480397 6.76 485 295 426 6.39 0.262

444 329

1593 +5.45 455 038 715 33 626

+150.045

Supp

-8th 10 int (0.15)

-105

-111

-111 ±3.9

6.2740

-0076±4.1

48.612 89.4 -0076 5932 88.5

468

49.080 6.53

6.15

-0076 -110

-0075 -1083

14.425

34444

38.10 Lading 3.81 6.95

-2.93 +1555

-111

-106

0.98

-138

48.874

-0065 106

-112 -108

-11

6418 -7464

-7664 -6655

875

+3

878

123 -106

-128

106

0.98

0.73

0.63

1555

0061

0.45

0.47

48.491

+24

.520

43.06

58.20

-4

54.09

-138

648 672-497 453 1 Egyem

44379 6 16.4 ~23 36 120

23.3724

648 672

9395 4753

3973 8748

0764

0031

+067

(C817)

027 073

-0081±89 -060 ± 23

30.556 85.0 -0022
158
,714

-0014

-064
-07 47.77 55.2
329
49.48

28.352
2.265
30.617
620
18
638

34.23

-0024-068
-00245-064

8.10
38.18
46.28
1.13
47.41
+24
47.17

33.15

30.634
+15
649

47.53
+13
47.40

-00205 -0730
-00209 -0736
-00210
-00203
-0304

A065 237 26 6 333 +07 20

+270114 357 −1092 0770 m. Fm = 2.135

−00057 −0964 9340 −5440 004 −1000

−00082 −0954 +0.75 6.90

−00045 −0942 0277 7.15

2.81 8.65

−006.6 −054.6 300

6.90 0.406 190 430 2.608 1.8 2.

312 349 312 349 4583 −8556

400 310 350 +48 −004 −8884 −5127

The ~~[illegible]~~ ~~[illegible]~~ now lengthened one orbital period (116.1 yrs) since discovery and although ~~[illegible]~~ orbits have been computed, that by Rabe (W. 1948 A.N. 276, 265) best represents the current observations with $a = 0.855$.

+0011 ±53 -095 ±5.5

18499 2.0 +0003 -1101 9.42 94.5

-08

~~4.35~~

+0007 -103 5.27

24.69

+0046 -1018

15.455

+30

19.455

17.65 59.52

-5

17.63

16 Lyn 4 54.0 +45 10 -9 e

2585 4.89 +0.03 +0.06 A2 V -015 -0056 (-0)

-020 -0046 C

509 HD 0216 -0049 011163 11012878 -020 -0054

-019 -005

E(b-y) 0.10

8371 -9773 0216

9415 2120 0214

0003

972 -233 707 707 -019 -005 -9 -004 -6.3 -018

018 004 004 001 081 038 -6.3 +1.5 -6.1 008

+12 -1 -8

+6.9 -3.6 -7.6 015

-6.1 -0.8 -8.9

+5.0 -4.4 -7.1 023

-6.8 -0.9 -6.9

+61 +9.14 18.6 16.4 1+R 2744 /30

20 38 35.1 77.7 11.7 -45 06

-025 17.4 1.66 864 974 1.31 2.882

OUP mp

A A Supp 23 413

4.85 -02 5.00 +0.01

-0287 -0954 +p

+4.36

-029 -104 GC

-023 -088 V

-024 -100

-0277

-0020-096

-024-096

Am. 101

SC 1 ~ 04

-024 -093

-020 -096

P=0.92

PASP 73,410

Wilde -2 to +12 +bid

-13-9 (3)

Bogue

Bogue Degre

-0841 -0965 -2783 -9569

0981 0070

-1.5

+9 1875

3.04

+1.3

-1.6

3.00

-022-013

7.2
-45.100
-31.000
-93.000
3.850
59.53
0.000
38.51
1.4
-0.333
0.915
0.229
-368.596
-21.705
22.02 -15
-0.329
0.114
-0.937
-16.237
-0.956 01
10.36
0.883
0.388
-0.263
-262.591
-15.469 10
75.10

+62034 7 36 52.0 -39 11 18 1000 III

-3403481 -115 1915 189 3.55

GC0341 2582 662 1.11

-8.3 9843 -1970 96 934 -1977 0757

-1460 -9804 -2011 -802 0041

-0005 -076 1044 +1.33

-006 -076 7238 36.01 -39 18 12.0 0204

+0525 3.46

-0013 -078 Shny

NGC2451 -00125 -077 +0531

-0145 -011 -075 76

+0005 ± 3.4 +026 ± 3.1
+0008 +023

65429 7 58.0 +61 08 6.7 dF3 -20.06

5325

10846 58.278 1891.9 +61 7 56.98 1885.0

-029 -1.69

.249 55.29

-0002 +026

-001 +026

4023 -3060 | 026 48.46 9.595 58.45 2.10 .245 .2227 58.26 58.260 .304

-4155 +9520

2644

-0494 -0360

F-N5

571 286 +037

43.8

4.05 +80 19.8 -2.15

02.6 2.50 5802 2.08 55.22 56.21 56.54 -9 56.25

1926.7

7136 35.7 50.7

1944.96

56.48 +1.19

ESI

R.A.

A91

R.A. :	8.000
DEC. :	61.150
R.A. :	0.000
DEC. :	0.000
STANCE :	0.000
ODULUS :	10
. VEL. :	0.000
q1 (U) :	-0.494
q2 (U) :	-0.399
q3 (U) :	0.772
dU :	0.000
U :	0.000
q1 (V) :	-0.202
q2 (V) :	0.917
q3 (V) :	0.345
dV :	0.000
V :	0.000

G5 III

68077 8 09.9 +56 36 5.9 gG9 +7.1 6

5440

1115-8

23

-0018 -043 N30

-0020±2.0 -036±1.8 GC → N30

3200

-071.7 -032.8

F1K5

E

A10 -0419

5850 -8405

0343

-0005

3393 FRS ⓛ

8 27.3 -80 45 +227.4 ②

11625

754.6+211.9

72522

-0613±2.5 +215±2.5 +215

22.455 983 -0642 6.06 98.4 +215

3.164 ~~0613~~ 217

25.624 0618 -11.04

17.15

21.022 45.49 1.80

28 -4

050 1.84

-0622 +215

-06264 +2167

22.960 40.56 8.22 8.45

+75 +13 -80.75

23.035 8.04

1510

-147 +219

-919

4447 -5087 JUN

0255 8613 0255

21.480 52.24 5.08 +219

+348 -10

22.020 5.18 5.0

22.228 127.4

1633

+0453

+24.5 0274

2.41

3407 +5 0000 ±4.9 +015 ±3.5
-0014 +009

73155 8 33.2 -49 46 4.9 180 +4.4a

5650 1.248 1.03b 352 0.460 Lapse 8766 -6048 0302
4012 7564 -3

11783 12.031 1909.4 -49 46 16.27 1901.9
-72
6
16.99

47.4
.5
0
2
23
474
7060
12.010
-5
005

&(45-48) 2031.4

+0005 +018 0c →
-0009 +012 nw
0 +015

16.64 1938.62
-2
16.66

38.0

-591 +805 +044
-109 -025 -553
+798 +552 -103
(R) 0.042
E(bm) 0044
V_0 = 11.559
-10
549

395.4
11.977
-054

-012.5 015.4
FNS (F)

117
58
+.41

9489
47.4
45.5

0 +0564
0 -0018
0 +0417

+0.2
-4.4
+0.5

16.23 1956.27
-28
16.51

-0005 ± 106 -250 ± 8.7
-0003 -288

+074582 8 43.0 -42 27 +5.0 ± 1.1 5.10

12062 32 43 7.20 +0.74 65 Z

-002 -256 1+

57.501 1901.5 -42 26 52.62 1595.9

RT 240 9

024
.525

14.03
38.59

0272
0274

3.844
53.665
57.509
518
514

15 9 Cmlhp

+0104 -290

20.27 1527.52
2553
45.82
13
55
46.9
46.53

075

+004.4 -290.0

9876-1565 0290-5996

5865 0313 290
1637 -9995 005

10 20

758 -653 -676 737 -002 -286 +5.0 193 -3.4 -1.000

002 -146 001 -126 606 -687 +3.7 -2.4 +2.8 04

+12.7 -14.4 -28.4

-24.9 -8.6 22.0

05

+9.7 -11.1 -23.4

-14.9 -4.9 -17.6

25422
-802500
6012183

8 44.8 -8 16 A6 +26 1418
348

6.43 130 143 824 2504
232 748

8 47 14.24 -8 27 2.6

7276 0707
-6860 -9975

0548
-0042
-0.4
0216
332

-0027

000-0060

-0288

7246 0568 060
-6842 -9484 -0568

+0004 ±64

14.244 00.4 +0001

-0003

-020

227

44968

24.255

42223

1

222

+5

227

13.142

242.57

4165

+00007 -062

-00018 -0624

-064 ±64

-067

-058

2.55 44.7

3.02

54.53

48.67

-13.30

1.97

.16

2.13

+.15

1.98

38268

.13283

9

314

258

260

3417

1.060

13.142

14.202

-.6

.196

+19

215

29.08

-32.08

.116

-.98

2.14

+32

1.84

158

7Tuma = HR. ~~2789~~ 4831

P = 104.7a = 1.281 Hanty, W. 1951 Ag. T. Symp 45, 559

Σ nma = 2.56 +3.1 +5.5 SM = 2.4 mans = 1.4 +1.0 2.4

HR 5057 ~~HR 5589~~ P = 0.056 a = 0.0145 Σ nma = 6.64 = 5.81 = 23.31 3.9 L = 30° H.N. Russell PASP 39

mean mans 2.45 ⊙

Model 4 xiv^T yr. 2.4 ⊙

+202098 5m

CC498 8 52.6 +01 46 9.9 dM1 +36

5861

+.11 −1.08 Cin 498

+1049 +1032

+1064 ~~1036~~

+1058 −1031

5972 1206 50305

8621 ~5927 −1668

130

730

104 221 877 2.836

3552/53 8 53.0 -7 47 A3/Am

76369/0 5m~0.1 6.07 +22 +11 C +52 19.85

12334/5 E(B-V) 04 6.08 ~~111 206 883 2.834 0.7~~ 1, 1, 1, 13 ②

022 33 239 661 59 19.8 5.10

1.7

11/5.0

③ 2.44493.5 -0002±39 -041±51

+0008 -030 40.45 88.4 +0409 +0.6 030

11
510

2.53
97

37 7213 0998 +0328 5.01

D+0

~~B-2110~~ ②

2.532
+2
544

38.5

35.81
+40
3.841

-0930 -950 +0.44

~~+2th-2AT~~

-2t-21 ④

+0024

0.110

-12.5

0.79

omit one
wh plate

vvvv ⊛

$\boxed{+004-030}$

A 2.528 8 6.6 +00022.0 +00002 +00006 -028 ±21 -033 -032 44.05 57.8

174

45.31

2.524 +11 538 35.80 44.05 +40 42.98

2.554 +23 577 68.07 45.00 +12 44.97

+0004 -0325

+00016 -0334

5

581

R.A. :	8.900
DEC. :	-7.800
. R.A. :	0.000
. DEC. :	0.000
STANCE :	0.000
ODULUS :	10
. VEL. :	0.000
q1 (U) :	-0.649
q2 (U) :	0.559
q3 (U) :	0.516
dU :	0.000
U :	0.000
q1 (V) :	-0.047
q2 (V) :	0.647
q3 (V) :	-0.761
dV :	0.000
V :	0.000
q1 (W) :	[illegible]
q2 (W) :	[illegible]

6.49 094 183 1098 2829 G0 A3/5 III (...)

79025 (020) 9 08.1 -49 13 (A9 ...) -134C

FD 1163 V0640 +0.32

6.47 +0.17 (1.58) ±0.9

B ±+0.20

-2 18.35

5.74

GC 12663

+0007 ±9.5 -044 ±6.9

-008

364

4.092 1900.7 +0002

-034

.058

11.18 18964

+2.36

5.82

Sky

-027

-0005 -034

13.665 -0001 -0306

50.40

4.070

-00094

064

+0006

+0029 -027

3.60 1927.21

-0246

5.35

9.5

8.03

8.98

10

9.08

9997 1232

-0409 -9929

-0.0

-0.11

-0.7

0071

5.74

091

100

091

9.150

R.A. : -49.200

DEC. : 0.000

R.A. : 0.000

22

SS1

R.A. :	
DEC. :	6.050
PM. R.A. :	15.550
PM. DEC. :	-127.700
DISTANCE :	-106.000
MODULUS :	0.96
RAD. VEL. :	16
	-14.20
q1 (U) :	
q2 (U) :	-0.07
	0.23
q3 (U) :	
dU :	0.970
U :	-70.907
	-14.871
1 (U) :	
2 (U) :	-0.0

648 672-497 453 1 [illegible]

44379 6 16.4 -23 36 100

-23.3724

(-(817)

648 672

9975 -4753

-3973 -8748

0764

6031

+047

0346

3484

-027 073

-076 -814

+11 +1

6 14 80.56

-28 86 478

0744

0000

+47

9556 -8863

2448 -4632

-0021 -073

-0035 -074

-036

-033 -064

-0323

-030 -074

-0081 ±87 -060 ± 23

30.556 85.0 -0022 -064

158 -0019 -07 47.77 55.2

,714

329

49.78

28.352

2.265

30.617

620

15

635

(33.15)

30.634

+ 15

649

(37.33)

-0024 -068

-00245 -064

47.53

+ 13

47.40

8.10

38.18

46.28

1.13

47.41

+24

47.17

-00205 -0730

-~~00~~229 -0736

-00210

-00203

-0304

-0027 ± 3.5 -104 ± 2.8
-0029 -091
56022 7 11.7 -45 06 5.08 Aop +4.38
-0027 -098
4774
9591 43.556 1907.6 -45 5 42.50 1902.8

114
.670

+4.91
37.59

-0028 -097

43.590 -00262 -0946 40.96 1939.24
-16
574

+10
40.86

00108
-00058

40.0

9516
47.6
44.8

1111
556
-.114

333
41.66
-4.07

69.60

43.537
0

43.494
+10
504

43.82
-14
43.96

42.35
-12
42.47

1955.92

7.2[illegible]
-45.100
-31.000
-93.000
3.850 3.
5[illegible] 3[illegible]
0.000
1.4
-0.333
0.915
0.229
-368.596
-21.705 -15
-22.02
-0.329
0.114
-0.937
-16.237
-0.956 +1
+0.96
0.883
0.388
-0.263
-262.591
-15.469 -10
-15.10

+641 18.6
+9.14 16.4
1+R 2744 /30

20 35.1
30 71.7
11.7 -45 06

-025 176 869 2.882
1.65 974
1.31

+4.36

OUP mp

A# Supp 33,413

Am. 101 -020-096

-021-096

SG 104

P=0.42

PASP 73,410

Lutile
-2 to +2 +1 Bright
-14-9 (3)
Bright
Bright

Bogue Degre

5.00 +0.01 +P

-0237 -0954

-0277

-024-093

-020-096

8.76

-0.5

+9 1875

3.04

+1.3

-0.29 -104 G-C

-023 -088

-024 -100

9965 11-2783

-0841 -9.69

0257 -100

2.48 4.69

1.6

3.00

285 28

552-308 -707 707 -824-100 +4.3 070-3.0 -332

022 -067 007 -021 204-284 -3.0 +0.9 -2.8 012

+17.9 -24.5 -30.7

+14.5 -21.8 -25.1 015

-29.6 -2.1 -20.7

02

+11.1 -17.0 -18.4

-23.2 -1.7 -16.0

Aspr, 410 Jurchik

2746 Si 7 11.7 -45 06

56022

4.88 -02 -04 45 — +4.36 4L

~~Ch IC 7391~~

2447 64

-030 165 991 2883 S

+30
+13

163 997 2915

326 03 2

1323 2447

54 064

120

-04

15 24 ±2.5

-0027 -099 GC+

-076 076

-00252 -0966 a=-013

+13 4.0 n=015 .33

43 +1.15

-0267

4.0

159 997

398

B 15

-022 -093

	2746.000*
	7.000*
	11.700*
	-45.000*
	-6.000*
	-0.022*
	-0.095*
3.55	4.000*
51.55 51.3	63.096
	4.300
	-0.377
	0.229
-18	-22.823
	-0.017
	-0.937
-5	-5.114
	-0.266
	-0.264
-15	-17.944