.2	19.2
32.1	33.7	33.8	44.7	44.7
28.8	30.5	29.9	40.1	40.0

I	Σ	h	y	H
	5.1	4.5	3.3	3.5
	4.7	5.2	4.0	4.1
	4.90	4.85	4.15	3.80

I		II	
24.1	23.8	33.6	34.1
12.8	12.8	22.6	23.0
38.0	37.8	48.2	48.8
34.0	34.0	43.3	43.2

II	Σ	h	y	H
	4.0	3.4	3.5	3.2
	5.0	3.8	4.1	3.2
	4.50	3.60	3.80	3.20

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Alt Jh = 59.5 end

285° – 286°

I		II	
25.0	25.0	43.6	43.8
13.8	14.2	33.0	33.0
39.1	38.5	57.7	58.0
36.0	35.2	53.0	53.6

I	Σ	γ	γ. H
	3.2	3.9	3.0 3.8
	3.8	3.7	4.5 4.4
	3.50	3.80	3.75 4.10

I		II	
28.2	28.8	47.0	47.2
17.7	17.9	36.0	36.6
42.1	43.0	1.3	1.3
39.8	39.6	56.8	57.3

II	Σ	γ	γ. H
	3.4	3.0	3.6 3.8
	3.4	3.6	3.3 3.7
	3.40	3.30	3.45 3.75

286 – 287

I		II	
30.6	30.0	39.8	39.9
18.7	19.0	28.8	28.8
43.9	43.1	54.0	53.0
41.1	41.2	49.9	50.1

I	Σ	γ	γ. H
	3.6	4.9	4.8 4.5
	4.0	5.0	5.2 4.7
	3.80	4.95	5.00 4.60

I		II	
34.2	34.0	43.3	43.7
23.6	24.0	33.6	33.6
46.7	47.3	58.1	58.6
45.6	45.9	54.4	54.8

II	Σ	γ	γ. H
	3.5	4.8	4.1 4.5
	3.8	4.8	5.6 4.7
	3.65	4.80	4.85 4.60

287 – 288

I		II	
36.3	36.4	22.0	21.6
25.5	26.1	11.8	11.7
49.8 50.7	50.2	36.2	36.2
47.9	48.0	33.0	32.6

I	Σ	γ	γ. H
	4.6	5.5	2.5 4.3
	5.2	5.1	4.7 5.1
	4.90	5.30	3.60 4.70

I		II	
40.9	41.6	26.3	26.0
31.0	31.2	16.1	16.2
53.2	54.5	40.1	40.7
52.2	53.1	37.0	37.7

II	Σ	γ	γ. H
	4.3	4.3	3.9 4.4
	4.4	4.5	4.5 5.1
	4.35	4.40	4.20 4.55

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May 19

288°-289°

I		II	
30.8	30.8	32.8	32.1
20.9	20.6	22.9	22.1
43.8	44.0	45.3	45.6
42.1	42.1	43.6	43.7

316

I

Σ	X.	Y.	N.
3.8	4.0	3.4	3.2
4.1	4.5	3.3	3.7
3.95	4.25	3.35	3.45

II

Σ.	X.	Y.	N.
3.3	3.2	3.4	3.2
4.6	4.0	3.2	2.9
3.95	3.60	3.30	3.05

282° - 287°

I		II	
34.6	34.9	35.1	36.2
24.9	25.1	26.1	26.1
47.2	47.3	46.7	46.8
45.3	45.8	46.8	46.6

289°-290°

I		II	
39.6	39.6	33.8	34.1
29.8	29.7	24.0	24.0
52.8	52.0	46.2	47.6
51.0	50.7	45.0	44.8

I

Σ	X.	Y.	N
4.2	2.8	3.5	3.6
4.6	3.9	4.3	3.6
4.40	3.35	3.90	3.60

I		II	
43.8	44.2	38.1	38.4
32.6	33.6	27.2	27.6
56.3	56.3	50.6	51.0
54.6	54.3	47.8	48.1

II

Σ.	X.	Y.	N
4.3	3.2	4.4	2.8
4.3	3.6	3.4	3.5
4.30	3.40	3.90	3.15

290°-291°

I		II	
42.8	42.4	39.2	39.7
31.1	30.9	28.2	29.0
54.9	54.0	51.6	52.7
53.3	52.2	49.0	49.3

I

Σ.	X.	Y.	N
3.0	4.1	3.9	2.7
3.9	4.5	4.6	4.5
3.45	4.30	4.75	3.60
		.25	

I		II	
45.8	46.3	42.7	43.1
35.2	35.4	32.1	32.1
58.8	58.6	55.6	56.3
56.0	56.7	53.3	53.0

II

Σ	X.	Y.	N
3.5	3.9	4.0	4.3
3.4	3.1	3.6	3.7
3.45	3.50	3.80	4.00

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291-292

I		II	
29.8	28.8	27.0	27.0
18.2	17.9	16.3	16.2
42.2	41.6	40.8	40.2
39.8	39.7	37.2	86.7

I	Σ	y.	y	H
	3.8	4.5	6.1	4.0
	5.5	5.7	6.4	4.6
	4.65	5.10	6.25	4.30

I		II	
33.6	34.3	31.4	31.9
23.7	23.6	20.9	21.7
48.3	48.0	45.7	45.9
43.8	44.3	41.6	41.6

II	Σ	y.	y	H.
	4.4	4.6	5.7	4.4
	4.9	5.5	5.7	4.4
	4.65	5.05	5.70	4.40

292-293

I		II	
32.4	38.7 37.7	26.8	27.1
21.1	27.2 27.7	16.2	15.9
45.6	52.2 51.9	40.6	41.0
42.1	48.1 48.2	36.6	36.4

I	Σ	y.	y	H
	4.1	4.7	3.8	3.2
	4.3	4.3	4.3	3.6
	4.20	4.50	4.05	3.40

I		II	
42.8	42.0	30.2	30.1
31.9	32.0	20.1	20.2
56.0	56.2	44.6	44.4
51.3	52.8	40.0	39.8

II	Σ	y.	y	H
	3.1	3.9	4.0	3.4
	4.3.0	4.3	3.4	3.4
	3.70	4.10	3.70	3.40

293-294

I		II	
13.7	13.4	31.2	30.1
2.8	3.2	19.9	20.0
27.6	26.9	44.0	43.9
22.7	23.0	39.6	40.0

I	Σ	y.	y	H
	3.5	4.0	3.6	2.3
	3.5	4.4	4.2	2.3
	3.50	4.20	3.80	2.30

I		II	
17.2	16.9	34.4	34.4
6.8	7.6	24.7	24.2
31.2	31.1	48.2	48.0
25.0	25.3	43.1	42.7

II	Σ	y.	y	H
	3.2	4.8	4.2	3.5
	4.3	4.2	4.1	2.7
	3.75	4.50	4.15	3.10

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May 19 1885

294-295

I		II	
30.6	30.9	31.9	32.1
20.2	20.2	21.6	21.2
44.2	43.7	45.2	45.2
38.7	39.0	39.9	39.7

	Σ	H.	G.	H.
I	4.6	3.8	4.5	3.9
	4.7	4.4	4.9	3.6
	4.65	4.10	4.70	3.75

	Σ	H.	G.	H.
II	4.1	4.4	4.9	3.9
	4.1	4.8	5.1	4.1
	4.10	4.60	5.00	4.00

282°-297°

I		II	
35.2	35.6	36.0	36.2
24.0	24.6	26.0	26.0
48.7	48.6	50.1	50.3
42.6	42.6	43.8	43.8

295-296

I		II	
35.7	35.8	29.6	29.0
25.1	25.3	16.8	16.8
49.7	49.9	43.7	43.1
44.3	44.1	37.7	37.1

	Σ	H.	G.	H
I	4.9	4.7	3.3	4.0
	5.2	4.7	3.7	4.6
	5.05	4.70	3.50	4.30

I		II	
40.6	41.0	34.0	34.8
29.8	30.0	23.3	24.0
53.0	53.6	46.8	46.4
48.3	48.7	41.2	41.2

	Σ	H.	G.	H
II	4.4	4.5	3.1	3.5
	5.8	5.2	3.3	4.1
	5.10	4.85	3.20	3.80

296°-297°

I		II			
41.2	40.7	41.3	41.2	41.0	40.7
30.0	29.9	29.8	29.7	29.8	29.8
53.1	53.1	53.7	53.0	53.3	53.3
48.1	48.4	47.8	47.7	48.2	48.6

	Σ	H	G	H
I	2.1	3.3	4.7	4.5
	3.4	3.1	5.1	3.8
	2.75	3.20	4.90	4.15
	2.85	4.05	3.80	3.90
	2.80	3.62	4.35	4.02

I		II			
43.3	44.1	44.0	44.7	43.6	43.8
33.3	33.0	33.7	34.0	33.7	34.0
57.8	58.2	56.6	57.3	57.1	57.1
52.6	52.2	52.0	52.3	52.3	52.3

II	Σ	H.	G.	H
	2.7	3.9	2.9	4.2
	3.5	4.3	4.3	4.6
	3.10	4.10	3.60	4.40
	2.85	4.05	3.80	3.90
	2.98	4.08	3.70	4.15

	Σ	H.	G.	H
	2.6	3.9	3.8	4.1
	3.1	4.2	3.6	3.7
	2.85	4.05	3.80	3.90

like in both Series

No interval between Series I and II

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At 12h Alt Th = 60.6

282°-283°

42.9	42.4	42.6	41.8
33.0	31.9	32.0	32.2
58.2	56.4	57.4	56.9
53.8	53.0	53.0	53.0

45.2	46.0	45.8	46.1
35.8	35.6	35.1	35.3
1.6	2.0	1.3	1.6
56.4	56.8	56.9	56.8

ε	η	γ	H
2.3	2.8	3.4	2.6
3.6	3.7	5.6	3.8
295	325	450	320

ε	η	γ	H
3.2	3.1	3.9	3.9
4.3	3.1	4.7	3.8
375	310	430	385

At 12h 30m Alt Th = 61.8

282-283

43.2	43.2	42.5	42.1
32.8	32.8	31.8	32.0
57.8	57.8	57.2	57.2
54.2	54.2	53.6	53.6

46.0			
49.6	45.9	45.9	46.0
35.9	35.2	34.6	35.0
1.0	1.3	1.6	1.6
58.8	56.4	56.8	58.1

ε	η	γ	H
2.8	3.1	3.2	1.6
2.7	2.4	3.5	2.2
2.75	2.75	335	190
365	290	440	285
320	282	388	238

ε	η	γ	H
3.4			
3.9	2.8	4.4	3.2
365	3.0	4.4	2.5
	290	440	275
			285

At 1h Alt. Th = 62.6

282-283

43.1	42.5		
32.1	31.9		
57.3	57.1		
54.2	53.3		

45.8	45.6		
34.6	34.2		
2.0	1.9		
56.3	56.6		

ε	η	γ	H
2.7	2.5	2.7	2.1
3.1	2.3	4.8	3.3
290	240	375	280
			170

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May 20 1885 Alt h = 62.5 297° 312°

297-298

I

27.8	28.6	28.8	28.8	28.7	29.2	29.2
16.9	17.7	18.3	19.1	19.1	18.7	18.8
46.3	46.6	46.6	47.6	46.6	46.8	48.7
39.9	40.2	41.0	40.2	41.3	40.6	41.1

34.8	34.7	34.4	34.3	34.0	33.9	34.3
25.8	24.2	24.0	24.1	24.6	24.6	25.1
53.3	53.0	53.0	52.6	52.9	52.4	53.0
47.7	47.0	46.5	46.0	46.3	45.4	46.1

297-298

II

24.9	24.1	23.2	23.6
15.1	15.9	14.8	14.8
43.0	43.2	43.0	42.8
34.9	35.1	34.9	34.1

28.3	28.6	28.2	28.1
19.0	19.0	19.5	19.1
46.6	47.3	47.0	47.0
39.1	39.3	39.2	39.1

I

Σ	H	ϕ	H
5.6	5.7	6.4	5.5
5.5	5.0	5.0	5.8
5.3	5.5	6.3	5.0
4.7	5.9	5.6	4.8
5.1	6.3	5.3	5.0
5.24	5.68	5.72	5.22

II

Σ	H	ϕ	H
3.4	3.9	3.6	4.2
4.5	4.1	4.1	4.2
3.95	4.00	3.85	4.20
4.45			

Σ	H	ϕ	H
5.0	4.7	4.0	4.3
4.5	4.3	4.2	5.0
4.75	4.50	4.10	4.65
4.45	4.00	3.65	4.20
4.60	4.25	3.98	4.42

298-299

I		II	
24.6	24.4	27.4	27.9
13.7	14.3	19.6	18.8
42.7	42.6	47.5	47.1
38.2	35.8	39.0	38.8

I		II	
28.9	29.0	31.8	32.0
19.2	19.7	24.0	24.6
47.6	48.0	51.9	51.6
40.4	40.7	43.0	42.8

Σ	H	ϕ	H
4.3	5.5	4.9	4.2
4.6	5.4	5.4	4.9
4.45	5.45	5.17	4.55

Σ	H	ϕ	H
4.4	4.4	4.4	4.0
4.1	5.8	4.5	4.0
4.25	5.10	4.45	4.00

299-300

I		II	
43.9	42.8	24.3 (22.9, 24.2, 15.8)	23.2 23.7
34.2	34.2	16.0 (16.3)	15.6 15.0
2.7	2.2	44.0	43.0 43.0 42.6
55.0	55.0	34.6	34.7 34.9 34.3

I		II	
47.3	47.3	27.0	27.0 27.0 27.2
39.2	40.2	19.4	20.0 20.1 19.4
7.0	7.2	47.3	47.1 47.0 47.1
0.5	0.3	39.1	39.4 39.3 39.6

I

3.4	5.0	4.3	5.5
4.5	6.0	5.0	6.3
3.95	5.50	4.65	5.90

II

Σ	H	ϕ	H
2.7	3.4	3.3	4.5
4.1	4.2	4.1	4.7
3.40	3.80	3.70	4.60
3.65	4.45	4.25	4.85
3.52	4.12	3.98	4.72

3.8	4.5	4.0	4.4
3.5	4.4	4.5	5.3
3.65	4.45	4.25	4.85

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Δh R · 64.9 end.

300 - 301

	I		II	
H	35.2	35.9	30.7	30.1
	27.9	28.2	22.6	22.6
	55.9	55.3	50.2	49.5
	49.9	49.9	42.0	42.1

Σ	H	y	H
6.4	5.6	5.4	4.8
5.2	5.2	5.7	4.7
5.80	5.40	5.55	4.75

	I		II	
	41.6	41.1	34.4	33.6
	33.5	33.4	26.7	27.1
	1.3	1.0	54.3	53.8
	54.7	54.6	46.0	46.3

Σ	H	y	H
3.7	4.1	4.1	4.0
3.5	4.5	4.3	4.2
3.60	4.30	4.20	4.10

301 - 302

	I		II	
	25.6			
25.6	25.1		19.6	19.1
17.7	18.4		12.1	11.4
45.6	46.0		39.2	39.1
39.2	39.1		32.4	31.7

Σ	H	y	H
5.35	5.8	5.0	4.9
5.4	5.3	4.8	4.7
5.45	5.55	4.80	4.80

	I		II	
	31.1	31.0	23.7	23.9
	23.5	23.7	16.7	16.6
	50.6	50.6	43.3	43.1
	44.1	43.8	35.4	35.8

	Σ	H	y	H
II	4.1	4.6	4.1	3.0
	4.8	5.2	4.0	4.1
	4.45	4.90	4.05	3.55

302 - 303

	I		II	
	22.8	23.0	31.9	31.9
	14.9	15.2	24.5	23.7
	41.4	42.0	51.6	51.0
	35.2	35.1	43.6	43.6

I	Σ	H	y	H
	5.1	5.2	5.1	5.1
	4.3	4.9	4.5	5.0
+	4.70	5.05	4.80	5.05

	I		II	
	27.9	27.3	36.6	36.1
	20.1	20.1	28.5	28.8
	46.5	46.5	55.5	56.1
	40.3	40.1	48.0	47.9

II	Σ	H	y	H
	4.7	4.0	3.9	4.4
	4.2	5.1	5.1	4.3
+	4.45	4.55	4.50	4.35

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May 20

291° – 312°

303 – 304

I		II	
29.8	30.6	26.8	29.9
22.6	21.9	21.4	22.0
49.3	48.8	48.7	49.0
42.7	42.5	41.8	41.0

I	z	f	g	h
	5.9	5.1	5.6	5.0
	5.0	5.9	5.9	5.7
	5.45	5.50	5.75	5.35

I		II	
35.7	35.6	33.6	33.7
27.7	27.8	26.1	26.8
54.9	54.7	53.7	54.0
47.7	48.2	46.3	46.2

II			
4.8	4.7	5.0	4.5
3.8	4.8	5.0	5.2
4.30	4.75	5.00	4.85

304 – 305

I		II	
18.6	19.6	33.8	34.1
11.0	11.1	26.2	26.1
37.7	37.6	53.0	53.6
31.0	32.1	46.2	46.0

I	z	f	g	h
	4.8	5.7	5.1	5.3
	4.3	5.2	5.4	5.1
	4.55	5.45	5.25	5.20

I		II	
23.4	23.9	37.2	38.1
16.7	16.3	30.6	30.4
42.8	43.0	56.1	57.8
36.3	37.2	49.9	51.0

II	z	f	g	h
	3.4	4.4	5.1	3.7
	4.0	4.3	4.2	5.0
	3.70	4.35	4.65	4.35

305 – 306

I		II			
34.1	33.3	26.8	26.8	27.6	27.5
25.2	25.9	20.2	19.3	19.9	20.3
52.5	52.7	47.0	46.6	47.1	47.3
46.1	46.0	39.9	39.2	39.8	39.2

I	z	f	g	h
	5.3	5.1	4.9	5.1
	6.5	4.7	4.7	5.2
	5.90	4.90	4.80	5.15

I		II			
39.4	39.8	32.3	32.6	32.8	32.9
30.3	30.6	23.7	23.8	23.8	24.2
57.4	57.4	50.7	50.7	51.0	51.2
51.2	51.2	43.8	43.8	43.2	44.1

II	z	f	g	h
	5.5	3.5	3.7	3.9
	4.8	4.5	4.1	4.6
	5.15	4.00	3.90	4.25
	5.30	3.90	3.90	4.5
	5.20	3.75	3.90	4.20

I	z	f	g	h
	5.2	3.9	3.9	3.4
	5.4	3.9	3.9	4.9
	5.30	3.90	3.90	4.15

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306 – 307

I		II			
43.6	43.6	29.8	29.0	29.2	28.8
34.9	35.0	20.8	20.6	20.2	20.5
1.6	1.6	47.2	47.2	47.6	47.3
55.1	55.1	40.5	40.3	40.9	41.1

I		II			
48.8	48.7	33.2	33.6	33.6	33.9
40.9	40.2	24.9	25.9	25.2	25.6
6.9	6.8	51.5	52.1	52.4	52.0
59.7	59.2	43.8	44.5	45.0	44.2

I	Σ	h	g	H
	5.2	6.0	5.3	4.6
	5.1	5.2	5.2	4.1
	5.15	5.60	5.25	4.35

II	Σ	h	g	H
~~3.4~~	~~4.1~~	~~4.8~~	~~3.3~~	
	4.6	5.3	4.9	4.2
	4.00	4.70	4.60	3.75

II				
4.6	5.3	4.9	4.2	
4.4	5.0	4.8	4.1	
5.1	5.1	4.7	3.1	
4.70	5.13	4.80	3.80	

307 – 308

I		II	
28.1	27.6	31.9	31.8
19.3	19.1	33.3	22.8
45.9	45.6	50.4	50.0
38.4	38.2	48.7	41.9

I		II	
32.1	32.0	35.9	35.6
23.5	23.6	27.4	27.8
50.2	51.0	55.2	54.7
42.6	42.4	46.2	46.1

I	Σ	h	g	H
	4.0	4.2	4.3	4.2
	4.4	4.5	4.5	4.2
	4.20	4.35	4.40	4.20
			35	

II	Σ	h	g	H
	4.0	4.1	4.8	4.5
	3.8	5.0	4.7	4.2
	3.90	4.55	4.75	4.35

308 – 309

I		II	
31.2			
32.3	~~32.0~~	27.7	27.9
23.2	24.0	20.1	20.2
51.0	50.9	47.1	46.6
43.1	~~42.6~~ 43.8	~~40.6~~ 39	39.1

I		II	
35.6	35.6	31.5	31.9
28.8	28.7	25.6	24.9
53.9	56.4	52.3	52.8
48.5	49.7	44.8	44.7

I	Σ	h	g	H
	3.3	5.6	4.9	5.4
	~~4.4~~	4.7	5.5	7.1 5.9
	3.45	5.15	5.20	~~6.25~~ 5.65
	3.85			

II	Σ	h	g	H
	3.8	5.5	5.2	5.2
	4.0	4.7	6.2	5.6
	3.90	5.10	5.70	5.40

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May 20

297° - 312°

309 - 310

I		II	
31.3	31.6	36.2	36.9
24.8	24.8	30.1	29.9
52.1	52.3	57.2	57.3
45.0	44.9	49.6	49.1

ζ	η	γ	ν
4.7	4.5	5.1	4.2
4.8	4.9	4.7	4.1
4.75	4.70	4.90	4.15

I		II	
36.0	36.4	40.7	40.8
29.3	29.7	35.0	35.2
57.2	57.0	2.1	1.9
49.2	49.0	54.1	54.0

ζ	η	γ	ν
4.5	4.9	4.9	4.5
3.9	5.3	4.6	4.9
4.20	5.10	4.75	4.70

310 - 311

I		II	
44.2	43.8	37.7	37.6
37.5	37.6	31.2	31.2
5.9	5.1	59.7	58.8
57.7	57.1	51.4	51.1

ζ	η	γ	ν
4.3	4.5	4.2	5.3
4.1	4.1	5.0	5.2
4.20	4.30	4.60	5.25

I		II	
46.5	47.9	43.3	43.1
42.0	41.7	35.9	35.9
10.1	10.1	4.2	3.3
3.0	2.3	56.2	55.9

ζ	η	γ	ν
5.6	4.7	4.5	4.8
5.5	4.7	4.5	4.8
5.55	4.70	4.50	4.80

311 - 312

I		II	
32.6	31.8	32.6	32.3
25.3	25.0	25.3	25.1
52.3	52.3	53.0	52.9
45.5	46.1	45.8	45.4

I	ζ	η	γ	ν
	3.5	4.5	4.5	4.2
	5.5	5.1	5.5	4.1
	4.50	4.80	5.00	4.15

I		II	
36.1	37.3	36.8	36.3
29.8	30.1	30.1	30.3
56.8	57.8	57.1	57.3
49.7	50.2	49.4	49.9

II	ζ	η	γ	ν
	4.2	4.8	4.1	3.6
	4.0	5.2	4.4	4.5
	4.10	5.00	4.25	4.05

No interval between Series I and II

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May 21 1885 Alt Sh = 52.1 312° - 327°

312°-313° = Circum S

34.4	34.6	34.5	34.7
27.2	28.1	28.6	27.4
53.0	53.3	53.0	53.0
47.1	47.2	46.7	47.6

	ξ	η	ε	M
+	5.4	5.8	6.3	5.7
	5.3	5.2	6.5	5.8
	5.2	4.4	6.7	6.3
	4.3	6.2	6.4	5.5
+	5.05	5.40	6.55	5.82

N.

39.8	40.1	39.7	39.0
33.0	33.3	33.0	33.6
59.3	59.8	59.7	59.7
52.8	53.0	53.0	53.1

313-314

30.9	31.0	35.5	35.8
23.8	24.3	29.7	30.3
50.6	50.6	55.5	56.1
43.8	43.7	48.4	49.0

	ξ	η	
	4.6	5.9	4.9 5.0
	4.8	6.0	5.5 5.3
	4.70	5.95	5.20 5.15

314-315

33.2	33.3	38.6	39.4
27.1	26.8	32.7	32.9
52.8	52.8	58.7	58.4
45.7	45.6	50.6	50.9

5.4	5.6	5.9	4.9
5.9	6.1	5.6	5.3
5.65	5.85	5.75	5.10

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315 – 316

35.1 34.2 | 39.9 39.2
28.6 28.3 32.9 32.8
54.0 54.8 57.1 58.2
46.6 47.0 50.7 50.3

59.8 40.7 39.8 44.1 44.4
33.6 34.8 33.6 38.8 38.6
59.6 1.0 57.0 3.9 4.0
51.5 52.2 51.9 56.1 55.8

4.7 5.0 5.6 4.9
5.6 5.3 4.2 4.9
5.15 5.15 4.90 4.90

4.2 5.9 4.8 5.4
5.2 5.8 5.8 5.5
4.70 5.85 5.30 5.45

316 – 317

27.9 28.1 26.4 20.8 36.6 36.8
21.6 21.6 19.9 14.4 32.2 32.8
47.4 47.0 46.1 39.4 57.8 58.3
39.7 39.9 37.9 38.4 50.1 50.2

17.6 17.1
12.0 12.0
37.2 37.3
30.4 30.0

317 – 318

36.6
32.2
57.8
50.1

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May 21

312°-313°

342	41.7	41.9	41.9	41.9	41.4	41.4	50.8	51.2	51.6	51.2	50.9	50.8
	34.9	35.1	35.4	35.6	35.6	35.1	44.7	45.0	44.7	44.6	44.6	44.9
	0.4	0.4	1.2	1.0	0.8	1.0	10.6	11.5	11.2	10.7	10.3	10.6
	53.2	54.0	54.2	54.4	53.6	54.4	3.5	4.1	3.4	3.3	3.2	3.1

ε	A	γ	N
9.5	9.8	10.2	10.3
9.3	9.9	11.1	10.1
9.40	9.85	10.65	10.20

9.7	9.3	10.0	9.2
9.3	9.0	9.7	8.9
9.50	9.15	9.85	9.05

9.5	9.0	9.5	9.6
9.4	9.8	9.6	8.7
9.45	9.40	9.55	9.15

313-314

29.3	37.2	37.2		45.8	46.4		
22.4	30.8	30.8		39.6	40.0		
49.6	56.9	56.8		5.9	6.0		
42.1	49.0	49.6		58.2	58.0		
	8.6	8.8	9.0	9.2			
	9.2	9.2	9.2	8.4			
	8.90	9.00	9.10	8.80			

314-315

44.6	45.8	45.1		55.0	55.0		
38.2	38.8	38.9		49.2	48.7		
8.9	4.6	4.8		15.2	15.0		
57.0	57.6	57.0		6.1	6.2		
ε							
9.2	10.4	10.6	8.5				
9.9	9.8	10.2	9.2				
9.55	10.10	10.40	8.85				

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Δh ℏ 60.6

315-316

29.8 30.1	38.8 38.5
23.2 23.7	32.6 32.0
4 38.9 48.8	58.7 57.9
40.6 41.0	50.3 50.0

Σ

9.0	9.4	9.8	9.7
8.4	8.3	9.1	9.0
8.70	8.85	9.45	9.35

316-317

27.8	28.0	27.6
21.0	22.0	21.4
47.0	47.1	47.2
38.8	39.7	38.2

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May 22 1885 Alt Sh = 56.8 312°-327°

312-313

I

	21.4					
19.1	22.6	22.5	22.6	22.7	21.6	22.7
13.7	15.1	15.6	15.4	15.1	15.0	15.4
39.1	40.3	40.9	40.2	41.9	41.1	41.6
32.0	33.6	33.1	34.3	34.7	33.7	34.0

I

27.6	28.6	26.9	26.7	25.9	26.7	
21.8	20.9	20.1	20.2	19.4	19.9	
47.6	47.6	45.9	47.0	46.1	46.6	
40.6	40.0	39.0	39.1	39.1	39.0	

I	Σ	h.	y.	H
	4.3	5.7	5.1	4.7
	4.6	4.7	5.1	4.4
	4.3	5.1	5.0	5.4
	4.0	4.5	5.0	5.6
	4.15	4.68	5.20	4.85

312-313

II

30.6	29.8
23.3	22.8
49.4	49.2
41.1	40.8

II

	33.0	34.4		
	26.6	27.0		
	54.6	54.1		
	45.0	45.2		

II	Σ			
	2.4	3.8	5.2	3.9
	4.6	4.2	4.9	4.4
	3.50	3.75	505	4.15

313-314

I

33.9	34.4			
27.0	27.6			
53.2	54.4			
45.4	46.5			

II

24.2	24.6	24.8	44.6
17.3	17.6	17.3	37.2
44.6	45.1	44.3	4.8
36.2	36.6	36.6	86.1

I

38.3	38.8			
31.3	32.2			
58.4	58.7			
50.1	50.8			

II

27.2	27.7	27.7	47.4
22.3	21.9	21.8	41.8
48.2	49.6	49.2	8.7
39.2	39.7	39.1	59.6

I	Σ	h.	y.	H
	4.4	4.3	5.2	4.7
	4.6	4.6	4.3	4.3
	4.50	4.45	4.75	4.50

II	Σ	h.	y.	H
	3.0	5.0	3.6	3.0
	3.1	4.3	4.5	3.1
	3.05	4.65	4.05	3.05

Σ	h	y	H
2.9	4.5	4.9	2.5
2.8	4.6	3.9	3.5
2.85	4.55	4.40	3.00
3.05	4.65	4.05	3.05
2.95	4.60	4.22	3.02

mean II →

314-315

I

39.3	39.3		
32.1	32.4		
58.7	59.9		
50.9	51.1		

II

41.6	41.9		
35.1	35.5		
2.6	3.0		
53.2	53.4		

I

	3.8	4.9	5.0	3.8
	3.4	5.2	4.3	3.5
	4.60	5.05	4.65	3.65

I

43.1	44.7			
37.0	37.6			
3.7	4.2			
54.7	54.6			

II

45.4	45.6		
39.4	39.7		
56.1	6.8		
56.0	56.7		

II

	3.8	4.3	3.5	2.8
	3.7	4.2	3.8	3.2
	3.75	4.25	3.65	3.05

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All $\Delta h = 60.0$ end

315 – 316

I		II	
31.8	32.8	39.8	39.3
26.2	26.6	32.6	33.3
51.7	51.9	0.0	59.2
43.2	44.9	49.9	50.4

I	Σ	Η	y	K
	4.9	3.8	4.2	4.6
	4.8	3.5	4.0	4.4
	4.85	3.65	4.10	4.50

I		II	
36.7	37.6	44.8	43.7 43.2
30.0	30.1	37.7	37.3 36.8
55.9	55.9	4.3	4.2 4.0
47.8	48.3	54.3	53.8 54.0

II	Σ	Η	y	K
	3.9	4.7	4.2	3.9
	3.9	3.5	4.8	3.6
	3.90	4.10	4.50	3.75

316 – 317

I		II	
36.8	36.6	34.4	35.0
29.6	29.6	27.7	28.5
55.7	55.2	54.7	54.7
46.7	46.7	45.3	45.1

I	Σ	Η	y	K
	3.5	4.0	4.0	4.3
	3.4	4.4	4.2	4.5
	~~2.45~~ 3.45	4.20	4.10	4.40

I		II	
40 39.3	40.0	38.0	38.9
33.6	34.0	32.8	33.2
59.7	59.4	57.7	58.7
51.0	51.2	49.3	50.1

II	Σ	Η	y	K
	3.6	5.1	3.0	4.0
	3.9	4.7	4.0	5.0
	3.75	4.90	3.50	4.50

317 – 318

I		II	
37.4	38.0	34.0	34.4
32.2	32.5	28.0	28.8
57.3	58.6	54.4	53.8
49.3	50.0	45.8	45.4

I	Σ	Η	S	K
	4.4	4.6	3.9	4.5
	3.8	4.7	3.3	4.6
	4.10	4.65	3.60	4.55

I		II	
41.8	41.8	37.7	37.7
36.8	37.2	32.6	33.3
1.2	1.9	57.6	57.7
5 53.8	54.6	49.4	49.9

II	Σ	Η	y	K
	3.7	4.6	3.2	3.6
	3.3	4.5	3.9	4.5
	3.50	4.55	3.55	4.05

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May 22

312° - 327°

318 - 319

I		II	
33.6	33.8	37.2	37.0
28.6	28.6	31.1	31.6
53.5	52.9	57.0	57.4
45.7	46.8	48.9	49.3

I	Σ	η	y	ν
	5.0	4.4	3.9	4.9
	4.9	4.6	4.7	4.2
	4.95	4.50	4.30	4.55

I		II	
38.6	38.7	40.9	41.3
33.0	33.2	35.8	36.2
57.4	57.6	1.2	1.0
50.6	51.0	52.8	53.3

II	Σ	η	y	ν
	3.7	4.7	4.2	3.9
	4.3	4.6	3.6	4.0
	4.00	4.65	3.90	3.95

319 - 320

I		II	
38.8	39.2	41.8	43.0
33.3	33.0	36.2	36.6
57.6	57.8	1.9	1.7
50.8	51.0	54.2	54.1

I	Σ	η	y	ν
	3.4	3.9	4.7	4.0
	2.8	4.4	4.8	4.0
	3.10	4.15	4.75	4.00

I		II	
42.2	42.0	45.6	46.0
37.2	37.4	40.0	40.8
2.3	2.6	6.3	6.6
54.8	55.0	57.6	57.8

II	Σ	η	y	ν
	3.8	3.8	4.4	3.4
	3.0	4.2	4.9	3.7
	3.40	4.00	4.65	3.55

320 - 321

I		II	
31.8	31.9	20.9	20.3
26.0	26.1	14.6	15.2
51.8	52.4	40.4	40.8
44.9	44.7	33.1	32.7

I	Σ	η	y	ν
	3.8	4.8	3.8	2.8
	4.1	4.6	3.6	3.0
	3.95	4.70	3.70	2.90

I		II	
35.6	36.0	24.9	24.4
30.8	30.7	19.0	18.6
55.6	56.0	44.8	44.0
47.7	47.7	36.1	36.2

	Σ	η	y	ν
	4.0	4.4	4.4	3.9
	4.1	3.4	3.2	3.5
	4.05	3.90	3.80	3.25

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321 – 322

I		II	
25.9	26.4	29.6	28.8
20.1	20.2	22.6	22.9
45.8	45.6	47.6	48.7
37.4	37.8	40.0	40.1

I	E	H	G	K
	3.7	4.6	4.0	4.2
	3.6	5.2	4.8	3.8
	3.65	4.90	4.40	4.00

I		II	
29.6	30.0	31.9	31.9
24.7	25.4	26.6	27.7
49.8	50.4	52.6	52.2
41.6	41.6	42.8	44.8

II	E	H	G	K
	2.3	4.0	5.0	2.8
	3.6	4.8	3.5	4.7
	2.95	4.40	4.25	3.75
	.95			

322 – 323

I		II	
34.9	35.8	28.6	29.3
29.3	29.1	23.1	23.6
54.4	53.6	48.2	47.8
45.9	46.3	40.2	39.6

I	E	H	G	K
	2.8	3.7	5.3	4.1
	2.9	4.0	5.45	3.4
	2.85	3.85	5.35	3.75
			40	

I		II	
37.7	38.7	31.8	32.0
33.0	33.1	26.6	27.0
59.7	59.1	52.7	52.3
50.0	49.7	43.6	43.6

II	E	H	G	K
	3.2	3.5	4.5	3.4
	2.7	3.4	4.5	4.0
	2.95	3.45	4.5	3.70

323 – 324

I		II	
44.0	43.4	22.5	21.9
38.6	38.8	17.2	17.0
4.8	4.6	42.6	43.1
5			3.6
54.3	55.6	33.8	34.0

I	E	H	G	K
	3.0	4.4	2.2	3.5
	4.6	3.8	3.0	3.6
	3.80	4.10	2.60	4.05
				3.55

I		II	
47.0	48.0	25.7	25.6
43.0	42.6	20.8	21.6
47.0	7.6	46.0	46.0
38.8	59.2	37.2	36.3

II	E	H	G	K
	3.2	3.6	3.4	3.4
	3.7	4.6	2.9	2.7
	3.45	4.10	3.15	3.05

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May 22

312° - 327°

324 - 325

I		II	
27.2	27.0	45.9	46.2
21.9	22.6	40.9	41.6
47.6	47.4	7.0	7.0
39.0	38.7	57.6	57.7

I	Σ	h	g	H
	2.7	4.5	3.0	2.1
	2.9	3.7	2.8	2.5
	280	410	290	490 230

I		II	
31.0	29.9 29.9	48.4	48.8
27.2	26.4 26.3	45.1	45.8
51.2	50.6 50.2	9.3	10.2
40.7	41.1 40.2	0.1	0.6

II	Σ	h	g	H
	2.5	4.2	2.3	2.5
	2.6	4.2	3.2	2.9
	255	420	275	270

325 - 326

I		II	
25.1	25.0	33.8	34.6
20.8	21.2	30.1	30.9
44.7	45.1	54.7	56.1
36.0	36.0	46.1	46.1

I	Σ	h	g	H
	3.5	3.0	4.1	3.8
	4.0	3.4	3.5	4.0
	3.75	3.20	3.80	3.90

I		II	
28.6	29.0	37.7	38.1
23.8	24.6	34.1	34.0
48.8	48.6	58.1	58.4
39.8	40.0	49.6	49.6

II	Σ	h	g	H
	3.9	4.0	3.4	3.5
	3.5	3.1	3.3	3.5
	3.70	3.55	~~2.85~~ 3.35	3.50

326 - 327

I		II	
35.7	36.2 37.0	36.0 36.0	36.6 36.0
30.6	31.8 31.7	31.8 31.7	32.0 31.6
55.0	56.3 56.4	55.8 56.4	55.3 55.6
46.1	47.0 46.9	46.4 47.8	47.2 47.6

I	Σ	h	g	H
	3.5	3.4	3.5	2.4
	3.1	3.4	2.7	2.9
	~~2.80~~ 3.40 3.30	3.40	3.10	2.65

I		II	
39.7	39.1	39.4	39.8 39.6 39.1
35.2	35.1	36.1	36.1 35.7 35.1
59.8	59.1	60	59.3 59.1 59.9
49.4	49.8	50.0	49.8 50.2 49.7

II	Σ	h	g	H
	3.4	4.3	4.2	3.6
	3.8	4.4	2.9	2.0
	3.60	4.35	3.55	2.80

3.0	3.5 3.7	3.8	3.0
3.1	3.5	4.3	2.1
3.05	3.50	4.05	2.55
3.60	4.20 3.60	3.55	2.80
3.32	3.57	3.80	2.67

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Cloudy throughout both Series.

May 25 $M_1 S_2 = 54.0$ $327° - 342°$

327-328

I

31.6	32.2	32.0	33.8	33.3	33.6	33.9	33.6	34.1
26.6	29.8	29.9	31.4	31.6	30.8	31.6	30.9	30.9
52.2	52.4	53.0	53.7	53.7	53.9	53.8	54.6	53.8
42.7	43.6	44.1	45.1	45.4	45.0	45.2	45.1	

38.6	38.8	37.5	36.8	36.8	36.6	36.7	37.1	
27.1	37.0	35.8	35.8	35.1	35.6	35.1	35.6	
57.8	57.0	56.6	57.6	57.7	57.0	57.6	57.2	
50.1	50.0	48.7	48.7	48.6	48.2	48.2	48.3	

I

ε	η
4.2	3.9
4.3	3.8
4.0	3.2
4.2	3.0
4.7	3.4
4.28	3.46

3.3
3.6
2.2
3.0
3.2
3.26

3.10

327-328

II

22.3	22.0
20.0	20.8
42.1	41.8
32.4	32.8

II

25.4	25.6
24.2	24.9
46.4	46.6
35.8	36.8

II

ε	η	ζ	H
3.1	4.3	4.3	3.4
3.6	4.1	4.8	4.0
3.35	4.20	4.55	3.70

328-329

I

24.7	24.8	25.7
23.1	24.0	24.4
45.4	45.3	46.0
36.6	36.9	36.7

II	
20.6	20.2
19.1	19.8
42.0	41.6
31.4	31.0

I

ε	η	ζ	H
3.9	4.3	3.9	4.7
4.4	4.3	4.8	5.5
4.3	3.8	4.0	5.4
4.20	4.13	4.23	5.20

I

28.6	29.2	29.6
27.4	28.3	28.2
49.3	50.1	50.0
41.3	42.4	42.1

II	
24.8	25.6
23.7	24.1
46.0	46.0
36.6	36.7

II

ε	η	ζ	H
4.2	4.6	4.0	5.2
5.4	4.3	4.4	5.7
4.80	4.45	4.20	5.45

329-330

I

36.9	37.4
36.1	36.0
58.4	57.6
50.0	49.5

II	
39.8	39.3
38.8	38.7
0.7	0.7
50.7	51.2

I

ε	η	ζ	H
2.8	4.1	3.5	3.4
3.3	4.8	5.0	4.5
3.05	4.45	4.25	3.95

I

39.7	40.7
40.2	40.8
1.9	2.6
53.4	54.0

II	
42.9	42.9
42.8	43.2
4.9	5.1
55.8	55.4

II

ε	η	ζ	H
3.1	4.0	4.2	5.1
3.6	4.5	4.4	4.2
3.35	4.25	4.30	4.65

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330 – 331

I		II	
31.1			
30.9	30.4	26.0	26.0
30.1	30.7	25.4	25.4
52.3	52.7	47.0	47.0
44.0	43.7	37.6	37.6

	Σ	x	y	H
	4.5	4.5	4.7	4.0
I	4.7 ~~5.4~~	4.9	4.5	5.1
	~~4.95~~ 4.60	4.70	4.60	4.55

I		II	
35.4	35.8	30.2	30.7
34.6	35.6	30.0	29.9
57.0	57.2	51.5	52.0
48.7	48.8	42.3	43.2

	Σ	x	y	H
II	4.2	4.6	4.6	4.7
	4.7	4.5	5.0	5.6
	4.45	4.55	4.75	5.15

331 – 332

I		II	
37.1	37.6	29.6	29.8
36.1	37.1	28.9	29.0
58.6	58.2	51.0	51.0
50.3	50.5	42.2	42.6

	Σ	x	y	H
	4.0	4.8	4.0	4.0
I	4.0	4.5	5.4	4.8 4
	4.00	4.40	4.70	4.420

I		II	
41.1	41.6	33.1	34.5
40.4	41.6	33.1	33.6
2.6	3.6	55.0	56.0
54.3	54.9	46.2	46.2

	Σ	x	y	H
II	3.5	4.2	4.0	4.0
	4.7	4.6	5.0	3.6
	4.16	4.40	4.50	3.80

332 – 333

I		II	
37.4	38.2	33.7	34.1
37.3	37.0	32.9	33.1
58.7	58.7	54.7	54.4
50.0	50.6	45.7	45.6

	Σ	x	y	H
	4.6	4.6	4.3	3.9
I	4.4	5.1	4.4	3.8
	4.50	4.75	4.35	3.85

I		II	
42.0	42.6	37.5	37.9
41.9	42.1	~~38.7~~	~~38.0~~
3.0	3.1	37.4	38.1
53.9	54.4	59.3	59.2
		50.0	~~49.9~~

	Σ	x	y	H
II	3.28	4.5	4.6	4.3
	3.8	5.0	4.8	4.3
	3.50 3.60	4.75	4.70	4.30

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May 25

333-334

I		II	
35.3	35.6	26.0	26.4
35.0	35.6	26.1	26.1
56.1	56.2	47.6	47.0
48.0	48.5	38.3	38.6

I	ε	η	ϑ	ϰ
	3.3	3.6	4.2	3.7
	3.0	4.3	5.0	3.7
	3.15	3.95	4.60	3.70

327° - 342°

I		II	
38.6	38.6	29.0	29.9
38.6	39.9	30.4	30.7
0.3	1.2	57.6	57.6
51.8	52.2	42.2	42.8

II	ε	η	ϑ	ϰ
	3.0	4.3	4.0	3.9
	3.5	4.6	4.6	4.2
	3.25	4.45	4.30	4.05

334-335

I		II	
29.0	28.0	34.2	34.6
29.0	29.3	34.9	34.3
50.2	49.9	55.9	56.4
41.8	41.3	47.1	47.0

I	ε	η	ϑ	ϰ
	3.1	4.4	4.7	4.5
4.8	5.5	4.4	4.3	4.7
	4.30	4.40	5.00	4.60
	3.95		4.50	

I		II	
	32.8		
32.1	33.5	38.0	38.0
33.4	33.7	38.2	39.0
54.9	55.2	0.0	0.6
46.3	46.0	51.0	51.3

II	ε			
	3.8	3.3	4.1	3.9
	3.4	4.7	4.2	4.3
	3.60	4.00	4.15	4.10

335-336

I		II	
14.8	15.7	32.1	33.6
16.1	15.9	32.6	33.2
37.2	37.6	53.9	54.2
29.0	29.0	45.2	45.8

I	ε	η	ϑ	ϰ
	4.0	4.1	4.5	3.6
	4.4	4.2	4.0	3.3
	4.20	4.15	4.25	3.45

I		II	
18.8	20.1	36.0	36.3
20.2	20.1	37.0	37.6
41.7	41.6	58.6	58.9
32.6	32.3	48.8	48.8

II	ε	η		
	3.9	4.4	4.7	3.6
	2.7	4.4	4.7	3.0
	3.30	4.40	4.70	3.30

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336-337

I		II	
31.6	32.3	30.5	29.2
31.6	31.6	29.9	30.8
53.0	52.7	51.6	52.0
44.2	44.3	42.0	42.7

	ε	η	γ	H
I	3.9	2.7	4.0	4.6 3.4
	3.0	2.7	4.6	5.6 3.7
	2.75	4.30	5.10	3.55
	2.70			

J		II	
34.3	35.8	33.7	34.1
35.6	36.2	34.4	35.0
57.6	58.3	56.4	56.4
47.6	48.0	46.3	46.4

	ε	η	γ	H
	3.2	4.5	4.8	4.3
II	4.2	4.9	4.2	4.4 3.7
	4.05	4.35	4.60	4.00
	3.70			

337-338

I		II	
29.3	29.6	31.9	32.4
29.9	29.8	33.6	33.2
51.9	51.8	55.3	55.6
42.5	42.2	45.2	45.0

	ε	η	γ	H
I	4.3	4.9	4.8	3.8
	4.4	5.4	4.5	4.4
	4.35	5.20	4.65	4.10
		5.15		

I		II	
33.6	34.0	37.0	36.8
34.8	35.2	38.2	38.3
56.7	56.3	1.0	1.1
46.8	46.6	49.2	49.2

	ε	η	γ	H
II	5.1	4.6	5.7	4.0
	4.4	5.1	5.5	4.2
	4.75	4.85	5.60	4.10

338-339

I		II	
38.9	38.8	32.7	32.3
39.7	40.1	33.7	34.2
1.9	2.0	55.4	55.9
51.8	51.5	45.0	45.1

	ε	η	γ	H
I	3.9	4.1	4.4	2.9
	4.6	4.8	5.2	3.2
	4.25	4.20	4.80	3.05
		4.15		

I		II	
42.8	43.4	37.1	36.9
43.8	44.3	38.3	38.3
6.3	7.2	0.7	1.1
44.7	54.7	47.8	48.6

	ε	η	γ	H
II	4.4	4.6	5.3	2.8
	4.6	4.1	5.2	3.5
	4.50	4.35	5.25	3.15

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May 25

339-340

I		II	
32.6	32.5	36.7	37.6 38.1
33.0	33.2	38.3	39.2
54.6	55.4	0.9	1.6
44.1	43.7	48.8	48.7

327° - 342°

I		Mean	II	
35.9	35.6	35.8	35.8	41.2 41.3
37.2	38.2	37.2	37.2	43.0 42.8
0.9	1.3	0.6	0.8	6.2 6.1
47.6	48.7	47.6	47.6	53.0 53.0

I	E	H	G	H
3	3.6	3.9	5.5	3.6
	3.2	4.2	6.0	3.5
	3.3	4.0	5.4	3.9
	3.03	4.03	6.63	3.7
+	.33			

II	E			
	4.5	4.7	5.8	4.2
	3.7	3.6	4.5	4.3
+	4.10	4.15	4.90	4.25

340-341

I		II	
27.9	27.8	42.1	42.3
28.6	29.6 7	43.1	43.1
52.3	52.3	6.3	6.7
39.0	38.7	53.4	53.8 2

I		II	
32.4	33.4	46.6	47.7
34.6	34.9	48.7	49.0
56.7	56.9	11.1	10.9
43.0	43.9	57.5	57.7

I	E	H	G	H
	4.5	6.0	4.4	4.0
	5.6	5.2	4.6	5.2
+	5.05	5.60	4.50	4.60

II	E	H	G	H
	4.5	5.6	4.8	4.1
	5.4	5.9	4.2	4.5
+	4.95	5.75	4.50	4.30

341-342

I		I		II			
34.1	34.7	34.6	33.6	33.5	34.6	34.7 3	34.7 3
36.1	36.3	35.8	36.0	36.0	35.8	35.9	36.0
58.9	58.3	58.3	57.1	58.3	58.6	59.0	58.9
45.3	45.2	45.3	45.1	45.1	45.7	45.2	45.9

I		I		II			
38.7	38.9	38.7	38.9	37.6	38.6	36.9	37.4 36.1
40.6	41.8	40.6	41.8	40.3	41.1	40.5	41.0
3.0	3.4	3.0	3.4	2.8	2.9	2.9	3.2
50.2	50.4	50.2	50.4	48.7	49.9	48.8	50.0

37.4 | I

37.4 | 40.8 | 2.6 | 50.3

I	E	H	G	H
	4.1	4.8	4.7	4.9
	5.3	5.8	5.3	5.3
	4.70	5.30	5.00	5.10
	3.8	4.7	3.7	5.0
	3.5	4.3	4.7	5.1
+	3.63	4.60	4.37	5.05

II	E	H	G	H
	4.1	4.3	4.5	3.6
	4.0	5.3	4.3	4.2
	4.05	4.80	4.40	3.90
	3.45	4.80	4.10	3.85
	3.85	4.80	4.25	3.88
	3.75			

3.2	4.6	3.9	3.6
3.7	5.0	4.3	4.1
3.45	4.80	4.10	3.85

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I

38.2

40.6

3.0

503

~~3.3~~ 4.7 ~~3.7~~ 5.0

~~3.5~~ 4.3 4.7 5.1

3.40 4.50 4.20 5.05

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May 26 1885 Mt. Lk = 63.0 342° – 357°

342° – 343°

I

43.3	43.4	43.7	43.3
47.0	47.1	47.0	47.1
10.9	10.9	10.9	11.1
58.6	57.3	57.8	58.2

I

E	H	G	H
4.5	4.2	4.1	4.0
5.2	4.3	4.5	5.0
4.6	4.3	3.8	4.8
4.4	4.3	4.2	4.4
+5.18			
4.68	4.28	4.15	4.55

I

47.8	48.6	48.3	48.7
51.2	51.4	51.3	51.4
15.0	15.4	14.7	15.3
2.6	2.3	2.6	2.6

342-343

II

16.2	15.6	15.9	15.4
19.6	19.1	19.8	19.4
43.0	43.6	44.0	43.2
29.6	29.1	29.0	29.0

II

E	H	G	H
4.2	4.2	4.2	3.4
4.6	5.0	3.7	4.0
4.40	4.60	3.95	3.70
3.85	4.15	3.50	3.85
4.12	4.38	3.72	3.78

Mean II =

II

20.4	20.2	19.4	19.6
23.8	24.1	23.6	23.9
47.2	47.3	47.2	47.0
33.0	33.1	32.8	32.9

II

E	H	G	H
3.5	3.8	3.2	3.8
4.2	4.5	3.8	3.9
3.85	4.15	3.50	3.85

343 – 344

I

37.5	37.5	37.7	37.1
39.9	39.9	40.6	40.2
4.0	4.0	4.6	3.6
51.0	51.0	51.4	51.4

II

41.4	41.6
44.6	45.4
8.8	9.0
54.6	55.0

49.6	41.2 42.0	41.1	41.4
43.8	44.6	44.7	43.5
7.4	8.5	8.5	7.8
55.2	56.8	55.8	55.1

41.2	45.2
44.2	46.4
8.3	12.4
55.3	58.6

II

45.2	45.6
46.4	48.5
12.4	12.6
59.0	59.0

I

E	H	G	H
3.7	4.7	4.5	5.8
3.6	4.8	4.5	4.8
3.7	2.9	3.2	3.7
4.1	4.0	4.7	3.9
3.78	4.10	4.22	4.55

II

E	H	G	H
3.8	3.8	3.6	4.0
4.0	3.1	3.8	4.0
3.90	3.45	3.70	4.00

344 – 345

I

28.6	28.1
30.7	30.3
55.0	54.4
42.2	42.2

II

28.7	28.8
31.8	31.2
54.9	55.2
41.7	42.0

I

E	H	G	H
4.1	4.7	3.6	3.5
3.47	5.8	5.2	4.4
+4.20			
3.95	5.25	4.40	3.95

I

32.7	32.8
35.4	36.1
58.6	59.6
45.7	46.6

II

31.9	32.4
36.3	36.6
59.8	59.8
45.8	45.9

II

E	H	G	H
3.2	4.5	4.9	4.1
3.6	5.4	4.6	3.9
3.40	4.95	4.75	4.00

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Mt Wh = 66.5 end

345-346

I		II	
37.8	37.8	17.6	16.7
40.2	40.2	20.3	20.0
3.4	3.4	43.6	43.2
51.3	50.9	30.2	30.0

I	E.	H.	G.	H.
	3.1	4.0	3.1	4.3
	3.6	4.1	3.9	4.8
	3.35	4.05	3.50	4.55

I		II	
40.9	41.4	20.7	20.8
44.2	44.3	23.8	23.9
6.9	7.3	47.0	47.2
55.6	55.7	34.6	33.9

II E. H. G. H.

3.1	3.5	3.4	4.4
4.1	3.9	4.0	3.9
3.60	3.70	3.70	4.15

346-347

I		II	
26.4	26.3	37.9	37.8
29.0	29.2	41.6	41.6
51.6	52.0	4.8	4.9
40.3	40.7	57.6	57.9

I	E	H	G	H
	43.4	4.3	3.5	2.7
	4.1	4.5	4.1	3.0
	3.75	4.40	3.80	2.85
	4.25			

I		II	
29.8	30.4	42.6	42.9
33.3	33.7	46.2	46.8
55.1	56.1	8.7	8.6
43.0	43.7	55.1	55.1

II E. H. G. H.

4.7	4.6	3.9	3.5
5.1	5.2	3.7	3.2
4.90	4.90	3.80	3.35

347-348

I		II	
23.7	23.6	31.7	32.0
26.6	27.1	36.1	35.8
49.0	48.7	57.8	58.2
36.7	36.4	44.1	44.6

I	E	H	G	H
	3.3	4.0	3.2	2.5
	4.1	3.8	3.7	3.3
	3.70	3.90	3.75	2.90

I		II	
27.0	27.7	45.8	46.0
30.6	30.9	39.7	39.9
52.8	52.4	2.1	1.9
39.2	39.7	47.6	48.1

II E H G H

4.1	3.6	4.3	3.5
4.0	4.1	3.7	3.5
4.05	3.85	4.00	3.50

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May 26

342° - 357°

348 - 349

I		II	
34.3	32.8	31.6	30.9
36.6	36.8	35.3	35.1
58.7	58.3	57.4	57.2
45.3	45.2	43.0	43.2

I	E	H	G	H
	4.9	4.5	3.9	3.7
	5.7	5.0	4.4	4.9
	5.30	4.75	4.15	4.30

I		II	
38.1	38.5	36.6	36.7
41.1	41.8	40.5	40.6
2.6	2.7	2.2	1.6
49.0	50.1	48.3	47.6

	E	H	G	H
	5.0	5.2	4.8	5.3
	5.8	5.5	4.4	4.4
	5.40	5.35	4.60	4.85

349 - 350

I		II	
36.3	35.3	25.6	25.7
38.4	38.28	29.0	29.2
0.3	59.9	50.1	50.3
47.8	47.8	36.8	37.0

I	E	H	G	H
	2.7	5.0	4.3	3.8
	4.0	6.37	4.3	4.3
	3.35	5.75	4.30	3.55
		45		4.05

I		II	
39.0	39.3	30.3	29.4
43.4	44.7	33.8	34.0
4.6	4.2	54.6	54.3
50.6	52.1	41.2	41.6

II	E	H	G	H
	4.7	4.8	4.5	4.4
	3.7	4.8	4.0	4.6
	4.20	4.80	4.25	4.50

350 - 351

I		II	
34.3	34.2	43.1	44.2
38.2	37.8	46.9	46.8
58.0	58.7	7.6	7.6
47.3	46.3	45.1	54.9

I	E	H	G	H
	2.7	3.9	4.8	3.3
	2.9	5.1	4.1	3.9
	2.80	4.50	4.45	3.60

I		II	
37.0	37.1	47.0	47.4
42.1	42.4	57.6	57.7
2.8	2.8	12.1	12.0
50.6	50.2	58.7	59.0

II	E	H	G	H
	3.9	4.7	4.5	3.6
	3.2	4.9	4.4	4.1
	3.55	4.80	4.45	3.85

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351-352

I		II	
30.3	30.2	22.6	22.8
35.3	35.0	27.0	26.8
55.6	55.3	47.8	47.2
43.3	43.2	34.6	35.1

	Σ	H	G	H
I	3.8	4.1	3.3	3.9
	4.8	4.6	4.6	4.0
	4.30	4.35	3.65	3.95

I		II	
34.1	35.0	26.8	27.1
39.4	39.6	31.2	30.9
59.9	59.3	51.3	51.3
47.2	47.2	39.1	38.3

	Σ	H	G	H
II	4.2	4.2	3.5	4.5
	4.3	4.1	4.1	3.2
	4.25	4.15	3.80	3.85

352-353

I		II	
32.3	31.6	39.6	38.9
36.4	36.3	43.3	43.0
56.3	56.0	3.0	3.0
44.6	44.0	51.0	51.0

	Σ	H	G	H
I	3.6	3.8	3.7	2.7
	5.1	4.0	4.6	4.1
	3.8	3.6	3.9	3.3
	4.17	3.80	4.07	3.37

I		II	
35.9	36.7	42.6	43.6
40.2	40.3	47.2	47.4
0.0	0.6	7.4	7.7
47.3	48.1	54.0	54.0

	Σ	H	G	H
II	3.0	3.9	4.4	3.0
	4.7	4.4	4.7	3.0
	3.85	4.15	4.55	3.00

353-354

I		II	
37.9	37.9	47.0	47.7
41.9	41.2	57.2	57.8
2.0	1.0	10.9	11.1
48.2	49.4	58.7	58.9

	Σ	H	G	H
I	3.9	2.8	6.0	4.9
	4.2	4.4	5.4	4.6
	4.05	3.60	4.70	4.75

I		II	
41.8	42.1	51.5	51.5
44.7	45.6	55.0	55.3
6.0	6.4	16.2	16.4
53.1	54.0	3.2	3.3

	Σ	H	G	H
II	4.5	3.8	5.8	4.5
	3.8	3.5	5.3	4.4
	4.15	3.65	5.30	4.45

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May 26

342° – 357°

354 – 355

I		II	
38.7	38.6 38.8	33.9 38.6	34.2 34.8
41.8	41.8 42.2	36.8 36.6	37.2 37.3
3.1	2.7 3.0	58.6 58.3	58.6 58.6
50.2	50.0 50.2	45.2 45.2	45.1 45.3

I		II	
43.1	43.4 43.6	39.1 39.2	38.8 39.1
46.0	46.8 46.7	42.2 42.6	42.2 42.3
57.6	8.3 8.0	4.0 3.6	3.9 3.9
54.6	54.7 54.7	50.2 50.3	49.8 49.7

I

E	H	G	H
4.4	4.2	4.5	4.4
4.8	5.0	5.6	4.7
4.8	4.5	5.0	4.5
4.67	4.57	5.04	4.53

II

E	H	G	H
5.2	5.4	5.4	5.0
4.6	4.8	5.3	5.1
4.90	4.70	5.30	4.55
4.45	5.00	5.30	4.80
+ 4.68	4.85	5.32	4.80

E	H	G	H
4.6	5.0	5.3	4.7
4.3	5.0	5.3	4.4
4.45	5.00	5.30	4.55

355 – 356

I		II	
44.7	45.1	38.8 38.7	38.9
48.2	48.0	41.8 41.8	42.1
9.6	9.9	3.3 3.6	4.0
56.0	56.7	49.9 50.6	50.0

I		II	
49.0	49.0	43.9 43.9	42.7
52.3	53.0	46.7 47.1	46.0
14.0	14.2	9.0 8.6	8.6
0.0	0.7	54.3 54.3	54.0

I

E	H	G	H
4.3	4.1	4.4	4.0
3.9	5.0	4.3	4.0
4.10	4.55	4.35	4.00

II

E	H	G	H
5.1	4.9	5.7	4.4
5.2	5.3	5.0	3.7
3.8	3.9	4.0	4.0
4.50	4.60	4.50	3.85

3.8 3.9 4.6 4.0

356 – 357

I		II	
41.1	40.8	41.2	41.2
43.9	43.2	43.7	43.9
5.9	5.8 4.9	5.9	6.3
52.2	52.3	52.6	52.3

I		II	
45.4	45.1	45.3	45.3
47.7	47.7	47.8	48.2
11.2	11.3	11.0	11.6
55.3	56.1	55.3	55.8

I

E	H	G	H
4.3	3.8	5.4.3	3.1
4.3	4.5	6.4.5	3.8
4.30	4.15	5.40	3.45

II

E	H	G	H
4.1	4.1	5.1	2.7
4.1	4.3	5.3	3.5
4.10	4.20	5.20	3.10

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1885phae..proj..1767.

97

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May 27 ΔH $h = 64.3$ $357° - 12°$

$357° - 358°$

I	I
19.3 18.9	42.1 42.6
21.3 21.2	45.8 44.8
49.6 49.7	13.2 13.2
31.8 31.4	54.1 54.7

I	II
26.0 26.3	47.0 47.4
28.1 28.0	49.3 49.7
55.7 55.0	17.2 17.0
37.3 37.3	58.0 58.2

I Σ h g H
6.7 6.8 6.1 5.5
7.4 6.8 5.3 5.9
7.05 6.80 5.70 5.70
Subtract 1" = 8.05 5.80 4.70 4.70

I Σ h g H
4.9 3.5 4.0 3.9
4.8 4.9 3.6 3.5
4.85 4.20 3.90 3.70

Means I
Σ h g H
6.05 5.80 4.70 4.70
4.85 4.20 3.90 3.70
5.45 5.00 4.30 4.20

$357 - 358$

II
42.0 41.9 | 42.4 42.4 | 42.7 42.2
44.5 45.0 | 45.1 45.2 | 45.3 46.3
12.6 13.1 | 13.4 13.6 | 13.0 13.1
54.0 54.9 | 54.1 54.7 | 55.0 54.0

II
47.6 47.8 | 47.2 47.0 | 47.6 47.2
49.7 49.9 | 49.6 49.7 | 50.0 49.8
17.7 17.2 | 16.9 17.2 | 17.4 17.6
58.8 58.6 | 58.0 58.0 | 58.8 58.3

II Σ h g H
5.6 5.2 5.1 4.8
5.9 4.9 4.1 3.7
5.75 5.05 4.60 4.25
4.40 4.50 3.55 3.60
4.95 4.10 4.45 4.05
Means II = 5.13 4.55 4.20 3.97

Σ h g H
4.8 4.5 3.5 3.9
4.6 4.5 3.6 3.3
4.70 4.50 3.55 3.60

Σ h g H
4.9 4.7 4.4 3.8
5.0 3.5 4.5 4.3
4.95 4.10 4.45 4.05

$358 - 359$

I
33.3 33.9 | 35.6 35.1 | 33.6 33.5 | 33.8 33.8
35.8 36.6 | 37.2 37.2 | 36.1 36.0 | 35.8 35.8
3.8 3.6 | 5.8 4.4 | 3.6 3.6 | 3.7 3.7
44.2 45.1 | 46.9 46.2 | 44.7 44.9 | 44.8 44.8

II
38.4 37.9 | 40.6 | 41.9 | 40.2
42.0 41.3 | 43.7 | 42.6 | 42.2
7.9 7.7 | 10.7 | 13.6 | 10.6
50.0 49.0 | 52.2 | 55.8 | 52.3

II
38.6 38.5 | 37.7 37.9
41.7 41.9 | 40.9 41.4
6.2 6.8 | 7.6 7.8
49.6 49.0 | 49.6 49.1

I Σ h g H
5.0 6.5 4.9 5.3
5.1 6.0 6.2 6.1
5.05 6.25 5.55 5.70
4.55 5.45 4.65 4.85
Means I = 4.80 5.55 5.10 5.28

I Σ h g H
5.1 6.2 5.2 5.8
4.0 4.7 4.1 3.4
4.55 5.45 4.65 4.85

II Σ h g H
5.40 5.6 4.6 4.9
5.0 5.9 5.2 4.1
5.00 5.75 4.90 4.50

Σ h g H
3.9 5.1 3.9 4.8
4.1 5.6 4.3 4.3
4.00 5.35 4.00 4.55
5.00 5.75 4.90 4.50
4.50 5.55 4.45 4.52

$359 - 360$

I
34.7 34.4
37.8 37.8
5.0 3.6
47.0 46.7

II
26.4 26.9
30.6 30.2
56.9 57.1
38.8 39.2

Means II

I
39.6 40.0
42.4 42.7
9.3 9.9
52.1 52.3

II
31.8 31.4
35.2 35.6
2.0 1.9
43.6 43.6

I Σ h g H
4.9 4.6 4.3 5.1
5.6 4.9 6.3 5.6
5.25 4.75 5.30 5.35

II Σ h g H
5.4 4.6 5.1 4.8
4.5 5.4 4.8 4.4
4.95 5.00 4.95 4.60

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ΔH Sh = 67.5 cal.

0° – 1°

I		II	
34.8	34.2		
35.6	34.1	34.3	34.1
38.0	37.7		
4.8	4.6		
47.3	47.2		

		I		II	
		40.2	40.2		
39.9	40.6	39.6	40.8	47.6	48.2
42.6	42.8			52.4	52.1
9.6	10.1			17.6	18.0
52.6	52.2			59.2	59.1

I	Σ	H	G	H
	5.4	4.6	4.8	5.3
	6.0	5.1	5.5	5.0
	5.70	4.75	5.15	5.15
		65		

II	Σ	H	G	H
	5.5	4.5	4.7	5.0
	6.5	5.8	6.0	4.9
	6.00	5.15	5.35	4.95

1° – 2°

	I		II	
28.4	28.6		38.2	38.3
30.9	30.7		40.8	40.6
57.7	56.9		7.5	7.7
40.2	39.9		49.7	49.3

	I	II	
33.8	33.9	43.8	42.5
36.1	36.0	45.7	45.2
3.2	2.8	13.6	13.0
45.0	45.1	49	54.0

I	Σ	H	G	H
	5.4	5.2	5.5	4.8
	5.3	5.3	5.9	5.2
	5.35	5.25	5.70	5.00

II	Σ	H	G	H
	5.6	4.9	6.1	5.2
	4.2	4.6	5.3	4.7
	4.90	4.75	5.70	4.95

2° – 3°

	I		II		
32.0	31.2		38.0	38.3	38.4
33.8	34.0		40.2	40.4	40.7
1.8	1.1		8.2	8.7	8.8
43.7	43.0		49.4	49.1	50.0

	I	II	
36.9	36.3	44.1	43.4	43.9
39.0	39.3	46.2	46.1	45.9
7.1	7.3	14.3	14.6	14.0
48.7	48.8	53.6	55.0	55.0

I	Σ	H	G	H
	4.9	5.2	5.3	5.0
	5.1	5.3	6.2	5.8
	5.00	5.25	5.75	5.40

II	Σ	H	G	H
	~~6.1~~	~~6.0~~	~~6.1~~	6.2
	5.1	5.7	5.9	5.9
	~~5.60~~	5.85	~~6.00~~	6.05

II	Σ	H	G	H
	5.1	5.7	5.9	5.9
	5.5	5.2	5.2	5.0
	5.30	5.45	5.55	5.45

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3° – 4°

I		II	
32.2	31.8	28.0	27.8
34.7	34.8	30.1	30.0
2.6	1.7	58.0	58.0
44.1	44.3	39.6	39.2

	Σ	H	G	N
I	5.8	5.2	6.1	5.6
	6.5	5.2	6.8	5.3
	6.15	5.20	6.45	5.45

357° – 12°

I		II	
38.0	38.3	33.6	32.9
39.9	40.0	36.1	35.4
8.7	8.5	4.9	4.0
49.7	49.6	44.8	44.6

	Σ	H	G	N
II	5.6	6.0	6.9	5.2
	5.1	5.4	6.0	5.4
	5.35	5.70	6.45	5.30

4° – 5°

I		II	
37.8	37.6	19.0	17.6
39.2	39.2	20.6	19.8
8.1	8.3	48.7	48.6
49.1	49.0	29.9	29.0

	Σ	H	G	N
I	5.3	5.6	6.1	5.0
	5.2	5.6	5.7	6.0
	4.75	5.60	4.90	5.50
	5.25		5.90	

I		II	
42.1	42.8	24.6	23.6
44.8	44.8	25.0	25.7
14.2	14.0	55.0	54.8
54.1	55.0	35.0	34.7

	Σ	H	G	N
II	5.6	4.4	6.3	5.1
	6.0	5.9	6.2	5.7
	5.80	5.15	6.25	5.40

5° – 6°

I		II		
27.0	27.7	34.3	34.6	34.7
29.2	29.2	36.0	36.1	36.7
58.0	58.8	6.3	5.3	6.6
38.7	39.2	45.4	45.6	45.8

	Σ	H	G	N
I	5.4	5.5	6.2	5.1
	4.9	5.9	4.9	5.6
	5.15	5.70	5.55	4.85
			6.05	5.35

I		II		
32.4	32.6	40.1	40.9	40.3
34.7	35.1	42.6	42.6	42.0
4.2	4.7	11.8	11.9	11.4
43.8	43.8	51.2	51.3	51.1

	Σ	H	G	N
II	5.8	6.6	5.5	5.8
	6.3	6.5	6.6	5.7
	5.6	5.3	4.8	5.3
	5.90	6.13	5.63	5.60

5.6 5.3 4.8 5.3

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6° – 7°

I		II	
33.2	33.1	25.3	25.8
35.1	36.0	28.6	27.7
4.2	5.0	57.6	57.6
44.4	45.1	37.7	37.9

I	ε	η	ϑ	H
	5.7	6.7	5.9	6.0
	5.9	6.1	4.8	5.0
	5.80	6.40	5.35	5.50

I		II	
38.9	39.0	31.1	31.9
41.8	42.1	34.2	34.4
1 0.1	9.8	2.9	2.9
50.4	50.1	42.7	43.0

	ε	η	ϑ	H
	5.8	5.6	5.3	4.5 5.0
	6.1	6.7	5.2	5.1
	5.95	6.15	5.30	4.80 5.05

7° – 8°

I		II	
37.2	37.6	33.9	33.0
39.8	40.2	35.6	35.0
8.6	8.7	3.1	3.4
48.7	48.8	43.6	43.3

I	ε	η	ϑ	H
	5.4	6.1	5.0	4.4
	5.3	5.7	5.9	4.9
	5.35	5.90	5.45	4.65

I		II	
42.6	42.9	37.6	38.0
45.9	45.9	40.5	40.6
13.6	14.6	9.0	9.3
53.1	53.7	47.9	48.6

II	ε	η	ϑ	H
	4 3.7	4.9	5.9	4.3
	5.0	5.6	5.9	5.3
	4.85	5.25	5.90	4.80

8° – 9°

I		II	
28.7	28.7	32.3	32.5
30.6	31.1	35.3	35.4
59.1	58.7	3.7	2.9
39.0	39.0	42.6	42.5

I	ε	η	ϑ	H
	3.7	5.7	4.5	4.8
	4.3	5.2	5.1	4.8
	4.00	5.45	4.80	4.80

I		II	
32.4	33.0	36.7	36.8
36.3	36.3	40.1	40.7
83.6	3.8	7.3	8.0
43.8	43.8	47.0	47.6

II	ε	η	ϑ	H
	4.4	4.8	3.6	4.4
	4.2	5.3	5.1	5.1
	4.35	5.05	4.35	4.75

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9°–10°

I		II	
38.6	39.6	45.8	45.6
43.0	43.2	49.7	48.7
10.2	10.2	16.4	16.0
50.1	50.2	56.7	56.2

I E F G H
5.6 6.4 5.0 5.1
4.1 6.4 5.0 5.1
480 6.55 5.00 5.10

357°–12°

I		II	
44.1	43.7	50.1	50.2
49.7	49.6	55.0	55.8
15.2	15.2	21.0	20.5
55.2	55.3	1.3	1.3

II E F G H
4.3 5.3 4.6 4.6
4.6 7.1 ~~3.9~~ 5.1
445 ~~5.70~~ 4.40 485
6.20 4.55

10°–11°

I		II	
42.4	41.9	25.1	24.7
47.6	47.6	30.8	30.4
12.9	13.0	55.6	55.8
53.4	54.2	37.2	36.7 37.1

I E F G H
4.9 4.2 4.4 ~~3.5~~ 4
5.1 4.2 4.6 ~~3.9~~
500 4.20 4.50 ~~3.70~~ 4.20

I		II	
47.3	47.0	30.3	30.7
51.8	51.8	35.0	35.1
17.3	17.6	0.6	0.9
57.9	58.1	41.8	41.8

II E F G H
5.2 4.2 5.0 4.6 51
6.0 4.7 5.1 ~~4.7~~
560 4.45 5.05 ~~4.65~~ 4.85

11°–12°

I		II	
42.7	43.8	43.6	43.2
47.6	48.6	48.6	48.7
13.1	13.6	13.6 ~~13.3~~	13.6
54.6	55.0	54.8	54.4

I E F G H
4.7 6.0 5.0 4.6
4.3 5.4 5.1 4.7
450 5.70 5.05 4.65

I		II	
47.4	48.1	47.9	48.0
53.6	54.0	53.6	54.0
18.1	18.7	17.8	17.9
59.2	59.7	59.5	59.4

II E F G H
4.3 5.0 ~~4.2~~ 3.5 4.7
4.8 5.3 4.3 5.0
455 515 ~~3.40~~ 4.25 485

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May 28 Alt $\odot$ = 62.6

12°–13°

I

25.9	26.6	26.3	27.0
30.8	31.7	31.0	31.7
54.8	55.2	54.3	55.4
37.6	38.2	37.6	38.2

I	Σ	ζ	η	H
	6.7	6.5	5.5	5.1
	6.2	6.0	6.5	4.7
	6.45	6.25	6.00	4.90

12°–13°

II

18.9	19.1	19.4	19.6
24.4	23.7	23.7	23.8
48.6	48.6	48.8	48.2
29.7	29.9	29.7	29.3

II	Σ	ζ	η	H
	7.2	6.6	6.3	6.4
	7.9	7.9	6.5	6.7
	7.55	7.25	6.40	6.55

13°–14°

I

27.1	26.6		
31.2	31.9		
54.9	54.6		
37.2	36.8		

II

42.4	42.7	42.7	43.1
46.9	47.2	47.0	47.0
11.0	11.1	10.8	11.0
52.0	52.2	52.1	52.0

	Σ	ζ	η	H
I	5.5	6.4	6.0	5.2
	6.3	6.3	6.3	6.7
	5.90	6.35	6.65	5.95

14°–15°

I

30.4	30.4	30.8	30.1
35.8	35.2	35.9	35.8
59.2	59.0	59.0	58.3
41.1	41.3	41.2	41.6

II

31.8	32.1		
37.0	37.0		
0.0	0.6		
41.6	41.9		

I	Σ	ζ	η	H
	4.9	4.6	5.5	5.3
	5.0	5.5	5.8	5.3
	4.95	5.05	5.65	5.30

Means I: 5.15 4.70 6.40 5.30 / 5.05 4.88 6.02 5.30

12° 27°

I

32.6	32.8	32.4	32.9
37.3	37.7	37.3	37.6
0.3	1.7	0.2	1.3
42.7	42.9	42.1	43.0

I	Σ	ζ	η	H
	6.1	6.3	5.9	4.5
	5.9	5.9	5.9	4.8
	6.00	6.10	5.90	4.65

Means I

6.45	6.25	6.00	4.90
6.00	6.10	5.90	4.65
6.22	6.18	5.95	4.78

II

26.1	27.0	27.3	26.9
31.0	31.6	31.6	30.9
54.9	55.1	55.1	55.2
36.1	36.6	36.3	36.2

II	Σ	ζ	η	H
	7.9	7.9	6.3	6.6
	7.3	7.1	7.0	6.9
	7.60	7.50	6.65	6.75

Means II

7.55	7.25	6.40	6.55
7.60	7.50	6.65	6.75
7.58	7.38	6.52	6.65
-1.2	-1.2	-1.2	-1.2
6.38	6.18	5.32	5.45

I

32.6	32.9		
37.6	38.2		
0.9	1.9		
42.4	43.5		

II

49.1	49.7	48.6	49.1
54.8	54.9	54.0	54.2
17.3	17.4	17.3	17.3
59.1	59.0	58.9	58.6

II	Σ	ζ	η	H
	6.7	7.4	6.3	7.1
	7.0	7.7	6.3	6.8
	6.85	7.80	6.30	6.95
	5.95	7.10	6.40	6.70
	6.40	7.45	6.35	6.82
	5.20	6.25	6.75	5.62

	Σ	ζ	η	H
	5.9	7.0	6.5	6.8
	6.0	7.2	6.3	6.6
	5.95	7.10	6.40	6.70

Means II = 5.20 6.25 6.75 5.62

I

35.3	35.4	35.2	36.0
40.4	40.7	40.5	40.6
4.7	4.8	4.9	5.2
46.4	46.6	46.4	47.0

II

38.4	39.4		
42.7	43.9		
7.8	8.2		
48.2	49.0		

I	Σ	ζ	η	H
	4.4	4.6	5.9	5.2
	5.9	4.8	6.9	5.4
	5.15	4.70	6.40	5.30

II	Σ	ζ	η	H
	6.6	5.7	7.8	6.6
	6.3	6.9	7.6	7.1
	6.95	6.30	7.70	6.85
	5.25	5.10	6.50	5.65

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All h = 64.9

15°–16°

I		II	
26.0	26.1	23.1	23.0
31.2	30.4	26.8	27.4
54.9	54.5	51.3	51.8
37.0	36.8	32.8	32.4

I	ε	h	ey	H
	6.0	5.0	6.1	5.8
	6.7	6.4	6.4	5.8
	6.35	5.70	6.25	5.70

I		II	
32.0	32.8	29.8	30.0
36.2	36.8	33.2	33.7
1.0	0.9	58.7	59.0
41.8	42.6	39.4	39.0

II	ε	h	ey	H
	6.7	6.4	7.4	6.6
	7.0	6.3	7.2	6.6
	6.85	6.35	7.30	6.60
	5.65	5.15	6.10	5.40

16°–17°

I		II	
34.7	34.9	26.6	27.0
38.0	38.7	30.2	30.9
3.0	3.4	54.9	55.6
45.0	44.9	36.8	36.2

I	ε	h	ey	H
	5.2	6.6	5.7	5.0
	5.3	6.3	5.3	5.9
	5.25	6.45	5.50	5.45

I		II	
39.9	41.5 40.2	33.3	33.9
44.6	46.1 45.0	37.6	38.6
8.7	10.2 8.7	2.1	2.4
50.0	57.9 50.8	42.7	43.8

II	ε	h	ey	H
	6.7	7.4	7.2	5.9
	6.9	7.7	6.8	7.6
	6.80	7.55	7.00	6.75
	5.60	6.35	5.80	5.55

17–18

I		II	
40.5	40.9	27.8	28.6
45.1	44.9	32.4	32.6
8.9	9.1	56.9	56.4
37.0	50.8	38.2	38.1

I	ε	h	ey	H
	5.6	4.0	5.3	5.4
	5.9	4.9	5.9	6.3
	5.75	4.45	5.60	5.85

I		II	
46.1	46.8	36.1	35.6
49.1	49.8	38.0	38.7
14.2	15.0	4.0	3.8
56.4	57.1	45.0	45.3

II	ε	h	ey	H
	6.3	5.6	7.1	6.8
	7.0	6.1	7.4	7.2
	7.15	5.85	7.25	7.00
	5.95	4.65	6.05	5.80

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May 28

18–19

I		II	
38.7	39.6	30.5	31.2 ~~32.0~~
41.8	42.3	33.4	34.0
7.9	8.0	58.7	59.3
49.6	49.4	40.2	40.7

I	Σ	H	~~H~~	H
	5.8	4.8	4.1	4.5
	5.8	5.4	5.5	5.9
	5.80	5.10	4.80	5.20

12° – 27°

I		II	
44.5	45.4	38.2	37.2
46.6	47.7	40.0	39.7
12.0	13.5	6.0	5.2
54.1	55.3	46.9	47.0

II	Σ	H	~~H~~	H
	7.7	6.6	7.3	6.7
	6.0	5.7	5.9	6.3
	6.85	6.15	6.60	6.50
	5.65	4.95	5.40	5.30

19° – 20°

I		II	
38.9 ~~39.6~~		38.7	38.7
42.0	41.8	40.3	40.9
7.1	7.4	6.4	6.6
49.4	49.8	47.0	48.1 ~~47.7~~

I	Σ	H	~~H~~	H
	4.0	4.6	5.0	5.4
	5.1	~~4.4~~	5.2	4.8
	~~4.20~~	4.90	4.90	5.30
	4.65			

I		II	
43.8	44.0	44.8	45.1
46.6	47.0	47.1	47.1
12.1	12.2	12.8	12.8
54.8	55.0	54.7	55.1

II	Σ	H	H	H
	6.1	6.8	6.4	7.7
	6.4	6.2	6.2	7.4
	6.25	6.50	6.30	7.55
	5.05	5.30	5.10	6.15

20° – 21°

I		II	
27.4	27.2	~~37.7~~	27.2 27.7
29.7	29.4	~~29.9~~	29.6
53.8	55.2	~~55.0~~	55.0
38.1	38.1	37.6	37.7

I	Σ	H	H	H
	~~4.5~~	5.6	6.2	3.9
	4.7	5.9	5.0	4.9
	4.60	5.75	5.60	4.40

I		II	
38.9	31.9	33.4	33.1
35.3	35.3	36.7	36.4
0.0	0.2	1.3	1.3
42.0	43.0	43.2	42.8

II	Σ	H	H	H
	6.2	7.0	6.3	5.6
	5.4	6.8	6.3	5.1
	5.60	6.90	6.30	5.35
	4.40	5.70	5.10	4.15

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21° - 22°

I		II	
22.2	22.0	30.9	31.2
26.0	25.6	34.0	33.1
50.1	49.6	58.0	58.0
32.6	32.6	40.4	40.4

I	E	H	y	H
	4.4	5.2	4.9	4.7
	5.0	5.2	5.4	5.2
	4.70	5.20	5.15	4.95

I		II	
26.6	27.0	37.1	36.7
31.2	30.8	40.7	40.4
55.0	55.0	46	5.0
37.3	37.8	46.7	46.9

II	E	y	e	H
	6.2	6.7	6.6	6.3
	5.5	7.3	7.0	6.5
	5.85	7.00	6.80	6.40
	4.65	5.80	5.60	5.20

22° - 23°

I		II	
34.8	33.0	29.2	29.6
37.7	37.2	33.0	33.0
14	09	56.4	56.2
43.7	43.9	40.0	39.7

I	E	H	y	H
	43.9	5.4	5.0	5.4
	6.7	6.6	6.3	6.7
	5.30	6.00	5.65	6.05
	5.80			

I		II	
38.7	39.7	36.6	36.7
43.1	43.8	40.3	39.9
6.4	7.2	2.7	2.9
49.1	50.6	45.8	46.0

II	E	H	y	H
	7.4	7.3	6.3	5.8
	7.1	6.9	6.7	6.3
	7.25	7.10	6.50	6.05
	6.05	5.90	5.30	4.85

23 - 24

I		II	
34.6	34.6	30.2	30.1
38.1	38.3	33.1	33.8
1.0	1.1	56.0	56.1
44.6	44.9	39.9	39.1

I	E	H	y	H
	5.3	5.2	4.8	5.1
	5.4	5.5	5.1	4.9
	5.35	5.35	4.95	5.00

I		II	
39.9	40.0	37.2	36.8
43.3	43.8	40.8	40.1
5.8	6.2	1.8	1.7
49.7	49.8	46.0	46.0

II	E	H	y	H
	7.0	6.7	5.8	6.1
	6.7	6.3	5.6	6.9
	6.85	7.00	5.70	6.50
		6.50		
	5.65	5.90	4.50	5.30

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May 28

24–25

I		II	
25.8	39.2 39.2	34.9	36.0
32.3	41.7 41.9	3 48.3	38.6
5.3	3.6 4.8	0.2	0.2
38.2	48.7 48.7	44.5	44.7

I

Σ	Y	y	H
5.1	6.2	6.4	6.0
6.5	6.3	5.8	6.4
5.80	6.25	6.10	6.20
4.60	5.05	4.90	5.00

12° – 27°

I		II	
44.3	45.7	41.7	41.6
47.9	48.2	44.7	44.3
10.0	10.6	6.9	6.6
54.7	55.1	51.5	51.4

II

Σ	Y	y	H
6.8	6.4	6.7	7.0
5.6	5.7	6.4	6.7
6.20	6.05	6.55	6.85
5.00	4.85	5.35	5.65

25–26

I				II	
32.1	32.9	31.6	31.7	39.0	39.6
35.0	35.0	35.6	35.0	42.1	42.2
56.7	57.0	56.4	56.4	3.9	4.1
42.0	42.0	42.0	41.3	46.9	49.6

I

Σ	Y	y	H
7.6	7.8	8.2	6.8
6.4	6.4	6.6	6.2
7.00	7.10	7.40	6.50
5.80	5.90	6.20	5.30

I				II	
39.7	39.3	38.3	38.3	44.8	44.7
42.8	41.4	41.8	41.8	48.4	49.0
4.9	3.6	4.0	3.1	10.2	10.4
48.4	48.2	48.5	47.9	54.8	55.5

I

Σ	Y	y	H
6.7	6.2	7.6	6.5
6.6	6.8	6.7	6.6
6.65	6.50	7.15	6.55
7.00	7.10	7.40	6.50
6.82	6.80	7.28	6.52
5.62	5.60	6.08	5.32

II

Σ	Y	y	H
5.8	6.3	6.3	6.1
6.8 5.4	6.8	6.3	5.9
5.45	6.55	6.30	6.00
6.30			
5.10	5.35	5.10	4.80

26° – 27°

I		II	
34.2	34.3	33.8	33.6
37.0	37.0	36.7	36.9
59.0	59.0	58.8	59.0
43.6	43.7	43.4	43.6

I

Σ	Y	y	H
6.7	6.1	6.6	6.1
6.3	6.2	6.6	6.2
6.50	6.15	6.60	6.15
5.30	4.95	5.40	4.95

I		II	
40.9	40.6	40.5	40.9
43.1	43.2	43.3	43.1
5.6	5.6	5.5	5.3
49.7	49.9	49.2	49.4

II

Σ	Y	y	H
6.7	6.6	6.7	5.8
7.3	6.2	6.3	5.8
7.00	6.40	6.50	5.80
5.80	5.20	5.30	4.60

Note: Support of North weight gave way, displacing Stops 1.2
Subtract 1.2" from Series I 24° to 27° (last three) + from all of Series II

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Hay

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May 29 Mt Th = 57.8

27° – 42°

27° – 28°

S I

19.1 19.9 | 19.4 19.4
20.8 20.6 21.2 20.8
41.1 41.3 41.6 41.6
27.8 28.1 28.4 28.0

N I

26.9 27.6 | 26.7 27.0
29.1 29.1 29.1 29.2
49.3 50.0 49.7 49.3
36.0 36.1 35.6 36.2

I Σ 7.8 8.3 8.2 8.2 / 7.7 8.5 8.7 8.0 = 7.75 8.40 8.45 8.10

I Σ 7.3 7.9 8.1 7.2 / 7.6 8.4 7.7 8.2 = 7.45 8.15 7.90 7.70

Means I 7.75 8.40 8.45 8.10 / 7.45 8.15 7.90 7.70 / 6.10 7.40 7.15 6.60 / 7.10 7.98 7.83 7.47

27–28

II 30.7 30.3 | 30.9 30.2
32.7 32.2 32.1 32.6
53.6 52.8 52.9 53.0
38.7 38.4 38.4 38.6

II 36.1 36.9 | 36.3 37.0
39.3 39.9 39.8 39.7
59.4 59.8 59.9 0.3
44.8 45.1 45.2 45.0

II Σ 5.4 6.6 5.8 6.1 / 6.6 7.7 7.0 6.3 = 6.00 7.15 6.40 6.20

Σ 5.4 7.7 7.0 6.8 / 6.8 7.1 7.3 6.4 = 6.10 7.40 7.15 6.60

28–

28° – 29°

I | II

22.4 22.7 | 30.2 31.0 | 34.9 35.4 34.7
25.3 25.9 | 33.4 33.8 | 37.6 37.2
46.5 45.9 | 53.6 53.9 | 58.0 58.0
32.7 32.8 | 39.1 39.2 | 44.0 43.3

I | II

32.5 33.2 | 38.7 38.8 | 42.3 42.9 43.1
34.8 35.0 | 40.9 40.8 | 45.1 45.3
54.7 54.8 | 0.8 0.6 | 5.8 5.6
40.8 40.7 | 46.5 45.9 | 51.3 50.8

I Σ 10.1 9.5 8.2 8.1 / 10.3 9.1 8.9 7.9 = 10.30 9.30 8.55 8.00 / 7.90 7.80 7.70 7.40

Means I = 9.10 8.55 8.12 7.70

II Σ 8.5 7.5 7.2 7.4 / 7.8 7.0 6.7 6.7 = 8.15 7.25 6.95 7.05

Σ 7.4 7.5 7.8 7.3 / 8.4 8.1 7.6 7.5 = 7.90 7.80 7.70 7.40

29–30

I | II

24.7 24.4 | 29.4 29.7
26.9 26.7 | 32.1 32.1
46.8 46.1 | 52.3 52.2
33.2 33.0 | 38.0 37.6

I | II

32.6 32.7 | 36.0 37.0
33.8 34.9 | 39.0 38.6
54.5 54.9 | 58.7 58.3
40.3 40.8 | 44.0 44.0

I Σ 7.9 6.9 7.7 8.1 / 8.3 8.2 8.8 7.8 = 8.10 7.55 8.25 6.95

II Σ 6.6 6.9 6.4 6.0 / 7.3 6.5 6.1 6.4 = 6.95 6.70 6.25 6.20

Note: For 1st 2d + 5th Sets combined last readings with Series I

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Mh = 62.0

30° - 31°

I		II	
34.8	34.0	39.0	38.6
36.2	36.1	40.9	40.1
56.8	56.4	0.6	0.6
42.8	42.2	46.1	45.7

I		II	
41.6	42.1	45.0	45.0
43.4	42.1	46.8	46.6
4.6	3.6	7.0	7.3
49.4	49.1	52.1	52.0

	E	F	G	H
I	6.8	7.2	7.8	6.6
	8.1	6.0	7.2	6.9
	7.45	6.60	7.50	6.75

II	6.0	5.9	6.4	6.0
	6.4	6.6	6.7	6.3
	6.20	6.20	6.55	6.15

31° - 32°

I		II				I		II			
24.7	25.3	40.8	40.1	40.0	40.3	33.3	33.0	46.9	47.3	47.5	46.9
26.2	25.2	41.9	41.8	41.3	41.3	34.6	34.2	48.6	49.2	49.1	47.8
46.4	46.8	1.6	2.3	2.1	2.2	55.7	55.8	9.8	9.9	10.0	9.2
32.3	32.6	46.6	47.1	47.1	47.8	41.1	40.9	54.6	54.6	55.1	53.8

	E	F	G	H
I	8.6	8.4	9.3	8.8
	7.7	9.0	9.0	8.3
	8.15	8.70	9.15	8.55
	7.05	7.15	7.45	7.00
Means I	+7.60	7.92	8.30	7.78

	E	F	G	H
II	6.1	6.7	8.0	8.0
	7.2	7.4	7.6	7.5
	6.65	7.05	7.80	7.75

E	F	G	H
7.5	7.8	7.9	8.0
6.6	6.5	7.0	6.0
7.05	7.15	7.45	7.00

32 - 33°

I		II				I		II			
34.6	34.1	22.7	23.1	23.1	23.0	41.6	42.4	29.7	30.6	30.7	29.9
35.1	35.2	24.2	24.4	24.3	24.5	42.8	43.2	30.8	31.1	31.6	31.7
56.0	56.0	45.1	44.9	45.0	45.3	4.4	3.9	52.1	52.2	52.8	52.4
41.8	41.9	30.7	30.4	30.7	30.9	50.1	49.9	37.1	37.1	38.1	37.2

	E	F	G	H
I	7.0	7.7	8.4	8.3
	8.3	8.0	7.9	7.1
	7.65	7.85	8.15	7.70

	E	F	G	H
II	7.0	6.6	7.0	6.4
	7.5	6.7	7.3	6.7
	7.25	6.65	7.15	6.55
	7.25	7.25	7.45	6.85
Means II	+7.25	6.95	7.30	6.70

E	F	G	H
7.6	7.3	7.8	7.4
6.9	7.2	7.1	6.3
7.25	7.25	7.45	6.85

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May 29

33° - 34°

I		II	
25.8	25.6	37.9	38.2
26.9	26.2	39.0	39.4
47.7	47.8	0.1	0.3
33.7	33.9	45.3	46.1

	E	H	G	H
I	7.0	7.4	7.2	7.1
	8.3	8.6	7.5	6.7
	7.65	8.20	7.35	6.90

27° - 42°

I		II	
32.8	33.9	45.1	45.1
34.3	34.8	46.9	46.7
54.9	55.3	7.6	6.9
40.8	40.6	52.6	52.3

II	E	H	G	H
	7.2	7.9	7.5	7.3
	6.9	7.3	6.6	6.2
	7.05	7.60	7.05	6.75

34° - 35°

I		II	
26.6	26.1	43.4	44.1
27.8	27.6	46.0	45.8
48.0	48.2	6.2	5.7
34.0	34.0	51.6	51.6

I	E	H	G	H
	7.3	7.3	8.4	8.1
	8.1	7.6	8.1	7.8
	7.70	7.45	8.25	7.95

I		II	
33.9	34.2	51.4	52.6
35.1	35.2	53.0	53.8
56.4	56.3	14.2	14.9
42.1	41.8	59.0	59.7

II	E	H	G	H
	8.0	7.0	8.0	7.4
	8.5	8.0	9.2	8.1
	8.25	7.50	8.60	7.75

35° - 36°

I		II	
35.0	34.6	30.7	30.0
36.2	36.0	31.8	31.2
57.5	57.0	52.1	53.0
42.9	43.0	37.7	38.0

I	E	H	G	H
	7.8	7.8	8.4	8.9
	9.0	7.8	8.1	8.8
	8.40	7.80	8.25	8.85

I		II	
42.8	43.6	36.0	38.7
44.0	43.8	38.9	39.4
5.9	5.1	0.6	0.2
51.8	51.8	46.6	46.8

II	E	H	G	H
	7.3	7.1	8.5	8.9
	8.7	8.2	7.2	8.8
	8.00	7.65	7.85	8.85

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36 - 37

I		II	
26.8	27.2	22.7	23.2
27.7	28.0	23.4	23.8
48.4	48.5	44.6	45.0
35.6	35.9	31.1	31.1

	E	H	G	H
I	8.1	8.0	7.4	7.4
	7.7	8.1	7.9	7.4
	7.90	8.05	7.65	7.55 40

I		II	
34.9	34.9	30.2	30.9
35.7	36.1	31.0	31.0
55.8	56.4	57.8	52.1
43.0	43.3	38.7	38.7

	E	H	G	H
II	7.5	7.7	7.2	7.6
	7.7	7.2	7.1	7.6
	7.60	7.45	7.15	7.60

37 - 38

I		II	
22.4	22.1	26.0	26.6
22.9	22.6	27.0	27.4
43.8	43.4	47.3	46.9
30.6	30.2	34.2	34.6

	E	H	G	H
I	5.0	7.4	7.5	6.5
	7.8	9.0	8.7	8.1
	7.40 40	8.20	8.10	7.30

I		II	
29.4	30.9	32.6	33.9
30.3	31.6	35.1	35.3
51.3	52.1	55.3	55.9
37.1	38.3	41.1	41.6

	E	H	G	H
II	6.6	8.1	8.0	6.9
	7.3	7.89	8.0	7.0
	6.95	7.95 8.00	8.0 8.50	6.95

38 - 39

I		II	
42.7	43.0	36.6	36.4
45.1	44.8	38.0	37.8
5.4	5.0	58.9	58.8
51.7	51.4	44.4	44.7

	E	H	G	H
I	9.4	8.5	9.1	7.0
	9.4	8.8	8.6	7.4
	9.40	8.65	8.85	7.20

I		II	
52.1	52.4	45.6	46.0
53.6	53.6	46.7	47.2
14.5	13.6	7.2	7.4
58.7	58.5	51.6	51.7

	E	H	G	H
II	9.0	8.7	8.3	7.2
	9.6	9.4	8.6	7.0
	9.30	9.05	8.45	7.10

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May 29

39°-40°

I		II	
36.0	36.1	42.7	43.2
37.6	37.3	43.8	44.0
57.9	57.8	4.1	4.2
43.6	43.0	49.6	49.2

	E.	H.	y.	H.
I	9.0	8.7	9.0	7.6
	9.0	9.4	9.1	8.6
	9.00	9.05	9.05	8.10

27°-42°

I		II	
45.0	45.1	51.3	51.1
46.3	46.7	53.0	53.0
6.9	6.9	12.9	12.6
51.2	51.6	57.4	57.0

II	E.	H.	y.	H
	8.6	9.2	8.8	7.8
	7.9	9.0	8.4	7.8
	8.25	9.10	8.60	7.80

40°-41°

I		II	
19.0	19.8	27.0	27.0
20.9	21.1	28.0	28.7
40.7	41.1	48.7	48.6
26.0	26.2	33.0	33.7

I	E.	H.	y.	H
	8.0	7.9	8.1	7.1
	7.4	7.9	8.1	7.8
	7.70	7.90	8.10	7.45

I		II	
27.0	27.2	34.2	34.7
28.8	29.0	36.0	37.0
48.8	49.2	56.6	57.7
33.1	34.0	40.6	41.1

II	E	H	y	H
	7.2	8.0	7.9	7.6
	7.7	8.2	8.1	8.1
	7.45	8.15	8.00	7.85

41°-42°

I		II	
39.8	40.3	40.3	39.7
41.1	42.1	41.6	42.2
0.9	2.1	1.9	1.5
46.2	46.9	45.9	46.8

I	E.	H	y	H
	8.1	6.5	9.0	8.7
	8.3	7.7	8.0	8.1
	8.20	8.10	8.50	8.40

I		II	
47.9	48.6	48.6	49.1
49.6	49.8	49.1	49.9
9.9	10.1	10.2	10.3
57.9	58.0	58.2	58.7

II	E	H.	y	H
	8.3	7.5	8.3	8.3
	9.4	7.7	8.8	8.2
	8.85	7.60	8.55	8.25

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June 1 HH = 578

42° – 57°

42°-43°

I

13.7					
38.7	14.8	14.9	44.8	26.2	25.9
16.2	16.6	17.1	16.5	26.9	26.9
35.3	34.9	35.1	35.2	46.2	46.2
20.3	24.3	20.7	21.1	31.3	31.0

Σ	H	y	H
9.1	6.8	8.1	8.1
8.3	7.2	8.6	8.3
8.70	7.00	8.35	8.70

7.8	6.7	7.8	7.0
8.0	7.2	7.8	6.9
7.65	6.95	7.80	6.95

II

22.8	23.1	22.2	22.8	31.8	32.4
24.0	23.8	23.8	23.7	33.4	34.1
43.4	42.5	42.9	43.0	51.8	53.0
28.4	28.6	27.7	28.0	37.4	38.0

I

Σ	H	y	H
5.6	6.5	5.6	6.1
6.5	7.2	6.8	6.0
6.05	6.85	6.20	6.05

42°-43°

II

27.2	26.8
28.3	28.1
47.3	47.7
31.6	32.0

Σ	H	y	H
4.9	5.9	5.5	5.6
6.0	6.5	5.9	5.6
5.45	6.20	5.70	5.60

III

32.1	32.8
34.2	34.6
52.8	53.6
37.2	37.6

43°-44°

I

28.0	29.7
31.1	36.3
49.7	49.3
34.9	35.0

II

33.2	33.3
35.6	35.6
53.4	53.9
38.3	38.9

Σ	H	y	H
5.7	7.2	6.4	6.1
6.1	6.9	6.8	6.1
5.90	7.05	6.60	6.10

I

35.7	35.8
38.3	38.2
56.1	56.1
41.0	41.1

II

38.8	39.6
41.7	41.9
0.7	0.2
44.6	44.7

Σ	H	y	H
5.6	6.1	7.3	6.3
6.3	6.3	6.3	5.8
5.95	6.20	6.80	6.05

44°-45°

I

34.8	34.8
37.6	37.7
55.9	55.2
40.7	40.6

II

31.6	32.2
33.8	34.3
51.5	52.0
36.9	36.6

Σ	H	y	H
6.5	6.2	5.9	7.0
7.8	7.2	6.9	7.2
7.15	6.70	6.40	7.10

I

41.3	42.6
43.8	44.9
1.8	2.1
47.7	47.8

II

38.3	38.9
40.1	40.3
57.7	57.6
43.2	43.0

Σ	H	y	H
6.7	6.0	6.2	6.3
6.7	6.0	5.6	6.4
6.70	6.15	5.90	6.35

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All $h = 60.4^\circ$ und

$45^\circ - 46^\circ$

I		II	
33.9	33.8	34.3	34.1
35.3	35.5	35.8	36.0
53.0	53.3	53.3	53.6
39.6	39.7	39.5	39.7

	Σ	ϑ	φ	H
I	5.9	6.5	6.9	5.7
	6.6	5.8	6.5	5.5
	6.25	6.15	6.70	5.60

I		II	
39.8	40.4	39.6	40.1
41.8	41.3	41.0	41.3
59.9	59.8	59.3	0.3
45.3	45.2	44.7	45.0

	Σ	ϑ	φ	H
II	5.3	5.2	6.0	5.2
	6.0	5.3	6.4	5.3
	5.65	5.25	6.35	5.25

$46^\circ - 47^\circ$

I		II	
23.2	23.2	19.6	19.6
24.1	24.6	20.8	20.8
42.5	42.4	38.5	38.7
28.0	27.8	23.8	24.1

	Σ	ϑ	φ	H
I	6.8	7.1	6.6	6.1
	7.2	6.7	7.6	7.1
	7.00	6.90	7.10	6.60

I		II	
30.0	30.4	26.1	26.8
31.2	31.3	27.0	27.3
49.1	50.0	45.3	45.6
34.1	34.9	30.6	30.3

	Σ	ϑ	φ	H
II	6.5	6.2	6.8	6.8
	7.2	6.5	6.9	6.2
	6.85	6.35	6.85	6.50

$47^\circ - 48^\circ$

I		II	
15.7	16.2	38.8	39.6
17.2	17.0	89.1	89.2
35.2	35.2	56.2	57.8
20.3	20.9	42.3	42.5

	Σ	ϑ	φ	H
I	6.5	5.7	6.4	6.4
	6.6	6.1	7.0	5.8
	6.55	5.90	6.70	6.10

I		II	
22.2	22.8	45.6	45.3
22.9	23.1	45.3	45.6
41.6	42.2	4.3	4.9
26.7	26.7	49.1	48.7

	Σ	ϑ	φ	H
II	6.8	6.2	6.1	6.8
	5.7	6.4	7.1	6.2
	6.25	6.30	6.60	6.50

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48°-49°

I		II	
36.3	37.0	35.0	84.8
36.9	36.8	35.3	35.8
55.4	56.6	54.1	54.6
40.2	40.8	38.6	38.7

	Σ	H	y	K
I	58	5.5	6.2	59
	53	5.7	6.5	55
	555	560	635	570

42½-57

I		II	
42.1	42.3	40.9	40.9
42.4	42.5	40.8	41.3
1.6	2.1	1.2	0.2
46.1	46.3	44.6	44.7

	Σ	H	y	K
II	5.9	5.5	6.1	6.0
	6.1	5.5	5.6	6.0
	600	550	635	600

49°-50°

I		II	
25.0	25.6	34.6	34.7
25.6	25.8	34.2	34.8
45.1	44.9	53.3	54.3
30.0	29.4	37.6	37.8

	Σ	H	y	K
I	5.9	6.6	6.0	56
	6.0	6.5	6.7	67
	595	655	635	615

I		II	
30.9	31.6	40.0	40.8
32.2	32.3	40.4	41.8
51.1	51.6	0.1	1.3
35.6	36.1	43.9	44.9

	Σ	H	y	H
II	54	6.2	6.8	63
	61	7.0	7.0	71
	575	660	690	670

50°-51°

I		II	
37.7	38.4	39.0	39.1
38.0	38.1	39.0	39.3
57.2	56.5	58.7	58.4
41.6	41.4	42.7	42.6

	Σ	H	y	H
I	6.2	6.3	6.4	61
	8.2	6.4	7.5	66
	720	635	695	635
	640			

I		II	
43.9	44.6	46.1	46.4
44.3	44.5	45.9	45.1
3.6	4.0	5.5	4.8
47.7	48.0	49.4	48.5

	Σ	H	y	K
II	7.1	6.9	6.8	72
	7.3	5.8	6.4	59
	720	685	660	655

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51°–52°

39.8	39.8	26.8	27.7
40.3	39.9	26.1	27.1
59.3	59.0	45.3	46.1
43.6	43.3	28.7	30.8

45.6	46.7	31.8	34.3 32.3 (mean 33.8)
45.6	45.7	32.6	33.8 32.4 33.1
41	4.8	51.6	53.2 52.2 52.7
49.2	50.0	36.2	37.3 36.6 37.0

I

Σ			
5.8	5.3	4.8	5.6
6.9	5.8	5.8	6.7
6.35	5.55	5.30	6.15
		5.80	

Σ			
5.0	6.5	6.3	7.5
6.1	6.0	6.6	6 x²
5.55	6.25	6.45	6.85
		45	5

52°–53°

I

38.0	36.0	32.6	32.2
37.1	37.5	32.0	32.2
36.1	36.2	30.6	30.8
41.1	41.4	35.8	36.2

II

37.4	37.8	37.4	37.3
36.8	36.7	37.1	36.8
36.0	35.4	35.9	35.6
40.6	41.0	40.7	41.1

I

44.8	44.2	37.9	38.0
44.8	44.1	38.2	39.0
2.3	2.6	56.0	56.6
46.7	46.7	41.2	41.7

II

43.8	44.4	43.9	44.0
44.8	44.8	44.4	44.9
2.1	2.0	2.4	1.6
46.9	47.2	47.6	47.1

I

Σ			
5.3	6.2	5.4	5.4
5.8	6.8	5.8	5.5
5.55	6.50	5.60	5.45
6.50	7.15	6.30	5.45
6.02	6.82	5.75	5.45

Σ			
6.8	7.7	6.2	5.6
6.2	6.6	6.4	5.3
6.50	7.15	6.30	5.45

Σ			
6.4	6.0	6.1	6.3
6.6	8.1	6.6	6.2
6.50	8.05	6.35	6.25

II

Σ			
6.5	7.3	6.5	6.9
6.7	8.1	6.0	6.0
6.60	7.70	6.25	6.45

53°–54°

I

40.6	40.3	21.8	22.0
40.2	40.2	21.9	21.8
57.7	57.8	39.8	38.0
44.1	42.3	24.5	23.7

I

Σ			
5.3	5.0	5.9	4.4
6.2	5.6	6.2	6.7
5.75	5.30	6.05	5.55
	20		

I

45.2	46.5	27.1	28.4
45.2	45.6	26.7	27.0
36	40	45.4	45.1
48.5	49.0	30.2	30.1

II

Σ			
5.3	4.8	5.6	5.7
6.4	5.2	7.1	6.4
5.85	5.00	6.35	6.05

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42° – 57°

54° – 55°

I		II	
28.0	28.9	27.7	27.7
27.2	27.6	25.9	26.6
46.0	45.7	44.6	44.7
30.2	31.1	29.7	29.8

I	ε	ϕ	g	H
	6.0	6.1	5.7	6.4
	5.5	6.3	5.5	5.9
	5.75	6.20	5.60	6.15

I		II	
34.0	34.4	32.9	33.4
33.3	33.9	32.3	32.4
51.7	51.2	50.3	51.1
36.6	37.0	34.9	35.5

II	ε	ϕ	g	H
	5.2	6.4	5.7	5.2
	5.7	5.8	6.4	5.7
	5.45	6.10	6.05	5.45

55° – 56°

I		II	
23.2	23.8	22.8	23.6
22.9	22.1	22.4	22.3
40.6	40.0	40.2	40.1
25.7	26.1	25.9	26.2

I	ε	ϕ	g	H
	~~8.1~~	~~7.2~~	~~6.1~~	~~7.4~~
	7.6	7.0	6.9	5.8
	5.4	5.3	6.2	5.5
	5.9	6.1	7.1	5.5
	6.30	6.13	6.73	5.60

I		II	
24.6	29.4	29.6	44.7
28.2	28.2	44.1	43.4
46.8	47.1	2.6	1.6
31.2	31.6	47.6	46.0

II	ε	ϕ	g	H
	7.0	6.5	6.9	6.1
	6.8	6.4	6.9	5.9
	6.90	6.45	6.90	6.00

56° – 57°

I		II	
23.8	23.7	23.9	24.6
23.0	22.6	23.6	22.9
41.5	40.9	41.4	40.7
25.8	26.1	26.0	26.2

I	ε	ϕ	g	H
	6.1	6.7	5.5	6.8
	6.8	6.6	6.3	7.7
	6.45	6.65	5.90	7.25

I		II	
29.9	30.5	30.0	31.0
29.7	29.2	29.3	28.3
47.0	47.2	47.2	47.7
32.6	33.8	33.4	33.5

II	ε	ϕ	g	H
	6.1	5.7	5.8	7.4
	6.4	5.4	7.0	7.3
	6.25	5.55	6.40	7.35

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57° – 58°

I

42.3	40.8	42.7	42.7 43.2
42.2	40.8	42.0	41.6 42.0
58.0	56.4	57.7	57.4 57.3
46.0	45.3	46.0	45.8 45.8

I	Σ	H	G	K
	7.1	6.5	6.4	5.1
	7.3	6.7	7.0	5.7
7.0	6.3	7.0	6.6	6.2
	6.6	6.2	7.1	6.0
	6.83	6.62	6.78	5.75
	7.00			

57° – 58°

II

40.7	39.9	39.9
39.9	39.7	
55.5	55.6	
43.1	42.8	

II	Σ	H	G	K
	6.5	6.3	6.1	5.7
	7.3	6.1	6.2	5.6
	7.4	6.20	6.15	5.65
	6.90			

58° – 59°

I

39.2	28.6
27.0	27.6
43.0	43.2
31.1	31.1

II

20.9	21.2
19.4	19.7
35.4	35.3
22.8	23.0

I	Σ	H	G	K
	5.4	5.8	6.7	4.7
	6.2	5.8	6.5	5.0
	5.80	5.80	6.60	4.85

59° – 60°

I

39.6	39.6
39.1	37.8
54.4	54.1
40.8	40.9

II

28.9	29.6
28.1	28.0
44.2	44.2
30.0	30.2

I	Σ	H	G	K
	7.2	6.2	6.7	6.3
	6.7	7.25	7.0	5.9
	6.95	6.70	6.85	6.10
		6.85		

57° – 72°

II

49.4	50.0	49.7	49.8
48.7	48.7	48.6	48.3
4.4	4.7	4.0	4.4
57.3	57.7	52.0	57.8

II

47.2	47.2
47.2	48.2
46.2	45.8
1.6	1.8
48.8	48.4

I

34.6	34.8
32.8	33.4
49.7	49.7
35.8	36.1

II

26.4	26.3
25.2	24.9
41.2	41.3
27.2	27.1

II	Σ	H	G	K
	5.5	5.8	5.8	4.4
	5.1	5.2	6.0	4.1
	5.30	5.50	5.90	4.25

I

46.8	46.3
45.0	45.3
1.1	1.1
47.1	46.8

II

37.0	36.1
35.2	34.7
57.7	57.0
37.0	36.8

II	Σ	H	G	K
	8.1	7.1	7.5	7.0
	6.5	6.7	6.8	6.6
	7.30	6.90	7.15	6.80

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HH Th = 61.0

60–61

I		II	
39.7	39.8	20.9	20.5
37.8	37.8	19.1	19.2
54.3	54.2	35.2	35.5
40.8	40.0	21.0	21.0

	Σ	ϕ	ψ	H
I	5.7	6.2	5.9	5.0
	5.3	6.3	6.0	5.9
	5.50	6.25	5.95	5.45

I		II	
45.4	45.1	26.4	25.8
44.0	44.1	24.6	25.0
0.2	0.2	40.9	41.3
45.8	45.9	26.3	26.6

	Σ	ϕ	ψ	H
II	5.5	5.5	5.7	5.3
	5.3	5.8	5.8	5.6
	5.40	5.65	5.75	5.45

61–62

I		II	
37.0	36.8	38.0	38.2
35.4	35.0	36.2	36.2
51.4	51.8	52.5	53.1
37.8	37.8	38.3	39.1

	Σ	ϕ	ψ	H
I	6.7	6.4	6.8	6.0
	6.6	7.0	6.0	6.6
	6.65	6.70	6.40	6.30

I		II	
43.7	43.4	44.6	44.0
41.8	42.0	42.8	42.9
58.2	57.8	59.0	59.0
43.8	44.4	44.9	45.1

	Σ	ϕ	ψ	H
II	6.6	6.6	6.5	6.6
	5.8	6.7	5.9	6.0
	6.20	6.65	6.20	6.30

62–63

I		II	
24.6	33.3	33.8	28.9 29.1
34.2	31.6	31.5	27.1 27.2
49.6	47.8	48.2	43.3 43.3
37.3	34.6	34.2	30.0 29.6

	Σ	ϕ	ψ	H
I	6.3	6.1	5.8	5.4
	6.1	6.4	5.6	6.0
	6.20	6.25	5.70	5.70

I		II	
39.6	39.9	35.6	35.4
37.7	37.9	33.0	33.8
53.6	53.8	49.3	49.4
40.0	40.2	34.9	35.0

	Σ	ϕ	ψ	H
	6.7	5.9	6.0	4.9
	6.3	6.6	6.1	5.4
	6.50	6.25	6.05	5.15

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June 2

63°-64°

I		II	
34.2	34.3	26.6	25.7
31.9	31.2	24.0	23.0
48.2	47.4	39.9	39.1
38.4	34.3	25.6	25.9

	Σ	N	y	H
I	6.4	6.9	7.0	7.7
	6.2	7.3	7.4	6.0
	6.30	7.10	7.45	6.85

57°-72°

I		II	
40.6	40.5	31.9	32.0
38.8	38.5	28.9	29.2
55.2	55.3	46.6	46.2
41.1	40.3	31.6	31.9

	Σ	N	y	H
II	5.35	4.9	6.7	6.0
	6.8	6.2	7.1	6.0
	5.80	5.55	6.90	6.00
		6.05		

64°-65°

I		II	
26.8	27.7	34.1	34.6
24.5	24.8	31.3	31.2
40.9	41.4	48.2	48.4
27.6	27.2	34.0	33.2

	Σ	N	y	H
I	6.9	6.8	6.8	5.8
	6.6	6.7	6.7	6.6
	6.75	6.75	6.75	6.20

I		II	
33.7	34.3	40.8	40.7
31.3	31.5	38.2	38.7
47.7	48.1	54.4	54.9
33.4	33.8	40.2	40.7

	Σ	N	y	H
II	6.7	6.9	6.2	6.2
	6.1	7.5	6.8	7.5
	6.40	7.20	6.35	6.85

65°-66°

I		II	
36.2	36.6	29.9	33.0 32.7
33.4	33.7	27.3	30.1 30.8
49.6	49.9	44.1	46.9 46.5
35.2	36.1	29.6	32.2 33.0

	Σ	N	y	H
I	5.5	6.3	5.5	6.1
	5.8	6.4	5.0	5.2
	5.65	6.35	5.25	5.65

I			
41.7	42.4	38.8	39.6 39.4
39.7	40.1	36.2	37.8 36.7
55.1	54.9	51.8	53.0 52.1
41.3	41.3	37.8	39.1 38.0

	Σ	N	y	H
II	6.6	6.7	6.1	6.9
	6.7	5.9	5.6	5.0
	6.65	6.30	5.85	5.95

30

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66–67

I		II			I		II		
39.2	39.6	10.2	15.0	15.2	14.9	15.9	45.0	45.8	21.5 21.6	21.0 21.1
36.7	37.3	7.7	12.8	12.7	13.3	13.3	43.3	43.3	19.8 20.0	19.3 19.1
52.5	52.6	23.0	28.1	28.1	28.2	28.7	58.1	58.4	35.1 34.7	34.8 34.2
38.8	39.0	9.2	14.2	13.6	14.3	14.6	44.1	44.6	21.1 20.6	20.8 21.1

I	E	F	G	H
	5.8	6.6	5.6	5.5
	6.2	6.0	5.8	5.6
	6.00	6.30	5.70	5.55
	6.45	7.15	6.80	6.95
	6.22	6.72	6.25	6.25

	E	F	G	H
	6.5	7.0	7.0	6.9
	6.4	7.3	6.6	7.0
	6.45	7.15	6.80	6.95

Combine with Series I

II	E	F	G	H
	6.21	6.0	6.6	6.5
	5.2	5.8	5.5	6.5
	5.7 .65	5.90	6.05	6.50

67°–68°

I		II			I		II	
27.8	26.5	36.8	36.3		32.8	32.9	43.3	43.0
24.7	24.5	35.1	35.0		30.4	30.9	41.8	41.5
39.6	39.6	49.9	49.5		45.0	44.8	56.3	56.0
26.2	25.2	36.1	36.3		31.0	31.1	42.0	42.1

I	E	F	G	H
	5.0	5.7	5.4	4.8
	6.4	6.4	5.2	5.9
	5.70	6.05	5.30	5.35

II	E	F	G	H
	6.5	6.7	6.4	5.9
	6.7	6.5	6.5	5.8
	6.60	6.60	6.45	5.85

68–69

I		II				I		II		
26.1	16.8	17.1	26.8	25.6	26.9	27.1	32.8	23.0	22.9	32.9 33.6 32.8
24.8	15.2	15.2	25.1	24.2	24.5	25.0	32.2	21.2	22.4	32.7 32.8 32.0
38.8	29.0	29.1	39.2	38.6	39.7	39.8	46.3	35.1	34.7	45.6 45.6 45.1
25.0	16.0	16.1	25.8	25.0	25.6	25.7	32.0	21.9	22.1	43.2 32.6 32.0

I	E	F	G	H
	6.7	7.4	6.5	7.0
	6.2	6.0	6.1	5.9
	5.8	7.2	5.6	6.0
	6.23	6.67	6.07	6.30

II	E	F	G	H
	6.1	7.6	6.4	6.5
	6.7	6.3	5.9	7.0
	5.7	7.0	5.3	6.3
	6.17	7.63	5.85	6.60

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69°-70°

I		II	
34.9	35.6	22.1	22.4
33.0	33.5	21.3	21.1
46.6	46.6	34.7	33.6
34.1	34.2	22.2	21.7

	E	F	G	H
I	6.9	6.2	6.6	6.1
	6.4	7.5	6.7	6.8
	665	7.85	665	645

57°-72°

I		II	
41.8	42.0	29.9	29.3
41.2	41.0	29.0	29.0
53.2	53.3	41.1	40.7
40.2	41.0	28.3	28.9

	E	F	G	H
II	6.8	7.7	6.4	6.1
	6.9	7.9	7.1	7.2
	~~7.35~~ 6.85	7.80	6.75	6.65

70°-71°

I		II	
32.2	33.3	25.2	24.6
31.8	32.0	24.0	23.5
44.4	44.2	38.0	35.9
32.0	32.2	23.3	23.0

	E	F	G	H
I	7.0	6.0	6.8	5.8
	5.7	6.1	6.9	5.9
	635	605	6.85	585

I		II	
39.2	39.0	31.2	31.5
37.8	38.1	30.1	29.8
51.2	51.1	42.3	42.4
37.8	38.1	29.1	29.8

	E	F	G	H
II	6.0	6.1	6.3	5.8
	6.9	6.3	6.6	6.8
	6.45	620	6.45	6.30

71°-72°

I			II		
19.2	19.7	18.9	18.8	18.8	18.7
17.7	18.1	17.4	17.7	17.6	17.3
30.6	31.2	30.7	29.9	30.4	30.6
17.4	18.7	17.9	17.4	17.3	17.5

	E	F	G	H
I	5.9	6.2	5.5	5.5
	6.1	5.6	5.4	4.4
	5.9	6.3	5.6	4.9
	~~4.50~~ 5.97	5.95 6.03	5.50	~~4.65~~ 5.27

I			II		
25.1	24.8	24.8	24.8	25.7	24.9
23.9	23.7	23.7	24.1	23.2	23.6
36.1	26.6	26.3	35.9	35.8	36.4
22.9	23.1	22.8	23.0	23.1	22.6

	E	F	G	H
II	6.0	6.4	6.0	5.6
	6.9	5.6	5.4	5.8
	6.2	6.3	5.8	~~5.1~~
	~~6.45~~ 6.37	6.00 6.10	5.70 5.73	5.70 5.50

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24
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