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S. I. B.
No. 4.

Variable Stars in Messier 3. (+ M.S.)

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Record book of Variable Stars in
Clusters No. 4. S.J.B.

5 4
Messier 3.

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1901phae..proj..228B

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M 3 - No. 107 - Dec. 2.

K 15- ~~f1.1f~~ e1.1f

11 f0

25- m0

10 f1.1g

8 f1.1g

2 f1.1g

1 -

20 h0

19 h0

9 g0

14 f0

6 e2.1f

7 f0

12 e1.1f

13 f1.2g

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1901phae.proj.2288B

K18 g0

23 k2.1l

5 f0

16 g0

21 k0

4 f0

24 l0

17 g1.1h

22 k1.1l

3 f1.1g

X9205 h0 +

9204 g0

9158 l1.1m

8625 l0

8624 g0

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1901phae.proj.2288B

No. 107

K	8618	g0
	8612	f1.1g
	8611	h0
	8597	f1.2g
	8584	m0
	8563	h0
	7488	g0
	7483	f0
	7482	m0
	6854	g2.1h
	6844	g1.2h
	6820	h1.1m
	6792	k2.1h
A	1751	k1.1h
	3672	h1.1k

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1901phae.proj.2288B

A 3677 K2.1l

3678 K0

3679 g2.1h

3681 g0

3682 —

Additional Measures —

X 7654 g0 ✓

6925 f1.1g ✓

9558 f0 ✓

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1901phae.proj.2288B

M3. No. 23. Dec. 2 -

K 2 ho

22 gl.1h

17 fz.1g

24 ho

4 ho

21 ho .

16 gl.1h

5 h1,1k

23 ho

18 go

13 f1.1g

12 fo

7 h1.1f

6 fo

14 -

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1901phae.proj.2288B

9 k1.1l

19 h0

20 g0 +

1 –

2 k1.1l

8 k1.1l

10 f1.1g

25 k0

11 f1.2g

15 f1.1g

Thus star is a very close dbl. only elongated on best plates - thence rather difficult

X9205 k1.1m

9204 k1.2m

Highly measured, that of both components ?

9158 k1.1l

8625 k0

8624 k1,2l

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1901phae.proj.2288B

8

8618 k0

8612 g1.1h

8611 g0

8597 k1.1l

8584 g0

8563 h0

7488 h1.2m

7483 d3.1e

7482 k1.1l

6854 e2.1f

6844 k0

6820 h1.1k

6792 e0

A 1751 h1.1k

3672 e2.1f

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1901phae.proj.2288B

A 3677 h0

3678 g1,1h

3679 h0

3681 l0

3682 —

additional Measures:

A	1838	f1,1g	✓
X	8779	f1,1g	✓
	8650	e2,1f	✓
	8631	f1,1g	✓
	8619	f0	✓
	6925	e0	✓
	6828	e1,2f	✓
	6916	e1,1f	✓
A	1783	e0	✓

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1901phae.proj.2288B

M3. NO. 105. Dec. 3

3	k2.1l
22	g0
17	f0
24	h1.1k
4	k2.1l
21	f0
16	l1.1f
5	k1.1l
23	f1.1g
18	l2.1f
13	l0
12	l2.1f
7	g0
6	g0
14	f0

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1901phae.proj.2288B

K 9 g0
19 g0
20 e0
1 -
2 k2.1l
8 g0
10 g0
25- h1.1k
11 g0
15- f0
X9205- g1.1h
9204 f1.1g
9158 g1.2h
8625- g0
8624 g0

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1901phae.proj.2288B

105.

C	8618	k0
	8612	g1.1h
	8611	f0
	8597	h0
	8584	k1.1l
	8563	g0
	7488	f0
	7483	f2.1g
	7482	k1.1l
	6854	k1.1l
	6844	g0
	6820	g1.1h
	6792	f1.1g
A	1751	g0
	3672	g1.2h

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1901phae.proj.2288B

A 3677 ~~g~~ k 1.1 k

3678 f 1.1 g

3679 f 0

3681 g 1.1 h

3682 g 1.1 h ±

Additional Measures.

X 6925 ~~f 2.1 f~~ 2.1 f ✓

8605 f 2.1 g ✓

8656 f 1.1 g ✓

8779 f 2.1 gf ✓

9558 f 2.1 gf ±

Undoubtedly variable but range is small.

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1901phae.proj.2288B

M3 / 10.106. ~~Nov~~ Dec. 14

K

15'	m0
11	l2, m0, 2n
25'	l0
10	l1, 1m
8	e2, 1f
2	l1, 1m
1	-
20	m1, 1n
19	m1, 1n
9	e2, 1f
14	m1, 1n
6	f0
7	f0
12	m0
13	m0

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1901phae.proj.2288B

18	m1.1n
23	m1.1n
5	g1.2h
16	m2.1n
21	m2.1n
4	g0
24	m2.1n
17	m1:1n
22	m2.1n
3	k1.2l
A 3682	—
3681	m1.1n +
3679	m1.1n +
3678	m0 +
3677	m1.1n +

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1901phae.proj.2288B

#	3672	ml.1m
	1751	ml.1m +
X	6792	m2.1m +
	6820	ml.1m
	6844	m2.1m
	6854	m0
	7482	m0 +
	7483	k0
	7488	m0 +
	8563	h4.1k
	8584	h1.1m
	8597	f1.1g
	8611	g0
	8612	h0
	8618	e2.1f

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1901phae.proj.2288B

X 8624 m2.1n

8625 f0

9158 g1.1h

9204 n0

9205 l1.1m ±

Additional Measures.

A 1838 e2.1f ✓

X 8650 e2.1f ✓

6923 g0 ✓

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1901phae.proj.2288B

~~M~~ M3110. 52. Dec. 5-

K 25- ho

3 lo

22 ko

17 ll.lm

24 ho

4 ll.lm

21 mo

16 mo

5- ko

23 ko

18 mo

13 mo

12 ll.lm

7 gl.lh

6 ko

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1901phae.proj.2288B

K 14 mO

9 gO

19 kO

A3682 —

3681 —

3679 kO ±

3678 k1.1k ±

3677 k1.1m ±

3672 mO ±

1751 —

X 6792 m1.1n ±

6820 mO

6844 e1.1f

6854 ~~k1.1a~~ k1.1m

7482 mO

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1901phae.proj.2288B

✗7483	mO
7488	l1.1m
8563	fO
8584	gO
8597	mO
8611	k1.1l
8612	l1.1m
8618	kO
8624	g1.1k
8625	lO
9158	m1.1n.
9204	l1.1m
9205	lO
K 20	imO
1	~

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1901phae.proj.2288B

K 2 mO

8 f2.1q

10 l1.1m

11 l1.1m

15 mO

Additional Measures.

X6918	e2.1f	✓
6916	d3.1e	✓
6990	e1.1f	✓
6923	e0	✓
8631	f1.2q	✓
8650	e1.2f	✓

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1901phae.proj.2288B

M3 - No. 104 Dec. 14.

K 25	m2.1n
3	m2.1n
22	m1.1n
17	m1.2n
24	m1.1n
4	m1.1n
21	m2.1n
16	m1.1n
5	m1.2n
23	m1.2n
18	m1.2n
10	m0
12	m0
7	m2.1n
6	m2.1n

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1901phae.proj.2288B

K 14 m 0

9 m0 +

19 m0

20 m1.1n

1 m2.1n

2 m1.2n

8 m1.2n

10 m0 +

11 m0 +

15 m0

A3682 –

3681 –

3679 –

3678 –

3677 –

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1901phae.proj.2288B

104.

A 3672	–
1751	–
X 6792	e1, 2f
6820	e1.1m +
6844	k1.1e
6854	d3, 2f e?
7482	kO =
7483	d2, 2e
7488	~
8563	mO
8584	mO
8597	kO
8611	e1.1f
8612	f2.1g
8618	nO

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1901phae.proj.2288B

X 8624 no

8625 no

9158 bl. lm

9204 eO

9205 gO

Additional Measures.

X 9558 eO

8655 fl. lg ✓

8619 eO ✓

8605 el. lf ✓

7654 € el. lf ✓

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1901phae.proj.2288B

M 3, No. 67 Dec. 19.

K 15 fO

11 nO

10 nO

8 mO

2 hO

1 –

20 eO

19 d 2.1 e

9 hO

14 hO

6 hO

7 h 1.1 m

12 m 2.1 n

13 mO

18 d 3.1 e

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1901phae.proj.2288P

K 23 e O

5 l O

16 d 3.1 e

21 d 3.1 e

4 l O

24 f 1.1 g

17 d 2,1 e

22 e O

3 k O

25 g O

A 3682 –

3681 m O +

3679 m l,1 n

3678 m O +

3677 m l,1 n

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1901phae.proj.2288B

28

67

A 3672 gO

1751 g1.1h

X 6792 kO

6820 mO

6844 lO

6854 g1.1h

7482 k1.1l

7483 l1.1m

7488 gO

8563 m1.1n

8584 h1.1k

8597 mO

8611 k1.1l

8612 nO

9205' kO

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1901phae.proj.2288B

X 9204 fl. lq

9158 mO

8625 qO

8624 mO

8618 qO

Additional Measures.

X6990 fO

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1901phae.proj.2288B

Messier 3 N.G. 66. Jan-4.° 02

K 25′ l l.1m

15′ l O

11 l O

10 l O

8 ~~K a~~ l O

2 m O

1 m O +

20 m O

19 l l.1m

9 l O

14 m O

6 K O

7 l l.1 K

12 l O

13 l l.1m

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1901phae.proj.2288P

K 18 kl, lm

23 mO

5 kO

16 kl, lm

21 mO

4 kl, lk

24 kl, lm

17 kO

22 mO

3 kO

A 3682 kO +

3681 kO +

3679 gl, lh

3678 gl, lh

3677 kO +

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1901phae.proj,2288B

66.

A 3672	l0
1751	m0 +
X 6792	m0 +
6820	m0
6844	k1.2l
6854	g0 +
7482	l2.1f
7483	h1.1k
7488	m0
8563	k0
8584	m0
8597	f2.1g
8611	l1.1m
8612	l0
8618	g0

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1901phae.proj.2288F

X 8624 mO

8625 mO

9158 ℓl, lm

9204 ℓl, lm

9205 ℓl, lm

Additional

X6923 gO ✓

6980 gO ✓

6875 fl, lg ✓

A1783 gO ✓

1838 gO ✓

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1901phae.proj.2288B

M 3. No 52. Jan 6. '02

3	l l.lm
22	k2.1l
17	m0
24	~~e2.1f~~ d2.1e
4	m1.2m
21	m1.2m
16	m1.2m
5'	m0
23	f0
18	m1.1m
13	m0
12	m1,2m
7	l1.1m
6	m0
14	l1.1m

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1901phae.proj.2288B

9 d 2, 1 e

19 m 1, 2 n

20 m 1, 1 n

1 m 1, 1 n ±

2 ~~1 f~~ m 1, 1 n

8 e 1, 1 f

10 m 2, 1 n

11 m 0 ±

15- m 1, 1 n

A close dbl. comp. faint
apparently the more distant (from centre)
star is the var.

25- d 0

X 9205- e 1, 1 f

9204 l 0

9158 l 0

8625- l 1, 1 m

8624 K 0

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1901phae.proj.2288B

N° 52

	8618	?
	8612	kl.1l
	8611	kl.1l
	8597	m0
	8584	m0
	8563	m1.2m
	7488	m0
	7483	l0
	7482	l0
	6854	m1.1m
	6844	m1.2m
	6820	m1.2m
	6792	l2.1f
A	1751	–
	3672	m0

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1901phae.proj.2288B

A 3677 m O

3678 m O

3679 m O

3681 m O

3682 —

Additional Measurements.

A 1838 e l. 1 f ✓

1783 f O ✓

X 7489 e O ✓

8655 g O ✓

8779 e O

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1901phae.proj.2288B

M 3 No 54. Jan 6.

K 3	k0
22	k0
17	k2.1l
24	l1.1m
4	k0
21	m0
16	k0
5	l1.1m
23	l1.1m
18	k0
13	l1.1k
12	l2.1k
7	m0
6	l2.1m
14	k2.1l

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1901phae.proj.2288B

K 9 mO
19 K2, 1l
20 mO
1 –
2 lO
8 mO
10 hO
11 g1, 1h
15 KO
25 mO
X9205 kO
9204 fO
9158 mO
8625 mO
8624 l1, 1m

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1901phae.proj.2288B

54.

8618	lO
8612	lO
8611	mO
8597	mO
8584	h1, 1k
8563	k1, 2l
7488	e1, 2 f
7483	kO
7482	d3, 1e
6854	mO
6844	mO
6820	m4/n
6792	e2.1f
A 1751	~
A 3672	mO k

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1901phae.proj.2288P

A 3677 m0

3678 m0

3679 m1.2n

3681 m0 ±

3682 ~

Additional Measures

± 8779 f0 ✓

A 1774 d2.1e ± ✓

1780 d2.1e ± ✓

1775 e0 ± ✓

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1901phae.proj.2288B

M 2. No. 2. Jan. 7.

K	3	ho
	22	ko
	17	kl.1
	24	hl.1k
	4	ho
	21	ho
	16	ho
	5	hl.1k
	23	ko
	18	ko
	13	hl.1k
	12	ko
	7	ho
	6	ho
	14	ho

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1901phae.proj.2288B

K 9	–
19	ko
20	ko
1	–
2	ho
8	ho
10	ko
11	hl.1k
15	ko
25	h4.1K
A 3682	–
3681	–
3679	ko +
3678	ko +
3677	mO +

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1901phae.proj.2288B

No. 2.

A 3672	kl.1m ÷
1751	–
X 6792	g0 ÷
6820	kl.1k
6844	k0
6854	gl.1k
7482	fl.1g ÷
7483	g0
7488	f0
8563	kl.1k
8584	k0
8597	K0
8611	g0
8612	g0
8618	g0

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1901phae.proj.2288B

K 8624 h1.1k

8625- h0

9158 h0

9204 g0

9205- g0

Additional Measurements-

X8605- f0

8619 g0

This is a different star, near the centre of the cluster. It appears to be variable, but the measurements are doubtless inexact & the results may be received with some doubt.

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1901phae.proj.2288B

m 3. 110. 32. Jan. 7. 1902.

K

3	d 1, 2 e
22	d 2. 1 e
17	d 1. 2 e
24	e O
4	c 1. 1 d
21	d 2. 2 e
16	d O
5	d O
23	e 1. 1 f
18	d O
13	m O
12	~~D~~ l 1. 1 m
7	d 2. 1 e
6	d 1. 2 e
14	h 1. 1 k

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1901phae.proj.22888

K 9 e0

19 d2.2e

20 e0

1 n0 +

2 e0

8 e0

10 n0

11 n1.2n

15 f e2.1f

25 d3.1e

x9205 h0

9204 f1.1g

9158 g1.1h

8625 k0

8624 g0

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1901phae.proj.2288B

8618	e1.1f
8612	K0
8611	e0
8597	g0 +
8584	g0 +
8563	d3.1e
7488	f1.1g
7483	e3.1f
7482	g0
6854	e0
6844	e1.1f
6820	g0 +
6792	K0
A 1751	—
3672	m0 +

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1901phae.proj.22898

A 3677 m 0 ±

3678 ℓ1.1m ±

3679 ℓ 0 ±

3681 —

3682 —

rather dif. Slai near Centre - aff. has large range.

Additional Measurements -

X 9555-8 d 3, 1e

7654 e1. 3f ✓

A1775 e1. 3f ✓

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1901phae.proj.2288B

W 3. No. 31. Sept 11-'02

K

3 mO

22 mO

17 lO

24 l1.1m

4 mO

21 l2.1m

16 l1.2m

5 mO

23 l1.1m

18 l1.1m

13 l1.1m

12 k2.1l

7 m1.2n

6 m1.2n

14 l1.1m

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1901phae.proj.22888

K 9 h1,1k

19 l1,1m

20 m1,1n

1 m1,1n

2 n0

8 l1,1m

10 l1,1m

11 l0

15 l1,1m

25 m0

X9205 l2,1f

9204 d2,1e

9158 k1,1l

8625 e0

8624 l0

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1901phae.proj.2288B

8618 e 3.1f

8612 h0

8611 K0

8597 m0

8584 g1.1h

8563 h0

7488 h0

7483 e0

7482 m0

6854 d2,1e

6844 m0

6820 e0

6792 h0

A 1751 m0 ±

3672 ~~m1.5n~~ m1.2n

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1901phae.proj.22888

A 3677 m 0

3678 g 1.1 h

3679 f 1.1 g

3681 g 2.1 h

3682 –

Additional Measurements

× 6909 d 2.2 e ✓

6990 e 0 ✓

8444 d 3.1 e ✓

9166 f 0 ✓

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1901phae.proj.2288B

M3. No-78. Jan. 14. '02

K

3	eO
22	m1.2n
17	m1.2n
24	b1.1m
4	d3,1½a
21	m1.2n
16	mO
5	d3.1a
23	m1.2n
18	mO
13	mO
12	mO
7	e1.2f
6	e1.2f
14	b1.1m

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1901phae.proj.2288B

K 9 f1.1g
19 mO
20 m1.2m
1 eO =
2 d2.1e
8 fO
10 l1.1m
11 mO ±
15 mO
25 m1.1m
A 3682 —
3681 lO ±
3679 mO ±
3678 mO
3677 mO

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1901phae.proj.2288B

78.

A 36721	gl.1h
1751	-
x 6792	ll.1m
6820	ml.2n
6844	ml.2n
6854	h0
7482	d2.2e
7483	f1.1g
7488	m0
8563	m0
8584	f2.1g
8597	m0
8611	h1.1k
8612	f1.2g
8618	h0 t

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1901phae.proj.2288B

X8624 h 0

8625 k 0

9158 h 1.2 k

9204 g 1.2 h

9205 k 0.

9204 Wolbach Plate

Additional Measures.

X9558 e 1.1 f

6876 e 1.1 f

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1901phae.proj.2288B

M 2 H0.130 - Jany 16, 02

K 25⁻ g0 +

15⁻ e0

11 e0

10 f0

8 k1.1l

2 g1.1h

1 k1.1l +

20 f0 +

19 g0 +

9 h0 +

14 f1.1g +

6 h0

7 h0

12 e2.1f

13 e2.1f

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1901phae.proj.2288B

K 18 g0

23 g0

5- h1.1k

16 e1.2f

21 f0

4 k1.1l

24 k0

17 d3.1e

22 e1.1f

3 g0 +

A 3682 –

3681 –

3679 l0 +

3678 l1.1m

3677 l0 +

For some reason a rather diff. slit to measure – although the results with rather small range.

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1901phae.proj.2288B

130.

A	3672	l 1.1 m
	1751	–
x	6792	g 2.1 h
	6820	h 0
		~~g~~ g?
	6844	~~l~~ 1.1 h
	6854	K 1.1 l
	7482	h 0 +
	7483	g 0 +
	7488	h 0 +
	8563	h 0 +
	8584	g 0
	8597	K 2.2 m
	8611	h 1.1 K
	8612	g 0 +
	8618	h 0 +

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1901phae.proj.22888

x 8624 g0

8625 g1.1h

~~8~~ 9/58 h0

9204 e2.1f

9205 e1.1f

Additional Measurements

x6909 f0 ✓

6876 e3.1f ✓

8650 g0 ✓

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1901phae.proj.2288B

M ⊙. 110-7.

K 25- eO

15- mO +

11 l1.1m +

10 mO +

8 d1.1e +

2 mO

1 m1.1n +

20 eO

19 fO

9 d1.1e

14 l1.1m

6 e2.1f

7 eO

12 mO

13 mO

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1901phae.proj.2288B

K 18 l0

23 d2, 1e

5 g0 +

16 m1, 1n

21 –

4 l0

24 e0

17 m0

22 d2, 1e

3 l1, 1m

X9205 h0 +

9204 e0

9158 f0 +

8625 –

8624 h0

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1901phae.proj.2288B

No. 7.

R	8618	—
	8612	K 1.1 l
	8611	f 0
	8597	—
	8584	—
	8563	f 0
	7488	—
	7483	—
	7482	l 0 ±
	6854	—
	6844	—
	6820	l 1.1 m
	6792	l 0 ±
A	1751	—
	3672	—

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1901phae.proj.2288B

A 3677 —

3678 –

3679 e0 ±

3681 —

3682 —

A very close and dif. star -
Separated from companion only on
best plates -
No. 7 is the star farthest from
centre 7→

additional Measures* -

x6837 d3, 1e ✓

6923 e0 ± ✓

6872 d1, 2e ± ✓

6876 d2, 2e ✓

6909 d2, 2e ✓

6916 e0 ± ✓

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1901phae.proj.2288B

M3. N0101

K 25	h0
15	k1.1l
11	l0
10	l0
8	g0
2	h0
1	–
20	m1, 2n
19	l1.1m
9	h0
14	l0
6	f0
7	f1.1g
12	l1.1m
13	l1.1m

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1901phae.proj.2288B

K 18 mO

23 mO

5 fO +

16 mO

21 mO

4 gO +

24 lO

17 l1.1m +

22 lO

3 gO +

A 3682 —

3681 —

3679 —

3678 kO +

3677 mO +

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1901phae.proj.2288B

X	3672	—
	1751	—
X	6792	ml.1n
	6820	ml.1n
	6844	mO +
	6854	kO +
	7482	gl.1h +
	7483	hO
	7488	ll.1m
	8563	gl.1h
	8584	hO
	8597	mO
	8611	mO
	8612	mO
	8618	hO

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1901phae.proj.2288B

X8624 m1.1n

8625 m0

9154 m0

9204 g2.1h

9205 h1.1k ±

A diffuset star. but Sus, variable.

Additional Measures -

X8444 g1.1h ± ✓

8605 f1.1g ± ✓

8655 g0 ✓

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1901phae.proj.2288B

M 3 No 77.
Reneasures. Ap. J. B. Dec. 2. 1905.

A 3682 Impossible to measure as light is confused with that of other stars.

A 3681 17.6 mO ± diff. image poor - confused.

A 3679 13.3 kO ± " " " .

A 3678 12.8 hO ± " " " .

A 3677 9.9 f 2,1 q ± " " "

A 3672 19.8 ~~≡~~ nO ± " " "

A 1751 Too poor + diff: for any result at all sure

X 9205 11.7 g 1,1 h

X 9204 3.6 d 1,1 e

X 9158 19.8 nO

X 8625 19.8 ~~[redacted]~~ nO ± 15.6

X 8624 hO ±

X 8611 3.6 d 1,1 e

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1901phae.proj.2288B

X8618 10.6 g0

X8612 12.8 h0

X8597 19.8 n0 ±

X8584 6.6 e1,1f

X8563 15.6 l0 ±

X7488 12.8 h0 ±

X7483 7.1 e2,1f

X7482 15.6 l0 ±

X6854 13.3 k0 ±

X6844 8.2 f0 ±

X6820 8.9 f1,2g

X6792 12.8 h0 ±

A1776 12.8 h0 ± poor.

A1775 8.2 f0 ±

X9166 8.2 f0

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1901phae.proj.2288B

Vir 77. Core.

A 1780	9.4 f 1.1 g	±
X 7489	6.1 e 1,2 f	
X 6925	6.6 e 1,1 f	
X 6923	9.4 f 1.1 g	

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1901phae.proj.22888

Dec. 4, 1905

WW 3 - Examination of comparison star b. suspected of "variability". also 95- Call close comb To 95-, z.
for X + y See chart.

X6792	$X_3 b\ 5^- y$	$95^-_5 b_2 z$
X6820	$X_3 b_{5^-} y$	$95^-_3 b_3 z$
X6844	$X_0 b_{-7} y$	$95^-_1 b_3 z$
X6854	$X_0 b_{-7} y$	$95^-_2 b_3 z$
X7482	$X_2 b_{5^-} y$	$95^-_2 b_2 z$
X7483	$X_2 b_4 y$	$95^-_2 b_2 z$
X7488	$X_2 b_{3.5} y$	$95^-_2 b_2 z$
X8563	$X_2 b_4 y$	$95^-_0 b_2 z$
X8584	$X_0 b_6 y$	$95^-_2 b_3 z$
X8597	$X_0 b_6 y$	$95^-_0 b_2 z$ =
X8612	$X_1 b_{5^-} y$	$95^-_1 b_3 z$
X8618	$X_0 b_{5^-} y$	$95^-_2 b_2 z$
X8611	$X_1 b_{5^-} y$	$95^-_1 b_2 z$

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1901phae.proj.2288B

X8624	x, b4 y	95, b2 z.
X8625	x0 b5- y	95-3 b2 z
X9158	x, b5- y	b3 95-0 z
X9204	x0 b5- y	b2 z, 95-
X9205	x, b5- y	b, z 2 95-
A 1795	x0 b5- y	—
A 3672	x, b5- y	—
A 3677	x0 b6 y	—
A 3678	x0 b7 y	
A 3679	x0 b7 y	95 2 b3 z
A 3681	x2 b5 y	95 2 b2 z
A 3682	x, b5 y	95 2 b2 z

Coma Cont. of 77

25	nO
C 24	nO
C 23	m l. / n

b appears to vary slightly but the amount seems v/e so small, + as it has been to little use he allowed it. Can perhaps the allowed to stand, calling attention to it in a remark.

95 undoubtedly varies - but there contrary seems to show little

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1901phae.proj.22888

M3 - No 77 -

C 22 m1,1n

C 21 nO

C 20 nO

C 19 nO

C 18 nO

C 17 m1,2φn

C 16 m2,1φn

C 15 m1,2n

C 14 m1,2n

C 13 mO

C 12 mO

C 11 l1,1m

C 10 lO

C 9 mO

C 8 mO

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1901phae.proj.2288B

M3. No. 77.

C 7 mO -

C 6 mO

C 5 lO ±

C 4 mO

C 3 lO

C 2 K1, 1d.

C 1 – diff. fr longish.

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1901phae.proj.2288B

M 5. 910. ~~2~~ 44. Remarks.
~~Dec.~~ 12, 1905. DJB.

X6637 h, 1, 1 l 14.11
X6763 g 1, 2 h 13.76
X6784 l 0 ± poor. 14.25
X6785 g 3, 1 h 13.89
X6786 g 2, 1 h 13.86
X6805 h 0 13.97
X6806 l 0 ± poor. 14.25
X6814 l 0 14.25
X6815 l 1, 2 m 14.34
X6817 h 0 ± poor. 13.97
X6821 l 1, 2 m 14.34
X6829 l 0. 14.25
X6836 l 0 14.25
X6838 l 1, 1 m ± 14.39

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1901phae.proj.2288B

M5 2.44 cont.

X 6877	g2.2h	13.81
X 6956	~~g~~ h1.1m	14.39
X 6958	h1.2m	14.34
X 6960	h0	14.25
X 6974	~~g~~ h2.1l	14.16
X 6981	h1.2m	14.34
X 6991	h2.1l	14.16
X 7000	h0	13.97
X 7007	l2.1m	14.44
X 7008	h1.3m	14.32
X 7009	h0	13.97
X 7010	g2.2h	13.81
X 7018	g2.2h	13.81
X 7036	h0	13.97
X 7038	g2.2h	13.81

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1901phae.proj.2288B

M 5. 44. Cont.

X7043 g2,2h 13.81

X7469 g1,2h 13.76

X7499 — two faint.

X7601 g3,1h 13.89

X7603 l0 14.25

X7661 h1,3l 14.04

X7789 g2,1h 13.86

X7857 — two faint.

X8358 h0 13.97

X8452 g3,1h 13.89

X8453 g3,1h 13.89

X8467 h3,1l 14.18

X8515 l2,3m 14.39

X8538 l1,3m 14.32

X8540 h0 13.97

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1901phae.proj.2288B

M 5. No. 44

X 8542 h1.1l 14.11

X 8544 h1.3m 14.32

X 8556 g3.1h 13.89

X 8564 h0 13.97

X 8571 g2.2h 13.81

X 8576 h2.1l 14.16

X 8578 h2.2l 14.11

X 8583 g1.2h 13.76

X 8586 l1.3m 14.32

X 8591 h0 13.97

X 8594 l0 14.25

X 8596 g2.2h 13.81

X 8599 l0 14.25

X 8604 h0 13.97

X 8662 l0 14.25

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1901phae.proj.22888B

m 5- no 44

X8790 l 2.2 m 14.39

X9159 l 0 14.25

X9501 h 0 13.97

X9790 l 1.3 m 14.32

X9859 h 0 13.97

X9916 h 0 13.97 ±

X9940 l 1.1 m 14.39 ±

X10249 l 0 14.25 ±

X10253 l 1.3 m 14.32 ±

X10254 h 1.2 l 14.06

X10256 h 0 13.97

X10257 h 1.1 l 14.11

X1444 — " Too faint -

X1482 — " " "

X1530 — " " "

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1901phae.proj.2288B

M 5 - No 44 - Cont -

X 1586 g 3, 1 h ± (13.89) faint

X 1699 — " Too faint.

X 1728 — " " " - slightly.

X 1941 g 1, 1 h ? (13.81) " .

A 1829 — " " " .

A 1828 h 2, 3 m. (14.34)

A 1825 h 0 (13.97)

A 1812 h 1, 1 l. (14.11)

A 1809 h 2, 1 l. (14.16)

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1901phae.proj.22888

M 5, No 31

Plate 1690, I.D. 1174.494 reexamined:
31 n.s. or at least faint, S.J.B.
" " " " " " , must be.
Early obs. evidently in error since it makes the star nearly or quite at a maximum.

No 31. Dec. 19, 1905

X10254 h2.1l 14.16 ✓
X8544 h1,1l 14.11 ✓
X7469 h0 13.97 ✓
X6960 h0 13.97 ✓
X6817 l0 14.25 ✓
A1809 l0 14.25
A1829 l-m 14.39 ± poor.

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1901phae.proj.2288B

M 5 No. 56 -
Remeasures - Dec. 22. 1905 -

X 1690 ✓ n.s. ftr than h faintly seen.

X 1444 ✓ n.s. " " g " "

X 1482 ✓ 13.86 g2,1h ± diff.

X 1530 ✓ 13.81 g2,2h " .

X 1586 ✓ n.s. ftr than h.

X 1728 ✓ 13.81 g1,1h ±

X 1941 ✓ 14.20 h0 ±

A 1809 ✓ 14.39 h1,1m

A 1812 ✓ 13.86 g2.1h

A 1825 ✓ 14.20 h0

A 1828 ✓ 14.89 n1.1o

A 1829 ✓ Too poor - rather faint.

X 7857 ✓ ~~2 ftr~~ n.s. fainter than h

14.79

X 7789 ✓ n 0 ±

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1901phae.proj.22888

M 5 No 56

X7661 14.39 l 1.1 m ± image defective.

X7603 14.79 n 0

X7601 14.25 l 0.

X7499 14.53 m 0 ± poor.

X7469 14.11 h 1.1 l

X7043 13.97 h 0

X7038 14.53 m 0 ±

X7036 14.53 m 0 ±

X7018 14.79 n 0 ±

X7010 14.99 o 0

X7009 14.79 n 0

X7008 14.62 m 1.2 n

X7007 14.39 l 1.1 m

X7000 14.89 n 1.1 o

X6991 14.89 n 1.1 o

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1901phae.proj.2288B

M 5. M0,56

X6981 oO 14.99

X6974 f2.2g 13.48

X6960 M2,1m 14.70

X6958 l0 + nuage adjacent 14.25

X6956 ml,1m 14.66

X6877 mO 14.53

X6838 h0 13.97

X6836 hm0 14.79

X6829 l1,1m 14.39

X6821 m1,1m 14.66

X6817 n0 + poor. 14.79

X6815 n0 14.79

X6814 n0 14.79

X6806 m0 + 14.53

X6805 m1,10 14.89

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1901phae.proj.2288B

m 5. -10.56

X6786 g0 13.65

X6785 l0 14.25

X6784 n0 14.79

X6763 n0 14.79

X6637 m1.1n 14.66

X8710 n0 ± 14.79

X8657 n1.10 14.89

X6813 m2.1n 14.70

A1756 g2.1h 13.86

A1781 l2.4n 14.42 n indistinct

A1782 l1.1m 14.39

A1784 l0 ± 14.25

A1785 h0 13.97

A1786 h0 13.97

A1787 n0 ± 14.79

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1901phae.proj.2288B

M 5. No 56,

A 1788 14.89 m1.10 ± aff.

A 1789 14.53 m0 ±

A 1790 14.89 m1.10

A 1791 14.89 m1.10

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1901phae.proj.2288B

MS No 59

X1941 ✓ M.S. < l

X1728 ✓ h o 13.97

X1586 ✓ MS ? < l

X1530 ✓ M.S. ? < h

X1482 ✓ MS < g

X1444 ✓ MS ?

Y1690 ✓ MS. < h

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1901phae.proj.2288B

M 5. NO. 68.

Measures - Dec. 26 - 1905 -

Slgr is so distant from Comp. Slgr that it is rather different - + owing approx.

X10254	h0	13.97
X10256	h0	14.25
X10254	h1.1l	14.11
X10253	h0	13.97
X10249	h1.1l	14.11
X9940	h0	14.25
X9916	h0	14.25
X9859	g1.1h	13.81
X9790	h0 +	13.97
X9501	h0 +	13.97
X9159	– ?	dbl. gl
X8790	h0 +	13.97
X8662	? - image defective	

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1901phae.proj.2288B

ms. no 68

X8604 no 14.79 ±

X8657 go 13.65 .

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1901phae.proj.2288B

M5. No 62

Measures - Jan. 2 1906.

X 8599 ~~oh~~ h0 13.97

X 8604 m1.1m 14.66

X 8662 m0 14.53

X 8790 g3.1h 13.91

X 9159 ~~s~~ h0 13.97

X 9501 g2.2h 13.81

X 9790 g3.1h 13.91

X 9859 g2.2h 13.81

X 9916 m1.2m 14.62

X 9940 ~~9940~~ h0 13.97

X 10249 m1.1m 14.66

X 10253 l1.6m 14.39

X 10254 h0 13.97

X 10256 h0 13.97

X 10257 g3.1h 13.91

ducked, is about right

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1901phae.proj.2288B

M5 M062

X8596 h0 13.97

X8594 h2.1l 14.06

X8591 m1.1$\frac{1}{2}$m 14.66

X8586 m1.1m ± 14.66

X8583 g3.1h 13.91

X8578 h0 ± 13.97 image defective

X8576 l0 ± 14.20

X8571 g2.1h 13.88

X8564 h1.1l 14.11

X8556 m1.1m 14.66

X8544 g2.1h 13.88

X8542 m1.1m 14.66

X8540 h1.1l 14.11

X8538 h1.1l 14.11

X8515 m1.1m 14.66

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1901phae.proj.2288B

M 5 . N0.62

X 8467 g3.1h 13.91

X 7789 h0 13.97

X 7661 l0 14.25

X 7603 l1.1m 14.39

X 7601 h1.2l 14.06

X 7499 g2.2h 13.81

X 7469 g2.1h 13.88

X 7043 h0 13.97

X 7038 g3.1h 13.91

X 7036 m0 14.53

X 7018 h0 13.97

X 7010 g2.1h 13.88

X 7009 g2.2h 13.81

X 7008 l1.1m 14.39

X 7007 m0 14.53

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1901phae.proj.2289B

MS - No. 62.

X 7000 ✓ l 1, 1m 14.39

X 6991 ✓ l 0 ± 14.25

X 6981 ✓ h 1, 1 l 14.11

X 6974 ✓ h 0 ± 13.97

X 6960 ✓ h 1, 1 l 14.11

X 6958 ✓ m 0 ± 14.53

X 6956 ✓ g 2, 1 h 13.88

X 6877 ✓ h 1, 1 l 14.11

X 6838 ✓ m 1, m 14.66

X 6836 ✓ h 1, 1 l 14.11

X 6829 ✓ m 1, 1 m 14.66

X 6821 ✓ g 1, 2 h 13.76

X 6817 ✓ two faint ~

X 6815 ✓ l 1, 1 m 14.39

X 6814 ✓ h 1, 1 l 14.11

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M5 - No 62

X 6806 ho 13.97

X 6805 ho 13.97

X 6786 l1, lm 14.11 39

X 6785 ho 13.97

X 6784 g2, 1h 13.88

X 6763 ml, lm 14.66

X 6737 ml, lm 14.66

A 1791 ho

A 1790 g3, 1h 13.91

A 1789 ho

A 1788 lo

A 1787 g3, 1h

A 1786 ho

A 1785 ho

A 1784 lo

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M5. M0,62

A 1782 m 1.1 n 14.66

A 1781 m 0 ± 14.53

A 1756 g 3.1 h 13.91

A 1829 g 2.1 h ± 13.86

A 1828 m 1.2 n 14.62

A 1825 g 3.1 h 13.91

A 1812 k 0 ± 14.25

A 1809 m 0 ± 14.53

X 1586 h 0 ± 13.97

X 1690 — vöö fum.

X 1444 —

X 1482 g 1.1 h

X 1530 —

X 1728 —

X 1941 —

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1901phae.proj.2288B

M. 5 - no 66

Remeasures - Jan - 8 - 1906 -

X 6637 ✓ bm 14.53
h0 ±

X 6763 ✓ m1.2n 14.62

X 6784 ✓ n.s. < m ✓ Exam. twice

X 6785 ✓ h1.1l 14.11

X 6786 ✓ m0 14.53

X 6805 ✓ g3.1h 13.91

X 6806 ✓ g3.1h 13.91 - Exd twice. aft. faint bt. but plate hazy.

X 6814 ✓ g1.2h 13.76

X 6815 ✓ g2.1h 13.86

X 6817 ✓ h0 ± 13.97

X 6821 ✓ g3.1h 13.91

X 6829 ✓ l0 14.25

X 6836 ✓ h1.1l 14.11

X 6838 ✓ m0 14.53

X 6877 ✓ h0 13.97

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1901phae.proj.22898

MS. No 66

X6956 ✓ h0 14.25

X6958 ✓ g3.1h 13.91

X6960 ✓ h0 13.97

X6974 ✓ g2.2h 13.81

X6981 ✓ m0 14.53

X6991 ✓ m0 14.53

X7000 ✓ h1.1m 14.39

X7007 ✓ h0 13.97

X7008 ✓ h0 13.97

X7009 ✓ h1.2l 14.06

X7010 ✓ h0 14.25

X7018 ✓ m0 14.53

X7036 ✓ h0 13.97

X7038 ✓ g2.1h 13.86

X7043 ✓ h0 13.97

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1901phae.proj.2288B

MS, No 66

X7469 h 1,2 l 14.06

X7499 g 3,1 h 13.91

X7601 h 2,1 l 14.16

X7603 l 0 14.25

X7661 h 1,2 l 14.06

X7789 h 1,2 l 14.06

X7857 ns 2 h

X8358 h 0 13.97

X8452 g 2,2 h 13.81

X8453 g 3,1 h 13.91

X8467 l 2,1 m 14.39

X8515 l 0 14.25

X8538 l 0 14.25

X8540 g 2,2 h 13.81

X8542 l 1,1 m 14.39

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1901phae.proj.2288B

M 5 . Noble

X8544 14.44 l 2, 1 m

X8536 14.11 h 1, 1 l

X8564 14.53 m 0

X8571 13.91 g 3, 1 h

X8576 14,06 h 1, 2 l

X8578 14.11 h 1, 1 l

X8583 14.11 h 1, 1 l

X8586 14.53 m 0

X8591 14.53 m 0

X8594 13.97 h 0

X8596 14.53 m 0

X10257 14.53 m 0

X10256 14.25 l 0

X10254 13.97 h 0

X10253 14.39 l 1, 1 m

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1901phae.proj.2288B

M5, NGC 6

10249	14.11 hl.1l	±
9940	14.25- l0	±
9916	13.86 g2.1h	
9859	14.39 ll.1m	
9790	14.39 ll.1m	
9501	14.25- l0	± diff.
9159	14.53 m0	
8790	14.25- l0	±
8662	14.25- l0	±
8604	14.53 m0	
8599	13.97 h0	
8710	13.86 g2.1h	

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1901phae.proj.2288P

M 5. No 68 Cond.
Jany 12 - 1906 - Temperatures -

X 8467 l0 14.25 ±
X 8453 —
X 8452 —
X 8358 —
X 7857 —
X 7789 —
X 7661 —
X 7603 h0 13.97 ±
X 7601 ml.lm 14.66
X 7499 h0 13.97 ± Poor pl. diff.
X 7469 l0 14.25 ±
X 7043 g2.1h 13.86
X 7038 l0 14.25
X 7036 —
X 7018 h1.1l 14.11

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1901phae.proj.2288B

M5. N068

X7010 lo 14.25

X7009 lo 14.25

X7008 g2,1h 13.86

X7007 ho 13.97

X7000 hlil 14.11

X6991 ho 13.97

X6981 lo 14.25

X6974 lo 14.25

X6960 mo 14.53 - diff. small value might call it = 15 h

X6958 ho 13.97

X6956 ho 13.97 ±

X6877 —

X6838 lo 14.25

X6836 lo 14.25 ±

X6829 lo 14.25

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1901phae.proj.22888

M. S. Nobb

X6821 14.25 lO ±

X6815 14.53 mO ±

X6814 14.25 lO

X6806 faint < l. <14.25 Can see no certain image at all of the star - this makes our meas. an error -

X6805 ~~lh~~ 14.25 O ±

X6786 14.53 mO

X6785 14.53 mO

X6784 14.25 lO

X6763 14.53 mO

X6637 14.53 mO ±

X6817 13.81 gl.1h.

X8576 14.39 l1.1m

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1901phae.proj.2288B

M 5 M2 10 -

6637	14.61 m1, 2n
X 6763	14.79 n O
X 6784	14.25 l O ±
X 6785	14.79 n O
X 6786	14.79 n O
X 6805	14.71 m 2.1 n
X 6806	< l < 14.25
X 6814	14.53 m O
X 6815	14.53 m O
X 6819	14.53 m O ≠
X 6821	14.16 h 2.1 l
X 6829	13.53 f 2.1 g
X 6836	14.61 m 1, 2n
X 6838	14.61 m 1, 2n
X 6877	14.53 m O

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1901phae.proj.2288P

M5 ; M070

X 6956 m 14.53
X 6958 l 14.25 ±
X 6960 m 14.53 ±
X 6974 h 13.97
X 6981 h 1,2 l 14.06
X 6991 m 14.53
X 7000 m 14.53
X 7009 h 1,1 l 14.11
X 7008 l 14.25 ±
X 7009 l 14.25
X 7010 m 14.53
X 7018 m 1,1 m 14.66
X 7036 < m < 14.53
X 7038 < m < 14.53
X 7043 m 1,1 0 14.89

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1901phae.proj,2288B

M5: No 10

X7469	14.25 k0	±
X7499	14.11 k1.1l	± v. pun. + dbl.
X7601	14.71 m2.1n	
X7603	14.71 m2.1n	
X7661	14.53 m0	±
X7789	14.53 m0	±
X7857	< 13.97 k	
X8358	14.61 m1.2n	
X8452	13.65 g0	
X8453	13.97 k0	±
X8467	14.39 l1.1m	
X8515	14.53 m0	±
X8538	14.53 m0	
X8540	14.66 m1.1n	
X8542	13.53 f2.1g	

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1901phae.proj.2288P

M5, 9070 -

X8544 h0 13.97

X8556 g0 13.65

X8564 n1,10 14.89

X8571 l2.1m 14.44

X8578 l0 14.25 ±

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1901phae.proj,2288B

M 5 - No. 77 Measures Jan. 17, 1906

X 8578 h 2.1 l 14.16

X 1941 g O 13.65

X 1482 g 1.1 h 13.84

X 1530 g 2.1 h 13.86

X 1728 h O 13.97

X 1444 ns L

X 1690 ns. < h ?

X 1586 h O 13.97

X 8576 h O 13.97

X 8571 g 1.2 h 13.76

X 8564 m O 14.53

X 8536 l 1.1 m 14.39

X 8544 l O 14.25

X 8542 h O 13.97

X 8540 g 1.2 h 13.76

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1901phae.proj.22899

M 5 - M 10

X8538 13.58 +3.1g

X8515 13.81 g1.1h

X8467 13.76 g1.2h

X8453 13.97 h0 ±

X8452 13.97 h0 ±

X8358 14.34 l1.2m

X7857 hvr –

X7789 13.81 g1.1h

X7661 13.97 h0 ±

X7603 13.97 h0

X7601 14.53 m0

X7499 13.86 g2.1h

X7469 14.11 h1.1l

X7043 14.25 l0

X7038 14.34 l1.2m

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1901phae.proj.2288B

M5. No 77

X 7036	14.11	h1.2l
X 7018	14.96	h1.2l
X 7010	13.76	g1.2h
X 7009	13.91	g3,1h
X 7008	13.76	g1,2h
X 7007	13.81	g2.2h
X 7000	13.86	g2,1h
X 6991	14.53	m0
X 6981	14.25	l0
X 6974	14.25	l0
X 6960	13.81	g2,2h
X 6958	13.76	g1,2h
X 6956	13.86	g2,1h
X 6877	14.53	m0

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1901phae.proj.22888

M 5. No 77.

X 6838 14.53 m 0

X 6836 14.25- l 0 ±

X 6829 14.25- l 0

X 6821 13.97 h 0

X 6817 13.81 g 1, 1 h

X 6815- 13.65- g 0 ▽ vers. certains dout = g.

X 6814 13.65- g 0 ▽ " " " " "

X 6806 14.25- l 0 ± ——

X 6813 13.86 g 2, 1 h ▽

X 6805- 14.16 h 2, 1 l

X 6786 13.71 g 1, 3 h ▽

X 6785 14.06 h 1, 2 l

X 6784 14.11 h 1, 1 l

X 6769 3 13.86 g 2, 1 h ▽

X 6637 13.97 h 0 ±

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1901phae.proj.2288B

June 11. 1908 –

Estimate of Steps of Sequence of Comparison Stars – on

X 8624

$a_0\ b_3\ c_1\ d\ e\ f\ g_2\ h_2\ k_2\ l_1\ m_4\ n_4\ o_3\ p$

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1901phae.proj.2288

Dec - 20. 1911

Messier 3.

Determination of magn. of "z", star which is close Companion to 95. Direct estimate of magnitude by Comp. with Sequence Stars (omitting b) using "Final Magnitude" Table VI.

z.	✕	6792	13.5-	14.0	13.95-
		8624	13.4	13.9 Mean	13.45-
		7488	13.4	13.9	
		6854	13.5-	14.0	

Since 95 was Compared with b which probably varies slightly it seem better to remeasure it - In the following b is not used but direct estimate of magn. are made for comp with the close Comp "z". (and a).

No 95-

✕	6854	1a	6z.	13.40	13.35-	13.38
	7488	0a	5z	13.50	13.45	13.48
	8624					13.50
	6792					13.35-
	6820					13.35-
	6828					13.40
	6837					13.40
	6844					13.45-
	6872					13.45-
	6875-					13.45-
	6876					13.40
	6909					13.50
	6916					13.45-
	6918					13.50
	6923					13.55-

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1901phae.proj.2288B

M 3 -

Var. 95' X

6925-	13.55
6980	13.60
6990	13.60
7482	13.40
7483	13.40
7489	13.45
7654	13.50
8444	13.90
8563	13.45
8584	13.40
8597	13.40
8605	13.35
8612	13.35
8618	13.35
8619	13.40
8625	13.40
8631	13.35
8632	13.45
8650	13.45
8655	13.40
8656	13.40
8779	13.60
9158	13.65
9166	13.60
9204	13.90 ? No M. ?
9205	14.00
9558	13.45
A 3684	13.35
3682	13.35
3681	13.35

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M3.

Var. 95-	A	3680	13.35-
		3679	13.40
		3678	13.35-
		3677	13.40
		3675-	13.30
		1780	13.30
		1777	13.30
		1776	13.30
		1775-	13.30
		1774	13.30
		1751	13.25-
		3674	13.30
		3673	13.35-
		3672	13.30
		1783	13.40
	R	16	13.45-
		15-	13.50
		14	13.50
		13	13.50
		11	13.50
		25-	13.50
		24	13.50
		22	13.55-
		23	13.50
		21	13:45-
		19	13.50
		18	13.50
		17	13.45-
		9	13.40
		20	13.50

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1901phae.proj.2288B

M 3 -

No. 95 -

K 12	13.50
6	13.45 -
7	13.45 -
5 -	13.50
3	13.50
4	13.50
2	13.55 -
10	13.50
8	13.45 -

Remeasures.

M 3. Var No. 4

No. Var. 4 ✓ X 7482 { a 5 - var. 14.00 ; c 0 Var. 13-98 } 13.99

Var 3 - M. 3 Var. No. 3 - 10. 1.. 12

✓ Remeasure.

X 9158. J.D. 4637.550 Magn ~~M 1~~ M, Var, M ± 16.66

M 3.

Var. 10. ✓ Remeasure in 1910. X 8655 J.D. 4085. 48 $\frac{7}{-}$ No 10 = M ±

" " ✓ " Jan. 12, 1912 " " " = M ±

2nd det. correct. Scales wrong -

" " ✓ Remeas. - A 1751 J.D. 3664.674 Var = h = 15.79

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M 3

Var. 17 Pl. X. 8612 J.D. 4077.492 . Var = q =

" 19 Pl. X 6844 J.D. 3383.513 Var = m =
" " K 18 " 5761.799 16.20
checked again abt = below on fol. pl. 16. 16

" 22 Pl. X 6820 J.D. 3377.517 Var = f 14.88.
" " " " " f, Var, q Varies 2nd obs.

" 23 pl X 8779 " 4140. f, Var, q

" 33 M A 1840 .. J.D. 3724.664 Var = n.
" " " " confirm above -
Each mean error in identity.

" 46 M. X 8612 J.D. 4077.581. Var. = K.
Confirm the mean -

" 50 M. X 8597 J.D. 4073.587; f, Var, q. = 15.13
Agrees with orig. mean + again confirmed -

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M 3 - No 86.

Mar. 5, 1912.

Resonance of Keler 20. 5161.820.

$\sqrt{ar} = g$.

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M 3 - April 17, 1912

Remeasures

Var -

3. 4079.493 , X 8624 var. 15.70 ± II. d. dH.

5 4664.624 a 1751 var 15.70
4079.493 x 8624 - 16.70
5160.843 K 8 v-s 14.80

6 3389.545 X 6875 14.60
4077.581 . 8612 16.10
4841.472 A 3678 15.28

7 3397.535 X 6916 14.50
3399.520 6923 14.98 D
3691.533 7482 14.70 D
4067.520 8563 15.00
4079.493 8624 16.55 ~~16.85~~
4456.575 9205 14.98

9 3378.520 X 6828 14.50
4036.555 8444 15.30
4067.520 8563 16.25
4140.478 8779 15.25
5160.800 K 4 16.12

10 4036.555 X 8444 15.00
4073.585 8597 14.95
4085.487 8655 16.82 ~~16.18~~

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1901phae.proj.2288B

Var

M 3. April 19.

11

3380.551	X 6837	16.49
3395.513	6909	15.~~30~~ 45
3400.521	6925	~~15.15~~ 14.90
4077.492	8611	14.98
" .581	8612	16.45
4080.570	8632	15.28
4084.540	8650	14.70
4085.561	8656	14.70
4437.550	9158	15.00
4841.472	A 3678	16.00
4842.489	3684	15.85
5160.741	K 1	16.85
" .779	2	15.25
5161.799	18	15.16
" .806	19	14.50

12.3

3372.527	X 6792	16.10
3691.533	7482	14.95
4071.577	8584	15.00
4078.492	8618	16.00
5161.864	K 24	15.50

14

3389.545	X 6875	15.10
4067.520	8563	16.50
4077.581	8612	15.30
4840.523	A 3677	15.25

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1901phae.proj.22889

M 3. Remeasures.

Var. 15	3384.514	X 6854	15.10	
	4073.585	8597	15.90	
	~~4841.571~~	~~A 3681~~		
	5160.788	K 3	15.40	
	" .822	6	16.00	
	5161.864	24	15.70	
17	3721.641	A 1832	15.70	D
	4073.585	X 8597	15.60	
	4077.492	8611	16.00	
	4807.613	9558	15.30	
	4841.472	A 3678	15.40	
	5160.788	K 3	16.50	
18	4078.492	X 8618	16.66	
	4079.493	8624	16.66	
	4084.540	8650	15.30	
	4841.472	A 3678	15.00	
19	3383.513	X 6844	16.50	
	4839.480	A 3672	15.70	
	4841.503	3679	16.50	
	" .571	3681	16.45	
	5161.794	K 18	16.20	l. 119.
	" 828	21	16.50	

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1901phae.proj.2288B

M 2. Measures

Var

20

3372.527	X	6792	16.82
3384.514		6854	15.85
3692.540		7488	15.28
4456.502		9204	16.50
4839.480	A	3672	15.80
4841.571		3681	15.00
" 603		3682	16.00

April 22, 1912

22.

3377.517	X	6820	14.98
3691.533		7482	15.285
4841.571	A	3681	~~15.15~~ 15.50
~~5160.788~~	K	3	
5161.756		14	15.282

23

3692.540	X	7488	16.~~50~~ 35-
4071.577		8584	15.10
4077.581		8612	15.20
4078.492		8618	16.10
4080.486		8631	15.00
4140.478		8779	15.15
4456.502		9204	15.85
" .575		9205	

24

3390.524	X	6876	1498
3691.533		7482	15.28
" .643		7483	
3693.611	A	776	14.75
4839.480		3672	15.28
5160.830	K	7	D 16.50
5161.786		17	16.10

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1901phae.proj.2288B

M 2. Remeas.

25	3377.517	X 6820	16.00
	3389.545	6875	15.10
	3721.570	A 1830	15.70
	4079.493	X 8624	14.50
	4841.603	A 3682	15.10
26.	3377.517	X 6820	15.50
	5161.808	K 19	15.10
	" 820	20	15.10
27	3384.514	X 6854	15.75
	3691.533	7482	16.50
	3692.540	7488	15.28
28	4067.520	X 8563	16.05
	4073.585	8597	15.28
	4079.579	8625	16.10
	4437.550	9158	15.75
	5160.853	K 9	15.25
31	4036.555	X 8444	D
	4840.523	A 3677	D
	4841.472	3678	D
	" .503	3679	D
	" .571	3681	D
32	3372.527	X 6792	15.85
	3377.517	6820	15.10
	3692.540	7488	14.90
	4071.577	8584	14.98
	4079.493	8624	15.35
	4436.575	9205	15.50
	~~5160.799~~	K 2	
	5161.764	15	14.50

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1901phae.proj.2288B

M 3. Remeas. April 23. 1912

Var.					
33.	3724.664	A	1840	16.80	1.119
	4078.492	X	8618	15.30	
	4079.493.		8624	15.00	
	4080.486		8631	14.75	
34	3397.535	X	6916	15.50	
	4067.520		8563	D image defective	
	4073.585		8597	16.05	
	4079.579		8625	15.00	
	4839.480	A	3672	15.65	
	4841.603		3682	16.10	
	5160-853	K	9	16.55	
35.	4456.502	X	9204	15.70	
	5161.735	K	12	15.85	
	.756		14	15.80	
36.	4073.585	X	8597	14.95	
	4078.492		8618	14.95	
	4079.579		8625	14.95	
	4456.575		9205	16.50	
38	4067.520	X	8563	16.75	
	4078.492		8618	16.25	
	4079.493		8624	15.65	
	.579		8625	16.25	
	4456.502		9204	16.50	

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1901phae.proj.2288B

W 3. Rowland - April 24. 1912

Var 39

3372.527	X	6792	15.25
4073.585		8597	15.65
4080.570		8632	14.95
4841.472	A	3678	15.30
.503		3679	15.85
.571		3681	16.$\frac{2}{0}$5
~~5160.800~~	~~K~~	~~4~~	
.830		7	

40

3692.540	X	7488	15.85
3693.611	A	1776	15.35
4437.550	X	9158	15.10
4841.503	A	3679	16.25

41

3383.513	X	6844	15.50
3384.514		6854	15.28
3399.520		6923	15.50
3724.507	A	1838	15.10
4077.492	X	8611	16.20
4078.492		8618	15.$\frac{3}{0}$0
4079.493		8624	14.60
4438.541		9166	15.50
4456.502		9204	14.98
4840.523	A	3677	16.50
4841.503		3679	16.25
.571		3681	15.65
5160.741	K	1	16.50
5761.713		10	16.40
722		11	16.~~30~~45
756		14	16.50

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1901phae.proj.2288B

M 3. Remeas. - April 24.

42.	3377.517	X 6820	16.75
	3691.533	7482	16.00
	- .643	7483	16.00
	3724.507	A 1838	15.90
	4073.585	X 8597	14.45
	4437.550	9158	16.50
	4840.523	A 3677	16.50
	4841.472	3678	14.95
	" .503	3679	14.55
43.	3377.517	X 6820	15.10
	3384.514	6854	15.50
	3397.535	6916	14.98
	4078.493	8618	14.50
	4084.540	8650	14.98
	4438.541	9166	14.60
	5160.741	K 1	16.20
	5161.713	10	15.00
	.722	11	14.50
	.820	20.	15.10
44	3399.520	X 6923	15.28
	3691.643	7483	15.70
	3724.507	A 1838	14.40
	5160.779	K 2	16.00
45	3399.520	X 6923	15.25
	3692.540	7488	16.10
	4071.577	8584	15.45
	4077.581	8612	16.60
	4079.579	8625	16.45
	4841.472	A 3678	

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1901phae.proj.2288B

M 3 - R Aurea.

46	3389.545	X 6875	15.60
	4074.589	8605	15.75
	4077.581	8612	16.20
	4079.493	8624	15.85
	5160.853	K 9	15.70
47.	3664.674	A 1751	16.00
	4074.589	X 8605	14.80
	4456.575	9205	15.28
	5161.713	K 10	16.00
48	3377.517	X 6820	15.25
	4077.581	8612	15.28
	4080.570	8632	15.35
	4841.571	A 3681	15.28
49	4078.492	X 8618	16.25
	4080.570	8632	15.30
	4085.487	8655	15.35
	4841.472	A 3678	15.30
	5761.786	K 17	16.23
50	3384.514	X 6854	16.10
	4073.585	8597	15.28
	4085.487	8655	15.28
	4456.502	9204	
51	3384.514	X 6854	16.50
	3397.535	6916	15.20
	4073.585	8597	

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1901phae.proj.2288B

M 3 - Remeas - Apr 16, 1912

Var.			
52.	3397.535	X 6916	14.40
	4067.520	8563	14.75
	4071.577	8584	15.35
	5160.853	K 9	15.60
	5161.840	22	16.00
53	3694.655	A 1783	14.85
	4085-487	X 8655	15.28
54	3691.643	X 7483	15.75
	4067.520	8563	16.25
	4071.577	8584	16.00
55.	3694.533	A 1780	14.50
	4456.575	X 9205	16.25
	4841.603	A 3682	15.60
56	3664.674	A 1751	15.15
	3691.533	X 7482	15.75
	4077.581	8612	16.00
	4079.579	8625	15.50
	4084.540	8650	15.30
	4841.472	A 3678	15.65
	" .603	3682	16.25
	5160.843	K 8	15.75

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1901phae..proj..2288B

M 2. Perseus.

57	3691.533	X 7484	16.25
	3692-560	7488	16.25
	4073.585	X 597	16.45
	4841.503	A 3679	16.25
58	3377.517	X 6820	16.00
	3384.514	6854	15.85
	3664.674	A 1751	15.10
	3692-560	X 7488	14.55
	3724.664	A 1840	15.00
	4036.575	X 8444	15.28
	4071.577	8584	16.25
	4437.570	9158	15.80
	4456-502	9204	16.10
	4841.503	A 3679	16.00
	5760.830	K 7	16.25
~~59~~			16.00
59	4840-523	A 3677	~~15.70~~
60.	3372.527	X 6792	15.70
	4071.577	8584	15.00
	4456.575	9205	16.00
61	3389.545	X 6875	14.95
	3400.521	6925	15.35
	3412.504	6980	15.00
	3413.503	6990	14.50
	3691.643	7483	14.45
	3692.651	7489	14.95
	~~4077.581~~	~~8612~~	~~14.50~~

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1901phae.proj.2288B

N2 - Reseau - Apr. 28, 1912

Var			
61 cont.	4841.472	A 3678	15.75
	5160.741	K 1	15.25
	5161.786	K 17	14.60 15.25
	" .808	19	16.00
	" .820	20	16.00
62	3383.513	X 6844	16.25
	3691.643	7483	15.25
	4437.520	9158	16.00
	4841.472	A 3678	16.10
	5160.843	K 8	16.10
63	3372.527	X 6792	D more defined
	3384.514	6814	15.85
	3692.540	7488	15.10
	3724.507	A 1838	15.25
	4080.486	X 8631	14.95
	5160.830	K 7	14.40
64	3377.517	X 6820	15.00
	3397.535	6916	14.75
	3664.674	A 1751	16.10
	4077.492	X 8611	15.85
	4841.503	A 3679	15.00
	5161.808	K 19	14.95
	" 840	22	15.25
65	3397.535	X 6916	14.95
	4084.540	8650	14.85

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1901phae.proj.2288B

M3 - Reneat. May 3. 1912

66.	3399.520	X	6923	15.15
	4078-492		8618	15.00
	4841.472	A	3678	15.25
67	3413.503	X	6990	14.50
	4071.577		8584	15.70
	4078.492		8618	15.30
	4079.579		8625	15.30
	4839.480	A	3672	15.25
68	3327.517	X	6820	16.70
	3383.513		6844	15.75
	3386-535		6872	15.20
	3664.674	A	1751	15.65
	3691.533	X	7482	16.45
	" .643		7483	15.35
	3692.540		7488	16.15
	3693.525	A	1774	15.70
	4067.520	X	8563	16.00
	4077.492		8611	15.35
	4437.550		9158	16.40
	4807.613		9558	14.55
	4839.480	A	3672	16.55
	4841.472		3678	15.30
	" .571		3681	15.50
	5160.800	K	4	14.65
	.822		6	14.95
	5761.713		10	16.10
	" .722		11	16.00

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1901phae.proj.2288B

M 9 Renewed.
May 8. 1912.

69	3693.611	A	1776	15.50	D
	" .654		1777	15.15	D
	4067.520	X	8563	16.20	
	4073.585		8597	14.95	
	4077.492		8611	16.15	
	4437.550		9158	16.70	
	4456.575		9205	16.50	
	4841.472	A	3678	16.00	
	" .503		3679	16.20	
	5160.843	K	8	15.75	
71.	3691.533	X	7482	16.25	
	4067.520		8563	15.50	
	4078.492		8619	15.25	
	4079.579		8625	15.35	
	4437.550		9158	15.00	
	4839.480	A	3672	15.~~25~~	
	4840.523		3677	15.15	
	~~5160.741~~	K	1	16.60	
	5161.713		10	15.10	
	.744		13	14.45	
	.756		14	14.55	
	764		15	14.75	
	.777		16	15.00	
72	3377.517	X	6820	16.60	
	3378.520		6828	15.30	
	3399.520		6923	15.00	

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1901phae.proj.2288B

72 Cont.	~~3691.533~~	X	~~7482~~	
	4078.579		8619	14.50
	4079.493		8624	14.65
	4080.486		8631	15.10
	4841.603	A	3682	14.50
	5161.764	K	15	~~14.15~~ 15.25
74	3389.545	X	6875	14.95
	3390.524		6876	14.75
	3664.674	A	1751	15.35
	5160.779	K	2	15.25
	" .800		4	15.70
	5161.799		18	15.70
76.	4069.520	X	8563	15.35
	4071.577		8584	15.85
	4073.585		8597	16.00
	4079.493		8624	14.90
	" .579		8625	15.30
	5160.853	K	9	14.85
	5161.713		10	16.75
77.	3377.517	X	6820	14.85
	3400.521		6925	14.00
	3692.651		7489	14.55
	3693.611	A	1776	15.30
	3694.533		1780	15.75
	4067.520	X	8563	16.25
	4077.581		8612	15.65
	4078.492		8618	15.25
	4079.493		8624	16.25
	4438.541		9166	14.70
	4841.472		3678	15.70
	5160.741	K		

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M 3 - Remeasures. May 11, 1902

78	3384.514	X 6854	15.65
	3691.643	7483	15.00
	4071.577	8584	15.25
	4077.492	8611	16.00
	" .581	8612	14.80
	4079.493	8624	15.95
	" .579	8625	16.10
	4437.550	9158	15.25
	4456.502	9204	14.95
	4807.613	9578	14.60
	4839.480	A 3672	15.50
	4841.472	3678	16.40
	5160.830	K 7	14.95
79	3372.527	X 6792	16.05
	3384.514	6854	16.20
	3692.540	7488	15.85
	3724.664	A 1840	15.05
	4036.555	X 8444	15.00
	4078.492	8618	15.75
	" .579	8619	15.70
	4079.493	8624	14.50
	4140.478	8779	15.70
	4839.480	A 3672	16.80
	5160.741	K 1	15.30
	~ .788	3	16.00
80	3694.655	A 1783 —	15.70 ±
	4840.523	3677 —	15.10
81	4067.520	X 8563 —	16.50

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1901phae.proj.2288B

M 3 Rencas mer Aug. 31. 1912

82.	4077.581	X 8612	16.50
	5161.722	K 11	16.10
83	3664.674	A 1751	15.30
84	4067.520	X 8563	15.50
	4071.577	8584	15.05
	4077.492	8611	16.25
	4839.480	A 3672	15.70
	4841.472	3678	15.85
86	3386.535	X 6872	15.70
	4077.581	8612	15.50
	4437.550	9178	15.15
	4456.502	9204	15.75
	4841.472	A 3678	15.75
	5161.808	K 19	16.25
	5161.828	21	~~16.25~~ 15.70
88	3372.527	X 6792	15.70
	3384.514	6854	15.75
	3390.524	6876	D 15.00
	3691.533	7482	D 15.25
	4 .643	7483	D 15.75
	3692.540	7488	15.25
	4067.520	8563	15.00
	4077.581	8612	15.25

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1901phae.proj.2288B

M 3:
Remeas. Sept. 2. 1912

88 Cnt.	4078.492	X	8618	15.50
	4079.493		8624	15.25
	4456.502		9204	14.75
	4839.480	A	3672	16.25
	4841.472		3678	16.50
	4 - 571		3681	15.70
	. .603		3682	16.00
89	4077.492	X	8611	15.30
	4839.480	A	3672	15.70
	4840.523		3677	14.90
91	3691.533	X	7482	ns <m
	.643		7483	15.00
	3724.507	A	1838	14.85
	4067.520	X	8563	15.80
	4077.492		8611	15.30
	4079.579		8625	16.00
	4840.523	A	3677	15.30
	5160.779	K	2	16.15
	.830		7	16.15
	5161.713		10	16.00
	.722		11	16.20
	.735		12	15.75
92	4036.555	X	8444	15.15 ? image defective
	4077.492		8611	16.00
	4078.492		8618	16.00
	4079.493		8624	15.70
	4456.575		9205	16.00

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Remeas. of M3. Dept 16. 1912

93	3692.540	X 7488	15.35
	4840.523	A 3677	15.35
	4841.603	3682	16.00
96	3691.533	X 7482	15.15
	4807.613	9558	16.25
	4839.563	A 3674	16.35
	4841.537	3679	16.40
	" .603	3682	16.40
	5160.741	K 1	16.80
97	4067.520	X 8563	16.15
100	3664.674	A 1751	15.85
	3721.641	1832	15.25
	4036.535	X 8444	15.85
	4077.492	8611	15.70
	" .581	8612	16.00
	4080.570	8632	15.35
	4437.530	~~X~~ 9158	16.10
	4456.575	9205	16.50
	4839.480	A 3672	16.35
	4840.523	3677	16.00
101	3377.517	X 6820	16.50
	4078.492	8618	15.85
	4841.472	A 3678	16.~~40~~ 25

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1901phae.proj.2288B

M3 -

Remeas. Sept. 20. 1912.

104.	3691.643	X	7483	14.40
	4073.585		8597	15.85
	4085.487		8655	15.00
106	3691.643	X	7483	16.00
	4067.520		8563	15.85
	5160-788	K	3	16.10
	~~" .800~~		~~4~~	—
	~~" .809~~		~~5~~	—
	5161. 873		25	16.15
107	3384.514	X	6854	15.35
	4079.493		8624	15.15
	4807.613		9558	15.00
	4841.472	A	3678	16.25
	" 503		3679	15.70
	5161 764	K	15	14.90
	" 873		25	16.50
108	4067.520	X	8563	16.00
	4077.581		8612	16.10
	4079.493		8624	15.15
	4437.550		9158	14.75
	5160.853		K 9	14.40
109	3692.540	X	7488	16.25
	4073.585		8597	16.25 F
	4077.581		8612	14.50
	4078.579		8619	15.75

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1901phae.proj.2288B

M3.

Rumas.

110	3691.533	X	7482	15.60
	3692.540		7488	17.25'
	4079.493		8624	16.00
	4140.478		8779	15.15'
	4437.550		9158	15.70
	4841.472		A 3678	16.60
	5161.828		K 21	16.00
111	3377.517	X	6820	16.50 ~~75~~
	3383.513		6844	15.15'
	3386.535'		6872	15.15'
	3691.533		7482	15.70
	4036.555'		8444	Duplicate
	4071.577		8584	16.05'
	4073.585'		8597	16.25'
	4077.581		8612	16.25'
	4079.579		8625'	16.30
	4085.487		8655'	15.~~00~~ 15'
	5160.741		K 1	16.75'
	" .830		" 7	15.25'
	5161.828		" 21	15.55'
113	3691.533	X	7482	15.00
	" .643		7483	16.25'
	4067.520		8563	14.85'
	4071.577		8584	16.25'
	4437.550		9158	16.25'
	5160.853		K 9	16.50
	5161.864		24	16.25'
	" 873		25'	16.25'

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1901phae.proj.2288B

M 9 -

Remeas -

114	3378.520	X	6828	16.00
	4073.585		8597	15.75
	4079.579		8625	15.75
	4140.478		8779	15.15
115	3377.517	X	6820	15.70
	3413.504		6990	14.50
	3724.664	A	1840	15.70 D
	4073.585	X	8597	15.30
	4077.581		8612	16.50
	4840.523	A	3677	16.75
	4841.472		3678	16.75
	" .603		3682	15.00 D
116	3389.545	X	6875	15.25
	4841.472	A	3678	15.75
117	3372.527	X	6792	16.00
	3384.514		6854	16.25
	3395.513		6909	16.10
	4077.492		8611	15.30
	4079.493		8624	16.30
	4080.486		8631	15.60
	4456.575		9205	A
	5160.843	K	8	16.25
	" 853		9	16.25
118	4071.577	X	8584	16.25
	4073.585		8597	16.30
	4077.492		8611	15.30
	" .581		8612	16.30

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1901phae..proj..2288B

M 9 -

Remeas -

119	3390.524	X	6876	15.35
	4078.579		8619	15.25
121	3372.527	X	6792	16.00
	3384.514		6854	16.50
	3389.545-		6875-	15.~~75~~ 30
	3691.533		7482	15.70
	3692.540		7488	15.75
	3724.507	A	1838	16.00
	4071.577	X	8584	16.25
	4074.589		8605-	15.20
	4077.492		8611	16.25
	4080.486		8631	16.15
	4456-675		9205-	16.00
	4841.472	A	3678	16.00
	5760-741	K	1	16.75 50
	5761.713		10	16 ~~75~~
	" .722		11	16.65
	" .735-		12	16.50
123	4079.493	X	8624	16.15
125	3691.533	X	7482	16.15
	3692.540		7488	16.25
	4067.520		8563	16.00
	4456-575		9205-	16.15
	4840.523	A	3677	16.00

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1901phae.proj.2288B

M 3 -

Remeas - Sept 23. 1912

			16.00
126	3377.517	X 6820	~~16.50~~ ns.
	3384.574	6854	15.85
	3692.540	7488	16.00
	4067.520	8563	16 ~~00~~
	4078.492	8618	~~16.00~~ 16.25
	4079.579	8625	16.25
	5161.735	K 12	16.25
	.764	15	16.25
128	3692.540	X 7488	16.00
	4071.577	8584	
	4073.585	8597	
	4077.492	8611	15.35
	4079.493	8624	15.30
	4437.550	9158	15.30
	4456.582	9204	15.50
	4840.523	A 3677	
	5160.741	K 1	16.25
	5761.756	14	16.35
	" .764	15	16.15
	" 786	17	15.50
	" 864	24	15.30
131	3377.517	X 6820	15.80
	4067.520	8563	15.00
	4071.577	8584	16.00
	4073.585	8597	15.85
	4077.492	8611	15.75
	4079.493	8624	15.25
	" .579	8625	15.70

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M 3 -

Remeas.

131 cont.	4080.570	X	8632	15.00
	4084.540		8650	15.75
	4437.550		9158	15.00
	4456.502		9204	15.70
	4839.480	A	3672	16.15
	4840.523		3677	16.25
	5160.741	K	1	16.25
	5161.764		15	16.15
132	3383.513	X	6844	16.20
	3395.513		6909	15.00
	3691.533		7482	15.30
	3692.540		7488	15.00
	4067.520		8563	16.25
	4077.581		8612	14.90
	4078.492		8618	15.85
	4079.493		8624	16.20
	4437.550		9158	16.00
	4438.541		9166	16.00
	4456.575		9205	15.25
	4840.523	A	3677	16.25 D
	4841.503		3679	D
	5160.741	K	1	16.25
	" .822		6	15.75
	5761.713		10	15.90
	" .820		20	16.25
	" 850		23	16.10
	" .873		25	16.40

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Pmeas - M 9 -

133	5160.741		K 1	16.75
134	4456.502		X 9204	~~16.75~~ 15.80 ±
137	3691.533		X 7482	16.25
	3692.540		7488	16.00
	4079.493		8624	15.35
94.	3384.514	X	685-4	16.25
	3864.674	A	1751	16.75
	3691.533	X	7482	15.70
	3747.584		7654	15.30
	4067.520		8563	16.05
	4071.597		8584	15.20
	4077.492		8611	16.00
	4079.579		8625	16.15
	4080.486		8631	~~16.85~~ 15.15

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M 5

31. Completed - Obl per Journ.

44. Completed - " " " .

56. Completed. Error in identificat.

59. Completed. " " "

62. Refer. Remeas. at least, sugt from Checking. + by later. completed, Journ.

66. Examn. & Remeas at least a few of the end plates. e.g. - at - J. P. 3376. at least some of plate

68. Remeas. ~~Last~~ plates 4433-5581.

70. Remeas. all plates, or at least enough to check ident - & measures. already made.

77. check ident. of end plates Bring to 40 s 2.

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107
23
105
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