

KG

11365
782

KG11365.782

KG 11365.782



Wednesday, Oct. 21, 1903

730

Mr Aquarius

e 3 v

e is the faintest star
on the photog. chart, so I
select f.

v
...a
f

R S. Aquilae

Photog. by

b o a

a i e

c s d

d u e

e 3 g

f 4 f

f 4 h h

h h 3 h

l, m, n, not seen

var. minor

h seen

705

var. minor

h seen

Oct. 21, 1983.

805 γ PegasiC 2 γ
83 d

est = 9

808

- Aquarii

2107/24C 2-3 γ
84 dest = $8\frac{1}{2}$

8.20

R S. Capricorni

~~C 3 γ~~ a 2 γ
84 dphotog. seq.
est = $8\frac{1}{2}$

832

S Usc. Mini

C 3 γ

71-2 e'

est = $9\frac{1}{2}$

Oct. 21, 1903.

840

S S Erymi

e 1 v

r 3 f

est = 9

$$\begin{array}{r} \text{\# } 9.00 \\ 9.09 \\ \hline 9.04 \end{array}$$

50

R Androm

var. iris.

Z seen

13.4

8.55

IT Cass.

e 3 v

v 1 f

$$\begin{array}{r} 8.17 \\ 8.12 \\ \hline 8.12 \end{array}$$

$$\begin{array}{r} 8.17 \\ 8.07 \\ \hline 8.12 \end{array}$$

very red + diff.
to compare

900

S Persei

e 2 v

r = f

$$\begin{array}{r} 9.08 \\ 9.07 \\ \hline 9.08 \end{array}$$

est = 9 1/2

903

R Arctis

m 4 v

r = 0

$$\begin{array}{r} 11.16 \\ 11.15 \\ \hline 11.16 \end{array}$$

est = 10 1/2

4

Oct. 21, 1903.

9 15

U Cygni Chart (a)

m 3 v

v 10

$$\begin{array}{r} 10.46 \\ 10.39 \\ \hline 10.42 \end{array}$$

lat = 12

v very red.

S Lacertae

Hagen (3)

1

Hagen (4)

" (4)

3

" (5)

" (5)

3

" (6)

" 6

3

" (7 8)

" (18)

1

" (11)

" 18

3

photog. a

a

3

at b 2

~~a~~ b 2 4 b

b 2 Hagen (33)

Hagen (33) 4-5 e

c 6 d

c 5 e

e 1 d

d 4 f = H 77

Oct. 21, 1903.

S Lacus

9.58

Hagen (5) 1 v

v 2 Hagen (6) est = 8

(21) (121) Vars.

(21) (36) Est comp. #2.

L.P.P.

Thursday, Oct 22, 1903

6 50 V Delphini
var. may be glimpsed, but I can
not be sure of identification

z
α

The object marked is much
fainter than photograph
and is just on the limit of
visibility, say very clear

700 V Pegasi
C 3 r
v 1 d est = 9

708 W Aquarii
e 2 r
v 1 f est = 12 1/2

Oct. 22, 1903.

720

R. Ues. Maj.
h1v
v4k
$$\begin{array}{r} A.2A \\ A.50 \\ \hline P.39 \end{array}$$
est = 9
low.23
~~45~~

S Bootis

h2v

9.32

v2f

9.47

9.40

est = 9 1/2

25

R Camelopard

h6v

9.05

v0-1c

9.279.01

est = 8 1/2

30

R Cygni

h1v

9.13

v3h

9.05

9.09

est = 8 1/2

45

R Delphinus

h1v

9.08

v3h

9.05

9.06

est = 9 1/2

8

Oct. 22, 1903

755

TT Cephei

$$\begin{array}{r} h2v \\ v1b \end{array} \begin{array}{r} 8.97 \\ 9.08 \\ \hline 9.02 \end{array}$$

est = $8\frac{1}{2}$
red

800

S Ceti

$$\begin{array}{r} e3v \\ v1f \end{array} \begin{array}{r} 8.00 \\ 8.42 \\ \hline 8.46 \end{array}$$

est = $8\frac{1}{2}$

802

S Cass.

$$\begin{array}{r} h2v \\ v1b \end{array} \begin{array}{r} 9.98 \\ 9.96 \\ \hline 9.97 \end{array}$$

est = $10\frac{1}{2}$

805

R Piscium

$$\begin{array}{r} n3v \\ v1v \end{array} \begin{array}{r} 10.12 \\ 10.20 \\ \hline 10.16 \end{array}$$

est = 10

815

O Ceti

$$\begin{array}{r} \delta 3v \\ v0-12 \end{array} \begin{array}{r} 9.12 \\ 9.14 \\ \hline 9.13 \end{array}$$

est = 9

823

R Ceti

$$\begin{array}{r} h3v \\ v=k \\ v4b \end{array} \begin{array}{r} 9.27 \\ 9.42 \\ 9.85 \\ \hline 9.55 \end{array}$$

est = $9\frac{1}{2}$

Oct. 22, 1903.

831 S π Cepheie 4 v $\frac{2.55}{2.52}$
v 2 dest = $8\frac{1}{2}$
very red.

840

R π Cygni

c 1 v

v 4-5 d

est = $7\frac{1}{2}$

850

R S Cygni

b 4 v

v 1-1 c

 $\frac{7.30}{7.20}$
 $\frac{7.25}{7.25}$ est = 7
very red

852

S S Cygni

e 4 v

v = f

 $\frac{9.30}{9.29}$
 $\frac{9.34}{9.34}$ est = $9\frac{1}{2}$

855

X Ceti

c 1 v

v 2 d

est = $8\frac{1}{2}$ clouds forming
(37) (158)

Monday, Oct. 26, 1903

m

655

U Serpentis
h 3 r
v 2 k

est = $9\frac{1}{2}$
hrr.

x Aquilae

Order photographing 2 exp
Small " no tint

a

d

e

c = b

f
g

a-d too large

d 4 e

e 3 c

c 1 b

b 4-5 f

f 3 g

g = h
h, k

k 6 l

l 2 m

m 4 n

n 5 o

Oct. 26, 1903

720

X Aquilae

var. iris.

0 seen

730

Y Cass.

e 2 r

r 1 d

photog. seq.

var. has slight redtinge

est = 10

735

V Pegasi

d r r

r 4-5 e

est =

9

photog. seq.

740

T Herc.

m 3-4 r 9.79

r 1 n 9.72

9.76

est = 10 1/2

43

T Aquar.

var. iris

2 seen

11.1

12

Oct. 26, 1913

7 50

X Aquarii
 var. viris.
 photog. k seen

8

S Herculis
 g 1 v $\frac{8.19}{A01}$ est = 9
 v 3 h $\frac{8.10}{\underline{\underline{8.10}}}$

815

R Vulpec

t 4 v $\frac{12.24}{12.37}$ est = 13
 v 1 u $\frac{12.30}{\underline{\underline{12.30}}}$ obs. different

25

S S Cygni
 m 1 v $\frac{11.00}{11.12}$ est = 11
 v 2 n $\frac{11.06}{\underline{\underline{11.06}}}$

28

M Aquarii
 var. viris.
 d seen
 e not seen

30

RT Cygni
 v = e
 v s d est = 7

Oct. 26, 1903

850

H T Audum.
var. virens. 12.7
w seen

52

U Pucci
a 3v
v 1-2 b (C) est = 8

57

div
v 4 d' Finida
est = 6 1/2 ?

902

S Aquarii
q 3v 10.96
v 1 v 10.96
10.96 est = 10 1/2

910

R Pegasi
n 3v 9.94
v 10 9.73
9.84 est = 10915
9S Pegasi
p 2v 10.79
v 295 10.81
10.80 est = 11

14

Oct. 26, 1903

9 20

A Aquarii

~~m 2 x~~
~~& m~~est = $9\frac{1}{2}$ l 3 v
v 0 - 1 m
$$\begin{array}{r} 9.52 \\ 9.45 \\ \hline 9.48 \end{array}$$

9 25

Z Aquarii

c' 3 x v
v 3 cest = $9\frac{1}{2}$

9 30

X Ceti

v 2 c
v 4 dest = $8\frac{1}{2}$

9 35

U Ceti

h 3 - v v
v 1 d
$$\begin{array}{r} 9.46 \\ 9.43 \\ \hline 9.44 \end{array}$$
est = $9\frac{1}{2}$

9 50

S Lacertae

Hafen (5) 1 v

v

3

Hafen (6)

K (12) (48)

(36)

(194)

LPP est = 8

Tuesday, Oct. 27, 1903

PM

740

Al Persei

b 1 r

P.R.

(C)

v 3 c

est = 9

var. is a very peculiar dull shade of red which makes it hard to compare.

45

S Ues. Maj.

d 2 r

v 4 c

est = 8

$\begin{array}{r} 77^2 \\ 746 \\ \hline 7.52 \end{array}$

47

T1 Ues. Maj.

f 1 r

v 4.5 c

$\begin{array}{r} 744 \\ 739 \\ \hline 7.42 \end{array}$

est = 8 1/2

50

S Ues. Min

c 3 r

v 0-1 c'

est = 9

P.R.

16

750

Oct. 27, 1903.

V Delphin.

There is a 4th. star near ρ oo
 of var. but from my chart it
 seems to precede the var.
 var. probably still unvis.

TT Cass.

810

f 4 r $\frac{p.57}{p.56}$
 v 1 f $\frac{p.56}{p.56}$ est = 9

S Cass

812

v = h $\frac{10.06}{10.11}$
 v 2-3 m $\frac{10.08}{10.08}$ est = 10 yr

S Ceti

815

f 2 r $\frac{p.72}{p.61}$
 v 1 f $\frac{p.66}{p.66}$ est = 8

820

Oct. 27, 1903,

R Piscium

m 4v

v0-1 0

10.22

0.2510.24

est = 10

25

R Arctis

h 4v

v1 m

10.45

10.1710.31

est = 10 1/2

32

S Persei

f 2v

v 2g

9.27

9.339.30

est = 9

35

o Ceti

p 3v

v1 e

9.12

9.099.10

est = 8 1/2

40

R Ceti

h 3-4v

v1 l

9.77

9.759.76

est = 9 1/2

18

Oct. 27, 1913.

R Lyrae

845

$$\begin{array}{r} 7.40 \\ 7.32 \\ \hline 236 \end{array} \text{ est} = 7$$

Almost bright as for this
class but not distinct
enough in finder.

855

SS Cygni

clouds over near

910

Region perfectly clear.

m 1-2 v

v 3 n

$$\begin{array}{r} 11.05 \\ 11.02 \\ \hline 11.04 \end{array}$$

est = 11

(28) (222) ~~219~~

Wednesday, Oct. 28, 1903

720

S Herculis

M.

g¹r h $\frac{8.19}{8.01}$
 $\frac{8.10}{8.10}$

est = 8 1/2

75

R Urs. Maj.

l³r
v²m

$\frac{9.10}{9.23}$
 $\frac{9.16}{9.16}$

est = 9
low.

30

R Ucc.
For low

R Sagittarii
For new moon.

50

R Delphinus

g¹r h $\frac{8.88}{8.85}$
 $\frac{8.86}{8.86}$

est = 9 1/2

800

S Bootis

d²r $\frac{8.98}{8.92}$
v²e $\frac{8.95}{8.95}$

est = 9 ~~hazy~~ hazy

20

Oct 28, 1903.

R Camelopard

863

$\begin{array}{r} b2v \\ r5c \end{array} \quad \begin{array}{r} 865 \\ 852 \\ \hline 857 \end{array} \quad \text{est} = 7\frac{1}{2}$

TT Herculis

818

$\begin{array}{r} m3v \\ r1n \end{array} \quad \begin{array}{r} 974 \\ 972 \\ \hline 973 \end{array} \quad \text{est} = 10$

R Cygni

13

~~$\begin{array}{r} b3v \\ r1-2k \end{array} \quad \begin{array}{r} 7.82 \\ 7.82 \\ \hline 7.85 \end{array} \quad \text{est} = 7\frac{1}{2} 8$~~

A S Cygni

20

$\begin{array}{r} b3v \\ r2c \end{array} \quad \begin{array}{r} 7.20 \\ 7.05 \\ \hline 7.12 \end{array} \quad \text{est} = 7$

v. very red

Oct. 28, 1903.

830

U Cygni

m. 25

v 20

$$\begin{array}{r} 10.36 \\ 10.29 \\ \hline 10.32 \end{array}$$

est = 11

34

TT Cephei

v = k

v 4 l

$$\begin{array}{r} 8.75 \\ 8.75 \\ \hline 8.75 \end{array}$$

est = 8 1/2

40

S Cephei

C 4 v

v 2 d

$$\begin{array}{r} 8.55 \\ 8.48 \\ \hline 8.52 \end{array}$$

est = 8

v brilliant color.

45

SS Cygni

m 3 v

v 10

$$\begin{array}{r} 11.62 \\ 11.67 \\ \hline 11.64 \end{array}$$

est = 11 1/2

55

v Pegasi

d 4 v

v = d'

est = 9 1/2

Oct. 28, 1983.

S Laculac

Hagen (5) 1 v

h 3 Hagen (6)

est = 8

(28) (250) LPP?

Sunday, Nov. 8, 1903

805

R Aurigae

M.

k₁v

v 3-4 h

10.36

10.33

10.34

est = 10

810

clouds

See up page.

820

R Tauri

c 3 v

v 3-4 d

Finder

est = $6\frac{1}{2}$

825

U Persei

a 4 v

v 1 h

est = 8

v very red & bright

830

V Pegasi

d 4 v

v 1 h

est = $9\frac{1}{2}$

24

Nov. 8, 1903.

S Lacertae

840

Hagen (B) $\frac{4}{v}$
 $v = 0.1$ Hagen (S)
 est = 8

RT Cygni

842

cyv
 $v = 2d \frac{7.7}{\text{est}} = 8$

SS Cygni

845

03v
 ref $\frac{11.97}{12.14}$
 $\frac{12.06}{\text{est}} = 1$

(14) | 264) L.P.P.

Monday, Nov. 9, 1903

6 20

R Hercules

l 3 v

v 2 m

9.76
9.70
9.73

est = 9 1/2
Lorr.

6.30

-7.00

V Sagittae 201520 (21.1902)

Est. of photographic sequence

a 5 b 6

b 5 e

e 3 c

c 6 d

d 3 f

f d 4 g

g 1 h

h 1 f

f 3 k

k 2 l

l 3 m ?

Var. faint, and I am not quite
sure of the star. but think the ident. is
correct

Ident. correct. Nov. 10, 1903.

6 59

h 1 v

h 1 v

v 2 l

est = 12

h 1 v

h + l are rather close

Nov. 9, 1903.

707

R Herculis

p 42

v 19

$$\begin{array}{r} 12.42 \\ 12.32 \\ \hline 12.37 \end{array}$$

est = 12 1/2

720

R Diacronis

q seen

var. perhaps glimpsed but
much fainter than q, and
too uncertain to make estimate

722

T Herc.

h 12

v 36

$$\begin{array}{r} 8.79 \\ 8.64 \\ \hline 8.72 \end{array}$$

est = 9

R Sag.

Too low for obs. without Hagen which
is not in place.

725

RR Sag.

b 12

v 22

Photog. seq.

est = 9

low

Nov. 9, 1903

728 R X Sag.
e 2 v
v 2 dPhotop. exp. Corr.
est = 18

30 R Cygni

h 1 v

v 3-4 k

$$\begin{array}{r} 7.62 \\ 7.68 \\ \hline 7.65 \end{array}$$

est = 8

40 R S Cygni

b 4 v

v 1 c

$$\begin{array}{r} 7.30 \\ 7.15 \\ \hline 7.22 \end{array}$$

est = 7 1/2

45 R Delphinus

h 1 v

v 1 k

$$\begin{array}{r} 9.25 \\ 9.41 \\ \hline 9.33 \end{array}$$

est = 9 1/2

50 U Cygni

m 2 v

v 1 m

$$\begin{array}{r} 10.16 \\ 10.06 \\ \hline 10.11 \end{array}$$

est = 10 1/2

very red.

28

8 05

Nov. 9, 1903,

V Cygni

t 5 r

$$\begin{array}{r} 13.58 \\ 13.42 \\ \hline 13.50 \end{array}$$

v 0-1 u est = 13

8 10

R Vulpec.

p 2 r

$$\begin{array}{r} 10.54 \\ 10.53 \\ \hline 10.54 \end{array}$$

v 1 g est = 10 1/2

8.15

S Aquarii

t 1 r

v 2 x u

$$\begin{array}{r} 11.69 \\ 11.65 \\ \hline 11.67 \end{array}$$

est = 11

8 25

R Aquarii

k 3 r

v 6-1 l

$$\begin{array}{r} 9.24 \\ 9.17 \\ \hline 9.20 \end{array}$$

est = 9

30

Z Aquarii

b 1 r

v 2 c'

est = 9 1/2

Nov. 9, 1903.

840

R Pegasi

$$\begin{array}{r} 10.13 \\ 9.98 \\ \hline 10.06 \end{array} \text{ est} = 10$$

S Pegasi

845

$$\begin{array}{r} 10.30 \\ 10.13 \\ \hline 10.22 \end{array} \text{ est} = 11$$

853

Var. 201520.

(21.1902)

k 3 v
v = l
v 1 l'

See drawing p. 25.

53

TT Cephei

$$\begin{array}{r} 15.2 \\ 16.8 \\ \hline 16.0 \end{array} \text{ est} = 8 \frac{1}{2}$$

900

S Cephei

$$\begin{array}{r} 22.3 \\ 20.5 \\ \hline 21.4 \end{array} \text{ very red} \text{ est} = 9 \frac{1}{2}$$

30

Nov 9, 1983.

902

SS Cygni

012

v1p

11.87

12.04

11.96

est = 12

905

X Ceti

v = c

v-3 d

est = 9

c+d = photog.

915

S Ceti

012

v-3 h

8.81

8.73

8.74

est = 9

920

R Arctus

h 3 v

v-1 e

10.05

10.05

10.02

est = 9

930

R Piscium

012

v-3 p

10.40

10.34

10.37

est = 10 1/2

Nov. 9, 1913

9 35

o Cete

$\delta 2 \checkmark$

$\delta 2 \Sigma$

$$\begin{array}{r} 9.02 \\ 8.99 \\ \hline 9.00 \end{array}$$

est = $9 \frac{1}{2}$

(53)

(317)

#(11)

(59)#

L. P. P.

Tuesday, Nov. 10, 1903

8 50

S Lacertae Seeing faint
Hapm (5) 3 v
v 3 Hapm (6)
est = 8 1/2

8 55

R Camelopard.

b 3 v

v 3-4 c

2.75
8.67
2.71

est = 8 1/2

9 07

Var. 201520.

b 4 v

v 0-1 c

See p. 287

This very faint in the haze sky
No change since last year.

9 10

M Aquarii
var. minor

It barely seen

Nov. 10, 1903,

7 25 S Bootis
 Too poor
 R. Lyncis
 Too cloudy

9 25 S Perseus
 $f = 4v$
 $v = f$ $\frac{9.47}{9.53}$ $\frac{9.50}{9.50}$ est = $9\frac{1}{2}$

9 35 S Ues. Mini
 $a = 4v$
 $v = c$ photog. seg.
 est = $8\frac{1}{2}$

Seeing too poor except for
 stars which are high or
 very bright.

(10/327) L.P.P.

34

Wed. Nov. 11, 1903.

5 25

Z Ophiuchi

a' 3 v
v 2 bsky very clear
triple slit quite strong
est = 8a' selected best phot. exp.
a + b, which ~~are~~ ^{differs} too greatly

5 30

S Hercules

f 4 v

v 0.1 g

$$\begin{array}{r} 2.00 \\ 2.04 \\ \hline 8.02 \end{array}$$

est = 8

6 40

U Hercules

var. nivas. 11.00

seen.

6 45

R Sagittarii

f 1 v

v 4 s

$$\begin{array}{r} 10.52 \\ 10.46 \\ \hline 10.49 \end{array}$$

est = 12

S Sagittarii

var. seen, but the sequence
of ph. stars for R Sag is too
far away

7
8.00

Nov. 11, 1903.
S Sag.

$\alpha 5v$

α is a ft. D.M. star
marked on ~~photo~~, enlarged
D.M.

est = 12

Is there a Hagen for S?

705

R W Sagittarii

b^2v

$v \rightarrow e$

est = 9 ?

708

R X Sag.

Very hazy & indistinct

$\alpha \rightarrow 5v$

$v = d$

est = 10 1/2

715

Z Cygni

$e 3v$

$v 2 e'$

$e = \text{Hagen 6.}$

$e' = \text{Hagen 8.}$

Hagen stars used without sequence
Identified by me

36

Nov. 11, 1903.

7
20

Par. 201520

k 20
22 lset 11 1/2
sky very clear.

23

M Aynani
var. invis.
l seen

35

X Aynani
No trace of the var.
k seen

45

R S Aynilac
var. invis.
k seen
l + m not seen

55

X Aynilac
v = 0 ? Both stars barely
seen. Uncertain

Nov. 11, 1903.

805

V Delphinus

var. nris.

2 ft star south of & seen

15

TT Aquarius

V nris.

12.4

u seen

817

Clouds -

830

all cloudy

(16) (343) L.P.P.

Thursday, Nov. 12, 1903

5 30

R Ophiuchi

$\begin{matrix} 7.3v \\ 7.2g \end{matrix}$ $\begin{matrix} 2.11 \\ 1.98 \\ \hline 0.04 \end{matrix}$ est = 8

Field too busy
very clear and stars sep
very distinctly

5 45

U Serpentis

$\begin{matrix} 7.2v \\ 7.4k \end{matrix}$

est = 9

photog. sep

5 50

S Coronae

$\begin{matrix} 8.4v \\ 8.4v \end{matrix}$ $\begin{matrix} 12.23 \\ \hline \end{matrix}$

est = 12

& not seen

var. seen very clearly

6 00

of Cass

$\begin{matrix} 8.2v \\ 8.1g \end{matrix}$

est = $10\frac{1}{2}$

photog.

Nov. 12, 1953

6 05 TT Androm.
 var. minor 12.7
 W ~~to~~ seen

6 10 R Androm.
 W 3 V $\frac{12.27}{12.28}$
 V 1 Y $\frac{12.28}{12.28}$ est = 13

8 15 var. 201520

k 1 r
 v 2 l est = 11 1/2

~~l 7 a~~
~~l 7 b~~ Photop. sequence.

a 5 b

b 7 c

c 3 c

c 6 d

d 3 g q, h

h 3 k

k 3-4 l

f is too close
 to another star.

Nov. 12, 1903.

8 45

S Cass.

$$\begin{array}{r}
 m_2 r \\
 v_1 n
 \end{array}
 \begin{array}{r}
 10.56 \\
 10.68 \\
 \hline
 10.62
 \end{array}
 \text{est} = 11$$

R Ceti

8 50

$$\begin{array}{r}
 m_2 r \\
 v_2 p
 \end{array}
 \begin{array}{r}
 11.40 \\
 11.33 \\
 \hline
 11.36
 \end{array}
 \text{est} = 11 \frac{1}{2}$$

R Lyncis

9.00

$$\begin{array}{r}
 d_1 r \\
 v_4 - 5 e
 \end{array}
 \begin{array}{r}
 8.12 \\
 8.15 \\
 \hline
 8.14
 \end{array}
 \text{est} = 7 \frac{1}{2}$$

R Ues. Maj.

9 02

$$\begin{array}{r}
 m_4 r \\
 v_0 - i n
 \end{array}
 \begin{array}{r}
 9.83 \\
 9.71 \\
 \hline
 9.77
 \end{array}
 \text{est} = 10 \frac{1}{2}$$

S Ues. Maj.

9 05

$$\begin{array}{r}
 d_4 r \\
 v_1 e
 \end{array}
 \begin{array}{r}
 7.92 \\
 7.76 \\
 \hline
 7.84
 \end{array}
 \text{est} = 8$$

Nov. 12, 1903

907

T. Uls. Mag.

f 3 v

2.64

2.64

v 2 g

2.64

est = 8 1/2

915

S Bootis

C 1 v

2.49

2.32

v 4 d

2.44

est = 8

18

S Cygni

var. viris.

130

p seen

22

SS Cygni

0.3 v

12.07

12.14

v 2 p

12.10

est = 2

30

U Orionis

t 1 v

11.67

11.97

v 2 u

11.82

est = 2

obs. difficult

42

9 50

Nov. 12, 1903

R Lamm
var. minor
u seen13.1

55

S Lamm

var. minor
u seen13.1(29) (372)
L.P.P.

Saturday, Nov 14, 1903

625 S Sagittarii
 (35) Hagen 3 v
 v 1 (89) Hagen
 est = 11

Seeing very happy

30 R Sag.
 h 1 v
 v 3 s

$$\begin{array}{r} 10.52 \\ 10.56 \\ \hline 10.54 \end{array}$$

 est = 10
 Seeing poor

40 ST Sagittarii
 L 4 v
 v = L'
 est = 11

L' is star slightly prec. v

45 Nov 20 15 20
 h 3 v
 v = h
 est = 11 1/2

$$\begin{array}{r} 11.2 \\ \hline \end{array}$$

44

Nov. 14, 1903

820

X Ceti

b-2r

r-1e

est=9

b=photof. ad
c=" " e

830

v Pegasi

f_{2r}
f_{01-1g}

est=10

J Lacertae

835

Hapm (5) 3r

r-1-2 Hapm (6)

est=8

37.

QTT Cygni

v-d

r-3-e

est=8

chart (b)
visual rep.This chart has been used for
some time

Nov. 14, 1903-

8 43

S Ues. Min.

a 1 r

r 3 c

est = $8\frac{1}{2}$

8 45

U Persei

r = b

b 4 c

est = $8\frac{1}{2}$

9 00

R Gem.

n 2 r

r 20

$$\begin{array}{r} 9.48 \\ 945 \\ \hline 9.46 \end{array}$$

est = 10

9 03

U Ceti

p 3⁴ r

r 0-1 g

$$\begin{array}{r} 10.94 \\ 11.00 \\ \hline 10.97 \end{array}$$
est = $10\frac{1}{2}$

9 30

R Cass

n 3 r

r 1 s

$$\begin{array}{r} 11.66 \\ 11.68 \\ \hline 11.67 \end{array}$$

est = 11

46

~~\$84~~
 940

 Nov. 14, 1913
 J. T. Eridani

(phot.) g 2 v

est = $10\frac{1}{2}$
 Field too low to make
 good estimates.

(27) (399) L.P.

Thursday, Nov. 19, 1913

5.15

For cloudy in west & p.m.
early stars.

6.03

— Sagittae 201520. Clear

d 3 v ^{11.3}
v 2 h est = 11

Var. increasing quite rapidly.

6.15

R & S Sagittarii
Cloud over again

For cloudy at present to continue

7.50

— Sagittae 201520

d 3 v
v 1 h ^{11.2} est = 11

48

Nov. 19, 1913.

TT Herculis

800

$$\begin{array}{r} 90-1v \\ v-5h \end{array} \begin{array}{r} 8.44 \\ 8.17 \\ \hline 8.32 \end{array} \text{est} = 9$$

SS Cygni

807

$$\begin{array}{r} d-3v \\ v-1e \end{array} \begin{array}{r} 8.20 \\ 8.25 \\ \hline 8.22 \end{array} \text{est} = 9\frac{1}{2}$$

R Cygni

15

$$\begin{array}{r} h-4v \\ v-1h \end{array} \begin{array}{r} 7.92 \\ 7.93 \\ \hline 7.92 \end{array} \text{est} = 8$$

R Delphini

20

$$\begin{array}{r} h-4v \\ v-m \end{array} \begin{array}{r} 10.21 \\ 10.14 \\ \hline 10.18 \end{array} \text{est} = 10$$

S Ceti

23

$$\begin{array}{r} h-4v \\ v-1h \\ v-2e \end{array} \begin{array}{r} 9.03 \\ 9.29 \\ 9.67 \\ \hline 9.46 \end{array} \text{est} = 9$$

Nov. 19, 1903,

835 R Lyncis

$$\begin{array}{r} \text{c1v} \quad \begin{array}{r} .870 \\ .862 \\ \hline .866 \end{array} \\ \text{v4f} \quad \text{est} = 8\frac{1}{2} \end{array}$$

38 R Arctis

$$\begin{array}{r} \text{g2v} \quad \begin{array}{r} .936 \\ .921 \\ \hline .928 \end{array} \\ \text{v2h} \quad \text{est} = 8\frac{1}{2} \end{array}$$

42 R Piscum

$$\begin{array}{r} \text{p3v} \quad \begin{array}{r} 10.94 \\ 11.02 \\ \hline 10.98 \end{array} \\ \text{v1g} \quad \text{est} = 10\frac{1}{2} \end{array}$$

45 S Pessis

$$\begin{array}{r} \text{g1v} \quad \begin{array}{r} .963 \\ .962 \\ \hline .962 \end{array} \\ \text{v3h} \quad \text{est} = 10 \end{array}$$

50 R Aurigae

$$\begin{array}{r} \text{g2v} \quad \begin{array}{r} .948 \\ .952 \\ \hline .950 \end{array} \\ \text{v2h} \quad \text{est} = 9 \end{array}$$

50

Iron 19, 1903.

9 10

o Ceti

Σ 1 v

9.29

est = 9 $\frac{1}{2}$

R Ceti

9 18

o 4 v

11.60

11.38

81-2 p 11.49 est = 11

9.25

083350 - Vis. Maj.

van mws. a.
hok sleep

TT Cass

30

l 3 v

2.18

2.07

8.12

21 f est = 8

946

R Androm

u 1 v

11.66

11.67

11.66

est = 10 $\frac{1}{2}$

(32) (431)

Friday, Nov. 20, 1903

530

R Hercules

$$\begin{array}{r} \text{Lir} \quad 9.16 \\ \text{v4m} \quad 9.89 \\ \hline \quad \quad 9.02 \end{array} \quad \text{est} = 9\frac{1}{2}?$$

32

S Hercules

$$\begin{array}{r} 9.35 \\ \text{v r h} \quad 9.21 \\ \hline \quad \quad 9.30 \end{array} \quad \text{est} = 8$$

38

U Hercules

$$\begin{array}{r} \text{L4v} \quad 11.28 \\ \text{v-t.} \quad 11.60 \\ \hline \quad \quad 11.44 \end{array} \quad \text{est} = 11$$

Lorr.

45

R Sag.

$$\begin{array}{r} \text{L1v} \quad 10.52 \\ \text{v3s} \quad 10.56 \\ \hline \quad \quad 10.54 \end{array}$$

est = 10

48

S Sag.

35- Hapen 1 v
v 3 Hapen 39

est = 11

Nov. 21, 1903

605

S.T. Sagittarii

v-f
v20e'

est = $11\frac{1}{2}$

obs. difficult
& somewhat uncertain

08

M. Hercules

niv

11.26

v20

11.40

11.33

est = 11

15

M. Aquarii

var. invis.

e seen

X Aquarii

var. invis.

h = 5

k not seen

20

hr.
Oct. 20, 1903.

625 V Pegasi

hr
v 3 h

est = 10

photo. sep.

635 - Scythiae 201520

hr

v 147

est = 11 1/2

800

SS Cygni

hr

v 17

$\frac{9.10}{9.29}$
9.20

est = 9 1/2

810

S Lacertae

Hafu (6) 1 v

v 5 Hafu (11)

Nov.

~~Oct.~~ 20, 1953

815

- Sagittae ~~2027~~ 20520
 h/r 11.6
 v2c est = 11 1/2

18

R Camelops

b4v $\frac{885}{882}$ est = 8
 v2c $\frac{884}{884}$

R S Cygni

20

b43v $\frac{7.20}{7.05}$ est = 7 1/2
 v2c $\frac{7.12}{7.12}$

30

U Cygni

01v $\frac{10.59}{10.52}$
 v3fs $\frac{10.56}{10.56}$ est = 11

33

R Vulpec

k1v $\frac{9.44}{9.34}$
 v2l $\frac{9.39}{9.39}$ est = 10

Nov.
Oct 20, 1903

35

41 Cephei

h 2 v

r 3 b

8.32
8.48
8.40

est = 8 1/2

38

S Cephei

l 1 v

or 4 d

8.25
8.28
8.26

est = 8

50

R Pegasi

p 3 v

or 1 g

10.34
10.49
10.44

est = 10 1/2

55

S Pegasi

l 1 v

or 2 m

9.60
9.52
9.56

est = 10

903

R Aquarii

h 4 v

or 1 c

9.34
9.17
9.26

est = 8 1/2

56

Nov.

~~Oct. 20, 1903~~

9.15

α Draconis
 var. min
 $\phi = 4$

9.22

 μ Orionis

$\begin{array}{r} \text{tr} \\ \text{v-3 u} \end{array} \begin{array}{r} 11.67 \\ 11.87 \\ \hline 11.77 \end{array} \text{est} = 11$
 obs difficult

9.45

 μ Eridani

var. min
 p & m not seen
 h & k seen clearly
 Ident. of l uncertain

X Monoc.

Low Low
 (414) (475)

Tuesday Nov. 24, 1913

Me

520 R & S Sep. So

Sky too bright in moon-light
to see either var.
Moon very near

530 — Sagittae 201520.

k4v
v = b¹

est = 10?

Very very ft. and fairly seen
with high power.
This is undoubtedly an irregular
variable.

35

TT Ursulae

25v

20-1g

A.60
D.34
D.47

est = 8 1/2

Nov. 24, 1903.

540

S Uls. Mag.

$$v = 7$$

$$v - 269 \quad \begin{array}{r} p.70 \\ p.63 \\ \hline p.66 \end{array}$$

est = $9\frac{1}{2}$
Lorr.

542

TT Uls. Mag.

$$v = 9$$

$$v - 78 \quad \begin{array}{r} p.84 \\ p.87 \\ \hline p.86 \end{array}$$

7.45

R. Cygni

$$h + v$$

$$v - 18 \quad \begin{array}{r} 7.92 \\ 7.93 \\ \hline 7.92 \end{array}$$

est = $8\frac{1}{2}$

48

V. Pegasi

$$93v$$

$$v - 28$$

est = $10\frac{1}{2}$

55

S Lacertae

Hafun(5) 5 v

v - 0 - 1 Hafun(6)

Nov. 24, 1903

810

\checkmark Delphinus

No trace of the variable.

γ & δ clearly seen.

15

R. T. Cygni

e z v

v z f

est = $8\frac{1}{2}$

22

S. Uis. Min.

b z v

v i a

est = $8\frac{1}{2}$

& 30

X Ceti

b z v

v z c

b = photog. a
(black letters)

est = 8

35

μ Persei

a 3 v

v 2 b

est = $7\frac{1}{2}$

Nov. 24, 1903.

R Arctis

840

$$e \overset{3}{\cancel{4}} r \quad \begin{array}{r} 2.53 \\ 2.61 \\ \hline 2.57 \end{array} \quad \text{est} = 8$$

910

R Tauri

$$s1r \quad \begin{array}{r} 12.14 \\ 12.26 \\ \hline 12.20 \end{array} \quad \text{est} = 12 \frac{1}{2}$$

S Tauri

15

Lures
 seen 12.1

17

T Androm
 cloud over up

935

SS Cygni

824
 with

$$\begin{array}{r} 9.82 \\ 9.82 \\ \hline 9.85 \end{array}$$

est = 10

(20 (503))

LPP

10.00

cloudy to continue

cloud near but
 reproach

Saturday, Nov. 28, 1903

700

Clouds.

M.

725

- Sagittae 201520.

k 5 r

est = 12

b & l' too indistinct in the
morn. light.

735

S Aquarii

10.4

var. not seen

p seen.

Near morn

745

V Cygni

var. vis.

12.6

s seen

S Ceti

Too near morn

755

S Cass

p 3 r
r 1 q

11.78
11.77
11.78

est = 11

Nov. 28, 1913.

800

U Ceti
 Formar mmm
 van m t seen
 in seen.

838

R Lyncis

$\begin{matrix} 2 \\ e \end{matrix} \begin{matrix} 2.80 \\ 2.82 \\ 2.81 \end{matrix}$ est = 9
 $\begin{matrix} 2 \\ v \end{matrix} \begin{matrix} 2.80 \\ 2.82 \\ 2.81 \end{matrix}$

R Arctis

833

$\begin{matrix} 2.53 \\ 2.61 \\ 2.57 \end{matrix}$ est = 8
 $\begin{matrix} 2.35 \\ 2.17 \end{matrix}$

40

R Gem

van < 0 which is fainter
 comp. star chart.
 Can not find Hagen

Nov. 28, 1903

845 71 Cass.

$$\begin{array}{r} L3V \quad \frac{P.17}{P.07} \\ v1f \quad \frac{P.12}{\underline{P.12}} \end{array} \quad \text{est} = 8\frac{1}{2}$$

915 41 Cassiopeiae
var. Iris.

Hafun 60 seen

Seeing rather poor, especially
for low stars.

(9)/(512) L.P.P.

Friday Dec. 4, 1903

Full moon

715 V Sagittae 20520

$\begin{matrix} h & 3 & v \\ v & 1 & l \end{matrix}$

est = 12

S Lacertae

730 Haphu(11) 1 v

v 3

Haphu(18)

est = 8 1/2?

Z Cygni

740 g 1 v

h 3 h

est = 9 1/2

Campbell's seg.
marked in Haphu

45

SS Cygni

04 v

est = 12 1/2

(2.17)

Dec. 4, 1903

755

R Vulpec.

$$\begin{array}{r}
 f 0-1 r \quad \begin{array}{r} 8.52 \\ 8.37 \\ \hline 8.44 \end{array} \\
 v 4 f \quad \underline{\underline{8.44}} \quad \text{est} = 8\frac{1}{2}
 \end{array}$$

800

S Cephei

$$\begin{array}{r}
 a 4 r \quad \begin{array}{r} 7.80 \\ 5.73 \\ \hline 2.26 \end{array} \\
 v 1 b \quad \underline{\underline{2.26}} \quad \text{est} = 7
 \end{array}$$

This almost impossible to compare the light of this star with any other.

171 Cephei

803

$$\begin{array}{r}
 f 2 r \quad \begin{array}{r} 7.29 \\ 7.92 \\ \hline 7.94 \end{array} \\
 v 2 f \quad \underline{\underline{7.94}} \quad \text{est} = 8
 \end{array}$$

Dec. 4, 1903.

810

R Cygni

h₄r $\frac{7.92}{7.93}$ v₁k $\frac{7.92}{7.92}$ est = 8

812

R 8 Cygni

b₂r $\frac{7.10}{7.05}$ v₂e $\frac{7.08}{7.08}$ est = 7

15

R Cancri

b₅r $\frac{8.95}{8.92}$ v₁e $\frac{8.94}{8.94}$

est = 8

830

171 Can

e₃r $\frac{8.17}{8.07}$ v₁f $\frac{8.12}{8.12}$

est = 8

35

R Antares

 $\frac{8.43}{8.51}$
 $\frac{8.47}{8.47}$ h₂rv₂f

est = 8

Dec. 4, 1903.

845

*R aurigae*9.34
9.32
9.35f 1v
v kh

est = 8 1/2

570

*R Lynx*9.40
9.42
9.47l 2v
v 2f

est = 8 1/2

(27) (539) L.P.

Tuesday, Dec. 8, 1903

5.30 V Sagittae 201520

$$v = \frac{h}{v} = \frac{h}{3 \cdot h} = \frac{11. \times^5}{\underline{\underline{\quad}}}$$

$$\text{ext} = 17\frac{1}{2}$$

Seeing very hazy.
 Above obs. very doubtful
 as on looking at the sky,
 I find that clouds are
~~about~~ everywhere.

(2) (541) L.P.

Friday, Dec. 11, 1903

5 10 Twilight rather strong.

5 10 S Bootis

$$\begin{array}{r} \text{C 1 v} \\ \text{v 4 d} \end{array} \quad \begin{array}{r} \text{P. 169} \\ \text{P. 32} \\ \hline \text{P. 44} \end{array} \text{est} = 8?$$

12 TT Herculis

$$\begin{array}{r} \text{g 4 v} \\ \text{v 0-1 h} \end{array} \quad \begin{array}{r} \text{P. 79} \\ \text{P. 64} \\ \hline \text{P. 72} \end{array} \text{est} = 8\frac{1}{2}$$

20 R Delphini

$$\begin{array}{r} \text{p 2 v} \\ \text{v 1 g} \end{array} \quad \begin{array}{r} \text{11.82} \\ \text{11.74} \\ \hline \text{11.78} \end{array} \text{est} = 11$$

25 W Herculis

$$\begin{array}{r} \text{m } \frac{1}{3} \text{ r} \\ \text{v 3 n} \end{array} \quad \begin{array}{r} \text{10.96} \\ \text{10.26} \\ \hline \text{10.81} \end{array} \text{est} = 10 \quad \begin{array}{r} \text{10.76} \\ \text{10.26} \\ \hline \text{10.81} \end{array}$$

535

71 Agrarici

pair
 10.09
 10.06
10.08 est = 10 1/2

R. Vulpes.

38

812
 80348 $\frac{257}{\frac{242}{250}}$ est = 9 1/2

R Cygni

40

$$\begin{array}{r} \text{kur} \\ \text{r-l} \end{array} \quad \begin{array}{r} \text{N. 43} \\ \text{p. 35} \\ \hline \text{p. 39} \end{array} \quad \text{ext} = 9 \frac{1}{2}$$

45

8 Cyprini
var. vivis
p. glaucopis

52

R 47 Cygni

h_{2v} $est = 10^7 h$
 $v_1 h$

$h = \text{photog. c.}$
 $p = \text{ch.}$

Dec. 11, 1903.

600 X Apraxini
variat last night

Esti of sep.

a b a'

a' 4 b

b 3 c'

(b') b c' 5 c

c 4 d

d 3 e f

f 1-2 e

e 5 g

g 3 h

k not seen

j 10

v 2 L

est = 12

72

Dec. 11, 1953

630

X Apulane

a - d lro layer

a 10 d

d 5 e

~~e 1 e~~~~e 2 b~~

e 1 b

b 1 e

e 4 f

l 4 k

k 6 l

l 1 m

m 3 n

n 4 o

p not seen

m 2 r

r 1 n

ext = 12

although chart is very poor. Pretty sure of ident

Dec. 11, 1913,

640 R Drac
var. vivis.
p flimsy

645 S Aquarii
var. vivis
n seen

800 R Aquarii
h. r $\frac{2.76}{2.70}$
v-3 h $\frac{2.70}{2.70}$ est = 8 1/2

810 Z Aquarii
Seigneur
a 3 a'
a' 5 g (f R Aquarii)

g 4 b

b 3 c

c 3 d

d 5 e ? e is very faint

f, g, h. are not seen

74

825

Dec. 11, 1913.
Z AquariiZ^{1v} 4b. est = 8 1/2?g = comp. star of
R Cygnarii
b = photo comp. star of
Z Aquarii

835 M Cygni chart (a)

$$\begin{array}{r} n1v \quad 10.26 \\ v20 \quad 10.29 \\ \hline \quad 10.28 \end{array} \quad \text{est} = 11$$

37

SS Cygni

$$\begin{array}{r} o3v \quad 12.07 \\ v=fp \quad 12.14 \\ \hline \quad 12.10 \end{array} \quad \text{est} = 12$$

R Pegasi

45

$$\begin{array}{r} 10.99 \\ 10.97 \\ \hline 10.98 \end{array} \quad \begin{array}{l} n1v \\ v23-4 \end{array} \quad \text{est} = 12$$

Dec. 11, 1913.

850 ~~\$~~ S Pegasi
 k1 v $\frac{9.31}{9.30}$
 v2 l $\frac{9.30}{9.30}$ est = 9

R Tauri

53 g2 v $\frac{11.34}{11.46}$
 v2 k $\frac{11.40}{11.40}$ est = 12

55 S Tauri
 var. iris.
 u seen

X Ceti
 Est. of final up
 a5 b
 b7 c
 c3 d
 d4-5 e
~~f d4 f g e7 f~~
~~f+e~~
~~te~~

Dec. 11, 1901

X Ceti
est. of Jb. stars in photog. seq.~~b + f~~ photog. letters used,

g i e

e i f

f b h

h z h

Sub. in final seq. e-f is in layers
& could easily be inserted

920 X Ceti

b 4-5 & v

v 1 c

est = 9

93v

TT Eudam

var. in v

f seen

Seeing very poor

Dec. 11, 1903.

950

X Monoc.

(photog. c) d 3 r

r 2 e (photog. b.) fuel not marked
in black ink

est = $8\frac{1}{2}$ hrs.

1000

ITT Androm.

Still no trace of var.
or seen

(34) (579)

(34) (93)

L.P.P.

*78

Saturday, Dec. 12, 1913

5 45

✓ Pegasi

k 4v

v = l

photo. seq.

est = 11' / 2

5v

M. Aynari

No trace of var

e seen

R S Aquilae

Cloud over again

6 05

✓ Delphini

var. nivic.

X seen

7 40

Too Cloudy

LPO

8 45

"

"

(2) (5-81)

Monday, Dec 14, 1903

735

V Sagittae 201520

k 1 r
v 3 l

est = 12

photo. sep.

40

TT Aquarii

p 3 r

v 1 g

$\frac{10.09}{10.06}$
 $\frac{10.08}{10.08}$

est = 10

Forr.

50

S Ceti

w 2 r

v 20

$\frac{10.69}{10.74}$
 $\frac{10.72}{10.72}$

est = 10

53

TT Cass

h 4 r

v 2 f

$\frac{8.27}{8.17}$
 $\frac{8.22}{8.22}$

est = 8 1/2

Dec. 14, 1903

7 55

R Audum

$$\begin{array}{r} 9.17 \\ 9.40 \\ \hline 9.57 \end{array} \text{ est} = 10 \frac{1}{2}$$

R Pism

X 805

~~42 r~~

$$\begin{array}{r} 11.62 \\ 11.68 \\ \hline 11.65 \end{array} \text{ est} = 11$$

810

R Cass

$$\begin{array}{r} 11.08 \\ 11.06 \\ \hline 11.07 \end{array} \text{ est} = 10 \frac{1}{2}$$

12

R Camelop

$$\begin{array}{r} 9.92 \\ 10.12 \\ \hline 10.02 \end{array} \text{ est} = 9$$

Dec. 14, 1903

R S Cygni

8 21

$$\begin{array}{r} \text{bir} \\ \text{v3c} \end{array} \begin{array}{r} 7.00 \\ 6.95 \\ \hline 6.98 \end{array} \text{est} = 7 \frac{1}{2}$$

23

177 Cephei

$$\begin{array}{r} \text{f. v} \\ \text{v-3-4 f} \end{array} \begin{array}{r} 7.79 \\ 7.23 \\ \hline 7.81 \end{array} \text{est} = 8$$

25

S Cephei

$$\begin{array}{r} \text{a3v} \\ \text{v2b} \end{array} \begin{array}{r} 7.70 \\ 7.63 \\ \hline 7.66 \end{array} \text{est} = 7$$

v is very brilliant and

40

S Cass.

$$\begin{array}{r} \text{q1v} \\ \text{v2v} \end{array} \begin{array}{r} 11.97 \\ 12.08 \\ \hline 12.02 \end{array} \text{est} = 11$$

42

o Ceti

$$\begin{array}{r} \text{f. v} \\ \text{v3e} \end{array} \begin{array}{r} 8.92 \\ 8.29 \\ \hline 8.90 \end{array} \text{est} = 8 \frac{1}{2}$$

Dec. 14, 1903

8 50

R Ceti
var. minor
seen

9 00

R Ceti
t. v. ^{12.54}
u not seenest = $12\frac{1}{2}$

Chart marked by Mr. Rees

R Antares

04

2.09
2.57
2.30

d 3 5

r 2 f

A. 29
2.03
2.86

est = 8

R Aurigae

06

f 4 r
v. f9.22
9.28
9.25est = $8\frac{1}{2}$

Dec. 14, 1903 -

920

U Orionis

$$\begin{array}{r} t_{2v} \\ v_{3u} \end{array} \begin{array}{r} 11.77 \\ 11.87 \\ \hline 11.82 \end{array} \text{ est} = 12$$

23

R Lynceis

$$\begin{array}{r} 8_{2v} \\ v_{2h} \end{array} \begin{array}{r} 9.56 \\ 9.54 \\ \hline 9.55 \end{array} \text{ est} = 9$$

25

R Gemma

$$\begin{array}{r} p_{1v} \\ v_{2g} \end{array} \begin{array}{r} 10.32 \\ 10.56 \\ \hline 10.44 \end{array} \text{ est} = 10 \frac{1}{2}$$

30

S Can. min.

$$\begin{array}{r} g_{1v} \\ v_{2-3h} \end{array} \begin{array}{r} 8.89 \\ 8.62 \\ \hline 8.96 \end{array} \text{ est} = 8 \frac{1}{2}$$

35

R. Cancri

$$\begin{array}{r} g_{1v} \\ v_{2h} \end{array} \begin{array}{r} 7.83 \\ 7.86 \\ \hline 7.84 \end{array} \text{ est} = 8$$

84

Dec. 14, 1903.

✓ Cancer

9 40

var. not seen

s seen

12.9

to glimpsed

R Columbae

9 50

est. of photop. sep.

a 2 b

b 5 b'

b' 4 d

d 3 e

other stars too faint

div
vsc

est. = 9?

~~9 00~~
10 00

Low

Dec. 14, 1903

10 10

x mmre.

c 3 v

v 2 b

photop. seg.

est = 8

16 20

v Can. Min

l, v

v 40

photop. seg.

est = 11

(47) (628)
 (H) (H)
 (H) (97)

L. P. P.

Wednesday, Dec. 16, 1903

7 45

SS Cygni

11.87
11.94
11.90

01v
v2f est = 12

S Persei

48

82v
v1h 9.73
9.82
9.78 est = 9 1/2

50

R Ues. Maj.

22v
v2s

11.68
11.82
11.75

est = 11

Seeing very poor in refm

S Ues. Maj.

50

h1v
v2k

9.32
9.54
9.43

est = 10

Dec. 16, 1903.

177 Mrs. May:

$$\begin{array}{r} b2v \\ v3l \end{array} \begin{array}{r} 10.05 \\ 10.10 \\ \hline 10.08 \end{array}$$
est. $10\frac{1}{2}$

Sung very poor here

8 05 S Mrs. Min.

$$\begin{array}{r} b1v \\ b2d \end{array}$$

est = 8

$$\begin{array}{r} a'4v \\ v2 \text{ } \& \text{ } a \end{array}$$

est = 8

$$\begin{array}{r} a'5a \\ a1b \end{array}$$

b5-6e

c4d'

d'3d

d3e

e1f

f4g

g3h

h troph. to act.

Dec. 16, 1903.

850

f Cass

h 2 r

21 c

est = 11

55 S Laculac

phot. b 2 r

v, b'

est = 10

flaring rapidly

910

TT' Leporis

b 5 c

c 2 a

a 3 d

d 3-4 d'

~~d 4 e~~

d 3 f

f 4 e

e = f
f 4 h

Dec. 16, 1903.

920

TT Leporis

v = 7
v 4 3 e

est = 9?

35

R Loris mi.

k 2 v
v 2-3 l
$$\begin{array}{r} 867 \\ 854 \\ \hline 860 \end{array}$$

est = 8 1/2

40

U Pucci

a 2 v

v 1-2 b est = 8 7/2

vis sep

45

W Cancri

cloud over ref

55

RT Hydral

b 1 v
v 2 e

est = 9?

(24) (6 52)

Handwritten signature and circled numbers: 113, 15, 113.

Thursday, Dec. 17, 1903

600

v Cygni
var. mi.
t seen

132

05

SS Cygni

02v

rip

$\frac{11.97}{12.64}$
12.00

est = 12

610

R. Lami

po-1v

$\frac{20.69}{10.84}$
10.76

v3q

est = $10\frac{1}{2}$

(4) (656)

LPP.

Saturday, Dec. 19, 1913

840

SS Cygni

O 2 r
v 1 p

est = 12

12.00

841-

R Vulpec

f 3 r $\frac{2.77}{2.67}$
v 2 f $\frac{2.67}{2.67}$

est = 8 1/2

30

TT Androm

No trace of the var.

X seen slightly

50

U Orion

t 3 r

v 6 - 1 u

 $\frac{11.47}{12.12}$
12.00

Seeing good

est = 11 1/2

92

Dec. 19, 1913.

R Tauri

9 15

$$\begin{array}{r}
 0 \overset{2}{3} v \\
 v = p \quad \begin{array}{r} 10.46 \\ 10.64 \\ \hline 10.55 \end{array} \text{ est} = 10 \frac{1}{2}
 \end{array}$$

9 31

W Erid.

var. vvar.

phot. f & e seen

h & fainter comp. stars

not seen

(8) (664)

Friday, Jan. 15, 1904

5-45 R Aquarii
v 3 a Funder 5.25
est = 6

5-55 Z Aquarii
f, v
v 3 g f + g = comp. stars
est = 8 for R Aquarii

6-00 S Aquarii
var. vives
s seen

6-10 X Aquarii
a' & v
v 3 b est = $8\frac{1}{2}$ comp.
stars seen clearly

94

740

January 15, 1904.
R Pegasi

$\frac{11.77}{11.86}$ t 1 r
 $\frac{11.82}{11.82}$ v 2 u est = $12\frac{1}{2}$

44

S Pegasi

$\frac{7.99}{7.76}$ C 4 v
 $\frac{7.88}{7.88}$ v 0-1 d est = 8

SS Cygni

50

v=0 $\frac{11.77}{11.86}$
v 3 p $\frac{11.80}{11.80}$ est = 12

R Cygni

800

0 1 v $\frac{9.72}{9.72}$
4 3 p $\frac{9.72}{9.72}$ est = $9\frac{1}{2}$

S Cygni
var. minor
0 seen

12.0

Jan. 15, 1904.

810

U Cygni

f 3 v
v 1 g
$$\begin{array}{r} 2.66 \\ 2.72 \\ \hline 2.69 \end{array}$$
est = $8\frac{1}{2}$
very red.

12

TT Cephei

d 3 v
v 2 e
$$\begin{array}{r} 6.98 \\ 6.92 \\ \hline 6.95 \end{array}$$
finder
est = 7

838

S Cephei

v 2 a 2.20

finder est = 7

b not clearly seen
in finder

The red color is not very
noticeable in the finder, and
the var is certainly brighter
than a

Jan 15, 1904.

835 TT Androm.

$$\begin{array}{r}
 w 2 v \quad 12.78 \\
 v 2 f \quad \frac{12.60}{12.69} \quad \text{est} = 12\frac{1}{2}
 \end{array}$$

38 TT Cass

$$\begin{array}{r}
 e 1 v \quad 7.97 \\
 v 3 f \quad \frac{7.87}{7.92} \quad \text{est} = 8
 \end{array}$$

42 R Androm

$$\begin{array}{r}
 e 4 v \quad 6.80 \\
 v 1 d \quad \frac{6.84}{6.83}
 \end{array}$$

fluid
est = 7

50 o Ceti

$$\begin{array}{r}
 \lambda 3 v \quad \frac{7.58}{7.82} \\
 v 2 \beta \quad \frac{7.20}{7.20}
 \end{array}$$

est = 8

58 R Ceti

var. vivis

g sum 12.1

Jan. 15, 1904

910

U Ceti

var. min.

t seen

12.5

13

R Tauri

v = f

A. 1.6

A. 0.6

v sh

P. 1.1est = $8\frac{1}{2}$

20

S Tauri

var. min.

t seen

12.6

30

R Piscis

u 4 v

v not seen

12.70var. barely visible
est = 1.3

40

R Arctis

f v

f 2 f

P. 2.6P. 2.2est = $8\frac{1}{2}$

45

S Persei

f v

v sh

9.63

9.72

9.68est = $9\frac{1}{2}$

Jan 15, 1904

J Cass.

9 50

12.27

12.28

12.28

954v

1.16

est = 12 1/2

(35) (699)

Monday, Jan 18, 1904

Very cold. Thermom. + ~~4~~⁸

6 v I Hercules
Low Cor.

Thermom + 4°

7.20 R S Cygni

c 3 v $\begin{array}{r} 7.55 \\ 7.31 \end{array}$

v 2 d $\begin{array}{r} 7.43 \\ \hline \end{array}$ est = 7 1/2

24 U Cygni

f 1 v $\begin{array}{r} A.46 \\ A.47 \\ \hline A.46 \end{array}$ est = 8 1/2

very red.

3 v R Vulpec.

v 3 m ? 9.49

Field too low.

45

V Cygni.
var. nres
2 seen

12.2

747

Jun 18, 1904,
SS Cygni0.20
vib est = 12 $\frac{11.97}{12.04}$
12.00

806

S Ceti
var. mris $q=1$

805

R Draconis

var mris 11.1O seen
p perhaps glimpse

815

R Camelopardalis

812
vibh $\frac{10.90}{10.02}$ est = 10
10.96

25

R Aurigae

9.02
9.02
9.05
822
829 est = 9

Jan. 18, 1904

830 U Orion
 $\begin{array}{r} 4v \\ v = t \end{array}$
 $\begin{array}{r} 11.45 \\ 11.54 \\ 11.67 \\ \hline 11.56 \end{array}$
 $\text{est} = 11\frac{1}{2}$

85 R Lyncis
 $\begin{array}{r} 4v \\ v - 1k \end{array}$
 $\begin{array}{r} 10.92 \\ 10.68 \\ \hline 10.80 \end{array}$
 $\text{est} = 10.$

45 R Gem.
 $\begin{array}{r} 4v \\ v - 1k \end{array}$
 $\begin{array}{r} 11.54 \\ 11.56 \\ \hline 11.55 \end{array}$
 $\text{est} = 11\frac{1}{2}$

80 Suspected var. in Gem.
 This is near comp. star! s.
 $\begin{array}{r} 0-1v \\ v \quad 4k \end{array}$

I intended to observe Z Gem. "7. 1903," but got the wrong star, and for much brighter one. A.J.C. Jan. 19, 1904.

53 S Can. Min.
 $\begin{array}{r} 4v \\ v - 1f \end{array}$
 $\text{est} = 8$
 $\begin{array}{r} 11.46 \\ 11.38 \\ \hline 11.42 \end{array}$

9.10

Jan 18, 1904

R Cancri

$$\begin{array}{r} m_2 v \\ r_1 r \end{array} \begin{array}{r} 9.10 \\ 9.12 \\ \hline 9.14 \end{array} \text{est} = 9$$

V Cancri

20

$$\begin{array}{r} m_1 r \\ v_3 - 40 \end{array} \begin{array}{r} 9.71 \\ 9.82 \\ \hline 9.80 \end{array} \text{est} = 9\frac{1}{2}$$

25

S Hydrae

$$\begin{array}{r} d_1 - 2 v \\ v_3 e \end{array} \begin{array}{r} 7.98 \\ 7.95 \\ \hline 7.96 \end{array} \text{est} = 8$$

35

T Hydrae

$$\begin{array}{r} e_2 v \\ r_2 - 3 f \end{array} \begin{array}{r} 8.41 \\ 8.32 \\ \hline 8.36 \end{array} \text{est} = 8\frac{1}{2}$$

R Leonis Min.

40

$$\begin{array}{r} e_3 v \\ v_4 m \end{array} \begin{array}{r} 9.09 \\ 8.99 \\ \hline 9.04 \end{array} \text{est} = 9$$

Jan. 18, 1904

9 + 5 R Lermis

 $v = u$ D. 98 $v - 4w$ $\frac{P. 74}{P. 86}$ $est = 9 \frac{1}{2}$ v quite redThermometer $+1^\circ$

(34) (733) L. P. P.

Tuesday, Jan. 19, 1904

~~6~~ 550

V Pefase
van not seen
e seen
Sciprey porr.

610

5 Lacclae
Hay (43) 4 v
v-1 Hayen (50)
Seeing a little hay
est = 12

740

Thermon + 5°
Z Gem.
Seeing to porr to see this
star or its stars near Hayen
317 is the only one of the
group seen

Jan. 19, 1908.

805

R. Ues. May.

s 4 v
v 1 t
$$\begin{array}{r} 12.42 \\ 12.43 \\ \hline 12.42 \end{array}$$
est = $12\frac{1}{2}$

v + t. barely seen

10

S Ues. May.

n 3 v
o not seen

est = 12

11.38

12

T Ues. May.

n a r. m r s.

o seen

11.8

15

R Cass

for

v o - f est = 7

$$\begin{array}{r} 6.76 \\ 6.65 \\ \hline 6.70 \end{array}$$
X Cygn
Zoolw

Jan. 19, 1904

825

SS Cygni

0 3 v

v0-1 p

$$\begin{array}{r} 12.67 \\ 12.09 \\ \hline 12.08 \end{array}$$

est = 12

32

U Psc

0 1 v

v 4 d

est = 9

Chart ~~(C)~~ marked Final

33

R Lyr

h0-1 v

v-5 k

est = 9 1/2

Chart marked Final

45

X Ceti

h1 v

v 4 l

Photog. sequence.

est = 12

Seems hazy

Jan. 19, 1904

907

X Minore.

Photog.
sej. $\alpha^2 2 v$ $v 3 a$

est = 8

Seeing extremely blurry

930

TT Leporis

 $h 3 v$ $v 4 k$

est = 11?

Field always so close that
star is diff. to observe

45

V Can. Min.

var. iris or if vis, I

can not separate it from
m.

o seen

L.D.

(19) (752)

Monday, Jan. 25, 1904

M

810

SS Cygni

11.97

0 2 v
p not seen est 12 1/2

15. M Erid.

Var. vici

My have seen

h + k seen

m n, m, p, not seen

40 R. Columbae

var. vici

e + f surely seen

Field hazy.

43

X Munc.

d² 2 v

v 2-3 a

est 8 1/2

Jan. 25, 1904

8 55 RT Hydrae

C1V
v4.5eest = $8\frac{1}{2}$

9 03 S Ues. Min

v = b

v 2a

est = 8

9 25 - Ues. Mag. 0.83350

Var. vres.

8 seen

(7)(752) L.P.P.

110

Wednesday, Jan. 27, 190X

6 40

S S Cygni

m0.2 r
f not seen11.87

50

X Cygni

Too low.

L seen. but fainter stars
are invisible.

7.00

RT Cygni

var. iris.

phot. L seen

7.10

S Laculac

var. not seen

Hagen 26 seen

15

X Ceti

var. iris

phot. L seen

It is no use trying for
faint stars to make

Jan. 27, 1904

730

TT Cass

d5v

7.74

v1e

7.77

7.76est = $7\frac{1}{2}$

35

R Arctis

k2v

9.95

v1e

9.959.95

est = 9

20

S Persei

H f1v

9.63

v2h

9.729.68est = $9\frac{1}{2}$

R Tauri

45

p0-1v

P.21

v4h

P.16P.18

est = 8

Very near moon, but stars
seen clearly

112

Jan. 27, 1904

9 20

S Can. Min

$$\begin{array}{r} p.26 \\ p.26 \\ \hline p.26 \end{array}$$

l 27

v 27

est = 8

25

R Canori

$$\begin{array}{r} 9.10 \\ 9.09 \\ \hline 9.06 \end{array}$$

m 27

v 2-3

9.10

9.09

9.06

est = 9

28

V Canori

m 3 v

9.64

9.51

r 1 m

9.51

9.51

est = 8 1/2

35

S Hydrae

d 4 v

p.13

p.20

p.11

v 0-1 e

est = 8

37

T Hydrae

d 4-5 v

p.26

p.11

p.11

v 1 e

est = 8

Jan. 27, 1904

(19)(77A)
L. P. P.

Wednesday, Feb. 3, 1904

6 45

S Lacertae

(50) Hagen 5 v
v = Hagen (63)

est = 12 1/2

R Pegasi

7 00

var. not seen

S seen

S. N

11.4

S Pegasi

7 03

alt v

v 3 e

A. 01
7. 88
794

est = 8

7 10

SS Cygni

01 N

11.9

Gild hayy

7 15

Clouds in west & south

Feb. 3, 1904

725 X Ceti photog. l.
 L 4 v
 fainter Jt. comp. stars not seen
 est. = 12

order
 E
 H
 K

735 ^{TP} ~~W~~ Eridani
 very hard to observe as the
 field is so low above.

95 v photog. sep.
 250-1 L est. = 10 $\frac{1}{2}$

745 W Eridani
 L seen
 no or var. suspected. These
 two are so close together that
 I can not tell to-night which is
 Jumbani

Feb. 3, 1904

Morning

8 00

TT Androm.

p 4 v

v = 9

11.30

11.24

11.27

est = 12

8 15

TT Cass

d 5 v

v 0-1 e

7.74

7.82

7.78

est = 8

1 8

R Arctis

k 3 v

v = l

10.05

10.05

10.05

est = 9

R Lamm

~~g 4 v~~

22

g 1 v

v 3 h

2.26

2.26

2.26

est = 8 1/2

32

S Lamm

k 1 v

v 3-4 s

11.76

11.69

11.72~~11.66~~

est = 12

Feb. 3, 1904,

840

U Orionis

10.76 2 2 v

11.17

10.96

0 4 t

est = 10 1/2

is too far off.

845

R Lyncis

0 2 v

0 3 p

11.69
11.52
11.64

est = 11 1/2

Sky bright with moonlight
mos.

(21) (799) L.P.P.

Thursday, Feb. 4, 1904

00

U Persei

Cold & windy

d 3 r

r 2 e

est = 9

d & e marked in

Hagen,

6 05

R Cygni

10.32
10.43
10.38

p 3 r
r 1 g

est = 11

tidy light strong

08

R S Cygni

c 4 r

v 1 d

7.65
7.41
7.53

est = 8 1/2

15

SS Cygni

0 3 r

r 0-1 f

est = 12

12.07
12.09
12.08

Feb. 4, 1904

6 18

U Cygni

e 40 $\begin{array}{r} 2.17 \\ 2.31 \\ \hline 2.24 \end{array}$ $\begin{array}{l} \checkmark \\ \checkmark \end{array}$ ext = 8 1/2

6 30

S Cygni

var. iris.
0 seen

35

S Cephei

a 30 $\begin{array}{r} 7.70 \\ 7.63 \\ \hline 7.66 \end{array}$ $\begin{array}{l} \checkmark \\ \checkmark \end{array}$ Finder
r 2 b

(12) (211) L.P.P.

Monday, Feb 8, 1904

655

S S Cygni

03 v

v6-1p

12.07
12.09
12.08

est = 12

703.

R Cygni

var. mins.

q seen

TT Androm

705

03 v

v1p

10.99
10.80
10.90

est = 10 p

R Tauri

10

80-1 v

73 h

11.21
11.26
11.24

12

S Tauri

91 v

73 h

11.24
11.36
11.30

est 11

Feb. 8, 1904

8730

U Orionis

21 v

10.66

v4 s

$$\frac{10.65}{10.66}$$

est = 11

35

71 Cass

d 5 v

$$\frac{7.74}{7.72}$$

v6 - 1 e

est = 7 1/2

40

S Cass

123 v

12.58

s not seen

est = 12

50

R Piscum

var. vivis

u seen

805

S Pusei

$$\frac{10.02}{10.48}$$

10.25

h1 v

v2 k

est = 9 1/2

Feb. 8, 1904.

8 15

I Eridani

842

v 2 h

photoz. sep.

est. = 10 1/2

Field too, but the
var. is distinctly seen.

8 20

W. Erid.

Star seen in pos of var.
may be "m", but I think
it is the var. since I
have so often obs. the field
and not seen m.

h 4 (star observed)

Feb. 8, 1904

830

R Gem.

$$\begin{array}{r} t1v \\ v4m \end{array} \begin{array}{r} 12.18 \\ 12.11 \\ \hline 12.14 \end{array} \text{ est} = 12\frac{1}{2}$$

40

Z Gem.

var: not seen.

Hagen 37 & 44 seen

Make better chart.

42

S Can Min.

$$\begin{array}{r} d4v \\ v0-1e \end{array} \begin{array}{r} 2.69 \\ 2.06 \\ \hline \end{array} \text{ est} = 8$$

45

R Cancer

$$\begin{array}{r} 9.65 \\ 9.63 \\ \hline 9.64 \end{array} \begin{array}{l} 01v \\ 23f \end{array}$$

$$\begin{array}{l} rgnite ud. \\ \text{est} = 10 \end{array}$$

124

Feb 8, 1904,

V Cancer

8 55

v-l

9.14

8.94

9.04

v 4m

est = 9

R Tauri

9 00

k 3 v

v 1 l

Final

est = 9 1/2

RT Leforis

9 05

~~k 3 v~~

k 3 v

l not seen

est = 10 1/2

9 15

X Monoc.

a 2 v

v 3 c

est = 8 1/2

Feb 8, 1904

RTT Hydrae

C. 1. v

v. 4e

est = 9 1/2

W Cancer

Am not sure of ident.

Aft. star is seen marks
of run but I am doubtful
of its being W-It is 3 frakes fainter than
photo, comp. star L

35 S Hydrae

C. 1. v

v. 3f

$$\begin{array}{r} P. 35 \\ P. 26 \\ \hline P. 30 \end{array}$$

est = 8

45

TT Hydrae

d. 1. v

v. 3. 4e

$$\begin{array}{r} P. 01 \\ P. 86 \\ \hline P. 94 \end{array}$$

est = 8

930
not the run
A. J. C.

126

950

Feb. 8, 1904

R Amysae

$$\begin{array}{r}
 e2v \\
 v2f \\
 \hline
 \begin{array}{r}
 0.36 \\
 1.62 \\
 \hline
 1.98
 \end{array}
 \end{array}
 \text{est} = f$$

(38) - (2449)

Tuesday, Feb. 9, 1904

+5°

8 05

SS Cygni

var. not seen

0 glimpes

01 N

15

R Loris min.

235

$\begin{array}{r} 966 \\ 949 \\ \hline 958 \end{array}$

v1.0

est = 10 1/2

R Loris

20

~~425~~
~~401~~

415

$\begin{array}{r} 978 \\ 944 \\ \hline 961 \end{array}$

v2 y

est = 9 1/2
Seeing blurring

35

R Ues. May.

t4r

$\begin{array}{r} 12.95 \\ 13.12 \\ \hline 13.04 \end{array}$

v1.0

est = 13

Feb. 9, 1904

845 S Urs. May

h 4 v
v 0-1 0
$$\begin{array}{r} 11.48 \\ 11.53 \\ \hline 11.50 \end{array}$$

ext = 12 1/2

850

T Urs. May

var. iris.

R seen

900

R Comae

var. iris.

R seen

905

R Can. Venet.

var. not seen

p seen

Can not find Hagen

915

S Bootis

h 2 v

v 1 k

$$\begin{array}{r} 10.80 \\ 11.02 \\ \hline 10.91 \end{array}$$

ext = 10

Feb. 9, 1904

8925

R Camactp
var. vms
h seen

38

R Diacornis

m 2 v	10.36	
	10.46	
r 1 n	<u>10.41</u>	est = 10

(12) (261)

Wednesday, Feb 10, 1904

710

o Ceti
l 3 v
v 1 m

14.13
4.03
4.08

Eyes

740

88 Cygni

~~72~~ o 3 v
v 2 p

12.07
12.14
12.10

est = 12

45

V Cygni.

Too low to see ft. stars

n 4 n

50

R Ceti

m 1 v

10.32
10.15
10.24

v 4.5 n

est = 10 1/2

500

M Ceti

o 2 v
v 1 p

10.50
10.44
10.47

est = 10

Feb. 10, 1904.

810

X Ceti

l 2 v

est = 11 1/2

Can not see n + o

m 1 l

830

R Eridani

b 4 v

a 5 d e

c 3 d

d 3 e'

e' 3 f

f 3 e

e 2-3 g

g 3 h

h 3 k

k 2 l

l 3 v

Ident. still uncertain as star
when p r may be in

132

Feb. 10, 1904

835

S Laculac

var. not seen

Lorr,

Hagen 50 hauls seen

845

M Cass.

var. nris.

L seen

L is bet. k & b

marked on Hagen

850

X Monre.

a 2 r

r 2-3

c

phot. seq.

est = 8

910

W Canis Min

var. nris.

L seen

p may be plump in

Feb. 10, 1904

083350

~~Can~~ - Mrs. May

9 20

 $v = g$ $r = 3h$

est = 10

9 50

R Bootis

Shield to Loo

var. certainly. families
than m.

(14) (875)

Led, Plot. Poted to here. 04, 2, 15

Thursday, Feb. 11, 1904

7.30 o Ceti

$\frac{4.03}{4.04}$
4.06

h 2 v

80-1 m

est = 4?

(2) (877)

Wednesday, Feb, 17, 1904

7 30

Dome ice-bound

very windy.

7 40

SS Cygni

#

f 2 v

$\frac{9.59}{9.52}$
 $\frac{9.56}{9.52}$

v 1 g

est = 9 ?

Low

7 00

o Ceti

h 4-5 v

v 1 k

$\frac{3.40}{3.46}$
 $\frac{3.43}{3.46}$

eye

Made at 231 Huron Ave

7 45

R Ceti

k 3 v

v 1 l

$\frac{9.72}{9.65}$
 $\frac{9.68}{9.65}$

est = 9' 12

4 8

U Ceti

v = m

v 3 n

$\frac{9.76}{9.73}$
 $\frac{9.74}{9.73}$

est 10

Feb. 17, 1904.

Mr. E. C. Ham

8.00

Star seen near pos. 7 var.
is probably m. It is distinctly
seen and no other star is
near.

l 4 m

var. minor.

8.05

Mr. Andromedae

21 v

v 3 g

est = 10

8.15

Mr. Andromedae

l 3 v

v 6 - 1 m

$$\begin{array}{r} 10.34 \\ 10.20 \\ \hline 10.27 \end{array}$$

est = 10 1/2

Feb. 17, 1904.

820

R Arctis

$$\begin{array}{r} w3v \\ r10 \end{array} \begin{array}{r} 11.06 \\ 11.05 \\ \hline 11.06 \end{array} \text{est} = 10\frac{1}{2}$$

23

R Lauri

$$\begin{array}{r} k1v \\ v4l \end{array} \begin{array}{r} 8.87 \\ 8.86 \\ \hline 8.87 \end{array}$$

est = 9 1/2

30

S Lauri

$$\begin{array}{r} p3v \\ v=g \end{array} \begin{array}{r} 10.94 \\ 11.14 \\ \hline 11.04 \end{array} \text{est} = 11$$

35

R Traupali

~~l'v~~

$$\begin{array}{r} l1v \\ v4l' \end{array}$$

 est = 10
 Sep. marked
 on Hafeu

138

850

Feb. 17, 1904

R Aurigae

d 3 v

2.02

2.06

2.04

v 1 e

est = 8

53

U Orini

g 3 r

10.48

10.51

10.50

v 0 - 1 r

est = 10 1/2

900

X Monoc.

C 2 v

v 2 b

est = 8 1/2

915

U Persei

X e 1 v

v 4 - 5 f

est = 10

920

RT. Hydrae

phot. exp.

d 3 v

v 2 c

est = 8 1/2

Feb. 17, 1904

930 R Cancri

$$\begin{array}{r} p1v \\ v3q \end{array} \begin{array}{r} 10.03 \\ 9.91 \\ \hline 9.97 \end{array} \text{est} = 10 \frac{1}{2}$$

V Cancri

$$\begin{array}{r} 934 \\ h1v \\ v3k \end{array} \begin{array}{r} 8.95 \\ 8.53 \\ \hline 8.74 \end{array} \text{est} = 8$$

37 T Virg

$$\begin{array}{r} 9.36 \\ 9.36 \\ \hline 9.36 \end{array} \begin{array}{r} h1v \\ v2-3k \end{array} \text{est} = 9 \frac{1}{2} \text{ corr.}$$

40 R Virg

$$\begin{array}{r} d3v \\ v2e \end{array} \begin{array}{r} 7.17 \\ 6.49 \\ \hline 7.03 \end{array} \text{Finder} \\ \text{est} = 6 \frac{1}{2}$$

140

Feb 17, 1904

9 50

Y Virg.

93 hr

100-1. h

$$\begin{array}{r} 9.49 \\ 9.41 \\ \hline 9.45 \end{array}$$

late = 8 1/2

hour

1005

M Virg.

var. minor.

S. N.

$$\underline{11.6}$$

Thermometer +12°
and windy.

(41)(918)

L.P.P.

Saturday, Feb. 20, 1904

735

SS Cygni

11.20
11.22
11.21

m 3 v

r 1 u

est = 11?

Lorr.

S Lacertae

750

Hagen (50) 4 v

v 2 Hagen (63)

Field low & seeing bad
but stars certainly seen
by jets and tails.

800

R Gem

t 3 v

v 1 u

12.30
12.41
12.40

est = 12 1/2

805

Z Gem

No trace of this star. Hagen 37 & 4
and 40 all seen. Comp. star or
very close sky

142

807

Feb. 20, 1904

W Eridani

No trace of the var

h ⁴ m

m 3 n

815

J Eridani

d 4 r

v 1 g

phot. sep
est = $8\frac{1}{2}$

Low

820

Jussae
- Can. May.

083350.

f 3 r

v 3 g

est = $9\frac{1}{2}$

825

o Ceti

h 5 r

v 0-1 k

$$\begin{array}{r} 3.45 \\ 3.51 \\ \hline 3.48 \end{array}$$

eye

Low

Feb 20, 1904

828

S Hydrae

e 3 v

A. 55

P. 36

v 2 f

P. 46

est = 8 1/2

35

TT Hydrae

d 3 v

P. 21

7.91

v 3 e

P. 06

est = 8

S Cephei

50

a 5 v

7.90

7.74

v 0 - 1 b

7.84

Fainter

est = 7

5

R Leonis min

p 3 v

10.28

10.31

v 2 g

10.30

est = 10 1/2

90V

R Mr. Maj,
u 3 R

144

9 15

Feb. 20, 1904.

S. Urs. Maj.

$$\begin{array}{r}
 n 4v \\
 v 10
 \end{array}
 \begin{array}{r}
 11.48 \\
 11.48 \\
 \hline
 11.48
 \end{array}
 \text{est} = 11\frac{1}{2}$$

17

S Bootes

$$\begin{array}{r}
 L 3v \\
 v 2m
 \end{array}
 \begin{array}{r}
 11.87 \\
 11.84 \\
 \hline
 11.86
 \end{array}
 \text{est} = 11\frac{1}{2}$$

22

R Draconis

$$\begin{array}{r}
 h 3v \\
 v 1-2 k
 \end{array}
 \begin{array}{r}
 9.36 \\
 9.25 \\
 \hline
 9.30
 \end{array}
 \text{est} = 10$$

30

R Can. Ven.

$$\begin{array}{r}
 q 4v \\
 v 1/2
 \end{array}
 \begin{array}{r}
 11.58 \\
 11.59 \\
 \hline
 11.58
 \end{array}
 \text{est} = 11.3$$

450

R Lermis

$$\begin{array}{r}
 y 1v \\
 L 2v \\
 v 2y
 \end{array}
 \begin{array}{r}
 9.78 \\
 9.44 \\
 \hline
 9.61
 \end{array}
 \text{est} = 9\frac{1}{2}$$

(32) (950)

Thursday, Feb. 25, 1904

7 30

o Ceti

m

h 2-3 v

$\begin{array}{r} 3.20 \\ 3.26 \\ \hline 2.23 \end{array}$

v 3 h

near moon

SS Cygni

too low.

- Urs. May.

083350

35

f 2 v

v 5 g

est = 10?

Seems very hazy.

50

TP Androm.

e 3 v

$\begin{array}{r} 10.34 \\ 10.15 \\ \hline 10.24 \end{array}$

v 1 m

est = 10 1/2

very hazy.

52

TP Cass

e 4 v

$\begin{array}{r} 8.27 \\ 8.12 \\ \hline 8.20 \end{array}$

v 0-1 f

est = 8 1/2

146

Feb 25, 1904

U Cass

820

var. min.

k 5 11

830

M Audum

S 1 v

v 3 z

est = 9

23 y

one of these stars has been
 susp. of var. by Hapn.
 probably z, as it is
 reddish

832

S Can. Min.

d 2 v

v 3 e

$$\begin{array}{r} 7.90 \\ 7.76 \\ \hline 7.83 \end{array}$$

est = 7 1/2

Feb. 25, 1904

845 R Cancr

pvr

$$\begin{array}{r} 10.03 \\ 896 \\ \hline 10.50 \end{array}$$

v 2-3 g est = 10 1/2

v Cancr

48

f 3 v

$$\begin{array}{r} 253 \\ 246 \\ \hline 7 \end{array}$$

v 2 g

est = 8

(6) (66) L. P. P.

148

Wednesday, March 2, 1904 AM

6 50

o Ceti

Eye

h 3 v

v 3 h

3.25

3.26

3.26

est 3 1/2

7 15

TT Erid.

v = e

field very hazy

7 25

N Eridani

not seen

h is the faintest comp star
seen. Very hazy.

These stars in Eridani
are getting too low

S Lacertan
too low

March 2, 1904

7 30

T Cass

242 ^{2.27}

vif ^{2.04}
2.17

Seeing very poor

Clouds -

8 10

Low cloudy to continue

(5) 670 L.P.P.

150

Friday, March 4, 1904

7 10

R Cygnus

var. not seen

m + n seen low

7 10

S S Cygnus

var. not seen

n seen

U Cygnus

Low low

7 15

o Ceti

85 r

b-b-1 h

$$\begin{array}{r} 3.34 \\ 2.90 \\ \hline 3.14 \end{array}$$

7 25

IT Andromeda

82 r

21 h

$$\begin{array}{r} 9.49 \\ 9.36 \\ \hline 9.42 \end{array}$$

est = 9

March 4, 1904

R TT auri

730

m 2 v

v 1-2

$$\begin{array}{r} 9.22 \\ 9.63 \\ \hline 9.76 \end{array}$$

9 1/2

S TT auri

33

q 1 v

v 3 2

$$\begin{array}{r} 11.24 \\ 11.36 \\ \hline 11.30 \end{array}$$

est = 10 1/2

40

S Cass

var. moos

L seen

45

R Aries

12.32

v 1 v

L not seen

5557

M Androm

$$\begin{array}{r} 83 v \\ v 345 \end{array}$$

est = 8 1/2

March 4, 1904

W Audin
comp. star
2 3-4 5

7 50 R Aurigae
v 2 d 7.52 est = 7 7/8
c not touch at

8.00 U Orionis
p 4 v
v 0-1 g $\frac{10.06}{10.13}$ $\frac{10.10}{10.10}$ est = 10

X Monre.

803 a 0-1 v
v 4 c est = 8

March 4, 1904

- Mrs. May 083350

825 f2r
 r5g est = 10

3v S Hydrae
 g1r $\frac{9.01}{9.22}$
 r2h $\frac{9.12}{9.12}$ est = 9

32 T Hydrae
 d4r $\frac{9.31}{9.11}$
 r1e $\frac{9.21}{9.21}$ est = 8

35 R Lomis mui.
 p3r $\frac{10.28}{10.46}$
 r0-1g $\frac{9.64}{10.46}$ est = 10
 r3r

38 R Lomis
 r1r $\frac{9.74}{9.44}$
 r2g $\frac{9.60}{9.60}$ est = 9

March 4, 1904.

8850

R Ues. May.

 u, R

915

Z Gem.

No trace of ~~var~~ ^{last} in
pos. marked from
photog. Haper 37
44 & 46 seen.

R Gem.

917

 $v = u$ $v - 3 \text{ ~~var~~ } = v$

$$\begin{array}{r} 12.51 \\ 12.52 \\ \hline 12.52 \end{array}$$

est = 13

920

S Can. Min

 $d - 2.7$ $v - 1.2$

$$\begin{array}{r} 2.90 \\ 2.96 \\ \hline 2.93 \end{array}$$

est = 8

March 4, 1904,

R.T. Hydrus

Moon
quite bright
mor.

925

a' 3 v

v 3 b

Star brighter than

used.

(33)(1004) L. P. P.

Tuesday, March. 8, 1904

7 15

o Ceti

h r r

r o k

3.15
3.26
3.20

r is lower than the comp. star

7 40

088350. - Mrs. May.

f. r

r. g. f.

86-79

est = 9 1/2

50

o Cancr

e r r

r 2-3 f

800
798
799

est = 7 1/2

55

R Cancr

r = 9

r 4 r

10.21
10.18
10.20

est = 10 3/2

March 8, 1904

800

RTT Hydrae

a' 2 v

v 4 b

est = 8

815

S Uls. Maj.

h 3 v

10.04

10.04

10.04

v 6 - 1 l

est = 10

20

TT Uls. Maj.

var. vivis

12.8

x seen

23

R Draconis

g 4 v

496

496

496

v 1 h

est = 9

840

March 8, 1904.

3 Cephei

$$\begin{array}{r} a \ 3 \ r \quad 7.76 \\ v \ 2 \ b \quad 7.63 \\ \hline \quad \quad 7.66 \end{array} \quad \text{Hinder}$$
In telescope; var. certainly $> a$. $r \ 3 \ a \quad 7.10$

845

U Persei

$$\begin{array}{l} f \ 1 \ r \\ b \ 2 \ g \end{array}$$
Hobson Hagen
notationext = $10 \frac{1}{2}$

48

R Trianguli

 $r \ 2 \ m$ $v \ 3 \ n$ Hagen notation
ext = 11

March 8, 1904

90

W Cancer

Star appears in pos. frer.
as given in photog. ^{to} change

h 3 v

k not seen

photog. seg

915

R Lynx

p 4 v $\begin{array}{r} 12.20 \\ 12.42 \\ \hline 12.35 \end{array}$ $\text{est} \approx 12 \frac{1}{2}$
 v = g

18

S Bootis

m 3 v

v 1 m

 $\begin{array}{r} 12.34 \\ 12.40 \\ \hline 12.37 \end{array}$

est = 11

160

March 8, 1904

R Bootis

$v = h$ $\begin{array}{r} 9.24 \\ 9.33 \\ \hline 9.28 \end{array}$ $ext = 10$
 $v = 3-4 m$

R Comae

var. minor

to seen

12.6

RTS Virg

h. v.
v-3 dphot. sep.
ext = 8.5

var. reddish

Z Bootis

var. minor

IT Virg
 h. v.
 v. k

9.56
 9.51
 $\hline 9.54$

ext = 10

March 8, 1904

9.55

J. V. rif.

$$\begin{array}{r} \text{L. V. V.} \\ \text{r 2 m} \end{array} \begin{array}{r} 10.19 \\ 10.14 \\ \hline 10.16 \end{array}$$

L. V. = 18

(35) (1039) L. P. P.

162

Wednesday, Feb. 9, 1904

700

R Citi

Cloudy

05

Clouds everywhere

50

Too cloudy for work

Thursday March 10¹⁰ 1904

650 o Ceti Eye

h 1 r
v 3 k

3.05
3.26
3.16

705 R Ceti

h 1 r
v 3-4 k

2.07
2.07

est = 9

U Ceti
Too low

720 X Ceti

d 4 r

photop. sep

25 v 2 e

est = 10

JS Leporis

var not seen

& seen

field low

164

March 10, 1904

7 30

W Audron

K ⁵ 2

50-1

γ

est = 8 1/2

23 γ

U Cass

var not seen

Hais e + f of Campbell's

sep. seen.

Field very hazy

and no ft. Hais seen

7 35

Seeing too poor.

8 00

Clouds

9

Clouds

(A 11047)

L. P. P.

Saturday, March ¹²~~11~~, 1904

6 50 δ o Ceti
 h 3 v $\begin{matrix} 3.25 \\ 3.36 \\ \hline 3.80 \end{matrix}$ Eye
 r 2 k Low.

7 15 Clouds

45 δ Can. h. m.
 e 2 v $\begin{matrix} 8.26 \\ 8.18 \\ \hline 8.22 \end{matrix}$
 r 3 f

55 δ Puppis
 No trace of the var.
 m 4 δ

δ Cancer
 A star appears in right place
 for var. but am not sure of ident.
 as I think it has been seen before &
 same brightness as var.

March 12, 1904

W Cancri

810 The star now is of bet. g & h

g 5 (v?)

(v?) 1 h

est = 12

15 RTT Hydrae

a 5 v

v 0-1 a'

est = 7 1/2

18

X Monve

a 3 v

v 2 c

phot. sep
est = 8 1/2

25

Sms - Min

a 4 v

v 0-1 c

est = 8 1/2

March 12, 1904

32

R Camelop
m: N

33

R Virg.

h 32

v: k

$$\begin{array}{r} 9.50 \\ 9.48 \\ 9.49 \end{array}$$

est = 8 1/2

40

U Virg.

h 32

v: 10

$$\begin{array}{r} 9.50 \\ 10.03 \\ 9.92 \end{array}$$
est = 10 1/2
hazy.

Probably many
stars sp
observed
Sep. 183.

2.05 R Can Ven

~~h~~

p: v

v: 39

$$\begin{array}{r} 10.55 \\ 10.88 \\ 10.72 \end{array}$$
est = 9 1/2
rapid rotation

08

R Corvi

p: v

v: 14

$$\begin{array}{r} 9.96 \\ 9.92 \\ 9.94 \end{array}$$

into 9? Lord

168

Incl. 12, 1904

9 25

V Virg.
var. minor

0 seen

0 1 N11.1

9 35

U Gem.

Lrv

v 1-2 g

est = $10^{11/2}$

9 50

S Virg.

var. minor

t, N11.6

(22) (1069)

L. P. P.

Wednesday, Feb. 16, 1904

725 W Cancri

var. probably minor
star in position of var. on photop.
chart is still seen, but as
it does not change much
it can not be W.

This star is about one grade
brighter than h.

35 X Ceti

X 3 v

v 1 e

photop. e

X is star near e.
est = 10 ? Lorr.

W Androm.

40

~~X~~ X 1 v
v 3 X

est = 8 1/2

170

March 16, 1904,
very windy

750

X Monoc.
a 3 v
v 1-2 c

est g
u d d e t

RTT Hydriae

800

a' 2 v
v 4 a''

a 5 a'

a' 5-6 a''

a'' 5 d

d 1 b

b 3 c

c 3 c'

c' 4 e

e 2 f h

~~e 3~~ f 1 g

h 3 g

This star does
not change much
so only a few
of these stars
are needed

March 16, 1904

818

R Cancri

est = 11

g 1 v

10.31

10.18

v 4 r

10.24

s is 72

s 3 r

12

V Cancri

e 2 v

808

793

v 3 f

796

est = 8

25

T Hydrae

d 5 v

8.416

8.52

v 0 - 1 e

8.446

8.20

est = 8 1/2

28

S Hydrae

h 2 v

9.67

v 1 k

9.72

9.70

est = 10

March 16, 1904.

845

of Hydrae

var. very red est = 7
 In Finder $\beta 1 \gamma$
 $\gamma - \beta . 7$

Sequence marked on (b)
 This is the same as

$\alpha 1 \gamma$
 $\gamma - 3 \beta$ as marked on (a)

900

S Orionis

$\alpha 4 \gamma$
 $\gamma - 2 d$

est = $8\frac{1}{2}$
 red

10

TT Can Min

$m 1 \gamma$
 $\gamma - 2 m$

est = 11

ft. star prob. var. seen
 with my telescope

March 16, 1904

940 M Gem.

var. not seen

$m \approx \frac{3}{2} \underline{N}$

945 M Can. Min.

var. iris

to seen

$k \approx \underline{N}$

55 R S Virg

g, v

w, z, h

phot. sep.

est. 10

(24)(1093) L.P.P.

174

Thursday, March 17, 1904

650 o Ceti

$$\begin{array}{r} h\ 4v \\ v = k \end{array} \quad \begin{array}{r} 3.35 \\ 3.56 \\ \hline 3.46 \end{array}$$

var. to low var
for good estimates

720 R Androm.

$$\begin{array}{r} v = d \\ v = 5e \end{array} \quad \begin{array}{r} 6.94 \\ 6.85 \\ \hline 6.90 \end{array}$$

est = 7

S Androm.
Low var.

735 R Cass.

$$\begin{array}{r} f\ 3v \\ v\ 3g \end{array} \quad \begin{array}{r} 6.56 \\ 6.40 \\ \hline 6.48 \end{array}$$

est = $\times 6\frac{1}{2}$

110

$$\begin{array}{r} \text{W Cass} \\ f\ 3v \\ v\ 1g \end{array} \quad \begin{array}{r} 8.47 \\ 8.46 \\ \hline 8.46 \end{array}$$

v may red & hard to compare

March 17, 1904

T Cass.

Sub. but d & e seems
very large to right

e & d

d & e

8 00 S Pincus

very faint

Can not find Hayes.

8 05 Y Cass

var. minor

k & N

08 R Lani

p & r

v & g $\frac{10.84}{10.04}$ $\frac{10.94}{10.04}$ etc ||

176

March 17, 1904.

8 10

S Lani

$$\begin{array}{r} 9 \ 2 \ v \\ 2 \ 1 \ v \end{array}$$

$$\begin{array}{r} 11.34 \\ 11.56 \\ \hline 11.45 \end{array}$$
est = $11\frac{1}{2}$

R Persei

8 20

m 2 v

v 1-2 m

est = ~~$11\frac{1}{2}$~~ 11

U Orionis

8 23

p 1 v

$$\begin{array}{r} 9.76 \\ 9.78 \\ \hline 9.77 \end{array}$$

est = 10

R Leonis Min.

8 33

z 2 v

v 1 z

$$\begin{array}{r} 11.14 \\ 11.48 \\ \hline 11.31 \end{array}$$

est = 11

848

Mach 17, 1904

R Leonis

$1037 \quad \begin{array}{r} 9.44 \\ 9.52 \\ \hline 9.51 \end{array}$
 $1038 \quad \text{est} = 9\frac{1}{2}$

R Aurigae

43

$103 \text{ cl} \quad \begin{array}{r} 7.42 \\ \hline \end{array} \text{est} = 8$

C of chart

45

R Lyncis

$103 \quad \underline{\underline{N}}$

50

R Gem.

$104 \quad \underline{\underline{N}}$

$152 \quad Z \text{ Gem}$
 Auris.

Hagen 37 & 49 not seen
 Decius poor for the stars

178

March 17, 1904.

900

S Can Min

$$\begin{array}{r} e3r \\ 017 \end{array} \begin{array}{r} f.36 \\ f.38 \\ f.37 \end{array} \text{est} = 8\frac{1}{2}$$

Seeing now hazy.

915

V Coronae

$$\begin{array}{r} b3r \\ r2c \end{array} \quad \underline{26}$$

Am not sure of ident of c
as there is a group of stars

18



c . . .

R Virg.

$$\begin{array}{r} m01r \\ r3n \end{array}$$

$$\begin{array}{r} 939 \\ 932 \\ 936 \end{array}$$

$$\text{est} = 10$$

very hazy

March 17, 1904

(27) (1120) LSP

180

Wednesday, Feb. 23, 1904

7 20

M. Andromedae

$$\begin{array}{r} 34v \\ v-2H \end{array}$$

7 25

S. Perseus

$$\begin{array}{r} k3v \\ v=l \end{array}$$

$$\begin{array}{r} 10.9A \\ 11.33 \\ \hline 11.16 \end{array}$$
est = $10\frac{1}{2}$

8 5

S. Urs. Min.

c'5 v

d'3 v

v3 d

est. $9\frac{1}{2}$

b'4 b

b3 a

8 5

R. Lyncis

l'3 v

v2 (Hagen 29)

est = $11\frac{1}{2}$

Seeing poor

March 23, 1904.

7.46 Clouds

8.10 X Monoc.

a 5 v

v = c

Still cloudy nearly
est = 9

15 R^T Hydrae

a 2 v

v 4 a'

est = 8

18 U Orionis

v = m

v 3 m

APP
P. 70
P. 79

est = 9 1/2

23 Clouds again forming

March 23, 1904.

825

S Can. Min.

$\begin{array}{r} 8.26 \\ 8.18 \\ \hline 8.22 \end{array}$
 Clear in upper
 v3f est = $8\frac{1}{2}$

30

S Urs. Maj.

~~2539~~
 $\begin{array}{r} 9.13 \\ 9.12 \\ \hline 9.12 \end{array}$
 v3r
 v1h est = 9

.40

T Urs. Maj.

$\begin{array}{r} 12.25 \\ \hline 12.58 \end{array}$
 v2r
 not seen
 est = 12

T Virg.

~~8.25~~ $\begin{array}{r} 9.91 \\ 10.06 \\ \hline 9.98 \end{array}$
 v3r
 v=l. est = $9\frac{1}{2}$

900

March 23, 1904.

902

Y Virg

l 3 v

10.29

10.29

v 0-1 m

10.29

est = 10 1/2

05

R Virg

m 3 v

9.64

9.57

v 0-1 m

9.60

est = 10

U Virg

L 4 v

11.92

11.75

v = t

11.84

915

Obs. of Mch 12 probably wrong,
as I think I obs. comp star
p for var.

p = 0

184

March 23, 1904

918 R Can. Ven.

$$\begin{array}{r}
 + \quad 00-1 \quad 10.22 \\
 \quad \quad \quad 10.94 \\
 \quad \quad \quad \hline
 \quad \quad \quad 10.13 \quad \text{est} = 10 \frac{1}{2}
 \end{array}$$

925 R Bortis

Low cloudy.

more or less troubled by
cloud all the evening.

(80)/(1150) L. P. V.

Thursday, March 24, 1904

7 50 T Orionis M
 e 4 r
 v 1 f est = $8\frac{1}{2}$
 mm very near.

8 05 S Orionis
 c 1 r
 v 4 d v very red
 est = ~~7~~ 8

15 R Cass
 h 1 r $\frac{7.27}{7.15}$ est = $7\frac{1}{2}$?
 v 3-4 k $\frac{7.21}{7.21}$ very low in fog.

20 S. Cephei
 v 2 k $\frac{7.20}{7.20}$ in telescope
 I can not see the stars in
 finder to right v very red & bright

March 24, 1904.

835

R Cancri

q 3 v
v 12

10.51
10.48
10.50

near noon

est = 11

38

V Cancri

f v

2.33
2.36
2.34

v 3 g

est = 8

40

S Hydrae

k 2 v

10.02
10.13
10.10

r 12

est = 10

TT Hydrae

2

e 2 v

2.41
2.42
2.42

v 1-2 f

est = 9

43

48

R Urs. Maj.

Var. min.

2 seen

March 24, 1904.

R Draconis

855

h1 v $\frac{916}{210}$
v3 h $\frac{913}{210}$

est = $8\frac{1}{2}$

90V

R Comae

var. vivis

seen

10

U. Puppis

var. vivis

Hagen

l, m, & n seen

20

U. Ues. May

Shy not clear enough

var not seen

seen

p glimpsed

March 24, 1904.

9 25

R Corvi

83v

br 2h

$$\begin{array}{r} 9.32 \\ 9.14 \\ \hline 9.23 \end{array}$$
est = 8
Low.

R Bootis

28

e1v

r3f

$$\begin{array}{r} 7.98 \\ 7.94 \\ \hline 7.96 \end{array}$$

est = 8 1/2

32

U Virginis

t 1-2 v ~~2.00~~11.90

u not seen

40

- Urs. May, 083350

e1v

v4f

~~est = 9 1/2~~

est = 8 1/2

March 24, 1804

46 9 50

2 Boobies

var. not seen

1 seen

L.P.P.

(24) (1174)

Tuesday, Mch. 29, 1904

M

805 H Orionis

h 2 v

v 2-3 m

$\begin{array}{r} 8.47 \\ 8.60 \\ \hline 8.53 \end{array}$

est = 9?

R. Arctis
Zoo loc.

810

T Cass.

g 1 v

h 3 h

$\begin{array}{r} 8.66 \\ 8.68 \\ \hline 8.67 \end{array}$

est = 9 1/2

very hazy.

12

X Monoc.

d² 4 v

v 1 a

est = 8

15

R T Hydrae

a 1 v

v 4 a'

est = 8

Feb. 29, 1904.

820 R. Lermis

L 12

8.95
8.78
8.86

est = $8\frac{1}{2}$

V 2 u

v very red

25 R. Cam. Ven.

W 3 v $\frac{10.07}{10.12}$
V 0 - 1 0 10.10

est = $10\frac{1}{2}$

seeing very poor

(12)

~~(11.86)~~

L.P.P.

Tuesday, Mich. 30, 1904
M

8 35

S Urs. Min.

c' 3 v

v 1 d'

v 4 d

photog. d. is barely seen in
 the bright moonlight.

b' 4 b

b 3 a

38

S Coronae

e 2 v 7.16 est = 7

S Urs. Maj.

45

8 1 v

8 3 h

$$\begin{array}{r} A. 93 \\ P. 92 \\ \hline 7.92 \\ \hline \end{array}$$

est = 9

Mich. 3rd, 1904

9 07

R. Draconis

h 3 r

vo-1 k

9.36
9.35
9.36

est = 9 1/2

12

clouds -

(2) (1194)

L. J. D.

Monday, April 4, 1904

7 15

Mr Androm.

$\alpha 2 v$

$v 2-3 f$

est = $7\frac{1}{2}$

20

A T¹ Cass.

$\delta 1 v$
 $r 3 h$

$\begin{array}{r} 8.66 \\ 8.68 \\ \hline 8.67 \end{array}$

est = 9

R. Lauer

30

$v = r$

$\begin{array}{r} 11.66 \\ 11.74 \\ \hline 11.70 \end{array}$

est = 11

$v 3 s$

S. Lauer

31

$g 4 v$

$\begin{array}{r} 11.54 \\ 11.61 \\ \hline 11.58 \end{array}$

est = 11

$r 6-1 r$

April 4, 1904

7-35 U Orionis
 b 3 v
 v 3 l

804
7.97
8.00

est = 8
~~very~~ red.

8-5 TT Orionis
 e 3 v
 v 0-1 f

est = 9 1/2

50 S Orionis
 b 3 v
 v 1 e

est = 8 1/2

8-10 U Puppis
 No trace of the var.
 l, m, & n seen exactly

15 S Aes. Maj.

f 3 v
 v 1 f

800
8.73
8.76

est = 8 1/2

196

April 4, 1904

815

T Uls. hay

g 3v

v-22

$$\begin{array}{r} 12.56 \\ 12.18 \\ \hline 12.37 \end{array}$$

est = 11

830

R Uls.

t 4v

v = 11

$$\begin{array}{r} 13.52 \\ 13.50 \\ \hline 13.51 \end{array}$$

est = 13

very clear

S Persei

32

k 3v

v-1 l

$$\begin{array}{r} 10.98 \\ 11.28 \\ \hline 11.13 \end{array}$$

est = 10 p

40

R Gem.

w-3 v?

12.12

This star may be comp
star γ , which is very near
var. but from Hagen it seems
in position or var

April 4, 1954

850 Z Gem

var. not seen unless it
corresponds with Hagen 44

57 X Monoc.

a² 3v

v 1 a

est = 8 1/2

58 RTT Hy drae

a 4v

v 1 a'

est = 8

- Vis. Maj. 083350

photog. sep.

a 5 b

b 4 c

c 3 c

c 2 d

c 2 f

f 1 d

c & d are in
a cluster &
hard to est

198

April 4, 1904

910

083300. - Vis. Mag.

e3v

v1c

est = 9

TT Virg.

15

h2v

v2m

10.26

10.42

10.384est = 10 $\frac{1}{2}$

R Com

20

h2v

v1c

9.58

9.76

9.67

est = 9

30

Y Virg.

n3v

v1-10

11.12

~~10.9~~

11.02

11.07

est = 11

33

R Virg.

h2v

v2-3qf

10.41

10.34

10.38

est = 10

April 4, 1954

9 48 U Virg.

21 vt

11.29

11.22

11.26

832

est = ~~10~~ 11

45 RT Virg.

650

vid

est = 8

55 Z Bootis

var. invis.

l seen

(41) - (1235) L.P.P.

Tuesday, April 5, 1904

7 03

S Can. min.

$$\begin{array}{r} v = 7 \quad p.48 \\ v - 3 \quad p.49 \\ \hline \quad \quad p.48 \end{array}$$

est = 8

R Loris

07

$$\begin{array}{r} q \ 3 \ v \quad p.51 \\ v - 0 - 12 \quad p.36 \\ \hline \quad \quad p.40 \end{array}$$

est = 8 1/2

R Cass.

12

$$\begin{array}{r} h \ 3 \ v \quad 7.47 \\ v - 1 - k \quad 7.40 \\ \hline \quad \quad 7.44 \end{array}$$

est = 8

low.

S Cephei

15

v - 2 a 7.20 telescope

can not see stars
in field

April 5, 1904

TP Orion

7 30

e 50

v 1 ~~4~~

est = 9

Search for one of Wolf's stars in Orion
49, 1903.

Star seen that appears to be in
position of Wolf's chart.

Dim.

very rough drawing

S 1 r

v 2 z

est = $10 \frac{1}{2}$

8 00

I think the
var. was
observed. The
position seems to
agree with that
of variables on photop.
plate A. April 15, 1904

Probably not the var.
which is likely nearer the
Dim star. I can not tell about
Wolf's chart. (11) (1246)
217.6

Sunday April 10, 1904

7 20

I Can. Min.

m 2 v

l 1 v

v 4 n

est = 11

note. Cii. 74.

7 30

N Can. Min

var. vivis

ft star N. f. var. seen

35

49. 1903 0 Minis

DM^{-4°12'16"}
1 3 v

v 3 5

est = 10

April 10, 1949

38

J Orionis

 $e \approx 5$ $v = f$ $est = 9 \frac{1}{2}$

Comp. star k barely seen

45 R Pucci

 $v = g$ $v = h$ $est = 10 \frac{1}{2}$

(10) (1256) L.P.P.

Monday, April 11, 1904

Cloud low in west so that
I can not get some early stars

15 5 Can. Min

$v = 9 \frac{2.79}{2.23}$ est = $9 \frac{1}{2}$
quite red

30

R Trianguli

var. not seen
m (with notation) seen

m = Hagen 29

35

T' Orionis

≈ 4.5 v

$v = 7$

$v = 5-6$ g

est = 10

April 11, 1904

40

49.1903 Orion

DM -4° 12' 6" 42

v 2 δ See drawing
p. 207

Seeing somewhat hazy.

S Orion

50

h 12

v 3 e

est = 8 1/2

55

M Persei

h 12

est = 12

v 3 h

k 2 h

80

Pencil notation on Hagen

v Cancer

f 12
v 38p. 33
p. 36
p. 34

est = 8 1/2

April 11, 1904.

8 10

R Cancr

Clouds formed before obs. could
be made.

14

R Cancr

13 v

v 1 t

$$\begin{array}{r} 11.08 \\ 11.05 \\ \hline 11.06 \end{array}$$

est = 11 1/2

16

Clouds

30

"

40

Clouds and no prospect
of breaking.

(15) (1271) L.P.

Tuesday, April 12, 1904

7 20 TT Orionis
 fir
 249 est = 10 pc?

22 49.1883 Orionis

DM - 4° 12' 16" 20

20 3 5

20 Searched for some of the ft. stars
 in or near the Orion nebula,
 but can not see any of
 them from the photog. chart.
 They are probably below the
 limit of this glass

April 12, 1904.

7 40

w Andromedae

$$\begin{array}{r} \lambda 3 v \\ v 1 \beta \end{array}$$
est = $7\frac{1}{2}$

42

R Lani

g 4 v

$$\begin{array}{r} 11.54 \\ 11.54 \\ \hline 11.55 \end{array}$$

est = 12

w 1 r

Low

45

S Lani

v = r

$$\begin{array}{r} 11.66 \\ 11.54 \\ \hline 11.60 \end{array}$$

est = 12

v 5 e

Low

50

U Omnis

f 2 v

$$\begin{array}{r} 6.82 \\ 6.84 \\ \hline 6.83 \end{array}$$

w 2 g

est = $7\frac{1}{2}$

April 12, 1800

R Ues. Maj.

53
 55 v $\begin{array}{r} 1303 \\ 13.12 \\ \hline 13.00 \end{array}$ est = 13
 v = u

803 S Ues. Maj.

f 3 v $\begin{array}{r} 8.20 \\ 8.73 \\ \hline 8.76 \end{array}$ est = 8 1/2
 v = g

805 IT Ues. Maj.

$\begin{array}{r} 12.26 \\ 11.90 \\ \hline 12.12 \end{array}$ v = g ~~12.26~~ est = 11
 v = u

15 R Comae

var. var.

t seen

210

April 12, 1904.

8 23

U Puppis

No trace of var

l, m, or seen easily &
 stars at least $\frac{1}{2}$ mag fainter
 than m

30

S Hydrae

$$\begin{array}{r}
 m \ 3 \ v \quad 10.96 \\
 \quad \quad 10.94 \\
 \hline
 v \ 1 \ m \quad 10.95 \text{ --- } \text{est} = 11
 \end{array}$$

32

T Hydrae

$$\begin{array}{r}
 v = l \quad 9.65 \\
 \quad \quad 9.61 \\
 \hline
 v \ 3 \ m \quad 9.63 \text{ --- } \text{est} = 10 \frac{1}{2}
 \end{array}$$

4U

S Virg.

var. invis.

t seen

April 12, 1904

R Can. Ven.

888

l 2 r $\begin{array}{r} 9.39 \\ 9.49 \\ \hline 9.44 \end{array}$

v 1 m

est = 9

n 2 m

900

S Bootis

var. invis.

O seen

03

R Camelopard

grr

brh

 $\begin{array}{r} 11.00 \\ 11.12 \\ \hline 11.06 \end{array}$

est = 9 1/2

07

R Bootis

c 5 r

 $\begin{array}{r} 7.40 \\ 7.43 \\ \hline 7.42 \end{array}$

est = 7 1/2

v 4-5 e

d of char -

var. bluish in color.

212

April 12, 1904.

S coronae

est = 7

910

e 5 v $\frac{7.46}{6.98}$ v 4 f $\frac{7.22}{7.22}$

f f chart

15

S Serpentis

var. inv.

e seen

18

R Herculis

var. inv.

q seen

r glimpsed

20

U Herculis

 $\frac{9.16}{9.14}$
 $\frac{9.15}{9.15}$

0 2 v

v 1 - 2 p

est = 10

April 12, 1904

935

- Mus. Maj 083350

f & 1v
v 3g

photog. seq.
ext = 10

40

R Lermis Min

t 1v $\frac{12.13}{12.04}$
v 3-4 u $\frac{12.08}{12.08}$

ext = 12

43

R Diaconis

k 3-4v $\frac{9.85}{9.80}$
v = l $\frac{9.78}{9.78}$

ext = 9 1/2

50

S Herculis

var. iris

seen

52

X Monro
v-a
v-e

Photog. seq.
ext = 8
hor

214

April 12, 1904

(40) (1311) L.P. P.

Wednesday, April 13, 1954

7 35

Mercury seen low down in west.
In atmosphere it looks copper
colored.

8 00

RT Car-

h2 v $\frac{9.18}{9.26}$
vrb $\frac{9.22}{9.26}$ est = 9 1/2

U Cars.

Low. Can not see var.
or be sure of identification

RT Hydrae

a5 v
v2 a' est = 8

216

April 13, 1904

830

RT Vng.

$$\begin{array}{c} \& b1v \\ v3c \end{array}$$

est = 8

photog. sep.

35

RS Vng.

$$\begin{array}{c} l3v \\ v1n \end{array}$$
photog. sep.
m2l

est = 11

900

R Vng

(R) $\frac{10.79}{g2v}$

est = 10 1/2

Hafu not in place

05

In Hercules

$$\begin{array}{r} 11.06 \\ 11.11 \\ \hline 11.08 \end{array}$$

m4v

v0-1n

est = 10

April 13, 1904.

9.05

S Ues. Min

d or

v0 - 1 e

est = 10

18

U Serpente

v = ~~A~~ e

photog. exp.

~~v - v - v 5 m~~

est = 10

20

S Cygni

var. iris.

p seen

25

U Cygni

v = e

7.77

7.76

7.76

v 4 f

est = 8

40

V Cygni

n 3 v

10.75

10.60

10.72

v 20

L m

218

April 13, 1904,

Action starts in leafy form to leave.

9 50

R. H. Liehne

var. novis.

photog. e seen
(19) (13 30)

1903phae.proj..783C