

The 2021 AAVSO Eclipsing Binary Ephemeris

The AAVSO Eclipsing Binary Ephemeris provides the predicted time of mid-eclipse for eclipsing binaries in the AAVSO Eclipsing Binary observing program. These times appear in Universal Time in the body of the ephemeris table. The time is rounded to the nearest half hour, which provides sufficient accuracy to plan an observing session while, hopefully, leaving sufficient doubt about the exact time in order to eliminate anticipatory bias. The ephemeris is designed for use by observers at American longitudes.

The top rows of the ephemeris table list the name of the eclipsing binary. Directly below the star's name are its approximate maximum and minimum magnitudes. These magnitudes are taken from the 4th edition of the GCVS and may be visual, photographic, or V.

Below that, in the row labeled "DUR", the approximate number of hours required to obtain a time of minimum. This time is typically shorter than the duration of the eclipse listed in the GCVS. We need good coverage of

the steep portion of the descending leg through the corresponding portion of the ascending leg of the eclipse to measure the time of mid-eclipse accurately.

The next row, labeled "TOT" indicates the duration of the totality at minimum in hours.

The numbers in the left-most column are the "double date" - the evening and the following morning - for the event times listed in the corresponding row. For example, 5-6 corresponds to the evening of the 5th and the morning of the 6th of the month. January 0-1 is the evening of December 31 and the morning of January 1.

The 'S' in the table heading stands for secondary eclipse. All other predictions are for the primary eclipse. Sometimes a secondary eclipse column may appear where there is no primary eclipse column for a star; this occurs when none of the primary eclipses for that star during that month are observable.

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REFERENCE

Kholopov, P. N., *et al.* 1985, *General Catalogue of Variable Stars*, Fourth Edition, Moscow.

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	RT	TW	UU	WZ	XZ	AB	AB	AD	BD	BX	DS	RY	CX	CZ	SS	SS	WW	WW	AP	AP	AR	AR	CL
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQR	ARI	ARI	AUR	AUR	AUR	AUR	AUR	AUR	AUR
MAX	9.3	8.8	11.2	11.6	10.0	9.3	9.3	11.1	11.3	8.6	10.8	8.8	10.7	10.3	10.1	10.1	5.7	5.7	10.9	10.9	6.0	6.0	11.7
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.7	9.5	11.4	10.1	12.0	11.2	11.1	11.1	6.4	6.4	11.4	11.4	6.7	6.7	13.2
DUR	3	11	8	4	3	3	3	4	3	4	4	5	3	3	3	3	5	5	4	4	5	5	4
TOT		2																					
							(S)								(S)		(S)		(S)		(S)		
0- 1						4.5	0.5		5.0	7.0	2.0				2.0	7.0	8.0		4.5	11.0			
1- 2	4.5					4.5	0.5		3.5		2.0				7.0	2.5			7.5	1.0			
2- 3				1.5	6.5	4.5	0.5		1.5	3.0	2.5				2.5				11.0	4.0			
3- 4	1.5					4.5	0.5			8.5	2.5					3.0			0.5	7.5			1.5
4- 5				3.5		4.0	0.0				3.0		1.0		3.5		3.0	3.0	4.0	11.0			7.5
5- 6						4.0	0.0			4.5	3.0					4.0	9.5		7.5	0.5			
6- 7	5.0			6.0	8.0	4.0			5.5		3.5				4.0				10.5	4.0			
7- 8						4.0			4.0	0.0	4.0					4.5			0.5	7.0			
8- 9	2.5					3.5			2.0	5.5	4.0				5.0				3.5	10.5			1.0
9-10				0.5	1.0	3.5			0.0		4.5		1.0		0.5	5.0		4.5	7.0	0.0			7.0
10-11						3.5				1.5	4.5				5.5	0.5	10.5		10.5	3.5			
11-12	6.0			2.5		3.5				6.5	5.0				1.0	6.0				7.0			
12-13						3.5			6.0		5.0				6.5	1.5			3.5	10.0			
13-14	3.0			4.5	3.0	3.0		6.5	4.0	2.5	5.5				2.0	6.5			6.5		0.0		0.5
14-15						3.0		6.0	2.5	8.0	5.5		1.0		7.0	2.0		5.5	10.0	3.0			6.0
15-16	0.5			7.0		3.0		6.0	0.5		6.0			1.0	2.5		12.0			6.5		2.0	
16-17	6.5					3.0		5.5		4.0	6.0					3.0			3.0	10.0			
17-18					4.5	3.0		5.0			6.5				3.0				6.5		3.5		
18-19	4.0			1.5		2.5		5.0			6.5					3.5	0.5		9.5	3.0			
19-20						2.5		4.5	4.5	5.0	7.0		1.0		4.0			6.5	13.0	6.0		5.0	5.5
20-21	1.0			3.5		2.5		4.0	3.0		7.0	0.5				4.5			2.5	9.5			
21-22					6.5	2.5		4.0	1.0	1.0	7.5			2.0	4.5				6.0	13.0	6.5		
22-23				6.0		2.5		3.5		6.5	7.5				0.0	5.0			9.5	2.5			
23-24	4.5					2.0		3.0			8.0				5.5	0.5	1.5		12.5	6.0		8.0	
24-25						2.0		3.0		2.0			1.5		1.0	5.5		8.0	2.5	9.0			5.0
25-26	2.0			0.5	8.0	2.0		2.5	5.0	7.5					6.0	1.0			5.5	12.5	10.0		
26-27						2.0		2.0	3.5						1.5	6.5			9.0	2.0			
27-28		1.0		2.5		2.0		2.0	1.5	3.5					7.0	2.0			12.5	5.5			
28-29	5.5		6.0		1.5	1.5		1.5							2.5	7.0	3.0		2.0	9.0			
29-30				5.0		1.5		1.0					1.5			2.5		9.0	5.5	12.0			4.5
30-31	2.5					1.5		1.0		4.5					3.0				8.5	2.0			10.5

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	AK	RZ	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK	DL	
	CMI	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP	
MAX	10.1	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	12.2	12.4	
MIN	11.5	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	14.2	13.2	
DUR	4	4	4	4	3	3	4	4	5	5	4	3	3	4	4	5	4	4	3	3	4	4	5	
TOT																	2							
						(S)						(S)		(S)						(S)				
0- 1	2.0		1.5	0.5	7.5	3.5						3.0				4.0	10.0		5.0	10.0				
1- 2	5.0	4.5		9.0	6.5	2.5			1.0					7.0				4.5	1.0	6.0	5.5			
2- 3	8.0	9.5			5.5	1.5	7.0								1.5			2.5	7.0	2.0			0.0	
3- 4	11.5				4.0	0.5	1.5	0.5		2.5	4.5					2.5			3.0	8.0				
4- 5				2.5	3.0	7.0				6.0									9.0	4.0				
5- 6	4.0			11.5	2.0	6.0		1.5									9.5		5.0	10.0			6.5	
6- 7	7.5				1.0	5.0	5.0					5.5							1.0	6.0				
7- 8	10.5	4.0	7.5		0.0	4.0		2.5				3.0				12.5		12.0	7.0	2.0				
8- 9		8.5		5.0	6.5	3.0					4.0					5.5			3.0	8.0	6.0		12.5	
9-10	3.0		3.0		5.5	2.0		3.5			10.0			0.0						9.0	4.0			
10-11	6.5				4.5	1.0	3.0		6.0	1.0								11.5	9.5	5.0	5.0	0.0		3.5
11-12	9.5				3.5	7.5		4.5		5.0						7.5			2.5	1.0	6.0			
12-13				7.5	2.5	6.5			2.0							2.0			0.5	7.5	2.5			
13-14	2.0	3.5			1.5	5.5	6.5	5.5			3.5	5.5							10.0		3.5	8.5		
14-15	5.5	8.0			0.5	4.0	1.5				9.5		3.0							9.5	4.5			
15-16	8.5	13.0		1.0	7.0	3.0		6.5						4.0			9.0			5.5	0.5	6.0		1.0
16-17	11.5			10.0	6.0	2.0												9.0		12.5	1.5	6.5		
17-18	1.5				5.0	1.0	4.5													7.5	2.5		13.0	
18-19	4.5		4.5		4.0	0.0				4.0	3.5			6.5						3.5	8.5		12.5	
19-20	7.5	3.0		3.5	3.0	6.5				7.5	9.0				1.0	7.5		5.5	9.5	4.5		12.0		
20-21	11.0	7.5	0.0	12.5	2.0	5.5		1.0				5.5					8.5	3.0	5.5	0.5		12.0		
21-22		12.5			1.0	4.5	3.0		7.0				3.0						0.5	1.5	6.5		11.5	
22-23	3.5				7.5	3.5		2.0							3.0	6.0				7.5	2.5	6.5	11.0	
23-24	6.5			6.0	6.5	2.5			3.0		3.0									4.0	9.0		10.5	5.0
24-25	10.0				5.5	1.5	6.5	3.0			9.0									10.0	5.0		10.5	
25-26		2.5			4.5	0.5	1.0			2.5					5.0	5.0	8.5	13.0		6.0	1.0		10.0	
26-27	2.5	7.0			3.0	7.0		4.0		6.5										2.0	7.0			11.0
27-28	6.0	11.5	6.0	8.5	2.0	6.0						5.5								8.0	3.0			
28-29	9.0				1.0	5.0	4.5	5.0			2.5		3.0		7.0	3.5		5.5	4.0	9.0				2.0
29-30			1.5		0.0	4.0					8.5			1.5				3.5	0.0	5.0	6.5			
30-31	1.5			2.0	6.5	3.0		6.0	12.0								8.0	1.0	6.0	1.0				

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	DV	EG	SS	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	W	W	RV	RV	V	WW	ZZ	AE	BR	CG
	CEP	CEP	CET	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG
MAX	11.6	9.6	9.4	11.0	11.0	10.0	10.0	10.9	10.9	11.0	11.0	7.6	10.1	10.6	10.6	9.0	9.0	9.5	9.9	10.7	11.8	9.4	11.0
MIN	12.4	10.6	13.0	11.6	11.6	10.7	10.7	11.5	11.5	11.9	11.9	8.8	10.6	11.2	11.2	10.0	10.0	10.2	13.2	12.0	12.8	10.5	11.8
DUR	4	3	5	3	3	3	3	4	4	2	2	5	4	4	4	4	4	4	5	4	4	4	3
TOT			2																				
					(S)		(S)		(S)		(S)				(S)		(S)						
0- 1		5.0	5.0				8.0								7.0	9.5							
1- 2		7.0			5.0				6.0								12.0						0.5
2- 3		9.0						6.5					8.0					7.5					
3- 4	1.5	11.5	4.5	5.5		5.0			7.5							9.0						2.0	
4- 5	5.0	0.5				5.5		8.5					12.5	8.5			11.5	10.0		2.0			
5- 6	9.0	2.5				6.0			9.0						8.0								
6- 7		4.5	3.5		5.0	6.5		10.0						7.5		9.0		12.5					2.0
7- 8		7.0				6.5		5.5					10.0		6.5		11.0		11.5			2.0	
8- 9		9.0		5.5		7.0		6.5				12.0											
9-10		11.0	3.0			7.5		7.0								8.5		8.0		11.5			
10-11	0.5	0.0			5.5	8.0		8.0		5.0	5.0		8.0		9.0		11.0						
11-12	4.5	2.5						8.5		5.0				8.5				10.5				2.0	
12-13	8.5	4.5	2.5						9.5		5.0			12.5		7.5	8.5						
13-14	12.5	6.5		5.0						4.5				7.0			10.5			12.0			0.5
14-15		8.5					5.0	6.0															
15-16		11.0	2.0		5.5		5.5		7.0			10.0	10.0			8.0						2.0	
16-17		13.0						6.0	7.5								10.5	8.5		0.5	2.5		
17-18		2.0						6.5	8.5						8.5						2.0		
18-19	4.0	4.0	1.0					6.5	9.0				8.0	8.0		8.0		11.0		13.0	1.0		1.5
19-20	8.0	6.5						7.0	10.0							7.5		10.0			0.5	2.0	
20-21	11.5	8.5			5.0			7.5	5.5				12.0	6.5									
21-22		10.5	0.5					8.0	6.5							7.5		6.5		1.5			
22-23		13.0		5.5					7.5			7.5					10.0						
23-24		2.0							8.0				10.0	9.0				9.0				2.0	
24-25		4.0							9.0						8.5				1.5				
25-26	3.0	6.0				5.0			9.5					7.5			9.5	11.5					0.5
26-27	7.0	8.5				5.5				5.0					7.0					2.0			
27-28	11.0	10.5		5.0		6.0			6.0	5.0	5.0											2.0	13.0
28-29		12.5				6.5		7.0		5.0			12.0				9.5	7.0					
29-30		1.5			5.5	6.5			7.5		4.5					13.0							
30-31		4.0				7.0		8.5						9.0				9.5		11.5			1.5

	DK	V346	V387	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	TZ	YY
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	ERI	ERI
MAX	10.3	11.8	11.5	9.7	10.8	10.8	10.8	8.3	8.3	13.8	9.4	10.6	9.6	11.0	10.2	10.8	10.0	7.8	9.9	9.9	7.2	9.8	8.4
MIN	10.8	13.6	12.3	10.3	11.9	11.6	11.6	9.2	8.7	14.6	12.7	12.5	10.8	12.0	11.3	13.6	10.9	9.5	10.7	10.7	8.2	12.6	9.1
DUR	4	5	3	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5	5	4	4	3
TOT											2							1				1	
							(S)		(S)												(S)		
0- 1	3.0			1.5									1.0			10.5				1.5			6.0
1- 2	1.5						12.0	12.0	12.0								13.0						5.0
2- 3	0.0									1.5	0.5	0.0					2.0				10.0		4.5
3- 4			13.0													8.5				7.5		1.0	3.5
4- 5													0.0										2.5
5- 6																	9.5						1.5
6- 7		2.0	2.5	1.5						1.5						1.5	12.0				0.5		1.0
7- 8							1.5									10.0	1.0	12.5					0.0
8- 9	3.0		0.5																5.0		10.0	6.0	7.0
9-10	1.5																						6.0
10-11	0.0									1.5			1.5			3.0	8.5	8.0					5.0
11-12																11.5	11.0		11.5				4.5
12-13				2.0	0.5												0.0				0.5		3.5
13-14																	2.5	3.5		2.5			2.5
14-15							0.5			1.5						5.0					10.0		2.0
15-16			1.5														7.5						1.0
16-17	3.0											0.5					10.0			9.0		1.5	0.0
17-18	1.5	1.0				12.0									0.5		12.0						7.0
18-19	0.0									1.0						6.5	1.5				0.0		6.0
19-20																							5.0
20-21					1.0																9.5		4.5
21-22				12.5													9.0		6.0			6.5	3.5
22-23		13.0	3.0							1.0						8.5	11.0						2.5
23-24						1.5							1.0				0.5						2.0
24-25	3.0		1.0		12.0												3.0	9.0	12.5		0.0		1.0
25-26	1.5															1.5							0.0
26-27	0.5									1.0	1.5					10.0	7.5			3.5	9.5		7.0
27-28				13.0										0.0			10.0	4.0					6.0
28-29		0.5			1.5												12.5						5.5
29-30																3.5	2.0			10.0		2.5	4.5
30-31						0.5				1.0						12.0							3.5

	YY	RW	AF	SZ	TU	UX	CC	CT	AV	DF	DF	DI	DK	SW	SW	VX	CM	CO	CO	Y	UU	UV	VZ
	ERI	GEM	GEM	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEO
MAX	8.4	9.6	10.2	10.2	10.6	8.9	9.5	9.9	10.2	11.0	11.0	11.0	10.5	9.2	9.2	10.9	8.5	10.5	10.5	9.5	11.4	9.5	10.6
MIN	9.1	11.6	11.3	12.0	13.4	9.8	12.8	11.2	10.6	11.5	11.5	12.0	11.0	10.0	10.0	12.3	9.5	11.0	11.0	12.7	12.7	10.2	11.7
DUR	3	5	4	4	5	5	4	4	4	4	4	4	4	3	3	4	4	5	5	5	4	3	4
TOT		1			1																		
	(S)									(S)					(S)				(S)				
0- 1	2.0									5.5	7.0	8.5		1.5			3.5					5.0	
1- 2	1.5			11.0					6.5	5.5		9.5	4.5	1.0					9.0	10.0	10.0		
2- 3	0.5									5.5		10.5	4.0										
3- 4	7.5		0.5			12.0			7.5	5.0	9.0	11.5	3.0				5.5					5.0	
4- 5	6.5		6.5							5.0			2.0			3.0						10.0	
5- 6	5.5								9.0	4.5	5.0		1.0	5.0	1.0			12.5				3.0	
6- 7	4.5	11.0						11.5		4.5	10.5		0.0	4.0	2.5				10.5	11.0	5.0	5.5	
7- 8	4.0				9.0				10.0	4.5				3.0	4.5			1.5			10.0	7.5	
8- 9	3.0									4.0	7.0			2.0					3.0	3.5		9.5	
9-10	2.0	7.5	5.5						11.5	8.0	4.0		5.5		1.5							5.0	12.0
10-11	1.5		11.5	11.0					4.0	7.5	3.5		6.5	4.0	0.5			3.5				10.0	
11-12	0.5								12.5	7.5	3.5	8.5	7.5	3.5					12.0	12.0			
12-13	7.5	4.5							5.0	7.5	3.5		8.5	2.5		4.0						5.0	
13-14	6.5								7.0	3.0	5.0	9.5	1.5					5.5	4.5	4.5	10.0		
14-15	5.5		5.0				12.5		6.0	7.0	3.0	10.5	10.5	0.5	4.5		0.5						
15-16	5.0	1.0	11.0					10.0	6.5	2.5		11.5		3.5								5.0	
16-17	4.0				11.0				7.5	6.5	2.5	6.5		2.5						13.0	10.0		
17-18	3.0					11.0			6.5	2.5	12.0			1.5			2.5					3.0	
18-19	2.0								8.5	6.0				4.5	1.0				6.0	5.0	5.0	5.0	
19-20	1.5		4.5	11.0					6.0		8.5			3.5		0.0					10.0	7.5	
20-21	0.5		10.5						10.0	5.5				3.0		2.0	4.5	4.5				9.5	
21-22	7.5							11.0		5.5		4.5	5.5	2.0		3.5						5.0	11.5
22-23	6.5								11.0	5.5		10.0	6.5	1.0	5.0							10.0	
23-24	5.5								3.5	5.0			7.5	0.0	4.0		6.5		7.0	6.0			
24-25	5.0		4.0						12.0	5.0		6.5	8.5		3.0			0.5				5.0	
25-26	4.0		9.5		12.5				4.5	4.5		12.0	9.5		2.0							10.0	
26-27	3.0								4.5	4.5			10.5		1.0								
27-28	2.5								6.0	4.5		8.0	11.5	4.0	0.5			2.5				5.0	
28-29	1.5			11.0					4.0					3.0					8.5	7.0	10.0		
29-30	0.5	9.0	3.0						7.0	4.0	8.0	4.5		2.5									2.5
30-31	7.5		9.0						4.0	7.5	10.0			1.5			4.5				5.0	5.0	

	RR	SS	RY	UZ	EW	FL	RU	RU	RW	AT	BB	BO	U	SX	1010	EQ	ER	ER	ET	FL	FT	FZ	FZ
	LEP	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	MON	OPH	OPH	OPH	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI
MAX	10.2	10.4	11.9	9.8	11.2	8.7	10.6	10.6	9.1	10.6	10.6	10.8	5.8	10.5	6.2	10.3	9.5	9.5	11.2	10.5	9.1	10.7	10.7
MIN	10.9	11.3	13.3	11.0	13.6	9.5	11.3	11.3	11.9	11.4	11.3	12.1	6.5	11.2	7.0	13.3	10.2	10.2	12.4	13.2	9.7	11.3	11.3
DUR	4	6	4	5	5	4	5	5	5	5	4	5	5	5	4	4	3	3	5	3	4	3	3
TOT									1			1											
								(S)										(S)				(S)	
0- 1	8.0									9.5	2.0						7.5	2.5	7.0			0.5	5.5
1- 2	6.0															5.5	4.0		5.5			5.5	0.5
2- 3	4.0		2.0							10.0	7.0	3.5					0.5	5.5	4.5	8.0	8.5	0.5	5.5
3- 4	2.0		12.5			11.0	4.5						11.0				7.0	2.0	3.0			5.5	0.5
4- 5	0.0	11.5						9.0		10.5		9.0					3.0	8.5	2.0			0.5	5.5
5- 6				12.5	12.5						5.0							4.5	1.0			5.5	0.5
6- 7			9.5														6.0	1.0				0.5	5.5
7- 8					11.5						10.0						2.5	7.5				5.5	0.5
8- 9									10.0		3.5		12.0			5.0		3.5				0.5	5.5
9-10			6.5		10.0												5.0	0.0				5.5	0.5
10-11							8.5		8.0		8.0			10.5			1.5	6.5		2.5		0.5	5.5
11-12	8.0										2.0						8.0	3.0				5.5	0.5
12-13	6.0		3.5							5.5							4.5					0.5	5.5
13-14	4.0										6.5	6.5	12.5				0.5	5.5		4.5		5.5	0.5
14-15	2.0										3.5						7.0	2.0				0.5	5.5
15-16			0.0					3.5								5.0	3.5	8.5				5.5	0.5
16-17			10.5			12.5			1.0		5.0							5.0		7.0		0.5	5.5
17-18																	6.0	1.0				5.5	0.5
18-19											9.5						2.5	7.5	8.5		2.5	0.5	5.5
19-20			7.5								3.0							4.0	7.0			5.5	0.5
20-21																	5.5	0.5	6.0			0.5	5.5
21-22							3.0				8.0						1.5	7.0	5.0		6.0	5.5	0.5
22-23	7.5		4.5	13.0				7.5			1.5	4.0			13.0	4.5	8.0	3.0	3.5			0.5	5.5
23-24	5.5					1.5											4.5		2.5			5.5	0.5
24-25	3.5										6.5	9.5			12.5		1.0	6.0	1.5	1.5	10.0	0.5	5.5
25-26	1.5		1.0		0.0												7.5	2.0	0.0			5.5	0.5
26-27			11.5												12.0		3.5					0.5	5.5
27-28		11.5				10.0					4.5							5.0		3.5		5.5	0.5
28-29							7.0								12.0		6.5	1.5				0.5	5.5
29-30			8.5								9.5					4.0	2.5	8.0				5.5	0.5
30-31											3.0				11.5			4.0		6.0		0.5	5.5

	GU	GU	U	U	TY	BB	BB	BX	DI	GP	Z	RT	RV	ST	XZ	BETA	Y	UZ	UZ	AO	CC	CC	RW	
	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PSC	PUP	PUP	SER	SER	SER	TAU	
MAX	12.6	12.6	9.7	9.7	10.5	10.6	10.6	10.9	9.6	10.2	9.9	10.6	10.3	9.7	10.6	2.2	9.0	9.7	9.7	10.6	11.1	11.1	8.0	
MIN	13.5	13.5	10.5	10.5	12.6	11.2	11.2	11.5	10.8	11.0	12.4	12.0	12.7	13.2	12.7	3.5	12.0	10.6	10.3	12.1	11.7	11.7	12.5	
DUR	4	4	3	3	6	3	3	3	2	4	6	4	8	5	4	8	7	4	4	4	4	4	4	
TOT											2			1									1	
		(S)		(S)			(S)												(S)			(S)		
0- 1	2.5	8.0		1.5		3.0						7.0			4.5		9.5		11.0	9.5				
1- 2	1.0	6.5		4.5			0.5	1.0			3.5	3.0		1.5	8.0		4.5			10.5				
2- 3		5.5	3.0				2.5												9.0	11.0				
3- 4	9.5	4.0		1.5		0.5		0.0	2.0										4.0	12.0				
4- 5	8.0	2.5		4.5		2.5		3.0			5.0						9.0							
5- 6	6.5	1.0	3.0				0.0					9.0					4.0						5.5	
6- 7	5.5			1.5			2.0	2.0				5.5		8.5					8.5					
7- 8	4.0	9.5		4.5							6.0	2.0			2.5				3.5	12.0		9.0		
8- 9	2.5	8.0	3.0			2.0		1.0	1.5						6.0		8.0		9.0			9.5	0.0	
9-10	1.0	6.5		1.5										0.0	9.5		3.5					10.5		
10-11		5.5		4.5			1.5	0.5			7.5								8.0			11.0		
11-12	9.5	4.0	3.0									8.0							3.0			12.0		
12-13	8.0	2.5		1.5		1.0				4.5		4.0					7.5							
13-14	6.5	1.0		4.5				2.5	1.0	4.0	9.0	0.5					2.5							
14-15	5.5		3.0				1.0			3.5				7.0	0.0	7.5	3.0		7.5	12.5				
15-16	4.0	9.5		1.5			3.0	1.5		2.5					4.0				2.5	10.0	9.0			
16-17	2.5	8.0		4.5		0.5				2.0		10.0			7.5		7.0				9.5		7.5	
17-18	1.0	6.5	3.0			2.5		0.5		1.5		6.5				4.5	2.0			10.5				
18-19		5.5		1.0			0.5		0.5	1.0		3.0							6.5		11.0			
19-20	9.5	4.0		4.0			2.5			0.5										12.0			2.0	
20-21	8.0	2.5	2.5			0.0		2.5	4.0							1.0	6.5							
21-22	7.0	1.0		1.0	1.0	2.0																		
22-23	5.5			4.0				1.5				9.0		6.0	1.5				6.0	10.5				
23-24	4.0	9.5	2.5				2.0		0.5			5.0			5.5		10.5					9.0		
24-25	2.5	8.0		1.0	3.0			1.0				1.5			9.0		6.0					9.5		
25-26	1.0	7.0		4.0		1.5				3.5									10.5			10.5		
26-27		5.5	2.5																5.5			11.0		
27-28	9.5	4.0		1.0			1.0	3.0									10.0					12.0	9.5	
28-29	8.0	2.5		4.0								7.5					5.0							
29-30	7.0	1.0	2.5			1.0		2.0				4.0							10.0	11.5				
30-31	5.5			1.0		3.0			3.0			0.5	10.0	4.5	3.0				5.0				3.5	

	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	W	TX	TY	TY	UX	VV	XZ	ZZ	RU	VV	AG	AH	
	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR	VIR	VIR
MAX	10.5	11.5	11.5	10.5	10.4	10.3	10.3	10.9	8.9	11.4	9.1	9.1	6.8	11.7	11.7	12.7	10.1	10.1	9.8	10.7	11.7	8.8	9.7	
MIN	11.2	12.0	11.7	12.3	12.3	11.0	11.0	11.9	12.0	12.5	9.9	9.9	8.9	12.4	12.4	13.8	11.0	11.7	11.2	11.4	13.5	9.4	10.2	
DUR	3	2	4	6	5	3	3	4	4	4	3	3	6	3	3	1	3	3	4	4	4	4	4	
TOT																								
							(S)					(S)			(S)									
0- 1	4.5	7.0	9.5			7.5	3.5	3.0		3.5	1.0	5.0			4.5	5.0				12.0		11.5		
1- 2	0.5	8.5	2.5			8.0	4.0	7.0			1.0	5.0		2.0	6.0	5.5		1.0		0.5			8.0	
2- 3	6.0					0.5	4.5				1.0	5.0	11.5	3.5	7.5		6.5	6.0	4.5	1.5		9.5		
3- 4	2.0		4.0			1.0	5.0	1.0		4.0	1.0	5.0		5.0		4.5		11.5		3.0	8.5		9.0	
4- 5	8.0					1.5	5.5	5.0			1.0	5.0		6.5	2.5	9.0	8.0		12.0	4.0		8.0		
5- 6	4.0		6.0			2.0	6.0		7.0		1.0	5.0	13.0	8.0	4.0		0.5			5.0				
6- 7	0.0				0.5	2.5	6.5		6.5	4.0	1.0	5.0		5.5	8.0	9.5				6.5		6.0	5.5	
7- 8	6.0		8.0			3.0	7.5	3.5	6.0		1.0	5.0		2.5	7.0	2.0	3.5			7.5	9.0	13.0		
8- 9	2.0		0.5		1.5	4.0	8.0		5.0		1.0	5.0		4.0	8.5	7.0	11.0	9.0		8.5			6.5	
9-10	8.0		10.0			4.5	0.5		4.5	4.5	1.0	5.0		5.5			3.5		2.0	10.0		11.0		
10-11	4.0		2.5		2.5	5.0	1.0	1.5	3.5		1.0	5.0		7.0	3.0	6.5	12.5			11.0			7.5	
11-12		1.5				5.5	1.5	5.5	3.0		1.0	5.0			4.5	5.0			9.5	12.5	9.5	9.5		
12-13	5.5	3.0	4.5		4.0	6.0	2.0		2.5	5.0	1.0	5.0		1.5	6.0	5.5		1.0		1.0			8.0	
13-14	1.5	5.0				6.5	2.5		1.5		1.0	5.0		3.0	7.5		6.5	6.0		2.0		8.0		
14-15	7.5	7.0	6.0		5.0	7.5	3.0	4.0	1.0		1.5	5.5		5.0		5.0		11.5		3.5			9.0	
15-16	3.5	9.0				8.0	4.0		0.5	5.0	1.5	5.5		6.5	2.0	9.0	8.0			4.5	9.5	6.0		
16-17	9.5		8.0		6.0	0.0	4.5				1.5	5.5		8.0	3.5	4.0	0.5			5.5		13.0		
17-18	5.5		0.5			1.0	5.0	2.0			1.5	5.5			5.0	8.5	9.5			7.0			5.5	
18-19	1.5		10.0		7.0	1.5	5.5	6.5		5.5	1.5	5.5		2.5	6.5		2.0	3.5	7.0	8.0		11.0		
19-20	7.5		2.5			2.0	6.0				1.5	5.5		4.0	8.0	7.5	11.0	9.0		9.5	10.0		6.5	
20-21	3.0				8.0	2.5	6.5	0.5			1.5	5.5		5.5			3.5			10.5		9.5		
21-22	9.0		4.5			3.0	7.0	4.5		6.0	1.5	5.5		7.0	2.5	6.5	12.5			11.5			7.5	
22-23	5.0				9.0	3.5	8.0				1.5	5.5		8.5	4.0		5.0			0.5		7.5		
23-24	1.0		6.5			4.5	0.0				1.5	5.5			6.0	6.0		1.0		1.5	10.5		8.5	
24-25	7.0				10.0	5.0	1.0	2.5		6.5	1.5	5.5		3.0	7.5		6.5	6.0		2.5		6.0		
25-26	3.0	1.5	8.0			5.5	1.5	7.0		0.5	1.5	5.5		4.5		5.0		11.5	4.5	4.0		13.0	9.0	
26-27	9.0	3.5	1.0			6.0	2.0				1.5	5.5		6.0	2.0		8.0			5.0				
27-28	5.0	5.0	10.0			6.5	2.5	1.0		6.5	1.5	5.5		7.5	3.5	4.5	0.5		11.5	6.5		11.0		
28-29	1.0	7.0	2.5	0.0		7.0	3.0	5.0		0.5	1.5	5.5			5.0	8.5	9.5			7.5			5.5	
29-30	6.5	9.0				7.5	3.5				1.5	5.5		2.0	6.5		2.0	3.5		8.5		9.5		
30-31	2.5		4.5	1.0		0.0	4.0			7.0	1.5	5.5		3.5	8.0	8.0	11.0	9.0		10.0			6.5	

AAVSO Eclipsing Binary Ephemeris for February 2021

all times in U.T.

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	RT	UU	WZ	XZ	AB	AB	AD	AD	BD	BX	DS	OO	OO	V343	V346	SS	SS	WW	WW	AP	AP	AR	AR
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQL	AQL	AQL	AQL	ARI	ARI	AUR	AUR	AUR	AUR	AUR	AUR
MAX	9.3	11.2	11.6	10.0	9.3	9.3	11.1	11.1	11.3	8.6	10.8	9.2	9.2	10.6	9.0	10.1	10.1	5.7	5.7	10.9	10.9	6.0	6.0
MIN	10.2	14.1	12.6	13.0	10.2	10.2	11.6	11.6	11.7	9.5	11.4	10.1	10.1	12.3	10.4	11.1	11.1	6.4	6.4	11.4	11.4	6.7	6.7
DUR	3	8	4	3	3	3	4	4	3	4	4	3	3	4	4	3	3	5	5	4	4	5	5
TOT																							
						(S)		(S)			(S)		(S)				(S)		(S)		(S)		(S)
0- 1					1.5		0.5	12.5									3.5					5.0	
1- 2				3.0	1.0		0.0	12.0	3.5	0.5			11.0			3.5				1.5	8.5		
2- 3					1.0				2.0	6.0			11.0				4.0	4.0		5.0			
3- 4	12.5		1.5		1.0				0.0				11.5			4.5				8.5	1.5		
4- 5	3.5				1.0					2.0			12.0				5.0					5.0	
5- 6			3.5	4.5	1.0											5.0	0.5			1.5	8.0		
6- 7	0.5	4.0			0.5											0.5				4.5			
7- 8					0.5				4.0	3.0				11.5			1.0	5.0		8.0	1.0		
8- 9					0.5				2.5							1.5					4.5		
9-10	4.0	3.0			0.5				0.5								1.5			1.0	8.0		
10-11			0.5		0.5					4.0	0.0						2.0			4.5	11.0		
11-12	1.5				0.0						0.5						2.5		0.0	7.5	1.0		
12-13		2.5	2.5		0.0					0.0	0.5					3.0		6.5		11.0	4.0		
13-14					0.0					5.5	1.0						3.0			0.5	7.5		0.5
14-15			5.0						2.5	1.0						3.5				4.0	10.5		
15-16	11.0	2.0							1.0	1.5	1.5						4.0			7.0	0.5	2.0	
16-17	2.0			1.5							1.5			12.0			4.0		1.5	10.5	3.5		
17-18											2.0						4.5	7.5		0.0	7.0		3.5
18-19		1.0								2.5	2.0			13.0		5.0	0.0			3.5	10.5		
19-20			1.5								2.5					0.5				7.0	0.0	5.5	
20-21	12.0			3.0					3.0		2.5	11.0					1.0			10.0	3.5		
21-22	3.0	0.5	3.5						1.5	4.0	3.0	11.5				1.0		2.5		6.5			7.0
22-23						3.0					3.0	11.5					1.5	9.0		3.0	10.0		
23-24	0.5					3.0					3.5	12.0				2.0				6.5		8.5	
24-25				5.0		3.0		4.5		5.0	3.5						2.0			10.0	3.0		
25-26	12.5					2.5		4.0			4.0					2.5					6.5		
26-27	4.0		0.5			2.5		4.0	3.5	1.0	4.0						3.0		3.5	3.0	9.5		
27-28						2.5		3.5	2.0	6.0	4.5					3.5		10.0		6.0			

AAVSO Eclipsing Binary Ephemeris for February 2021

all times in U.T.

	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	R	RT	SX	TU	TZ	TZ	UU
	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA	CMA	CMA	CMA	CMA
MAX	11.7	10.8	10.8	10.8	11.7	11.7	11.8	11.8	10.6	10.6	6.8	10.6	8.6	10.5	11.6	11.6	6.2	11.4	10.3	9.7	9.8	9.8	10.0
MIN	13.2	11.3	11.5	11.5	12.7	12.7	12.3	12.3	11.1	11.1	7.6	12.4	9.4	11.3	11.8	11.8	6.8	12.9	11.4	10.7	10.5	10.5	12.5
DUR	4	3	3	3	3	3	3	3	3	3	5	6	3	5	5	5	4	5	4	4	4	4	5
TOT				(S)	(S)		(S)		(S)						(S)							(S)	
0- 1		9.0	8.0			5.5		5.0	6.5		7.0		9.5	1.5	7.0								
1- 2				1.0		4.5	7.5							9.5	1.0	10.5	1.5						
2- 3		3.5					6.5			5.0			4.0		4.5	5.0	0.5	5.0					
3- 4	4.0	8.0	4.0		7.0		5.0		6.0				8.5		8.0		8.0			1.0			
4- 5					6.5				7.0					1.5	2.5	11.5				4.0			
5- 6		2.5		7.5	6.0		6.5			7.0			3.5	9.0	6.0								
6- 7		6.5	0.5		5.5		5.5	5.5				1.5	8.0		9.5	0.5							
7- 8					4.5				6.5				12.5		4.0			4.5	2.0				
8- 9	3.5	1.0		3.5			7.0						2.5	1.0	7.5								3.0
9-10		5.5				7.0	6.0		4.5			8.5	7.0	9.0	11.0	1.5	0.5						
10-11			7.0			6.5	4.5			5.5	6.5		11.5		5.0		3.5		8.0				7.0
11-12		0.0				6.0		7.5	6.5				1.5		8.5	7.0	1.5						
12-13		4.5				5.5		6.0					6.0	0.5	12.5	3.0				1.5			
13-14	3.0	9.0	3.0			4.5		5.0		5.0			10.5	8.5	6.5					5.0			
14-15	9.0								6.0				1.0		1.0	10.0							
15-16		3.5		6.5	7.0		6.5			7.0	6.5		5.5		4.5			5.0			6.5		
16-17		8.0			6.5		5.5						10.0	0.0	8.0			6.0					
17-18					6.0				5.0				0.0	8.0	2.5	11.5						5.5	
18-19	2.5	2.5		2.5	5.5			7.0		6.0			4.5		6.0	2.5							
19-20	8.5	7.0			4.5			5.5				6.5	9.0		9.5	0.0	5.5				2.5		
20-21			6.0						4.5		6.0				3.5	13.0		3.0	1.5				
21-22		1.5				7.0	7.0			5.5			3.5	8.0	7.0					2.5		1.5	3.0
22-23		5.5				6.5	6.0		6.5				8.0		10.5	1.5				5.5			
23-24	2.0		2.0			6.0	4.5						12.5		5.0				7.5				7.0
24-25	8.0	0.0				5.0		7.5		5.0			3.0		8.5			0.0					
25-26		4.5		5.5		4.5		6.0	6.0		6.0		7.5	7.5	12.0	3.0							
26-27		9.0						5.0		6.5			12.0		6.5		1.5						
27-28			8.5		7.0								2.0		0.5	10.0	4.5						

	XZ	AK	RZ	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK	
	CMI	CMI	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	
MAX	9.7	10.1	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	12.2	
MIN	10.2	11.5	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	14.2	
DUR	3	4	4	4	4	3	3	4	4	5	5	4	3	3	4	4	5	4	4	3	3	4	4	
TOT																		2						
										(S)				(S)		(S)						(S)		
0- 1	4.0	5.0	2.0		11.0	5.5	2.0										2.5			2.0	7.0		8.0	
1- 2	8.0	8.0	6.5			4.5	1.0	2.5			1.5		11.5		3.5					8.0	3.0			
2- 3			11.0			3.5	7.5				5.0	2.0								4.0	9.0			
3- 4	1.5	1.0		12.0	4.5	2.5	6.5	11.0		4.5		8.0	5.5				1.0			0.0	5.0			
4- 5	5.0	4.0				1.5	5.5		0.5		13.0			3.0	5.5		12.5	7.5	10.5	6.5	1.5			
5- 6	9.0	7.0				0.5	4.5	1.0		0.5						0.0				2.5	7.5	7.0		
6- 7			1.0			7.0	3.0		1.5											8.5	3.5			
7- 8	2.5		6.0	3.0	7.0	6.0	2.0					1.5					11.0		3.5	4.5	9.5			
8- 9	6.5	3.0	10.5			5.0	1.0	4.0	2.5		0.5	7.5	11.5			2.5			1.5	0.5	5.5		5.5	
9-10		6.0				4.0	0.0		11.0		4.0							7.5		6.5	1.5		5.0	
10-11	0.0	9.5			0.5	3.0	6.5	12.5	3.5				5.5				10.0			2.5	7.5		4.5	
11-12	4.0				9.0	2.0	5.5		12.0					3.5		4.5				8.5	3.5		4.5	
12-13	7.5	2.0	0.5			1.0	4.5	2.5	4.5	9.5		1.0					8.5		11.0	4.5	9.5	7.5	4.0	
13-14		5.0	5.5			7.5	3.5					7.0								0.5	5.5		3.5	
14-15	1.5	8.5	10.0		3.0	6.5	2.5			5.5								7.0		6.5	1.5		3.5	
15-16	5.0				11.5	5.5	1.5						11.5		1.0					3.0	8.0		3.0	
16-17	9.0	1.0		4.5		4.5	0.5	0.5		2.0	3.0									7.5	4.0	9.0	4.0	2.5
17-18		4.5				3.5	7.0					1.0	5.5						1.5	5.0	10.0		2.5	
18-19	2.5	7.5	0.0	0.0	5.5	2.0	6.0					6.5		3.5	3.0					1.0	6.0		2.0	
19-20	6.5		4.5			1.0	5.0	4.0				12.5								7.0	7.0	2.0	7.5	1.5
20-21		0.0	9.5			0.0	4.0														3.0	8.0		1.5
21-22	0.0	3.5				6.5	3.0	12.5	1.0						5.0						9.0	4.0		1.0
22-23	4.0	6.5			7.5	5.5	2.0					0.5	11.5				5.0		11.5	5.0	0.0		0.5	
23-24	7.5	9.5				4.5	1.0	2.0	2.0	10.5	1.5	6.5							9.0	1.0	6.0		0.5	
24-25						3.5	7.5				5.5	12.0	5.5					6.5		7.0	2.0			
25-26	1.5	2.5	4.0	6.0	1.5	2.5	6.5		3.0	7.0				3.5		1.5	3.5			3.0	8.0			
26-27	5.0	5.5	9.0		10.0	1.5	5.5	5.5	11.5										2.0	9.5	4.5	8.0		
27-28	9.0	9.0		1.5		0.5	4.5	0.5	4.0	3.0										5.5	0.5			

	DL	DV	EG	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	W	W	RV	RV	V	SW	WW	ZZ	AE	BR
	CEP	CEP	CEP	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG
MAX	12.4	11.6	9.6	11.0	11.0	10.0	10.0	10.9	10.9	11.0	11.0	7.6	10.1	10.6	10.6	9.0	9.0	9.5	9.3	9.9	10.7	11.8	9.4
MIN	13.2	12.4	10.6	11.6	11.6	10.7	10.7	11.5	11.5	11.9	11.9	8.8	10.6	11.2	11.2	10.0	10.0	10.2	11.8	13.2	12.0	12.8	10.5
DUR	5	4	3	3	3	3	3	4	4	2	2	5	4	4	4	4	4	4	5	5	4	4	4
TOT																			2				
					(S)		(S)		(S)		(S)				(S)		(S)						
0- 1	8.5		6.0		3.0	7.5	3.5	4.5	9.0		4.5		9.5		8.0		9.0						
1- 2		2.5	8.0	4.5		8.0	4.0		5.0	4.0				7.5		12.5		12.0					10.0
2- 3		6.5	10.0	3.5			4.0	6.0		4.0					6.5	6.5		5.0					
3- 4		10.5	12.5		5.0		4.5		6.5	4.0			7.5	6.0			9.0		10.0	0.5		12.5	
4- 5			1.5		4.0		5.0	7.5		3.5					5.0	12.5		7.5			12.5	12.0	
5- 6			3.5	5.5			5.5		8.0	3.5			11.5	4.5	9.0	6.5						11.0	10.0
6- 7			5.5	4.0			5.5	9.0	4.0		3.5			8.5			8.5	10.0			9.5		
7- 8			8.0	3.0			6.0	4.5	9.5	3.0					7.5	12.0					0.5		
8- 9	12.0	2.0	10.0		4.5		6.5		5.5		3.0		9.5	7.0		6.0							
9-10		5.5	12.0		3.5		7.0	6.0		3.0					6.5		8.5	5.5			13.0		9.5
10-11	3.0	9.5	1.0	5.0		3.0	7.0		7.0		2.5			5.5		12.0							
11-12			3.5	4.0		3.5	7.5	8.0		2.5	5.0		7.0		5.0	5.5		8.0			10.0		
12-13			5.5		5.5	4.0	8.0	3.5	8.5	5.0					9.0		8.0						
13-14	9.5		7.5		4.0	4.0		9.5	4.5		5.0		11.5	8.0		11.5		10.5					9.5
14-15			9.5		3.0	4.5		5.0		4.5					7.5	5.5							
15-16	0.5	1.0	12.0	4.5		5.0			6.0		4.5	11.5		6.5			8.0						
16-17		5.0	1.0	3.5		5.5		6.5		4.5			9.0		6.0	11.5		6.0			11.0		
17-18		9.0	3.0		5.0	5.5			7.5		4.0			5.0									9.5
18-19		13.0	5.0		4.0	6.0		8.0		4.0				9.0	4.5		7.5	8.5					
19-20			7.5	5.5		6.5		4.0	9.0		4.0		7.0		8.5	11.0							
20-21			9.5	4.5		7.0		9.5	5.0	3.5				7.5				11.0				0.0	
21-22			11.5	3.0		7.0	3.0	5.5		3.5			11.0		7.0		7.5				11.5		9.5
22-23		0.5	0.5		4.5	7.5	3.5		6.5	3.5		9.5		6.5		10.5							
23-24	4.5	4.5	3.0		3.5	8.0	4.0	7.0		3.0					5.5								6.5
24-25		8.5	5.0	5.0			4.0		8.0	3.0			9.0	5.0			7.0						
25-26		12.0	7.0	4.0			4.5	8.5	3.5		3.0			9.0		10.5		9.0					9.5
26-27	10.5		9.5	2.5	5.5		5.0	4.5	9.5	2.5					8.0		13.0				12.5		
27-28			11.5		4.5		5.5		5.0	5.0	2.5		6.5	7.5			6.5	11.5					

	CG	DK	KV	V346	V387	V388	V456	V466	V466	V477	V477	V704	W	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	TZ
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	ERI
MAX	11.0	10.3	11.5	11.8	11.5	9.7	10.8	10.8	10.8	8.3	8.3	13.8	9.4	9.6	11.0	10.2	10.8	10.0	7.8	9.9	9.9	7.2	9.8
MIN	11.8	10.8	12.6	13.6	12.3	10.3	11.9	11.6	11.6	9.2	8.7	14.6	12.7	10.8	12.0	11.3	13.6	10.9	9.5	10.7	10.7	8.2	12.6
DUR	3	4	5	5	3	3	3	4	4	4	4	4	7	4	4	3	4	3	5	5	5	4	4
TOT													2						1				1
									(S)		(S)											(S)	
0- 1								10.0										6.5		1.0			
1- 2							12.5											9.0				9.5	
2- 3				12.0	0.0		10.0		12.0			11.0					5.0	11.5					
3- 4	11.5	0.5										0.5						1.0		7.5			
4- 5																							
5- 6															12.5			5.5					
6- 7	0.0				12.0							11.0					6.5	8.0					
7- 8												0.5						10.5	9.5			9.5	
8- 9	12.5																				4.5		
9-10							13.0		11.0				11.5		11.5	12.0							
10-11							10.5					11.0					8.5		5.0				
11-12		0.5	12.5									0.5						7.0			11.0		3.0
12-13																		9.5					
13-14				11.5	13.0												1.5	12.0	0.5	2.0		9.0	
14-15												10.5					10.0						
15-16	11.5				11.0	10.5						0.5											
16-17									10.0									6.0		8.5			
17-18										10.5	10.5						3.5	8.5					
18-19				0.5		11.0	12.0					10.5					12.0	11.0					
19-20		0.5										0.0						0.5				9.0	
20-21	12.5																						
21-22						11.0											5.0	5.0	10.5		6.0		
22-23					12.0		0.5					10.5						7.5					
23-24												0.0						10.0					
24-25				11.0						11.5	11.5							12.5	6.0		12.0		4.0
25-26							11.0						12.0				7.0					9.0	
26-27						11.5						10.5								3.0			
27-28	11.0	0.5				11.0										12.5		6.5	1.0				

	ET	FL	FT	FZ	FZ	GU	GU	U	U	TY	BB	BB	BX	DI	GP	Z	RT	RV	ST	XZ	BETA	Y	UZ
	ORI	ORI	ORI	ORI	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PSC	PUP
MAX	11.2	10.5	9.1	10.7	10.7	12.6	12.6	9.7	9.7	10.5	10.6	10.6	10.9	9.6	10.2	9.9	10.6	10.3	9.7	10.6	2.2	9.0	9.7
MIN	12.4	13.2	9.7	11.3	11.3	13.5	13.5	10.5	10.5	12.6	11.2	11.2	11.5	10.8	11.0	12.4	12.0	12.7	13.2	12.7	3.5	12.0	10.6
DUR	5	3	4	3	3	4	4	3	3	6	3	3	3	2	4	6	4	8	5	4	8	7	4
TOT																2			1				
					(S)		(S)		(S)			(S)											
0- 1				5.5	0.5	4.0						0.5								7.0			
1- 2				0.5	5.5	2.5	8.0	2.5															4.5
2- 3				5.5	0.5	1.0	7.0		1.0		0.5		0.0										
3- 4				0.5	5.5		5.5										6.0						
4- 5				5.5	0.5		4.0	2.5				0.0					2.5						
5- 6				0.5	5.5	8.0	2.5		1.0														4.0
6- 7			0.5	5.5	0.5	7.0	1.0													1.0	6.0		
7- 8		0.5		0.5	5.5	5.5		2.5									7.5	3.0		4.5			
8- 9	6.5			5.5	0.5	4.0			1.0											8.5			8.0
9-10	5.5		4.0	0.5	5.5	2.5	8.5					0.5				5.0	6.5				3.0		3.5
10-11	4.0	2.5		5.5	0.5	1.0	7.0	2.5									1.5						
11-12	3.0			0.5	5.5		5.5		1.0									6.0					
12-13	2.0		7.5	5.5	0.5		4.0																7.5
13-14	0.5	5.0		0.5	5.5	8.5	2.5	2.5				1.0						5.5					2.5
14-15				5.5	0.5	7.0	1.0		1.0					2.0				7.5		2.5			
15-16				0.5	5.5	5.5					0.5							3.5	4.5	2.0	6.0		
16-17				5.5	0.5	4.0		2.5					0.5					0.0					7.0
17-18				0.5	5.5	2.5	8.5		1.0			0.5						4.0				0.5	2.0
18-19				5.5	0.5	1.0	7.0																
19-20				0.5	5.5		5.5	2.5			0.0			1.5		1.0			3.5				
20-21				5.5	0.5		4.0		1.0									6.0					6.5
21-22				0.5	5.5	8.5	2.5											2.5	3.0		0.5		1.5
22-23				5.5	0.5	7.0	1.0	2.5								2.5					4.0		
23-24				0.5	5.5	5.5			0.5				1.0						2.0	0.5	7.5		
24-25		2.0		5.5	0.5	4.0				1.0				1.0									5.5
25-26				0.5	5.5	2.5	8.5	2.0							2.0	3.5		1.5					1.0
26-27				5.5	0.5	1.5	7.0		0.5						1.5		4.5						
27-28		4.0		0.5	5.5		5.5								1.0		1.0	1.0					

	UZ	U	V505	1968	AO	CC	CC	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	W	TX	TY	TY
	PUP	SGE	SGR	SGR	SER	SER	SER	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA
MAX	9.7	6.4	6.4	12.3	10.6	11.1	11.1	8.0	10.5	11.5	11.5	10.5	10.4	10.3	10.3	10.9	8.9	11.4	9.1	9.1	6.8	11.7	11.7
MIN	10.3	9.1	7.6	13.3	12.1	11.7	11.7	12.5	11.2	12.0	11.7	12.3	12.3	11.0	11.0	11.9	12.0	12.5	9.9	9.9	8.9	12.4	12.4
DUR	4	6	5	4	4	4	4	4	3	2	4	6	5	3	3	4	4	4	3	3	6	3	3
TOT		2						1															
	(S)						(S)							(S)					(S)			(S)	
0- 1						8.5								0.5	5.0	3.5		1.0	1.5	5.5		5.0	1.0
1- 2						9.5			4.5		6.5	2.0		1.5	5.5				1.5	5.5		6.5	2.5
2- 3						10.5			0.5					2.0	6.0				1.5	5.5	2.5	8.5	4.0
3- 4	4.0					11.0			6.5		8.5	3.0		2.5	6.5	1.5		1.5	1.5	5.5		1.5	5.5
4- 5						12.0			2.5		1.0			3.0					1.5	5.5		3.0	7.0
5- 6					12.5		6.5					4.0		3.5					1.5	5.5	4.0	4.5	0.0
6- 7	8.5	11.0			9.5		7.0		4.0		3.0			4.0	0.0			2.0	1.5	6.0		6.0	1.5
7- 8	3.5			12.0		8.0			0.0			5.0		4.5	0.5	4.0			2.0	6.0		7.5	3.0
8- 9						8.5			6.0	1.5	4.5			5.5	1.0				2.0	6.0	5.5	0.5	4.5
9-10						9.5			2.0	3.5		6.5		6.0	2.0			2.0	2.0	6.0		2.0	6.0
10-11	8.0					10.0		5.5		5.5	6.5			6.5	2.5	2.0			2.0	6.0		3.5	7.5
11-12	3.0					11.0			4.0	7.0					3.0			5.0		2.0	6.0	7.0	5.0
12-13						12.0									3.5			4.5	2.5	2.0	6.0		6.5
13-14					10.0	6.5			6.0		1.0			0.0	4.0	0.5	4.0		2.0	6.0		8.0	4.0
14-15	7.5				7.5	7.0			2.0					0.5	4.5	4.5	3.0		2.0	6.0	8.5	1.0	5.5
15-16	2.5					8.0					3.0			1.0	5.5		2.5	3.0	2.0	6.0		2.5	7.0
16-17				12.5		8.5			3.5					1.5	6.0		1.5		2.0	6.0		4.0	8.5
17-18						9.5					5.0			2.5	6.5	2.5	1.0		2.0	6.0	10.0	5.5	1.5
18-19	6.5					10.0			5.5					3.0			0.5	3.0	2.0	6.0		7.0	3.0
19-20	1.5					11.0			1.5		6.5			3.5					2.0	6.0		0.0	4.5
20-21					11.0	11.5			7.5					4.0		1.0			2.0	6.0	11.5	1.5	6.0
21-22					8.0		6.5	7.5	3.5		8.5			4.5	0.5	5.0		3.5	2.0	6.0		3.5	7.5
22-23	6.0					7.0				1.5	1.0		1.0	5.0	1.0				2.0	6.0		5.0	0.5
23-24	1.0					8.0			5.5	3.5				6.0	1.5				2.0	6.0		6.5	2.0
24-25			12.5			8.5	2.0	1.0	5.5	3.0		2.0	6.5	2.5	3.0			4.0	2.0	6.0		8.0	3.5
25-26				12.5		9.5			7.0					3.0					2.0	6.0		1.0	5.0
26-27	5.5					10.0			3.0		5.0		3.0		3.5				2.0	6.0		2.5	6.5
27-28	0.5				12.0		11.0								4.0	1.5		4.0	2.0	6.0		4.0	8.0

	CD
	VUL
MAX	11.5
MIN	12.6
DUR	4
TOT	

0- 1	
1- 2	11.0
2- 3	
3- 4	12.0
4- 5	
5- 6	
6- 7	
7- 8	
8- 9	
9-10	
10-11	
11-12	
12-13	
13-14	
14-15	10.5
15-16	
16-17	12.0
17-18	
18-19	
19-20	
20-21	
21-22	
22-23	
23-24	
24-25	
25-26	
26-27	
27-28	

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	RT	TW	WZ	XZ	AB	AD	AD	BD	BX	OO	OO	V342	V343	V346	SS	SS	WW	WW	AP	AP	AR	AR	CL
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQL	AQL	AQL	AQL	AQL	ARI	ARI	AUR	AUR	AUR	AUR	AUR	AUR	AUR
MAX	9.3	8.8	11.6	10.0	9.3	11.1	11.1	11.3	8.6	9.2	9.2	9.0	10.6	9.0	10.1	10.1	5.7	5.7	10.9	10.9	6.0	6.0	11.7
MIN	10.2	11.0	12.6	13.0	10.2	11.6	11.6	11.7	9.5	10.1	10.1	12.5	12.3	10.4	11.1	11.1	6.4	6.4	11.4	11.4	6.7	6.7	13.2
DUR	3	11	4	3	3	4	4	3	4	3	3	7	4	4	3	3	5	5	4	4	5	5	4
TOT		2										3											
					(S)		(S)				(S)				(S)		(S)		(S)		(S)		
0- 1	1.0		2.5											12.0								2.5	1.5
1- 2		1.0						9.5	2.0				9.5										6.0
2- 3							2.5												2.5	9.5			
3- 4							2.0										5.0		6.0				
4- 5	10.5						2.0		3.5										9.0	2.5			
5- 6	2.0						1.5	2.0			9.0				0.5					5.5			1.0
6- 7							1.0	0.5			9.5				1.0				2.0	9.0			6.5
7- 8			1.5	1.5			1.0	10.0			10.0				1.5				5.5				
8- 9						12.5	0.5				10.0				1.5		6.0		9.0	2.0			
9-10	11.5					12.0			0.5		10.5	12.0			2.0					5.5			
10-11	2.5					11.5					11.0			11.0	2.5				2.0	8.5			
11-12				3.0	1.5	11.5					11.0				2.5				5.0				6.0
12-13					1.0	11.0		1.0	1.5		11.5	11.5			3.0		1.0		8.5	1.5			
13-14					1.0	10.5		10.0			12.0						7.5			5.0			
14-15	12.0		0.5		1.0	10.5					12.0								1.5	8.5			
15-16					1.0				3.0										5.0				
16-17	9.5		2.5		1.0														8.0	1.5	0.5		5.5
17-18	0.5				0.5												2.0			4.5			
18-19					0.5			1.5	4.0										1.0	8.0		2.5	
19-20					0.5			10.5							0.5					4.5			
20-21														10.0	1.0				8.0	1.0	4.0		
21-22	10.0												12.5	1.5						4.5			5.0
22-23	1.5														2.0	3.5			1.0	7.5		5.5	
23-24			1.5						1.5						2.0				4.0				
24-25								1.5		9.5					2.5				7.5	0.5	7.0		
25-26								11.0		9.5			9.0		3.0					4.0			
26-27	11.0			1.5					2.5	10.0		11.0			3.0				0.5	7.5			4.5
27-28	2.0									10.0							4.5		4.0				
28-29										10.5										7.0			
29-30									3.5	11.0											3.5		
30-31			0.5	3.0				2.0		11.0											7.0		

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	AK	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK		
	CMI	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP		
MAX	10.1	10.5	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	12.2		
MIN	11.5	11.6	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	14.2		
DUR	4	4	4	4	4	3	3	4	4	5	5	4	3	3	4	4	5	4	4	3	3	4	4		
TOT																		2							
							(S)							(S)		(S)						(S)			
0- 1						7.0	3.5		12.5				6.0				3.5	2.5			1.5	6.5			
1- 2	1.5				3.5	6.0	2.0						12.0	11.5				6.0			7.5	2.5			
2- 3	4.5				12.5	5.0	1.0	3.5				0.5			9.5						3.5	8.5			
3- 4	8.0		3.5			4.0						4.5					1.0		12.0	9.5	4.5				
4- 5			8.5	12.0		3.0	6.5	12.0							3.5		12.5		9.5	5.5	0.5				
5- 6	0.5	12.0			6.0	2.0	5.5				12.0	5.5								1.5	6.5	8.0			
6- 7	3.5					1.0	4.5	2.0		12.0		11.5						6.0			7.5	2.5			
7- 8	7.0					7.5	3.5									2.5				11.0		3.5	8.5		
8- 9				3.0		6.5	2.5	10.5		8.0			11.5								9.5	4.5			
9-10			3.0		8.5	5.5	1.5							9.5							5.5	0.5			
10-11	3.0		7.5			4.5	0.5		1.0	4.0	3.0	5.0					10.0				2.0	7.0			
11-12	6.0		12.5			3.5	7.0		10.0			11.0						3.5			5.5		8.0	3.0	
12-13					2.0	2.0	6.0		2.0								12.0			12.0	4.0	9.0	8.5		
13-14					11.0	1.0	5.0	3.5	11.0												8.5	10.0	5.0		
14-15	2.0						4.0										1.0			7.5	6.0	1.0			
15-16	5.0	11.5	2.5	9.0		7.0	3.0	12.0	12.0			4.5	11.5									2.0	7.0		
16-17			7.0		4.5	5.5	2.0					10.5		9.5				7.5	5.0			8.0	3.0		
17-18			12.0	4.5		4.5	1.0	1.5			2.0						3.0					4.0	9.0	0.5	
18-19	1.0					3.5	7.5											3.5					5.0		
19-20	4.0					2.5	6.5	10.0		9.0												6.0	1.0	8.5	
20-21	7.5				7.0	1.5	5.5						4.0										2.0	7.0	
21-22			2.0			0.5	4.5						10.0						5.0	12.5	8.5	3.5			
22-23			6.5			7.0	3.5							12.0							10.0	4.5	9.5		
23-24	3.0		11.5		0.5	6.0	2.0			1.5					9.5							7.5	5.5		
24-25	6.5			10.5	9.5	5.0	1.0	3.0			1.0					1.5						6.5	1.5	1.0	
25-26						4.0			0.5		4.5	4.0		3.5								2.5	7.5		
26-27						3.0	7.0	11.5	9.5			9.5										4.5	0.5	9.0	
27-28	2.5		1.5		3.0	2.0	5.5		1.5		12.0											4.5	9.5		
28-29	5.5		6.0	1.5	12.0	1.0	4.5	1.0	10.5														0.5	5.5	
29-30			10.5			7.5	3.5		2.5				12.0										6.5	1.5	12.5
30-31						6.5	2.5	10.0	11.5	10.5		3.5		9.5									2.5	7.5	12.0

	DL	DV	EG	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	W	W	RV	RV	V	Y	SW	WW	ZZ	AE
	CEP	CEP	CEP	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG
MAX	12.4	11.6	9.6	11.0	11.0	10.0	10.0	10.9	10.9	11.0	11.0	7.6	10.1	10.6	10.6	9.0	9.0	9.5	7.0	9.3	9.9	10.7	11.8
MIN	13.2	12.4	10.6	11.6	11.6	10.7	10.7	11.5	11.5	11.9	11.9	8.8	10.6	11.2	11.2	10.0	10.0	10.2	7.6	11.8	13.2	12.0	12.8
DUR	5	4	3	3	3	3	3	4	4	2	2	5	4	4	4	4	4	4	6	5	5	4	4
TOT																							
					(S)		(S)		(S)		(S)				(S)		(S)		(S)				
0- 1	1.5		0.5		3.0	1.5	5.5	6.0		2.5	5.0				6.5	10.0		4.0				9.5	
1- 2			2.5	5.0	2.0	2.0	6.0	2.0	7.0	5.0	2.0	7.0	11.0	6.0		4.0							
2- 3		3.5	5.0	3.5		2.5	6.5	7.5	2.5	2.0	4.5		4.5		5.0		6.5	7.0					
3- 4	8.0	7.5	7.0	2.5	5.0	3.0	7.0	3.5	8.5	4.5	2.0			4.5	9.0	10.0							
4- 5		11.5	9.0	1.0	4.0	3.0	7.0	9.0	4.0	1.5	4.5		8.5	8.5	4.0	4.0		9.5					
5- 6			11.0	5.5	2.5	3.5	7.5	5.0	10.0	4.0	1.5			3.0	7.5		6.0	2.0				10.5	
6- 7				4.5	1.5	4.0	8.0		5.5	1.5	4.0			7.0		9.5							
7- 8			2.5	3.0		4.5		6.5		4.0	1.0		6.5		6.5	3.5		4.5	10.0		7.5	12.0	
8- 9			4.5	2.0	5.0	4.5		2.0	7.0	1.0	3.5	4.5		5.5		6.0							11.5
9-10		3.0	6.5		3.5	5.0		8.0	3.0	3.5	1.0		10.5		5.0	9.5		7.5					10.5
10-11		7.0	9.0	5.0	2.5	5.5	1.5	4.0	8.5	0.5	3.5		4.0	4.0	9.0							11.0	10.0
11-12	11.5	11.0	11.0	4.0	1.0	5.5	1.5	9.5	4.5	3.0				8.0	3.5		5.5	10.0		12.0			9.5
12-13				3.0	5.5	6.0	2.0	5.5			3.0		8.5	2.5	7.5	9.0		2.5				8.0	
13-14	2.5		2.0	1.5	4.5	6.5	2.5		6.0	3.0				6.5									
14-15			4.5		3.0	7.0	3.0	7.0	2.0		2.5				6.0		5.5	5.0					
15-16			6.5	5.0	2.0	7.0	3.0	2.5	7.5	2.5	5.0		6.0	5.0		9.0						11.5	
16-17	9.0	2.5	8.5	3.5		7.5	3.5	8.5	3.5	5.0	2.5			9.0	4.5		11.0	8.0					
17-18		6.0	11.0	2.5	5.0	8.0	4.0	4.0	9.0	2.0	5.0		10.5	4.0	8.5		5.0					9.0	
18-19		10.0		1.0	4.0		4.5		5.0	4.5	2.0		4.0	8.0	3.0	8.5		10.5					
19-20			2.0	5.5	3.0		4.5	6.0		2.0	4.5				7.0		11.0	3.0					
20-21			4.0	4.5	1.5		5.0		6.5	4.5	1.5		8.0	6.5			5.0					12.5	
21-22			6.5	3.5		1.5	5.5	7.5	2.5	1.5	4.0				5.5	8.5		5.5		11.0			
22-23			8.5	2.0	5.0	1.5	6.0	3.0	8.0	4.0	1.5		12.5	5.0			10.5					9.5	
23-24		1.5	10.5		3.5	2.0	6.0	9.0	4.0	1.0	4.0		6.0	9.0	4.0		4.5	8.0					
24-25		5.5		5.5	2.5	2.5	6.5	4.5	9.5	3.5	1.0			3.5	8.0	8.0			12.5				
25-26		9.5	2.0	4.0	1.0	3.0	7.0		5.5	1.0	3.5	11.0	10.0	7.5	2.5		10.5						
26-27			4.0	3.0		3.0	7.5	6.0		3.5	0.5				6.5		4.5	3.5					
27-28			6.0	1.5	4.5	3.5	7.5	2.0	7.0		3.0			6.0		8.0			12.5			10.5	
28-29			8.0		3.5	4.0	8.0	7.5	3.0	3.0			8.0		5.5		10.0	6.0					
29-30	10.0		10.5	5.0	2.0	4.5		3.5	8.5		3.0			4.5	9.0		4.0					7.5	
30-31		1.0	12.5	3.5	1.0	4.5		9.5	4.5	2.5			12.5	8.5	4.0	7.5		8.5	12.5				

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	AI	TZ	YY	YY	RW	AF	SZ	TU	UX	CC	CT	AV	DF	DF	DI	DK	SW	SW	VX	CM	CO	CO	Y
	DRA	ERI	ERI	ERI	GEM	GEM	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LEO
MAX	7.2	9.8	8.4	8.4	9.6	10.2	10.2	10.6	8.9	9.5	9.9	10.2	11.0	11.0	11.0	10.5	9.2	9.2	10.9	8.5	10.5	10.5	9.5
MIN	8.2	12.6	9.1	9.1	11.6	11.3	12.0	13.4	9.8	12.8	11.2	10.6	11.5	11.5	12.0	11.0	10.0	10.0	12.3	9.5	11.0	11.0	12.7
DUR	4	4	3	3	5	4	4	5	5	4	4	4	4	4	4	4	3	3	4	4	5	5	5
TOT		1			1			1															
				(S)										(S)				(S)				(S)	
0- 1			2.0									8.5	6.0	2.0	7.5	8.0						12.0	
1- 2			1.0			5.5	8.5					1.0	6.0	2.0									9.5
2- 3	4.0									8.0			5.5	1.5	3.5							1.0	
3- 4	8.5			3.5					9.0			2.5	5.5	1.5									2.0
4- 5				2.5									5.0	1.5					12.0	9.0			
5- 6				1.5			11.0					3.5	5.0	1.0	5.5							3.0	
6- 7				0.5		4.5	6.5		11.0		10.0		5.0	1.0		1.5	0.5						11.0
7- 8								8.0				4.5	4.5	0.5	1.5	2.5					11.0		
8- 9	4.0		3.0										4.5	0.5	7.0	3.5							3.5
9-10	8.5		2.0							6.5		6.0	4.0			4.5							
10-11			1.0				8.5						4.0		3.5	6.0		0.5	12.0				
11-12						4.0						7.0	4.0	8.0		7.0							
12-13				3.5									3.5	7.5		8.0					2.0		
13-14				2.5								8.5	3.5	7.5	5.0								4.5
14-15	3.5			1.5			11.0			11.5		0.5	3.5	7.0			1.0					9.0	
15-16	8.5			1.0			6.5				8.5	9.5	3.0	7.0	1.5								
16-17					5.5	3.5		9.5				2.0	3.0	7.0	7.0								
17-18			3.0						7.5				2.5	6.5								11.0	
18-19			2.0									3.0	2.5	6.5	3.0	1.5			0.5				6.0
19-20			1.0		2.0		8.5						2.5	6.0		2.5							
20-21	3.5								9.5			4.5	2.0	6.0		4.0							
21-22	8.5			3.5		3.0				10.0			2.0	6.0	5.0	5.0					8.0		
22-23				2.5							12.0	5.5	1.5	5.5		6.0						2.0	
23-24				1.5			10.5		12.0				1.5	5.5	1.0	7.0							7.5
24-25				1.0			6.5				7.0	6.5	1.5	5.5	6.5	8.0			11.5		10.0		
25-26								11.0					1.0	5.0									
26-27	3.5		3.0			2.0						8.0	1.0	5.0	3.0								
27-28	8.0		2.0										0.5	4.5				0.5			12.5		
28-29			1.5				8.5			8.5		9.0	0.5	4.5									9.0
29-30												1.5		4.5	4.5	0.5					1.5		
30-31		1.0		3.5										4.0		2.0							1.5

	EQ	ER	ER	ET	FL	FT	FZ	FZ	GU	GU	U	GP	Z	RT	ST	XZ	BETA	UZ	UZ	U	V505	1968	AO
	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	PEG	PEG	PER	PER	PER	PER	PER	PUP	PUP	SGE	SGR	SGR	SER
MAX	10.3	9.5	9.5	11.2	10.5	9.1	10.7	10.7	12.6	12.6	9.7	10.2	9.9	10.6	9.7	10.6	2.2	9.7	9.7	6.4	6.4	12.3	10.6
MIN	13.3	10.2	10.2	12.4	13.2	9.7	11.3	11.3	13.5	13.5	10.5	11.0	12.4	12.0	13.2	12.7	3.5	10.6	10.3	9.1	7.6	13.3	12.1
DUR	4	3	3	5	3	4	3	3	4	4	3	4	6	4	5	4	8	4	4	6	5	4	4
TOT													2		1					2			
			(S)					(S)		(S)	(S)								(S)				
0- 1		4.0				1.5	5.5	0.5		4.0			5.0					5.0					9.0
1- 2		0.5		4.5			0.5	5.5		2.5	0.5					2.0	4.5					11.0	6.0
2- 3			2.0	3.5			5.5	0.5		1.5						5.5			5.0				
3- 4		3.5		2.0		5.0	0.5	5.5	5.5								1.5	4.5					
4- 5				1.0			5.5	0.5	4.0		0.5			3.5				4.5					
5- 6	2.0		1.0				0.5	5.5	2.5											12.0		10.0	
6- 7		2.5					5.5	0.5	1.5										4.0				
7- 8			4.0				0.5	5.5		5.5	0.5												10.0
8- 9							5.5	0.5		4.0								4.0					7.0
9-10		1.5					0.5	5.5		2.5				5.5		3.5							
10-11			3.0		1.0		5.5	0.5		1.5	0.5				2.0		7.0						11.5
11-12		4.5					0.5	5.5	5.5														
12-13	1.5	1.0					5.5	0.5	4.0									3.5					
13-14			2.0		3.0		0.5	5.5	2.5		0.5												
14-15		3.5					5.5	0.5	1.5										3.0			10.0	10.5
15-16							0.5	5.5		5.5				4.5						10.5			8.0
16-17			1.5				5.5	0.5		4.0	0.5			1.0	5.0	1.0		2.5					5.0
17-18		2.5					0.5	5.5		3.0						4.5							
18-19			4.0				5.5	0.5		1.5									2.5				
19-20	1.5		0.5				0.5	5.5	5.5														12.0
20-21		2.0					5.5	0.5	4.0			12.0						2.0					
21-22			3.0	4.0			0.5	5.5	3.0			11.5		3.0					6.5				11.5
22-23		4.5		2.5		3.0	5.5	0.5	1.5										1.5	9.5			8.5
23-24		1.0		1.5			0.5	5.5		5.5									6.5			10.5	5.5
24-25			2.5				5.5	0.5		4.0					3.5	2.5	3.0	1.5					
25-26		4.0				6.5	0.5	5.5		3.0						6.0							
26-27	1.0						5.5	0.5		1.5				5.5					6.0				
27-28			1.5		2.0		0.5	5.5	5.5					2.0					5.5				
28-29		3.0					5.5	0.5	4.0									1.0			11.0	12.0	12.5
29-30			4.5				0.5	5.5	3.0										5.5				9.5
30-31			0.5		4.5		5.5	0.5	1.5										0.5				6.5

	CC	CC	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	W	TX	TY	TY	UX	VV	XZ	ZZ	RU		
	SER	SER	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI		
MAX	11.1	11.1	8.0	10.5	11.5	11.5	10.5	10.4	10.3	10.3	10.9	8.9	11.4	9.1	9.1	6.8	11.7	11.7	12.7	10.1	10.1	9.8	10.7		
MIN	11.7	11.7	12.5	11.2	12.0	11.7	12.3	12.3	11.0	11.0	11.9	12.0	12.5	9.9	9.9	8.9	12.4	12.4	13.8	11.0	11.7	11.2	11.4		
DUR	4	4	4	3	2	4	6	5	3	3	4	4	4	3	3	6	3	3	1	3	3	4	4		
TOT			1																						
		(S)								(S)					(S)			(S)							
0- 1	5.5	11.5		5.0		7.0		4.0	0.5	4.5				2.0	6.0		5.5	1.0	1.0	8.0			7.0		
1- 2	6.5			1.0						1.0				2.0	6.0		7.0	2.5	5.5					8.0	
2- 3	7.0							5.0	1.5					2.5	6.5		8.5	4.5		9.5				9.0	
3- 4	8.0			3.0		1.5				2.0				2.5	6.5		1.5	6.0	4.5	2.0	3.5			10.5	
4- 5	8.5							6.0	3.0					2.5	6.5		3.0	7.5	9.0	11.0	9.0			11.5	
5- 6	9.5			4.5		3.5				3.5				2.5	6.5		4.5		3.5	3.5		6.5			
6- 7	10.0			0.5						4.0		2.0		2.5	6.5		6.0	2.0	8.0	12.5				1.5	
7- 8	11.0	4.5	3.5			5.0				4.5				2.5	6.5		7.5	3.5	3.0	5.0				2.5	
8- 9	11.5	5.5		2.5	2.0						1.0			2.5	6.5		0.5	5.0	7.5		1.0			3.5	
9-10		6.0			3.5	7.0					1.5			2.5	6.5		2.0	6.5	2.0	6.5	6.0			5.0	
10-11		7.0		4.5							2.0			2.5	6.5		3.5	8.0	6.5		11.5			6.0	
11-12		8.0									2.5			2.5	6.5		5.0	1.0	1.5	8.0				7.5	
12-13		8.5				1.5					3.5			2.5	6.5		7.0	2.5	5.5			4.0		8.5	
13-14		9.5		2.5							4.0	2.5		2.5	6.5		8.5	4.0	0.5	9.5				9.5	
14-15		10.0				3.5					4.5			2.5	6.5		1.5	5.5	5.0	2.0	3.5	11.5		11.0	
15-16	4.5	11.0		4.0						1.0				2.5	6.5		3.0	7.0	9.0	11.0	9.0			12.0	
16-17	5.5	11.5				5.5				1.5		0.5		2.5	6.5		4.5		4.0	3.5				0.5	
17-18	6.0									2.0				2.5	6.5		6.0	1.5	8.5	12.5				2.0	
18-19	7.0		5.5	2.0		7.0	1.0			2.5				2.5	6.5		7.5	3.0	3.5	5.0				3.0	
19-20	8.0									3.0				2.5	6.5		0.5	4.5	7.5		1.0	1.5		4.5	
20-21	8.5			4.0			2.0			4.0		3.0	3.0	2.5	6.5	1.0	2.0	6.0	2.5	6.0	6.5				5.5
21-22	9.5					1.5				4.5		2.5	1.0	2.5	6.5		3.5	8.0	7.0		11.5	9.0		6.5	
22-23	10.0				2.0		3.0				1.0			2.5	6.5		5.0	1.0	1.5	7.5				8.0	
23-24	11.0	4.5		1.5	4.0	3.5					1.5	1.0	1.0	2.5	6.5	2.5	6.5	2.5	6.0					9.0	
24-25	11.5	5.5					4.0				2.0		0.5	1.0	2.5	6.5		8.0	4.0	1.0	9.0			10.5	
25-26	12.5	6.0		3.5		5.5					2.5			3.0	7.0		1.0	5.5	5.0	1.5	3.5			11.5	
26-27		7.0									3.0			3.0	7.0	4.5	2.5	7.0		10.5	9.0				
27-28		7.5		5.5		7.5					4.0		1.5	3.0	7.0		4.0	8.5	4.5	3.0				1.5	
28-29		8.5		1.5							4.5			3.0	7.0		5.5	1.5	8.5	12.0		6.5		2.5	
29-30		9.5								1.0	5.0			3.0	7.0	6.0	7.0	3.0	3.5	4.5				3.5	
30-31		10.0		3.5		2.0					1.5		2.0	3.0	7.0			4.5	8.0		1.0			5.0	

	XZ	AK	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	
	CMI	CMI	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	
MAX	9.7	10.1	10.5	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	
MIN	10.2	11.5	11.6	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	
DUR	3	4	4	4	4	4	3	3	4	4	5	5	4	3	3	4	4	5	4	4	3	3	4	
TOT																			2					
								(S)							(S)		(S)					(S)		
0- 1	5.0	1.5				5.5	5.5	1.5					9.5						4.0	10.5	8.5	3.5	1.0	
1- 2		4.5					4.5				6.5									8.0	5.0	10.0		
2- 3							3.5	7.0												5.5		6.0	9.5	
3- 4	2.5			5.5			2.5	6.0	8.0		2.5	11.0									7.0	2.0		
4- 5			9.5	10.0	7.5	8.0	1.0	5.0					3.0					11.0			3.0	8.0		
5- 6		3.5						4.0					9.0		10.0				4.0		9.0	4.0		
6- 7					3.0		7.0	3.0	11.5						9.5						5.0	10.0		
7- 8	3.5					1.5	5.5	2.0										9.5			1.0	6.0	1.5	
8- 9						10.5	4.5		1.0	7.5		2.0									7.0	2.0		
9-10		2.5		5.0			3.5	7.5					2.5							10.5	3.0	8.0	9.5	
10-11	1.0	6.0		9.5			2.5	6.5	9.5	8.5	11.5	10.0	8.5			1.0		8.5	3.5	8.5	9.0	4.0		
11-12	5.0					4.0	1.5	5.5													6.0	5.0		
12-13								4.5		9.5	7.5											1.0	6.0	
13-14		1.5			9.0		7.0	3.5							9.5			7.0			7.5	2.5		
14-15	2.5	5.0					6.0	2.5	7.5	10.5			2.0								3.5	8.5	2.0	
15-16				4.5		6.5	5.0	1.0				1.0	8.0			10.5			3.0		9.5	4.5		
16-17				9.0			4.0			11.5											5.5		10.0	
17-18							3.0	7.0	11.0												1.5	6.5		
18-19	3.5	4.0					2.0	5.5													11.0	7.5	2.5	
19-20						8.5		4.5					2.0					4.5			8.5	3.5	8.5	
20-21							7.5	3.5					7.5		9.5		2.0		3.0	6.5	9.5	4.5		
21-22	1.0		11.5	3.5			6.5	2.5	9.0					6.0							5.5		2.0	
22-23	5.0	3.0		8.5	10.5	2.5	5.5	1.5								9.5		3.5			1.5	6.5		
23-24						11.0	4.5			7.0	9.0										7.5	2.5	10.0	
24-25							3.5	7.0					1.5								4.0	9.0		
25-26	2.5						2.5	6.0	7.5	8.0		11.5	7.5			11.5		2.0	2.5		10.0	5.0		
26-27	6.0	2.0			1.5	4.5	1.0	5.0													6.0			
27-28		5.0		3.0				4.0		9.0	1.5				9.5					11.5	2.0	7.0		
28-29				8.0			7.0	3.0	10.5					6.0							9.0	8.0	3.0	2.5
29-30	3.5						6.0	2.0		10.0			1.0								6.5	4.0	9.0	

	DK	DL	DV	EG	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	W	W	RV	RV	V	Y	SW	WW	ZZ
	CEP	CEP	CEP	CEP	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG
MAX	12.2	12.4	11.6	9.6	11.0	11.0	10.0	10.0	10.9	10.9	11.0	11.0	7.6	10.1	10.6	10.6	9.0	9.0	9.5	7.0	9.3	9.9	10.7
MIN	14.2	13.2	12.4	10.6	11.6	11.6	10.7	10.7	11.5	11.5	11.9	11.9	8.8	10.6	11.2	11.2	10.0	10.0	10.2	7.6	11.8	13.2	12.0
DUR	4	5	4	3	3	3	3	3	4	4	2	2	5	4	4	4	4	4	4	6	5	5	4
TOT																							2
						(S)		(S)		(S)		(S)				(S)		(S)		(S)			
0- 1	11.5	1.0	5.0	1.5	2.5	5.5	5.0	1.0	5.0		5.0	2.5		5.5	3.0	8.0			1.5			10.0	
1- 2	11.5		9.0	3.5	1.5	4.0	5.5	1.5		6.0	2.5	5.0	8.5		7.0	2.5		4.0					11.0
2- 3	11.0			6.0		3.0	6.0	2.0	6.5	1.5	5.0	2.0		10.0	1.5	6.5	7.5		4.0				
3- 4	10.5	7.5		8.0	4.5	1.5	6.0	2.0	2.5	7.5	2.0	4.5		3.5	5.5	1.0							8.5
4- 5	10.5			10.0	3.5		6.5	2.5	8.0	3.0	4.5	2.0				5.0		3.5	6.5				
5- 6	10.0				2.0	5.0	7.0	3.0	4.0	9.0	1.5	4.5		7.5	4.0	9.0	7.0						5.5
6- 7	9.5			1.5	1.0	3.5	7.5	3.0	9.5	4.5	4.0	1.5			8.0	3.5		9.5					11.5
7- 8	9.5		4.0	3.5	5.5	2.5	7.5	3.5	5.5		1.5	4.0			3.0	7.5		3.5	2.0				
8- 9	9.0	5.0	8.0	5.5	4.0	1.5	8.0	4.0	1.5	6.5	4.0	1.0	6.5	5.5	6.5	2.0	7.0			10.5			9.0
9-10	8.5			8.0	3.0			4.5	7.0	2.0	1.0	3.5			1.5	6.0		9.0	4.5				
10-11	8.5			10.0	1.5	4.5		4.5	3.0	8.0	3.5			10.0	5.5			3.0				9.0	6.0
11-12	8.0	11.0				3.5	1.0	5.0	8.5	3.5		3.5		3.0	9.0	4.5	6.5		7.0				
12-13	7.5			1.0	5.0	2.0	1.5	5.5	4.5	9.5	3.0				4.0	8.5		9.0					
13-14	7.5			3.5	4.0	1.0	2.0	6.0		5.0		3.0		7.5	8.0	3.0		3.0					9.5
14-15	7.0		3.5	5.5	2.5	5.5	2.0	6.0	6.0	1.0	3.0				2.5	7.0	6.5		2.5				
15-16	6.5		7.5	7.5	1.5	4.0	2.5	6.5	2.0	6.5		2.5	4.0		6.5	1.5		8.5					7.0
16-17	6.5	8.5	11.5	9.5		3.0	3.0	7.0	7.5	2.5	2.5	5.0		5.5	1.0	5.5		2.5	5.0				
17-18	6.0				4.5	2.0	3.5	7.5	3.5	8.5	5.0	2.5			5.0		6.0			11.5			
18-19	5.5				3.5		3.5	7.5	9.0	4.0	2.0	5.0		9.5	9.0	4.0		8.5	7.5				10.5
19-20	5.5			3.0	2.0	5.0	4.0	8.0	5.0	10.0	4.5	2.0		3.0	3.5	8.0		2.0					
20-21	5.0			5.0	1.0	4.0	4.5			5.5	2.0	4.5			7.5	3.0	5.5			11.5		7.5	7.5
21-22	4.5	6.0	3.0	7.5	5.5	2.5	5.0		6.5	1.5	4.5	1.5		7.5	2.0	6.5		8.0	3.0				
22-23	4.5		7.0	9.5	4.5	1.5	5.0	1.0	2.0	7.0	1.5	4.0	2.0		6.0	1.5		2.0					
23-24			10.5	11.5	3.0		5.5	1.5	8.0	3.0	4.0	1.5		11.5		5.5	5.5		5.5	11.5			11.0
24-25					2.0	4.5	6.0	2.0	3.5	8.5	1.0	4.0		5.0	4.5	9.0		8.0					
25-26				3.0		3.5	6.5	2.0	9.5	4.5	3.5	1.0			8.5	4.0		1.5	8.0				8.5
26-27				5.0	5.0	2.0	6.5	2.5	5.5			3.5		9.5	3.0	8.0	5.0		1.0	11.5			
27-28				7.0	4.0	1.0	7.0	3.0	1.0	6.0	3.5			3.0	7.0	2.5		7.5					5.5
28-29			2.0	9.0	2.5	5.5	7.5	3.5	7.0	2.0		3.0			1.5	6.5			3.5				11.5
29-30		9.5	6.0	11.5	1.5	4.5	8.0	3.5	2.5	7.5	3.0			7.0	5.5	1.0	5.0			11.5			

	AE	BR	CG	DK	KV	V346	V387	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA
MAX	11.8	9.4	11.0	10.3	11.5	11.8	11.5	9.7	10.8	10.8	10.8	8.3	8.3	13.8	9.4	10.6	9.6	11.0	10.2	10.8	10.0	7.8	9.9
MIN	12.8	10.5	11.8	10.8	12.6	13.6	12.3	10.3	11.9	11.6	11.6	9.2	8.7	14.6	12.7	12.5	10.8	12.0	11.3	13.6	10.9	9.5	10.7
DUR	4	4	3	4	5	5	3	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5
TOT															2							1	
										(S)		(S)											
0- 1									10.5									11.0		5.5	5.5		
1- 2			6.5	10.5			7.0		8.0	6.0								10.0			8.0		
2- 3		9.0		9.0																	10.5		
3- 4				7.5							8.0			9.0	8.0		10.5						
4- 5			10.5															10.0		7.0	2.0		
5- 6								9.5	10.5			9.0	9.0								4.5		
6- 7		9.0	8.0		11.0		10.0														7.0		6.5
7- 8														9.0							9.5	8.0	
8- 9							8.5		11.0									9.0	11.0	9.0	11.5		
9-10	11.0		11.5	10.5	7.0	8.5			8.5								9.5						
10-11	10.5	9.0		9.0					6.0		7.0										3.5	3.5	
11-12	9.5		9.0	7.5			10.0													2.0	6.0		
12-13	9.0						6.5		9.5		10.0	10.0						8.5	9.0	10.5	8.5		
13-14	8.0						11.5														10.5		
14-15	7.5	9.0									11.5												
15-16							9.5							9.0		9.0	8.5			3.5	2.5		
16-17			10.5						11.5									7.5			5.0	1.0	
17-18				10.5			7.5	10.5	9.0		6.0										7.0		
18-19		9.0	7.5	9.0				7.0	6.5												9.5		
19-20				8.0						8.5		11.0	11.0	8.5									7.5
20-21						7.5																	
21-22			11.5								10.5										1.5		
22-23		8.5							10.5												4.0	9.0	
23-24			9.0		11.5			10.5						8.5				11.0	8.5	7.0	8.5		
24-25							8.5	7.5													11.0	4.5	
25-26				10.5					9.5														
26-27		8.5		9.0	8.0				7.0	7.0									11.5		3.0		
27-28				8.0										8.5	9.0			10.0		9.0	5.0		
28-29			10.0								9.5								11.0		7.5		
29-30							11.5	11.0													10.0		2.5

	UV	VZ	T	RR	SS	DELT	RY	UZ	EW	FL	RU	RU	RW	AT	BB	BO	U	SX	V508	V839	1010	ER	ER
	LEO	LEO	LMI	LEP	LIB	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	MON	OPH	OPH	OPH	OPH	OPH	ORI	ORI
MAX	9.5	10.6	10.2	10.2	10.4	4.8	11.9	9.8	11.2	8.7	10.6	10.6	9.1	10.6	10.6	10.8	5.8	10.5	10.1	8.8	6.2	9.5	9.5
MIN	10.2	11.7	12.6	10.9	11.3	5.9	13.3	11.0	13.6	9.5	11.3	11.3	11.9	11.4	11.3	12.1	6.5	11.2	10.7	9.4	7.0	10.2	10.2
DUR	3	4	6	4	6	7	4	5	5	4	5	5	5	5	4	5	5	5	3	3	4	3	3
TOT													1			1							
																							(S)
0- 1	5.5	3.5		1.5		3.5														9.5		2.0	
1- 2		5.5	7.5				1.5		6.5							3.5					8.0		
2- 3		8.0			5.0	11.5											8.5						
3- 4	5.5								5.0						3.5					6.5	7.5	1.0	
4- 5			8.0					9.5					4.5										2.5
5- 6							9.0												5.0	7.5	7.0		
6- 7	5.5							7.0					2.5		1.5				6.0				
7- 8			8.5			3.5											9.5		6.5	8.5	6.5		1.5
8- 9							5.5												7.5				
9-10	5.5				9.5	11.0				7.0									8.5	9.5	6.5		
10-11			9.0													1.5							
11-12		1.0		1.0			2.5			11.5		4.0						5.0			6.0	2.0	
12-13	5.5	3.5			6.5												10.0			6.5			
13-14		5.5	9.5																6.5		5.5		
14-15		7.5													3.0							1.5	
15-16	5.5																	8.0	5.0				
16-17					10.5														6.0	8.5			
17-18											3.5				1.5		11.0	9.5	6.5				
18-19	5.5						6.5												7.5	9.5			2.0
19-20				11.0														11.0	8.0				
20-21										4.5													
21-22	5.5						3.5	10.0								4.5				6.0			1.0
22-23					8.0					9.0							11.5					2.5	
23-24						10.0		7.5												7.5			
24-25	5.5	3.0																			11.5		
25-26		5.0			5.0			5.0					4.0		3.0				5.0	8.5		1.5	
26-27		7.5												1.0					5.5		11.0		
27-28	5.5											1.5							6.5	9.5			
28-29							8.0							1.5	1.0				7.5		10.5		
29-30												2.0							8.0				2.0

	ET	FL	FT	GU	GU	AQ	DI	Z	RT	ST	XZ	BETA	UZ	UZ	U	V505	1968	AO	CC	CC	RW	RZ	TY
	ORI	ORI	ORI	ORI	ORI	PEG	PEG	PER	PER	PER	PER	PER	PUP	PUP	SGE	SGR	SGR	SER	SER	SER	TAU	TAU	TAU
MAX	11.2	10.5	9.1	12.6	12.6	10.3	9.6	9.9	10.6	9.7	10.6	2.2	9.7	9.7	6.4	6.4	12.3	10.6	11.1	11.1	8.0	10.5	11.5
MIN	12.4	13.2	9.7	13.5	13.5	13.0	10.8	12.4	12.0	13.2	12.7	3.5	10.6	10.3	9.1	7.6	13.3	12.1	11.7	11.7	12.5	11.2	12.0
DUR	5	3	4	4	4	12	2	6	4	5	4	8	4	4	6	5	4	4	4	4	4	3	2
TOT						4		2		1					2						1		
				(S)									(S)							(S)			
0- 1																	7.5	3.5	4.5	11.0			
1- 2					4.0				4.0	2.5	4.0						10.5		5.5	11.5	1.5		
2- 3					3.0									5.0					6.0			1.0	
3- 4					1.5		11.5									9.0			7.0				
4- 5													4.5						7.5			3.0	
5- 6				4.5													9.5	10.5	8.5				2.0
6- 7				3.0										4.0				7.5	9.0	3.0			
7- 8				1.5					3.0									4.5	10.0	4.0			
8- 9							11.0				2.0		4.0		7.5				11.0	4.5			
9-10				4.5						1.0								8.0		11.5	5.5	2.5	
10-11		1.0		3.0										3.5		11.0	11.0				6.0		
11-12	2.0			1.5	11.0																7.0		
12-13													3.5					11.0		7.5	3.5		
13-14			4.0	4.5			10.5		1.5									8.0		8.5			
14-15				3.0										3.0			9.5	5.5	3.0	9.0		2.5	
15-16				1.5				1.5											4.0	10.0			
16-17											3.5	1.5	2.5			9.0			4.5	10.5			
17-18				4.5															5.5	11.5			
18-19				3.0				2.5	4.0					2.5	11.0		8.0		6.0				
19-20				1.5													11.0		7.0		2.0	2.5	
20-21													2.0					9.0	7.5				
21-22				4.5														6.0	8.5				
22-23				3.0										1.5				3.0	9.0	3.0			
23-24				1.5							1.0					11.5	10.0		10.0	3.5			
24-25								2.5			5.0		1.5						10.5	4.5		2.0	
25-26				4.5															11.5	5.5			
26-27				3.0									1.0							6.0			
27-28		2.5		1.5													8.5	10.0		7.0			
28-29																	11.5	7.0		7.5			
29-30				4.5												9.5		4.0		8.5		1.5	

	WY	AM	EQ	EQ	V	X	RV	W	W	TX	TY	TY	UX	VV	XZ	ZZ	RU	VV	AG	AH	AH	AK	AW	
	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR	VIR	VIR	VIR	VIR	VIR	
MAX	11.5	10.4	10.3	10.3	10.9	8.9	11.4	9.1	9.1	6.8	11.7	11.7	12.7	10.1	10.1	9.8	10.7	11.7	8.8	9.7	9.7	10.0	10.8	
MIN	11.7	12.3	11.0	11.0	11.9	12.0	12.5	9.9	9.9	8.9	12.4	12.4	13.8	11.0	11.7	11.2	11.4	13.5	9.4	10.2	10.2	11.5	11.9	
DUR	4	5	3	3	4	4	4	3	3	6	3	3	1	3	3	4	4	4	4	4	4	4	3	
TOT																								
				(S)					(S)			(S)									(S)			
0- 1			2.0					3.0	7.0		2.0	6.0	3.0	6.0	6.5		6.0	8.5	10.5	4.5	9.5	8.0	6.0	
1- 2	3.5		2.5					3.0	7.0	7.5	3.5	7.5	7.0				7.5	6.0	2.0	9.5	5.0		7.5	
2- 3							2.0	3.0	7.0		5.0		2.0	7.5			8.5	3.5	9.0	5.5				
3- 4								3.0	7.0		6.5	2.0	6.5				9.5				5.5		2.0	
4- 5								3.0	7.0	9.0	8.0	3.5	1.0	9.0		4.0	11.0	9.0	7.0	6.0	1.5		3.5	
5- 6								3.0	7.0			5.0	5.5	1.5	3.5			6.5		1.5	6.5		5.0	
6- 7				1.5				3.0	7.0		2.5	6.5		10.5	9.0	11.0		3.5	5.5	7.0	2.0	7.5	6.5	
7- 8				2.0				3.0	7.0	10.5	4.0	8.0	4.5	3.0				2.0		2.5	7.5		8.0	
8- 9	2.0			2.5				3.0	7.0		5.5	1.0	9.0				3.0	9.0	3.5	8.0	3.0			
9-10								3.0	7.0		7.0	2.5	4.0	4.5				4.0	6.5	10.5	3.5	8.5		2.5
10-11	4.0	1.0						3.0	7.0			4.5	8.0		1.0		5.5	4.0	2.0	9.0	4.0		4.0	
11-12								3.0	7.0		1.5	6.0	3.0	6.0	6.5	1.5	6.5		9.0	4.5	9.5			5.5
12-13		2.0						3.0	7.0		3.0	7.5	7.5				8.0	9.5			5.0	6.5	7.0	
13-14			1.5					3.0	7.0		4.5		2.5	7.5		8.5	9.0	7.0	7.0	5.5				8.5
14-15		3.0	2.0					3.0	7.0		6.0	2.0	6.5				10.0	4.5		1.0	6.0		1.5	
15-16			2.5					3.0	7.0		7.5	3.5	1.5	9.0			11.5		5.5	6.5	1.5			3.0
16-17		4.0			1.0			3.0	7.0			5.0	6.0	1.5	3.5			10.0		2.0	6.5			4.5
17-18	2.0							3.5	7.5		2.0	6.5		10.5	9.0			1.0	7.5	3.5	7.0	2.5		6.0
18-19								3.5	7.5		3.5	8.0	5.0	3.0				2.5	5.0	10.5	2.5	7.5	6.0	7.5
19-20	4.0							3.5	7.5		5.5	1.0	9.5					3.5		2.0	8.0	3.0	10.5	
20-21				1.0				3.5	7.5		7.0	2.5	4.0	4.5		6.5	5.0	10.5	8.5	3.5	8.5			2.0
21-22				2.0				3.5	7.5		8.5	4.0	8.5		1.0			6.0	7.5		9.0	4.0		3.5
22-23				2.5				3.5	7.5		1.5	5.5	3.5	6.0	6.5			7.0	5.0	7.0	4.5	9.5		5.0
23-24								3.5	7.5		3.0	7.0	8.0					8.5	2.5			5.0		6.5
24-25								3.5	7.5		4.5		2.5	7.5				9.5	10.5	5.5	5.5		5.0	8.0
25-26								3.5	7.5		6.0	1.5	7.0				11.0	8.0		1.0	6.0	9.5		
26-27	2.0					1.0		3.5	7.5		7.5	3.0	2.0	9.0					5.5	3.5	6.5	1.5		2.0
27-28			1.0					3.5	7.5			4.5	6.0	1.5	3.5	4.0			3.0	10.5	2.0	7.0		3.5
28-29	4.0		1.5					3.5	7.5		2.0	6.5	1.0	10.5	9.0			2.0		2.0	7.0	2.5		5.0
29-30			2.5					3.5	7.5		3.5	8.0	5.5	3.0		11.0	3.0	8.5	8.5	3.0	7.5			6.5

	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DL	DV	EG	RW	RW	RZ	
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	COM	COM	COM	
MAX	11.8	11.8	11.6	10.8	11.6	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	12.4	11.6	9.6	11.0	11.0	10.0	
MIN	12.5	12.5	12.3	12.1	12.6	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	13.2	12.4	10.6	11.6	11.6	10.7	
DUR	3	3	4	4	5	5	4	3	3	4	4	5	4	4	3	3	4	5	4	3	3	3	3	
TOT													2											
		(S)							(S)	(S)						(S)						(S)		
0- 1	4.5						7.0						2.0	4.5		5.0	10.5		10.0				3.0	
1- 2	3.5	7.5		11.0											6.0					2.5	4.5	2.0		
2- 3	2.5	6.5	9.0			10.0				10.0	11.0				2.0	7.0				4.5	3.5			
3- 4	1.5	5.5													8.0	3.0				7.0	2.5	5.0		
4- 5		4.5			10.0				10.0						4.0	9.0		7.0		9.0		4.0	1.5	
5- 6	7.0	3.5					6.5	6.0				9.5	2.0			5.0	2.5		1.5	11.0	5.5	2.5	2.0	
6- 7	6.0	2.5	7.0	5.5	6.0										6.5				5.5		4.5	1.5	2.0	
7- 8	5.0													9.5	2.5	7.5	11.0			9.5	2.5	3.0	2.5	
8- 9	4.0			6.5							8.5			7.0	8.5	3.5				4.5	2.0	5.0	3.0	
9-10	3.0	7.0	10.5			9.0				8.5				4.5	4.5	9.5		4.5		6.5		3.5	3.5	
10-11	2.0	6.0	5.5	7.5			6.0						1.5			5.5				9.0	5.0	2.5	3.5	
11-12		4.5							10.0			7.0				6.5	1.5			11.0	4.0		4.0	
12-13	7.5	3.5		8.5				6.0		11.0					2.5	7.5	3.0	10.5			3.0	5.5	4.5	
13-14	6.5	2.5	8.5												8.5	3.5			4.5	2.0	1.5	4.5	5.0	
14-15	5.5	1.5		9.5								6.0			4.5	9.5	11.0		8.5	4.5		3.0	5.0	
15-16	4.5						5.5									5.5				6.5	5.0	2.0	5.5	
16-17	3.5	7.0		10.5		8.0				7.5				9.5	6.5	1.5				8.5	3.5		6.0	
17-18	2.5	6.0	7.0		7.5							4.5		7.5	3.0	8.0		8.0		10.5	2.5	5.0	6.5	
18-19		5.0							10.0					5.0	9.0	4.0						4.0	6.5	
19-20		4.0			3.5			6.0			9.5				5.0	10.0	3.0				2.0	5.5	3.0	7.0
20-21	7.0	3.0	10.0				5.0					3.0				6.0				4.0	4.0	4.5	1.5	7.5
21-22	6.0	2.0					11.0								7.0	2.0				8.0	6.0	3.0		8.0
22-23	5.0														3.0	8.0		5.5		8.5	2.0	5.0		
23-24	3.5	7.5		6.0							2.0				9.0	4.0				10.5		3.5		
24-25	2.5	6.5	8.5			10.5									5.0						5.5	2.5		
25-26	1.5	5.5		7.0					10.0					10.0		6.0					1.5	4.0		
26-27		4.5					10.5	6.0		8.0				7.5	7.0	2.0	3.5			4.0	3.0	5.5	1.5	
27-28	7.0	3.5		8.0										5.5	3.0	8.0		3.0	3.5	6.0	1.5	4.5	2.0	
28-29	6.0	2.5	6.5		8.5										9.5	4.5				7.5	8.0		3.0	2.5
29-30	5.0			9.0						10.0					5.5					11.0	10.5	5.0	2.0	2.5
30-31	4.0				5.0							10.5				6.5		9.0			3.5		3.0	

	RZ	SS	SS	CC	CC	U	RW	W	W	RV	RV	V	Y	SW	WW	ZZ	AE	BR	CG	DK	KV	V346	V387
	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	10.0	10.9	10.9	11.0	11.0	7.6	10.1	10.6	10.6	9.0	9.0	9.5	7.0	9.3	9.9	10.7	11.8	9.4	11.0	10.3	11.5	11.8	11.5
MIN	10.7	11.5	11.5	11.9	11.9	8.8	10.6	11.2	11.2	10.0	10.0	10.2	7.6	11.8	13.2	12.0	12.8	10.5	11.8	10.8	12.6	13.6	12.3
DUR	3	4	4	2	2	5	4	4	4	4	4	4	6	5	5	4	4	4	3	4	5	5	3
TOT														2									
	(S)		(S)		(S)				(S)	(S)		(S)											
0- 1	4.0	8.5	3.5		3.0					5.0		7.0	6.0			6.5	9.0		8.5	7.5			
1- 2	4.5	4.0	9.0	2.5				4.0						7.5								7.0	10.0
2- 3	5.0		5.0	5.0	2.5	10.5	5.0		3.5	4.5						6.0			5.0				
3- 4	5.0	5.5		2.5	5.0			3.0			7.0	1.5								10.5			8.0
4- 5	5.5	1.5	6.5	5.0	2.0		9.0	6.5	2.0							3.5		8.5		9.5			
5- 6	6.0	7.0	2.5	2.0	4.5		2.5		6.0	4.5		4.0				9.5			8.5	8.0			6.0
6- 7	6.5	3.0	8.0	4.5	2.0			5.5			6.5									6.5			
7- 8	6.5	9.0	4.0	1.5	4.5		7.0		4.5							7.0			6.0				
8- 9	7.0	4.5	9.5	4.0	1.5			4.0		4.0			11.0					8.5					11.0
9-10	7.5		5.5		4.0	8.0	11.0		3.0		6.5					4.0							
10-11	8.0	6.0		4.0			4.5	2.5	7.0			2.0		11.0	5.5	10.5			10.0				9.0
11-12		2.0	7.0		3.5			6.5	1.5	4.0			11.0				10.5			10.5			
12-13		7.5	2.5	3.5			9.0		5.5		6.0	4.5				7.5	10.0	8.5	7.5	9.5		6.5	7.0
13-14		3.5	8.5		3.5		2.5	5.0									9.0			8.0	8.5		
14-15		9.0	4.5	3.0					4.0	3.5			11.0			5.0	8.5		5.0	6.5			5.5
15-16	1.5	5.0			3.0		6.5	3.5			6.0					11.0	7.5		11.0				
16-17	2.0		6.0	3.0		6.0			3.0								7.0	8.5			5.0		
17-18	2.5	6.5	1.5		2.5		11.0	2.0	7.0	3.5		2.5	11.0			8.5	6.0		8.5				10.0
18-19	2.5	2.5	7.5	2.5	5.0		4.5	6.0	1.5		5.5						5.5						
19-20	3.0	8.0	3.0	5.0	2.5				5.5			5.0				5.5			6.0	11.0			8.5
20-21	3.5	4.0	9.0	2.0	5.0		8.5	4.5		3.0			11.0		4.5			8.5		9.5			
21-22	4.0	9.5	4.5	4.5	2.0		2.0		4.0		5.5									8.0			6.5
22-23	4.0	5.5		2.0	4.5			3.0								9.0			9.5	6.5			
23-24	4.5		6.0	4.5	1.5	3.5	6.5	7.0	2.5	3.0			10.5									6.0	
24-25	5.0	7.0	2.0	1.5	4.0			2.0	6.5		5.0	3.0		4.0		6.5		8.5	7.0				
25-26	5.5	3.0	8.0	4.0			10.5	5.5															
26-27	5.5	8.5	3.5		4.0		4.0		5.0	2.5		5.5	10.5			3.5							9.5
27-28	6.0	4.5	9.5	3.5				4.5			5.0					9.5			11.0	11.0			
28-29	6.5		5.0		3.5		8.5		3.5									8.0		9.5			7.5
29-30	6.5	6.0		3.5			2.0	3.0		2.5			10.5			7.0			8.5	8.0			
30-31	7.0	1.5	6.5		3.0			7.0	2.0		4.5									6.5	9.5		5.5

	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	RW	AF	SZ	TU	UX
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	GEM	GEM	HER	HER	HER
MAX	9.7	10.8	10.8	10.8	8.3	8.3	13.8	9.4	10.6	9.6	11.0	10.2	10.8	10.0	7.8	9.9	9.9	7.2	9.6	10.2	10.2	10.6	8.9
MIN	10.3	11.9	11.6	11.6	9.2	8.7	14.6	12.7	12.5	10.8	12.0	11.3	13.6	10.9	9.5	10.7	10.7	8.2	11.6	11.3	12.0	13.4	9.8
DUR	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5	5	4	5	4	4	5	5
TOT								2							1				1			1	
				(S)		(S)											(S)						
0- 1	7.5						5.0					9.5	2.0								2.0		
1- 2				4.0	4.5	5.0	8.5				9.0		10.5	2.0			2.5	2.0	3.5				5.5
2- 3														4.0		8.5		7.5					
3- 4		10.0	6.0											6.5							8.5		
4- 5		7.5					5.0			9.5		7.5	3.5	9.0							4.0		7.5
5- 6		5.0		8.5			8.0		11.0		8.5				10.0							6.5	
6- 7	8.0																			3.0			
7- 8	4.5		10.5								10.5		3.0			6.0	2.5				10.5		10.0
8- 9					5.5	6.0	4.5		8.0				5.5	5.5	5.0		7.0				6.5		
9-10							8.0				7.5			8.0							2.0		
10-11			5.0								8.5			10.5									
11-12		10.5										8.5								2.5			
12-13	8.0	8.0		7.5			4.5						7.0	2.0		3.5					8.5	1.5	
13-14	5.0	5.5					8.0				6.5			4.5			2.0				4.0		
14-15			9.5											7.0			7.0					8.0	
15-16					6.5	6.5						6.5		9.5		9.5							4.0
16-17							4.5			7.5	11.0		9.0						2.0	10.5			
17-18			4.0				8.0				6.0										6.0		
18-19	8.5											10.0		3.5							2.0		6.5
19-20	5.0	11.0		6.5									2.0	6.0	10.5		2.0						
20-21		8.5									10.0		10.5	8.5			7.0	7.0					
21-22		6.0	8.5				7.5	9.5						11.0				3.0			8.5	3.0	8.5
22-23					7.5	7.5	11.0			6.5		8.0			6.0						4.0		
23-24				10.5						11.0			4.0	2.5								9.5	
24-25	9.0										9.0			5.0									11.0
25-26	5.5						7.5					11.0		7.5		4.5		2.0			10.5		
26-27				5.5			11.0							10.0			6.5				6.0		
27-28													5.5								2.0		
28-29		9.0	7.5					10.5		8.5				1.5		11.0							
29-30		6.5			8.5	8.5	7.5		10.0		9.0			4.0									
30-31	9.0			9.5			11.0							6.5			2.0				8.5	5.0	

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	CC	CT	AV	DF	DF	DI	DK	SW	SW	VX	CM	CO	CO	Y	UU	UV	VZ	SS	DELT	RY	UZ	EW	FL	
	HER	HER	HYA	HYA	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEO	LIB	LIB	LYN	LYR	LYR	LYR	
MAX	9.5	9.9	10.2	11.0	11.0	11.0	10.5	9.2	9.2	10.9	8.5	10.5	10.5	9.5	11.4	9.5	10.6	10.4	4.8	11.9	9.8	11.2	8.7	
MIN	12.8	11.2	10.6	11.5	11.5	12.0	11.0	10.0	10.0	12.3	9.5	11.0	11.0	12.7	12.7	10.2	11.7	11.3	5.9	13.3	11.0	13.6	9.5	
DUR	4	4	4	4	4	4	4	3	3	4	4	5	5	5	4	3	4	6	7	4	5	5	4	
TOT					(S)				(S)			(S)												
0- 1	7.0		4.5	2.0		4.0						10.5			5.5			10.0						
1- 2				2.0					7.5		6.5		4.5	2.0						4.5				
2- 3			5.5	1.5														9.5				10.5		
3- 4				1.5												5.5							6.0	
4- 5		9.0			5.0					7.5			6.5							1.5		9.5		
5- 6					5.0	2.0	2.0	7.5		9.0								6.5	1.5				10.5	
6- 7		4.0			5.0		3.0	6.5		11.0				3.5		5.5	3.0						8.0	
7- 8	5.5				4.5		4.0						8.5				5.0		9.5					
8- 9					4.5	3.5												3.5			10.5	7.0		
9-10			1.5		4.0						7.0				2.0	5.5								
10-11					4.0				7.0				10.5								8.0	6.0		
11-12			3.0		4.0							5.5		5.0						6.0				
12-13	10.5				3.5											5.5					5.5	4.5		
13-14		7.5	4.0		3.5	1.5																		
14-15	4.0				3.0			7.0				7.5			3.0				9.0	2.5		3.5	3.5	
15-16		2.5	5.0		3.0											5.5		8.0						
16-17					3.0	3.5								6.5									8.0	
17-18					2.5		2.0				8.0	9.5												
18-19					2.5		3.0		7.5	6.5						5.5	2.5	5.0						
19-20	9.0				2.0		4.5								4.0		4.5							
20-21		11.0			2.0					10.0														
21-22	2.5				2.0	1.5							5.5			5.5			8.5	7.0				
22-23		6.0			1.5			7.5																
23-24					1.5			6.5																
24-25			2.5			3.5							7.5		5.0	5.5					3.5			
25-26				5.0							8.5							9.5						
26-27	7.5		3.5	5.0																				
27-28				4.5					7.0				9.5			5.5						8.5	5.0	
28-29			5.0	4.5							5.0		1.5					7.0	8.0					
29-30		9.5		4.0			2.5								5.5							6.0	9.5	
30-31				4.0			3.5									5.5	2.5							

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	RU	AT	BB	BO	U	SX	V508	V839	1010	FT	GU	GU	TY	AQ	BB	BB	BX	DI	GP	Z	RT	RV	XZ
	MON	MON	MON	MON	OPH	OPH	OPH	OPH	OPH	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER
MAX	10.6	10.6	10.6	10.8	5.8	10.5	10.1	8.8	6.2	9.1	12.6	12.6	10.5	10.3	10.6	10.6	10.9	9.6	10.2	9.9	10.6	10.3	10.6
MIN	11.3	11.4	11.3	12.1	6.5	11.2	10.7	9.4	7.0	9.7	13.5	13.5	12.6	13.0	11.2	11.2	11.5	10.8	11.0	12.4	12.0	12.7	12.7
DUR	5	5	4	5	5	5	3	3	4	4	4	4	6	12	3	3	3	2	4	6	4	8	4
TOT				1										4						2			
												(S)				(S)							
0- 1		2.5		2.0				6.0	10.5								7.5						
1- 2											1.5								11.0				2.5
2- 3								7.0	10.0	2.0					7.5				10.5				
3- 4							3.0											9.0	10.0	9.5	10.5		
4- 5					5.5		4.0	8.5	9.5										9.0				
5- 6	2.0						5.0	4.0				1.5					6.5		8.5				
6- 7							5.5	9.5	9.0										8.0	10.5			
7- 8							6.5	5.0											7.5				
8- 9							7.5		9.0									8.5					
9-10					6.5		8.0	6.0		1.5						8.5						2.0	
10-11						2.5			8.5														
11-12								7.0							8.5						2.0		
12-13						4.0			8.0								6.5						
13-14							3.0	8.5				1.5				8.0							
14-15					7.0	5.5	4.0	4.0	7.5														
15-16							5.0	9.5					10.5		7.5								
16-17						7.0	5.5	5.0	7.5														2.0
17-18			2.5				6.5			1.5						7.5							
18-19						8.5	7.5	6.0	7.0														
19-20					8.0		8.0																
20-21				2.5		10.0		7.0	6.5					7.0				11.0			10.5		
21-22												1.5											
22-23								8.0	6.0														
23-24							3.0	4.0															
24-25					8.5		4.0	9.5	5.5	3.0					8.5								
25-26							5.0	5.0			1.5							10.5					
26-27							5.5		5.5							8.5							
27-28							6.5	6.0															
28-29			2.0				7.5		5.0						8.0		6.0				2.0		
29-30					9.5		8.0	7.0			1.5												
30-31									4.5							8.0		10.5					

	Y	UZ	UZ	U	V505	1968	AO	CC	CC	RW	WY	AM	V	X	W	W	TX	TY	TY	UX	VV	XZ	ZZ
	PSC	PUP	PUP	SGE	SGR	SGR	SER	SER	SER	TAU	TAU	TAU	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA
MAX	9.0	9.7	9.7	6.4	6.4	12.3	10.6	11.1	11.1	8.0	11.5	10.4	10.9	8.9	9.1	9.1	6.8	11.7	11.7	12.7	10.1	10.1	9.8
MIN	12.0	10.6	10.3	9.1	7.6	13.3	12.1	11.7	11.7	12.5	11.7	12.3	11.9	12.0	9.9	9.9	8.9	12.4	12.4	13.8	11.0	11.7	11.2
DUR	7	4	4	6	5	4	4	4	4	4	4	5	4	4	3	3	6	3	3	1	3	3	4
TOT				2						1													
			(S)						(S)						(S)			(S)					
0- 1								3.0	9.0						3.5	7.5		5.0					
1- 2						7.0		3.5	10.0						3.5	7.5		6.5	2.5	4.5	4.5		
2- 3						10.0		4.5	10.5				10.5		3.5	7.5		8.0	4.0	9.0			
3- 4								5.0							3.5	7.5			5.5	4.0	6.0	6.5	
4- 5							10.5	6.0							3.5	7.5		2.5	7.0	8.0			
5- 6				8.5	7.5	5.5	8.0	7.0			2.5				3.5	7.5		4.0	8.5	3.0	7.5		
6- 7						9.0	5.0	7.5							3.5	7.5		5.5	1.5	7.5			8.5
7- 8							2.0	8.5	2.0	1.5					3.5	7.5		7.0	3.0	2.0	9.0		
8- 9								9.0	3.0						3.5	7.5	1.5		4.5	6.5	1.5	3.5	
9-10								10.0	3.5				11.0		3.5	7.5		2.0	6.0				
10-11						7.5		10.5	4.5						3.5	8.0		3.5	7.5	5.5	3.0		
11-12						10.5			5.0						4.0	8.0	3.0	5.0					
12-13					9.5		8.5		6.0						4.0	8.0		6.5	2.0	5.0	4.5		
13-14							5.5		6.5						4.0	8.0		8.0	3.5	9.0			6.0
14-15						6.0	3.0		7.5		2.5				4.0	8.0	4.5		5.0	4.0	6.0	6.5	
15-16			3.0			9.0		2.0	8.5						4.0	8.0		2.5	6.5	8.5			
16-17								3.0	9.0					11.0	4.0	8.0		4.0	8.0	3.5	7.5		
17-18		2.5						3.5	10.0						4.0	8.0	6.0	5.5		7.5			
18-19	9.5				7.5			4.5	10.5						4.0	8.0		7.0	3.0	2.5	9.0		
19-20			2.5			7.5	9.5	5.0							4.0	8.0			4.5	7.0	1.5	3.5	
20-21						10.5	6.5	6.0							4.0	8.0	7.5	1.5	6.0	1.5			3.5
21-22		2.0					3.5	6.5							4.0	8.0		3.0	7.5	6.0	3.0		
22-23				6.0				7.5							4.0			4.5					11.0
23-24			1.5			6.5		8.5	2.0		2.5				4.0		9.0	6.0	2.0	5.0	4.5		
24-25						9.5		9.0	3.0						4.0			7.5	3.5				
25-26		1.5			10.0			10.0	3.5						4.0				5.0	4.5	6.0	6.5	
26-27							10.5	10.5	4.5				10.0		4.0				2.0	6.5	8.5		
27-28							7.5		5.0						4.0			4.0	8.0	3.5	7.5		
28-29						8.0	4.5		6.0						4.0			5.5		8.0			
29-30						11.0	1.5		6.5		2.5				4.0			7.0	2.5	3.0	9.0		8.5
30-31									7.5						4.0			8.5	4.0	7.0	1.5	3.5	

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	RT	TW	UU	WZ	XZ	AB	AB	AD	AD	BD	BX	DS	RY	CX	CZ	XZ	OO	OO	V342	V343	V346	SS	SS
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQR	AQL	AQL	AQL	AQL	AQL	AQL	ARI	ARI
MAX	9.3	8.8	11.2	11.6	10.0	9.3	9.3	11.1	11.1	11.3	8.6	10.8	8.8	10.7	10.3	9.3	9.2	9.2	9.0	10.6	9.0	10.1	10.1
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.6	11.7	9.5	11.4	10.1	12.0	11.2	11.2	10.1	10.1	12.5	12.3	10.4	11.1	11.1
DUR	3	11	8	4	3	3	3	4	4	3	4	4	5	3	3	7	3	3	7	4	4	3	3
TOT		2																	3				
							(S)		(S)			(S)						(S)					(S)
0- 1						5.0		8.0						9.0	8.5		7.0				7.5		
1- 2				8.0				8.0								10.0	7.5				10.0		
2- 3	9.0							7.5		10.5	10.5						8.0		6.5				
3- 4				10.0				7.0		8.5							8.0						
4- 5	6.5							7.0		7.0				6.5			8.5						9.0
5- 6								6.5		5.0				9.0			8.5			7.5		9.0	
6- 7	3.5							6.0							9.5		9.0						9.5
7- 8	10.0				8.5			6.0			7.5						9.5	3.5		4.0			
8- 9				7.0			8.0	5.5		11.0							9.5	3.5					
9-10	7.0						8.0	5.0		9.0				6.5			10.0	4.0				4.0	
10-11				9.0			8.0	5.0		7.5	9.0			9.0			10.5	4.5				6.5	
11-12	4.5				10.0		7.5	4.5		5.5							10.5	4.5				9.0	
12-13	10.5						7.5	4.0		3.5					10.5			5.0	11.0				
13-14							7.5				10.0							5.5					
14-15	8.0						7.5							6.5		6.0		5.5					
15-16							7.0			9.5		7.5		9.5				6.0					
16-17	5.5						7.0			7.5		8.0				9.5		6.0		9.5			
17-18				8.0			7.0			6.0		8.0						6.5					8.5
18-19			10.5				7.0			4.0		8.5						7.0		5.5		9.0	
19-20	8.5			10.0			7.0					8.5		6.5	8.0			7.0	5.5				9.5
20-21		8.5					6.5					9.0	10.5	9.5				7.5				5.5	9.5
21-22	6.0		10.0				6.5			10.0	8.5	9.0						8.0				8.0	
22-23							6.5			8.0		9.5	10.0					8.0				10.5	
23-24	3.5						6.5			6.5		9.5						8.5					
24-25	9.5		9.0	7.0			6.5			4.5	9.5	10.0	9.0	7.0				9.0					
25-26							6.0					10.0		9.5	9.0			3.0	9.0				
26-27	7.0			9.0	8.5		6.0					10.5	8.0					3.5	9.5				
27-28			8.5				6.0			10.5	11.0	10.5						4.0	10.0				
28-29	4.0						6.0		10.5	8.5		11.0	7.5					4.0	10.0				
29-30	10.0						6.0		10.5	7.0				7.0		5.5	4.5	10.5	9.5	7.5			

	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK	DL	DV	EG	RW	RW
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	COM	COM
MAX	11.8	11.8	11.6	10.8	11.6	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	12.2	12.4	11.6	9.6	11.0	11.0
MIN	12.5	12.5	12.3	12.1	12.6	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	14.2	13.2	12.4	10.6	11.6	11.6
DUR	3	3	4	4	5	5	4	3	3	4	4	5	4	4	3	3	4	4	5	4	3	3	3
TOT													2										
		(S)							(S)		(S)					(S)							(S)
0- 1	3.0	7.0	10.0	10.0		9.0	10.5								7.5	2.5						2.5	5.5
1- 2	2.0	6.0	4.5						10.0						3.5	8.5					3.5		4.0
2- 3		5.0		11.0				6.0		7.0	9.5				9.5	4.5	4.0				6.0		3.0
3- 4	7.5	3.5		3.0					4.0				10.5	5.5						2.5	8.0	4.5	
4- 5	6.5	2.5	8.0				4.0						8.0		6.5			6.5	6.5	10.0	3.5		
5- 6	5.5			4.5		10.0				9.0	8.0		5.5	7.5	2.5				10.5		2.0	5.0	
6- 7	4.5												3.5	3.5	8.5								3.5
7- 8	3.5	7.0		5.5		8.0								9.5	4.5					3.5	5.5	5.5	2.5
8- 9	2.5	6.0	6.5	10.0					10.0		11.0	7.0			5.5						5.5	4.0	
9-10		5.0		6.5			3.5	6.5		5.5				2.0	7.0	4.0		4.0			7.5	3.0	
10-11		4.0			6.0		9.5		4.0						8.0	3.0				2.0	10.0		4.5
11-12	7.0	3.0	9.5	7.5								5.5			4.0	9.0				6.0			3.5
12-13	6.0	2.0	4.5		2.0					7.5			10.5	10.0	5.0		10.5	10.0	10.0			5.0	2.0
13-14	5.0			8.5									8.5	6.0			10.5				3.0	4.0	
14-15	3.5	7.5				7.0	3.0					4.5	6.0	2.0	7.0		10.0				5.5	2.5	5.5
15-16	2.5	6.5	8.0	9.5		10.5	9.0		10.0	9.5			3.5	8.0	3.0		9.5				7.5		4.0
16-17		5.5						6.5							4.0	9.0	4.5	9.5			9.5		3.0
17-18		4.5		10.5					4.0		3.0					5.0		9.0	7.5			4.5	1.5
18-19	7.0	3.5													6.0			8.5		5.0		3.5	
19-20	6.0	2.5	6.0								6.0				2.0	7.0		8.5		9.0	3.0	2.0	5.0
20-21	5.0			3.5			8.5					2.0			8.5	3.5		8.0			5.0		4.0
21-22	4.0				7.0	5.5							10.5		4.5	9.5		7.5			7.5	5.5	2.5
22-23	3.0	7.0	9.5	4.5		9.5			10.0		8.0			8.5		5.5		7.5	5.0		9.5	4.0	
23-24	2.0	6.0	4.0		3.5			6.5						6.5	6.5		4.5	7.0				3.0	
24-25		5.0		5.5					4.0					4.0	2.5	7.5		6.5				2.0	4.5
25-26	7.5	3.5					8.0			10.5					8.5	3.5		6.5		4.5	3.0		3.5
26-27	6.5	2.5	7.5	6.5										10.5		9.5		6.0		8.5	5.0	5.0	2.0
27-28	5.5										10.5					5.5		5.5	2.5			7.0	4.0
28-29	4.5			7.5											6.5			5.5			9.0	2.5	5.5
29-30	3.5	7.0	11.0			8.5			10.0	7.0					2.5	7.5		5.0					4.5

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	RZ	RZ	SS	SS	CC	CC	U	RW	W	W	RV	RV	V	Y	SW	WW	ZZ	AE	BR	CG	DK	KV	V346
	COM	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	10.0	10.0	10.9	10.9	11.0	11.0	7.6	10.1	10.6	10.6	9.0	9.0	9.5	7.0	9.3	9.9	10.7	11.8	9.4	11.0	10.3	11.5	11.8
MIN	10.7	10.7	11.5	11.5	11.9	11.9	8.8	10.6	11.2	11.2	10.0	10.0	10.2	7.6	11.8	13.2	12.0	12.8	10.5	11.8	10.8	12.6	13.6
DUR	3	3	4	4	2	2	5	4	4	4	4	4	4	6	5	5	4	4	4	3	4	5	5
TOT															2								
		(S)		(S)		(S)				(S)		(S)		(S)									
0- 1	3.5	7.5	7.5	2.5	3.0			6.0					3.5			4.0			6.0	5.0			
1- 2	4.0		3.0		3.0				5.5		2.0		10.5			10.5		8.0		4.0			
2- 3	4.0			4.0	2.5			10.5		4.5		4.5		7.5	11.0				3.0		5.5		
3- 4	4.5		5.0		5.0	2.5		4.0	4.0							7.5			9.5				5.0
4- 5	5.0			5.5	2.5	5.0				3.0	2.0		10.5								11.0		
5- 6	5.5		6.5		5.0	2.0		8.0	2.5		4.0					5.0		8.0	7.0	9.5			
6- 7	5.5		2.0	7.0	2.0	4.5				2.0											8.0		
7- 8	6.0	2.0		3.0	4.5	2.0						4.0	10.0			2.0			4.5	6.5			
8- 9	6.5	2.5	3.5		4.5			6.0	5.0		4.0					8.5			10.5	5.0			
9-10	7.0	2.5		4.5	4.0		9.5			4.5					2.0			8.0		4.0			
10-11	7.0	3.0	5.0		4.0			10.0	3.5				10.0			5.5			8.0				
11-12	7.5	3.5		6.0	4.0			3.5		3.0		3.5											10.5
12-13		4.0	6.5	2.0		3.5			2.0			2.0		10.0	3.0	10.5			5.5	11.0			
13-14		4.0	2.5	7.5	3.5			8.0					10.0			9.0	9.5	8.0		9.5			
14-15		4.5		3.5		3.5						3.5					9.0		3.0	8.0		4.5	
15-16		5.0	4.0		3.0				4.5							6.5	8.0		9.5	6.5			
16-17		5.5		5.0	3.0	7.5	5.5		4.0				10.0				7.5			5.5	10.5		
17-18		5.5	5.5		3.0				3.0		3.0					3.5	6.5	8.0	6.5	4.0			
18-19	2.0	6.0		6.5		2.5		10.0		2.5						9.5	6.0						
19-20	2.5	6.5	7.0	2.0	2.5	5.0		3.5	2.0				2.5	10.0			5.0		4.0		6.5		
20-21	3.0	7.0	3.0		5.0	2.5						2.5				7.0	4.5		10.5				
21-22	3.0	7.0		4.0	2.0	5.0		7.5		5.0							3.5	8.0		9.5			
22-23	3.5	7.5	4.5		4.5	2.0			4.5				10.0		8.5	4.5			8.0	8.0	2.5	10.0	
23-24	4.0			5.5	2.0	4.5	5.0			3.5		2.5				10.5				6.5			
24-25	4.0		6.0		4.5			5.5	3.0										5.5	5.5			
25-26	4.5		2.0	7.0		4.0				2.0			9.5	4.5		7.5		8.0		4.0		4.0	
26-27	5.0		7.5	2.5	4.0			10.0			2.0	3.0							3.0				
27-28	5.5		3.5			4.0		3.0								5.0			9.0				
28-29	5.5			4.0	3.5					4.5			9.5										
29-30	6.0	2.0	5.0			3.5		7.5	4.0		2.0					2.0		8.0	6.5	9.5			

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	V839	1010	U	U	TY	AQ	BB	BB	BX	DI	GP	Z	RT	RV	XZ	BETA	Y	U	V505	1968	AO	CC	CC	
	OPH	OPH	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PSC	SGE	SGR	SGR	SER	SER	SER	
MAX	8.8	6.2	9.7	9.7	10.5	10.3	10.6	10.6	10.9	9.6	10.2	9.9	10.6	10.3	10.6	2.2	9.0	6.4	6.4	12.3	10.6	11.1	11.1	
MIN	9.4	7.0	10.5	10.5	12.6	13.0	11.2	11.2	11.5	10.8	11.0	12.4	12.0	12.7	12.7	3.5	12.0	9.1	7.6	13.3	12.1	11.7	11.7	
DUR	3	4	3	3	6	12	3	3	3	2	4	6	4	8	4	8	7	6	5	4	4	4	4	
TOT						4						2						2						
				(S)				(S)															(S)	
0- 1	8.0		7.0			9.5	5.5												8.0	3.5		2.0	8.0	
1- 2	4.0	4.0					7.5		4.5									9.5		6.5		3.0	9.0	
2- 3	9.5			8.5						6.5										9.5		3.5	10.0	
3- 4	5.0	4.0	7.0					7.0													8.5	4.5		
4- 5									6.5	10.0											5.5	5.0		
5- 6	6.0	3.5		8.5			7.0													5.0	2.5	6.0		
6- 7									5.5				10.0						6.0	8.5		6.5		
7- 8	7.0	3.0						6.5											10.0			7.5		
8- 9	2.5			8.0				8.5	4.5									4.0				8.0	2.0	
9-10	8.0	2.5					6.5			9.5										4.0		9.0	3.0	
10-11	4.0						8.5								10.0					7.0	9.0	9.5	3.5	
11-12	9.0	2.5		8.0				6.0	6.5		10.5									10.0	6.0		4.5	
12-13	5.0				6.5			8.0			10.0		9.0			10.0					3.5		5.0	
13-14		2.0						6.0	6.0		9.0								8.0				6.0	
14-15	6.0	9.5		8.0				8.0		9.0	8.5										5.5		6.5	
15-16					9.0			5.5	5.0		8.0										8.5		7.5	
16-17	7.0	9.5						7.5			7.5											2.0	8.0	
17-18	2.5			8.0					4.0		7.0										10.0	2.5	9.0	
18-19	8.0	9.0						7.5			6.5							7.0		4.0	7.0	3.5	9.5	
19-20	3.5									8.5	5.5									6.0	7.0	4.0	4.5	
20-21	9.0	8.5		8.0				7.0	6.0		5.0									10.5	10.0		5.0	
21-22	5.0																7.0					6.0		
22-23		8.0						6.5		5.0												6.5		
23-24	6.0			8.0									10.0								6.0	7.5		
24-25		8.0						6.5	4.0	8.0		8.5									9.0	11.0	8.0	2.0
25-26	7.0							8.5						10.5	9.5						8.0	9.0	2.5	
26-27	2.5	7.5		8.0				6.0											8.5		5.0	9.5	3.5	
27-28	8.0							8.0		6.5		9.5		10.0							4.5	2.0	4.0	
28-29	3.5	7.0						6.0										10.5		7.5			5.0	
29-30	9.0			8.0				8.0	5.5	8.0			8.5								10.5		6.0	

	V	X	RV	W	TX	TY	TY	UX	VV	XZ	ZZ	RU	VV	AG	AH	AH	AK	AW	AW	AZ	AZ	BH	Z
	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VUL
MAX	10.9	8.9	11.4	9.1	6.8	11.7	11.7	12.7	10.1	10.1	9.8	10.7	11.7	8.8	9.7	9.7	10.0	10.8	10.8	11.0	11.0	9.9	7.4
MIN	11.9	12.0	12.5	9.9	8.9	12.4	12.4	13.8	11.0	11.7	11.2	11.4	13.5	9.4	10.2	10.2	11.5	11.9	11.9	11.8	11.8	11.3	9.2
DUR	4	4	4	3	6	3	3	1	3	3	4	4	4	4	4	4	4	3	3	3	3	4	6
TOT																							
							(S)									(S)			(S)		(S)		
0- 1				4.0			5.5	2.0				3.5				2.5	5.0	3.5	7.5	4.5			
1- 2			9.0	4.0		3.0	7.0	6.5	3.0			4.5		3.5	3.0			5.0		5.5			
2- 3	10.5			4.0		4.5						6.0	6.0			3.5		6.5	2.0	6.5	2.5	5.0	
3- 4				4.5		6.0		5.5	4.5			7.0	3.5		4.0			3.5	8.0	3.5			
4- 5			9.5	4.5		7.5	3.0					8.0				4.5		5.0		5.0			
5- 6	9.0			4.5		4.5	4.5	6.0	6.5	6.0		9.5		5.0				2.5	6.5	2.0	6.0		
6- 7				4.5		2.0	6.5	9.0				10.5	6.5		5.5	4.5	4.0		3.0	7.0	7.0		
7- 8			10.0	4.5		3.5	8.0	4.0	7.5			4.0		6.0		6.0		5.5		4.0		2.5	
8- 9				4.5		5.0		8.5						5.0		6.0		7.0	2.5	5.5			
9-10				4.5		6.5	2.5	3.0							6.5	2.0			4.0	6.5	2.5		9.0
10-11			10.5	4.5		8.0	4.0	7.5		3.5		3.0	7.0	3.0	2.0				5.5	7.5	3.5		
11-12				4.5			5.5	2.5				4.0	4.5			2.5		2.5	7.0		4.5	5.0	
12-13	9.5			4.5		2.5	7.0	6.5	3.0		3.5	5.0	1.5		3.0		3.5	4.0			6.0		
13-14			10.5	4.5		4.0	8.5					6.5				3.5		5.5		3.0	7.0		
14-15				4.5		5.5		6.0	4.5		10.5	7.5	7.5		4.0			7.0	3.0	4.0			7.0
15-16	7.5			4.5		7.5	3.0					9.0	4.5	6.5		4.5			4.5	5.0		7.0	
16-17				4.5			4.5	5.0	6.0	6.5		10.0	2.0		5.0				6.0	6.5	2.0	2.5	
17-18				4.5		2.0	6.0	9.5						5.0		5.5		3.0	7.5	7.5	3.5		
18-19				4.5		3.5	7.5	4.5	7.5						6.0		2.5	4.5			4.5		
19-20	10.0			4.5		5.0		8.5					5.0	3.0		6.5		6.0	2.0		5.5	5.0	
20-21		10.5		4.5		6.5	2.0	3.5				2.0	2.5		6.5	2.0			3.5	2.5	7.0	4.5	
21-22		9.5		4.5		8.0	3.5	8.0		3.5	8.0	3.5			2.5				5.0	4.0			
22-23	8.0	9.0		4.5			5.0	2.5				4.5				3.0		2.0	6.5	5.0			
23-24		8.0		4.5		2.5	6.5	7.0	3.0			6.0	5.5		3.0			3.5		6.0	2.0		
24-25				4.5		4.0	8.5	2.0				7.0	3.0	6.5		3.5	2.0	5.0		7.5	3.0	6.5	2.5
25-26				4.5		5.5		6.0	4.5			8.0			4.0		6.5	6.5	2.5		4.5	2.0	
26-27	10.5			5.0	2.0	7.0	3.0					9.5		5.0		4.5			4.0		5.5		
27-28				5.0			4.5	5.5	6.0	6.5		10.5	6.0	6.5		5.0			5.5	2.5	6.5		
28-29				5.0			6.0				5.5		3.0	3.0		5.5		2.5	7.0	3.5	8.0		
29-30	8.5			5.0	3.5	3.0	7.5	4.5	7.5						6.0			4.0		5.0		4.0	

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	AW	AX	AY	BE	BO	BS	BT	BU	CD
	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	10.8	11.0	11.0	9.9	10.4	11.0	11.8	10.6	11.5
MIN	11.9	12.5	12.9	11.4	13.3	11.5	12.5	11.4	12.6
DUR	5	5	4	5	4	3	3	3	4
TOT									
0- 1	9.0								10.0
1- 2	4.5			4.5		10.5		4.5	
2- 3						9.5		8.0	
3- 4			4.0			8.5	4.0		4.0
4- 5	10.0			7.0		7.0	7.5		
5- 6	5.0					6.0	11.0	4.0	5.0
6- 7					10.0	5.0		7.5	
7- 8				9.5		3.5		10.5	6.5
8- 9	10.5				9.0	2.5			
9-10	6.0							3.5	7.5
10-11			9.5		7.5			7.0	
11-12						10.5	4.0	10.5	8.5
12-13					6.5	9.5	7.0		
13-14	6.5					8.0	10.5	3.5	10.0
14-15					5.0	7.0		6.5	
15-16			5.5	4.0		6.0		10.0	
16-17					3.5	4.5			3.5
17-18	7.5					3.5			
18-19				6.5	2.5	2.5		6.0	5.0
19-20							3.5	9.5	
20-21							7.0		6.0
21-22	8.0	3.5		9.0		10.5	10.5		
22-23	3.5					9.0		6.0	7.5
23-24		4.0				8.0		9.0	
24-25						7.0			8.5
25-26	9.0	4.5				6.0			
26-27	4.5					4.5		5.5	9.5
27-28		5.0	7.0			3.5	3.0	8.5	
28-29						2.5	6.5		
29-30	10.0	5.5		3.0			10.0		3.5

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	RT	TW	UU	WZ	XZ	AB	AB	AD	BD	BX	DS	RY	CX	CZ	XZ	OO	OO	V342	V343	V346	SS	SS	WW
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQR	AQL	AQL	AQL	AQL	AQL	AQL	ARI	ARI	AUR
MAX	9.3	8.8	11.2	11.6	10.0	9.3	9.3	11.1	11.3	8.6	10.8	8.8	10.7	10.3	9.3	9.2	9.2	9.0	10.6	9.0	10.1	10.1	5.7
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.7	9.5	11.4	10.1	12.0	11.2	11.2	10.1	10.1	12.5	12.3	10.4	11.1	11.1	6.4
DUR	3	11	8	4	3	3	3	4	3	4	4	5	3	3	7	3	3	7	4	4	3	3	5
TOT		2																3					
							(S)	(S)								(S)					(S)	(S)	
0- 1			8.0		10.5		5.5	10.0	5.0			6.5	9.5			4.5	11.0			4.5		8.5	
1- 2	7.5			6.0			5.5	9.5	3.0					10.0	9.0	5.0	11.0		3.5	7.0	9.0		
2- 3							5.5	9.5		8.0		5.5		6.5		5.5				9.5		9.0	
3- 4	5.0		7.5	8.0			5.5	9.0	11.0							5.5					9.5		
4- 5	11.0						5.5	8.5	9.0			5.0	7.0			6.0							
5- 6	2.0			10.0			5.0	8.5	7.0	9.0			9.5			6.5							
6- 7	8.5		6.5				5.0	8.0	5.5			4.0				6.5		4.5					
7- 8							5.0	7.5	3.5					11.0		7.0							11.0
8- 9	5.5			5.0			5.0	7.5	2.0	10.5			4.5	7.5		7.5							
9-10			6.0				4.5	7.0					7.0			7.5							6.5
10-11	3.0			7.0			4.5	6.5	9.5	6.5			10.0			8.0	2.0		9.0	3.5	7.0		
11-12	9.0				7.0		4.5	6.5	7.5							8.5	2.0			6.0		7.5	
12-13			5.5	9.0			4.5	6.0	6.0							8.5	2.5		5.0	8.5	8.0		
13-14	6.5						4.5	5.5	4.0	7.5			4.5			9.0	3.0					8.0	
14-15				11.0			4.0	5.5	2.5				7.0	8.5	5.0	9.5	3.0				8.5		
15-16	3.5				8.5		4.0	5.0					10.0			9.5	3.5						9.0
16-17	10.0						4.0	4.5	10.0	8.5					8.0	10.0	4.0	8.5			9.5		
17-18				6.0		8.0	4.0	4.5	8.0							10.5	4.0						9.5
18-19	7.0					8.0	4.0	4.0	6.5				4.5			10.5	4.5						
19-20		5.0		8.0	10.5	7.5	3.5	3.5	4.5	10.0					7.5		11.0	5.0					
20-21	4.5					7.5	3.5	3.5	2.5				10.0	9.5			5.0				2.5		
21-22	10.5			10.0		7.5	3.5	3.0		6.0					6.0		5.5		10.5	5.0			
22-23						7.5	3.5	2.5	10.5	11.0						6.0				7.5		6.5	
23-24	8.0	8.0				7.5	3.5	2.5	8.5				4.5			6.0	3.5	7.0	10.0		7.0		
24-25				5.0		7.0	3.0		6.5	7.0			7.5			6.5							7.5
25-26	5.0					7.0	3.0		5.0				10.0			7.0		3.0			7.5		
26-27				7.0	5.0	7.0	3.0		3.0		5.5			10.5		7.0							8.0
27-28	2.5	11.0				7.0	3.0			8.5	6.0			7.0		7.5					8.5		
28-29	8.5			9.0		6.5			10.5		6.0		5.0			8.0							8.5
29-30						6.5			9.0		6.5		7.5		4.0	2.0	8.0				9.0		
30-31	6.0			11.0	7.0	6.5			7.0	9.5	6.5		10.0			2.5	8.5						9.5

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	AP	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	Y	SV	AL	CD	CD	RW	TY	RZ	TV	AB	CW
	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CAP	CAP	CAS	CAS	CAS	CAS
MAX	10.9	6.0	11.7	10.8	10.8	10.8	11.7	11.7	11.8	11.8	10.6	10.6	10.6	8.6	10.5	11.6	11.6	9.8	10.5	6.4	7.3	10.2	11.8
MIN	11.4	6.7	13.2	11.3	11.5	11.5	12.7	12.7	12.3	12.3	11.1	11.1	12.4	9.4	11.3	11.8	11.8	10.8	11.6	7.8	8.4	12.2	12.5
DUR	4	5	4	3	3	3	3	3	3	3	3	3	6	3	5	5	5	5	4	4	4	4	3
TOT	(S)	(S)			(S)		(S)		(S)		(S)					(S)							
0- 1					10.5		5.0			5.0	4.5		10.5	4.0		10.5		5.5		8.0		2.5	
1- 2							4.0			4.0	5.5	2.0				5.0							
2- 3							3.5	7.5	6.5	3.0	3.0	6.5	5.5		8.5		3.5			3.5	4.0		
3- 4			10.5				3.0	7.0	5.5			4.0	10.0		3.0							7.0	
4- 5							2.5	6.0	4.5		5.0			4.0	6.5					6.0		6.0	
5- 6				10.0				5.5	3.0	7.0	2.5	6.0	4.5		10.0				11.0			5.0	
6- 7								5.0	2.0	6.0	7.0	3.5	9.0		4.0						6.5	4.0	
7- 8								4.0		4.5	4.5					7.5		8.5				2.5	
8- 9							7.5	3.5	7.0	3.5		5.5	3.0	3.5	3.5		2.0						
9-10							7.0	3.0	6.0	2.5	6.0	2.5	8.0			5.5					9.5		
10-11					9.5		6.0	2.0	5.0		3.5						9.0		4.5	5.5		9.0	7.0
11-12							5.5		3.5	7.5		4.5	10.0	3.0		3.5				10.5	5.0		6.0
12-13			11.0				5.0		2.5	6.5	5.5	2.0		7.5	3.0	7.0		7.5					5.0
13-14							4.0			5.0	3.0	6.5			11.0		10.5				2.5	4.0	
14-15							3.5	7.5		4.0		4.0		2.0			5.0						3.0
15-16					9.0		3.0	7.0	6.5	3.0	5.0			6.5		8.5							2.0
16-17				10.5			2.0	6.0	5.5		2.5	6.0		11.0	2.5	2.5				5.0			
17-18			10.5					5.5	4.5		7.0	3.0			10.5		6.0		7.5	10.0		5.0	7.5
18-19								5.0	3.0	7.0	4.0			5.5		9.5					11.0		6.5
19-20								4.0	2.0	6.0		5.0		10.0		4.0							5.5
20-21	11.0						7.5	3.5		4.5	6.0	2.5			2.5		7.5		4.0		6.5		4.5
21-22							6.5	3.0	7.5	3.5	3.5	7.0	8.5	5.0	10.0	11.0	2.0					7.5	3.5
22-23			9.5				6.0	2.0	6.0	2.5		4.5		9.5		5.5				4.5	2.0		2.5
23-24							5.5		5.0		5.5	2.0					9.0			9.0			
24-25							5.0		4.0	7.5	3.0	6.5		4.0	2.0		3.0		10.5				
25-26							4.0		2.5	6.5		4.0		8.5	10.0	6.5						10.0	7.0
26-27							3.5	7.5		5.5	5.0						10.0						6.0
27-28			9.0				3.0	6.5		4.0	2.0	5.5		3.0			4.5		6.5				5.0
28-29		9.5					2.0	6.0	7.0	3.0	6.5	3.0		7.5		8.0				4.0		3.5	4.0
29-30			10.5					5.5	5.5	2.0	4.0				9.5	2.5		6.5		8.5	8.0		2.5
30-31								5.0	4.5			5.0		2.5			6.0		3.0				

	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK	DL	DV	EG	SS	RW	RW
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CET	COM	COM
MAX	11.8	11.6	10.8	11.6	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	12.2	12.4	11.6	9.6	9.4	11.0	11.0
MIN	12.5	12.3	12.1	12.6	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	14.2	13.2	12.4	10.6	13.0	11.6	11.6
DUR	3	4	4	5	5	4	3	3	4	4	5	4	4	3	3	4	4	5	4	3	5	3	3
TOT												2									2		
	(S)							(S)		(S)					(S)								(S)
0- 1	6.0	5.5	8.5			8.0	6.5				9.5			8.5	3.5	5.0	4.5	8.5					3.0
1- 2	5.0							4.0				10.0	9.0	5.0	10.0		4.5			2.5		4.5	2.0
2- 3	4.0		9.5	8.5					9.0				6.5		6.0		4.0		4.0	4.5		3.5	
3- 4	3.0	9.0	2.0							3.5	8.0		4.5	7.0	2.0		3.5		8.0	7.0		2.5	5.0
4- 5	2.0	4.0	10.5	4.5									2.0	3.0	8.0		3.5			9.0			4.0
5- 6			3.0		3.5	7.5			11.0					9.0	4.0		3.0	6.0		11.0		5.5	2.5
6- 7	7.5				7.0			10.0		5.5	7.0	9.5		5.0	10.0		2.5					4.5	
7- 8	6.5	7.0	4.0		11.0		6.5								6.0	5.5	2.0			2.5		3.0	
8- 9	5.5	2.0						4.0						7.0	2.0		2.0					2.0	4.5
9-10	4.5		5.0							7.5	5.5			3.0	8.0				3.0	6.5			3.5
10-11	3.5	10.5				7.0							9.5	9.0	4.0			3.5	7.0	8.5		5.0	2.5
11-12	2.5	5.5	6.0									9.5	7.0	5.0					11.0	11.0		4.0	
12-13										9.5	4.5		4.5		6.0							2.5	5.5
13-14			7.0	9.5	6.0			10.0	4.0				2.5	7.5	2.5			9.5		2.0			4.5
14-15	7.0	9.0			9.5		6.5							3.5	8.5	5.5				4.0			3.0
15-16	6.0	3.5	8.0	5.5		6.5		4.0			3.0			9.5	4.5					6.5		5.0	2.0
16-17	5.0								6.0			9.0		5.5					2.5	8.5		3.5	
17-18	4.0		9.0	2.0											6.5				6.5	10.5		2.5	5.0
18-19	2.5	7.0												7.5	2.5			7.0	10.5				4.0
19-20		2.0	10.0							8.5			9.5	3.5	8.5						2.0	5.5	2.5
20-21			2.5		5.0	6.0		10.5						7.5	9.5	4.5				4.0		4.5	
21-22	7.5	10.5	11.0		8.5		6.5					8.5	5.0	5.5		6.0				6.0	10.5	3.0	
22-23	6.0	5.0	3.5					4.5	10.5					2.5		6.5				8.5		2.0	5.0
23-24	5.0									5.0				7.5	2.5			4.5	2.0	10.5			3.5
24-25	4.0		4.5	10.5										4.0	9.0				5.5		10.0	5.0	2.5
25-26	3.0	8.5				5.5					10.5			10.0	5.0				9.5			4.0	
26-27	2.0	3.5	5.5	7.0						7.0		8.5		6.0				10.5		4.0		3.0	5.5
27-28					3.5			10.5						2.0	7.0					6.0	9.5		4.5
28-29	7.5		6.5	3.0	7.5		6.5				9.0		10.0	8.0	3.0	6.0		2.0		8.0			3.0
29-30	6.5	6.5						4.5		9.0			7.5	4.0	9.0					10.0		5.0	2.0
30-31	5.5		7.5			5.5			3.5				5.5		5.0						8.5	3.5	

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	RZ	RZ	SS	SS	CC	CC	U	RW	W	W	RV	V	Y	SW	WW	ZZ	AE	BR	CG	DK	KV	V346	V387	
	COM	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	
MAX	10.0	10.0	10.9	10.9	11.0	11.0	7.6	10.1	10.6	10.6	9.0	9.5	7.0	9.3	9.9	10.7	11.8	9.4	11.0	10.3	11.5	11.8	11.5	
MIN	10.7	10.7	11.5	11.5	11.9	11.9	8.8	10.6	11.2	11.2	10.0	10.2	7.6	11.8	13.2	12.0	12.8	10.5	11.8	10.8	12.6	13.6	12.3	
DUR	3	3	4	4	2	2	5	4	4	4	4	4	6	5	5	4	4	4	3	4	5	5	3	
TOT														2										
		(S)		(S)		(S)					(S)		(S)											
0- 1		2.5		5.5	3.5		3.0				3.0					8.5				8.0				
1- 2		3.0				3.0			2.5				9.5						4.0	7.0			6.5	
2- 3		3.0	2.5		3.0			5.5		2.0					7.5	5.5			10.5	5.5				
3- 4		3.5		3.0		3.0												7.5		4.0	11.0	9.5	4.5	
4- 5		4.0	4.0		2.5								9.5	8.0		3.0			7.5	2.5				
5- 6		4.5		4.5	5.0	2.5		3.0								9.0							2.5	
6- 7		4.5	5.5		2.5	5.0													5.0	11.0	7.0	3.5	9.5	
7- 8		5.0			5.0	2.0		7.5		3.0			9.5			6.5		7.5		9.5				
8- 9		5.5		2.0	2.0	4.5			2.0										2.5	8.0			7.5	
9-10		6.0	3.0		4.5	2.0													9.0	7.0	3.5			
10-11	2.0			3.5		4.5		5.0					9.5			10.0				5.5			5.5	
11-12	2.5		4.5		4.0													7.5	6.5	4.0				
12-13	3.0			5.0		4.0									6.5	7.0				2.5			3.5	
13-14	3.0				4.0			3.0	3.0				9.0				10.5		4.0				10.5	
14-15	3.5					3.5				2.5							4.5	10.0		10.0	11.0	9.0	2.0	
15-16	4.0			2.5	3.5			7.0	2.0			2.0				10.5	9.0	7.5		9.5			8.5	
16-17	4.5		3.0			3.5							9.0					8.5		7.5	8.5			
17-18	4.5			4.0	3.0												7.5	7.5		7.0		2.5	6.5	
18-19	5.0		4.5			3.0		5.0										7.0		5.0	5.5			
19-20	5.5			5.5	3.0								9.0			5.0	6.0	7.5		4.0			5.0	
20-21		1.5				2.5		9.0	3.0									5.5		2.5	2.5			
21-22		2.0	2.0		2.5	5.0		2.5		2.0							2.5	4.5		8.5			3.0	
22-23		2.5		3.0	5.0	2.5						2.0	9.0		5.5	8.5	4.0				11.0		9.5	
23-24		3.0	3.5		2.0	5.0			7.0									3.0	7.5	6.0	9.5	8.0		
24-25		3.0		4.5	4.5	2.0	7.0				3.5					5.5	2.5				8.5		8.0	
25-26		3.5	5.0		2.0	4.5							9.0					1.5		3.5	7.0		8.0	
26-27		4.0			4.5			4.5		3.5						3.0			10.0	5.5	4.0		6.0	
27-28		4.5		1.5		4.0			2.5		3.0			4.5		9.0		7.5		4.0				
28-29		4.5	2.5		4.0			9.0		2.0			9.0							7.5	2.5		2.0	4.0
29-30		5.0		3.5		4.0		2.5																11.0
30-31		5.5	4.0		3.5						3.0									5.0				2.0

	TY	AQ	BB	BB	BX	DI	GP	Z	RT	RV	ST	XZ	BETA	Y	U	V505	1968	AO	CC	CC	RW	RZ	TY
	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PSC	SGE	SGR	SGR	SER	SER	SER	TAU	TAU	TAU
MAX	10.5	10.3	10.6	10.6	10.9	9.6	10.2	9.9	10.6	10.3	9.7	10.6	2.2	9.0	6.4	6.4	12.3	10.6	11.1	11.1	8.0	10.5	11.5
MIN	12.6	13.0	11.2	11.2	11.5	10.8	11.0	12.4	12.0	12.7	13.2	12.7	3.5	12.0	9.1	7.6	13.3	12.1	11.7	11.7	12.5	11.2	12.0
DUR	6	12	3	3	3	2	4	6	4	8	5	4	8	7	6	5	4	4	4	4	4	3	2
TOT		4						2			1				2						1		
				(S)																(S)			
0- 1			5.5					11.0													6.5		
1- 2			7.5		4.5	11.0				9.0							3.0				7.5	10.5	
2- 3				5.5								7.0				6.5	6.0	8.5	2.0	8.0			10.5
3- 4				7.5	3.5					8.0		11.0				10.5		6.0	2.5				
4- 5			5.0		6.5	7.5			11.0									3.0	3.5				
5- 6			7.0		2.5				7.5		10.5		8.5		5.0				4.0			9.5	
6- 7				4.5	5.5	10.5								8.5					5.0				
7- 8				6.5														8.0		5.5			
8- 9			4.5		4.5															6.5			
9-10		5.5	6.5			7.0											4.5			7.5			
10-11			8.5	4.0	4.0				9.5			8.5					3.5	6.5	8.0	2.0		9.5	
11-12				6.0		10.0											6.5	3.5		2.5			
12-13			4.0	8.0	3.0															3.5			
13-14	4.5		6.0		6.0						9.5									4.0			
14-15			8.0	3.5	2.0	6.5														5.0			
15-16				5.5	5.0										8.5	6.5	5.0			5.5			
16-17	7.0		3.5	7.5		10.0			8.5											8.0			10.5
17-18			5.5		4.0													7.5		7.0			
18-19			7.5								10.0								4.5	2.0	8.0		
19-20	9.0			5.0	3.0	6.0														2.5			
20-21		8.0		7.0	6.0		11.0													3.5			
21-22			5.0		2.5	9.5	10.5		10.5		8.0			10.0		4.5				4.0			
22-23			7.0		5.0		10.0		7.0						2.5	9.0				5.0			
23-24				4.5			9.0													2.5			
24-25				6.5	4.5	5.5	8.5											5.5	8.5	6.5			
25-26			4.0	8.5			8.0				8.0	10.0						8.5	5.5	7.0			
26-27			6.0		3.5	9.0	7.5												2.5	8.0	2.0	8.5	
27-28			8.5	4.0	6.5		7.0		9.5											2.5			
28-29				6.0	2.5		6.5						7.0			7.0	4.0			3.5			
29-30			3.5	8.0	5.5	5.5	5.5				6.5									4.0			
30-31			5.5				5.0													5.0			10.5

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	WY	AC	V	X	RV	W	TX	TY	TY	UX	VV	XZ	ZZ	RU	VV	AG	AH	AH	AK	AW	AW	AZ	AZ
	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR
MAX	11.5	10.5	10.9	8.9	11.4	9.1	6.8	11.7	11.7	12.7	10.1	10.1	9.8	10.7	11.7	8.8	9.7	9.7	10.0	10.8	10.8	11.0	11.0
MIN	11.7	12.3	11.9	12.0	12.5	9.9	8.9	12.4	12.4	13.8	11.0	11.7	11.2	11.4	13.5	9.4	10.2	10.2	11.5	11.9	11.9	11.8	11.8
DUR	4	6	4	4	4	3	6	3	3	1	3	3	4	4	4	4	4	4	4	3	3	3	3
TOT																							
									(S)								(S)			(S)		(S)	
0- 1						5.0		4.5		9.0										5.5		2.0	
1- 2						5.0		6.0	2.0	4.0				3.0				2.0			2.5	3.0	
2- 3			7.0		7.0	5.0	5.0	7.5	3.5	8.0		4.0		4.0	3.5		2.5				4.0	4.0	
3- 4			11.0			5.0			5.0	3.0				5.0				3.0					5.5
4- 5						5.0		2.5	6.5	7.5	3.0			6.5			3.5			3.0		2.5	
5- 6					7.0	5.0		4.0	8.0	2.0			3.5	7.5				3.5		4.5		3.5	
6- 7	10.5		9.5			5.0		5.5		6.5	4.5			8.5	4.0		4.0					4.5	
7- 8						5.0		7.0	2.5				10.5	10.0		3.0		4.5			3.0	6.0	
8- 9		10.5			7.5	5.0		4.0	5.5	6.0				11.0							4.5		3.0
9-10			7.5			5.0			5.5												2.0		4.0
10-11						5.0		3.0	7.0	5.0					4.5						3.5		5.0
11-12					8.0	5.0		4.5						2.0							5.0		2.0
12-13			5.5			5.0		6.0		4.0				3.5			2.0				2.0	3.5	
13-14			10.0			5.0		7.5	3.0	8.5		4.0		4.5			2.5		4.5		3.5	4.5	
14-15					8.0	5.0			5.0	3.5			8.0	5.5	4.5	4.5		3.0			5.0	5.5	
15-16	11.0					5.0		2.0	6.5	7.5	2.5			7.0	2.0		3.5			2.5			2.5
16-17			8.0			5.0		3.5	8.0	2.5				8.0		3.0		4.0			4.0		4.0
17-18					8.5	5.0		5.0		7.0	4.0			9.5			4.5				5.5		5.0
18-19						5.0		6.5	2.5	1.5				10.5	5.0			4.5			2.5	2.0	
19-20			6.0			5.5		8.0	4.0	6.0	5.5				2.5				3.5		4.0	3.0	
20-21			10.5		9.0	5.5			5.5												5.5	4.5	
21-22						5.5		2.5	7.0	5.0			5.5							3.0		5.5	
22-23						5.5		4.0						2.5	5.5					4.0			2.5
23-24			8.5	11.0	9.5	5.5		6.0		4.5				4.0	3.0	4.5		2.0					3.5
24-25	11.0			10.5		5.5		7.5	3.0	9.0		4.0		5.0			2.5				3.0		5.0
25-26			9.5			5.5			4.5	3.5				6.5		3.0		3.0	3.0		4.5	2.0	
26-27			7.0	9.0	9.5	5.5		2.0	6.0	8.0	2.5			7.5			3.5					3.0	
27-28			11.0	8.5		5.5		3.5	7.5	3.0				8.5	3.0			4.0		3.0		4.0	
28-29				7.5		5.5		5.0		7.0	4.0		3.0	10.0			4.5			4.5		5.5	
29-30				7.0	10.0	5.5		6.5	2.0	2.0				11.0				5.0			2.0		2.5
30-31			9.0	6.5		5.5		8.0	3.5	6.5	5.5		10.5							3.5		3.5	

	BH	Z	AW	AX	AY	BE	BO	BS	BT	BU	CD
	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	9.9	7.4	10.8	11.0	11.0	9.9	10.4	11.0	11.8	10.6	11.5
MIN	11.3	9.2	11.9	12.5	12.9	11.4	13.3	11.5	12.5	11.4	12.6
DUR	4	6	5	5	4	5	4	3	3	3	4
TOT											
0- 1			5.0							5.0	
1- 2				6.0			10.5			8.5	4.5
2- 3					2.5	5.5		9.0			
3- 4			10.5	7.0				8.0			6.0
4- 5			6.0					7.0		4.5	
5- 6				7.5		8.0		5.5	3.0	8.0	7.0
6- 7		9.0						4.5	6.5		
7- 8				8.0				3.5	9.5		8.5
8- 9	3.5		6.5			10.5		2.0		4.0	
9-10			2.0	8.5	8.5					7.5	9.5
10-11										10.5	2.0
11-12		7.0		9.0			11.0	10.0			10.5
12-13	5.5		7.5					9.0		3.5	3.0
13-14			3.0	10.0		2.5	9.5	8.0	2.5	7.0	
14-15					4.0			6.5	6.0	10.5	4.5
15-16				10.5			8.0	5.5	9.5		
16-17		5.0	8.0			5.0		4.5		3.5	5.5
17-18	3.5		3.5	11.0			7.0	3.0		6.5	
18-19								2.0		10.0	7.0
19-20						7.5	5.5				
20-21			9.0							3.0	8.0
21-22	5.5	2.5	4.5		10.0		4.5	10.0	2.5	6.0	
22-23						10.0		9.0	6.0	9.5	9.5
23-24							3.0	8.0	9.0		
24-25			10.0					6.5		2.5	10.5
25-26			5.0				1.5	5.5		6.0	3.0
26-27	3.0				5.5			4.5		9.0	
27-28								3.0			4.0
28-29			10.5					2.0		2.0	
29-30			6.0						2.0	5.5	5.5
30-31	5.0					4.0		11.0	5.5	8.5	

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	RT	TW	UU	WZ	XZ	AB	AB	AD	BD	BX	DS	RY	CX	CZ	XZ	OO	OO	V342	V343	V346	SS	SS	WW
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQR	AQL	AQL	AQL	AQL	AQL	AQL	ARI	ARI	AUR
MAX	9.3	8.8	11.2	11.6	10.0	9.3	9.3	11.1	11.3	8.6	10.8	8.8	10.7	10.3	9.3	9.2	9.2	9.0	10.6	9.0	10.1	10.1	5.7
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.7	9.5	11.4	10.1	12.0	11.2	11.2	10.1	10.1	12.5	12.3	10.4	11.1	11.1	6.4
DUR	3	11	8	4	3	3	3	4	3	4	4	5	3	3	7	3	3	7	4	4	3	3	5
TOT		2																	3				
							(S)										(S)					(S)	
0- 1				4.0		6.5	2.5		5.5		7.0				7.5	2.5	9.0			4.0		5.0	10.5
1- 2	3.0					6.5	2.5	11.5	3.5	5.5	7.5			11.5		3.0	9.0			6.5	5.5		
2- 3	9.5			6.0		6.0	2.0	11.0	2.0	10.5	7.5		5.0	8.0		3.5	9.5	7.5		9.0		5.5	
3- 4					8.5	6.0	2.0	10.5	11.0		8.0		7.5	4.5		3.5	9.5		8.5		6.0		
4- 5	6.5			8.0		6.0	2.0	10.5	9.5	6.5	8.0		10.0			4.0	10.0					6.5	
5- 6						6.0	2.0	10.0	7.5		8.5					4.5			4.5		6.5		
6- 7	4.0			10.0		6.0	2.0	9.5	6.0		8.5					4.5			4.5			7.0	
7- 8	10.0			2.5	10.5	5.5	1.5	9.5	4.0	8.0	9.0		5.0			5.0					7.5		
8- 9						5.5	1.5	9.0	2.0		9.0		7.5	9.0		5.5						8.0	
9-10	7.5		11.0	5.0		5.5	1.5	8.5		4.0	9.5		10.5	5.5		5.5		2.0			8.0		
10-11					3.5	5.5	1.5	8.5	9.5	9.0	9.5					6.0						8.5	
11-12	4.5			7.0		5.5	1.5	8.0	8.0		10.0		2.5			6.5				5.5	9.0		
12-13	11.0		10.5			5.0		7.5	6.0	5.0	10.0		5.0			6.5				8.0		9.0	
13-14	2.0			9.0		5.0		7.5	4.5	10.5	10.5		7.5		3.5	7.0					9.5	4.5	
14-15	8.0				5.5	5.0		7.0	2.5		10.5		10.5	10.0		7.0			10.0		5.0		
15-16			9.5	11.0		5.0		6.5		6.0	11.0			6.5	7.0	7.5	1.5					5.5	
16-17	5.5			4.0		5.0		6.5	10.0	11.5	11.0		2.5			8.0	2.0		6.5		6.0		
17-18						4.5		6.0	8.5		11.5		5.0			8.0	2.0					6.0	
18-19	2.5		9.0	6.0	7.0	4.5		5.5	6.5	7.5	11.5	10.5	8.0			8.5	2.5		2.5		6.5		
19-20	9.0					4.5		5.5	5.0				10.5			9.0	3.0	6.5				7.0	
20-21				8.0		4.5		5.0	3.0			9.5		11.0		9.0	3.0				2.0	7.0	
21-22	6.0	4.5	8.5			4.5		4.5	1.5	8.5			2.5	7.5		9.5	3.5			4.5		7.5	
22-23				10.0	8.5	4.0		4.5	10.5			9.0	5.0	4.0		10.0	4.0			7.0	8.0		
23-24	3.5			3.0		4.0		4.0	9.0	4.5			8.0			10.0	4.0			9.5		8.5	
24-25	9.5		8.0			4.0	8.0	3.5	7.0	10.0		8.0	10.5				4.5				8.5		
25-26		7.5		5.0		4.0	8.0	3.5	5.5								4.5					9.0	
26-27	7.0				10.5	3.5	7.5	3.0	3.5	6.0		7.5	2.5			5.0					9.5	4.5	
27-28			7.0	7.0		3.5	7.5	2.5	1.5	11.0			5.5	8.5		5.5		8.0			5.0	9.5	
28-29	4.0					3.5	7.5	2.5	11.0			6.5	8.0	5.0	3.0	5.5						5.0	
29-30	10.5	10.5		9.0	3.5	3.5	7.5	2.0	9.0	7.0			10.5			6.0		4.0			5.5		
30-31	1.5		6.5			3.5	7.5	1.5	7.5			5.5			6.5	6.5						6.0	

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	WW	AP	AP	AR	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	Y	SV	AL	CD	CD	AK	RW	TY
	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMI	CAP	CAP
MAX	5.7	10.9	10.9	6.0	6.0	11.7	10.8	10.8	10.8	11.7	11.7	11.8	11.8	10.6	10.6	10.6	8.6	10.5	11.6	11.6	10.1	9.8	10.5
MIN	6.4	11.4	11.4	6.7	6.7	13.2	11.3	11.5	11.5	12.7	12.7	12.3	12.3	11.1	11.1	12.4	9.4	11.3	11.8	11.8	11.5	10.8	11.6
DUR	5	4	4	5	5	4	3	3	3	3	3	3	3	3	3	6	3	5	5	5	4	5	4
TOT	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
0- 1											4.0	3.5		6.0	2.5	6.5	7.0		9.5				
1- 2			10.0			8.5	9.5	10.5			3.5	2.0	6.0	3.5	7.0		11.0		4.0				
2- 3											3.0		4.5		4.5		1.5	9.0		7.5			
3- 4		10.0									2.0		3.5	5.5	2.0		6.0		11.0	1.5			9.5
4- 5							8.5	7.0		5.5	1.5	6.0	2.5	2.5	6.5		10.5		5.0				
5- 6			9.5							5.0		5.0			3.5					8.5		1.5	
6- 7						8.0			10.0	4.0		4.0		4.5			5.0	9.0		3.0			6.0
7- 8		9.5								3.5		2.5	6.5	2.0	5.5		9.5		6.5				
8- 9										3.0		1.5	5.5	6.5	3.0								
9-10			9.5							2.0			4.0	4.0			4.5			4.5			2.0
10-11										1.5	5.5	7.0	3.0	1.5	5.0	4.5	8.5	8.5	8.0		11.5		
11-12		9.0				7.5	10.5	9.5			4.5	5.5	2.0	6.0	2.5				2.0	11.5			
12-13											4.0	4.5		3.5	7.0		3.5			5.5			
13-14											3.5	3.5			4.0		8.0		9.0				8.5
14-15							9.5				3.0	2.0	6.0	5.0	1.5			8.0	3.5				
15-16											2.0		5.0	2.5	6.0		2.5			7.0		5.5	
16-17						7.0			9.0	5.5	1.5		3.5	7.0	3.5		7.0		10.5	1.5			5.0
17-18							8.5			4.5		6.5	2.5	4.5			11.5		5.0				
18-19										4.0		5.0	1.5	2.0	5.5		2.0	7.5		8.5			
19-20	9.0									3.5		4.0		6.5	3.0		6.0			3.0			
20-21										3.0		3.0	6.5	4.0		2.5	10.5			6.5			
21-22								9.0		2.0		1.5	5.5		5.0					10.0			
22-23										1.5	5.5		4.5	5.5	2.0		5.5	7.5		4.0			
23-24											4.5	7.0	3.0	3.0	6.5	9.5	10.0		7.5				7.5
24-25	10.5	11.5					11.0				4.0	5.5	2.0		4.0				2.0	11.0			
25-26											3.5	4.5		5.0	1.5		4.5			5.5			
26-27			11.5		8.5				8.5		2.5	3.5		2.5	6.0		9.0	7.0	9.0				4.0
27-28							9.5				2.0	2.0	6.0	7.0	3.5					3.5			
28-29		11.0		10.0				11.5		5.5	1.5		5.0	4.5			4.0			7.0			
29-30	11.5									4.5			3.5	2.0	5.5		8.0		10.5				
30-31			11.0		11.5		8.5			4.0		6.5	2.5	6.5	3.0			6.5	4.5				

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	RZ	TV	AB	CW	CW	DZ	IR	IS	IV	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK	DL
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP
MAX	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6	11.2	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	12.2	12.4
MIN	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6	12.5	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	14.2	13.2
DUR	4	4	4	3	3	4	4	5	5	5	4	3	3	4	4	5	4	4	3	3	4	4	5
TOT																	2						
				(S)								(S)		(S)					(S)				
0- 1		3.5			4.5						11.0					8.0	8.0	3.0	6.0			8.0	
1- 2			6.0	7.5	3.5	10.0	8.5								11.0				2.0	7.0			
2- 3				6.0	2.5	5.0								5.5					8.0	3.0			
3- 4	3.5			5.0	1.5		9.5			2.5		10.5				6.5			4.0	9.0			
4- 5	8.0			4.0			2.0			6.0	5.0	6.5								5.5	6.5		
5- 6			8.5	3.0	7.0	8.0	10.5			10.0	11.0		4.5	7.5			7.5		6.5	1.5		5.5	
6- 7				2.0	6.0	3.0	3.0	8.0							2.0	5.5		10.5	2.5	7.5			
7- 8		9.5			5.0		11.5											8.0	8.5	3.5			
8- 9			2.0	7.5	4.0	11.5	4.0	4.5						9.5				5.5	4.5	9.5			
9-10	3.0	5.0	10.5	6.5	3.0	6.5					4.5							3.5		5.5			
10-11	7.5			5.5	1.5		5.0				10.5		10.5				7.5		6.5	1.5		3.0	
11-12				4.5						5.0		6.5							2.5	7.5	6.5		
12-13			4.5	3.5	7.5	9.5	6.0		11.5	9.0			4.5		6.5	3.0			8.5	3.5			
13-14				2.5	6.0	4.5			11.5										4.5	9.5		9.0	
14-15				1.5	5.0		7.0		11.5		4.0									5.5			
15-16	2.5				4.0				11.5		10.0				8.5	1.5	7.0	10.5	6.5	1.5			
16-17	7.0	11.0	7.0	7.0	3.0	8.0	8.0		11.5					3.0				8.5	3.0	8.0			
17-18				6.0	2.0	3.0		9.0	11.5				10.5					6.0	9.0	4.0			
18-19		6.5		5.0			9.0		11.5	4.0		6.5		10.5				3.5	5.0	10.0	7.0	6.5	
19-20				4.0	7.5	11.5	1.5	5.5	11.5	7.5	3.5		4.5	5.0						6.0		11.5	
20-21		2.0	9.0	3.0	6.5	6.0	10.0		11.5	11.5	9.5						6.5		7.0	2.0		11.0	
21-22	1.5			1.5	5.5		2.5	1.5	11.0										3.0	8.0		10.5	
22-23	6.5				4.5		11.0		11.0					7.0		10.5			9.0	4.0		10.5	
23-24	11.0		3.0	7.5	3.5	9.5	3.5		11.0						1.5				5.0			10.0	4.0
24-25				6.5	2.5	4.5			11.0		3.5		10.5					11.0		6.0		9.5	
25-26				5.0	1.5		4.5		11.0	2.5	9.0	7.0		9.0		9.0	6.5	8.5	7.0	2.0	7.5	9.5	
26-27				4.0					11.0	6.5			4.5		3.5			6.5	3.0	8.0		9.0	10.0
27-28		8.0	5.0	3.0	7.0	7.5	5.5		11.0	10.5								4.0	9.5	4.5		8.5	
28-29	6.0			2.0	6.0	2.5		10.5	11.0									11.0		8.0		8.5	1.5
29-30	10.5	3.5			5.0		6.5		11.0		3.0				5.5					1.5	6.5		8.0
30-31				4.0	11.0		6.5	11.0		9.0								6.0		7.5	2.5		7.5

	DV	EG	SS	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	Y	SW	WW	ZZ	AE	BR	CG	DK	KV	V346	
	CEP	CEP	CET	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	
MAX	11.6	9.6	9.4	11.0	11.0	10.0	10.0	10.9	10.9	11.0	11.0	7.6	10.1	7.0	9.3	9.9	10.7	11.8	9.4	11.0	10.3	11.5	11.8	
MIN	12.4	10.6	13.0	11.6	11.6	10.7	10.7	11.5	11.5	11.9	11.9	8.8	10.6	7.6	11.8	13.2	12.0	12.8	10.5	11.8	10.8	12.6	13.6	
DUR	4	3	5	3	3	3	3	4	4	2	2	5	4	6	5	5	4	4	4	3	4	5	5	
TOT			2														2							
					(S)		(S)		(S)		(S)			(S)										
0- 1	5.0	1.5		2.5		2.0						4.5	6.5	8.5			3.5		7.5	11.0	10.0			
1- 2	9.0	3.5				2.0				3.5						4.0	10.0			2.0	8.5			
2- 3		5.5	8.0		3.0	2.5		1.5		3.0										8.5	7.0			
3- 4		8.0			1.5	3.0			2.0	3.0			4.5	8.5			7.0				5.5			
4- 5		10.0		3.5		3.5		3.0		3.0								7.5	6.0	4.0				
5- 6			7.5	2.0		3.5			3.5	2.5					8.0		4.5				2.5		7.5	
6- 7					3.5					2.5			2.0	8.5			10.5			3.5	1.5			
7- 8	4.5	3.5			2.5					2.5		2.5					1.5			9.5	11.0			
8- 9	8.5	5.5	7.0							2.0			6.5				8.0		7.0		10.0		1.5	
9-10		7.5		3.0				2.0		2.0					8.5					7.0	8.5	9.0		
10-11		10.0		1.5			1.5		2.5	2.0							5.0				7.0			
11-12					3.5		2.0	3.5		1.5			4.0			3.0	11.0			4.5	5.5			
12-13					2.0		2.0			1.5				8.5			2.5		7.0	11.0	4.0	5.0		
13-14		3.0		3.5			2.5			1.5							8.5	11.0		2.0	3.0			
14-15	3.5	5.5		2.5			3.0						2.0			10.5		10.0		8.5	1.5			
15-16	7.5	7.5		1.5			3.5		1.5					8.0			5.5	9.5			11.5			
16-17	11.5	9.5			3.0		3.5	2.5					6.0						8.5	7.0	5.5	10.0	7.0	
17-18					1.5				3.0		3.5									3.0	8.0		8.5	
18-19				3.5						3.0				8.0						9.0	7.0		3.0	7.0
19-20		3.0		2.0							3.0		4.0		1.5				6.5		9.5	5.5		
20-21		5.0			4.0					3.0								6.5	6.0	7.0		4.0		
21-22	3.0	7.0			2.5	1.5				2.5				8.0		2.0			5.0		7.0	3.0		
22-23	7.0	9.5			1.5	2.0			2.0	2.5			1.5							3.5	4.5		1.5	
23-24	11.0	11.5		3.0		2.0		2.5		2.5							10.0	3.5			4.5			
24-25				2.0		2.5			3.5	2.0			6.0	8.0		9.5			3.0	7.0	10.5	10.0		
25-26		2.5			3.5	3.0				2.0										7.0	2.0	8.5		
26-27		5.0			2.0	3.5				2.0									1.5		8.0	7.0	9.5	
27-28		7.0		4.0		3.5				1.5			3.5	8.0							4.5		5.5	6.0
28-29	2.5	9.0		2.5				1.5		1.5					5.0		10.5		7.0	5.5	4.5			
29-30	6.5	11.5		1.5					2.5	1.5											1.5		3.0	6.0
30-31	10.0				3.0			3.0					1.5	8.0							8.0		3.0	1.5

	V387	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	TZ	RW	AF	SZ
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	ERI	GEM	GEM	HER
MAX	11.5	9.7	10.8	10.8	10.8	8.3	8.3	13.8	9.4	10.6	9.6	11.0	10.2	10.8	10.0	7.8	9.9	9.9	7.2	9.8	9.6	10.2	10.2
MIN	12.3	10.3	11.9	11.6	11.6	9.2	8.7	14.6	12.7	12.5	10.8	12.0	11.3	13.6	10.9	9.5	10.7	10.7	8.2	12.6	11.6	11.3	12.0
DUR	3	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5	5	4	4	5	4	4
TOT									2							1				1	1		
					(S)		(S)											(S)					
0- 1	9.0	5.5		7.5				2.0						9.5		10.0			5.0				
1- 2		2.0	10.5					5.5			9.0				1.5				10.0				8.0
2- 3	7.0		7.5		10.0			9.0			4.0	9.0		4.0							10.0		4.0
3- 4			5.0	2.5		2.0	2.0						4.0	2.5	6.5	5.5		7.5					
4- 5	5.0		2.5					2.0				3.0		11.0	9.0								
5- 6		9.5			4.5	10.0	10.0	5.5		8.0	7.5	8.5			11.5								
6- 7	3.5	6.0						9.0	7.0			3.5	7.0							5.0			6.0
7- 8	10.0	2.5		6.5									2.0	4.0	3.0					10.0			1.5
8- 9	1.5							2.0		5.0					5.5		4.5						
9-10	8.0		11.0		9.0			5.5				7.5	10.5								9.0		
10-11			8.0	1.5		3.0	3.0	8.5				2.0	2.5	5.0									8.0
11-12	6.5	9.5	5.5	11.0					2.5	2.0	6.5				6.0		11.0						4.0
12-13		6.0	3.0		3.5	11.0	11.0	2.0			11.0					2.0				5.0			
13-14	4.5	3.0						5.0				6.5	8.5			4.5		2.0	9.5				
14-15	11.0			5.5				8.5				1.5	3.0		7.0	11.0							
15-16	2.5													7.5	9.5								6.0
16-17	9.5				8.0			1.5				11.0						8.5					1.5
17-18		10.0	11.5			4.0	4.0	5.0			5.5	6.0	6.5			6.0							
18-19	7.5	6.5	8.5	10.0				8.5			10.0				3.5				4.5				
19-20		3.0	6.0		2.5									9.5	6.0				9.5				8.0
20-21	5.5		3.5					1.5			10.0	9.5			8.5	1.5				9.0			4.0
21-22				4.5				5.0			5.0	4.5			11.0		6.0						
22-23	3.5							8.5						2.5									
23-24	10.5	10.0			6.5						4.5			11.0	2.5								
24-25	2.0	7.0				5.0	5.0	1.5			9.0	7.5			5.0				4.5				6.0
25-26	8.5	3.5		9.0				5.0		10.5		4.0	2.0		7.5				9.5				1.5
26-27			9.0		1.5			8.0						4.5	10.0			3.0					
27-28	6.5		6.5		11.0								10.5										
28-29			4.0	3.5				1.5		7.5		8.5	5.5		1.5								8.0
29-30	5.0	10.5	1.5					4.5			3.5	3.5			4.0			9.5		10.0			4.0
30-31	11.5	7.0			5.5			8.0	8.0		8.0			6.0	6.5				4.5				

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	TU	UX	CC	CT	SW	SW	VX	CM	CO	CO	RR	SS	DELT	RY	UZ	EW	FL	RW	BB	U	SX	V508	V839
	HER	HER	HER	HER	LAC	LAC	LAC	LAC	LAC	LAC	LEP	LIB	LIB	LYN	LYR	LYR	LYR	MON	MON	OPH	OPH	OPH	OPH
MAX	10.6	8.9	9.5	9.9	9.2	9.2	10.9	8.5	10.5	10.5	10.2	10.4	4.8	11.9	9.8	11.2	8.7	9.1	10.6	5.8	10.5	10.1	8.8
MIN	13.4	9.8	12.8	11.2	10.0	10.0	12.3	9.5	11.0	11.0	10.9	11.3	5.9	13.3	11.0	13.6	9.5	11.9	11.3	6.5	11.2	10.7	9.4
DUR	5	5	4	4	3	3	4	4	5	5	4	6	7	4	5	5	4	5	4	5	5	3	3
TOT	1																	1					
						(S)				(S)													
0- 1			5.0		5.5	1.5	10.0			4.5						2.0						2.0	7.0
1- 2					4.5															3.0		3.0	2.5
2- 3		4.0			3.5	7.5		8.5						11.5								4.0	8.0
3- 4					3.0	6.5				6.5	11.0				10.5							4.5	3.5
4- 5					2.0	5.5			1.5													5.5	
5- 6		6.0		6.5		5.0									8.0							6.5	4.5
6- 7	5.0					4.0				8.5		4.0								4.0		7.0	
7- 8			3.5	1.5	7.0	3.0		4.0	3.5						5.5		2.5					8.0	5.5
8- 9		8.5			6.0	2.0						4.5											1.5
9-10					5.0					10.5					3.0		6.5					1.5	7.0
10-11					4.0		2.0	9.0	5.5													2.0	2.5
11-12					3.0	7.0	4.0					1.5					11.0			4.5		3.0	8.0
12-13					2.5	6.0	5.5															4.0	3.5
13-14					1.5	5.0	7.5		7.5				3.5									4.5	
14-15			2.0	5.0		4.5	9.0			1.5	11.0											5.5	4.5
15-16	6.5				7.5	3.5	11.0	4.5														2.0	6.5
16-17		2.5			6.5	2.5			9.5											5.5		7.0	5.5
17-18					5.5	1.5				3.5												3.5	8.0
18-19					4.5			9.5															6.5
19-20		4.5	6.5		3.5	7.5			11.5									10.5			5.0	1.5	2.5
20-21					2.5	6.5				5.5			3.0		11.0		4.0					2.0	8.0
21-22					2.0	5.5						3.0								6.0		3.0	3.5
22-23	2.0	7.0				5.0									8.5		8.0					4.0	
23-24				3.0		4.0		5.0		7.5												4.5	4.5
24-25	8.5				7.0	3.0			2.5						6.0							5.5	
25-26					6.0	2.0	3.0				10.5			10.5		10.0			11.5			6.0	5.5
26-27			5.0		5.0		5.0	10.0		9.5					3.5					7.0		7.0	
27-28					4.0		6.5		4.5			2.5				9.0						8.0	6.5
28-29					3.0	7.0	8.5																2.5
29-30					2.5	6.0	10.0			11.5						7.5						1.5	7.5
30-31				6.5	1.5	5.0			6.5													2.0	3.5

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	1010	EQ	ER	ER	ET	FL	FT	GU	GU	U	U	TY	AQ	BB	BB	BX	DI	GP	Z	RT	ST	XZ	BETA
	OPH	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER
MAX	6.2	10.3	9.5	9.5	11.2	10.5	9.1	12.6	12.6	9.7	9.7	10.5	10.3	10.6	10.6	10.9	9.6	10.2	9.9	10.6	9.7	10.6	2.2
MIN	7.0	13.3	10.2	10.2	12.4	13.2	9.7	13.5	13.5	10.5	10.5	12.6	13.0	11.2	11.2	11.5	10.8	11.0	12.4	12.0	13.2	12.7	3.5
DUR	4	4	3	3	5	3	4	4	4	3	3	6	12	3	3	3	2	4	6	4	5	4	8
TOT													4						2		1		
				(S)					(S)		(S)				(S)								
0- 1										9.0	4.5		10.0	7.5	3.5	4.5	8.5	4.5					
1- 2						10.5				3.0	7.5				5.5		4.0					6.0	
2- 3										6.0				3.0	7.5	3.5	3.5		8.0			9.5	
3- 4		10.0						10.5		9.0	4.5			5.0		6.5	5.0	3.0		4.5			
4- 5					9.0					3.0	7.5			7.0	3.0	3.0		2.0					
5- 6										6.0					5.0	5.5	8.0	1.5					
6- 7										9.0	4.5			2.5	7.0	2.0			3.0		5.5		
7- 8					11.5		10.5			3.0	7.5			4.5		5.0	11.5			10.5			
8- 9										6.0				6.5	2.0		4.5			6.5			
9-10										9.0	4.5			8.5	4.5	4.0			4.5			7.5	
10-11				9.5						3.0	7.5			2.0	6.5		7.5					11.0	
11-12								10.5		6.0				4.0	8.5	3.0							
12-13										9.0	4.5			6.0	1.5	6.0	11.0		6.0				
13-14										3.0	7.5	2.5		8.0	3.5	2.0	4.0			9.0			
14-15		11.5	10.0							6.0				1.5	5.5	5.0				5.5			
15-16							10.5			9.0	4.5			3.5	7.5	1.5	7.5		7.0				
16-17	5.5										7.5	5.0		5.5		4.0						5.0	
17-18					11.0					5.5			1.5	7.5	3.0		10.5					8.5	8.5
18-19	5.5				10.0					8.5	4.0				5.0	3.5	3.5		8.5	11.5			
19-20					8.5			10.5			7.0	7.0		3.0	7.0	6.0				7.5	11.0		
20-21	5.0									5.5				5.0		2.5	7.0						5.5
21-22		11.0		10.0		10.5				8.5	4.0			7.0	2.5	5.5		10.0					
22-23	4.5										7.0	9.5			4.5	1.5	10.0						
23-24							10.5			5.5				2.5	6.5	4.5	3.0						
24-25	4.0						9.0			8.5	4.0			4.5	8.5			11.5	10.0			6.5	
25-26											7.0			6.5	2.0	3.5	6.5			6.5		10.0	
26-27	4.0									5.5				8.5	4.0	6.5							
27-28								10.5		8.5	4.0			1.5	6.0	2.5	9.5				10.0		
28-29	3.5	10.5	9.5						9.0		7.0		4.0	3.5	8.0	5.5	3.0	11.5					
29-30										5.5				6.0	1.5	2.0		11.0					
30-31	3.0									8.5	4.0			8.0	3.5	4.5	6.0	10.5		9.0			

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	Y	U	V505	1968	AO	CC	CC	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	TX	TY	TY	UX	
	PSC	SGE	SGR	SGR	SER	SER	SER	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	
MAX	9.0	6.4	6.4	12.3	10.6	11.1	11.1	8.0	10.5	11.5	11.5	10.5	10.4	10.3	10.3	10.9	8.9	11.4	9.1	6.8	11.7	11.7	12.7	
MIN	12.0	9.1	7.6	13.3	12.1	11.7	11.7	12.5	11.2	12.0	11.7	12.3	12.3	11.0	11.0	11.9	12.0	12.5	9.9	8.9	12.4	12.4	13.8	
DUR	7	6	5	4	4	4	4	4	3	2	4	6	5	3	3	4	4	4	3	6	3	3	1	
TOT		2						1																
							(S)								(S)				(S)			(S)		
0- 1							5.5				9.5		11.0	7.0			5.5		1.5			5.0		
1- 2		6.0		2.5	6.0									7.5			5.0	10.5	1.5		2.5		5.5	
2- 3				5.5	3.5						11.0			8.0		7.5	4.0	4.5	1.5		4.0			
3- 4			5.0			2.0									11.5			1.5		5.5	1.5	5.0		
4- 5						2.5		8.0										10.5	1.5			3.0		
5- 6	11.5					3.5										5.5		5.0	1.5			4.5	4.0	
6- 7				4.0		4.0		10.5	10.0							9.5			1.5		1.5	6.0		
7- 8						5.0									7.0			11.0	1.5		3.0		3.0	
8- 9						5.5									7.5	4.0		5.0	1.5		4.5			
9-10	6.0		3.0		4.0				7.5		9.5				8.0	8.0			1.5			6.0	2.0	2.5
10-11			7.0	3.0	1.5													11.5	1.5			3.5	6.5	
11-12		9.5		6.0			1.5		9.5		11.5							5.5	1.5			5.0	1.5	
12-13							2.5			9.0						6.0			2.0		2.5		6.0	
13-14							3.5			11.0						10.0			2.0		4.0			
14-15				1.5			4.0		7.5					6.5				6.0	2.0	2.0	5.5		5.0	
15-16				4.5			5.0							7.5		4.5			2.0			2.5		
16-17			5.0		5.0		5.5		9.5					8.0		8.5			2.0			4.0	4.5	
17-18					2.0		6.5											6.0	2.0		1.5	5.5		
18-19		3.5									9.5								2.0		3.0		3.5	
19-20				3.0		1.5										6.5			2.0		4.5			
20-21				6.0		2.5		6.5			11.5	8.0				10.5		6.5	2.0		6.0	1.5	2.5	
21-22						3.0			9.0						6.5				2.0			3.5	7.0	
22-23			3.0			4.0						9.5			7.0	5.0			2.0			5.0	2.0	
23-24			7.5	2.0	6.0	5.0									8.0	9.0		7.0	2.0		2.0		6.0	
24-25	7.5			5.0	3.0	5.5					10.5								2.0		3.5			
25-26						6.5													2.0		5.0		5.5	
26-27								9.0	9.0		11.5					7.0	11.0	7.0	2.0			2.5		
27-28							1.5			11.0	9.5					11.5	10.5		2.0			4.0	4.5	
28-29		7.0		3.5		2.5								6.5		10.0			2.0			5.5		
29-30			5.5	6.5		3.0				11.5				7.0		5.5	9.0	7.5	2.0		2.5		4.0	
30-31					6.5	4.0								8.0		9.5	8.5		2.0		4.5			

	VV	ZZ	RU	VV	AG	AH	AH	AK	AW	AW	AZ	AZ	BH	Z	AW	AY	BE	BO	BS	BT	BU	CD
	UMA	UMA	UMI	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	10.1	9.8	10.7	11.7	8.8	9.7	9.7	10.0	10.8	10.8	11.0	11.0	9.9	7.4	10.8	11.0	9.9	10.4	11.0	11.8	10.6	11.5
MIN	11.0	11.2	11.4	13.5	9.4	10.2	10.2	11.5	11.9	11.9	11.8	11.8	11.3	9.2	11.9	12.9	11.4	13.3	11.5	12.5	11.4	12.6
DUR	3	4	4	4	4	4	4	4	3	3	3	3	4	6	5	4	5	4	3	3	3	4
TOT																						
							(S)			(S)		(S)										
0- 1								2.0								1.5		10.0	9.0			6.5
1- 2			2.0				1.5		2.0		1.5				11.5			9.0			1.5	
2- 3			3.0			1.5					3.0			9.5	6.5	11.5	6.5		7.5		5.0	8.0
3- 4			4.5				2.0								2.0				6.5		8.5	
4- 5			5.5			2.5				2.5			2.5						5.5			9.0
5- 6	10.0		7.0	1.5							2.0						9.0		4.0		1.5	1.5
6- 7	2.5	8.0	8.0								3.5				7.5				3.0	2.0	4.5	10.5
7- 8			9.0					2.5						7.0	3.0	7.0			2.0	5.0	8.0	2.5
8- 9			10.5								1.5									8.5	11.0	11.5
9-10				1.5						1.5	2.5											4.0
10-11										3.0	4.0					8.0		10.0			4.0	
11-12			1.5												3.5			8.5			7.5	5.0
12-13			2.5			1.5		1.5			2.0		5.0		3.0			7.5			11.0	
13-14		5.5	4.0	2.0		2.0		3.0			3.0	2.5					3.5		6.5			6.5
14-15			5.0			2.5									9.0			5.0	1.5	4.0		
15-16			6.0			2.5			1.5	1.5					4.5			4.0	5.0	7.0	7.5	
16-17	10.0		7.5						3.0	2.5							6.0		3.0	8.5	10.5	
17-18	2.5		8.5	2.5							3.5			3.0				10.0	2.0			9.0
18-19			10.0						2.0						9.5						3.5	1.5
19-20			11.0						3.5			2.0			5.0	8.5	8.5	9.0			6.5	10.0
20-21		3.0									3.0										9.5	10.0
21-22				3.0	2.5					2.0								7.5	8.5			11.5
22-23	10.0	2.0											2.0		10.5		11.0		7.5	8.5	3.0	4.0
23-24			3.0				1.5				2.5				6.0			6.0	6.5	4.5	6.0	
24-25			4.5			2.0			2.5		3.5					4.5		5.0	8.0	9.5	5.0	
25-26			5.5	3.0			2.5											5.0	4.0	11.5		
26-27			7.0			3.0						1.5			11.5				3.0		2.5	6.0
27-28	10.0		8.0						2.5		3.0				6.5		2.5	3.5	1.5		6.0	
28-29	2.5		9.0												2.0						9.0	7.5
29-30	11.5	7.5	10.5						1.5					9.5				2.5				
30-31			11.5		2.5				3.0		2.0							5.0		9.5	2.0	8.5

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	RT	TW	UU	WZ	XZ	AB	AB	AD	AD	BD	BX	DS	RY	CX	CZ	XZ	OO	OO	V342	V343	V346	SS	SS
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQR	AQL	AQL	AQL	AQL	AQL	AQL	ARI	ARI
MAX	9.3	8.8	11.2	11.6	10.0	9.3	9.3	11.1	11.1	11.3	8.6	10.8	8.8	10.7	10.3	9.3	9.2	9.2	9.0	10.6	9.0	10.1	10.1
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.6	11.7	9.5	11.4	10.1	12.0	11.2	11.2	10.1	10.1	12.5	12.3	10.4	11.1	11.1
DUR	3	11	8	4	3	3	3	4	4	3	4	4	5	3	3	7	3	3	7	4	4	3	3
TOT		2																					
							(S)		(S)				(S)					(S)					(S)
0- 1	7.5			11.0		3.0	7.0	1.5		5.5	3.0	2.5		2.5			0.5	6.5			3.5	6.5	
1- 2				4.0		3.0	7.0	1.0		4.0	8.0	3.0	5.0	5.5			1.0	7.0			6.0		6.5
2- 3	5.0		6.0		5.5	3.0	7.0	0.5		2.0		3.0		8.0	9.5		1.5	7.5				7.0	
3- 4	11.0			6.0		3.0	7.0				4.0	3.5	4.0		6.0		1.5	7.5				2.5	7.5
4- 5	2.0					3.0	7.0		12.0	9.5	9.5	3.5			3.0		2.0	8.0				7.5	3.0
5- 6	8.5		5.0	8.0		2.5	6.5		11.5	8.0		4.0	3.5	3.0			2.0		5.5			3.0	8.0
6- 7				0.5	7.0	2.5	6.5		11.0	6.0	5.5	4.0		5.5			2.5					8.5	3.5
7- 8	5.5			10.0		2.5	6.5		11.0	4.5	10.5	4.5	2.5	8.0			3.0					4.0	9.0
8- 9	12.0		4.5	3.0		2.5	6.5		10.5	2.5		4.5					3.0					9.0	4.5
9-10	3.0					2.5	6.5		10.0	1.0	6.5	5.0	1.5		7.0		3.5				6.0	4.5	9.5
10-11	9.0			5.0	9.0	2.0	6.0		10.0	10.0	12.0	5.0		3.0	4.0		4.0					2.5	5.0
11-12			4.0			2.0	6.0		9.5	8.5	2.5	5.5	1.0	5.5			4.0			2.0	5.0	5.5	
12-13	6.5			7.0		2.0	6.0		9.0	6.5	7.5	5.5		8.5		2.5	4.5				7.5		5.5
13-14					2.0	2.0	6.0		9.0	5.0		6.0					5.0					6.0	
14-15	3.5		3.0	9.0	10.5	2.0	5.5		8.5	3.0	3.5	6.0				5.5	5.0						6.5
15-16	10.0			1.5		1.5	5.5		8.0	1.0	9.0	6.5		3.0	8.0		5.5					7.0	
16-17	1.0			11.0		1.5	5.5		8.0	10.5		6.5		5.5	4.5		6.0						7.0
17-18	7.0		2.5	4.0	3.5	1.5	5.5		7.5	8.5	5.0	7.0		8.5			6.0					7.5	2.5
18-19						1.5	5.5		7.0	7.0	10.0	7.0					6.5					3.0	8.0
19-20	4.5	1.0		6.0		1.0	5.0		7.0	5.0		7.5					7.0	0.5				8.0	3.5
20-21	10.5		2.0			1.0	5.0		6.5	3.5	6.0	7.5		3.0			7.0	1.0		7.5	1.5	3.5	8.5
21-22	2.0			8.0	5.5	1.0	5.0		6.0	1.5	11.5	8.0		6.0	9.0		7.5	1.5			4.0	9.0	4.0
22-23	8.0			0.5		1.0	5.0		6.0	11.0	2.0	8.0		8.5	5.5		8.0	1.5	4.0	3.5	6.5	4.5	9.5
23-24		4.0	1.0	10.0		1.0	5.0		5.5	9.0	7.5	8.5			2.5		8.0	2.0				9.5	5.0
24-25	5.0			3.0		0.5	4.5		5.0	7.5		9.0		0.5				2.5				5.0	
25-26	11.5				7.0	0.5	4.5		5.0	5.5	3.0	9.0		3.0				2.5					5.5
26-27	2.5			5.0		0.5	4.5		4.5	4.0	8.5	9.5		6.0				3.0				6.0	
27-28	8.5	7.0					4.5		4.0	2.0		9.5		8.5	10.0	1.5		3.5					6.0
28-29				7.0			4.5		4.0		4.5	10.0			6.5			3.5				6.5	
29-30	6.0				9.0		4.0		3.5	9.5	9.5	10.0		0.5	3.5	5.0		4.0					7.0

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	WW	AP	AP	AR	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	Y	SV	AL	CD	CD	R	RT	SX
	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA
MAX	5.7	10.9	10.9	6.0	6.0	11.7	10.8	10.8	10.8	11.7	11.7	11.8	11.8	10.6	10.6	10.6	8.6	10.5	11.6	11.6	6.2	11.4	10.3
MIN	6.4	11.4	11.4	6.7	6.7	13.2	11.3	11.5	11.5	12.7	12.7	12.3	12.3	11.1	11.1	12.4	9.4	11.3	11.8	11.8	6.8	12.9	11.4
DUR	5	4	4	5	5	4	3	3	3	3	3	3	3	3	3	6	3	5	5	5	4	5	4
TOT			(S)		(S)			(S)		(S)		(S)		(S)						(S)			
0- 1		7.5				5.5		8.0		3.5			1.5	3.5			3.0				8.0		
1- 2		11.0				11.5				2.5		4.0		1.0	4.5		7.5		12.0	2.5	11.5		
2- 3			7.5				7.5		11.0	2.0		3.0			2.0	7.5	12.0		6.0				
3- 4			10.5				12.0			1.5		1.5		3.0			2.0	6.0		9.5		11.5	
4- 5		7.0								1.0		0.5	4.5	4.0			6.5			4.0			
5- 6		10.5					6.5		7.5			3.0	5.0	1.5			11.0		7.5				
6- 7						10.5	11.0				3.5		2.0	2.5			1.5		2.0	11.0			
7- 8	7.5		10.5					10.5		2.5	4.5	1.0		3.5			5.5	6.0		5.5			
8- 9										2.0	3.5			4.5	0.5		10.0		9.0				
9-10		10.0					10.0			1.5	2.5			1.5	5.0				3.0		10.5		11.5
10-11								7.0		0.5	1.0				2.5		5.0						6.5
11-12			10.0			10.0							4.0	3.5			9.5	5.5	10.0	1.0			
12-13	9.0						8.5		10.0	3.5			2.5	1.0	4.5	5.5			4.5				
13-14		10.0								2.5			1.5		2.0		4.0						8.0
14-15										2.0		4.0		3.0			8.5		11.5	2.5			
15-16			9.5				7.5		6.5	1.5		3.0		4.0				5.0	6.0				
16-17						9.5	12.0			0.5		2.0		5.0	1.5		3.0			9.5		10.0	
17-18	10.0	9.5						9.5				0.5	4.5	2.0			7.5			3.5			
18-19							6.5				3.5		3.0		3.0				7.0				
19-20			9.5				11.0				2.5		2.0	4.0	0.5		2.5	5.0	1.5	11.0			
20-21								6.0		2.0	4.5	1.0	1.5	5.0			7.0			5.0			
21-22		9.0				9.0				1.5	3.5			2.5			11.5		8.5				
22-23	11.0			5.5			10.0		9.0		0.5	2.5		3.5		3.5	1.5		3.0				11.5
23-24			9.0								1.0		1.0	4.5			6.0	4.5		6.5			
24-25					7.0					3.5		4.0		2.0			10.5		10.0	1.0			
25-26		9.0					8.5		5.5	2.5		2.5	3.0		11.0	0.5		4.5				11.5	
26-27				8.5		8.5				2.0		1.5		4.0			5.0			8.0	11.5		
27-28			8.5					8.5		1.5		4.0		4.5	1.0		9.5	4.0	11.5	2.0			
28-29			12.0		10.0		7.5			0.5		3.0		2.0				12.0	5.5				
29-30		8.5					12.0		12.0			2.0			3.0		4.5			9.0			

AAVSO Eclipsing Binary Ephemeris for September 2021

all times in U.T.

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	TU	TZ	UU	XZ	AK	RW	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	IV	MM	OR	PV	PV	V364	V364	V375
	CMA	CMA	CMA	CMI	CMI	CAP	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS
MAX	9.7	9.8	10.0	9.7	10.1	9.8	10.5	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6	11.2	11.3	11.4	10.0	10.0	11.2	11.2	10.1
MIN	10.7	10.5	12.5	10.2	11.5	10.8	11.6	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6	12.5	11.9	12.4	10.6	10.6	11.7	11.7	10.9
DUR	4	4	5	3	4	5	4	4	4	4	3	3	4	4	5	5	5	4	3	3	4	4	5
TOT																							
		(S)										(S)								(S)		(S)	
0- 1				10.0					7.5	6.5	3.0	6.0	7.5		11.0				10.5			6.5	
1- 2					5.0					5.5	1.5	0.5		3.0	11.0	1.5		7.0			7.5		
2- 3						7.0	0.5			4.5	0.5		8.5		11.0	5.5			4.5	2.0			
3- 4			11.5					5.0	1.0	3.5	7.5	9.0	0.5		11.0	9.0	2.5	1.0				5.5	
4- 5								10.0	10.0	2.5	6.5	4.0	9.5		10.5		8.5				10.0		
5- 6						3.0			9.5		1.5	5.0		1.5	10.5						4.5		
6- 7	11.0										4.0		10.5		10.5							4.0	
7- 8								5.0	3.5	7.0	3.0	7.5	2.5		10.5				10.5		12.0		
8- 9			10.5							6.0	2.0	2.0	11.5	11.5	10.5		2.0	7.0		10.5	6.5		
9-10				11.0				4.5		5.0	1.0		3.5		10.5	4.0	8.0	8.0	7.0	4.5	1.0	3.0	
10-11				10.5				9.5		4.0		10.5		8.0	10.5	8.0		1.0					
11-12									6.0	3.0	6.5	5.5	4.5		10.5	11.5					8.5		
12-13						6.0				2.0	5.5			4.0	10.5							3.0	1.5
13-14				10.5						0.5	4.5		5.5		10.5		1.5						
14-15			11.5						11.0	7.5	3.5	9.0			10.5		7.5		10.5	10.5			
15-16	11.5	12.0				2.5	4.0		8.5	6.5	2.5	3.5	6.5		10.5			7.0			5.0		
16-17								9.0	6.5	5.0	1.5				10.5	3.0			4.5			11.5	
17-18				9.5						4.0			7.5		10.5	6.5		1.0					
18-19					4.0				2.0	2.0	3.0	7.0	7.0		10.0	10.5	1.0				7.0		
19-20									11.0	2.0	6.0	2.0	9.0		10.0		7.0				1.5	10.5	
20-21										1.0	5.0		1.0		10.0								
21-22			10.5	10.0			3.5			4.0	10.5	10.0	9.0	10.0						10.5		9.0	
22-23				11.5		5.0	8.0		4.5	6.5	3.0	5.5	2.0		10.0			7.0		3.5		9.0	
23-24										5.5	2.0		11.0	5.0	10.0	2.0	1.0			4.5			
24-25										4.5	0.5		3.0		10.0	5.5	6.5	1.0			11.0		
25-26			11.5			1.5		8.0		3.5	7.5	8.5	12.0	1.5	10.0	9.5					5.5	7.5	
26-27				10.5					7.0	2.5	6.5	3.5	4.0		10.0								
27-28							3.0	3.5		1.5	5.0				10.0								
28-29							7.5				4.0	12.0	5.0		10.0				10.5	8.0		6.5	
29-30									0.5	7.0	3.0	7.0			10.0		6.5	7.0			2.5		

	U	SU	WZ	WZ	XX	DK	DL	DV	EG	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	Y	SW	WW	ZZ
	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CYG	CYG	CYG	CYG
MAX	6.7	8.8	11.7	11.7	8.5	12.2	12.4	11.6	9.6	11.0	11.0	10.0	10.0	10.9	10.9	11.0	11.0	7.6	10.1	7.0	9.3	9.9	10.7
MIN	9.8	9.8	11.3	11.1	9.6	14.2	13.2	12.4	10.6	11.6	11.6	10.7	10.7	11.5	11.5	11.9	11.9	8.8	10.6	7.6	11.8	13.2	12.0
DUR	4	4	3	3	4	4	5	4	3	3	3	3	3	4	4	2	2	5	4	6	5	5	4
TOT	2																						
				(S)						(S)		(S)			(S)					(S)			
0- 1			3.5	8.5		7.5	7.5		2.5		2.0		1.0									1.0	
1- 2			9.5	4.5	7.5	7.0			4.5		0.5		1.5			1.0							5.0
2- 3		11.5	5.5	0.5		6.5			7.0								0.5			7.5			
3- 4		9.0	1.5	6.5		6.5			9.0	1.0					1.5							8.5	2.5
4- 5	5.5	6.5	7.5	2.5		6.0		1.5	11.0										3.5				8.5
5- 6		4.5	3.5	8.5		5.5	5.0	5.5			1.5									7.5			
6- 7		2.0	9.5	4.5		5.5		9.5	2.0												8.5		6.0
7- 8			5.5	0.5		5.0			4.5	2.0								4.0	1.0				
8- 9			2.0	7.0	8.0	4.5	11.0		6.5	0.5										7.5			3.0
9-10	5.5		8.0	3.0		4.5			8.5					1.0									9.0
10-11			4.0	9.0		4.0	2.5		11.0		1.0	1.0			1.5								
11-12		11.5	10.0	5.0		3.5		1.0				1.0									7.5		6.5
12-13		9.5	6.0	1.0		3.0		5.0	2.0	1.5		1.5							3.0				
13-14		7.0	2.0	7.0		3.0	8.5	9.0	4.0													7.5	3.5
14-15	5.0	4.5	8.0	3.0		2.5			6.5		2.0					1.5		1.5		7.5			10.0
15-16		2.0	4.0	9.0	8.0	2.0			8.5		0.5				0.5		1.0		1.0				1.0
16-17				5.0		2.0			10.5					1.5		1.0							7.0
17-18			6.0	1.0		1.5				1.0							1.0			7.5			
18-19			2.0	7.0		1.0	6.0		2.0							0.5							4.5
19-20	4.5		8.5	3.5		1.0		4.0	4.0		1.5												10.5
20-21			4.5	9.5		0.5		8.0	6.0										3.0	7.0	1.5		1.5
21-22		9.5		5.5				12.0	8.0				1.0										8.0
22-23		7.5	6.5	1.5	8.5				10.5	0.5			1.0		1.0								
23-24		5.0	2.5	7.5			3.5						1.5						0.5	7.0		6.0	5.0
24-25	4.5	2.5	8.5	3.5					1.5		1.0												
25-26			4.5	9.5					3.5										5.0				2.5
26-27			0.5	5.5			9.5	3.5	6.0	1.5										7.0			8.5
27-28			6.5	1.5	0.5			7.5	8.0														
28-29			2.5	7.5			1.0	11.5	10.0					0.5					3.0				6.0
29-30	4.0		8.5	3.5	8.5						0.5				1.5					7.0	5.0		

	AE	BR	CG	DK	KV	V346	V387	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA
MAX	11.8	9.4	11.0	10.3	11.5	11.8	11.5	9.7	10.8	10.8	10.8	8.3	8.3	13.8	9.4	10.6	9.6	11.0	10.2	10.8	10.0	7.8	9.9
MIN	12.8	10.5	11.8	10.8	12.6	13.6	12.3	10.3	11.9	11.6	11.6	9.2	8.7	14.6	12.7	12.5	10.8	12.0	11.3	13.6	10.9	9.5	10.7
DUR	4	4	3	4	5	5	3	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5
TOT															2							1	
										(S)		(S)											
0- 1			9.5				3.0	4.0				6.0	6.0	11.5		4.5			8.5		9.0	7.0	0.5
1- 2		7.0		10.0	2.0		9.5			8.0				1.0				7.5	3.5				
2- 3			6.5	8.5			1.0					0.5		4.5				2.5					
3- 4				7.0			8.0		9.5					8.0		1.0				8.0	3.0	2.5	7.0
4- 5			4.0	5.5					7.0	2.5				11.5	3.0		2.0		6.5		5.5		
5- 6		7.0	10.5	4.5			6.0	7.5	4.5					1.0			7.0	6.5	1.5		8.0		
6- 7			1.5	3.0				4.0	2.0			4.5		4.5				1.5		1.0	10.5		
7- 8			8.0	1.5		5.5	4.0	0.5				7.0	7.0	8.0						9.5			
8- 9							11.0			7.0				11.5					4.5		2.0		
9-10		7.0	5.5	10.0			2.0							1.0				6.0			4.5		
10-11				8.5			9.0					9.0		4.5				1.0	1.0		2.5	7.0	
11-12			3.0	7.0				8.0	10.0	1.5				7.5			5.5		8.0	11.5	9.5		
12-13			9.0	6.0			7.0	4.5	7.5					11.0					2.5				
13-14		6.5		4.5				1.0	5.0			3.5		1.0				5.0			1.0		1.5
14-15	10.5		6.5	3.0			5.0		2.5			7.5	8.0	4.0						4.5	3.5	8.0	
15-16	10.0			1.5	6.5					6.0				7.5					6.0		6.0		
16-17	9.0		4.0				3.5							11.0					9.0	0.5	8.0		8.0
17-18	8.5	6.5	10.5	10.0			10.0	8.0			8.0			0.5			4.5	4.0			10.5	3.0	
18-19	7.5		1.5	8.5	3.0	5.0	1.5	4.5		0.5				4.0			9.5		9.0	6.0			
19-20	7.0		7.5	7.0			8.0	1.5						7.5					3.5		2.5		
20-21	6.0			6.0					8.0		2.5			11.0		6.5			8.5		5.0		
21-22	5.5	6.5	5.0	4.5			6.5		5.5			8.5	9.0	0.5					3.5		7.0		7.0
22-23	4.5			3.0					3.0	5.0				4.0						7.0	8.0	9.5	
23-24	4.0		2.5	1.5			4.5	8.5						7.5	8.5	3.5	3.5		1.5				
24-25	3.0		9.0				11.0	5.0			7.0			11.0				8.0	7.5			1.5	
25-26	2.5	6.5		10.0			2.5	1.5											2.5		1.0	4.0	
26-27	1.5		6.5	8.5			9.5			9.0		1.5	1.5	4.0					5.0	9.5	6.0		3.0
27-28	1.0			7.5			0.5				1.5			7.0							8.5		
28-29			4.0	6.0			7.5		8.5			9.5		10.5	4.0				6.5		11.0	8.5	
29-30		6.5	10.0	4.5		4.5		8.5	6.0	4.0							2.5	1.5	8.0	3.0			9.0

	UZ	AI	TZ	YY	YY	RW	AF	SZ	TU	UX	CC	CT	AV	DI	SW	SW	VX	CM	CO	CO	Y	UU	VZ
	DRA	DRA	ERI	ERI	ERI	GEM	GEM	HER	HER	HER	HER	HER	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO
MAX	9.9	7.2	9.8	8.4	8.4	9.6	10.2	10.2	10.6	8.9	9.5	9.9	10.2	11.0	9.2	9.2	10.9	8.5	10.5	10.5	9.5	11.4	10.6
MIN	10.7	8.2	12.6	9.1	9.1	11.6	11.3	12.0	13.4	9.8	12.8	11.2	10.6	12.0	10.0	10.0	12.3	9.5	11.0	11.0	12.7	12.7	11.7
DUR	5	4	4	3	3	5	4	4	5	5	4	4	4	4	3	3	4	4	5	5	5	4	4
TOT			1			1			1														
	(S)				(S)										(S)				(S)				
0- 1				7.0					3.5							4.5		5.5		0.5			
1- 2						7.0						1.5			7.0	3.5							
2- 3			10.0					6.0		3.0	3.5				6.5	2.5			8.5				
3- 4								1.5							5.5	1.5		10.5		2.5			
4- 5					7.5										4.5	0.5							
5- 6		4.5			7.0					5.5					3.5	7.5		1.0	10.5				
6- 7															2.5	6.5					4.5		
7- 8						11.5	4.0							11.5	2.0	5.5							
8- 9	4.5											5.0			1.0	4.5	2.0	6.0					11.0
9-10				7.5					5.0		2.0				7.5	4.0	4.0				6.5		
10-11				6.5											7.0	3.0	6.0		1.5				
11-12	10.5	4.0						6.0							6.0	2.0	7.5	11.0					
12-13							11.0	1.5					12.0		5.0	1.0	9.5				8.5		
13-14					7.5										4.0		11.0	1.5	3.5				
14-15					7.0										3.0	7.0							
15-16			10.5												2.0	6.0					10.5		
16-17								3.5		2.0	0.5				1.5	5.0		6.5	5.5				
17-18		4.0					10.0					3.5				4.5							
18-19				7.5		11.5			7.0						7.0	3.5							
19-20				6.5						4.0					6.5	2.5		12.0	7.5				
20-21								6.0							5.5	1.5				1.5	11.0	10.5	
21-22	5.5					8.5		1.5							4.5	0.5		2.5					
22-23							9.5			6.5					3.5	7.5	1.5		10.0				
23-24		4.0			7.0										2.5	6.5	3.5			3.5			
24-25	11.5														1.5	5.5	5.0	7.5					
25-26								3.5	2.0				11.5		1.0	4.5	7.0		12.0				
26-27												1.5			7.5	4.0	8.5			6.0	11.0		
27-28				7.5			9.0								6.5	3.0	10.5		1.0				
28-29			11.0	6.5							4.0				6.0	2.0							
29-30		3.5						6.0							5.0	1.0		3.0		8.0			

	T	RR	SS	DELT	RY	UZ	EW	FL	RU	RU	RW	BB	BO	U	SX	V508	V839	1010	EQ	ER	ER	ET	FL
	LMI	LEP	LIB	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	OPH	OPH	OPH	OPH	OPH	ORI	ORI	ORI	ORI	ORI
MAX	10.2	10.2	10.4	4.8	11.9	9.8	11.2	8.7	10.6	10.6	9.1	10.6	10.8	5.8	10.5	10.1	8.8	6.2	10.3	9.5	9.5	11.2	10.5
MIN	12.6	10.9	11.3	5.9	13.3	11.0	13.6	9.5	11.3	11.3	11.9	11.3	12.1	6.5	11.2	10.7	9.4	7.0	13.3	10.2	10.2	12.4	13.2
DUR	6	4	6	7	4	5	5	4	5	5	5	4	5	5	5	3	3	4	4	3	3	5	3
TOT											1		1										
											(S)										(S)		
0- 1							6.5	1.5								3.0				8.5			
1- 2																3.5	4.5	2.5			10.0		7.0
2- 3							5.0	5.5								4.5							
3- 4			1.5	2.0												5.5	5.5	2.5		7.5			
4- 5					11.5		4.0	10.0								6.0	1.0	10.0		9.0			9.5
5- 6		10.0									11.0							2.0				11.5	
6- 7		8.0					2.5											2.0				10.5	
7- 8					8.5						12.0			0.5				1.5		8.5	9.0	12.0	
8- 9						9.0	1.5					9.5				1.0	3.5		9.5			8.0	
9-10											9.5					2.0		1.0				6.5	
10-11				1.5		6.5										3.0	4.5				7.5		
11-12							4.0									3.5		1.0	10.0	9.0			
12-13														1.5		4.5	5.5						
13-14								3.0								5.5	1.0						
14-15	10.0					1.5										6.0				8.0			
15-16		12.0						7.5								0.5		2.0			9.5		
16-17		10.0										11.0											
17-18	10.5	7.5		1.0	9.5									2.5	2.0			3.5					
18-19																			9.5		8.5		8.5
19-20										11.5		9.5	12.0		3.5	2.0	4.5			10.0			
20-21	11.0															3.0							
21-22																3.5	5.5				7.5		11.0
22-23														3.0		4.5	1.0			9.0			
23-24	11.5															5.5							
24-25				0.5												6.0	2.0						12.0
25-26									11.0										9.0	8.0			10.5
26-27	12.0	11.5	2.0				4.5											3.0		9.5	9.5		
27-28		9.5			10.5	7.0					11.0			4.0									8.5
28-29							9.0				11.0					1.0	4.5						7.0
29-30						4.5										2.0					8.5		

	FT	GU	GU	U	U	TY	AQ	BB	BB	BX	DI	GP	Z	RT	RV	ST	XZ	BETA	Y	UZ	UZ	U	V505
	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PSC	PUP	PUP	SGE	SGR
MAX	9.1	12.6	12.6	9.7	9.7	10.5	10.3	10.6	10.6	10.9	9.6	10.2	9.9	10.6	10.3	9.7	10.6	2.2	9.0	9.7	9.7	6.4	6.4
MIN	9.7	13.5	13.5	10.5	10.5	12.6	13.0	11.2	11.2	11.5	10.8	11.0	12.4	12.0	12.7	13.2	12.7	3.5	12.0	10.6	10.3	9.1	7.6
DUR	4	4	4	3	3	6	12	3	3	3	2	4	6	4	8	5	4	8	7	4	4	6	5
TOT							4						2			1						2	
			(S)		(S)					(S)											(S)		
0- 1		10.5		2.5	7.0			1.0	5.5	1.0		10.0		5.0			4.5						
1- 2		9.0		5.5	1.0			3.0	7.5	4.0	9.5	9.0					8.0						
2- 3		8.0		8.5	4.0			5.0	1.0		2.5	8.5					11.5						
3- 4				2.5	7.0			7.0	3.0	3.0		8.0											
4- 5			10.5	5.5	1.0			0.5	5.0	6.0	5.5	7.5		11.0	12.0	8.5					1.5	3.5	
5- 6			9.0	8.5	4.0			2.5	7.0	2.0		7.0		7.5									
6- 7			8.0	2.5	7.0			4.5		5.0	9.0	6.5		4.0	11.0			10.5					
7- 8				5.5	1.0			6.5	2.5	1.0	2.0	5.5											
8- 9		10.5		8.5	4.0		6.5		4.5	4.0		5.0			10.5		6.0		9.0				
9-10		9.0		2.5	7.0			2.0	6.5		5.0	4.5					9.5	7.0					
10-11		8.0		5.5	1.0			4.0	8.5	3.0		4.0		10.0	10.0								1.5
11-12	9.5			8.5	4.0			6.0	2.0	6.0	8.5	3.5		6.0									5.5
12-13			10.5	2.5	7.0			8.0	4.0	2.5	1.5	3.0		2.5	9.5	7.0		4.0	3.5				
13-14			9.0	5.5	1.0	1.0		1.5	6.0	5.0	11.5	2.0											
14-15			8.0	8.5	4.0			3.5	8.0	1.5	5.0	1.5			8.5						5.0		
15-16				2.5	7.0			5.5	1.0	4.5		1.0					3.5						
16-17		10.5		5.5	1.0	3.0		7.5	3.0	0.5	8.0			8.5	8.0		7.5						
17-18		9.5		8.5	4.0			1.0	5.5	3.5	1.0			5.0			11.0						3.5
18-19		8.0		2.5	7.0			3.0	7.5	6.5	11.5				7.5								
19-20				5.5	1.0	5.5	8.5	5.0	0.5	2.5	4.5												
20-21			10.5	8.5	4.0			7.0	2.5	5.5					6.5	6.0				12.0			
21-22			9.5	2.0	6.5				4.5	1.5	7.5			11.0									
22-23			8.0	5.0		7.5		2.5	6.5	4.5	0.5			7.0	6.0						11.5		
23-24				8.0	3.5			4.5		1.0	11.0			3.5			5.0		10.5				1.5
24-25		10.5		2.0	6.5			6.5	2.0	3.5	4.0				5.5		9.0			11.0		8.0	6.0
25-26		9.5		5.0		9.5		8.5	4.0	6.5													
26-27		8.0		8.0	3.5			2.0	6.0	3.0	7.0				5.0						11.0		
27-28				2.0	6.5			4.0	8.0	5.5			2.0	9.5				5.0					
28-29			10.5	5.0		12.0		6.0	1.5	2.0	10.5			6.0	4.0	4.5				10.5			
29-30			9.5	8.0	3.5			8.0	3.5	5.0	3.5			2.5				9.0					

	1968	AO	CC	CC	RW	RZ	TY	WY	AM	EQ	EQ	V	X	RV	TX	TY	TY	UX	VV	XZ	ZZ	RU	VV
	SGR	SER	SER	SER	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR
MAX	12.3	10.6	11.1	11.1	8.0	10.5	11.5	11.5	10.4	10.3	10.3	10.9	8.9	11.4	6.8	11.7	11.7	12.7	10.1	10.1	9.8	10.7	11.7
MIN	13.3	12.1	11.7	11.7	12.5	11.2	12.0	11.7	12.3	11.0	11.0	11.9	12.0	12.5	8.9	12.4	12.4	13.8	11.0	11.7	11.2	11.4	13.5
DUR	4	4	4	4	4	3	2	4	5	3	3	4	4	4	6	3	3	1	3	3	4	4	4
TOT					1																		
				(S)							(S)						(S)						
0- 1		4.0			8.5	8.5							7.5				1.5	3.0					
1- 2	2.0	1.0									5.0	3.5	7.0	8.0	11.5		3.0					1.5	
2- 3											5.5	7.5	6.5	2.0				2.0		12.0		2.5	
3- 4			1.0			6.5		8.0			6.0	12.0	5.5			2.0						3.5	1.5
4- 5			1.5								6.5	2.0	5.0	8.5		3.5		1.5				5.0	
5- 6	0.5		2.5			8.0		10.0			7.0	6.0	4.5	2.5			0.5		8.5		5.0	6.0	
6- 7	3.5		3.0								7.5	10.0	3.5				2.0	0.5	1.0			7.5	
7- 8		4.5	4.0				5.5	11.5					3.0	8.5			3.5	5.0	10.0	9.0		8.5	
8- 9		1.5				6.0	7.5		7.0	5.0		4.0	2.0	2.5		1.0						9.5	
9-10							9.0			5.5		8.0						4.0	11.5			11.0	
10-11	2.5					8.0	11.0	6.0	8.0	6.0				9.0		4.0							
11-12				1.0	10.0					6.5		2.5		3.0			1.5	3.5					0.5
12-13				1.5		10.0		8.0	9.0	7.0		6.5					3.0				2.5	2.0	
13-14				2.5		6.0				7.5		10.5		9.5				2.5		12.0		3.0	
14-15	1.0			3.0	4.5			10.0	10.0					3.5		1.5					10.0	4.5	
15-16	4.0	2.5		4.0		7.5					4.5	4.5				3.0		2.0				5.5	
16-17								12.0	11.5		5.5	9.0		9.5								6.5	
17-18						9.5					6.0			4.0			2.0	1.0	1.0			8.0	
18-19						5.5					6.5	3.0					3.5		10.0	9.0		9.0	
19-20	2.5		1.0					6.5			7.0	7.0		10.0		1.0						10.5	
20-21			1.5			7.5					7.5	11.0		4.0		2.5		4.5	11.5			11.5	
21-22			2.5				5.5	8.0			8.0					4.0					7.5		
22-23		3.5	3.0			9.0	7.5			4.5		5.0		10.5			1.0	3.5				1.5	
23-24	1.0		4.0				9.5	10.0		5.0		9.5		4.5			2.5					2.5	
24-25	4.5						11.0			6.0							4.0	3.0		12.0		3.5	0.5
25-26					6.5	7.0		12.0		6.5		3.5		10.5		1.5						5.0	
26-27										7.0		7.5		5.0		3.0		2.0				6.0	
27-28				0.5		9.0				7.5		11.5							8.5			7.5	
28-29	3.0			1.5				6.5		8.0		1.5	12.0	11.0			2.0	1.5	1.0		5.0	8.5	1.0
29-30		4.0		2.5							4.5	6.0	11.0	5.0	1.0		3.5		10.0	9.0		9.5	

	AH	AK	AW	AW	AZ	AZ	BH	Z	AW	AX	AY	BE	BO	BS	BT	BU	CD
	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	9.7	10.0	10.8	10.8	11.0	11.0	9.9	7.4	10.8	11.0	11.0	9.9	10.4	11.0	11.8	10.6	11.5
MIN	10.2	11.5	11.9	11.9	11.8	11.8	11.3	9.2	11.9	12.5	12.9	11.4	13.3	11.5	12.5	11.4	12.6
DUR	4	4	3	3	3	3	4	6	5	5	4	5	4	3	3	3	4
TOT	(S)			(S)		(S)											
0- 1							1.5		7.5				1.0	8.5	4.5	5.5	1.0
1- 2	0.5			1.5					3.0					7.5	8.0	8.5	
2- 3						1.5				0.5		7.5		6.0			2.5
3- 4								7.5						5.0		1.5	
4- 5									8.0	1.5				4.0		5.0	3.5
5- 6					1.0				3.5		6.0			2.5		8.5	
6- 7										2.0				1.5			5.0
7- 8															0.5	1.5	
8- 9								5.0	9.0	2.5					4.0	4.5	6.0
9-10			0.5			1.5	1.5		4.5						7.5	8.0	
10-11										3.0	1.5	2.0		8.5			7.0
11-12														7.0		1.0	
12-13	0.5			1.0	0.5					3.5				6.0		4.0	8.5
13-14					2.0			3.0	5.0			4.5		5.0		7.5	1.0
14-15										4.5				3.5			9.5
15-16			1.0											2.5			2.0
16-17						1.0				5.0		7.0		1.5	4.0	4.0	
17-18									6.0		7.5				7.0	7.0	3.5
18-19		0.5		1.5			1.0	1.0	1.0	5.5							
19-20					0.5							9.5					4.5
20-21					1.5					6.0				8.0		3.5	
21-22			1.5							6.5				7.0		6.5	6.0
22-23									2.0	6.5	3.0			6.0		10.0	
23-24	1.0					1.0								5.0			7.0
24-25										7.5		1.0		3.5	3.5	3.0	
25-26									7.5				8.0	2.5	7.0	6.5	8.0
26-27									3.0	8.0				1.5		9.5	0.5
27-28					1.5		0.5					3.5	7.0				9.5
28-29										8.5						2.5	2.0
29-30				0.5					8.0		9.0		5.5			6.0	

AAVSO Eclipsing Binary Ephemeris for October 2021

all times in U.T.

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	RT	TW	UU	WZ	XZ	AB	AB	AD	AD	BD	BX	DS	DS	RY	CX	CZ	XZ	OO	OO	V342	V343	V346	SS
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQR	AQL	AQL	AQL	AQL	AQL	AQL	ARI
MAX	9.3	8.8	11.2	11.6	10.0	9.3	9.3	11.1	11.1	11.3	8.6	10.8	10.8	8.8	10.7	10.3	9.3	9.2	9.2	9.0	10.6	9.0	10.1
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.6	11.7	9.5	11.4	11.4	10.1	12.0	11.2	11.2	10.1	10.1	12.5	12.3	10.4	11.1
DUR	3	11	8	4	3	3	3	4	4	3	4	4	4	5	3	3	7	3	3	7	4	4	3
TOT		2																					
							(S)		(S)				(S)						(S)				
0- 1	12.0		11.5	9.0		0.0	4.0		3.0	8.0	0.5		10.5		3.5			4.5				0.5	7.5
1- 2	3.5	10.0		1.5		8.0	4.0		3.0	6.0	5.5		10.5		6.0			4.5				3.0	3.0
2- 3	9.5			11.0	2.0	8.0	4.0		2.5	4.0	11.0		11.0					5.0				5.5	8.0
3- 4	0.5		11.0	4.0	10.5	8.0	4.0		2.0	2.5	1.5		11.0					5.5		5.5			3.5
4- 5	7.0					7.5	3.5		2.0	0.5	7.0		11.5		0.5	7.5		5.5					8.5
5- 6				6.0		7.5	3.5		1.5	10.0	12.0		11.5		3.5	4.0		6.0			1.5		4.0
6- 7	4.0		10.0		3.5	7.5	3.5		1.0	8.0	3.0		12.0		6.0	1.0		0.0					9.5
7- 8	10.0			8.0	12.5	7.5	3.5		1.0	6.5	8.0		12.0					0.5					5.0
8- 9	1.5			0.5		7.0	3.5	12.5	0.5	4.5		0.0	12.5					1.0					
9-10	7.5		9.5	10.0		7.0	3.0	12.0	0.0	3.0	4.0	0.5			1.0			1.0		3.0			5.5
10-11				3.0	5.5	7.0	3.0	11.5		1.0	9.5	0.5			3.5			1.5					1.0
11-12	5.0			12.0		7.0	3.0	11.5		10.5		1.0			6.0	5.0		2.0				2.0	6.5
12-13	11.0		9.0	5.0		7.0	3.0	11.0		8.5	5.0	1.0				2.0	1.0	2.0				4.5	2.0
13-14	2.0					6.5	2.5	10.5		7.0	10.5	1.5						2.5					7.0
14-15	8.5			7.0	7.0	6.5	2.5	10.5		5.0	1.0	1.5			1.0		4.5	3.0					2.5
15-16			8.5			6.5	2.5	10.0		3.5	6.5	2.0			3.5			3.0					8.0
16-17	5.5			9.0		6.5	2.5	10.0		1.5	11.5	2.0			6.5			3.5			3.0		3.5
17-18	11.5			1.5	0.5	6.5	2.5	9.5		11.0	2.5	2.5				6.0		4.0					8.5
18-19	3.0		7.5	11.0	9.0	6.0	2.0	9.0		9.0	7.5	2.5				3.0		4.0					4.0
19-20	9.0			4.0		6.0	2.0	9.0		7.5		3.0			1.0			4.5					9.0
20-21	0.0					6.0	2.0	8.5		5.5	3.5	3.0			3.5			5.0					4.5
21-22	6.5		7.0	6.0	2.0	6.0	2.0	8.0		3.5	9.0	3.5			6.5			5.0				1.0	
22-23		0.5			10.5	6.0	2.0	8.0		2.0		3.5						5.5				3.5	5.5
23-24	3.5			8.0		5.5	1.5	7.5		0.0	5.0	4.0				7.0		5.5				6.0	1.0
24-25	10.0		6.5	0.5		5.5	1.5	7.0		9.5	10.0	4.0			1.0	4.0		6.0					6.0
25-26	1.0			10.0	4.0	5.5	1.5	7.0		7.5	0.5	4.5			4.0	0.5			0.5				1.5
26-27	7.0	3.5		3.0	12.5	5.5	1.5	6.5		6.0	6.0	4.5		6.5	6.5			0.5	0.5	2.0			7.0
27-28			5.5	12.0		5.5	1.5	6.0		4.0	11.5	5.0					0.5		1.0		5.0		2.5
28-29	4.5			5.0		5.0	1.0	6.0		2.5	2.0	5.0		5.5				1.5					7.5
29-30	10.5				5.5	5.0	1.0	5.5		0.5	7.0	5.5			1.0	8.0	4.0		1.5		1.0		3.0
30-31	1.5	6.5	5.0	7.0		5.0	1.0	5.0		10.0		5.5		5.0	4.0	4.5		2.0					8.5

	SS	WW	WW	AP	AP	AR	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	Y	SV	AL	CD	CD	R	
	ARI	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	
MAX	10.1	5.7	5.7	10.9	10.9	6.0	6.0	11.7	10.8	10.8	10.8	11.7	11.7	11.8	11.8	10.6	10.6	10.6	8.6	10.5	11.6	11.6	6.2	
MIN	11.1	6.4	6.4	11.4	11.4	6.7	6.7	13.2	11.3	11.5	11.5	12.7	12.7	12.3	12.3	11.1	11.1	12.4	9.4	11.3	11.8	11.8	6.8	
DUR	3	5	5	4	4	5	5	4	3	3	3	3	3	3	3	3	3	6	3	5	5	5	4	
TOT	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	
0- 1	2.5			12.0		12.0				5.0					0.5			0.5		9.0			3.5	
1- 2	7.5		7.5		8.5			8.0	6.5								1.5			3.5	7.0			
2- 3	3.0				11.5				11.0	8.0					2.0		2.5	1.5	3.5	11.5	1.5	10.5		
3- 4	8.5			8.0									1.5		1.0	3.5			8.0			5.0		
4- 5	4.0			11.5					5.5	11.5				0.5		0.5					8.5	10.5		
5- 6	9.0				8.0				10.0		4.5		0.0	2.5			1.5	9.0	2.5	3.5	2.5	12.0		
6- 7	4.5		8.5		11.5			7.5						1.5		2.5			7.0	11.0		6.0		
7- 8				8.0					4.5	7.5				0.0		0.0			11.5		10.0	0.5		
8- 9	5.5			11.0					9.0								3.0		2.0		4.0			
9-10	1.0				7.5						11.0	1.5			1.5	2.0			6.5	3.0		7.5		
10-11	6.0				11.0					4.0		0.5				0.5			3.0	11.0	11.0	11.0	2.0	
11-12	1.5		9.5	7.5				7.0	7.5			0.0							0.5	1.0		5.5		
12-13	6.5			11.0					12.0		7.0				2.0		1.5		5.5			9.0	9.0	
13-14	2.0				7.5										0.5			2.5	10.0	2.5		3.5	12.5	
14-15	7.5				10.5				6.5	10.5							3.0		0.0	10.5	7.0			
15-16	3.0	4.5		7.0					11.0		3.5		1.5		2.0	0.5		7.0	4.5		1.0	10.5		
16-17	8.0		11.0	10.5				6.5					0.5		1.0		1.5		9.0			4.5		
17-18	3.5				7.0			12.5	5.5	6.5							2.5			2.5	8.0			
18-19	9.0				10.5				10.0						2.5				4.0	10.0	2.5	11.5		
19-20	4.5			7.0							10.0				1.5			1.0	8.5			6.0		
20-21	9.5	6.0		10.0					4.5	3.0					0.0		2.0					9.5	0.5	8.0
21-22	5.0		12.0		6.5	4.0		6.0	9.0			1.5			3.0		3.0		3.0	2.0	4.0		11.0	
22-23	0.5				10.0			11.5			6.0	0.5			1.5		0.0		7.5	10.0		7.5		
23-24	6.0			6.5			5.5								0.5	1.0			12.0		11.0	1.5		
24-25	1.5			9.5					8.0	9.5							2.0		2.0		5.0			
25-26	6.5	7.0			6.0	7.0			12.0						2.0		3.0		5.0	6.5	1.5	8.5		
26-27	2.0				9.5			5.5							1.0		0.5		11.0	9.5	12.5	3.0		
27-28	7.0			6.0			9.0	11.0	6.5	5.5			1.5				1.5		1.5		6.5			
28-29	2.5			9.5					11.0				0.5		2.5	2.5		12.5	6.0		1.0	10.0		
29-30	8.0				6.0	10.5				9.0					1.0				10.5	1.0		4.5	10.0	
30-31	3.5	8.0			9.0				5.5								1.0		0.5	9.0	8.0			

	RT	SX	TU	TZ	TZ	UU	XZ	AK	RW	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	IV	MM	OR	PV	PV
	CMA	CMA	CMA	CMA	CMA	CMA	CMI	CMI	CAP	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS
MAX	11.4	10.3	9.7	9.8	9.8	10.0	9.7	10.1	9.8	10.5	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6	11.2	11.3	11.4	10.0	10.0
MIN	12.9	11.4	10.7	10.5	10.5	12.5	10.2	11.5	10.8	11.6	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6	12.5	11.9	12.4	10.6	10.6
DUR	5	4	4	4	4	5	3	4	5	4	4	4	4	3	3	4	4	5	5	5	4	3	3
TOT																							
					(S)										(S)								(S)
0- 1								9.5					9.5	6.0	2.0	1.5	6.0		10.0	0.5	12.0		4.5
1- 2														5.0	1.0				10.0	4.5		1.0	
2- 3			9.5				10.0			4.5				4.0	0.0	10.0	7.0	10.0	9.5	8.0			
3- 4											2.5		3.0	3.0	6.5	5.0			9.5	12.0			
4- 5						10.5		9.0			7.0	9.5	11.5	2.0	5.5		8.0	6.5	9.5		6.0		
5- 6		11.0					7.5	12.0	3.0	0.5	11.5			0.5	4.5		0.5		9.5		12.0		11.0
6- 7				11.5			11.5					5.0		7.5	3.5	8.5	9.0	2.5	9.5			7.0	
7- 8													5.5	6.5	2.5	3.0	1.5		9.5				5.0
8- 9	10.0				10.5			8.0				0.5		5.5	1.5		10.0		9.5	3.0		1.0	
9-10							9.0	11.0						4.0	0.5	11.5	2.5		9.5	7.0	5.5		
10-11		8.0									6.5			3.0	7.0	6.5	11.0		9.5	11.0	11.5		
11-12			10.0								11.0		8.0	2.0	6.0	1.5	3.5		9.5				
12-13	7.0									3.5				1.0	5.0		12.0		9.5				11.0
13-14						10.0	10.0					11.0		0.0	4.0	10.0	4.5	11.5	9.5			7.0	
14-15													1.5	6.5	3.0	4.5			9.5		5.0		5.0
15-16											1.0	6.5	10.0	5.5	2.0		5.5	7.5	9.5	2.0	11.0	1.0	
16-17							7.5				6.0			4.5	0.5				9.0	6.0			
17-18	11.5					10.5	11.5	9.0			10.5	2.0		3.5	7.5	8.0	6.5	3.5	9.0	9.5			
18-19		11.0						12.5					4.0	2.5	6.5	3.0			9.0				
19-20														1.5	5.5		7.5		9.0		4.5		11.0
20-21			10.5				9.0							0.5	4.0	11.5			9.0		10.5	7.0	
21-22	8.5							8.5			0.5			7.0	3.0	6.5	8.5		9.0				5.0
22-23								11.5	2.0	2.5	5.5	12.5	6.0	6.0	2.0	1.0	1.0		9.0	1.0		1.0	
23-24		8.0												5.0	1.0		9.5		9.0	4.5			
24-25						10.0						8.0		4.0	0.0	9.5	2.0		9.0	8.5	4.0		
25-26							7.5							3.0	6.5	4.5	10.5		9.0	12.5	10.0		
26-27							10.5					3.5	8.5	2.0	5.5		3.0	8.5	9.0				11.0
27-28							7.5				0.0			1.0	4.5		11.5		9.0			7.0	
28-29			8.0				11.5				5.0			7.5	3.5	8.0	4.0	5.0	9.0				5.0
29-30			11.0	10.0						5.5	9.5		2.0	6.5	2.5	2.5			9.0		4.0	1.0	
30-31	10.0					10.5		9.5					11.0	5.5	1.5		5.0	1.0	8.5	3.5	9.5		

AAVSO Eclipsing Binary Ephemeris for October 2021

all times in U.T.

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	V364	V364	V375	U	SU	WZ	WZ	XX	DK	DL	DV	EG	U	RW	V	Y	SW	WW	ZZ	AE	BR	CG	DK
	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CRB	CRB	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	12.2	12.4	11.6	9.6	7.6	10.1	9.5	7.0	9.3	9.9	10.7	11.8	9.4	11.0	10.3
MIN	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	14.2	13.2	12.4	10.6	8.8	10.6	10.2	7.6	11.8	13.2	12.0	12.8	10.5	11.8	10.8
DUR	4	4	5	4	4	3	3	4	4	5	4	3	5	4	4	6	5	5	4	4	4	3	4
TOT				2													2						
		(S)					(S)									(S)							
0- 1					10.0	5.0	10.0					1.5							3.0		1.0	3.0	
1- 2	10.0		5.0		7.5	1.0	6.0			7.0		3.5		0.5					9.0		7.5	1.5	
2- 3		4.5			5.5	7.0	2.0					5.5				7.0			0.5				0.0
3- 4					3.0	3.0	8.0				3.0	8.0						5.0	6.5		6.5	5.0	
4- 5	12.0		4.0	3.5	0.5	9.0	4.0	1.0			7.0	10.0			12.0								8.5
5- 6		6.5				5.0	10.0				10.5	12.0				6.5			3.5			2.5	7.5
6- 7	1.0					1.0	6.0	9.0		4.5		1.0		2.5								8.5	6.0
7- 8			2.5			7.0	2.0					3.5							1.0		6.5		4.5
8- 9		8.5				3.0	8.0					5.5				6.5	8.5		7.0			6.0	3.0
9-10	3.0			3.5	10.5	9.0	4.0			10.5		7.5		0.5									1.5
10-11			1.5		8.0	5.0	0.0				2.0	9.5							4.5			3.5	0.5
11-12		10.5			5.5	1.0	6.0	1.0		2.0	6.0	12.0				6.5					6.5		
12-13	5.0				3.5	7.5	2.5				10.0	1.0							1.5			1.0	9.0
13-14			0.0		1.0	3.5	8.5	9.5				3.0						4.0	8.0			7.5	7.5
14-15			11.5	3.0		9.5	4.5			8.0		5.0		2.5		6.5							6.0
15-16	7.0					5.5	0.5					7.5							5.0		6.5	5.0	4.5
16-17		1.5				1.5	6.5					9.5											3.0
17-18			10.0			7.5	2.5				1.5	11.5		0.0		6.5			2.5			2.0	1.5
18-19	9.5				10.5	3.5	8.5	1.5			5.5	0.5							8.5	8.5		8.5	0.5
19-20		4.0		2.5	8.5	9.5	4.5			5.5	9.5	3.0									8.0	6.0	
20-21			9.0		6.0	5.5	0.5	9.5				5.0				6.5			6.0	7.0		6.0	9.0
21-22	11.5				3.5	1.5	6.5					7.0							6.5				7.5
22-23		6.0			1.0	7.5	2.5			12.0		9.5	1.0	2.0			2.0		3.0	5.5		3.5	6.0
23-24	0.5		7.5			4.0	9.0					11.5				6.0		3.0		5.0	6.0		4.5
24-25				2.5		10.0	5.0			3.0	1.0	0.5							0.5	4.0		1.0	3.0
25-26		8.0				6.0	1.0	2.0	12.5		4.5	2.5							6.5	3.5		7.0	2.0
26-27	2.5		6.5			2.0	7.0		12.0		8.5	5.0				6.0				2.5			0.5
27-28					11.0	8.0	3.0	10.0	11.5	9.0		7.0							4.0	2.0	6.0	4.5	
28-29		10.0			8.5	4.0	9.0		11.5			9.0								1.5			9.0
29-30	4.5		5.0	2.0	6.5	0.0	5.0		11.0	0.5		11.0				6.0			1.0	0.5		2.0	7.5
30-31					4.0	6.0	1.0		10.5			0.5		2.0					7.0			8.5	6.0

	KV	V346	V387	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	TZ	YY
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	ERI	ERI
MAX	11.5	11.8	11.5	9.7	10.8	10.8	10.8	8.3	8.3	13.8	9.4	10.6	9.6	11.0	10.2	10.8	10.0	7.8	9.9	9.9	7.2	9.8	8.4
MIN	12.6	13.6	12.3	10.3	11.9	11.6	11.6	9.2	8.7	14.6	12.7	12.5	10.8	12.0	11.3	13.6	10.9	9.5	10.7	10.7	8.2	12.6	9.1
DUR	5	5	3	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5	5	4	4	3
TOT											2							1				1	
							(S)		(S)												(S)		
0- 1			5.5	5.5	3.5					3.5			7.0		3.0	11.5	3.0						5.0
1- 2				2.0	0.5		6.0			7.0							5.0	4.0		0.0			
2- 3	7.5		3.5										6.0				7.5						
3- 4								2.5	2.5	0.0				1.0	6.0	4.5							
4- 5			2.0				0.5			3.5					1.0					6.5			
5- 6	3.5		8.5							7.0							2.0				3.5		
6- 7				5.5		3.0							6.0	5.0			4.0					7.0	7.5
7- 8			6.5	2.5	6.5					0.0				0.0	4.0	6.5	6.5						6.5
8- 9					4.0		5.0			3.5							9.0						5.5
9-10			5.0		1.0					7.0									4.0				5.0
10-11		3.5				7.0		3.5	3.5					4.0			1.0						
11-12			3.0										0.5		2.0	8.0	3.0				3.5	12.0	
12-13				6.0						3.5			5.0				5.5	9.5	10.0				
13-14			1.0	2.5		2.0				7.0		6.0					8.0						
14-15			7.5							10.0					3.5	5.0	1.0				1.5		
15-16					7.0		4.0								0.0	9.5		5.0					7.5
16-17			6.0		4.5					3.0		3.0					2.0						6.5
17-18					1.5	6.0		4.5	4.5	6.5							4.5			7.5	3.5		5.5
18-19			4.0	6.5						10.0			4.0	2.5	3.0	3.0	7.0	0.0					5.0
19-20	8.0			3.0												11.5						7.5	
20-21			2.0			0.5				3.0													
21-22		3.0	9.0							6.5				6.5	6.5		1.0						
22-23	4.5		0.0				3.0			10.0	4.5			1.5	1.0	4.5	3.5		5.0				
23-24			7.0		7.5												6.0				3.0		
24-25				6.5	5.0	5.0		5.5	5.5	3.0				3.0			8.5						7.5
25-26	0.5		5.0	3.0	2.0					6.5			7.5	6.0	4.5				11.5				6.5
26-27							7.0			10.0				1.0		6.5	0.0	10.5					6.0
27-28			3.0														2.5			2.5			5.0
28-29										3.0							5.0						
29-30			1.5				2.0			6.5				5.0	2.5		7.5	5.5			3.0		
30-31			8.0	7.0						9.5				2.0	0.0		8.0				8.5		

	YY	RW	AF	SZ	TU	UX	CC	CT	AV	DI	DK	SW	SW	VX	CM	CO	CO	Y	UU	UV	VZ	RR	SS
	ERI	GEM	GEM	HER	HER	HER	HER	HER	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEO	LEP	LIB
MAX	8.4	9.6	10.2	10.2	10.6	8.9	9.5	9.9	10.2	11.0	10.5	9.2	9.2	10.9	8.5	10.5	10.5	9.5	11.4	9.5	10.6	10.2	10.4
MIN	9.1	11.6	11.3	12.0	13.4	9.8	12.8	11.2	10.6	12.0	11.0	10.0	10.0	12.3	9.5	11.0	11.0	12.7	12.7	10.2	11.7	10.9	11.3
DUR	3	5	4	4	5	5	4	4	4	4	4	3	3	4	4	5	5	5	4	3	4	4	6
TOT		1			1																		
	(S)												(S)				(S)						
0- 1				1.5		0.5						4.0	0.0			3.0							
1- 2										11.0		3.0	7.0							10.5	8.5		
2- 3	7.0		8.5									2.0	6.0		8.0		10.0				10.5		
3- 4	6.0					2.5					10.5	1.5	5.0			5.0							
4- 5	5.0			3.5	3.5						11.5	0.5	4.0							10.5			
5- 6							2.5	0.0				7.0	3.5				12.0						
6- 7									10.0			6.0	2.5	0.5		7.0							
7- 8			7.5									5.5	1.5	2.5	3.5		1.0			10.5		11.0	
8- 9										11.0		4.5	0.5	4.5								9.0	
9-10				1.5							10.5	3.5	7.5	6.0		9.0						7.0	0.5
10-11										12.5		2.5	6.5	8.0	8.5		3.0			10.5			
11-12	7.0	10.0										1.5	5.5	9.5									
12-13	6.0		7.0				1.0					1.0	4.5			11.0							
13-14	5.5			3.5								7.5	3.5				5.0				11.0		
14-15	4.5	6.5										6.5	3.0									10.0	
15-16											10.5	6.0	2.0		4.0							12.5	
16-17											12.0	5.0	1.0				7.0				11.0		
17-18			6.5			1.5				10.5		4.0	0.0			2.0							
18-19			12.5	1.5								3.0	7.0		9.0			9.0				10.5	
19-20									9.5			2.0	6.0				9.0			11.0		8.5	
20-21	7.0				0.5	3.5				12.5		1.0	5.0			4.0						6.5	
21-22	6.0							2.0	11.0			0.5	4.0	2.0									
22-23	5.5		6.0	3.5								7.0	3.5	3.5			11.0		9.0	11.0			
23-24	4.5		11.5						12.0			6.0	2.5	5.5	4.5	6.0		10.5					
24-25												5.5	1.5	7.0									
25-26										10.5		4.5	0.5	9.0							11.0		
26-27												3.5	7.5	10.5	9.5	8.0						10.0	
27-28				1.5							11.0	2.5	6.5				2.0		10.0			12.0	
28-29			11.0							12.0	12.0	1.5	5.5		0.0			12.0		11.0			12.5
29-30	7.0				2.0							0.5	4.5			10.0						10.5	
30-31	6.0							0.5				7.5	3.5				4.0						8.5

	DELT	RY	UZ	EW	FL	RU	RU	RW	AT	BB	BO	U	SX	V508	V839	1010	EQ	ER	ER	ET	FL	FT	FZ
	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	MON	OPH	OPH	OPH	OPH	OPH	ORI	ORI	ORI	ORI	ORI	ORI	ORI
MAX	4.8	11.9	9.8	11.2	8.7	10.6	10.6	9.1	10.6	10.6	10.8	5.8	10.5	10.1	8.8	6.2	10.3	9.5	9.5	11.2	10.5	9.1	10.7
MIN	5.9	13.3	11.0	13.6	9.5	11.3	11.3	11.9	11.4	11.3	12.1	6.5	11.2	10.7	9.4	7.0	13.3	10.2	10.2	12.4	13.2	9.7	11.3
DUR	7	4	5	5	4	5	5	5	5	4	5	5	5	3	3	4	4	3	3	5	3	4	3
TOT								1			1												
							(S)											(S)					
0- 1		7.5						9.0		9.0				3.0				10.0		5.0		7.0	5.5
1- 2	0.5		2.0											3.5	1.0			6.5					
2- 3								6.5						4.5			8.5		8.0		7.5		5.5
3- 4									8.0	7.5					2.0			9.0			10.5		
4- 5																		5.5					5.5
5- 6									8.5	12.0					3.0				7.0		10.0		
6- 7																		8.5					5.5
7- 8		11.5			2.0		9.5		9.5					0.5	4.5				9.5				
8- 9										10.5				1.0					6.0		12.5		5.5
9-10				6.0	6.5					10.0				2.0			8.5	7.5					
10-11		8.5												3.0	1.0				9.0				5.5
11-12				4.5						11.0	9.0			3.5									
12-13														4.5	2.0			6.5					5.5
13-14				3.5		9.5				11.5									8.0	12.5			
14-15										7.0					3.0			9.5		11.0			5.5
15-16				2.0						12.0								5.5		10.0			
16-17			5.0							12.0							8.0		7.0	9.0	6.5		5.5
17-18				1.0										0.5				8.5		7.5			
18-19			2.5								10.0		1.0	1.0		1.5			10.0	6.5			5.5
19-20								10.5		10.5				2.0	1.0				6.5	5.5	9.0		
20-21		9.5			3.5									3.0		1.5		7.5					5.5
21-22								8.0						3.5	2.0				9.0				
22-23										8.5				4.5	2.0				5.5		11.5	8.5	5.5
23-24		6.5						6.0							3.0		7.5	7.0					
24-25																0.5			8.0				5.5
25-26							7.5								4.0			9.5			12.0		
26-27																0.0		6.0					5.5
27-28									12.0	8.0				0.5					7.5				
28-29														1.0	1.0			8.5					5.5
29-30												0.5		2.0					10.0				
30-31		10.5								10.0				3.0	2.0		7.0		6.5		5.5		5.5

	FZ	GU	GU	U	U	TY	AQ	BB	BB	BX	DI	GP	Z	RT	RV	ST	XZ	BETA	Y	UZ	UZ	U	V505
	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PSC	PUP	PUP	SGE	SGR
MAX	10.7	12.6	12.6	9.7	9.7	10.5	10.3	10.6	10.6	10.9	9.6	10.2	9.9	10.6	10.3	9.7	10.6	2.2	9.0	9.7	9.7	6.4	6.4
MIN	11.3	13.5	13.5	10.5	10.5	12.6	13.0	11.2	11.2	11.5	10.8	11.0	12.4	12.0	12.7	13.2	12.7	3.5	12.0	10.6	10.3	9.1	7.6
DUR	3	4	4	3	3	6	12	3	3	3	2	4	6	4	8	5	4	8	7	4	4	6	5
TOT							4						2			1						2	
	(S)		(S)		(S)					(S)											(S)		
0- 1			8.0	2.0	6.5			1.5	5.5	1.0			3.5		3.5		3.0				10.0		4.0
1- 2	5.5		6.5	5.0	0.5			3.5	7.5	4.0	7.0						6.5					2.5	
2- 3		10.5		8.0	3.5			5.5	1.0	0.0				12.0	3.0		10.5	6.0		10.0			
3- 4	5.5	9.5		2.0	6.5			7.5	3.0	3.0	10.0		5.0	8.0		11.5							
4- 5		8.0		5.0	0.5			0.5	5.0	6.0	3.0			4.5	2.5						9.5		
5- 6	5.5	6.5		8.0	3.5			2.5	7.0	2.0				1.0				2.5					
6- 7			11.0	2.0	6.5		0.0	5.0	0.5	5.0	6.5		6.0			3.0				9.5			2.0
7- 8	5.5		9.5	5.0	0.5			7.0	2.5	1.5													
8- 9			8.0	8.0	3.5			0.0	4.5	4.0	9.5			10.5			4.5				9.0		
9-10	5.5		6.5	2.0	6.5			2.0	6.5	0.5	2.5	10.5	7.5	7.0			8.0						
10-11		11.0		5.0	0.5			4.0	8.5	3.5		10.0		3.5			12.0			8.5			
11-12	5.5	9.5		8.0	3.5			6.0	2.0	6.0	6.0	9.0				10.5						6.0	
12-13		8.0		2.0	6.5			8.0	4.0	2.5		8.5	9.0					6.5		8.5			
13-14	5.5	6.5		5.0	0.5			1.5	6.0	5.5	9.0	8.0											4.0
14-15			11.0	8.0	3.5			3.5	8.0	1.5	2.5	7.5		9.0		2.0							
15-16	5.5		9.5	2.0	6.5			5.5	1.5	4.5		7.0	10.0	5.5			2.5						
16-17			8.0	5.0	0.5			7.5	3.5	0.5	5.5	6.5		2.0			6.0	0.5					
17-18	5.5		6.5	8.0	3.5	1.0	2.5	1.0	5.5	3.5		5.5					9.5			12.5			
18-19		11.0	5.0	2.0	6.5			3.0	7.5	6.5	9.0	5.0	11.5									0.0	
19-20	5.5	9.5		5.0	0.5			5.0	1.0	2.5	2.0	4.5		11.5		9.0	10.5				12.0		2.0
20-21		8.0		8.0	3.5	3.5		7.0	3.0	5.5		4.0		8.0									
21-22	5.5	6.5		2.0	6.5			0.5	5.0	2.0	5.0	3.5		4.5						11.5			
22-23		5.0	11.0	5.0	0.5			2.5	7.0	4.5		3.0		0.5		0.5		7.5					
23-24	5.5		9.5	8.0	3.5	5.5		4.5	0.0	1.0	8.5	2.0					4.0				11.5		
24-25			8.0	2.0	6.5			6.5	2.0	4.0	1.5	1.5					7.5						
25-26	5.5		6.5	5.0	0.5			8.5	4.0	6.5		1.0		10.0			11.0	4.5		11.0			0.0
26-27		11.0	5.0	7.5	3.5	8.0		2.0	6.5	3.0	5.0	0.5		6.5									4.5
27-28	5.5	9.5		1.5	6.0			4.0	8.5	6.0				3.0		7.5			8.0		11.0		
28-29		8.0		4.5	0.0		5.0	6.0	1.5	2.0	8.0							1.0				3.5	
29-30	5.5	6.5		7.5	3.0	10.0		8.0	3.5	5.0	1.0									10.5			
30-31		5.0	11.0	1.5	6.0			1.5	5.5	1.0							1.5						

	1968	AO	CC	CC	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	TX	TY	TY	UX	VV	XZ	ZZ
	SGR	SER	SER	SER	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA
MAX	12.3	10.6	11.1	11.1	8.0	10.5	11.5	11.5	10.5	10.4	10.3	10.3	10.9	8.9	11.4	9.1	6.8	11.7	11.7	12.7	10.1	10.1	9.8
MIN	13.3	12.1	11.7	11.7	12.5	11.2	12.0	11.7	12.3	12.3	11.0	11.0	11.9	12.0	12.5	9.9	8.9	12.4	12.4	13.8	11.0	11.7	11.2
DUR	4	4	4	4	4	3	2	4	6	5	3	3	4	4	4	3	6	3	3	1	3	3	4
TOT					1																		
				(S)							(S)								(S)				
0- 1		1.5				7.0		8.5	5.0			5.0	10.0	10.5		7.0		0.5		0.5			12.0
1- 2												5.5		10.0	11.5	7.0		2.0			11.5		
2- 3	1.5					8.5		10.5	6.0			6.5	4.0	9.0	5.5	7.0			8.0				
3- 4						4.5					3.0	7.0	8.0	8.5		7.0			1.0				
4- 5							4.0	12.0	7.0		3.5	7.5	12.0	8.0	12.0	7.0					5.5	6.5	
5- 6			0.5			6.5	6.0	5.0			4.0	8.0	2.0	7.0	6.0	7.0		8.0				12.0	2.5
6- 7	0.0		1.5		8.5		7.5		8.0		4.5		6.5	6.5		7.0		1.0			7.0		
7- 8		2.0	2.0			8.5	9.5	6.5			5.0		10.5	5.5	12.0	7.0				2.5			10.0
8- 9						4.5	11.5		9.5		5.5		0.5	5.0	6.0	7.0			0.0		8.5		
9-10					2.5			8.5			6.5		4.5	4.5	0.5	7.0			1.5	1.5			
10-11						6.0			10.5		7.0	2.5	8.5	3.5		7.0					10.0	9.5	
11-12	2.0							10.5			7.5	3.5		3.0	6.5	7.0		0.5		1.0			
12-13						8.0			11.5		8.0	4.0	3.0	2.5	0.5	7.0		2.0			11.5		0.0
13-14			0.5			4.0		12.5				4.5	7.0	1.5		7.0			7.5	0.0			
14-15			1.5					5.0	12.5			5.0	11.0	1.0	7.0	7.0	8.5		0.5				7.5
15-16	0.5	0.0		2.0		6.0						5.5	1.0	0.5	1.0	7.0			2.0		5.5	6.5	
16-17								7.0				6.0	5.0			7.0		8.0				12.0	
17-18					10.0	8.0					2.5	7.0	9.0		7.5	7.0	10.0	1.0			7.0		
18-19						4.0	4.0	8.5			3.5	7.5			1.5	7.0				2.5			
19-20						9.5	6.0				4.0	8.0	3.5			7.0			8.5		8.5		
20-21	2.0				4.5	5.5	8.0	10.5			4.5		7.5		7.5	7.5	11.5		1.5	2.0			
21-22			0.5				9.5			5.0	5.0		11.5		1.5	7.5					10.0	9.5	5.0
22-23		1.0	1.5			7.5	11.5	12.5			5.5		1.5			7.5		0.0		1.0			
23-24			2.0			3.5		5.0		6.0	6.0		5.5		8.0	7.5		1.5			11.5		12.0
24-25	0.5					9.5					6.5	2.5	9.5		2.0	7.5					0.5		
25-26						5.5		7.0		7.5	7.5	3.0				7.5				0.5			
26-27											8.0	4.0	4.0		8.5	7.5			2.0		5.5	6.5	
27-28						7.0		9.0		8.5		4.5	8.0		2.5	7.5		8.0				12.0	
28-29					12.0							5.0	12.0			7.5		1.0			7.0		2.5
29-30	2.5	2.0		0.5		9.0		10.5		9.5		5.5	2.0		8.5	7.5				3.0			
30-31				1.5		5.0						6.0	6.0		3.0	7.5			8.0		8.5		9.5

AAVSO Eclipsing Binary Ephemeris for November 2021

all times in U.T.

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	RT	TW	UU	WZ	XZ	AB	AB	AD	AD	BD	BX	DS	DS	RY	CX	CZ	XZ	OO	OO	V342	V343	V346	SS
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQR	AQL	AQL	AQL	AQL	AQL	AQL	ARI
MAX	9.3	8.8	11.2	11.6	10.0	9.3	9.3	11.1	11.1	11.3	8.6	10.8	10.8	8.8	10.7	10.3	9.3	9.2	9.2	9.0	10.6	9.0	10.1
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.6	11.7	9.5	11.4	11.4	10.1	12.0	11.2	11.2	10.1	10.1	12.5	12.3	10.4	11.1
DUR	3	11	8	4	3	3	3	4	4	3	4	4	4	5	3	3	7	3	3	7	4	4	3
TOT		2																			3		
							(S)		(S)				(S)						(S)				
0- 1	8.0					5.0	1.0	5.0		8.0	3.0	6.0				1.5			2.5			4.0	
1- 2				9.0		4.5	1.0	4.5		6.5	8.5	6.0		4.0					2.5		2.5	9.0	
2- 3	5.0		4.5	1.5	7.0	4.5	0.5	4.0		4.5		6.5							3.0			4.5	
3- 4		9.5				4.5	0.5	4.0		3.0	4.5	6.5		3.0	1.5				3.0			9.5	
4- 5	2.5			4.0		4.5	0.5	3.5		1.0	9.5	7.0			4.0				3.5			5.0	
5- 6	8.5		3.5		0.5	4.5	0.5	3.0			0.5	7.0		2.5		5.5			4.0			0.5	
6- 7				6.0	9.0	4.0	0.0	3.0		8.5	5.5	7.5				2.5						6.0	
7- 8	6.0					4.0	0.0	2.5		7.0	11.0	7.5		1.5								1.5	
8- 9			3.0	8.0		4.0	0.0	2.0		5.0	1.5	8.0			1.5							6.5	
9-10	3.0			0.5	2.0	4.0	8.0	2.0		3.0	7.0	8.0		1.0	4.0					2.5		2.0	
10-11	9.5			10.0	10.5	4.0	8.0	1.5		1.5	12.0	8.5										7.5	
11-12	0.5		2.5	3.0		3.5	7.5	1.0			2.5	9.0										1.5	3.0
12-13	6.5					3.5	7.5	1.0		9.0	8.0	9.0				3.5		0.0		1.0	4.0	8.0	
13-14				5.0	4.0	3.5	7.5	0.5		7.0		9.5		1.5	0.0	3.0	0.5					3.5	
14-15	4.0		1.5			3.5	7.5	0.0		5.5	4.0	9.5			4.0			0.5				9.0	
15-16	10.0			7.0		3.5	7.5			3.5	9.0	10.0						1.0				4.5	
16-17	1.0					3.0	7.0			2.0		10.0						1.5				9.5	
17-18	7.5		1.0	9.0	5.5	3.0	7.0			0.0	5.0	10.5						1.5				5.0	
18-19				1.5		3.0	7.0			9.5	10.5	10.5		1.5	4.0			2.0				0.5	
19-20	4.5					3.0	7.0		10.5	7.5	1.0	11.0			4.0	1.0		2.5				5.5	
20-21			0.5	4.0		3.0	6.5		10.0	6.0	6.5	11.0						2.5				1.0	
21-22	2.0				7.5	2.5	6.5		9.5	4.0	11.5	11.5						3.0			0.5	6.5	
22-23	8.0			6.0		2.5	6.5		9.5	2.5	2.5	11.5						3.5		0.5	3.0	2.0	
23-24						2.5	6.5		9.0	0.5	7.5	12.0			1.5			3.5				7.0	
24-25	5.5	0.0		8.0	0.5	2.5	6.5		8.5	10.0					4.5	5.0		4.0				2.5	
25-26				0.5	9.0	2.0	6.0		8.5	8.0	3.5		0.0			2.0						8.0	
26-27	2.5			10.0		2.0	6.0		8.0	6.5	9.0		0.5									3.5	
27-28	9.0			3.0		2.0	6.0		7.5	4.5			0.5									8.5	
28-29		3.0			2.0	2.0	6.0		7.5	2.5	4.5		1.0		1.5		2.5					4.0	
29-30	6.0			5.0	10.5	2.0	6.0		7.0	1.0	10.0		1.0		4.5							9.5	

	SS	WW	WW	AP	AP	AR	AR	CL	EP	HP	HP	TY	TY	TZ	TZ	Y	SV	AL	CD	CD	R	RT	SX
	ARI	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA
MAX	10.1	5.7	5.7	10.9	10.9	6.0	6.0	11.7	10.8	10.8	10.8	11.8	11.8	10.6	10.6	10.6	8.6	10.5	11.6	11.6	6.2	11.4	10.3
MIN	11.1	6.4	6.4	11.4	11.4	6.7	6.7	13.2	11.3	11.5	11.5	12.3	12.3	11.1	11.1	12.4	9.4	11.3	11.8	11.8	6.8	12.9	11.4
DUR	3	5	5	4	4	5	5	4	3	3	3	3	3	3	3	6	3	5	5	5	4	5	4
TOT	(S)		(S)		(S)		(S)			(S)		(S)		(S)						(S)			
0- 1	8.5			5.5	12.5		12.0	5.0	10.0	12.0							5.0		2.5	11.5			11.0
1- 2	4.0			9.0				10.5			5.0						9.5			6.0			
2- 3	9.5			12.5	5.5				4.5			0.5			0.0			1.0	9.5	0.0			
3- 4	5.0		3.0		9.0				9.0	8.5				1.0			4.0	8.5	3.5	13.0		7.0	
4- 5	0.5	9.5		5.5	12.0					1.5					3.0	8.5				7.0			
5- 6	5.5			8.5			4.0	3.5		11.5			0.5						10.5	1.5			8.0
6- 7	1.0			12.0	5.0		10.0	8.0	4.5					0.5			3.5	0.5	5.0		9.0		
7- 8	6.5				8.5				12.0						1.5	10.5	8.0	8.5		8.5	12.0		
8- 9	2.0		4.5	5.0	12.0				2.5		8.0						12.5		12.0	3.0		11.0	
9-10	7.0	10.5		8.5					6.5	1.0							2.5		6.5				
10-11	2.5			11.5	5.0		3.5	11.0	11.0						0.5		7.0	0.0	0.5	10.0			
11-12	7.5				8.0		9.5			4.0							11.5	8.0		4.0			
12-13	3.0			4.5	11.5				5.5				0.0				1.5		7.5			8.5	
13-14	8.5		5.5	8.0					10.0	7.5							6.0		2.0	11.5			11.0
14-15	4.0	12.0		11.5	4.5									1.0		1.0	10.5			5.5	8.0		
15-16	9.0				8.0		3.0	4.5		10.5	0.5						1.0	7.5	9.0		11.0		
16-17	4.5			4.5	11.0		9.0	9.0	4.0								5.5		3.5	12.5		5.5	
17-18	0.0			7.5										0.0		8.5	10.0			7.0		12.5	
18-19	5.5		6.5	11.0	4.0				3.5		7.0		0.5		1.0		0.0		10.5	1.5			7.5
19-20	1.0				7.5	2.5			8.0								4.5	7.5	5.0				
20-21	6.0			4.0	11.0			2.5	12.0	10.0							9.0				8.5		
21-22	1.5			7.5		4.0	8.5	2.5		3.5					0.5				12.0	2.5		9.5	
22-23	7.0			10.5	4.0				7.0								3.5		6.0		6.5		
23-24	2.5		8.0		7.0	6.0			11.0	6.5							8.0	7.0	0.5	9.5	10.0		
24-25	7.5			3.5	10.5												12.5			4.0			
25-26	3.0			7.0		7.5	2.0	5.5		9.5		0.0	1.0				3.0		7.5			7.0	
26-27	8.0			10.5	3.5		8.0	10.0	3.0								7.5		2.0	11.0			10.5
27-28	3.5	3.0			7.0	9.0			13.0							6.5	11.5	6.5		5.5			
28-29	9.0		9.0	3.5	10.0				4.5		6.0	0.5		0.0			2.0		9.0				
29-30	4.5			6.5		10.5			9.0						1.0		6.5		3.0	12.5			

	TU	TZ	TZ	UU	XZ	AK	RW	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	IV	MM	OR	PV	PV	V364	V364
	CMA	CMA	CMA	CMA	CMI	CMI	CAP	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS
MAX	9.7	9.8	9.8	10.0	9.7	10.1	9.8	10.5	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6	11.2	11.3	11.4	10.0	10.0	11.2	11.2
MIN	10.7	10.5	10.5	12.5	10.2	11.5	10.8	11.6	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6	12.5	11.9	12.4	10.6	10.6	11.7	11.7
DUR	4	4	4	5	3	4	5	4	4	4	4	3	3	4	4	5	5	5	4	3	3	4	4
TOT																							
			(S)									(S)								(S)		(S)	
0- 1			9.0		9.0	12.5						4.5	0.5	11.0			8.5	7.5					
1- 2					12.5			1.5				3.0	7.0	6.0	6.0		8.5	11.0				6.5	
2- 3		5.5				5.5				9.5	4.5	2.0	6.0	1.0			8.5				11.0		1.0
3- 4					6.0	8.5			4.0			1.0	5.0		7.0		8.5		3.5	7.0			
4- 5					10.0	12.0			9.0	5.0		0.0	4.0	9.5			8.5		9.5		5.0	8.5	
5- 6												6.5	3.0	4.0	8.0		8.5			1.0			3.0
6- 7	8.5									0.5	7.0	5.5	2.0		0.5	10.0	8.5	2.5					
7- 8	11.5				7.5	7.5						4.5	1.0		9.0		8.5	6.0				10.5	
8- 9					11.0	11.0	1.0					3.5	7.5	7.5	1.5	6.0	8.5	10.0	3.0				5.0
9-10									3.5		0.5	2.5	6.5	2.5	10.0		8.5				11.0		
10-11				6.5					8.5		9.5	1.5	5.5		2.5	2.5	8.5			7.5			
11-12					8.5	7.0		1.0		11.0		0.5	4.5	11.0			8.5				5.0		7.5
12-13				10.5	12.5	10.0						7.0	3.0	5.5	3.5		8.5			1.5		2.0	
13-14										6.5	3.0	6.0	2.0	0.5			8.0	1.0	2.5				
14-15	6.0				6.0						12.0	5.0	1.0		4.5		8.0	5.0	8.5				9.5
15-16	9.0				10.0	6.0			3.0	2.0		4.0	0.0	9.0			8.0	8.5				4.0	
16-17	12.5					9.0			7.5			3.0	6.5	4.0	5.5		8.0	12.5			11.0		
17-18		12.5				12.0			12.5		5.5	2.0	5.5			11.0	8.0			7.5			11.5
18-19					7.5							1.0	4.5		6.5		8.0		2.0		5.0	6.0	
19-20			11.5		11.0							7.5	3.5	7.0		7.5	8.0		8.0	1.5			0.5
20-21						8.0				12.5		6.5	2.5	2.0	7.5		8.0						
21-22		8.5				11.0		0.0	2.5		8.0	5.5	1.5		3.5	8.0	3.5					8.0	
22-23					8.5				7.0	8.0		4.5	0.5	10.5	8.5		8.0	7.5					2.5
23-24	6.5		7.5	6.5	12.5				12.0			3.0	7.0	5.5	0.5		8.0	11.5	2.0		11.0		
24-25	9.5					7.0				3.5	1.5	2.0	6.0	0.5	9.5		8.0		7.5	7.5		10.0	
25-26	13.0			10.5	6.0	10.5	0.0				10.5	1.0	5.0		1.5		8.0				5.0		4.5
26-27					10.0							0.0	4.0	9.0	10.5		8.0			1.5			
27-28									2.0			6.5	3.0	3.5	2.5		7.5						
28-29						6.0		3.0	6.5		4.0	5.5	2.0			12.0	7.5	2.5	1.5				6.5
29-30					7.5	9.5			11.5		13.0	4.5	1.0		3.5		7.5	6.5	7.0			1.0	

	BR	CG	DK	KV	V346	V387	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA
MAX	9.4	11.0	10.3	11.5	11.8	11.5	9.7	10.8	10.8	10.8	8.3	8.3	13.8	9.4	10.6	9.6	11.0	10.2	10.8	10.0	7.8	9.9	9.9
MIN	10.5	11.8	10.8	12.6	13.6	12.3	10.3	11.9	11.6	11.6	9.2	8.7	14.6	12.7	12.5	10.8	12.0	11.3	13.6	10.9	9.5	10.7	10.7
DUR	4	3	4	5	5	3	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5	5
TOT														2							1		
									(S)		(S)												(S)
0- 1	6.0		4.5				3.5		4.0														12.5
1- 2		5.5	3.0		2.5	6.0	0.0	5.5					3.0								1.5	1.0	
2- 3			2.0					2.5					6.0			4.0	0.5	1.5	4.0				
3- 4		3.0	0.5				4.5	0.0										10.0	6.5				
4- 5	6.0																					6.0	
5- 6		0.5				2.5			1.0				2.5			0.5		3.5		11.5			
6- 7							4.0						6.0			5.5	3.5		3.0	0.5			
7- 8			6.0			0.5	0.5		3.0										11.5	3.0		12.5	
8- 9	6.0	4.5	4.5	5.0										2.0						5.5			
9-10			3.5					6.0	5.0				2.5					1.5			11.0		3.5
10-11		2.0	2.0			5.5		3.0					6.0				2.5		4.5				
11-12			0.5	1.5				0.5															
12-13	6.0				1.5	3.5	4.0									4.5		4.5		2.0	6.5		10.0
13-14		5.5					1.0						2.5							4.5			
14-15						1.5			2.0				6.0				1.5		6.5	7.0		1.0	
15-16		3.0	6.0											5.5							2.0		
16-17	6.0		4.5						4.0									2.5		12.0			
17-18		0.5	3.5			6.5	6.5						2.5							1.0		7.0	
18-19		6.5	2.0				4.5	3.5					5.5			3.0	1.0		8.0	3.5			
19-20			0.5			4.5	1.0	1.0			1.0	1.0								6.0			
20-21	6.0	4.0												0.5									
21-22						3.0			1.0				2.0				5.0		1.5				
22-23		1.5											5.5				0.0	10.0					4.5
23-24			6.0		1.0	1.0				3.0								4.0		2.5	12.0		
24-25	5.5		5.0				5.0									2.0				5.0			
25-26		5.5	3.5	6.0			1.5		5.0								4.0		3.0				11.0
26-27			2.0			6.0		4.0			2.0	2.0	5.5						11.5		7.5		
27-28		3.0	0.5				1.5											2.0		12.0		2.0	
28-29	5.5			2.0		4.0									4.5					1.5			
29-30		0.0											2.0				3.5		5.0	4.0	2.5		

	AI	TZ	YY	YY	RW	AF	SZ	TU	UX	CT	AV	DF	DF	DI	DK	SW	SW	VX	CM	CO	CO	Y	UU
	DRA	ERI	ERI	ERI	GEM	GEM	HER	HER	HER	HER	HYA	HYA	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO
MAX	7.2	9.8	8.4	8.4	9.6	10.2	10.2	10.6	8.9	9.9	10.2	11.0	11.0	11.0	10.5	9.2	9.2	10.9	8.5	10.5	10.5	9.5	11.4
MIN	8.2	12.6	9.1	9.1	11.6	11.3	12.0	13.4	9.8	11.2	10.6	11.5	11.5	12.0	11.0	10.0	10.0	12.3	9.5	11.0	11.0	12.7	12.7
DUR	4	4	3	3	5	4	4	5	5	4	4	4	4	4	4	3	3	4	4	5	5	5	4
TOT		1			1			1															
				(S)								(S)					(S)			(S)			
0- 1	12.5			5.5	11.0											6.5	3.0		5.0				
1- 2		8.5		4.5		4.5					9.0					5.5	2.0						11.0
2- 3			7.5	3.5		10.5								10.0		5.0	1.0					6.0	
3- 4			6.5	3.0	8.0				2.0		10.5					4.0	0.0			1.0			
4- 5	3.0		6.0													3.0	7.0	1.0				6.0	
5- 6			5.0				1.5				11.5			12.0		2.0	6.0	3.0	0.5		8.0		
6- 7	12.5		4.0		4.5	4.0									9.0	1.0	5.0	4.5		3.0			12.0
7- 8			3.5	7.0		10.0					13.0			8.0	10.0	0.5	4.0	6.5					
8- 9			2.5	6.5											11.0	7.0	3.0	8.0	5.5		10.0		
9-10		4.0		5.5									8.0	12.0	6.0	2.5				5.0		7.5	
10-11	3.0			4.5									7.5	10.0	5.0	1.5							
11-12			7.5	3.5									7.5		4.5	0.5							13.0
12-13	12.5		6.5	3.0		9.0					7.5		7.0		3.5	7.5				7.0			
13-14			6.0										7.0	11.5	2.5	6.5			1.0		1.0		
14-15		9.0	5.0				1.5				9.0		7.0		1.5	5.5						8.5	
15-16			4.0										6.5	8.0	0.5	4.5				9.0			
16-17	2.5		3.5	7.0							10.0		6.5		7.5	3.5			6.0		3.0		
17-18			2.5	6.5		8.5			0.5				6.0		6.5	2.5							
18-19	12.0			5.5							11.5			9.5	9.0	5.5	2.0	0.0					
19-20				4.5										10.0	5.0	1.0	2.0				5.0	10.0	
20-21			7.5	4.0	12.5						12.5				11.0	4.0	0.0	4.0		0.5			
21-22			7.0	3.0										11.5	12.0	3.0	7.0	5.5	1.5				
22-23	2.5	4.5	6.0			8.0									2.0	6.0	7.5				7.0		
23-24			5.0		9.5		1.5	0.5						7.5	1.0	5.0				2.5			7.0
24-25	12.0		4.0						0.5						0.0	4.0			7.0			11.5	
25-26			3.5	7.0							7.5				7.0	3.0					9.5		
26-27			2.5	6.5	6.0									9.5	6.0	2.5			4.5				
27-28		10.0		5.5		7.5					8.5				5.0	1.5							
28-29	2.5			4.5											4.5	0.5							8.0
29-30			7.5	4.0	3.0						9.5	8.0		11.0	3.5	7.0			2.5	6.5		13.0	

AAVSO Eclipsing Binary Ephemeris for November 2021

all times in U.T.

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	UV	VZ	Z	RR	RY	UZ	EW	FL	RU	RU	RW	BB	BO	V508	V839	EQ	ER	ER	ET	FL	FT	FZ	FZ
	LEO	LEO	LEP	LEP	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	OPH	OPH	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI
MAX	9.5	10.6	11.0	10.2	11.9	9.8	11.2	8.7	10.6	10.6	9.1	10.6	10.8	10.1	8.8	10.3	9.5	9.5	11.2	10.5	9.1	10.7	10.7
MIN	10.2	11.7	12.5	10.9	13.3	11.0	13.6	9.5	11.3	11.3	11.9	11.3	12.1	10.7	9.4	13.3	10.2	10.2	12.4	13.2	9.7	11.3	11.3
DUR	3	4	4	4	4	5	5	4	5	5	5	4	5	3	3	4	3	3	5	3	4	3	3
TOT											1		1										
										(S)							(S)					(S)	
0- 1	11.0			6.5				1.0	7.5								8.0						5.5
1- 2				4.5						11.5							4.0	9.5	13.0			5.5	
2- 3					7.5			5.5				8.5						5.5	11.5	8.0			5.5
3- 4	11.0																7.0		10.5			5.5	
4- 5						3.0											3.5	8.5	9.0				5.5
5- 6					4.5							7.0					10.0	4.5	8.0	10.5		5.5	
6- 7	11.0	7.5				0.0								0.5	1.0	7.0	6.0		7.0				5.5
7- 8		9.5							11.5		12.0	11.5	11.0	1.0				7.5	5.5			5.5	
8- 9		12.0		12.0							5.0			2.0	2.0		9.0	4.0	4.5	13.0			5.5
9-10	11.0			10.0	11.5						9.5						5.5		3.5			5.5	
10-11				8.0							10.0							6.5			6.0		5.5
11-12				6.0							7.0					12.5	8.0					5.5	
12-13	11.0			4.0	8.5					6.0							4.5	9.5					5.5
13-14								2.5			5.0	8.0				6.5		6.0		4.5	9.5	5.5	
14-15																	7.0						5.5
15-16	11.0				5.5							13.0			1.0		3.5	8.5				5.5	
16-17			12.0									6.5	8.5	0.0			10.0	5.0		7.0			5.5
17-18			12.0											1.0	2.0		6.5					5.5	
18-19	11.0	7.0	12.0						5.5			11.5		2.0		12.0		8.0					5.5
19-20		9.5	11.5	11.5	12.5		4.0			10.0							9.0	4.0		9.5		5.5	
20-21		11.5	11.5	9.5												6.0	5.5						5.5
21-22	11.0		11.5	7.5		3.5	2.5					9.5						7.0	12.0			5.5	
22-23			11.0	5.5	9.5												8.5		11.0	12.0			5.5
23-24			11.0	3.5		0.5	1.5										4.5	9.5	9.5			5.5	
24-25	11.0		11.0					0.0				8.0			1.0			6.0	8.5				5.5
25-26			10.5		6.5		0.0		9.5				6.0			11.5	7.5		7.5			5.5	
26-27			10.5					4.5				12.5		0.0	2.0		3.5	9.0	6.0				5.5
27-28	11.0		10.5									6.5	11.5	1.0		5.5		5.0	5.0	3.5		5.5	
28-29			10.5								11.0			2.0			6.5		4.0				5.5
29-30			10.0									11.0						8.0	2.5		3.5	5.5	

	GU	GU	U	U	TY	BB	BB	BX	DI	GP	Z	RT	RV	ST	XZ	BETA	Y	UZ	UZ	U	V505	1968	AO	
	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PSC	PUP	PUP	SGE	SGR	SGR	SER	
MAX	12.6	12.6	9.7	9.7	10.5	10.6	10.6	10.9	9.6	10.2	9.9	10.6	10.3	9.7	10.6	2.2	9.0	9.7	9.7	6.4	6.4	12.3	10.6	
MIN	13.5	13.5	10.5	10.5	12.6	11.2	11.2	11.5	10.8	11.0	12.4	12.0	12.7	13.2	12.7	3.5	12.0	10.6	10.3	9.1	7.6	13.3	12.1	
DUR	4	4	3	3	6	3	3	3	2	4	6	4	8	5	4	8	7	4	4	6	5	4	4	
TOT											2			1						2				
		(S)		(S)			(S)												(S)					
0- 1	4.0	9.5	4.5	0.0		3.5		4.0	4.5			9.0			5.5		2.0		10.0					
1- 2		8.0	7.5	3.0		5.5	1.0	0.0				5.5			9.0						2.5			
2- 3		6.5	1.5	6.0			3.0	3.0	7.5			1.5			12.5			10.0				1.0		
3- 4	11.0	5.0	4.5	0.0		1.0	5.0	6.0	0.5															
4- 5	9.5	4.0	7.5	3.0		3.0		2.5						6.5					9.5					
5- 6	8.0		1.5	6.0		5.0	0.5	5.0	4.0			11.0												
6- 7	6.5		4.5	0.0		7.0	2.5	1.5				7.5						9.5						
7- 8	5.5	11.0	7.5	3.0		0.0	4.5	4.5	7.0			4.0			3.0						0.5			
8- 9	4.0	9.5	1.5	6.0		2.5	6.5	0.5	0.5			0.5			7.0	12.5			9.0					
9-10		8.0	4.5	0.0		4.5		3.5							10.5									
10-11		6.5	7.5	3.0		6.5	2.0	6.5	3.5										8.5					
11-12	11.0	5.5	1.5	6.0			4.0	2.5				10.0				9.0								
12-13	9.5	4.0	4.5	0.0		1.5	6.0	5.5	7.0			6.5		5.0					8.5					
13-14	8.0		7.5	3.0		3.5		1.5				2.5						13.0					0.5	
14-15	6.5		1.5	6.0		6.0	1.5	4.5					13.0		1.0	6.0		8.0		1.0	2.5			
15-16	5.5	11.0	4.5				3.5	0.5	3.0						4.5		3.5		12.5					
16-17	4.0	9.5	7.5	3.0		1.0	5.5	3.5				12.0	12.5		8.0				7.5				13.0	
17-18		8.0	1.5	6.0		3.0		6.5	6.5			8.5		12.0	12.0	3.0		12.5						
18-19		6.5	4.5			5.0	1.0	3.0			1.0	5.0	11.5					7.5						
19-20	11.0	5.5	7.5	3.0			3.0	5.5				1.5							12.0					
20-21	9.5	4.0	1.5	6.0	1.5	0.5	5.0	2.0	2.5				11.0	3.5					7.0		0.5			
21-22	8.0		4.5			2.5	7.0	5.0		8.5	2.5							11.5						
22-23	6.5		7.5	3.0		4.5	0.5	1.0	6.0	8.0		11.0	10.5		2.5			7.0						
23-24	5.5	11.0	1.5	6.0	3.5	6.5	2.5	4.0		7.5		7.5			6.0				11.5					
24-25	4.0	9.5	4.5			0.0	4.5	0.0		7.0	3.5	3.5	10.0		9.5				6.5			0.0		
25-26		8.0	7.5	3.0		2.0	6.5	3.0	2.5	6.5		0.0		11.0				11.0						
26-27		7.0	1.5	6.0	6.0	4.0		6.0		5.5			9.0					6.0						
27-28	11.0	5.5	4.5			6.0	2.0	2.0	5.5	5.0	5.0								11.0		3.0			
28-29	9.5	4.0	7.5	3.0			4.0	5.0		4.5		9.5	8.5	2.5										
29-30	8.0		1.5	6.0	8.0	1.5	6.0	1.0		4.0		6.0			0.5			10.5						

	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	W	TX	TY	TY	UX	VV	XZ	ZZ	RU	AG	AH	
	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR	VIR
MAX	8.0	10.5	11.5	11.5	10.5	10.4	10.3	10.3	10.9	8.9	11.4	9.1	9.1	6.8	11.7	11.7	12.7	10.1	10.1	9.8	10.7	8.8	9.7	
MIN	12.5	11.2	12.0	11.7	12.3	12.3	11.0	11.0	11.9	12.0	12.5	9.9	9.9	8.9	12.4	12.4	13.8	11.0	11.7	11.2	11.4	9.4	10.2	
DUR	4	3	2	4	6	5	3	3	4	4	4	3	3	6	3	3	1	3	3	4	4	4	4	
TOT	1																							
								(S)					(S)			(S)								
0- 1	6.5		2.5	12.5		10.5	2.5	6.5	10.0			7.5	3.5								10.0	10.5		
1- 2		7.0	4.0	5.0			3.0	7.0	0.5		9.0	7.5	3.5		7.0			10.0	9.5		11.5			
2- 3		3.0	6.0			11.5	3.5	8.0	4.5	11.5	3.0	7.5	3.5		8.5						12.5			
3- 4	1.0	9.0	8.0	7.0			4.5		8.5	10.5		7.5	3.5			5.5		11.5			1.0		9.5	
4- 5		5.0	10.0			12.5	5.0	1.0		10.0	9.5	7.5	3.5			7.0	0.5	4.0			2.5			
5- 6			11.5	9.0			5.5	1.5	2.5	9.0	3.5	7.5	3.5					12.5			3.5			
6- 7		6.5					6.0	2.0	6.5	8.5		7.5	3.5		6.0		9.5	5.0	6.5	7.0	4.5			
7- 8		2.5		11.0			6.5	2.5	11.0	8.0	10.0	7.5	3.5		7.5				12.0		6.0	12.5		
8- 9		8.5		3.5			7.0	3.0	1.0	7.0	4.0	7.5	3.5				8.5	6.5			7.0			
9-10		4.5		12.5			8.0	3.5	5.0	6.5		7.5	3.5			6.5					8.5	10.5		
10-11				5.5				4.0	9.0	6.0	10.0	7.5	3.5			8.0		8.0			9.5			
11-12	8.0	6.5					0.5	5.0		5.0	4.0	7.5	3.5								10.5			
12-13		2.5		7.0	3.0		1.5	5.5	3.0	4.5		7.5	3.5		6.5			9.5	9.5		12.0			
13-14		8.5					2.0	6.0	7.0	4.0	10.5	8.0	4.0		8.0						4.5	0.5		
14-15	2.5	4.0	2.5	9.0	4.0		2.5	6.5		3.0	4.5	8.0	4.0					11.0			1.5		9.5	
15-16			4.5				3.0	7.0	1.5	2.5		8.0	4.0			7.0	1.0	3.5		12.0	3.0			
16-17		6.0	6.0	11.0	5.0		3.5	7.5	5.5	1.5	11.0	8.0	4.0			0.0		12.5			4.0	12.5		
17-18		2.0	8.0	3.5			4.0		9.5	1.0	5.0	8.0	4.0		6.0		0.0	5.0	6.5		5.5			
18-19		8.0	10.0	13.0	6.0		5.0	0.5		0.5		8.0	4.0		7.5				12.0		6.5	10.5		
19-20		4.0	12.0	5.5			5.5	1.0	3.5		11.0	8.0	4.0				9.0	6.5			7.5			
20-21		10.0			7.0		6.0	2.0	8.0		5.0	8.0	4.0			6.0					2.0	9.0		
21-22		6.0		7.5			6.5	2.5				8.0	4.0			7.5	8.0	8.0			10.0			
22-23	10.0	2.0			8.0		7.0	3.0	2.0		11.5	8.0	4.0							9.5	11.5			
23-24		7.5		9.0			7.5	3.5	6.0		5.5	8.0	4.0		6.5			9.5	9.5		12.5			
24-25		3.5			9.0			4.0	10.0			8.0	4.0		8.0						1.0			
25-26	4.5	9.5		11.0			0.5	4.5	0.0		12.0		4.0					11.0			2.5	12.0	9.5	
26-27		5.5		3.5	10.5		1.0	5.5	4.0		6.0		4.0	6.0		7.0		3.5			3.5			
27-28		1.5		13.0			2.0	6.0	8.5		0.0		4.0			8.5		12.5			4.5	10.5		
28-29		7.5	2.5	5.5	11.5		2.5	6.5					4.0		5.5		0.5	5.0	6.5		6.0			
29-30		3.5	4.5				3.0	7.0	2.5		6.5		4.0	7.5	7.0				12.0	7.0	7.0			

AAVSO Eclipsing Binary Ephemeris for December 2021

all times in U.T.

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	RT	TW	UU	WZ	XZ	AB	AB	AD	AD	BD	BX	DS	CX	CZ	XZ	OO	OO	V343	V346	SS	SS	WW	WW
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQL	AQL	AQL	AQL	AQL	ARI	ARI	AUR	AUR
MAX	9.3	8.8	11.2	11.6	10.0	9.3	9.3	11.1	11.1	11.3	8.6	10.8	10.7	10.3	9.3	9.2	9.2	10.6	9.0	10.1	10.1	5.7	5.7
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.6	11.7	9.5	11.4	12.0	11.2	11.2	10.1	10.1	12.3	10.4	11.1	11.1	6.4	6.4
DUR	3	11	8	4	3	3	3	4	4	3	4	4	3	3	7	3	3	4	4	3	3	5	5
TOT		2																					
								(S)	(S)			(S)					(S)			(S)		(S)	
0- 1						1.5	5.5		6.5		0.5	1.5								5.0			
1- 2	3.5			7.0		1.5	5.5		6.5		6.0	1.5		3.0			0.0			0.5	5.0		
2- 3		6.0			4.0	1.5	5.5		6.0	6.5		2.0					0.5	2.0		5.5	0.5	4.0	
3- 4	0.5			9.0		1.5	5.5		5.5	5.0	2.0	2.0	2.0				1.0	2.0		1.0	6.0		10.5
4- 5	7.0			2.0		1.5	5.5		5.5	3.0	7.0	2.5					1.0			6.0	1.5		
5- 6						1.0	5.0		5.0	1.5		2.5					1.5			1.5	6.5		
6- 7	4.0			4.0	5.5	1.0	5.0		4.5		3.0	3.0					2.0			7.0	2.0		
7- 8						1.0	5.0		4.5		8.5	3.0		4.0			2.0			2.5	7.5	5.0	
8- 9	1.5			6.0		1.0	5.0		4.0	7.0		3.5	2.0	0.5						7.5	3.0		11.5
9-10	7.5		8.0			1.0	5.0		3.5	5.5	4.5	3.5								3.0	8.0		
10-11				8.0	7.5	0.5	4.5		3.5	3.5	9.5	4.0								8.5	3.5		
11-12	5.0			0.5		0.5	4.5		3.0	2.0	0.0	4.0								4.0	8.5		
12-13			7.5			0.5	4.5		2.5	0.0	5.5	4.5							1.0	9.0	4.0	6.5	
13-14	2.0			3.0	0.5	0.5	4.5		2.5			4.5	2.0							4.5			12.5
14-15	8.5				9.0	0.5	4.5		2.0	7.5	1.5	5.0		1.5						0.0	5.0		
15-16			7.0	5.0		0.0	4.0		1.5	6.0	6.5	5.0								5.5	0.5		
16-17	5.5					0.0	4.0		1.5	4.0		5.5					0.0			1.0	5.5		1.5
17-18				7.0	2.0		4.0		1.0	2.0	2.5	5.5								6.0	1.0	7.5	
18-19	3.0		6.0				4.0		0.5	0.5	8.0	6.0	2.0							1.5	6.5		
19-20				9.0			3.5		0.5			6.0								6.5	2.0		
20-21	0.5			2.0			3.5		0.0	8.0	4.0	6.5		2.5		0.5				2.0	7.0		
21-22	6.5		5.5		4.0		3.5			6.0	9.0	6.5				0.5				7.5	2.5		2.5
22-23				4.0			3.5			4.5		7.0				1.0				3.0	8.0	9.0	
23-24	3.5						3.5			2.5	5.0	7.0	2.0			1.5		2.5		8.0	3.5		
24-25			5.0	6.0		7.0	3.0		1.0	10.5	7.5					1.5				3.5	8.5		
25-26	1.0				5.5	7.0	3.0			1.0	7.5					2.0				9.0	4.0		
26-27	7.0			8.0		7.0	3.0				6.5	8.0		3.5						4.5	9.0		3.5
27-28			4.0	0.5		7.0	3.0			6.5		8.0		0.0			1.5			4.5	10.0		
28-29	4.5					7.0	3.0			5.0	2.0	8.5	2.5		1.5					5.0	0.0		
29-30				3.0	7.5	6.5	2.5			3.0	7.5	8.5								0.5	5.5		
30-31	2.0		3.5			6.5	2.5	8.5		1.5		9.0								6.0	1.0		

	RZ	TV	AB	CW	CW	DZ	IR	IS	IV	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK	DL
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP
MAX	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6	11.2	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	8.8	11.7	11.7	8.5	12.2	12.4
MIN	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6	12.5	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	9.8	11.3	11.1	9.6	14.2	13.2
DUR	4	4	4	3	3	4	4	5	5	5	4	3	3	4	4	5	4	4	3	3	4	4	5
TOT																	2						
				(S)								(S)		(S)						(S)			
0- 1				3.5	7.5	7.0		8.5	7.5	10.0							12.0		3.5	8.5		0.0	
1- 2		9.5		2.5	6.5	2.0	5.0		7.5			7.5							9.5	4.5	11.5		
2- 3			6.5	1.5	5.5			4.5	7.5				5.0	3.0		2.5			5.5	0.5			6.0
3- 4	1.5	5.0		0.5	4.5		6.0		7.5		1.0	1.5							1.5	6.5			
4- 5	6.0			7.0	3.0	5.0		1.0	7.5		7.0							7.5	7.5	2.5			
5- 6	10.5	0.5		6.0	2.0		7.0		7.5	1.5				5.5		1.0	11.5	5.5	3.5	8.5			
6- 7			9.0	5.0	1.0				7.5	5.0									3.0	9.5	4.5	3.5	
7- 8				4.0	0.0	8.5	8.0		7.5	9.0								0.5	5.5	0.5			3.5
8- 9				3.0	6.5	3.5	0.0		7.5		0.5	7.5		7.5					2.0	7.0	11.5		
9-10	1.0		2.5	2.0	5.5		9.0		7.5		6.5		5.0		2.0	11.0			8.0	3.0			
10-11	5.5	11.0	11.0	1.0	4.5		1.0		7.5		12.5	1.5					11.0		4.0	9.0			
11-12	10.0			7.5	3.5	6.5		9.5	7.0					9.5					10.0	5.0			
12-13		6.5		6.5	2.5	1.5	2.0		7.0	0.0					4.0	10.0			6.0	1.0			1.0
13-14			5.0	5.5	1.5			6.0	7.0	4.0	0.0							8.0	2.0	7.0	4.0		
14-15		2.0		4.5	0.5		3.0		7.0	8.0	6.0							5.5	8.0	3.0			
15-16	0.0			3.5	7.0	5.0		2.0	7.0		12.0	7.5			6.0	8.5	11.0	3.0	4.0	9.0	12.0		7.0
16-17	5.0			2.0	6.0		4.0		7.0				5.0	0.5				1.0	0.0	5.0			
17-18	9.5		7.0	1.0	5.0				7.0			1.5							6.0	1.0			
18-19				0.0	4.0	8.0	5.0		7.0						8.0	7.5			2.0	7.0			
19-20				6.5	3.0	3.0			7.0		5.5			2.5					8.5	3.5			
20-21			1.0	5.5	2.0		6.0		7.0	3.0	11.5						10.5		4.5	9.5	4.0		4.5
21-22		8.0	9.5	4.5	1.0				7.0	6.5									0.5	5.5			
22-23	4.5			3.5	7.5	6.5	7.0	11.0	7.0	10.5		7.5		4.5					6.5	1.5	12.0		
23-24	9.0	3.5		2.5	6.5	1.0			7.0				5.5					6.0	2.5	7.5			
24-25			3.5	1.5	5.5		8.0	7.0	7.0		5.0	1.5			5.0			3.5	8.5	3.5			
25-26			12.0	0.5	4.5	9.5	0.5		6.5		11.0			6.5			10.0	1.0	4.5	9.5			2.0
26-27				7.0	3.5	4.5		3.0	6.5						1.5				0.5	5.5			
27-28				6.0	2.0		1.5		6.5	1.5						3.5			6.5	1.5	4.5		
28-29	4.0		5.5	5.0	1.0				6.5	5.5				9.0					2.5	7.5			8.0
29-30	8.5			4.0	0.0	8.0	2.5		6.5	9.5	5.0	7.5			3.5				8.5	3.5	12.5		
30-31		9.5		3.0	6.5	3.0			6.5		10.5		5.5			2.5	10.0		5.0	10.0			

AAVSO Eclipsing Binary Ephemeris for December 2021

all times in U.T.

	DV	EG	SS	RZ	RZ	SS	SS	U	RW	W	W	RV	RV	V	Y	SW	WW	ZZ	AE	CG	DK	KV	V346
	CEP	CEP	CET	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	11.6	9.6	9.4	10.0	10.0	10.9	10.9	7.6	10.1	10.6	10.6	9.0	9.0	9.5	7.0	9.3	9.9	10.7	11.8	11.0	10.3	11.5	11.8
MIN	12.4	10.6	13.0	10.7	10.7	11.5	11.5	8.8	10.6	11.2	11.2	10.0	10.0	10.2	7.6	11.8	13.2	12.0	12.8	11.8	10.8	12.6	13.6
DUR	4	3	5	3	3	4	4	5	4	4	4	4	4	4	6	5	5	4	4	3	4	5	5
TOT			2													2							
					(S)		(S)				(S)		(S)		(S)								
0- 1	5.0	1.5					9.5					10.0		9.0				2.5	0.0				
1- 2	9.0	3.5											12.0										
2- 3		5.5	6.5	7.5				11.5	12.0		9.0			11.5						4.0	5.0		
3- 4		7.5		7.5								9.5										3.5	
4- 5		10.0		8.0		7.5							12.0							1.5	2.0		0.5
5- 6		12.0	6.0				8.5										3.0				0.5		
6- 7	0.5	1.0				9.0																	
7- 8	4.5	3.0											11.5	9.5			0.5						
8- 9	8.5	5.5	5.0							9.0													
9-10	12.5	7.5												12.0						2.5			
10-11		9.5							11.5				11.5					4.0			5.0		
11-12		12.0	4.5			8.0														0.0	3.5		
12-13		1.0					9.0											1.0			2.0		
13-14	0.0	3.0			7.5	9.5							11.0								0.5		
14-15	4.0	5.0	4.0		8.0									10.0						4.0			
15-16	8.0	7.5								9.0								4.5				3.0	
16-17	11.5	9.5											11.0	12.5						1.0			
17-18		11.5	3.5				7.5											2.0					
18-19		0.5				8.5			11.5													5.0	
19-20		3.0					9.5							10.5								3.5	
20-21		5.0	2.5															5.0				2.0	
21-22	3.0	7.0								9.0				10.5						2.5	0.5		
22-23	7.0	9.0												10.5				2.5					
23-24	11.0	11.5	2.0	7.0										13.0									
24-25		0.5		7.5			8.0																
25-26		2.5		8.0		9.0							10.0		4.5	2.5	4.0						
26-27		4.5	1.5				9.5		11.0					8.5					4.0	3.5	5.0		
27-28		7.0																3.0	3.5		3.5		
28-29	2.5	9.0								9.0		10.0	11.0	4.5					2.5	1.0	2.0		
29-30	6.5	11.0	1.0															0.5	2.0		0.5		
30-31	10.5	0.0				8.0													1.0				

	V387	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	TZ	YY	YY	RW
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	ERI	ERI	ERI	GEM
MAX	11.5	9.7	10.8	10.8	10.8	8.3	8.3	13.8	9.4	10.6	9.6	11.0	10.2	10.8	10.0	7.8	9.9	9.9	7.2	9.8	8.4	8.4	9.6
MIN	12.3	10.3	11.9	11.6	11.6	9.2	8.7	14.6	12.7	12.5	10.8	12.0	11.3	13.6	10.9	9.5	10.7	10.7	8.2	12.6	9.1	9.1	11.6
DUR	3	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5	5	4	4	3	3	5
TOT									2							1				1			1
					(S)		(S)											(S)				(S)	
0- 1	2.0				2.0			5.5			1.0					8.0		12.0	0.5	7.0	3.0		
1- 2		1.5								1.5											6.0	2.0	
2- 3	0.0													11.0							5.0	1.5	
3- 4						3.0	3.0	2.0				2.5		6.5	0.5						4.5		
4- 5								5.0					3.0		3.0			2.0			3.5	7.5	
5- 6	5.0		2.0														5.5		5.5	2.5	6.5		
6- 7										0.0								11.5			1.5	5.5	
7- 8	3.0	2.0			1.0			1.5			1.5		8.5	10.0	12.5						1.0	4.5	
8- 9								5.0					1.0		12.5		12.0				7.5	4.0	
9-10	1.5			3.0											2.0						7.0	3.0	
10-11													1.5	4.5	8.0	3.0		2.0			6.0	2.0	
11-12								1.5				1.0		10.0							5.0	1.5	
12-13								5.0							9.0			11.5			4.5	0.5	
13-14		2.5	2.5								3.5				11.5	3.5	9.5			1.0	3.5	7.5	11.0
14-15	4.5								1.5					3.0	1.0						2.5	6.5	
15-16								1.5			0.0	2.0	12.0	3.5			0.5				1.5	5.5	
16-17	2.5			2.0				5.0										2.0			1.0	5.0	7.5
17-18																						4.0	
18-19	0.5												5.0	10.5			6.5	11.5	6.0	7.0	3.0		
19-20		2.5						1.5		2.5		0.0									6.0	2.0	4.5
20-21								4.5							2.5						5.0	1.5	
21-22			3.0												4.5						4.5	0.5	
22-23			0.5										6.5					2.0			3.5	7.5	1.0
23-24	3.5			1.0				1.0						9.5		4.0					2.5	6.5	
24-25								4.5	0.5					12.0	9.0			11.5			2.0	5.5	
25-26	1.5	3.0			3.0					1.5				1.5							1.0	5.0	
26-27											2.5	1.5	8.5	3.5		10.5			2.0			4.0	
27-28								1.0								4.5					7.0	3.0	
28-29								4.5										1.5	1.5		6.0	2.0	
29-30			3.5										1.5	11.0							5.0	1.5	
30-31	4.5		1.0	0.0							1.5		10.0	0.0					11.0		4.5	0.5	

	AF	SZ	TU	UX	CC	CT	AV	DF	DF	DI	DK	SW	SW	VX	CM	CO	CO	Y	UU	UV	VZ	Z	RR
	GEM	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEO	LEP	LEP
MAX	10.2	10.2	10.6	8.9	9.5	9.9	10.2	11.0	11.0	11.0	10.5	9.2	9.2	10.9	8.5	10.5	10.5	9.5	11.4	9.5	10.6	11.0	10.2
MIN	11.3	12.0	13.4	9.8	12.8	11.2	10.6	11.5	11.5	12.0	11.0	10.0	10.0	12.3	9.5	11.0	11.0	12.7	12.7	10.2	11.7	12.5	10.9
DUR	4	4	5	5	4	4	4	4	4	4	4	3	3	4	4	5	5	5	4	3	4	4	4
TOT			1																				
									(S)				(S)				(S)						
0- 1								7.5			9.0	2.5	6.5				0.5			11.0	7.0	10.0	
1- 2							11.0	7.5		7.5	10.0	1.5	5.5					5.5			9.0	10.0	9.5
2- 3	6.5	1.5						7.5		13.0	11.0	0.5	4.5			8.5				6.0	11.5	9.5	7.5
3- 4	12.5						12.0	7.0		12.0			3.5	1.5			2.5		9.0	11.0		9.5	5.0
4- 5		12.5						7.0		9.5		6.5	2.5	3.0								9.5	3.0
5- 6								6.5				5.5	2.0	5.0							6.0		9.0
6- 7					12.5	12.5	5.5	6.5		5.5		4.5	1.0	6.5			4.5	6.5		11.0		9.0	
7- 8	6.0							6.5		11.0		4.0			3.0							9.0	
8- 9	12.0						7.0	6.0				3.0	7.0						10.0	6.0		9.0	
9-10								6.0		7.5		2.0	6.0				6.5			11.0		8.5	
10-11							8.0	5.5		13.0	7.0	1.0	5.0			1.5						8.5	
11-12		1.5						5.5			8.0	0.0	4.0					8.0		6.0	4.5	8.5	
12-13	5.5						9.5	5.5		9.0	9.0	7.0	3.0				8.5			11.0	6.5	8.0	9.0
13-14	11.0	12.5						5.0			10.0	6.0	2.0			3.5			11.0		9.0	8.0	7.0
14-15							10.5	5.0			11.0	5.0	1.5							6.0	11.0	8.0	5.0
15-16						11.0		4.5		11.0	12.5	4.5	0.5		3.5					11.0		7.5	3.0
16-17							12.0	4.5				3.5				5.5		9.5				7.5	
17-18	5.0							4.5		7.0		2.5	6.5	0.5							6.0	7.5	
18-19	10.5			0.0			13.0			12.5		1.5	5.5	2.5					12.0	11.0		7.5	
19-20							5.5		8.0			0.5	4.5	4.0		7.5						7.0	
20-21		1.5							7.5	9.0			3.5	6.0			1.5				6.0	7.0	
21-22							6.5		7.5			6.5	2.5					11.0		11.0		7.0	
22-23	4.0	12.0	12.0						7.5		7.0	5.5	1.5									6.5	
23-24	10.0						8.0		7.0	10.5	8.0	4.5	1.0		4.0		3.5		12.5	6.0	4.5	6.5	8.5
24-25									7.0		9.0	4.0								11.0	6.5	6.5	6.5
25-26							9.0		6.5	7.0	10.5	3.0	6.5						5.0		8.5	6.0	4.5
26-27								6.5	12.5	11.5	2.0	6.0					5.5	12.5		6.0	11.0	6.0	2.5
27-28	3.5		0.5				10.0		6.5	12.5	1.0	5.0			0.5					11.0	13.0	6.0	
28-29	9.5							6.0	8.5		0.0	4.0						5.0				5.5	
29-30		1.5					11.5		6.0		7.0	3.0					7.5			6.0		5.5	
30-31								5.5			6.0	2.0				2.5			6.0	11.0		5.5	

	SS	DELT	RY	UZ	EW	FL	RU	RU	RW	AT	BB	BO	V508	EQ	ER	ER	ET	FL	FT	FZ	FZ	GU	GU
	LIB	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	MON	OPH	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI
MAX	10.4	4.8	11.9	9.8	11.2	8.7	10.6	10.6	9.1	10.6	10.6	10.8	10.1	10.3	9.5	9.5	11.2	10.5	9.1	10.7	10.7	12.6	12.6
MIN	11.3	5.9	13.3	11.0	13.6	9.5	11.3	11.3	11.9	11.4	11.3	12.1	10.7	13.3	10.2	10.2	12.4	13.2	9.7	11.3	11.3	13.5	13.5
DUR	6	7	4	5	5	4	5	5	5	5	4	5	3	4	3	3	5	3	4	3	3	4	4
TOT									1			1											
								(S)							(S)					(S)		(S)	
0- 1		12.5				13.0		4.0	8.5		4.5				9.5	4.5	1.5	6.0			5.5	7.0	
1- 2										4.0					5.5					5.5		5.5	11.0
2- 3			10.5						6.5		9.5				2.0	7.0			7.5		5.5	4.0	9.5
3- 4										5.0					8.5	3.5		8.5		5.5		2.5	8.0
4- 5									4.0					5.0	5.0	10.0					5.5		7.0
5- 6	13.0		7.5							5.5	8.0					6.0			11.0	5.5		11.0	5.5
6- 7							4.0		2.0			9.0	0.0		7.5	2.5		11.0			5.5	9.5	4.0
7- 8		12.0				2.0		8.0		6.5					4.0	9.0				5.5		8.0	2.5
8- 9			4.5								6.0					5.5					5.5	7.0	1.0
9-10										7.0					6.5	1.5				5.5		5.5	11.0
10-11				1.0							11.0				3.0	8.0					5.5	4.0	9.5
11-12										7.5	4.5			5.0	9.5	4.5		2.5		5.5		2.5	8.0
12-13			11.5												6.0		10.0				5.5	1.0	7.0
13-14							8.0			8.5	9.0				2.0	7.5	9.0			5.5		11.0	5.5
14-15		11.5						12.0							8.5	3.5	8.0	5.0			5.5	9.5	4.0
15-16			8.5							9.0		7.0			5.0	10.0	6.5			5.5		8.5	2.5
16-17											7.5		0.0	10.5		6.5	5.5				5.5	7.0	1.0
17-18									12.5	10.0		12.0			8.0	2.5	4.5	7.5		5.5		5.5	11.0
18-19			5.5								12.5			4.5	4.0	9.0	3.0		1.5		5.5	4.0	9.5
19-20									10.0	10.5	6.0					5.5	2.0			5.5		2.5	8.5
20-21						3.5	12.0								7.0	2.0	0.5	10.0			5.5	1.0	7.0
21-22		11.5	2.5						8.0	11.0	10.5				3.5	8.5			5.0	5.5		11.0	5.5
22-23			13.0								4.0				10.0	4.5					5.5	9.5	4.0
23-24									5.5	12.0				10.0	6.0					5.5		8.5	2.5
24-25										9.0	4.5				2.5	7.5			8.5		5.5	7.0	1.0
25-26			9.5					6.0	3.5	12.5				4.0	9.0	4.0		1.5		5.5		5.5	11.0
26-27												10.0	0.0		5.0						5.5	4.0	9.5
27-28				1.5							7.5				1.5	6.5			12.0	5.5		2.5	8.5
28-29			6.5												8.0	3.0		4.0			5.5	1.5	7.0
29-30										12.0					4.5	9.5				5.5		11.0	5.5
30-31					2.0						5.5			10.0		6.0					5.5	9.5	4.0

	U	U	TY	AQ	BB	BB	BX	DI	GP	Z	RT	RV	ST	XZ	BETA	Y	UZ	UZ	U	V505	AO	CC	CC
	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PSC	PUP	PUP	SGE	SGR	SER	SER	SER
MAX	9.7	9.7	10.5	10.3	10.6	10.6	10.9	9.6	10.2	9.9	10.6	10.3	9.7	10.6	2.2	9.0	9.7	9.7	6.4	6.4	10.6	11.1	11.1
MIN	10.5	10.5	12.6	13.0	11.2	11.2	11.5	10.8	11.0	12.4	12.0	12.7	13.2	12.7	3.5	12.0	10.6	10.3	9.1	7.6	12.1	11.7	11.7
DUR	3	3	6	12	3	3	3	2	4	6	4	8	5	4	8	7	4	4	6	5	4	4	4
TOT				4						2			1						2				
		(S)				(S)												(S)					(S)
0- 1	4.5				3.5		4.0	2.0	3.5	6.5	2.5	8.0		4.0		5.0	5.5						
1- 2		2.5				1.0	0.5		3.0					7.5	11.0			10.0			11.5		
2- 3	1.0	5.5				3.0	3.5	5.0	2.0			7.0		11.0				5.0					
3- 4	4.0				1.0				1.5	7.5	12.0		9.5				10.0			1.0			
4- 5		2.5			3.0		2.5		1.0		8.5	6.5			7.5		5.0						
5- 6	1.0	5.5			5.0	0.5		1.5	0.5		4.5							9.5				10.5	
6- 7	4.0			1.0		2.5	1.5			9.0	1.0	6.0	1.0					4.5				11.5	
7- 8		2.5			0.5	4.5	4.5	4.5						1.5	4.5		9.0					12.0	
8- 9	1.0	5.5			2.5	0.5						5.5		5.5			4.5				12.5		
9-10	4.0				4.5	0.0	3.5			10.5	10.5			9.0				9.0					
10-11		2.5				2.0		1.0			7.0	4.5		12.5	1.5								
11-12	1.0	5.5				4.0	2.5				3.5		8.0				8.5		2.5				
12-13	4.0				2.0			4.5				4.0											
13-14		2.5			4.0		1.5											8.5					10.5
14-15	1.0	5.5				1.5	4.5					3.5											11.0
15-16	4.0					3.5	1.0	0.5			9.5			3.0			8.0						12.0
16-17		2.5			1.0		4.0				5.5	3.0		7.0				12.5					
17-18	1.0	5.5		3.5	3.5			4.0			2.0			10.5				7.5					
18-19	4.0					1.0	3.0					2.0						12.5					
19-20		2.5				3.0							7.0			1.0	7.5						
20-21	1.0	5.5			0.5	5.0	2.0	0.0			11.5	1.5						12.0					
21-22	4.0				2.5		5.0				8.0							7.0					10.5
22-23		2.5			4.5	0.5	1.0	3.5			4.5	1.0		1.0			11.5						11.0
23-24	1.0	5.5				2.5	4.0				1.0			4.5			7.0			11.5	12.0		
24-25	4.0		2.0		0.0	4.5	0.0					0.0		8.5	9.5			11.5					
25-26		2.5			2.0		3.0							12.0				6.5					
26-27	1.0	5.5			4.0					10.5								11.0					
27-28	4.0		4.0			2.0	2.0	3.0			7.0		5.5		6.5		6.0						
28-29		2.5				4.0					3.0							11.0					
29-30	1.0	5.5			1.5		1.5											6.0					10.5
30-31	4.0				3.5		4.5							2.5	3.0		10.5				12.0		11.0

	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	TX	TY	TY	UX	VV	XZ	ZZ	RU	VV	AG	AH	
	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR	VIR	VIR
MAX	8.0	10.5	11.5	11.5	10.5	10.4	10.3	10.3	10.9	8.9	11.4	9.1	6.8	11.7	11.7	12.7	10.1	10.1	9.8	10.7	11.7	8.8	9.7	
MIN	12.5	11.2	12.0	11.7	12.3	12.3	11.0	11.0	11.9	12.0	12.5	9.9	8.9	12.4	12.4	13.8	11.0	11.7	11.2	11.4	13.5	9.4	10.2	
DUR	4	3	2	4	6	5	3	3	4	4	4	3	6	3	3	1	3	3	4	4	4	4	4	
TOT	1																							
								(S)				(S)				(S)								
0- 1		9.5	6.5	7.5			3.5	7.5	6.5		0.5	4.0				4.5	9.0	6.5		8.0				
1- 2		5.5	8.0			2.5	4.0	8.0				4.0				6.0				9.5		7.0		
2- 3		1.0	10.0	9.5			4.5	0.5	0.5		6.5	4.0	9.0			7.5	8.5	8.0		10.5			8.0	
3- 4		7.0		2.0		3.5	5.0	1.0	5.0		0.5	4.0		5.0				4.0		12.0				
4- 5		3.0		11.0			6.0	1.5	9.0			4.0		6.5		7.5	9.5	9.5		0.5		12.0	9.0	
5- 6		9.0		4.0		4.5	6.5	2.5			7.0	4.0	10.5	8.0			2.0			1.5				
6- 7	6.0	5.0					7.0	3.0	3.0		1.0	4.5			5.0	7.0	11.0		4.5	3.0		10.5	10.0	
7- 8		1.0		6.0		5.5	7.5	3.5	7.0			4.5			6.5		3.5			4.0				
8- 9		7.0					8.0	4.0			7.5	4.5	12.0	4.0	8.0	6.0	12.5		11.5	5.0		8.5		
9-10	0.5	3.0		7.5		6.5	0.5	4.5	1.0	9.5	1.5	4.5		5.5			5.0	6.5		6.5				
10-11		8.5		0.5			1.0	5.0	5.5	8.5		4.5		7.0				12.0		7.5				
11-12		4.5	1.0	9.5		7.5	1.5	5.5		8.0	7.5	4.5		8.5	4.0		6.5			9.0				
12-13		0.5	3.0	2.0			2.0	6.5		7.5	2.0	4.5			5.5					10.0	10.5			
13-14		6.5	4.5	11.5		8.5	3.0	7.0	3.5	6.5		4.5			7.5	8.5	8.0		2.0	11.0		12.0	8.0	
14-15		2.5	6.5	4.0			3.5	7.5	7.5	6.0	8.0	4.5		4.5			4.0			12.5				
15-16		8.5	8.5			9.5	4.0	8.0		5.0	2.0	4.5		6.0		8.0	9.5	9.5	9.0	1.0		10.5	9.0	
16-17		4.5	10.0	6.0			4.5	0.5	1.5	4.5		4.5		7.5			2.0			2.0				
17-18	8.0	0.5				10.5	5.0	1.0	6.0	4.0	8.5	4.5			5.0	7.0	11.0			3.5		8.5		
18-19		6.5		8.0			5.5	1.5		3.0	2.5	4.5			6.5		3.5			4.5				
19-20		2.0		0.5		11.5	6.5	2.0		2.5		4.5		3.5	8.0	6.5	12.5			6.0				
20-21	2.5	8.0		9.5			7.0	2.5	4.0	2.0	9.0	4.5		5.0			5.0	6.5		7.0				
21-22		4.0		2.5			7.5	3.5	8.0	1.0	3.0	4.5		6.5				12.0		8.0				
22-23		0.0		11.5			8.0	4.0		0.5		4.5		8.5	4.0		6.5		7.0	9.5		12.0		
23-24		6.0		4.0			0.5	4.5	2.5		9.0	4.5			5.5					10.5				
24-25		2.0					1.0	5.0	6.5		3.0	4.5			7.0	9.0	8.0			12.0		10.5	8.0	
25-26		8.0	1.0	6.0	1.0		1.5	5.5				4.5		4.5			4.0			0.5				
26-27		4.0	3.0				2.0	6.0	0.5		9.5	4.5		6.0		8.0	9.5	9.5		1.5		8.5	9.0	
27-28		10.0	5.0	8.0	2.0		2.5	7.0	4.5		3.5	4.5		7.5			2.0			2.5				
28-29	10.0	5.5	6.5	0.5			3.5	7.5	8.5			4.5			4.5	7.5	11.0			4.0				
29-30		1.5	8.5	10.0	3.0		4.0	8.0		10.0	5.0				6.0		3.5		4.5	5.0				
30-31		7.5	10.5	2.5			4.5	0.5	3.0		4.0	5.0			7.5	6.5	12.5			6.5				

	AH	AK	BH	Z	AW	AX	AY	BE	BO	BS	BT	BU	CD
	VIR	VIR	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	9.7	10.0	9.9	7.4	10.8	11.0	11.0	9.9	10.4	11.0	11.8	10.6	11.5
MIN	10.2	11.5	11.3	9.2	11.9	12.5	12.9	11.4	13.3	11.5	12.5	11.4	12.6
DUR	4	4	4	6	5	5	4	5	4	3	3	3	4
TOT	(S)												
0- 1						3.0							
1- 2	7.5						2.0						
2- 3				1.0	3.5								1.0
3- 4	8.5											2.5	
4- 5										1.5			2.0
5- 6	9.5		11.0							0.5	1.0		
6- 7					2.0								3.5
7- 8												2.0	
8- 9				1.0									
9-10							2.5						
10-11					3.0								
11-12												2.0	
12-13	7.5												
13-14							3.5				0.5		
14-15	8.5		10.5		3.5				3.0	1.5			
15-16										0.5		1.5	0.5
16-17	9.5	13.0							1.5				
17-18													2.0
18-19			12.5						0.5				
19-20												1.0	3.0
20-21													
21-22											0.5		
22-23		12.0											
23-24	7.5		10.5		0.5			1.5		2.5		0.5	
24-25										1.5		4.0	
25-26	8.5									0.5			
26-27													
27-28	9.5		12.5		1.0							0.0	
28-29		11.5										3.5	0.5
29-30											0.0		
30-31							1.0				3.5		1.5