KG
11366
036

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Observing Book no. 1
Variable Stars, etc.

G. F. M.

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G. F. M. 1.

Series reductions in this book as far as page 170 made with magns. on scale of HC 170.

Underlining of faint magnitudes denied from series plates has been entered through page 170 and also wherever copied. Verified by H. S. L. Dec. 31, 1914.

Genevieve F. Matthews

Record Book no. 1

Variable stars and Series measures.

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N. B. In this book and all others of Mt., scale measures on series and T' plates are made out of order; i.e., although the sequences of designation are recorded generally with stars ~~designations~~ in consecutive order, or in order of brightness, the measures themselves are made at random, for the sake of independent results.

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Beginning at page 45, the plate numbers are underlined twice if the observation is thought satisfactory, once if the variable is not seen, and not at all if no measurement is made, — for the sake of convenience in making out the ledger.

Magnitude values, beginning at page 45 are underlined in pencil if there is known to be one or more other observations on same plate.

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Monday, October 7, 1912.

Observations of the brightness of variable star

10.00 13 44 39 +13 04

B 30136 June 24, 1902.

10.40	c 3 v.	10.70	V = 10.83	.13
10.78	v 0 f.	10.78		.05
11.00	v 3 g.	11.30		.17

B 3420

11.30	g 2 v	11.50	V = 11.46	.04
11.42	v 1 h	11.52		.04

Edge of plate B 3736

12.45 Images poor.

2.00 Near edge 3750

of plate

11.30	g 2 v	11.50	V = 11.46	.04
11.42	v 1 h	11.52		.04

Edge of plate B 6438 June 27 1891

9.44	c 3 v	9.74	V = 9.68	.06
9.~~44~~ 62	v 1 d	9.72		.06

3.20

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1912phae.proj.1037M

Tuesday October 8, 1912

Observations of the brightness of variable

2.40 134459 H 1304

Edge of B6439 June 27, 1891

plate. 9.72 d 1.V 9.82 V = 9.96 .14

10.10 V 3 e 10.40 .14

B 9642 June 22, 1893

10.40 e 2.V 10.60 V = 10.64 .04

10.68 V 1 f 10.78 .04

Bad focus B 6614

Images poor

B 7622 May 14, 1892

8.80 a 3 V 9.10 V = 9.16 .06

4.10 9.22 V 1 b 9.32 .06

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1912phae.proj.1037M

Wednesday October 9, 1912

Observations of the brightness of the variable

2·10 13 44 09 H 1304

B 9151

9.72	d 2 v	9.92	V = 10.11	.19
10.30	v 1 e	10.40		.19

Edge of plate - focus poor - images very faint

B 11089

B 11111

10.78	f 2 v	10.98	V = 11.09	.11
11.20	v 1 g	11.30		.11

B 9304

9.72	d 2 v	9.92	V = 10.06	.14
10.20	v 2 e	10.40		.14

3·06

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1912phae.proj.1037M

Thursday October 10, 1912

Observations of the brightness of the variable

2.15 13 44 59 +13 04

B 9152

9.72	d 2 v	9.92	v = 10.06	.14
10.20	v 2 e	10.40		.14

Near edge of plate B 9971

10.78	f 2 v	10.98	v = 10.99	.01
11.00	v 3 g	11.30		.01

Near edge of plate B 9660

10.40	e 3 v	10.70	v = 10.64	.06
10.58	v 2 f	10.78		.06

Rather near edge of plate B 9328

9.72	d 1 v	9.82	v = 10.01	.19
10.20	v 2 e	10.40		.19

Edge of plate B 11201

11.30	g 2 v	11.50	v = 11.36	.14
11.22	v 3 h	11.52		.14

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1912phae.proj.1037M

Thursday, October 10, 1912
Observations of brightness of variable

13 44 05-9 H 1304

B 9329

9.72	d 3 V	10.02	V = 10.11	.09
10.20	V 2 e	10.40		.09

near edge of plate B 11785

10.78	f 1 V	10.88	V = 10.94	.06
11.00	V 3 g	11.30		.06

B 10885

10.40	e 2 V	10.60	V = 10.79	.19
10.78	V 0 f	10.78		.01
11.00	V 3 g	11.30		.21

Rather near edge of plate B 11411 June 14, 1894

10.78	f 2 V	10.98	V = 10.99	.01
11.00	V 3 g	11.30		.01

Edge of plate B 9371

9.72	d 3 V	10.02	V = 10.11	.09
10.20	V 2 e	10.40		.09

3.43

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1912phae.proj.1037M

Friday, October 11, 1912

Observations of brightness of variable

2·10 13 44 s-9 H 1304

B 11202 May 21, 1894

Edge of plate	10.78 f 1 v	10.88	v = 10.99	.11
	11.10 v 2 g	11.30		.11

B 11117 May 14, 1894

	10.78 f 2 v	10.98	v = 10.99	.01
	11.00 v 3 g	11.30		.01

Images very faint; nothing visible fellow d grade; variable cannot be seen.

B 12821 d ? v Feb 22, 1895

Images still faintr; variable also near edge of plate, and not visible

B12796 January 24, 1894

B 10934

	10.40 e 3 v	10.70	v = 10.69	.01
	10.68 v 1 f	10.78		.01

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1912phae.proj.1037M

Friday, October 11, 1912

13 44 59 H 1304

Near Edge B 11842

of plate	10.40 e	1 ✓ 10.50	V = 10.49	.01
	10.48 ✓	3 f 10.78		.01

3.00

~~d 3V~~
~~V 2e~~

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Saturday, October 12, 1912
Observations of brightness of variable

2·15 13 44 5-9 H 1304

B 27503 May 29, 1901

9.44	c 2 v	9.64	v = 9.53	.11
9.42	v 3 d	9.72		.11

B 18526 February 4, 1897

9.72	d 3 v	10.02	v = 10.11	.09
10.20	v 2 e	10.40		.09

B 27180 April 15, 1901

10.40	e 2 v	10.60	v = 10.59	.01
10.58	v 2 f	10.78		.01

B 18916 April 22, 1897

9.72	d 3 v	10.02	v = 10.11	.09
10.20	v 2 e	10.40		.09

B 24951 April 5, 1900

10.78	f 3 v	11.08	v = 11.14	.06
11.20	v 1 g	11.30		.06

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1912phae.proj.1037M

Saturday October 12, 1912

13 445-9 H 1304

B 23492 July 17, 1899

10.78	f 3 V	11.08	V = 11.09	.01
11.10	V 2 g	11.30		.01

3.40

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Monday October 14, 1912

Observations of brightness of variable

11.30 1344+59 H 1304

B 21186 April 12, 1898

8.70	V 1 a	8.80	v = 8.91	.11
9.02	V 3 b	9.32		.11

B 16253 June 11, 1896

9.44	c 1 V	9.54	v = 9.48	.06
9.42	V 3 d	9.72		.06

B 18295 January 8, 1897

10.78	f 2 V	10.98	v = 10.99	.01
11.50	V 3 g	11.30		.01

B 40369 May 30, 1909

10.40	e 1 V	10.50	v = 10.49	.01
10.48	V 3 f	10.78		.01

B 31674 May 6, 1903

10.40	e 4 V	10.80	v = 10.64	.16
10.48	V 3 f	10.78		.16

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1912phae.proj.1037M

Monday October 14, 1912

13445-9 # 1304

B 29368 April 14, 1902

9.44	c 3 v	9.74	v = 9.63	.11
9.52	v 2 d	9.72		.11

B 37459 May 22, 1907

9.72	d 2 v	9.92	v = 9.96	.04
10.00	v 4 e	10.40		.04

12.20

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Tuesday, October 15, 1912

3.00 13 44 5-9 H 1304

Am 5967 March 17, 1909

9.72	d 1 ✓	9.82	V = 9.96	.14
10.10	✓ 3e	10.40		.14

Plate, quality 2, images too faint to be observed.

Am 6084 March 21, 1909

Am 6053 April 23, 1909

9.72	d 2 ✓	9.92	V = 9.96	.04
10.00	✓ 4e	10.40		.04

Plate quality 5-

Am 6978 June 3, 1910

n.s. f 1 N

Am 6179 May 29, 1909.

10.40	e 2 ✓	10.60	V = 10.59	.01
10.58	✓ 2 f	10.78		.01

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1912phae.proj.1037M

Tuesday, October 15, 1912

13 44 5-9 H 1804

Plate quality 4 | Am 7379 n.s. e o N | March 29, 1911

Am 7111 July 11, 1910

9.44	c 2 ✓	9.64	V = 9.48	.16
9.32	✓ 4 d	9.72		.16

Am 6108 May 10, 1909

9.72	d 3 ✓	10.02	V = 10.11	.09
10.20	✓ 2 c	10.40		.09

Plate quality 3 | Am 8184 n.s 6 o N | May 13, 1912

Am 7412 May 6, 1911

9.44	c 3 ✓	9.74	V = 9.63	.11
9.52	✓ 2 d	9.72		.11

4.20

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Wednesday, October 16, 1912

2·15 13 44 59 H 130 4

Plate quality 3 — Am 8203 n.s e 2/3 N — May 19, 1912

Am 6101 — May 9, 1909

9.72	d 3 ✓	10.02	V = 10.01	.01
10.00	✓ 4 e	10.40		.01

Plate quality 3 — Am 8210 — May 20, 1912

10.78	f 2 ✓	10.98		
	✓ 1 ~~H~~			

Am 6123 — May 13, 1909

9.72	d 3 ✓	10.02	V = 10.11	.09
10.20	✓ 2 e	10.40		.09

Plate quality 3 — Am 8062 n.s. f 1 N — April 16, 1912

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Wednesday October 16, 1912

13445-9 H 1304

Plate quality 3

a m 6949 May 29, 1910

11.30 g 2 ✓ 11.50

✓ 1 N

a m 6152 May 22, 1909

10.40	e 2 ✓	10.60	V = 10.54	.06
10.48	✓ 3 f	10.78		.06

a m 6194 June 5, 1909

10.40	e 2 ✓	10.60	V = 10.64	.04
10.68	✓ 1 f	10.78		.04

a m 7444 June 12, 1911

9.72	d 2 ✓	9.92	V = 10.01	.09
10.10	✓ 3 e	10.40		.09

a m 6365 July 17, 1909

10.40	e 2 ✓	10.60	V = 10.64	.04
10.68	✓ 1 f	10.78		.04

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Wednesday, October 16, 1912

13 44 59 +1304

Plate quality 2, very few images visible. AM 7442 June 11, 1911

Plate quality 3, neither variable, nor comparison stars visible. AM 6846 March, 7, 1910

AM 6268 June 22, 1909

10.78	f 2 ✓	10.98	V = 10.99	.01
11.00	✓ 3 g	11.30		.01

Plate quality 3 AM 7386 f April 10, 1911

10.40	e 3 ✓	10.70	V = 10.69	.01
10.68	✓ 1 f	10.78		.01

AM 8100 April 22, 1912

n. 3. f 1N

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1912phae.proj.1037M

Wednesday October 16, 1912

13 44 39 H 1304

a m 7521

9.72	d 3 v	10.02	v = 10.16	.14
10.30	v 1 e	10.40		.14

3 · 55

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Thursday October 17, 1912

2.05 13445-9 H 1304

Plate quality
3

am 8214 May 21, 1912
10.40 e 1 V 10.50
V 1

am 7604 July 23, 1912
10.40 e 2 V 10.60 V = 10.54 .06
10.48 V 3 f 10.78 .06

am 8297 June 7, 1912
10.78 f 1 V 10.88
V 1

am 6908 May 5, 1910
11.30 g 1 V 11.40
V 0

am 6885 April 17, 1910
10.78 f 1 V 10.88 V = 10.94 .06
11.00 V 3 g 11.30 .06

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Thursday October 17, 1912

13 44 05-9 H 1304

a m 7489 June 26, 1911

9.72	d 1 v	9.82	v = 9.96	.14
10.10	v 3 e	10.40		.14

a m 4901 June 4, 1907

9.72	d 2 v	9.92	v = 9.96	.04
10.00	v 4 e	10.40		.04

Plate quality a m 4134 March 21, 1906
4 n.s. f 2 N

a m 4194 April 30, 1906

9.72	d 3 v	10.02	v = 10.06	.04
10.10	v 3 e	10.40		.04

3.50

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Friday, October 18, 1912

2.30 13 44 59 H 1304

Each star image a series of dots, - impossible to make observation

a m 4143 March 26, 1906

a m 4212 May 10, 1906

9.72 d 3 v 10.02 v = 10.11 .09

10.20 v 2 e 10.40 .09

Plate quality poor, 2, -

a m 4741 January 14, 1907

Quality 3

a m 5320 March 9, 1908

9.44 c 4 v 9.84

v 0

On second observation:-

m. s. d 3 v.

a m 4364 July 2, 1906

9.44 c 3 v 9.74 v = 9.63 .11

9.52 v 2 d 9.72 .11

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Friday October 18, 1912

13 44 59 H 1304

Plate quality 2

Am 5287 January 25, 1908

9.72	d 1	9.82	V = 9.86		.04
9.90	5 e	10.40			.04

Am 4798 May 3, 1907

9.72	d 3	10.02	V = 10.01		.01
10.00	4 e	10.40			.01

Am 4825 May 11, 1907

Image of v, slightly larger than that of d, but considerably fainter

9.72	d 2	9.92	V = 10.01		.09
10.10	3 e	10.40			.09

Am 4746 March 16, 1907

9.72	d 1	9.82	V = 9.91		.09
10.00	4 e	10.40			.09

Am 5342 March 28, 1908

10.40	e 3	10.70	V = 10.64		.06
10.58	2 f	10.78			.06

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Friday, October 18, 1912

13 44 59 H 13 04

a m 4300 June 13, 1906

9.44	e 2 v	9.64	v = 9.53	.11
9.42	v 3 d	9.72		.11

a m 5313 February 27, 1908

n.s. d 3 N 10.02

a m 5375 April 8, 1908

Image of v larger than that of e, but considerably less bright

10.40	e 1 v	10.50	v = 10.49	.01
10.48	v 3 f	10.78		.01

a m 5448 May 8, 1908

9.72	d 1 v	9.82	v = 9.91	.09
10.00	v 4 e	10.40		.09

a m 5644 July 8, 1908

9.72	d 4 v	10.12	v = 10.06	.06
10.00	v 4 e	10.40		.06

4.45

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1912phae.proj:1037M

Saturday October 19, 1912

Direct estimations of magnitude of

2.15 13 44 59 H 1304

(N. End up)

	Magn.
B 37459	10.15
B 29368	9.6
B 31674	10,55
B 40369	10.5
B 18295	10.6
B 11117	11.1

3.50

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1912phae.proj.1037M

Monday, October 21st 1912

Direct estimations of magnitude of

10.10	13445-9	H 1304	
	(N. end up)		
		Magn.	
	B 18526	10.3	
10.45	B 27180	10.55	
11.30	B 10934	10.7	
	B 23492	11.13	
	B 16253	9.48	
	B 11202	11.1	near edge of plate
	B 24951	11.15	
12.35	~~B 9151~~	~~10.05~~	

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1912phae.proj.1037M

Tuesday October 22, 1912

Direct estimations of magnitude of

2.23⁻ 13 44 59 H 1304

(N end up.)

Plate No.	Magn.	
B 18916	9.9	
B 27503	10.1	
B 12796		Near edge of plate, and invisible. Quality 3
B 11842	10.5⁻5⁻	Near edge of plate
B 12821	n.s. > 9.9	Near edge of plate
B 9371	10.45⁻	Edge of plate
B 11411	11.00	Plate quality 3
B 10885⁻	10.7	
B 11785⁻	10.95⁻	Edge of plate
B 11201	11.1	
B 9152	10.05⁻	

3.50

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1912phae.proj.1037M

Wednesday, October 23, 1912

Direct estimations of magnitude of V

2·15 13 44 59 H 13 04

(V end up)

Plate Nos.	Magn.	
B 9971	11.1	Near edge of plate
B 9660	10.7	" " " "
B 11111	11.15	
B 9328	10.1	
B 11089		Almost off plate edge
B 9329	10.2	
B 9304	10.25	Near edge of plate
B 9151	10.05	
B 3750	11.05	Edge of plate

3·25

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Thursday, October 24, 1912

Direct estimations of magnitude of

2.15 13 44 59 H 1804

(N. end up)

Plate No.	Magn.	
B 6439	9.9	Edge of plate.
B 7622	9.1	
B 6614	10.3	Poor plate, - quality 2
B 9642	10.7	
B 6438	9.6	
B 3736	11.1	Edge of plate
B 3420	11.4	
B 30136	11.0	

(S. end up)

B 37459	10.1	

3.55

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1912phae.proj.1037M

Friday, October 25, 1912

Direct estimations of magnitude of

2.05 13445-9 H 1304

(S. end up)

Plate No.	Magn.
B 29368	9.5
B 31674	10.5
B 40369	10.5
B 18293	10.6
B 11117	10.8
B 18526	10.0
B 10934	10.35
B 27180	10.6
B 23492	10.0

3.00

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1912phae.proj.1037M

Saturday October 26 1912

Direct estimations of magnitude of

2.10 1344 δ-9 # 1304

(S. end up)

Plate No.	Magn.	
B 16253	9.5	
B 11202	11.1	Edge of plate
B 24957	11.2	
B 21186	9.35	
B 18916	9.6	
B 12796		Plate poor, few images.
B 11842	10.5	Edge of plate
B 30136	10.65	
B 3420	11.4	
B 3736	11.1	
B 6438	9.6	
B 9642	10.55	
B 6614	10.3	Bad focus
B 7622	9.1	
B 6439	10.00	
B 3750	11.1	

3.40

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1912phae.proj.1037M

Monday October 28, 1912

10.00 13445-9 H 1304

(S. End up)

Plate No.	Magn.	
B 9135-1	10.4	
B 9304	10.2	
B 9329	10.2	
B 11089		Imag of v scratched out, edge of plate
B 9328	10.1	
B 11111	11.1	
B 9660	10.7	Near edge
B 9971	11.05	Edge of plate
B 9152	10.0	
B 11201	11.4	Edge of plate
B 11785	11.0	Edge of plate
B 10885	11.6	
B 27303	9.5	
B 11411	11.1	
B 9371	10.6	Edge of plate
B 12821	n.s. > 9.9	
(N. End up)		
A m 8062	n.s. > 9.3	
A m 8210	n.s. > 10.40	
A m 8263	n.s > 10.40	
A m 7412	9.6	
A m 8184	n.s. > 9.3	
A m 6108	10.1	
A m 7111	9.5	
A m 4194	10.0	
12.25 A m 4134	9.8 ?	Image of v barely visible

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1912phae.proj.1037M

Tuesday October 29, 1912

13 44 59 H 1304

2.30 (N. end up)

Plate No.	Magn.	
am 4901	9.9	
am 7489	10.0	
am 6101	9.9	
am 8217	10.7	Quality 3 plate; v barely visible.
am 6885	10.0	Images of v and q very faint
am 6908	11.4	Image of v very faint; h not visible
am 8297	10.7 ?	Images of v, f, and e very faint
am 7604	10.6	
am 5644	10.0	Image of v distorted by defect?
am 5448	10.0	
am 5375	10.3	Image of e sharper, but smaller. Probably a defect over e.
am 5313	n.s. > 10.0	
am 4300	9.5	
am 5342	10.5	
am 4364	9.55	

4.20

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1912phae.proj.1037M

Wednesday October 30, 1912

1.50 13 44 59 H 1304

(N. end up)

Plate No.	Magn.	
am 4212	10.5	
am 4746	9.8	
am 4825	10.1	
am 4798	10.2	
am 5320	n.s. > 9.6	
am 4741		Too poor to measure – quality 2.
am 4143		Images each a series of dots.
am 7379	n.s > 10.4	
am 6179	10.1	
am 6978	n.s. > 10.2	
am 5984	9.9	Images too faint – quality 2
am 6053	~~10.00~~	
am 5967	10.1	
am 6235	n.s. > 11.3	
am 7521	10.5	
am 8100	n.s. > 10.4	
am 7386	10.1 ?	Images very faint
am 6268	11.1	
am 6123	10.0	
am 7442		No images visible, – quality 2.
am 6846		V and comp. stars invisible i plate
am 6365	11.0 ?	
am 7444	10.0	
am 6194	10.6	
am 6949	11.4 ?	Images of v and g very faint.
am 6152	10.6	

3.30

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Thursday October 31st 1912

Observations by Argelander's method of variable

2.30 22 29 24 HV 2984

d 18890

13.47	q 3V	13.77	V = 13.75	02
13.73	V 2r	13.93		02

d 33370

12.05	l 3V	12.35	V = 12.20	15
12.04	V 2m	12.24		16

Images very faint.

d 7356

12.05	l 2V	12.25	V = 12.20	(?)	05
12.14	V 1m	12.24(?)			06

4.45

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1912phae.proj.1037M

Friday, November 1, 1912

Observations by Argelander's method of variable

2.45

22.2924 HV 2984

N.

I 725-9

Edge of plate	12.24	m	V	12.34	v = 12.34	00
	12.35	V	2n	12.55		01

I 7126

m.s. k 2N. v > ~~13.95~~ 14.13

I 6934

Edge of plate	11.28	k	V	11.38	v = 11.39	01
	11.40	V	2K	11.60		01

I 8970

	10.18	d	V	10.28	v = 10.26	02
	10.24	V	2e	10.44		02

I 4293

m.s. O N v > 12.~~82~~ 91

4.20

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1912phae.proj.1037M

Thursday, November 4, 1912

1.35 22 29 24 HV 2984

I 6883

11.28 h 2 V 11.48 v = 11.49 01
11.50 V 1 K 11.60 01

I 9094

10.44 e 2 V 10.64 v = 10.56 08
10.48 V 3 f 10.78 08

I 1611

13.04 p 2 V 13.24 v = 13.24 (?)
V 2 N

I 13455

m.s. m2N v > 12.44

I 6951

Too near corner to measure.

I 7344

Not on plate.

I 9766

Not on plate

I 9070

Too near edge to measure

Not on plate. I 8944
" " " I 7214
" " " I 9370
" " " I 12065

3.50

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1912phae.proj.1037M

Tuesday, November 5, 1912

2.30 22 29 24 H V 2984.

Not on plate.	I 11545	
" " "	I 6950	
" " "	I 6928	
Too near edge to measure.	I 6901	
	I 4611	
	m. s. R 3N.	v > 11.90
Near corner of plate; - 12.24	I 4530	
	m 3 V 12.54	v = 12.50 (3) 04
image faint 12.45	V 1 n 12.55	05
Edge of plate.	I 4558	
	m. s. 0 1 N.	v > 12.82
	I 4466	
	m. s. R 3N.	v > 11.90
	I 1706	
Edge of plate	m. s. 0 0N	v > 12.81
	I 4287	
Edge of plate	m. s. l 0 N	v > 12.05

4.20

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1912phae.proj.1037M

Wednesday, November 6, 1912

2.05 222924 HV 2984

I 4389

Near Edge of plate m.s. h 2N v > 11.~~80~~ 48

I 4287

Edge of plate m.s. l 0N v > 12.05

Not on plate I 4433

" " " I 4421

I 95-24

11.28	h 2 v	11.48	v = 11.49	01
11.40	v 1 k	11.60		01

I 18933

13.47	q 2 v	13.67	v = 13.65	02
13.63	v 3 n	13.93		02

Not on plate J 26 141

I 27727

12.05	l 3 v	12.35	v = 12.20	15
12.04	v 2 m	12.24		16

4.25

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1912phae.proj.1037M

Thursday, November 7, 1912

2.10 22 29 24 HV 2984

I 27371

10.78 f 4 V 11.18 V = 11.08 10

10.97 V 19 11.07 11

Trailed plate I 26749

Not on plate I 26154

I 26187

m.s.- m o N. V > 12.24

Not on plate I 27757

I 23847

Edge of plate m.s p.o N. V > 13.04

I 21199

m.s. o 1 N V > 12.56

I 21472

V barely visible 13.47 q 1 V 13.57 V = 13.57 (?)

V o

I 21073

m. s. r o N. V > 13.93

I 18895

Edge of plate m.s. p o N V > 13.04

I 18855

Edge of plate m.s. q.o N V > 13.47

Edge of plate I 16405

12.24 m. 3 V 12.54 V = 12.44 10

12.35 V 2 m 12.55 09

I 16270

Image of ♀ 12.81 o 2 V 13.01 V = 12.88 13

faintly seen 12.74 V 3 b 13.04 14

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1912phae.proj.1037M

Thursday, November 7, 1912

222924 HV 2984

J 15882

m.s. p.o N V > 13.04

Extreme edge of plate. J 1619

3.55

J 29457 Nov. 8. observations written here by mistake.

11.60 k 3 v 11.90

11.85 v 2 l 12.05 V = 11.88 02

Extreme edge of plate J 29498 03

J 32136

Edge of plate 11.28 h 2 v 11.48 V = 11.39 (?) 09

11.30 v 3 k 11.60 09

J 32137

Edge of plate 11.07 g 1 v 11.17 V = 11.12 05

11.08 v 2 h 11.28 04

Not on plate J 32146

J 31056

10.78 f 1 v 10.88 V = 10.78 10

10.67 v 4 g 11.07 11

4.10

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1912phae.proj.1037M

Friday, November 8, 1912

2.30 22 29 24 HV 2984

Edge of plate | D 15660 m.s.- n 1 N 04367 | V > 12.56

Poor plate;- images too faint to measure.

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1912phae.proj.1037M

Saturday November 9 1912

2.30 222924 HV 2984

a.c. 136
m.s. l o N. V > 12.05
ac 333
m.s. g o N. V > 11.07

a.c. 434
m.s. k. o N. V > 11.60
ac 509
m.s. m 1 N V > 12.~~25~~ 34
ac 668
m.s. v. o N V > 12.55
a c. 852

10.44	e 2 v	10.64	V = 10.56	08
10.48	v 3 f	10.78		08

g image scratched out?

ac 914

10.78	f 4 v	11.18	V = 11.13	05
11.08	v 2 h	11.28		05

Multiple image plate

ac 951

ac 1014
m.s. m 3 N V > 12.54
ac 1106
m.s. m o N V > 12.24
ac 1125

Trail plate, quality 2.

ac 1172

Too poor to measure — marked !

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1912phae.proj.1037M

Saturday, November 9, 1912

22 29 24 HV 2984

AC 1597

Image of e	10.18 d 5 V	10.68	V = 10.58	10
very poor.	10.48 V 3 f	10.78		10

AC 1603

	10.44 e 2 V	10.64	V = 10.56	08
	10.48 V 3 f	10.78		08

AC 1625

	11.60 R 3 V	11.90	V = 11.88	02
	11.85 V 2 f	12.05		03

AC 1646

Too poor to measure. - 2.

AC 1803

	11.60 R 2 V	11.80	V = 11.88	08
	11.95 V 1 f	12.05		07

AC 1843

	12.24 m 2 V	12.44	V = 12.40 (?)	04
	12.35 V 2 m	12.55		05

4.00

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1912phae.proj.1037M

Wednesday, November 13, 1912

2.55 22 29 24 HV 2984

AC. 136
m. s. loN
δ 33 37 0

11.60	R 3 V	11.90	V = 11.82	08
11.75	V 3 l	12.05		07

V > 12.05

AC. 188

Image of V poor, may be defect	12.24 m 2 V	12.44	V = 12.44 ?	00
	12.45 V 1 n	12.55		01

Too poor to measure. AC 1919

AC. 2015

Image of very poor	13.04 p 1 V	13.14	V = 13.20	06
	13.~~45~~ 27 V 2 q	13.47		07

Not on plate AC 2043

4.10

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1912phae.proj.1037M

Thursday November 14, 1912

4.00
8.00

22 29 24 HV 2984

	ac. 595	
	m.s. m ON.	V > 12.24
Too poor to measure.	ac 90	
Too poor to measure	ac 53	
" "	ac 349	
" "	ac 380	
Multiple image	ac 464	
	ac 475	
	m.s. f 2N	V > 11.08
	ac. 1050	
4.30	m.s. m ON.	V > 12.24

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1912phae.proj.1037M

Wednesday, November 20, 1912

2.05 22 29 24 HV 2984

AC 2074
n.s. 2 ON v > 11.28
AC 2062

Images very faint.	12.81	02 V	13.01	v = 12.98	03
	12.94	V 1 p.	13.04		04

AC 1160
n.s. 9 0 N v > 13.47
Too poor to measure AC 1186

AC 2141
n.s. m IN v > 12.34
AC 2681

Images elongated Too poor to measure.	11.60	R 3 V	11.90	v = 11.92	02
	11.95	V 1 l	12.05		03

AC 2699

AC 2748

	10.18	d 3 V	10.48	v = 10.36	12
	10.24	V 2 e	10.44		12

AC 11098
n.s. m IN v > 12.~~56~~ 65

AC 2679

	11.60	R 2 V	11.80	v = 11.78	02
	11.75	V 3 l	12.05		03

AC 2593

	12.05	l 3 V	12.35	v = 12.20	15
3.30	12.04	V 2 m	12.24		16

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1912phae.proj.1037M

Thursday November 21, 1912

3.10 22 29 24 HV 29.84

D 21603
m.s. π ON. v > 13.93
D 23651
m.s. 9 ON v > 13.47

ac 2881
11.28 h 2 v 11.48 v = 11.39 09
11.30 v 3 k 11.60 09

ac 1622
Images poor, 10.44 e 3 v 10.74 v = 10.66 (2) 08
blurred 10.58 v 2 f 10.78 08

Too poor to measure. ac 945

ac 2801
10.44 e 2 v 10.64 v = 10.51 13
10.38 v 4 f 10.78 13

ac 2759
10.18 d 2 v 10.38 v = 10.36 02
10.34 v 1 c 10.44 02

ac 908
Images 10.44 e 3 v 10.74 v = 10.66 08
much elongated 10.58 v 2 f 10.78 08

ac [2769] 971
m.s. K ON v > 11.60

Too poor to measure; multiple image plate. ac 972

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1912phae.proj.1037M

Thursday, November 21, 1912

22 29 24 HV 2984

Images faint, AC 15-68

10.18 d 4 v 10.58 v = 10.36 22

10.14 v 3 c 10.44 22

AC 11199

11.60 R 1 v 11.70 v = 11.70 (?)

v 0

Not on plate AC 5072

AC 2853

Images 10.78 f 2 v 10.98 v = 10.98 (?) 00

very faint 10.97 v 1 g 11.07 01

AC 2859

Images 11.07 g 2 v 11.27 v = 11.18 (?) 09

very faint 11.08 v 2 k 11.28 10

4.30

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1912phae.proj.1037M

Saturday November 23rd 1912

1.50 222924 # V 2984

AC 2889

11.07 g 3 V 11.37 V = 11.22 15
11.08 V 2 r 11.28 14

AC. 3020

Faint blur 12.24 m 2 V 12.44 V = 12.40 (?) 04
(Select ?) other V should be. 12.35 V 2 m 12.55 05

AC 3041

n.s. 1 or N. V > 12.05

AC 3077

N.B. 12.81 0 1 V 12.91 V = 12.91 (?)
V 2 N

AC 3105

Images very faint 12.81 r 2 V 13.01 V = 12.92 09
12.84 V 2 p 13.04 08

AC 3678

n.s. f N V > 10.88 ~~10.79~~

AC 3780

12.24 m 3 V 12.54 V = 12.44 10
12.35 V 2 m 12.55 09

AC 3801

n.s. m or N V > 12.24

AC 3816

n.s. f 1 N V > 10.88 ~~10.79~~

AC 3847

10.78 f 1 V 10.88 V = 10.88 00
10.87 V 2 g 11.07 01

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1912phae.proj.1037M

Saturday, November 23, 1912

22924 HV 2984

ac 3869

11.07	q 3v	11.37	V = 11.22	15
11.08	v 2c	11.28		14

Too faint to measure.

ac 3997

ac 4062

10.18	q 3v	10.48	V = 10.36	12
10.24	v 2c	10.44		12

2.30

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1912phae.proj.1037M

Monday November 25, 1912

2·55 22 29 24 HV 2984

AC. 4041

10.44 e 2 V 10.64 V = 10.56 08
10.48 V 3 f 10.78 08

AC 4048

10.44 e 3 V 10.74 V = 10.61 13
10.48 V 3 f 10.78 13

i-plate, poor images of V and comp. stars. AC 4236

11.60 R 2 V 11.80 V = 11.78 (?) 02
11.78 V 3 2 12.05 03

AC 4950

m. s. k o N V ≥ 11.60

AC 5078

m. s. d 1 N V > 10.28

AC 5509

10.18 d 4 V 10.58 V = 10.41 17
10.24 V 2 c 10.44 17

AC 5095

m. s. l o N V > 12.05

AC 4987

m. s. m o N V > 12.24

AC 4999

m. s f 2 N V > 10.98

AC 5039

m. s. k 2 N V > 11.80

Too poor to measure quality 2. AC. 5500

AC. 5191

Poor images. 11.60 R 2 V 11.80 V = 11.97 13
12.14 V 1 m 12.24 17

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1912phae.proj.1037M

Monday, November 25, 1912

22 29 24 + V 2984

AC 5-279

Images poor.	12.05	l 1 V 12.15	V = 12.10	05
	12.04	V 2 m 12.24		06

AC 5-338

	11.28	h 4 V 11.68	V = 11.54	14
	11.40	V 2 k 11.60		14

AC 5-5-19

	9.72	c 5 V 10.22	V = 10.10	12
	9.98	V 2 d 10.18		12

AC 6400

n s k o V V > 11.60

AC 5-394

	9.72	c 3 V 10.02	V = 10.00	02
	9.98	V 2 d 10.18		02

AC 4423

	12.05 +0.44	l 2 V 12.25 +0.64	V = 12.25	00
	12.24	V 0 m 12.24		01
	12.25	V 3 n 12.55		00

AC 5-399

	10.78	f 4 V 11.18	V = 10.98	20
	10.77	V 3 g 11.07		21

4.10

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1912phae.proj.1037M

Tuesday, November 26, 1912

1.45 — 22 29 24 — H V 2984

QC 5421

Images	10.78	f 2 ✓	10.98	V = 10.98	00
blurred	10.97	✓ 1 g	11.07		01
Images		QC 8761 5			
elongated	10.18	d 2 ✓	10.38	V = 10.26	12
	10.14	✓ 3 e	10.44		12
		QC 5829			
R, - poor	11.28	h 4 ✓	11.68	V = 11.62	06
image, -	11.55	✓ 5 l	12.05		07
defect?					

QC 5090

n.s. l 1 N — V > 12.15

QC 6434

n.s. f 3 N. — V > 11.08

QC 6455

n.s. l 2 N. — V > 11.48

QC 4503

12.05	l 3 ✓	12.35	~~V > 12.35~~		15
12.04	✓ 2 m	12.24	V = 12.20		16
	QC 4438				
12.24	m 2 ✓	12.44	V = 12.34	(?)	10
12.25	✓ 3 n	12.55			09
	QC 4938				
	n.s. l 0 N		V > 12.05		
	QC 4096				
10.44	e 3 ✓	10.74	V = 10.56		18
10.38	✓ 4 f	10.78			18

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1912phae.proj.1037M

Tuesday, November 26, 1912

222924 HV 2984

Too faint to measure. AC 6497

AC 4117

10.78 f 1 V 10.88

10.67 V 4 g 11.07

AC 5767

12.05 l 2 V 12.25 V = 12.25 (?)

V 2 N

AC 4145

10.44 e 3 V 10.74 V = 10.71 03

10.68 v 1 f 10.78 03

AC 11197

Very faint. 12.24 m 2 V 12.44 V = 12.40 (?) 04

12.35 V 2 n 12.55 05

AC 11242

Very faint. 12.81 o 3 V ? 13.41 V = 13.11 (?)

V 1 N

AC 4211

10.78 f 3 V 11.08 V = 10.98 10

10.87 V 2 g 11.07 11

3.20 ϕ.

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1912phae.proj.1037M

Wednesday, November 27, 1912

3.05 22 29 24 HV 2984

AC 4066

10.44 2 3V 10.74 V = 10.56 18
10.38 V4f 10.78 18

AC 6581

m.s. f 0N V > 11.60

AC 2236

10.78 f 3V 11.08 V = 10.92 16
10.77 V3g 11.07 15

AC 6547

m.s. m 0N V > 12.24

Too poor to measure. Quality 1. { AC 6970 / AC 7621

Too poor, — quality 3. AC 6972
" " " 3. AC 7046

AC 11052

m.s. f 2N V > 11.48

AC 11208

m.s. f 2N V > 12.25

AC 7682

m.s. f 1N V > 11.70

AC 7691

m.s. f 2N V > 10.98

AC 7782

m.s. m 1N V > 12.34

AC 4404

12.05 f 2V 12.25 V = 12.14 11
12.04 V2m 12.24 10

AC 7889

m.s. m 1N V > 12.34

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1912phae.proj.1037M

Wednesday November 27, 1912

222924 HV 2984

aC 7831

m.s. k2N V > 11.48

aC 7790

m.s. m1N V > 12.34

aC 7759

m.s. k0N V > 11.60

i plate - too poor to measure. aC 7839

aC 6708

12.05 l 1 V 12.25 V = 12.10 05

12.04 V 2 m 12.24 06

aC 6757

m.s. k1N V > 11.70

4.20

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1912phae.proj.1037M

Friday November 29, 1912

11.20 22 29 24 HV 2984

AC 7929
m.s. k0N v > 11.60
AC 6789
11.60 k2V 11.80 v = 11.82 02
11.85 v2l 12.05 03
AC 8004
12.55 m2V 12.70 v = 12.58 17
12.41 v40 12.81 17
AC 8624
m.s. m0N v > 12.24
AC 8659
m.s. d2N v > 10.38
AC 8674
m.s. h1N v > 11.38
Multiple image plate? poor. AC 7934
AC 8051
m.s. m0N v > 12.24
AC 7918
m.s. f2N v > 10.98
Too poor to measure; pl. 3. AC 8964
AC 9034
m.s. m2N v > 12.44
AC 9057
m.s l0N v > 12.05
AC 9653
m.s. f0N v > 10.78

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1912phae.proj.1037M

Friday, November 29, 1912

222924 HV2924

AC 9622
m.s. l0N V > 12.05⁻

AC 9756
m.s. m0N V > 12.55⁻

AC 9557
11.28 h 2V 11.48 V = 11.39 09
11.30 V 3k 11.60 09

Faint blur where V should be. AC 9617
m.s. k 2N V > 11.80

AC 9771
m.s. k0N V > 11.60

AC 11063
m.s. m1N V > 12.34

AC 10983
m.s. m0N V > 12.55⁻

AC 11003
m.s. l0N V > 12.05

Too faint to measure qual. 2 AC 11059

AC 4313
11.07 g 2V 11.27 V = 11.27 (?)
V 1N

AC 4267
11.60 k 2V 11.80 V = 11.88 08
11.95⁻ V 1 l 12.05⁻ 07

AC 4387
12.05⁻ l 2V 12.25 V = 12.14 11
12.45⁻ V 3m 12.24

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1912phae.proj.1037M

Saturday, November 30, 1912

10.30 22 29 24 HV 2984

AC 9721
m.s. mon V > 12.24

Plate poor, AC 13248
Images very 10.18 d 2 V 10.38 V = 53 (?) 15
faint 10.68 V 1 ? 10.78 15

AC 13334
9.45 d 2 V 9.65 v = 9.64 01
9.62 V 1 c 9.72 02

i-plate, too AC 9936
poor to measure

i-plate AC 9924
AC 13371
9.45 d 3 V 9.75 V = 9.64 11
9.52 V 2 c 9.72 12

AC 9867
m.s. h 2 N V > 11.48
AC 10,002
m.s. h 2 N V > 11.48
AC 10919
m.s. h 1 N V > 11.70

i-plate - AC 11153
AC 10669

i-plate 10.18 d 4 V 10.58 V = 10.58 (?)
V 1 N

Faint blue where AC 10670
V should appear m.s. h 0 N V > 11.60
AC 10700
m.s. h 1 N V > 11.38

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1912phae.proj.1037M

Saturday, November 30, 1912.

222927 HV 2984

AC 10 605
m.s. h2N V > 10.98
Arm 6446
11.28 h3V 11.58 V = 11.72 14
11.85 v2h 12.05 13
AC 13417
9.72 c4V 10.12 V = 10.05 07
9.98 v2d 10.18 07
AC 10 850
m.s. h1N V > 11.38
AC 10880
m.s. h2N V > 11.28
AC 10911
m.s. h 0N V > 11.28
AC 10541
Image defective. 10.44 e4V 10.84 V = 10.66 (?) 18
10.48 v3f 10.78 18
AC 11178
m.s. m1N V > 12.34
AC 11756
10.18 d2V 10.38 V = 10.26 12
10.14 V3e 10.44 12

11.50

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1912phae.proj.1037M

Monday, December 2, 1912

3.45 22 29 24 HV 2984

AC 11283
m.s. m ON r > 12.24

AC 11841
9.72 c3V 10.02 V = 9.95 07
9.88 V3d 10.18 07

AC 13455
9.72 c4V 10.12 V = 10.00 12
9.88 V3d 10.18 12

Images very faint AC 11987
11.28 hIV 11.38 V = 11.38 (?)
VON

AC 11997
m.s. I 1N V > 10.88

AC 12075
m.s RIN V > 11.70

4.05

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1912phae.proj.1037M

Wednesday, December 4, 1912

4:00 22 29 24 HV 2984

AC 12084
m.s. R 1 N V > 11.70
AC 12460
m.s. h 0 N V > 11.28

AC 12493
9.72 c 5 V 10.22 V = 10.10 12
9.98 V 2 d 10.18 12
AC 12539
9.72 c 3 V 10.02 V = 9.95 07
9.88 V 3 d 10.18 07
AC 12621
10.78 f 3 V 11.08 V = 10.88 20
10.67 V 4 g 11.07 21
AC 12835
Images very faint. 12.55 m 2 V ? 12.75 V = 12.75 (?)
V 1 N
AC 13228
m.s. f 1 N V > 10.88
AC 12712
V smaller, than h, but more intense. 11.07 g 4 V ? 11.47 V = 11.32 (?) 15
11.18 V 1 h 11.28 14

4:25

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1912phae.proj.1037M

Thursday, December 5, 1912

2.05 222924 HV 2984

AC 12510

9.72 c 1 V 9.82 V = 9.85 02
9.88 V 3d 10.18 03

Images poor. AC 12525

9.72 c 1 V 9.82 V = 9.80 (?) 02
9.78 V 4d 10.18 02

No comp. stars on AC 11900

AC 12797

12.24 m 3 V 12.54 V = 12.54 (?)
V 1 N.

AC 11906

10.44 e 3 V 10.74 V = 10.66 08
10.58 V 2 f 10.78 08

AC 11979

m.s. f 1 N V > 10.88

AC 12093

m.s. f 0 N V > 12.05

AC 12149

m.s. f 0 N V > 11.60

AC 12575

10.18 d 2 V 10.38 V = 10.26 12
10.14 V 3 e 10.44 12

AC 12557

9.72 c 4 V 10.12 V = 10.10 02
10.08 V 1 d 10.18 02

AC 12601

10.44 e 3 V 10.74 V = 10.56 18
10.38 V 4 f 10.78 18

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1912phae.proj.1037M

Thursday, December 5, 1912

2 2 9 24 HV 2984

Too faint to measure. aC 12381

Image of V aC 12662

defective?	10.78 f 4 V	11.18	V = 11.18	00
small-dark	11.18 V 1 h	11.28		00

aC 12725

ns. f 1 N V > 10.88

aC 12734

	11.60 k 4 V	12.00	V = 11.92	(2) 08
	11.85 V 2 l	12.05		07

aC 12767

n.s. f 1 N V > 11.70

aC 12819

n.s. m 1 N V > 12.34

aM 7784 X

	9.72 e 4 V	10.12	V = 10.10	02
	10.08 V 1 d	10.18		02

aM 7814 X

	10.18 d 4 V	10.58	V = 10.37	21
	10.44 V 0 e	10.44		07
	10.08 V 7 f	10.78		29

aC 13372

	9.45 b 1 V	9.55	V = 9.84	29
	10.14 V 3 e	10.44		30

aM 7864 X

	10.78 f 4 V	11.18	V = 11.13	05
	11.08 V 2 h	11.28		05

aC 12473

3.05

n.s. f 0 N V > 10.78

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1912phae.proj.1037M

Saturday December 7th = 1912

2.05 22 8 24 17 V 2984

AC 12460
m.s. 9 0 N V > 11.07
AC 12084
m.s. h 1 N V > 11.38
2/ AC 11997
m.s. 9 0 N V > 11.07
2/ Images very poor. AC 11987
11.28 h 2 V 11.48 V = 11.48 (2)
V 2 N
2/ AC 13455
9.72 c 3 V 10.02 V = 9.90 12
9.78 V 4 d 10.18 12
2/ AC 11841
9.72 c 3 V 10.02 V = 9.90 12
9.78 V 4 d 10.18 12
This should evidently be am 7870, as AC 7870 does not cover region, 9 a.m.
AM 7870
10.44 e 4 V 10.84 V = 10.66 18
10.48 V 3 f 10.78 18
AC 12742
11.60 R 3 V 11.90 V = 11.90 (3)
V 2 N

2.45

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1912phae.proj.1037M

Monday December 9th 1912

11.30 222924 HV2984

aC 1865
n.s. m2N. V > 12.44
aC 1975
12.81 04V 13.21 V = 13.02 (?) 19
12.84 V2p 13.04 18
aC 2001
n.s. h1N V > 11.38
aC 2023
n.s. m2N. V > 12.44
aC 2054
13.04 p1V 13.14 V = 13.14 (?)
V2N
aC 2735
10.18 d4V 10.58 V = 10.41 17
10.24 V2e 10.44 17
aC 2759
10.18 d1V 10.28 V = 10.21 07
10.14 V3e 10.44 07
aC 3049
12.05 l1V 12.15 V = 12.15 (?)
V2N
aC 2132
n.s. g0N. V > 13.47
aC 2717
10.44 e2V 10.64 V = 10.56 08
10.48 V3f 10.78 08
aC 3019
12.24 m3V 12.54 V = 12.54 (?)
V1N

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1912phae.proj.1037M

Monday December 9, 1912

aC 3115
m.s. mON V > 12.24 b

aC 2881
11.28 h1V 11.38 V = 11.39 01
11.40 V2k 11.60 01

aC 3799
12.05 l1V 12.15 V = 12.10 (?) 05
12.04 V2m 12.24 06

aC 3782
m.s. m1N V > 12.65

aC 2927
11.60 k3V 11.90 V = 11.78 12
11.65 V4l 12.05 13

Too poor to measure aC 53
aC 90
m.s. h0V V > 11.28

Too poor to measure aC 379
" " " " aC 380
aC 475
m.s. h1N V > 11.38

1.05

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1912phae.proj.1037M

Thursday, December 12, 1912

3.30 22 29 24 HV 2984

AC 1930

Images poor, 12.24 m 1 V 12.34 V = 12.34 (?)

v O N

AC 7902

10.78 f 3 V 11.08 v = 10.98 10

10.87 V 2g 11.07 11

AC R2 467

11.60 R 1 V 11.70 V = 11.70 (?)

v O N

AC 11972

11.28 h 4 V 11.68 V = 11.54 14

11.40 V 2k 11.60 14

AC 11977

11.28 h 4 V 11.68 V = 11.49 19

11.30 V 3k 11.60 19

AM 8241

m.s. f 1 N V > 10.88

AC 908

10.44 e 4 V 10.84 V = 10.71 13

10.58 V 2f 10.78

AC 12063

12.24 m 1 V 12.34 V = 12.34 (?)

v O N

Too faint to measure AC 945

AC {969 / 971

m.s. f 1 N V > 10.88

AC 12562

9.72 e 3 V 10.02 V = 10.05 03

10.08 V 1 2 10.18 03

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1912phae.proj.1037M

Thursday, December 12, 1912.

22 2924 HV 2984

ac 972
m.s. d 2N v > 10.38
ac 1187
m.s. f 0N v > 10.78

ac 1568

10.18	d 3V	10.48	v = 10.26		22
10.04	v 4e	10.44			22

Images badly elongated.

ac 1622

10.44	e 3V	10.74	V = 10.66	(?)	08
10.58	V 2f	10.78			08

ac 1725

10.78	f 2V	10.98	V = 10.98	(?)	
	V 1N				

ac 1832

11.60	R 1V	11.70	V = 11.70	(?)	
	V 0N				

Image of V defective?

ac 12712

11.07	g 3V	11.37	V = 11.22		15
11.08	V 2h	11.28			14

4.25

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1912phae.proj.1037M

Friday, December 13, 1912

2.25 222924 HV2984

Too poor too measure - 2i

ac 3873

ac 3989

10.18 d 4 V 10.58 V = 10.41 17
10.24 V 2 e 10.44 17

ac 4097

10.78 f 2 V 10.98 V = 10.78 20
10.57 V 5 g 11.07 21

ac 4110

10.44 e 4 V 10.84 V = 10.71 13
10.58 V 2 f 10.78 13

ac 4118

10.44 e 4 V N.B.
V 1 g

ac 4137

11.28 h 1 V 11.38 V = 11.39 (?) 01
11.40 V 2 k 11.60 01

Too poor to measure - 2. ac 4168

Image of h defective? ac 4177 35
11.07 g 4 V 11.47 V = 11.12 (?) 34
10.78 V 5 h 11.28

ac 4218

11.07 g 2 V 11.27 V = 11.12 13
10.98 V 3 h 11.28 14

Too poor to measure - 1 ac 4295

ac 4314

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1912phae.proj.1037M

Friday, December 13, 1912

222924 HV 2984

Too poor to measure - 2. aC 4970

aC 4364

11.60 R 2 V 11.90 V = 11.82 08

11.75 V 3 l 12.05 07

aC 4411

11.60 R 2 V > 11.80 V = 11.78 02

11.75 V 3 l 12.05 03

aC 5006

m.s. d 3 N V > 10.48

Too poor to measure - aC 5063

aC 5074

m.s. R 1 N V > 11.70

aC 5084

m.s. l 0 N V > 12.05

aC 13286

9.72 c 3 V 10.02 V = 9.90 12

9.78 V 4 d 10.18 12

Out of focus. aC 13392

9.45 b 5 V 9.95 V = 9.74 21

9.52 V 2 c 9.72 22

Too poor to measure. aC 13487

aM 8474

m.s. R 1 N V > 11.38

Too poor to measure. aM 8506

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1912phae.proj.1037M

Friday, December 13, 1912

220927 HV 2984

a c 11799

9.72 c 4 V 10.42 V = 10.00 12

9.88 V 3 d 10.18 12

Multiple imageplate a c 4644

a c 5-95

n. s. h 1 N V > 11.38

a c 1050

n. s. n 0 N V > 12.55

a c 1160

n. s. q 0 N V > 13.47

a c 5109

n. s. h 1 N V > 11.70

a c 5192

11.28 h 1 V ? 11.38 V = 11.38 ?

V 1 N

a c 5237

12.24 m 1 V 12.34 V = 12.34 ?

V 1 N

3.25

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1912phae.proj.1037M

Monday, December 16, 1912

2.10 222924 HV2984

ac 5074
m. s. R II v > 11.70

not on plate ac 5152
Image of ac 5306
l defective?

11.28	l 5 V	11.78	V = 11.77	01
11.60	R. 2 V	11.80		03
11.74	V 5 m	12.24		03

ac 5347

11.07	g 5 V	11.57	V = 11.47	10
11.40	V 2 R	11.60		07
11.45	V 6 l	12.05		02

ac 5410

10.44	e 4 V	10.84	V = 10.71	13
10.58	V 2 l	10.78		13

ac 5446

10.44	e 3 V	10.74	V = 10.56	18
10.38	V 4 l	10.78		18

ac 5463

10.44	e 2 V	10.64	V = 10.51	13
10.38	V 4 l	10.78		13

ac 5496

10.18	d 2 V	10.38	V = 10.26	12
10.14	V 3 e	10.44		12

ac 5511

10.18	d 4 V	10.58	V = 10.46	12
10.34	V 1 e	10.44		12

ac 5564

9.72	c 4 V	10.12	V = 10.10	02
10.08	V 1 d	10.18		02

2h 4.45

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1912phae.proj.1037N

Tuesday, December 17, 1912

2.40 222924 HV 2984

Image of f a C 5734
larger, but 10.44 e 4 v 10.84 V = 10.66 18
fainter than V. 10.48 v 3 f 10.78 18

a C 6469
m.s. f o N V > 11.28
a C 6495
m. s. V 2 N V > N. 13.
a C 6516
m.s. m o N V > 12.24

Direct Estimation of Magnitudes

a C 6563 m.s. > 11.6
a C 6568 m.s. > 12.0
a C 6659 ~~m.s. > 11.6~~ 11.9 ? Image of v defective ?
a C 6743 11.9
a C 6876 m.s. > 10.8
a C 6855 12.3
a C 6894 11.8
a C 6816 m.s. > 10.8
a m 40 m.s. > 11.8 x
a C 6931 11.8
a m 83 m.s. > 11.7 x
a m 94 m.s. > 11.3 x
a m 95 Badly out of focus x
a m 123 m.s. > 13.0 x
4.00 a m m.s. > 10.9 Plate stained yellow

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1912phae.proj.1037M

Wednesday. December 18, 1912

1.35 222924 HV2984

x	a m 213	m.s. > 12.3	Stained yellow.
	a m 254	m.s. > 11.7	
	a m 552	m.s. > 10.6	
	a m 582	11.5	
	a m 602	12.1 ?	Image of V defective ?
	a m 668	m.s. > 12.6	
	a m 669	m.s. > 11.8	
	a m 864	10.6	
	a m 883	10.6	
	a m 968	10.7	
	a m 1079	m.s. > 11.7	
	a m 984	11.0 ?	Double image plate
	a m 1004	11.3 ?	
	a m 1018	11.2	
	a m 1098	m.s. > 11.0 ?	
	a m 1314	m.s. > 11.6	
	a m 1348	m.s. > 11.7	
	a m 1642	11.4	
	a m 1366	11.8	
	a m 1368	11.9	
	a m 2851	m.s. > 12.3	
x	a m 2227	m.s. > 10.9	

2.50

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1912phae.proj.1037M

Thursday, December 19, 1912

11.40 22 29 24 HV. 2984

a m 1092	n.s. > 11.7	
a m 2878	12.4	
a m 2910	12.1	
a m 1658	11.9 ?	l not seen, v very faint
a m 1505	10.3 ?	measure again
a m 1604	n.s. > 11.8 ?	Object in position of v, assumed a defect.
a m 2004	n.s. > 12.2	
a m 2026	n.s. > 12.2	
a m 2067	n.s. > 11.5	Object in position of k defect?
a m 2192	12.1	
a m 2208	11.7 ?	

12.20

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1912phae.proj.1037M

Friday, December 20, 1912

11:30 222924 HV 2984

X	a m 2310	10.6	Images blurred.
	a m 2705	m.s. > 12.3	
	a m 2775	m.s. > 12.0	
	a m 2936	m.s. > 11.9	
	a m 2977	12.4 ?	
	a m 3045	11.8 ?	Image of v defective
2	a m 1505	10.1	
	a m 3078	11.8	
	a m 3115	11.5	
	a m 3153	10.6	
	a m 3212	10.1	
	a m 3258	10.5	
	a m 3267	m.s. > 12.4	
	a m 3914	11.8 ?	Images very faint
	a m 3955	11.8 ?	
	a m 3836	m.s. > 12.3	
	a m 3866	12.1	
	a m 3758	m.s. > 11.5	
	a m 3985	11.4	
	a m 3815	12.4 ?	v scarcely visible
X	a m 3735	m.s. > 12.6	
	a c 7068	10.9 ?	3¼ plate, - difficult to measure.
	a c 7123	10.0	
	a c 7149	10.85	
	a c 7638	m.s. > 11.3	
	a c 7717	m.s. > 12.1	
	a c 7753	m.s. > 11.6	
	a c 8020	m.s. > 12.2	
	a c 8072	m.s. > 10.9	

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1912phae.proj.1037M

Friday, December 20, 1912.

222924 HV 2984

AC 8129	n.s. > 12.2	
AC 8219	10.3 ?	Poor plate
AC 8597	n.s. > 10.9	
AC 8648	n.s. > 12.2	
AC 8654		Too poor to measure. Comp. stars not seen
AC 8718	n.s. > 10.5	
AC 8753	n.s. > 11.4	
AC 8772		Too poor to measure. Comp. stars n.s.
AC 8807	n.s. > 12.0	
AC 8822	n.s. > 11.6	Images surrounded by small white ring
AC 8851	n.s. > 10.4	

1.05

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1912phae.proj.1037M

Saturday, December 21, 1912

11h 15m 222924 HV 2984

aC 8863	n.s. > 12.2	
aC 8876	n.s. > 12.2	
aC 8891	n.s. > 11.2	
aC 8907	n.s. > 11.0	
aC 8974	n.s. > 11.0	
aC 8981	n.s. > 12.2	
aC 9023	n.s. > 11.6 ?	
aC 9600	n.s. > 10.8	
aC 9076	n.s. > 11.2 ?	
aC 9088	n.s. > 11.3	
aC 9541	11.4	
aC 9657	n.s. > 10.9 ?	T' plate; - difficult to measure.
aC 9702	n.s. > 11.6	
aC 9743		Trail plate, - not possible to measure.
aC 9826	n.s. > 11.2 ?	
aC 9834	n.s. > 12.6	
aC 9930	n.s. > 12.8	
aC 9958	n.s. > 12.2	
aC 9992	n.s. > 12.3	
aC 10,051	n.s. > 12.2	
aC 10535	10.5	
aC 10,099	n.s. > 11.4	
aC 10,121	n.s. > 12.6	
aC 10,602	11.0	
aC 10,676	11.0	

1.15

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1912phae.proj.1037M

Saturday, December 28, 1912

12.30 22 29 24 HV 2984

	aC 10696	m.s. > 10.9
	aC 10730	Too poor to measure c. stars m.s.
	aC 10746	m.s. > 10.8
	aC 10752	Too poor to measure c. stars m.s.
	aC 10849	m.s. > 11.4
	aC 10872	m.s. > 11.4
	aC 10929	m.s. > 12.3
	aC 10920	m.s > 11.9
	aC 10957	m.s. > 11.6?
1.05		
1.45	aC 10992	m.s. > 11.6
	aC 11098	12.9 ? Images very faint
	aC 11242	m.s. > 13.0
	aC 11237	9.9
	aC 11612	Too poor to measure Quality 2.
	aC 11620	Too poor to measure Quality 1.
	aC 11621	" " " " " "
	aC 11703	m.s. > 10.8
	aC 11819	9.8
	aC 11846	9.9 ? Images poor, faint
	aC 13393	9.5 ? Out of focus.
	aC m 4003	10.9
	aC 11197	m.s. > 12.4
	aC 13282	10.0
	aC 13444	10.0
	aC 13440	Too poor to measure c. stars m.s.
	aC 11199	m.s. > 12.0 ? T' plate
	aC 11891	10.6 ? Images poor and faint

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1912phae.proj.1037M

Saturday, December 28, 1912

22 2924 HV 2984

	a c 13287	9.6	
	a c 12456	10.1	
	a c 13521	10.3 ?	multiple image plate
X	a m 4307	m.s. > 12.8	
X	a m 4323	m.s. > 12.2	
X	a m 4346	m.s. > 12.2	
X	a m 4409	m.s. > 11.8	
	a c 13501	9.6	Isochromatic
X	a m 4475	m.s. > 13.0	
X	a m 4523	m.s. > 12.6	

3.20

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1912phae.proj.1037M

Monday December 30, 1912

2100 2229 24 HV 2984

a m 7181	10.0		Images much elongated.
a m 7214	10.3	?	v small but more intense than e.
a m 7224	10.5	?	measure again.
a m 7253	10.6		
a m 7282	10.7		
a m 7610	11.0	?	Images very faint – g scarcely seen.
a m 6375	11.5		
a m 7617			Too faint to measure
a m 7656	10.6		
a m 7139	9.9		
a m 7680	10.0		
a m 7174	10.0		
a m 4538	n.s. > 11.8		
a m 7151	10.0		
a m 4550	n.s. > 12.2		
a m 6285	10.95		
a m 7080	10.3		
a m 6467	11.8	?	Images faint
a m 7125	9.9		
a m 6446	11.8	?	Images very faint.
a m 6618	12.7	?	" " "
a m 6647	n.s. > 12.1		
a m 4882	12.4	?	Images very faint
a m 4906	12.1	?	" " "
a m 5030	n.s. > 12.8		
a m 5044	n.s. > 11.7		
a m 5067	n.s. > 12.6		
a m 5679	12.4	?	Images very faint
a m 5743	12.4	?	" " " Add 1 dia to V.

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1912phae.proj.1037M

Monday, December 30, 1912

22 29 24 HV 2984

X	a m 6731	n.s. > 11.4
	a m 5759	n.s. > 12.8
	a m 5801	n.s. > 12.7
	a m 6691	n.s. > 12.3
	a m 7027	n.s. > 10.8
	a m 6656	n.s. > 11.3
	a m 6737	n.s. > 12.0
	a m 6291	11.0
	a m 4583	Trail plate.
	a m 4608	n.s. > 12.6
X	a m 4704	n.s. > 12.6

4.00

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1912phae.proj.1037M

Tuesday, December 31, 1912

2.40 222924 HV 2984

	a m 5084	n.s. > 12.6	x
	a m 5093	n.s. > 12.2	
	a m 5107	n.s. > 13.0	
	a m 5112	n.s. > 12.1	
	a m 5118	n.s. > 12.6	
	a m 5187	n.s. > 12.2	
	a m 5249	n.s. > 12.6	
	a m 5867	n.s. > 12.6	
	a m 5870	n.s. > 13.5	x
	a c 7252	n.s. > 12.2	
	a c 1573	10.6	
	a m 2321	10.5	x
	a c 8005	12.9 ?	Images faint
	a c 9074	n.s. > 10.8	
	a c 14		Too poor to measure. Qual. 2.
	a c 2806		" " " " Isochromatic
4.05	a m 5198	n.s. > 12.8	x

(yet to be measured:- a c 9012, a m 4441, a m 5900)

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Friday, January 3, 1913

3.15 Measures of Polar Seq.
Scale 2 MD 1422 7' Plate

		Sc. 1	Sc. 2
	5		
	6	4.1	
	7		
	8	5.3	
	9		
	10	6.2	
	11	6.7	
4.30	12		
	13		

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Saturday, January 4, 1913

12.30 Measures of Polar Sequence:

Scale m. m D 2121

	Sc.1	Sc.2
5	1.9	13
6	3.2	13
8	4.7	5.1
9	5.7	5.7
10	5.9	5.9
11	6.6	6.8
12	t.f	7.2
13	t.f	7.6
14	~~8.2~~ t.f.	8.2
15	t.f	8.4
16		8.7
17		9.1
18		9.6
19		9.7
20		9.9
23		9.93
25		
26		
27		

3.00
(40 min. out.)

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Monday January 6, 1913

Measures of Polar Sequence

2.45 Scale m. m D 2125

	Sc. 1.	Sc. 2
5	2.7	B
6	3.6	2.9?
8	4.9	5.1
9	5.8	
10	6.1	
11	6.6	
12	7.5?	
13	t.f.	7.7
14	t.f.	
3.20 15		
16		
17		
18		
19		
20		
23		
25		
26		
27		

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Tuesday January 7, 1913

3.00 Measures of Polar Sequence

Scale m mD 2125 (continued)

	Sc. 2
9	6.0
10	6.3
11	6.7
12	7.4
13	measured page 91
14	8.1
15	8.5
16	8.6
17	8.9
18	9.6
19	10.2 ?
20	t.f
23	
25	
26	
27	

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1912phae.proj.1037M

Wednesday, January 8, 1913

2.45 Measures of Polar Sequence

Scale 0. MD 2129

	Sc. 1	Sc. 3
5	B.	1
6	1.1	1
8	3.2	1
9	4.2	B
10	4.6	B
11	5.3	4.7
12	5.9	5.2
13	6.4	5.8
14	7.1 ?	6.4
15	7.6 ?	7.2
16	t.f	7.7
17	t.f	8.1
18		8.7
19		9.6
20		t.f
23		
25		
26		
4.20 27		

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Thursday. January 9, 1912

2.40

Measures of Polar Sequence:

Scale 0 mD 2134

	Sc. 1	Sc. 3
5	B	
6	1.1	
8	3.4	
9	4.5	
10	4.8	B
11	5.7	5.2?
12	5.9	5.4
13	6.6	5.8
14	7.1?	6.8
15	8.0?	7.5
16	t.p.	7.6
17	t.p.	8.4
18		8.8
19		9.5
20		n.s.
23		
~~24~~		
25		
26		
27		

4.15

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Friday, January 10, 1913

3.15 Polar Sequence

Scale 0 MD. 2140

	Sc. 1.	Sc. 3.	
5	B	B	Image defective
6	1.1	B	" "
8	3.4	B	
9	4.6	B	
10	4.8	4.0?	
11	5.4	5.1	
12	5.8	5.5	
13	6.7	6.4	
14	7.4 ?	6.8	
15	8.0 ?	7.7	
16	t.f	8.2	
17	"	8.4	
18	"	8.7	
19	"	9.3?	very faint.
20	"	n.s.	
23	"	"	
~~24~~	"	"	
25	"	"	
26	"	"	
3.3-8 27	"	"	

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Saturday, January 11, 1913

Polar Sequence.

		Scale m.	m D 2328
3.10		Sc.1	Sc2
	5	2.4	
	6	3.7	B
	8	5.6	5.7
	9	6.3	6.6
	10	6.6	6.9
	11	7.3	7.4
	12	t.f	8.1
	13	t.f	8.4
	14	t.f	8.5?
	15	t.f.	8.8
	16	t.f	9.3
	17		9.3
	18		9.7
	19		10.2? Almost invisible.
4.03	20		
	22		
	25		
	26		
	27		

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Monday, January 13, 1913

3·30 Polar Sequence

Scale = MC 2167

	Sc. 1	Sc. 2	
10	3.8	B	
11	4.3	B	
12	4.7	B	
13	4.9	B	
14	4.9	B.	
15	5.1	4.0 ?	
16	5.2	5.1	
17	5.6	5.6	
18	5.9	5.8	
19	6.2	5.9	
20	6.6	6.4	
23	7.3	6.9	
25	7.6 7.9	7.4	
26	8.5 ?	7.8	
27	8.3 ?	8.4 ?	Image larger than magn. 8.4, but very much less intense
28		8.9 ?	Image faint
29		9.2 ?	" "
30		9.8 ?	" "

Prismatic companions

5		
6		
8	6.3	
9		
10	6.8	
11		
12	7.6	

4.45

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1912phae.proj.1037M

Wednesday, January 15, 1913

3.08 Polar Sequence

Scale o mD 2143

		Sc.1.	Sc.3	
	5	1.2 ?	B	Image defective.
	6	2.2 ?	B	" "
	8	3.9	B	
	9	4.9	4.5 ?	
	10	5.2	4.8 ?	
	11	5.8	5.4	
6.4	12	6.4	6.2	No. 12 measured twice on Sc.1 by mistake.
	13	7.3 ?	7.1	
	14	7.5 ?	7.4	
	15	t. ?	8.1	
	16	t. ?	8.7	
	17	"	9.2	
	18	"	9.8	
	19	"	9.7 ?	Very faint
	20	"	n.s	
	23	"	"	
	25	"	"	
	26	"	"	
3.54	27	"	"	
4.15				

Prismatic Companions mC 2167 continued.

		Sc. 1	Sc. 2
(Scale u)	5	5.0	5.0
	6	5.3	5.4
	8	6.3	6.4
	9	6.8	6.9
	10	6.9	6.9
	11	7.5	7.3
4.37	12	7.7	7.6

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Friday, January 17, 1913

3.00 Polar Sequence.

Scale W m.c. 2209

	Sc. 1	Sc. 2	
5	1.9	B	
6	2.3	B	
8	3.7	B	
9	4.1	4.1	?
10	4.8	5.0	
11	5.3	5.2	
12	5.5	5.3	
13	6.2	6.3	
14	6.2	6.4	
15	6.6	6.7	
16	6.9	7.1	
17	7.2	7.2	
18	7.6	7.7	
19	7.7	8.2	
20	8.0	8.4	
23	t.f	9.1	
25	t.f	9.7	? Very faint, though image is large
26	"	9.8	? " " " " " "
27	n.s.	n.s.	

4.06

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1912phae.proj.1037M

Thursday January 23, 1913

Examination of var. 404 since 1910

Var. n.s on plates

AC 11423
" 11409
" 11321
" 11306
" 11259
AM 8289
" 8185
" 8067
" 8095
" 8153
" 7982
" 6894

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1912phae.proj.1037M

Friday, January 24, 1913

Var. 404

4.20 Var. not seen on plates

AC	11477	
AM	6833	
"	6882	
"	7381	
"	7414	
"	7459	
"	8037	
"	8050	
"	8060	
"	8107	
"	8147	
"	7371	Poor plate - little seen.
"	7981	
"	8053	
"	8225	
"	8242	
"	8276	
"	8316	
"	8160	Not found - poor plate - also ? exp.
"	6852	
"	6874	
"	6912	
AC	11575	

5.40

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1912phae.proj.1037M

Saturday, January 25, 1913

3.15 Var. 404 090032

Var. not seen on plates

a m	3193
"	8047 var. not found – trail plate
a c	13531
"	13542
(B	~~42967~~ 41309) – off plate
B	41301
B	42967
(B	41159) – off plate
B	41158
B	42962
(B	42963) – off plate
a c	12968
"	12957
"	13496
"	12142
"	12199
"	12212
"	12334
"	12749
"	12841
"	12912
a m	3263
a c	11575
a m	6912
"	6874
"	6852
"	7392
"	7397

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1912phae.proj.1037M

Saturday January 25, 1913

Var. 404

Var. not seen on plates

am	7976	
"	8036	
"	8046	
"	8098	
"	8132	
ac	8137	
am	6851	Plate too poor to find region - not ident.

5.43

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1912phae.proj.1037M

Monday, January 27, 1913

3- Standard Sequences. - Scale measures.

Scale M MD 2292 Pole

	Sc.1		Sc.2		MD 2297 n 106	Mean		Diff.
5	2.6	2.8	B	2.8	2.4	2.60	2 2	+3.79
6	3.4	3.6	B	3.6	3.1	3.35	2 3	3.73
8	5.2	5.4	5.3	5.35	0 1	5.25	5.30	05 05	2.80
9	6.2	6.4	6.4	6.40	0 0	6.00	6.20	20 20	2.50
10	6.4	6.6	6.4	6.50	1 1	6.50	6.50	00 00	2.39
11	6.9	7.1	7.1	7.10	0 0	7.15	7.12	02 03	2.30
12	t.l		7.4			7.5	7.45	0 1	2.28
13	"		8.1	?		8.2	8.15	1 0	2.02
14	"		8.3			8.5	8.40	1 1	2.12
15	t.l		8.5			8.7	8.60	1 1	2.34
16	"		8.9	?		9.2	9.05	1 2	2.21
17	"		8.9			9.3	9.10	2 2	2.39
18	"		9.2	?		9.5?	9.35	2 1	2.57
19	"		9.3			9.6	9.45	1 2	2.83
20	"		9.7	?		9.9?	9.80	1 1	2.79
23	"		t.l						
25	n.s		n.s						
26	n.s		n.s						
27	n.s		n.s						

pc. magn.

Image considerably smaller, but more intense than 8.0.

Image smaller but more intense than pc. magn. 9.0

very faint

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1912phae.proj.1037M

Monday, January 27, 1913

Standard Sequences Cofwd

Scale M mD 2293 122 K

alt -22

	Sc.1	Sc.2		Curve	Magn.
1	6.5 6.7	6.6	6.65 10	+2.36	8.96
2	6.7 6.9	7.1	7.00 11	2.29	9.29
				2.20	10.06 R
3	t.f	7.8	? Image smaller, but more intense than sc. mag. 8.0		
4	"	8.3		2.21	10.51
5	"	8.4		2.22	10.62
6	"	8.7		2.29	10.99
7	"	8.8		2.31	11.11
8	"	9.4		2.60	12.00
9	n.s	n.s			
10	"	n.s			
11	"	"			
12	"	"			
13	"	"			
14	"	"			
15	"	"			

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1912phae.proj.1037M

Monday, January 27, 1913

Standard Sequences

Scale M MF 2297 Pole

	Sc. 1	Sc. 2	Sec p. 104
5	2.2 2.4	B	
6	2.9 3.1	B	
8	5.0 5.2	5.3	5.25 ·01
9	5.9 6.1	5.9	6.00 ·11
10	6.3 6.5	6.5	6.50 ·00
11	6.9 7.1	7.2	7.15 ·10
12	t.f	7.5	
13	"	8.2	
14	"	8.5	
15	"	8.7	
16	"	9.2	
17	"	9.3	
18	"	9.5	?
19	"	9.6	
20	"	9.9	? very faint
23	n.s	n.s	
25	"	"	
26	"	"	
27	"		

4.31

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1912phae.proj.1037M

Tuesday, January 28, 1913

3.35 Var. 404 ; 09 00 32

Var. not seen on plates.

Am 6853

B 41231 Spectrum plate.

Am 6900

" 6904

" 6959

" 7976

" 8098

" 6965

" 7375

" 7393

" 7406

" 8313

" 7999 Found and identified two objs. on this plate.

" 8040

" 8054

" 8087

" 8099

" 8138

" 8182

" 8321

" 8340

5.30 " 8252 (about 30 min out to look up another star in this region thought to be variable.

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1912phae.proj.1037M

Wednesday. January 29, 1913

4.35 Var. 404. 09 00 32. Magn. estimated directly

Plate	Magn.		
am 8010	11.7	?	
am 8046	12.0	?	
am 6881	11.8		
ac 12832	11.7	?	
ac 12815	11.2	?	Plate poor; images faint
ac 12235	11.4		
ac 12948	10.6	?	
ac 13652	m.s. > 11.5		
ac 12102	10.4	?	all images faint
ac 11384	10.9	?	
am 8038	m.s. > 9.4		
am 6924	11.4	?	
ac 11355	11.4		
am 6845	m.s. > 6		Images all very faint

5.38

Not possible to determine whether or not variable was actually seen on any one of the above plates. Object taken for variable very faint; - possibly defect in all cases.

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1912phae.proj.1037M

Thursday, January 30, 1913

2.25 Scale measures of Standard Regions.

Scale m, mD 2298 Pole

	Sc. 1	Sc. 2		mD 2297 m.III	Mean		Diff.
5	2.5 2.7	B	2.7	2.4	2.55	1 2	+3.84
6	3.2 3.4	B	3.4	3.3	3.35	0 1	3.63
8	5.1 5.3	5.2	5.25 1 0	5.15	5.20	05 05	2.96
9	6.1 6.3	6.0	6.15 1 2	5.95	6.05	10 10	2.65
10	6.3 6.5	6.3	6.40 1 1	6.45	6.42	02 03	2.47
11	6.8 7.0	7.1	7.05 0 1	7.15	7.10	05 05	2.32
12	7.0 7.2	7.5	7.35 2 1	7.5	7.42	07 08	2.31
13	t.f.	8.1		8.2	8.20	1 0	2.02 +1.97
14	"	8.9	8.2 8.05 1 2	8.4	8.30	1 1	2.22
15	"	8.9		8.5	8.40	1 1	2.54
16	"	8.8		8.8	8.80	0 0	2.46
17	"	9.0		9.2	9.10	1 1	2.39
18	"	9.2		9.5	9.35	2 1	2.57
19	"	9.5		9.8	9.65	1 2	2.63
20	"	9.9		9.9	9.90	0 0	2.69
23	"	t.f.					
25	"	"					
26	"	"					
27	"	"					

* Image slightly smaller, but more intense than 7.0

Image smaller than 9.0 Sc. magn., but more intense.

Smaller than 10.0, - but more intense.

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Thursday, January 30, 1913

Measures of Standard Regions. Comet.

Scale .m. mD 2294 11 K

	Sc.1		Sc.2			Curve	Magn.
						3	6
1	2.2	2.4	B			+8.96	4.36
2	4.2	4.4	4.1	4.25	2 1	3.30 27	7.55 2
3	5.9	6.1	5.9	6.00	1 1	3.13 263	9.13 8.63
4	7.0	7.2	7.2	7.20	0 0	2.34	9.54
5	t.f.		7.7			2.30	10.00
6	"		8.3			2.33	10.63
7	"		8.6			2.38	10.98
8	"		8.7			2.39	11.09
9	"		9.0			2.47	11.47
10	"		9.2			2.50	11.70
11	"		9.8			2.68	12.48
12	"		t.f.				
13	"		"				
14	"		"				
15	"		"				

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Thursday, January 30, 1913

Scale Measures of Standard Regions

Scale m MD 2297 Pole.

	Sc. 1	Sc. 2.	Sc. p. 109
5	2.2 2.4	B	
6	3.1 3.3	B	
8	4.9 5.1	5.2	5.15 ± 1.0
9	5.9 6.1	5.8	5.95 ± 1.2
10	6.3 6.5	6.4	6.45 ± 1.0
11	6.9 7.1	7.2	7.15 ± 1.0
12	± 1	7.5	
13	"	8.2	
14	"	8.4	
15	"	8.5	
16	"	8.8	
17	"	9.2	
18	"	9.5	
19	"	9.8	
20	"	9.9 ?	
23	"	± 1	
25	"	"	
26	"	"	
27	"	"	

4.08

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Saturday, February 1, 1913

3.25 Scale Measures of Standard Sequence

Scale m mD 2292 Pole

	Sc.1		Sc.2		mD 2297 Mean R.114				Diff.	
5	2.4	2.6	B	2.6	2.5	2.55	0	1	+3.84	
6	3.2	3.4	B	3.4	3.3	3.35	0	1	3.63	
8	5.1	5.3	5.1	5.20	1	1	5.25	5.22	02	03	2.88	
9	6.1	6.3	6.2	6.25	1	0	6.10	6.12	13	12	2.58	
10	6.4	6.6	6.5	6.55	0	1	6.40	6.48	07	08	2.41	
11	6.9	7.1	7.2	7.15	1	0	7.05	7.10	05	05	2.32	
12	7.0	7.2	7.4	7.30	1	1	7.3	7.30	00	00	2.43	Smaller than 7.0, Sc.1, but more intense.
13	t.f		8.2			8.1	8.85	0	1	2.02	
14	"		8.2			8.3	8.25	0	1	2.27	
15	"		8.6			8.9	8.75	2	1	2.19	
16	"		8.7			9.1	8.90	2	2	2.26 (3)	
17	"		9.0			9.2	9.10	1	1	2.39	
18	"		9.3			9.6	9.45	1	2	2.47	
19	"		9.5			9.7	9.60	1	1	2.68	
20	"		9.8			10.1?	9.95	2	1	2.64?	
23	"		10.2	?		t.f	10.2			3.00?	
25	"		t.f								
26	"		"								
27	"		"								

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Saturday, February 1, 1913

Scale Measures of Standard Sequence

Scale m — m♉ 2295 — 27 K

	Sc. 1	Sc. 2		Curve	Magn.
1	6.4 6.6	6.3	6.45 2 1	+2.49	8.94
2	7.0 7.2	7.3	7.25 0 1	2.31	9.56
3	6.5 6.7	6.8	6.75 1 0	2.41	9.16
4	t.f.	8.0		2.21	10.21
5	"	8.3		2.20	10.50
6	"	8.6		2.26	10.86
7	"	9.1		2.39	11.49
8	"	9.5		2.55	12.05
9	"	10.2	?	2.89	13.09 2
10	"	t.f.			
11	"	"			
12	"	"			
13	"	"			
14	"	"			
15	"	"			

Smaller than 7.0 on Sc. 1, but more intense.

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1912phae.proj.1037M

Saturday February 1 1913

Scale measures of Standard Sequences.

Scale m mD 2297 Pole

	Sc.1	Sc.2	Sequence p. 112
5	2.3 2.5	B	2.5
6	3.1 3.3	B	3.3
8	5.1 5.3	5.2	5.25 1 0
9	5.9 6.1	5.9	6.00 1 1
10	6.2 6.4	6.4	6.40 0 0
11	6.8 7.0	7.1	7.05 0 1
12	t.l.	7.3	
13	"	8.1	
14	"	8.3	
15	"	8.9	
16	"	9.1	
17	"	9.2	
18	"	9.6	
19	"	9.7	
20	"	10.1 ?	
23	"	t.l.	
25	"	"	
26	"	"	
27	"	"	

4.54 (10 m out to look for plate)

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Monday February 3, 1913

10.30 Scale Measures of Standard Regions

Scale m m D 2292 Pole

	Sc.1		Sc.2		m D 2297 p. 117	Mean			Diff.
5	2.4	2.6	B.	2.6	2.4	2.50	1	1	+3.89
6	3.2	3.4	B.	3.4	3.1	3.25	2	1	3.73
8	5.1	5.3	5.2	5.25	1 0	5.15	5.20	05	05	2.96
9	6.1	6.3	6.2	6.25	1 0	6.05	6.15	10	10	2.55
10	6.3	6.5	6.5	6.50	0 0	6.50	6.50	00	00	2.39
11	6.7	6.9	7.2	7.05	1 2	7.20	7.12	07	08	2.30
12	t.f		7.4			7.5	7.45	0	1	2.28
13	"		8.0			7.9	7.95	0	1	2.22
14	"		8.2			8.6	8.40	2	2	2.12
15	"		8.6			8.8	8.70	1	1	2.24
16	"		8.9			9.3	9.10	2	2	2.16
17	"		8.9			9.3	9.10	2	2	2.39
18	"		9.4			9.7	9.55	2	1	2.37
19	"		9.4			9.7	9.55	2	1	2.73
20	"		9.9			9.8?	9.85	1	0	2.74
23	"		t.f			t.f				
25	"		"							
26	"		"							
27	"		"							

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Monday February 3, 1913.

Scale Measures of Standard Regions.

Scale m mD 2296 1241.

	Sc. 1	Sc. 2		Curve	Magn.
1	6.2 6.4	6.6	6.50 ± 1	+2.44	8.94
2	t.f	7.8	7.8	2.21	10.01
3	t.f	8.3	8.3	2.21	10.51
4	6.6 6.8	6.8	6.80 00	2.36	9.16
5	t.f	8.7		2.24	10.94
6	"	8.7		2.24	10.94
7	"	9.4		2.49	11.89
8	"	9.7		2.66	12.36
9	"	*9.8		2.72	12.52
		8.8		2.36	11.86
10	"	10.1?		2.97	13.07 2.
11	"	10.0?		2.88	12.88 2R
12	t.f	t.f			
13	"	"			
14	"	"			
15	"	"			

Defect, or image of no. 11?

* Error of a unit. Remeasured 9.8 by G.F.M. May 22, 1913.

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Monday, February 3, 1913

Scale Measures of Standard Regions

Scale m mD 2297 Pole

	Sc. 1.	Sc. 2.	See p. 115
5	2.2 2.4	B	2.4
6	2.9 3.1	B	3.1
8	4.9 5.1	5.2	5.15 1 0
9	5.9 6.1	6.1	5.9 6.05 1 1 1
10	6.2 6.4	6.6	6.50 1 1
11	6.9 7.1	7.3	7.20 1 1
12	t. f.	7.5	
13	"	7.9	
14	"	8.6	
15	"	8.8	
16	"	9.9	
17	"	9.3	
18	"	9.7	
19	"	9.7	
20	"	9.8	?
23	"	t. f.	
25	"	"	
26	"	"	
27	"	"	

12, 23

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Friday, February 7, 1913

Var. 404 09 00 32

Plate	Magn. Observed
A 10,062	14.25

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1912phae.proj.1037N

Monday February 17, 1913

3.27 Scale Measures of Standard Sequences.

Scale m. MD 2318 Pole

	Sc. 1	Sc. 2		MD 2318 M121	Mean		Diff.
5	2.5 2.7	B	2.7	2.6	2.65	1 0	+3.74
6	3.7 3.9	B	3.9	3.7	3.80	1 1	3.18
8	5.4 5.6	5.4	5.50 1 1	5.45	5.48	02 03	2.62
9	6.3 6.5	6.3	6.40 1 1	6.40	6.40	00 00	2.30
10	6.5 6.7	6.6	6.65 1 0	6.65	6.65	00 00	2.24
11	7.0 7.2	7.4	7.30 1 1	7.4	7.35	05 05	2.07
12	t.f.	7.8		7.8	7.80	00 00	1.93
13	"	8.3		8.2	8.25	1 0	1.92
14	"	8.4		8.5	8.45	0 1	2.07
15	"	8.8		8.8	8.80	0 0	2.14
16	"	8.8		9.1	8.95	2 1	2.31
17	"	9.2		9.2	9.20	0 0	2.29
18	"	9.6		9.4	9.50	1 1	2.42
19	"	9.7		9.9	9.80	1 1	2.48
20	"	t.f.		n.s.			
25	"	"					
25	"	"					
26	"	"					
27	"	"					

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1912phae.proj.1037M

Monday, February 17, 1913

Spindler.

Scale measures of Standard Sequences.

Scale m. mD. 2314 20 K.

alt +22

	Sc. 1.		Sc. 2			Curve +2.56	Magn. 8.26
δ = 1	5.7	5.9	5.5	5.70	2 2		
2	6.8	7.0	7.1	7.05	0 1	2.14	9.19
3	6.7	6.9	6.8	6.85	1 0	2.19	9.04
4	t.l.		8.2			2.02	10.22
5	"		7.5			2.04	9.54
6	"		8.3			2.05	10.35
7	"		8.8			2.19	10.99
8	"		9.3			2.35	11.65
9	"		9.6			2.43	12.03
10	"		9.8			2.50	12.30
11	"		9.9				
12	m.s		m.s				
13	"		"				
14	"		"				
15	"		"				
α	3.8	4.0	B.	4.0		3.35	7.35
β	4.1	4.3	4.0	4.25	1 2	3.26	7.51
γ	4.6	4.8	4.3	4.55	2 3	3.14	7.69
ε	5.7	5.9	5.6	5.75	1 2	2.70	8.45

(most stars measured on glass side on Scale 2.)

+45° 215

+

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Monday, February 17, 1913

Scale measures of standard Sequences

Scale m. m.D. 2218 Pole.

	Sc. 1.		Sc. 2.	see p. 119
5	2.4	2.6	B	2.6
6	3.5	3.7	B	3.7
8	5.3	5.5	5.4	5.45 1 0
9	6.2	6.4	6.4	6.40 0 0
10	6.5	6.7	6.6	6.65 1 0
11	t.f.		7.4	
12	"		7.8	
13	"		8.2	
14	"		8.5	
15	"		8.8	
16	"		9.1	
17	"		9.2	
18	"		9.4	
19	"		9.9	
20	m.s.		m.s	
23	"		"	
25	"		"	
26	"		"	
27	"		"	

5.12

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Tuesday, February 18, 1913.

2.50 Scale Measures of Standard Sequences

Scale m m D 2313 Pole

	Sc. 1,	Sc. 2,		m D 2318 m 126	Mean			Diff.
5	2.5 2.7	B.	2.7	2.1	2.40	3	3	+3.99
6	3.5 3.7	B.	3.7	3.6	3.65	1	0	3.33
8	5.1 5.3	5.4	5.35	1 0	5.45	5.40	05	05	2.70
9	6.2 6.4	6.3	6.35	0 1	6.45	6.40	05	05	2.30
10	6.4 6.6	6.7	6.65	0 1	6.70	6.68	03	02	2.21
11	7.0 7.2	7.3	7.25	0 1	7.6	7.42	17	18	2.80
12	t.f.	7.7			7.8	7.75	1	0	1.98
13	"	8.0			8.2	8.10	1	1	2.07
14	"	8.5			8.4	8.45	1	0	2.07
15	"	8.7			8.7	8.70	0	0	2.24
16	"	8.9			9.2	9.05	1	2	2.21
17	"	9.2			9.2	9.20	0	0	2.29
18	"	9.6			9.5	9.55	0	1	2.37
19	"	9.8			9.8	9.80	0	0	2.48
20	"	t.f.			t.f.				
23	n.s.	n.s.							
25	"	"							
26	"	"							
27	"	"							

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1912phae.proj.10327M

Tuesday, February 18, 1913

Scale Measures of Standard Sequences. copied.

Scale m. m.D 2315 8K

	Sc. 1.	Sc. 2.		Curve	Imagn.
1	4.8 5.0	4.9	4.95 01	+2.87	7.82
2	t.f.	7.6		2.05	9.65
3	t.f.	7.6		2.05	9.65
4	"	8.4		2.10	10.50
5	"	8.6		2.14	10.74
6	"	8.6		2.14	10.74
7	"	9.4		2.33	11.73
8	"	9.7		2.40	12.10
9	"	9.9		2.49	12.39
10	"	9.9		2.49	12.39
11	m.s.	m.s.			
12	"	"			
13	"	"			
14	"	"			
15	"	"			
α	1.9 2.1	B		4 2.06	6 4.16
β	1.9 2.1	B		4 2.06	6 4.16
γ	3.3 3.5	B		3.40	6.90
δ	2.8 3.0	B		3.62	6.62
ε	4.5 4.7	4.0	4.35 34	3.07	42 7.77

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1912phae.proj.1037M

Tuesday, February 18, 1913

Scale Measures of Standard Squares

Scale m. abb. #17 — m D 2316 — 69 K

	Sc. 1.		Sc. 2			Curve	Magn.
1	3.9	4.1	4.0	4.05	10	+3.18	7.23
2	4.7	4.9	4.6	4.75	12	2.93	7.68
3	6.7	6.9	6.7	6.80	11	2.20	9.00
4	t.f.		8.1			2.06	10.16
5	"		8.3			2.09	10.39
6	"		8.6			2.14	10.74
7	"		8.8			2.19	10.99
8	"		9.3			2.31	11.61
9	"		9.8			2.44	12.24
10	"		10.0			2.50	12.50
11	"		t.f.				
12	n.s.		n.s.				
13	"		"				
14	"		"				
15	"		"				

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1912phae.proj.1037M

Tuesday February 18, 1913.

Coudé.

Scale Measures of Standard Sequences.

Scale m. MD 2317 45K.

	Sc.1	Sc.2.		Curve	Magn.
1	4.8 5.0	4.8	4.90 1 1	+2.88	7.78
2	5.8 6.0	5.8	5.90 1 1	2.50	8.40
3	6.5 6.7	6.6	6.65 1 0	2.24	8.89
4	6.6 6.8	6.8	6.80 0 0	2.20	9.00
5	t.f.	7.6		2.05	9.65
6	"	8.2		2.07	10.27
7	"	8.6		2.14	10.74
8	"	8.3		2.09	10.39
9	"	8.9		2.21	11.11
10	"	9.7 ?		2.41	12.11 ?
11	"	10.0 ?		2.50	12.50 ?
12	"	t.f.			
13	n.s.	n.s			
14	"	"			
15	"	"			

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Tuesday February 18, 1913

Scale measures of Standard Sequence

Scale m. m Ø 2318 Pole.

	Sc. 1	Sc. 2	Sep. 122	
5	1.9 2.1	B		
6	3.4 3.6	B		
8	5.3 5.5	5.4	5.45	10
9	6.3 6.5	6.4	6.45	10
10	6.5 6.7	6.7	6.70	00
11	t.f.	7.6		
12	"	7.8		
13	"	8.2		
14	"	8.4		
15	"	8.7		
16	"	9.2		
17	"	9.2		
18	"	9.5		
19	"	9.8		
20	"	t.f.		
23	"	"		
25	m.s.	m.s		
26	"	"		
27	"	"		

4.52

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1912phae.proj.1037M

Wednesday, February 19, 1913.

3.00 Standard Regions

Scale 7m. 7m 2318 Pole

	Sc. 1		Sc. 2			MP 2324 m. 131	Mean			Diff.
5	1.9	2.1	B.	2.1		2.9	2.50	4	4	+3.89
6	3.1	3.3	B.	3.3		4.0	3.65	3	4	3.33
8	5.1	5.3	5.3	5.30	0 0	5.65	5.48	18	17	2.62
9	6.2	6.4	6.2	6.30	1 1	6.50	6.40	10	10	2.30
10	6.4	6.6	6.5	6.55	0 1	6.85	6.70	15	15	2.19
11	7.0	7.2	7.3	7.25	0 1	7.6	7.42	17	18	2.00
12	t.f.		7.8			7.9	7.85	0	1	1.88
13	"		8.3			8.4	8.35	1	0	1.82
14	"		8.6			8.5	8.55	0	1	1.97
15	"		8.7			8.8	8.75	1	0	2.19
16	"		8.9			9.3	9.07	2	2	2.16
17	"		9.2			9.6	9.40	2	2	2.09
18	"		9.4			9.7	9.55	2	1	2.37
19	"		9.9	9.9		9	9.90	2		2.38
20	"		t.f.							
23	"		"							
25	"		"							
26	"		"							
27	m.s		m.s							

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1912phae.proj.1037M

Wednesday February 19, 1913

Standard Regions. Colwell

Scale m. : mD 2319 46 K

		Sc.1	Sc.2		Curve	Magn.
β =	1	3.6 3.8	B.		+3.29	7.09
	2	4.9 5.1	4.9	5.00 1.1	2.80	7.80
ε =	3	6.1 6.3	6.2	6.25 1.0	2.36	8.61
	4	t.f.	7.6		1.99	9.59
	5	"	7.7		1.98	9.68
	6	"	8.4		1.96	10.36
	7	"	8.6		1.99	10.59
	8	"	9.1		2.11	11.21
	9	"	9.7		2.31	12.01
	10	"	ms			
	11	"	"			
	12	"	"			
	13	"	"			
	14	"	"			
	15	"	"			
α		2.7 2.9	B.		3.69	6.59
γ		3.8 4.0	4.0	4.00 0.0	3.20	7.20
δ		4.8 5.0	5.1	5.05 0.1	2.79	7.84

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1912phae.proj.1037M

Wednesday February 19, 1913.

Standard Regions.

Scale 1m = 2320 2215

	Sc. 1	Sc. 2.		Curve	Imagn.
β = 1	4.2 4.4	B		+3.03	7.43
2	4.7 4.9	5.1	5.00 ± 1	2.81	7.81
3	6.9 7.1	7.1	7.10 ± 0	2.09	9.19
4	7.0 7.2	7.2	7.20 ± 0	2.08	9.28
5	t.f.	8.2		1.94	10.14
6	"	8.7		2.01	10.71
7	"	9.2		2.15	11.35
8	"	9.8		2.35	12.15
9	"	9.8		2.35	12.15
10	"	t.f.			
11	n.s.	n.s.			
12	"	"			
13	"	"			
14	"	"			
15	"	"			
α	3.2 3.4	B.		3.48	6.88
γ	3.8 4.0	B		3.20	7.20
δ	5.7 5.9	5.6	5.75 ± 2	2.53	8.28
ε	5.1 5.3	5.2	5.25 ± 0	2.70	7.95

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1912phae.proj.1037M

Wednesday February 19, 1913

Clouds:

Scale Tr. mD 2321 9 K

		Sc. 1	Sc. 2.		Curve	Magn.
α =	1	3.5 3.7	B.		~~-3.52~~ 3.8	~~7.02~~ 6.98
	2	4.9 5.1	4.9	5.00 1.1	2.81	7.81
	3	5.7 5.9	5.6	5.75 1.2	2.53	8.28
	4	6.2 6.4	6.4	6.40 0.0	2.30	8.70
	5	7.0 7.2	7.3	7.25 0.1	2.06	9.31
	6	t.f.	7.3		2.05	9.35
	7	"	8.3		1.95	10.25
	8	"	9.1		2.11	11.21
	9	"	9.5		2.24	11.74
	10	"	9.9		2.40	12.30
	11	"	9.8 ? Defect ?		2.35	12.15 28
	12	m.s.	m.s.			
	13	"	"			
	14	"	"			
	15	"	"			
B		3.7 3.9	B.		3.25	7.15
V		3.5 3.7	B.		3.33	7.03
δ		3.3 3.5	B.		3.41	6.91
E		3.8 4.0	B.		3.20	7.20

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1912phae.proj.1037M

Wednesday February 19, 1913.

4.45

Scale m. mD 2324 Pole

	Sc. 1.	Sc. 2. sup. 127
5	2.7 2.9	B.
6	3.8 4.0	B.
8	5.5 5.7	5.6 5.65 1 0
9	6.4 6.6	6.4 6.50 1 1
10	6.6 6.8	6.9 6.85 0 1
11	t.f.	7.6
12	"	7.9
13	"	8.4
14	"	8.5
15	"	8.8
16	"	9.3
17	"	9.6
18	"	9.7
19	"	t.f.
20	n.s.	n.s.
23	"	"
25	"	"
26	"	"
27	"	"

5.02

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1912phae.proj.1037M

Thursday, February 20th 1913

2.30 Standard Sequences.

Scale m MD 2318 Pole.

	Sc. 1	Sc. 2.	Sc. 2.	MD 2324 h. 135	Mean	Diff.
5	1.9 2.1	B.		2.9	2.50 4 4	+3.89
6	3.2 3.4	B.		4.0	~~3.70~~ ~~3.45~~ 4 3 3	3.28
8	5.1 5.3	5.2	5.25 1 0	5.70	5.48 ~~30~~ 23 22	2.62
9	6.1 6.3	6.4	6.35 ~~0 1~~ 1 0	6.60	6.48 13 12	2.22
10	6.4 6.6	6.5	6.55 0 1	6.95	6.75 20 20	2.14
11	7.0 7.2	7.6	7.40 2 2	7.6	7.50 10 10	1.92
12	t. f.	8.2		7.9	8.05 2 1	1.68
13	"	7.9		8.6	8.25 3 4	1.92
14	"	8.6		8.5	8.55 0 1	1.97
15	"	8.8		9.0	8.90 1 1	2.04
16	"	9.3	9.2 9.25 1 0	9.4	9.32 07 08	1.94
17	"	9.2	9.3 9.25 0 1	9.3	9.28 03 02	2.21
18	"	9.5		9.7	9.60 1 1	2.32
19	"	9.8			9.80	2.48
20	"	t. f.				
23	m.s	m.s				
25	"	"				
26	"	"				
27	"	"				

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1912phae.proj.1037M

Thursday, February 20, 1913

Standard Sequences.

Scale m. m D 2322 47 K. alt. +22

	Sc. 1	Sc. 2		Curve	Magn.
1	3.4 3.6	B.		+3.31	6.91
2	3.6 3.8	B.		3.25	7.05
3	t. f.	7.5		1.94	9.44
4	"	8.3		1.91	10.21
5	"	8.3		1.91	10.21
6	"	8.8		2.00	10.80
7	"	9.2		2.12	11.32
8	"	9.6		2.30	11.90
9	"	t. f.		&	
10	"	9.3	defect?	2.19	11.49 ?8

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1912phae.proj.1037M

Thursday, February 20, 1913

Standard Sequence

Scale 7m. 7mD 2323 161

copied:

	Se.1	Se.2			Curve	Magn.
1	5.8 6.0	5.7	5.85	2 1	+2.00	8.31 8.35
2	5.9 6.1	5.8	5.95	0 2	2.47	8.42
3	6.6 6.8	6.8	6.80	0 0	2.18	8.98
4	6.9 7.1	7.1	7.10	0 0	2.10	9.23
5	t.f.	7.8			1.98	9.78
6	"	8.7			1.99 2.00	10.70
7	"	9.4			2.28	11.62
8	"	9.2			2.15	11.35
9	"	9.7			2.31	12.07
10	"	t.f.				
11	n.s.	n.s				
12	"	"				
13	"	"				
14	"	"				
15	"	"				

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1912phae.proj.1037M

Thursday, February 20, 1913.

Standard Sequences.

	Scale m.		m B 2324	Pole
	Sc.1.	Sc.2.	Seq. 132	
5	2.7 2.9	B.		
6	3.8 4.0	B.		
8	5.6 5.8	5.6	5.70 1 1	
9	6.4 6.6	6.6	6.60 0 0	
10	6.8 7.0	6.9	6.95 0 1	
11	t.g.	7.6		
12	"	7.9		
13	"	8.6		
14	"	8.5		
15	"	9.0		
16	"	9.4		
17	"	9.3		
18	"	9.7		
19	"	t.g.		
20	"	"		
23	"	"		
25	"	"		
26	"	"		
27	"	"		

3.55

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1912phae.proj.1037M

Monday February 24, 1913.

4.15

Variable R Z Ophiuchi 184007

Plate No.	Magn.	Remarks. (m. End ref.)
am 5569	12.0	
ac 11867	10.4	
~~ac 8835~~	10.1	
5.05 ~~am 1051~~	~~9.9~~	
~~am 7177~~	~~9.8~~	

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1912phae.proj.1037M

Tuesday, February 25, 1913

3.15 184007 RZ Ophiuchi

	Plate No.	magn.	Remarks.
(h. End. up.)	ac 2289	9.6	? Difficult to measure. Poor plate
	ac 809	9.9	
	am 3739	10.3	
	ac 8835	10.1	
	am 1051	9.9	
	am 7177	9.8	
	ac 11808	10.6	? Very faint
	ac 9584	9.9	
	ac 13300	11.4	? Very faint
	ac 2355	9.4	

4.50

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1912phae.proj.1037M

Monday, March 3, 1913

3.00 Variable R.J. Ophiuchi 18 4007.

	Plate Nr.	Magn.	Remarks.
(N. end up.)	ac 8763	10.5	? Very faint. ε n.s.
	ac 2600	10.0	Images elongated.
	ac 1926	9.9	
	a m 3505	9.5	
	a m 10	9.8	
	a m 28	9.5	Double images for each star ? V a little fainter, but larger than a.
	a m 153	9.8	Double images.
	a m 403	9.8	Plate stained yellow. Images elongated.
	a m 53	9.7	
	a m 102	9.9	
	a c 94	10.0	
	a c 297	9.7	
	ac 346	9.9	Double images.

4.35

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1912phae.proj.1037M

Tuesday March 4, 1913

3.50 184007 Var. R.3 Ophiuchi

	Plate No.	Magn.	Remarks
(h. end ups.)	a m 8592	9.5	
	a c 13273	m.s. > 10.6	
	a c 855	10.3 ?	Images elongated - near edge.
	a m 7148	9.9	
	a m 7196	m.s. > 11.6 ?	Images much elongated.
	a m 7205	11.4	
	a m 7218	9.8	∨ larger than c, but fainter
	a m 5538	9.9	
	a m 5863	11.2 ?	Object in position of c defect?
	a m 5588	9.9	
	a m 5613	9.9	
	a c 13259	m.s. > 10.6	
	a c 13332	m.s. > 9.3 ?	Very dark plate.
	a c 2771	9.2	
	a 11834	m.s. > 10.3	

5.15

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1912phae.proj.1037M

Friday, March 7, 1913

3.40 Var. R Ophiuchi 184007

	Plate No.	Magn.	Remarks.
(n. and up.)	ac 4923	9.9	
	ac 5227	9.7	
	am 4295	9.9	
	ac 2354	9.9	? d hardly visible
	B 31958	11.9	
	am 3751	11.8	
	am 4165	11.5	
	ac 7719	10.0	
	ac 7730	10.0	
	ac 11840	ms. > 10.6	
	B 30648	11.4	
	ac 7794	10.0	
	ac 8517	9.8	
	am 989	9.8	
	ac 11868	9.9	
	B 8468	12.4	
	B 21287B	9.8	
	B 30625	11.8	
	B 20468	10.1	
	I 33219	9.5	
	ac 4109	9.5	
	ac 11839		Too difficult. 3 exps. not identified.

5.30

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1912phae.proj.1037M

Monday, March 10, 1913

2.15 184007 Var. R. Z. Ophiuchi.

	Plate No.	Magn.	Remarks
(N. end up.)	a m 1454	9.9	
	a c 9570	9.8 ?	Images faint. also Double Exp. plate.
(So. end up.)			
	a c 4109	9.7	
Remarks.	a c 11868	9.9	
	a m 989	9.8	
	a c 8517	9.9	
3.20 –	a c 11840	n.s. > 10.6	
	a c 7794	9.9	
(c defective?)	a c 7730	9.9	
	a m 4163	11.5	
	a m 4295	9.7	
(Very faint)	a m 7205	12.4 ?	Reject this measure. Images much elongated and superposed. Evidently wrong star was taken for [illegible] 27 m mar. 21, 1913 See Obs. pp. 146 + 139.
	a m 7196	n.s. > 11.3	
	a m 7148	9.7	
	a c 855	10.0	
	a c 13273	n.s. > 11.1	
	a m 8592	9.8	
	a c 11834	n.s. > 11.2	
	a c 2771	9.1	
	a c 13259	n.s. > 11.1 ?	
	a m 5613	9.9	
	a m 5588	9.9	
	a m 5563	11.5	
	a m 5538	9.8	
Images elongated	a m 7218	9.5 ?	
	a c 7719	9.8	
	a m 3751	12.0	

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1912phae.proj.1037M

Monday, March 10, 1913

18 +007 Var. R. ? Ophiuchi

(S and up.)	Plate No.	Magn.
(d very faint)	ac 2354	9.9 ?
	ac 5227	9.7
	ac 4923	9.4
	ac 94	9.5
	ac 2600	10.0
	ac 297	9.9
	ac 346	9.9

5.05

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1912phae.proj.1037M

Tuesday, March 11, 1913

2.10 184007 Var. R. 3 Ophiuchi.

(2nd up.)

Plate No.	Magn.	
am 403	9.5-	
(v defective ?) am 153	9.5	?
am 53	9.9	
am 102	10.0	
ac 13332	m.s. > 10.3	
No. 2 am 53	9.8	
am 28	9.9	
am 10	9.9	
ac 8763	m.s. > 10.3	
am 3505-	9.7	
ac 1926	9.5-	
ac 2335-	9.2	
ac 9584	10.0	
ac 11808	m.s. > 9.4	
am 7177	9.6	
Very faint. ac 13300	11.4	?
am 1051	9.8	
ac 8835-	10.0	
am 3739	10.45-	
ac 809	10.0	
ac 2289	9.5-	
ac 9570	10.0	
v defective? ac 11867	10.4	
I 34802	not on plate.	
B 30648	11.4	
B 31958	11.9	
Looks brighter than a B 27427	8.9	?
am 5569	12.4	
am 1454	9.5-	

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1912phae.proj.1037M

Tuesday March 11, 1913

18H007 R. Z Ophiuchi.

(S. end up)	Plate No.	Magn.
	I 33219	9.9
	B 30 625-	12.0
	B 20468	9.2
	B 21287	9.5-
	B 8468	12.3
3 Effs. Too difficult to measure	QC 11839	

+.20.

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1912phae.proj.1037M

Friday, March 14, 1913

4.35	184007	R.J. Ophiuchi
(h and up)	Plate No.	Magn.
	a 8507	9.8
	a 8500	not on plate,
	a 8499	" " "
4.55		

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1912phae.proj.1037M

Friday, March 21, 1913

4.10 184007 R. J. Aitken

	Plate No.	Magn.	Remarks.
(S. end up.)	a 8507	9.7	Difficult; – comp. star S, too distant.
"	B 20468	9.4	? Difficult – near edge, – also images elongated.
(N. end up.)	am 7205	11.4	
"	am 599	9.8	
"	I 34922	10.1	Spectrum plate.
"	I 35361	Not on plate	
"	I 35400	" " "	

5.10

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1912phae.proj.1037M

Saturday, March 22, 1913

2.10 184007 R.Z Ophiuchi

(h. and up.)	Plate No.	Magn.	Remarks.
	I 38022	10.8 ?	Spectrum plate - images faint - difficult.
	B 41783	Not on plate.	
	B 43524	Not on plate.	
	I 37191	Not on plate.	
	B 39154	11.8	On edge.
(S. and up.)	I 34922	10.0	Spectrum plate.
	I 38022	10.9	" " very faint
	B 27487	9.1 ?	Images looks larger than that of a, but less intense. Edge of plate.
	B 39154	11.7	
	am 599	9.8	
	B 20467	9.2 ?	Difficult. Near edge, and images elongated.

3.15

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1912phae.proj.1037M

Monday, May 12, 1913

11.20 Series Measures.

Scale m mD 2297 Pole.

Sc.1	Sc.1	Sc.2	Sc.2		mD 2303 n.100	Mean		Diff.
2.0	2.2 5 2.2	2.4	B.	2.80 1 1	2.80	2.55	25 25	+3.84
3.1	3.3 6 2.9	3.1	B.	3.20 1 1	3.90	3.55	35 35	3.43
4.9	5.1 8 4.8	5.0	5.1	5.07 1 1 0	5.42	5.24	17 18	2.86
5.9	6.1 9 5.9	6.1	5.9	6.03 1 1 1	6.40	6.22	19 18	2.48
6.2	6.4 10 6.1	6.3	6.2	6.33 1 0 0	6.67	6.50	17 17	2.39
11	7.1 2 7.3		7.2	7.1 7.20 1 0 1	7.30	7.35	15 15	2.07
12	t.f.		7.5	7.6 7.55 1 0	7.70	7.62	07 08	2.11
13	"		7.9	8.1 8.00 1 1	8.05	8.02	02 03	2.15
14	"		8.5	8.4 8.45 1 0	8.65	8.55	10 10	1.97
15	"		8.6	8.8 8.70 1 1	8.85	8.88	08 07	2.16
16	"		8.9	8.9 8.90 0 0	9.00	8.95	05 05	2.31
17	"		9.2	9.2 9.25 1 0	9.05	9.15	10 10	2.34
18	"		9.6	9.7 9.65 0 1	9.70	9.68	03 02	2.24
19	"		9.8	9.9 9.85 0 1	9.95	9.90	05 05	2.38
20	"		9.9	10.0 9.95 1 0	.	9.95	a .	2.64
23	"		t.f	t.?				
25	"		"	"				

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1912phae.proj.1037M

Monday, May 12, 1913

Series measures — Copied

Scale m — m 2898 — C5

Sc.1	Sc.1	Sc.2	Sc.2	Sc.2			Curve	Magn.
3.6 3.8	1	3.4	3.6		B.	3.70 1 1	+3.37	7.07
	2	4.7	4.9		4.8	4.85 1 0	2.97	7.82
	3	4.7	4.9		4.9	4.90 0 0	2.96	7.86
	4	4.8	5.0		5.1	5.05 0 1	2.89	7.94
	5	5.8	6.0		5.9	5.95 0 1	2.57	8.52
	6	6.2	6.4		6.2	6.30 1 1	2.45	8.75
	7	~~5.9~~ 6.3	6.5		6.5	6.50 0 0	2.39	8.89
	8	6.8	7.0		6.9	6.95 0 1	2.25	9.20
	9	7.1	7.3	7.2	7.2	~~7.55~~ 7.23 1 0 0	2.19	9.42 ?
	10	7.2	7.4	7.5	7.5	7.47 1 0 0	2.13	9.60 ?
(Brighter than used MC 2398?)	11	T.p.		7.3	7.3	7.30 0 0	2.17	9.47 R
	12	"		7.7	7.7	7.70 0 0	2.12	9.82
	13	"	7.9	8.0	7.9	7.93 0 1 0	2.11	10.04
	14	"	7.9	7.8	7.9	7.87 0 1 0	2.11	9.98
	15	"		8.5	8.4	8.45 1 0	2.13	10.58
	16	"		8.8	8.7	8.75 0 1/8	2.15	10.90
	17	"		8.9	8.9	8.90 0 0	2.20	11.10
	18	"		9.0	8.9	8.95 0 1	2.20	11.15
	19	"		9.3	9.3	9.30 0 0	2.28	11.58
	20	"		9.3	9.3	9.30 0 0	2.28	11.58
	21	"		9.8	9.8	9.80 0 0	2.42	12.22
	22	"		9.9	10.0	9.95 1 0	2.49	12.44
	23	"		T.p.	T.p.			
	24	"		"	"			
	25	"		"	"			

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1912phae.proj.1037M

Monday May 12, 1913

Series Measures

Scale m		m 8 2303		Pole
Sc.1.	Sc.1.	Sc.2	Sc.2	sup. 148
2.7 2.9 5	2.5 2.7	B.	2.80	1 1
3.7 3.9 6	3.7 3.9	B.	3.90	0 0
5.3 5.5 8	5.4 5.6	5.2	5.4 5.42	1 2 0
6.2 6.4 9	6.4 6.6	6.2	6.40	0 2 2
6.4 6.6 10	6.6 6.8	6.6	6.67	1 1 1
11	t.f.	7.4	7.6 7.50	1 1
12	"	7.7	7.7 7.70	0 0
13	"	7.9	8.2 8.05	1 2
14	"	8.7	8.6 8.65	1 0
15	"	8.9	8.8 8.85	1 0
16	"	9.1	8.9 9.00	1 1
17	"	9.2	8.9 9.05	2 1
18	"	9.6	9.8 9.70	1 1
19	"	10.0	9.9 9.95	0 1
20	"	t.f.	t.f.	
23	"	"	"	
25	"	"		

1.10

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1912phae.proj.1037M

3:00 Monday, Mar 12, 1913

Series Measures

Scale m mD 2297 Pole.

Sc.1	Sc.1	Sc.2	Sc.2		mD 2303 p.156	Mean			Diff.
2.1	2.2 2.4	B.		2.35 1 0	2.65	2.50	15	15	+3.89
2.9 3.1 6	2.9 3.1	B.		3.10 0 0	3.75	3.42	32	33	3.56
8 4.8 5.0		5.1		5.05 0 1	5.40	5.22	17	18	2.88
9 5.9 6.1		5.8		5.95 1 2	6.25	6.10	15	15	2.60
10 6.2 6.4		6.4		6.40 0 0	6.45	6.42	02	03	2.47
11 7.0 7.2		7.1		7.15 0 1	7.40	7.28	13	12	2.14
12 t.f.		7.6	7.4	7.50 1 1	7.70	7.60	10	10	2.13
13 "		8.0	8.1	8.05 0 1	8.20	8.12	07	08	2.05
14 "		8.5	8.3	8.40 1 1	8.65	8.52	12	13	2.00
15 "		8.8	8.9	8.85 0 1	8.90	8.88	03	02	2.06
16 "		8.9	8.9	8.90 0 0	9.30	~~8.65~~ 9.10	~~25~~ 20	20	2.16
17 "		9.2	9.3	9.25 0 1	9.30	9.28	03	02	2.21
18 "		9.7	9.6	9.65 1 0	9.70	9.68	03	02	2.24
19 "		9.8	9.9	9.85 0 1	9.85	9.85	00	00	2.43
20 "		10.0	10.0	10.00 0 0	.	10.00	a	.	2.59
23 "		t.f	t.f						
25 "		"	"						

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1912phae.proj.1037M

Monday, May 12, 1913

Copied.

Scale Measures

Scale 7m 7m D 2299 .51 K.

	Sc.1	Sc.1	Sc.2	Sc.2			Curve	Magn.
1	6.8	7.0	6.9		6.95	0 1	+2.29	9.24
2	6.8	7.0	6.8		6.90	1 1	2.30	9.20
3	t.f.		7.9	7.9	7.90	0 0	2.09	9.99
4	"		7.9	8.1	8.00	1 1	2.07	10.07
5	"		8.6	8.7	8.65	0 1	2.03	10.68
6	"		8.7	8.7	8.70	0 0	2.03	10.73
7	"		9.3	9.3	9.30	0 0	2.16	11.46
8	"		9.4	9.4	9.40	0 0	2.19	11.59
9	"		9.6	9.6	9.60	0 0	2.28	11.88
10	"		10.0	10.0	10.00	0 0	2.52	12.52 ?
11	"		t.f.	t.f.				
12	"		t.f.	"				

2.8	α	2.9	3.1	B.				
	β	4.9	5.1	5.1	5.10	0 0	+2.24	8.04
3.8	γ	3.7	3.9	B				
	δ	4.8	5.0	4.8	4.90	1 1	3.00	7.90
2.8	ε	2.8	3.0	B.				

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1912phae.proj.1037M

Monday, May 12, 1913

Scale measures. Objective.

Scale 7m. 7m D 2300 .75 K.

Sc. 1	Sc. 1	Sc. 2	Sc. 2		Corrn	Magn.
1	4.8 5.0	4.9		4.95 0 1	+3.00	7.95
2	5.7 5.9	5.6		5.75 1 2	2.70	8.45
3	6.3 ~~7.1~~ ? 6.5	6.4		6.45 1 0	2.46	8.91
4	7.1 7.3	7.1	7.1	7.17 1 1 1	2.23	9.40
5	t. f.	8.1	8.2	8.15 1 0	2.05	10.20
6	"	8.8	8.8	8.80 0 0	2.03	10.83
7	"	9.1	8.9	9.00 1 1	2.09	11.09
8	"	9.3	9.3	9.30 0 0	2.16	11.46
9	"	9.6	9.7	9.65 0 1	2.30	11.95
10	"	9.7	9.8	9.75 1 0	2.36	12.11
11	"	10.0	10.1 ?	10.05 0 1	2.58	12.63 ?
12	"	10.1 ?	10.2 ?	10.15 ? 1 0	2.70	12.85 ?
13	"	t. f.	t. f.			

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1912phae.proj.1037M

Monday, May 12, 1913

Scale Measures

Cohuid.

Scale Tn mD 2301 B 4

Sc. 1	Sc. 1	Sc. 2	Sc. 2		Curve	Magn.
3.3 3.5	1 3.4 3.6	B.	3.55 1 0		+3.50	7.05
3.5 3.7	2 3.5 3.7	"	3.70 0 0		3.46	7.16
	3 3.9 4.1	4.1	4.10 0 0		3.30	7.40
	4 4.1 4.3	4.1	4.20 1 1		3.27	7.47
	5 4.7 4.9	4.8	4.85 1 0		3.02	7.87
	6 4.8 5.0	4.9	4.95 0 1		3.00	7.95
	7 5.1 5.3	5.2	5.25 1 0		2.87	8.12
	8 5.8 6.0	5.8	5.90 1 1		2.65	8.55
	9 5.9 6.1	5.8	5.95 1 2		2.64	8.59
	10 6.5 6.7	6.4	6.55 1 2		2.42	8.97
	11 7.0 7.2	7.1	7.15 0 1		2.23	9.38
	12 t.f.	7.5 7.4	7.45 1 0		2.15	9.60
	13 "	7.2 6.9	7.05 2 1		2.26	9.31
	14 "	7.5 7.7	7.60 1 1		2.11	9.71
	15 "	7.9 7.8	7.85 1 0		2.09	9.94
	16 "	8.5 8.4	8.45 1 0		2.03	10.48
	17 "	8.7 8.7	8.70 0 0		2.02	10.72
	18 "	8.3 8.3	8.30 0 0		2.03	10.33
	19 "	8.6 8.6	8.60 0 0		2.02	10.62
	20 "	9.2 9.2	9.20 0 0		2.12	11.32
	21 "	8.8 8.8	8.80 0 0		2.06	10.86
	22 "	9.6 9.5	9.55 0 1		2.23	11.78
	23 "	9.4 9.5	9.45 0 1		2.20	11.65
	24 "	9.6 9.7	9.65 0 1		2.30	11.95
	25 "	9.6 9.6	9.60 0 0		2.28	11.88
	26 "	9.7 9.7	9.70 0 0		2.32	12.02
	27 "	9.9 9.8	9.85 1 0		2.41	12.26
	28 "	10.1 10.0	10.05 1 0		2.60	12.65

Sc. 1 Sc. 1 Sc. 2 Sc. 2 Magn.

29. t.f. → 10.0 10.0 10.00 0 0 2.52 12.52

30. → 10.2 10.2 10.20 0 0 2.71 12.91

31. t.f.

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Monday, May 12, 1913.

Scale Measures.

Scale m mD 2302 5.3 K.

Sc. 1	Sc. 1	Sc. 2	Sc. 2			Curve	Magn.
1	6.1 6.3	6.3		6.30	0 0	+2.50	8.80
2	6.9 7.1	6.9		6.95 7.00	1 1	2.29	9.24
3	7.0 7.2	7.1		7.15	0 1	2.23	9.38
4	t.f.	7.7	7.8	7.75	1 0	2.10	9.85
5	"	7.8	8.2	8.00	2 2	2.07	10.07
6	"	8.3	8.1	8.15	0 1	2.05	10.20
7	"	9.1	8.9	9.00	1 1	2.09	11.09
8	"	8.2 9	9.2	9.20	0 0	2.12	11.32
9	"	9.4	9.4	9.40	0 0	2.19	11.59
10	"	9.2	9.3	9.25	0 1	2.14	11.39
11	"	9.9	9.9	9.90	0 0	2.50	12.40
12	"	10.2?	10.3?	10.25	0 1	.	.

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1912phae.proj.1037M

Monday, May 12, 1913

Series Measures.

Scale m. m D 2303 Pole.

Sc.1.	Sc.1	Sc.2	Sc.2	sup. 151		
2.6 5	2.3 2.5	B.		2.65	2	1
3.6 6	3.5 3.7	B.		3.75	0	1
8	5.2 5.4	5.4		5.40	0	0
9	6.1 6.3	6.2		6.25	1	0
10	6.3 6.5	6.4		6.45	1	0
11	t.f	7.4	7.4	7.40	0	0
12		7.6	7.8	7.70	1	1
13		8.2	8.2	8.20	0	0
14		8.6	8.7	8.65	0	1
15		8.9	8.9	8.90	0	0
16		9.4	9.2	9.30	1	1
17		9.2	9.3	9.30	0	0
18		9.7	9.7	9.70	0	0
19		9.9	9.8	9.85	1	0
20	"	t.f	t.f			
23	"	"				
25	"	"				

5.25

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Thursday December 18, 1913

11:32 Series 114

Scale m. mD 3723 Pole P.C.

	Sc. 1	Sc. 2	Sc. 2 Mean	Page 163 mD 3728 Mean	Diff.	Sc. 1	Sc. 2	Sc. 2 Mean
2.83.05	2.7 2.9	B.	2.95 0 1	3.40 3.18	23 22	3.21	7.7	7.9 7.80 ±1
6	4.2 4.4	4.0	4.20 2 2	4.25 4.22	02 03	2.76	8.4	8.3 8.35 0±
8	6.1 6.3	6.2	6.25 1 0	6.55 6.40	15 15	1.70	9.8	9.6 9.70 1±
9	6.8 7.0	7.3	7.2 7.17 2 10	7.35 7.26	09 09	1.44	10.0	10.2? 10.10 ±1
10	7	7.3	7.4 7.35 1 0	7.75 7.55	20 20	1.34	10.3?	10.2? 10.25 10
11		8.1	8.1 8.10 0 0	8.20 8.15	05 05	1.27		
12		8.3	8.4 8.35 1 0	8.50 8.42	07 08	1.31		
12		8.8	8.7 8.75 0 1	8.90 8.82	07 08	1.35		
14		8.9	8.9 8.90 0 0	9.25 9.08	18 17	1.44		
15		9.6	9.3 9.45 2 1	9.70 9.58	13 12	1.36		
16		9.7	9.7 9.70 0 0	9.75 9.72	02 03	1.54		
17		9.8	9.8 9.80 0 0	9.80 9.80	0 0 0 0	1.69	5	7.80
18		10.2?	10.1? 10.15 0 1	10.30? 10.22	07 08	1.70	6	8.85
19		7.	7.				8	9.
20							9	
23							10	
25								

PC	Page 163		Mean		Diff.
5	7.80	7.80	7.80	0 0	−1.41
6	8.35	8.75	8.55	20 20	−1.57
8	9.70	9.80	9.75	05 05	−1.65
9	10.10		10.10	a	−1.40
10	10.25		10.25	a	−1.36

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1912phae.proj.1037M

Thursday, December 18, 1913

Series 114 Leopold

Scale m. mD 3724 115 K. Alt. +.03 P C.

	Sc.1	Sc.2		Mean	Curve	Magn.	Sc.1	Sc.2	Sc.2
1	6.3 6.5	6.4		6.45	1.69	8.14	9.8	9.7	9.75 - 1.49 8.26 F
2	7.	7.8	7.8	7.80	1.31	9.17	7.	7	
3		8.7	8.6	8.65	1.34	9.99			
4		8.8	8.8	8.80	1.33	10.13			
5		8.8	8.8	8.80	1.33	10.13			
6		9.2	9.2	9.20	1.40	10.60			
7		9.8	9.7	9.75	1.58	11.33			
8		9.9	9.9	9.90	1.61	11.51			
9		10.2?	10.2?	10.20?	1.72	11.92? F			
10		7.	7						
11									
12									
13									
14									
15									

Ch. F.C.

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1912phae.proj.1037M

Thursday December 18, 1913

Series 114 [illegible]

Scale 1m MD 37 25 43K alt. +21 P. C.

	Sc.1	Sc.2	Sc.2	Mean	Curve	Magn.	Sc.1	Sc.2	Sc.2			
1	5.5 5.7	5.7		5.70	2.05	7.75	7.	9.6	9.4	9.50	-1.50	8.00
2	7.	7.8	7.8	7.80	1.31	9.11	7.	7.				
3		8.3	8.3	8.30	1.30	9.60						
4		8.6	8.8	8.80	1.31	10.01						
5	9.3	9.3	9.4	9.33	1.44	10.77						
6	9.4	9.3	9.3	9.33	1.44	10.77						
7		9.9	9.9	9.90	1.60	11.50						
8		10.3?	10.2?	10.25?	1.74	11.99?						
9												
10												
11												
12												
13												
14												
15												

lch. F.6.

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1912phae.proj.1037M

Thursday December 18, 1913

Series 114

Scale m. 7m D3726 21h. Corr. for alt. +14 P. C.

	Sc.1	Sc.2	Sc.2	Mean	Curve Read.	Curve magn.	Sc.1	Sc.2	Sc.2	Mean	Curve magn.
1	6.7 6.9	6.8		6.85 ±0	+1.54	8.39		9.8	9.9	9.85 ±0	-1.45 8.40
2	6.7 6.9	6.9		6.90 ±0	1.51	8.41		10.2	9.9	10.05 ±1	-1.42 8.63
3	7.	7.9	7.9	7.90 ±0	1.31	9.21		7.	7.		
4	7.9	7.9	7.8	7.87 ±0.1	1.31	9.18					
5		8.7	8.4	8.55 ±2	1.30	9.85					
6		9.2	9.1	9.15 ±1	1.40	10.55					
7		9.7	9.6	9.65 ±0	1.52	11.17					
8		9.7	9.7	9.70 ±0	1.55	11.25					
9		10.1?	9.9	10.00 ~~±0~~ ±1	1.65	11.65?					
10		9.9	10.3?	10.10 ±2	1.69	11.79?					
11		7									
12											
13											
14											
15											

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Thursday, December 18, 1913

Series 114 b of pied

Scale m h D 37 27 8 15 alt. +.70 P. C

	Sc.1	Sc.2	Sc.2	Mean	Curve	Margin	Sc.1	Sc.2	Sc.2	
1	5.7 5.9	5.7		5.80	1.99	7.79	7.	9.7	9.7	9.70 −149 8.21
2	7. 8.5	8.6	8.4	8.50	1.30	9.80		7.	7.	9
3	8.4	8.4	8.4	8.40	1.30	9.70				
4		9.3	9.3	9.30	1.44	10.74				
5		9.6	9.7	9.65	1.52	11.17				
6		9.7	9.7	9.70	1.54	11.24				
7		10.1?	10.3?	10.20?	1.71	11.91				
8		7.	7.			9				
9										
10										
11										
12										
13										
14										
15										

b h. P. b.

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Thursday, December 18, 1913

Series 114

Scale m.	m D 97 28		Pole		P. C.		
Sc. 1	Sc. 1	Sc. 2	Sc. 2	mean	Sc. 1	Sc. 2	Sc. 2 mean
3.1 3.3 5	3.3 3.5	B.		3.40 ±.00	7.	7.8	7.8 7.80 ±.0
6	4.1 4.3	4.2		4.25 ±.0		8.7	8.8 8.75 ±.0
8	6.3 6.5	6.6		6.55 ±.0		9.8	9.8 9.80 ±.0
9	7.	7.4	7.3	7.35 ±.1		7	7
10		7.7	7.8	7.75 ±.0			
11		8.2	8.2	8.20 ±.0			
12		8.6	8.4	8.50 ±.1			
13		8.9	8.9	8.90 ±.0			
14		9.3	9.2	9.25 ±.0			
15		9.8	9.6	9.70 ±.1			
16		9.8	9.7	9.75 ±.1			
17		9.8	9.8	9.80 ±.0			
18		10.3?	10.3?	10.30? ±.0			
19		7.					
20							
23							
1:15 25							

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Tuesday December 23 1913

11 — Series 117

Scale Tr. mD 3755 Pole P. C.

Sc.1	Sc.1	Sc.2	Sc.2	Sc.2 mean	Page 172 mD 3760	mean	Diff	Sc.1	Sc.2	Sc.2 mean
3,4 3 6.5	3,4 3.6	B.		3.60 .00	4.10	3.85 .25 .25	2.54	8.1	8.2	8.15 .0
6	4.6 4.8	4.7		4.75 .1	5.35	5.05 .30 .30	1.93	8.8	8.9	8.85 .01
8	6.9 7.1	6.9		7.00 .1	7.00	7.00 .00 .00	1.10	10.0	10.1 ?	10.05 .05
9	7.	7.7	7.4	7.55 .12	7.85	7.70 .15 .15	1.00	7.	7.	
10		8.1	8.0	8.05 .10	7.95	8.00 .05 .05	0.89			
11		8.7	8.7	8.70 .00	8.60	8.65 .05 .05	0.77			
12		8.8	8.8	8.80 .00	8.90	8.85 .05 .05	0.88			
13		9.2	9.2	9.20 .00	9.30	9.25 .05 .05	0.92			
14		9.7	9.8	9.75 .10	9.85	9.80 .05 .05	0.72			
15		9.9	9.9	9.90 .00	9.85	9.88 .02 .03	1.06			
16		10.2?	10.2?	10.20? .00	10.25?	10.22 .02 .03	1.04			
17		7.								
18										
19										
20										
23										
85										

PC	Page 170	mean	Diff.	
5	8.15	8.30	8.22 .07 .08	-1.83
6	8.85	9.10	8.98 .13 .12	-2.00
8	10.05	10.15	10.10 .05 .05	-2.00
9				

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Tuesday, December 23, 1913

Series 117 Copied

Scale 7m 7mD 3756 11415 Alt. +.06 P. C.

	Sc.1	Sc.1	Sc.2	Sc.2	Mean	Curve	Magn.	Sc.1	Sc.2	Sc.2		
1	4.2	4.4	4.4		4.30	2.21	6.61	7.	8.6	8.8	8.70	−1.94 6.76
2	4.9	5.1	4.9		~~4.90~~ 5.00	1.94	6.94		8.9	8.9	8.90	−1.99 6.91
3	6.9	7.1	7.2		7.15	1.07	8.22		10.3?	10.3?	10.30	
4	7.		7.9	7.8	7.85	~~.94~~ 0	8.79		7.	7.	7	7
5			9.2	9.2	9.20	0.89	10.09					
6			9.6	9.7	9.65	0.94	10.59					
7			9.8	9.8	9.80	0.97	10.79					
8			9.8	9.8	9.80	0.97	10.77					
9												
10												
11												
12												
13												
14												
15												

6h. F.6.

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Series 117 Copied

Scale M. 7nD 3757 Bg Alt. +.23 P e

	Sc.1	Sc.1	Sc.2	Sc.2	Mean	Cone	Magn	Sc.1	Sc.2	Sc.2	
1	3.9	4.1	4.2		4.15	2.35	6.40	7.	8.4	8.5	8.45 - 1.90 6.55
2	4.2	4.4	4.3		4.35	2.24	6.59		8.8	8.7	8.75 - 1.96 6.79
3	4.4	4.6	4.8		4.70	2.05	6.75		8.7	8.7	8.70 - 1.94 6.76
4	4.9	5.1	4.9		5.00	1.91	6.91		8.9	8.9	8.90 - 1.99 6.91
5	5.2	5.4	5.7		5.55	1.64	7.19		9.2	9.2	9.20 - 2.00 7.20
6	5.7	5.9	5.8		5.85	1.52	7.37		9.4	9.7	9.55 - 2.01 7.54
7	5.6	5.8	5.8		5.80	1.53	7.33		9.6	9.4	9.50 - 2.01 7.49
8	6.3	6.5	6.8		6.65	1.21	7.86		10.2	10.1	10.15 - 2.00 8.15
9	6.4	6.6	6.6		6.60	1.23	7.83				
10	7.		7.2	7.2	7.20	1.06	8.26				
11	"		7.7	7.7	7.70	0.96	8.66				
12	"		7.4	7.4	7.40	1.01	8.41				
13	"		7.9	7.9	7.90	0.92	8.82				
14			7.8	7.9	7.85	0.93	8.78				
15			8.6	8.3	8.45	0.88	9.33				
16			8.7	8.4	8.55	0.88	9.43				
17			8.7	8.7	8.70	0.88	9.59				
18			8.9	8.9	8.90	0.87	9.77				
19			9.2	8.9	9.05	0.88	9.93				
20			9.3	9.2	9.25	0.89	10.14				
21			9.7	9.8	9.75	0.95	10.70 d.		10.0		
22			9.7	9.6	9.65	0.93	10.58 a		7.		
23			10.0	9.9	9.95	0.99	10.94 a		7.		
24			7.	7.							
25								bh. F.C.			
26			7.								
27			7.								
28											

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Series 117 Copied

Scale m. m D 3758 C 13 Alt. +.17 P. C

Sc.1	Sc.1	Sc.2	Sc.2	Means	Cume	Magn.	Sc.1	Sc.2	Sc.2	
3.6 38	3.7 3.9	B		3.9	2.49	6.39	7.	8.3	8.3	8.30 - 1.86 6.44
2	4.7 4.9	4.9		4.90	1.97	6.87		8.9	8.8	8.85 - 1.98 6.87
3	4.9 5.1	5.2		5.15	1.81	6.96		9.1	8.9	9.00 - 1.99 7.01
4	5.7 5.9	5.8		5.85	1.52	7.37		9.2	9.3	9.25 - 2.00 7.25
5	6.1 6.3	6.4		6.35	1.31	7.66		9.8	9.7	9.75 - 2.02 7.73
6	6.8 7.0	6.8		6.90	1.13	8.03		10.2	9.2	10.20 - 2.00 8.20
7	6.9 7.1	7.1		7.10	1.08	8.18		7.	7.	F
8	7.	7.1	7.4	7.25	1.06	8.31				
9		7.9	7.9	7.90	0.93	8.83				
10		7.8	7.8	7.80	0.94	8.74				
11		8.3	8.2	8.25	0.90	9.15				
12		8.2	8.4	8.30	0.89	9.19				
13		8.8	8.7	8.75	0.88	9.63				
14		8.8	8.8	8.80	0.87	9.67				
15		8.7	8.4	8.55	0.88	9.43				
16		9.2	8.9	9.05	0.87	9.92				
17		9.4	9.3	9.35	0.91	10.26				
18		9.9	9.9	9.90	0.98	10.88				
19		7.	7.			F				
20										
21										
22						Joh. F.C.				
23										
24										
25										
26										
27										
28						(Times taken at Lick)				

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1912phae.proj.1037M

Tuesday, December 23, 1913

Series 117 Isolated

Scale Tm MD 37±9 67 K alt. + 2'21 P. C.

	Sc.1	Sc.1	Sc.2	Sc.2	Mean	Curve	Magn.	Sc.1	Sc.2	Sc.2
1		6.2 6.4	6.4	6.4	6.40	1.31	7.71	7. 9.9	10.0	9.95 - 2.01 = 7.94
2		7.	7.8	7.8	7.80	0.95	8.75	7. 7		
3			8.9	8.9	8.90	0.87	9.77			
4			9.2	9.1	9.15	0.88	10.03			
5			9.7	9.7	9.70	0.95	10.65			
6			9.7	9.8	9.75	0.96	10.71			
7			7.	10.4?	10.4					
8			10.2?	7.	10.2	1.02	11.22 ?			
9			10.3?	7.	10.3					
10			7.	"						
11										
12										
13										
14										
15										

bh. F. b.

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1912phae.proj.1037M

Tuesday, December 23, 1913

Series 117

Scale m,		MD 3760		Pole		P. C.			
	Sc. 1	Sc. 1	Sc. 2	Sc. 2	Mean	Sc. 1	Sc. 2	Sc. 2	Mean
	3.9 4.1	5	3.9 4.1	B.	4.10 oo	7.	8.3	8.3	8.30 oo
		6	5.2 5.4	5.3	5.35 oi		9.1	9.1	9.10 oo
		8	6.9 7.1	6.9	7.00 ii		10.1?	10.2?	10.15 ii
		9	7.	7.8	7.9 7.85 oi			7.	
		10		8.0	7.9 7.95 oi				
		11		8.6	8.6 8.60 oo				
		12		8.9	8.9 8.90 oo				
		13		9.3	9.3 9.30 oo				
		14		9.9	9.8 9.85 io				
		15		9.9	9.8 9.85 io				
		16		10.2?	10.3? 10.25? oi				
1.51		17		7.	7				
(20 m out)		18							
		19							
		20							
		23							
		25							

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12:51

Saturday, January 3, 1914

Series measures by artificial light

Scale
C 14147

C 14146

Image 1 2 3 4

i
e
a
f
i''
g'
b'
h
l
q
k
j

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