

## The 2019 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 4<sup>th</sup> 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.

Gerard Samolyk, AAVSO Eclipsing Binary Section

### 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	AD	BD	BX	DS	CX	CZ	OO	SS	SS	WW	WW	AP	AP	AR	AR
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQL	ARI	ARI	AUR	AUR	AUR	AUR	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	9.2	10.1	10.1	5.7	5.7	10.9	10.9	6.0	6.0
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	10.1	11.1	11.1	6.4	6.4	11.4	11.4	6.7	6.7
DUR	3	11	8	4	3	3	3	4	4	3	4	4	3	3	3	3	3	5	5	4	4	5	5
TOT		2																					
							(S)		(S)			(S)			(S)		(S)		(S)		(S)		(S)
0- 1	2.5				7.5	1.0	5.0	4.5					0.5			(S)	3.0		8.5	1.5	8.5		
1- 2			5.0	5.5		1.0	5.0	4.5		5.5	0.0						3.5			5.0	12.0		
2- 3						0.5	4.5	4.0		3.5	5.5							4.0		8.5	1.5		
3- 4	6.0				1.0	0.5	4.5	3.5		1.5		0.0					4.0			11.5	5.0		
4- 5			4.5	0.5		0.5	4.5	3.5			1.5	0.5		2.0			4.5	3.0		1.5	8.0		
5- 6	3.5					0.5	4.5	3.0			6.5	0.5	0.5				5.0		9.5	4.5	11.5		
6- 7				2.5		0.5	4.5	2.5				1.0					0.5	5.0		8.0	1.0		
7- 8	0.5		4.0		2.5	0.0	4.0	2.5		5.5	2.5	1.0					5.5	0.5		11.5	4.5		
8- 9				4.5		0.0	4.0	2.0		4.0	8.0	1.5					1.0	6.0		1.0	8.0	1.0	
9-10							4.0	1.5		2.0		1.5					6.5	1.5	4.5	4.5	11.0		
10-11	4.0		3.5	6.5			4.0	1.5		0.5	3.5	2.0	1.0				2.0	6.5		10.5	7.5	1.0	2.5
11-12					4.5		3.5	1.0				2.0					7.0	2.0		11.0	4.0		
12-13	1.5						3.5	0.5				2.5					2.5			0.5	7.5	4.0	
13-14			2.5	1.5			3.5	0.5		6.0	5.0	2.5						3.0		4.0	11.0		
14-15							3.5	0.0		4.5		3.0					3.0		5.5	7.5	0.5		5.5
15-16	5.0			3.5	6.0		3.5			2.5	1.0	3.0	1.0					3.5		12.0	10.5	4.0	
16-17			2.0				3.0				1.0	6.0	3.5				4.0			0.5	7.0	7.5	
17-18	2.0			5.5			3.0					3.5		0.5						3.5	10.5		
18-19							3.0				2.0	4.0					4.5		0.5	7.0	0.0		9.0
19-20			1.5		8.0		3.0				7.5	4.0					0.0	5.0	7.0	10.5	3.5		
20-21	5.5	2.0		0.5			3.0			5.0		4.5	1.0				5.5	0.5			7.0	10.5	
21-22							2.5			3.0	3.5	4.5			0.0		1.0	5.5		3.5	10.0		
22-23	3.0		0.5	2.5	1.0		2.5			1.0		5.0					6.0	1.0		6.5			
23-24							2.5					5.0		1.5			1.5	6.5		1.5	10.0	3.0	
24-25	0.0	4.5		4.5			2.5				4.5	5.5					7.0	2.0	8.0		6.5		
25-26	6.5						2.5					5.5	1.0				2.5	7.0		3.0	10.0		
26-27				6.5	2.5		2.0			5.0	0.5	6.0						2.5		6.5			
27-28	3.5						2.0			3.5	5.5	6.0					3.0			9.5	3.0		
28-29							2.0			1.5		6.5						3.5		3.0	13.0	6.0	
29-30	1.0			1.5			2.0				1.5	6.5		2.5			3.5		9.0		2.5	9.5	
30-31					4.5		2.0		6.5		7.0	7.0	1.0					4.0			6.0	13.0	

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	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				9.5	7.5								7.0		9.5	0.5							
1- 2	3.0	3.5	3.0		7.0							3.5	11.5		4.0						5.5		
2- 3	9.0	8.0			6.5					7.0			2.0	6.5		7.5			10.0				
3- 4				6.0									6.5		11.0	1.5	2.5	7.0				4.5	4.0
4- 5		2.5										10.5	11.0		5.0		6.0						
5- 6		7.0	9.0										1.0			8.5	9.0						8.0
6- 7	2.5	11.0		2.5		7.5	7.0						5.5	6.0	12.0	3.0							
7- 8	8.5	1.5				7.0							10.0		6.5			4.0	7.0	4.0			
8- 9		6.0	5.5			6.5					13.0		0.0		1.0	10.0							
9-10		10.0						7.5	6.5				4.5			4.5							
10-11		0.5		8.5									9.0	5.5	8.0								
11-12	2.0	4.5	2.0									1.5			2.5	11.5		1.0					
12-13	8.0	9.0			7.5		7.5						4.0			6.0	5.0	8.0	4.0				
13-14				5.0	7.0					7.0	12.5		8.5		9.5	0.0	8.0						
14-15		3.5			6.0							8.5	13.0	5.5	3.5	13.0							
15-16		8.0	8.0										3.0			7.0			10.0				
16-17	1.5			1.5				7.0					7.5		10.5	1.5		5.5		4.5			4.0
17-18	7.5	2.5											12.0		5.0					7.5			
18-19		7.0	4.5			7.5					12.5		2.0	5.0		8.5							8.0
19-20		11.5				7.0	7.0						6.5	13.0	12.0	3.0							
20-21		1.5		8.0		6.0			6.5				11.0		6.5		3.5	2.5	7.0		8.5		
21-22	1.0	6.0	1.0										1.5		0.5	10.0	7.0						
22-23	7.0	10.0	11.0							7.5			6.0	4.5		4.0	10.0						7.5
23-24		0.5		4.0							12.5		10.5	12.5	7.5								
24-25		5.0			7.5				7.0			6.5	0.5		2.0	11.0				2.0	4.0		
25-26		9.0	7.5		7.0								5.0			5.5		6.5	4.0	5.0			
26-27	0.5			0.5	6.0								9.5	4.0	9.0					8.0		3.0	
27-28	6.5	3.5		10.5										12.0	3.5	12.5							
28-29		8.0	3.5							12.0			4.0			7.0	2.5		10.0				
29-30								7.0					8.5		10.5	1.5	5.5	4.0					4.0
30-31		2.5		7.0		7.5								4.0	5.0		9.0						

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	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)		
0- 1	11.0					4.0	0.0	5.0	6.0				6.5			2.5	8.0			6.5	1.5		5.5
1- 2		1.5			2.5	3.0	7.0							4.5					4.0	2.5	7.5		5.5
2- 3	4.5	5.0			11.0	2.0	6.0		7.0				0.5						1.5	8.5	3.5		5.0
3- 4	8.5	8.0	2.5			1.0	4.5				2.5				4.5	6.5	10.5			5.0	10.0		4.5
4- 5		11.0	7.0	5.0		7.5	3.5	3.0			6.0	5.0								1.0	6.0		4.0
5- 6	2.0		11.5		4.5	6.5	2.5		0.0				12.5							7.0	2.0	7.5	4.0
6- 7	6.0	4.0		0.5		5.5	1.5			11.5						6.5	5.5			3.0	8.0		3.5
7- 8	9.5	7.0				4.5	0.5	6.5	1.0				6.5		1.0				11.0	9.0	4.0		3.0
8- 9		10.5				3.5	7.0	1.0		7.5				4.5				10.0		5.0	10.0		3.0
9-10	3.0		1.5		7.0	2.5	6.0		2.0			4.5	0.5				4.0			1.0	6.0		2.5
10-11	7.0	3.0	6.5			1.5	5.0			4.0	1.0	10.5			3.0				4.0	7.0	2.0		2.0
11-12	11.0	6.0	11.0			0.0	4.0	4.5	3.0		5.0								2.0	3.0	8.0		2.0
12-13		9.5			1.0	7.0	3.0			0.0			12.5				3.0			9.0	4.0	8.0	1.5
13-14	4.5			6.5	9.5	6.0	2.0		4.0						5.5			9.5		5.0	0.0		1.0
14-15	8.5	2.0				4.5	1.0					4.0	6.5							1.5	6.5		1.0
15-16		5.0	1.0	2.0		3.5	7.5	3.0	5.0		10.0			4.5			1.5			7.5	2.5		0.5
16-17	2.0	8.5	6.0		3.0	2.5	6.5						0.5		7.5		13.0		11.5	3.5	8.5		0.0
17-18	5.5	11.5	10.5		12.0	1.5	5.5		6.0	12.5						2.0				9.5	4.5	0.0	
18-19	9.5	1.0				0.5	4.5	6.0			4.0						0.5	9.5		5.5	0.5		
19-20		4.5				7.0	3.5	1.0		9.0	7.5	3.5	12.5				11.5		4.5	1.5	6.5	8.0	
20-21	3.0	7.5			5.5	6.0	2.5						9.5				4.0		2.0	7.5	2.5		
21-22	7.0	10.5	0.5			5.0	1.5			5.0			6.5							3.5	8.5		
22-23	11.0		5.0	8.0		4.0	0.0	4.5	0.5					4.5			10.5			9.5	4.5		
23-24		3.5	10.0			3.0	7.0			1.0			0.5				6.0		9.0		5.5	0.5	
24-25	4.5	6.5		3.5	8.0	2.0	6.0		1.5			3.0			0.5					1.5	6.5	0.5	
25-26	8.0	9.5				1.0	4.5	7.5			2.5	9.0					9.0		12.0	8.0	2.5		
26-27	12.0					7.5	3.5	2.5	2.5		6.5		12.5							4.0	9.0	8.5	
27-28	2.0	2.5			1.5	6.5	2.5									2.5				10.0	5.0		
28-29	5.5	5.5	4.5		10.5	5.5	1.5		3.5				6.5				8.0	8.5	5.0	6.0	1.0		
29-30	9.5	9.0	9.5			4.5	0.5	6.0				3.0		4.5					2.5	2.0	7.0		
30-31						3.5	7.0	0.5	4.5			8.5	0.5		4.5				0.0	8.0	3.0		

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	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																				2			
					(S)		(S)		(S)		(S)				(S)		(S)		(S)				
0- 1			8.0		5.5	8.0			7.5				9.5	8.0				9.5					
1- 2			10.0					8.5								7.5	8.0					11.5	
2- 3		0.5	12.0						9.0					6.5			10.5	12.0	12.5			2.5	
3- 4		4.0	1.0	5.0			5.0	10.0															
4- 5	4.0	8.0	3.5				5.5	5.5								8.0						0.0	
5- 6		12.0	5.5		5.5		6.0	6.5					11.5	9.0			10.0	7.0	12.5				
6- 7			7.5				6.0	7.5							8.5							12.5	
7- 8	10.5		9.5				6.5	8.0		5.5				8.0		7.5		9.5					
8- 9			12.0				7.0	9.0		5.0			9.0		7.0		10.0		12.5				
9-10	1.5		1.0				7.5	9.5		5.0	5.0							12.5				0.5	
10-11		3.5	3.0		5.0		7.5			5.0													
11-12		7.5	5.0				8.0	6.0									9.5		12.0				
12-13		11.5	7.5	5.5					7.0					9.0					7.5				
13-14			9.5					7.5					11.0		8.0								
14-15			11.5			5.0			8.5			13.0		7.5			9.5	10.0				1.5	
15-16			0.5			5.5		9.0								6.5	13.0						
16-17			3.0			6.0							9.0						13.0				
17-18	5.0	3.0	5.0	5.0		6.0		6.0									9.0						
18-19		6.5	7.0			6.5		6.5								9.0	12.5			12.0			
19-20		10.5	9.5		5.5	7.0		7.5						8.5				8.0				2.0	
20-21	11.5		11.5			7.5		8.0								8.0	9.0			0.0			
21-22			0.5			7.5		9.0				10.5	11.0	7.0		12.5		10.5					
22-23	2.5		2.5			8.0		9.5															
23-24			5.0					5.5		5.5							8.5					11.5	
24-25		2.0	7.0		5.0			6.0		5.0	5.0		8.5			12.0		6.0				3.0	2.5
25-26		6.0	9.0			5.0	7.0		5.0						9.0								1.5
26-27		10.0	11.0	5.5		5.5	8.0		5.0					8.0			8.5	8.5				0.0	1.0
27-28	0.0		0.0			6.0	8.5								7.5	11.5							0.0
28-29			2.5			6.0		9.5				8.0		6.5				11.0				12.5	
29-30			4.5			6.5							10.5				8.0						
30-31	6.5		6.5			7.0	6.0										11.5						



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

## AAVSO Eclipsing Binary Ephemeris for January 2019

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	VZ	T	Z	RR	SS	DELT	RY	UZ	EW	FL	RU	RU	RW	AT	BB	BO	U	SX	1010	EQ	ER	ER	ET	
	LEO	LMI	LEP	LEP	LIB	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	MON	OPH	OPH	OPH	ORI	ORI	ORI	ORI	
MAX	10.6	10.2	11.0	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	6.2	10.3	9.5	9.5	11.2	
MIN	11.7	12.6	12.5	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	7.0	13.3	10.2	10.2	12.4	
DUR	4	6	4	4	6	7	4	5	5	4	5	5	5	5	4	5	5	5	4	4	3	3	5	
TOT													1			1								
														(S)									(S)	
0- 1	10.5		4.0							10.0											2.5	7.5	0.5	
1- 2	12.5		3.5				6.0								7.5		11.0		12.5				4.0	
2- 3			3.5												1.0							5.5	0.0	
3- 4			3.5													6.5			12.0			1.5	6.5	
4- 5			3.5				3.0					3.0			6.0					3.0	8.0	3.0		
5- 6			3.0													11.5			11.5			4.5		
6- 7			3.0	8.0				12.0									11.5					0.5	6.0	
7- 8			3.0	6.0											4.5							7.0	2.0	
8- 9			2.5	4.0			10.0															3.5		
9-10	4.0		2.5	1.5									9.5		9.0						8.5		5.0	
10-11	6.0		2.5								2.5				2.5							6.5	1.5	
11-12	8.0		2.0				7.0					7.5	7.0	2.0				12.5		2.5	2.5	8.0		
12-13	10.5		2.0												7.5	4.0							4.0	
13-14	12.5		2.0						12.5	12.0			5.0	3.0								5.5	0.5	8.0
14-15			2.0				4.0	1.5								9.5						2.0	7.0	6.5
15-16			1.5						11.5				2.5	3.5	5.5							8.5	3.0	5.5
16-17			1.5		11.5															8.0	4.5		4.5	
17-18			1.5	7.5			0.5		10.0		6.5		0.5	4.0								1.0	6.0	3.0
18-19			1.0	5.5			11.0								4.0					2.0	7.5	2.5	2.0	
19-20			1.0	3.5										5.0								4.0		1.0
20-21			1.0	1.5						0.5						9.0						0.0	5.0	
21-22	3.5		0.5				8.0								5.5	2.5						6.5	1.5	
22-23	5.5		0.5									1.5										3.0	8.0	
23-24	8.0		0.5					12.5						6.0	7.0	7.0				7.5			4.5	
24-25	10.0		0.5				5.0															5.5	0.5	
25-26	12.0	2.0	0.0											7.0				11.0		1.5	2.0	7.0		
26-27															5.5							8.5	3.5	
27-28						13.0	2.0							7.5				12.5				5.0		
28-29		2.5		7.0			12.5						11.0		10.0							1.0	6.0	
29-30				5.0								5.5		8.5	4.0							7.5	2.5	
30-31				3.0									8.5							7.5	4.0			



	FL	FT	FZ	FZ	GU	GU	U	U	TY	BB	BB	BX	DI	GP	Z	RT	RV	ST	XZ	BETA	Y	UZ	UZ
	ORI	ORI	ORI	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PSC	PUP	PUP
MAX	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	9.7
MIN	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	10.3
DUR	3	4	3	3	4	4	3	3	6	3	3	3	2	4	6	4	8	5	4	8	7	4	4
TOT															2			1					
				(S)		(S)		(S)			(S)												(S)
0- 1			6.0	1.0	3.5	9.0	1.5															3.0	
1- 2	6.5		1.0	6.0	2.0	7.5	4.5			1.5							3.0	1.5					8.0
2- 3		11.0	6.0	1.0	0.5	6.0		3.0				2.5								5.0			3.0
3- 4			1.0	6.0	10.5	4.5	1.5			1.5			1.0			8.0			8.5			7.5	
4- 5			6.0	1.0	9.0	3.5	4.5					2.0				4.5						2.5	
5- 6			1.0	6.0	7.5	2.0		3.0			1.0		4.0			1.0							7.0
6- 7			6.0	1.0	6.0	0.5	1.5				3.0	1.0											2.5
7- 8			1.0	6.0	5.0	10.5	4.5			1.0											1.0	7.0	
8- 9			6.0	1.0	3.5	9.0		3.0		3.0		0.0	0.5										
9-10	1.0		1.0	6.0	2.0	7.5	1.5				0.5	3.0				7.0		1.5	3.0				6.5
10-11			6.0	1.0	0.5	6.0	4.5				2.5		4.0			3.5			6.5				
11-12			1.0	6.0	10.5	5.0		2.5		0.0		2.0							10.0	7.0			6.5
12-13	3.5		6.0	1.0	9.0	3.5	1.0			2.5													
13-14			1.0	6.0	7.5	2.0	4.0		0.5			1.0	0.0										6.0
14-15			6.0	1.0	6.0	0.5		2.5			2.0					9.5		8.5		3.5		10.5	
15-16	5.5	1.5	1.0	6.0	5.0	10.5	1.0					0.5	3.5			5.5						5.5	
16-17			6.0	1.0	3.5	9.0	4.0		3.0	1.5						2.0			0.5				10.0
17-18			1.0	6.0	2.0	7.5		2.5							0.5		9.5	0.5	4.5	0.5			5.5
18-19	8.0	5.0	6.0	1.0	0.5	6.0	1.0				1.5	2.5							8.0			10.0	
19-20			1.0	6.0	10.5	5.0	4.0										9.0					5.0	
20-21			6.0	1.0	9.0	3.5		2.5		1.0		1.5	3.0		2.0	8.0							9.5
21-22		8.5	1.0	6.0	7.5	2.0	1.0									4.5	8.0						4.5
22-23			6.0	1.0	6.0	0.5	4.0				1.0	0.5				0.5		7.5			2.5	9.5	
23-24			1.0	6.0	5.0	10.5		2.5			3.0			4.5	3.5		7.5					4.5	
24-25			6.0	1.0	3.5	9.0	1.0			0.5				4.0					2.0				9.0
25-26			1.0	6.0	2.0	7.5	4.0			2.5		2.5	2.5	3.0			7.0		6.0				4.0
26-27	2.5		6.0	1.0	0.5	6.5		2.5			0.5			2.5	4.5	6.5			9.5			8.5	
27-28			1.0	6.0	10.5	5.0	1.0				2.5	1.5		2.0		3.0	6.5					4.0	
28-29			6.0	1.0	9.0	3.5	4.0							1.5									8.5
29-30	5.0		1.0	6.0	7.5	2.0		2.5		2.0		1.0		1.0	6.0		5.5						3.5
30-31			6.0	1.0	6.5	0.5	1.0						2.0	0.5				6.0				8.0	

	AO	CC	CC	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	W	TX	TY	TY	UX	VV	XZ	ZZ
	SER	SER	SER	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA
MAX	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	12.7	10.1	10.1	9.8
MIN	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	13.8	11.0	11.7	11.2
DUR	4	4	4	4	3	2	4	6	5	3	3	4	4	4	3	3	6	3	3	1	3	3	4
TOT				1																			
			(S)							(S)					(S)			(S)					
0- 1			10.5		0.0					3.5	7.5	5.0		2.0	1.5	5.5		6.5	2.5	5.0	13.0		
1- 2			11.0		6.0		5.5		5.0	4.0	0.0				1.5	5.5	8.0	8.0	4.0	9.5	5.5	2.5	
2- 3	11.5		12.0		2.0					5.0	0.5				1.5	5.5			5.5	4.0		7.5	1.0
3- 4	9.0				8.0		7.5		6.5	5.5	1.5	3.0		2.5	1.5	5.5		3.0	7.0	8.5	7.0	13.0	
4- 5					4.0	1.5	0.0			6.0	2.0				1.5	5.5	9.5	4.5					8.0
5- 6				7.0		3.5	9.5		7.5	6.5	2.5				1.5	5.5		6.0		8.0	8.5		
6- 7		9.0			5.5	5.0	2.0			7.0	3.0	1.0		3.0	1.5	5.5		7.5	3.0		1.0		
7- 8		9.5			1.5	7.0	11.0	0.5	8.5	7.5	3.5	5.5			1.5	5.5	11.0		4.5	7.0	10.0	5.0	
8- 9		10.5		1.5	7.5	9.0	4.0			0.0	4.0				1.5	5.5		2.0	6.0		2.5	10.5	
9-10	12.5	11.0			3.5			1.5	9.5	0.5	4.5			3.0	1.5	5.5		3.5	7.5	6.0	11.5		
10-11	9.5	12.0			9.5		5.5			1.0	5.5	3.5			1.5	5.5	12.5	5.0			4.0		
11-12					5.5			2.5	10.5	2.0	6.0				1.5	5.5		6.5	2.0	5.5	13.0		5.5
12-13					1.5		7.5			2.5	6.5			3.5	1.5	5.5		8.0	4.0		5.5	2.5	
13-14					7.5		0.0	3.5		3.0	7.0	2.0			1.5	5.5			5.5	4.5		7.5	12.5
14-15		9.0			3.5		9.5			3.5	7.5	6.0			1.5	5.5		2.5	7.0	9.0	7.0	13.0	
15-16		9.5			9.0		2.0	4.5		4.0	8.0			4.0	1.5	5.5		4.0	8.5	4.0			
16-17			10.5	8.5	5.0					4.5	0.5				1.5	5.5		5.5		8.0	8.5		
17-18	10.5		11.0		1.0		4.0	6.0		5.0	1.0	4.0			1.5	5.5		7.0	3.0		1.0		
18-19			12.0		7.0	1.5				6.0	1.5			4.5	1.5	5.5			4.5	7.5	10.0	5.0	3.0
19-20				3.0	3.0	3.5	6.0	7.0		6.5	2.5				1.5	5.5		1.5	6.0		2.5	10.5	
20-21					9.0	5.5				7.0	3.0	2.5	7.0		1.5	5.5		3.0	7.5	6.5	11.5		10.0
21-22					5.0	7.0	7.5	8.0		7.5	3.5	6.5	6.0	4.5	2.0	6.0		4.5			4.0		
22-23		9.0			1.0	9.0	0.5			8.0	4.0		5.5		2.0	6.0		6.5	2.0	5.5	13.0		
23-24		9.5			6.5		9.5			0.5	4.5	0.5	5.0		2.0	6.0		8.0	3.5		5.5	2.5	
24-25	11.5	10.5			2.5		2.0			1.0	5.0	4.5	4.0	5.0	2.0	6.0			5.0	5.0		7.5	
25-26		11.0			8.5					1.5	6.0		3.5		2.0	6.0		2.5	6.5	9.0	7.0	13.0	0.5
26-27		12.0			4.5		4.0			2.0	6.5		2.5		2.0	6.0		4.0	8.0	4.0			
27-28					0.5					3.0	7.0	3.0	2.0	5.5	2.0	6.0		5.5		8.5	8.5		8.0
28-29					6.5		6.0			3.5	7.5	7.0	1.5		2.0	6.0		7.0	2.5		1.0		
29-30					2.5					4.0	8.0		0.5		2.0	6.0		8.5	4.0	7.5	10.0	5.0	
30-31			9.0	5.0	8.5		8.0			4.5	0.5	1.0		5.5	2.0	6.0			5.5		2.5	10.5	



## AAVSO Eclipsing Binary Ephemeris for February 2019

all times in U.T.

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	RT	TW	WZ	XZ	AB	AB	AD	AD	BD	BX	DS	OO	OO	V342	V343	V346	SS	SS	WW	WW	AP	AP	AR
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQL	AQL	AQL	AQL	AQL	ARI	ARI	AUR	AUR	AUR	AUR	AUR
MAX	9.3	8.8	11.6	10.0	9.3	9.3	11.1	11.1	11.3	8.6	10.8	9.2	9.2	9.0	10.6	9.0	10.1	10.1	5.7	5.7	10.9	10.9	6.0
MIN	10.2	11.0	12.6	13.0	10.2	10.2	11.6	11.6	11.7	9.5	11.4	10.1	10.1	12.5	12.3	10.4	11.1	11.1	6.4	6.4	11.4	11.4	6.7
DUR	3	11	4	3	3	3	4	4	3	4	4	3	3	7	4	4	3	3	5	5	4	4	5
TOT		2												3									
						(S)		(S)					(S)					(S)		(S)		(S)	
0- 1			3.5			1.5										12.5	4.5				9.5	2.5	
1- 2	4.5					1.5				3.0								5.0				6.0	
2- 3						1.5			4.0								5.0	0.5		4.0	2.5	9.0	
3- 4	1.5			6.0		1.5			2.0								0.5				5.5		
4- 5						1.0			0.5	4.0								1.0			9.0	2.0	
5- 6			0.5			1.0		4.5				11.0		13.0			1.5					5.5	
6- 7						1.0		4.0				11.5						1.5			2.0	9.0	
7- 8	11.5		2.5			1.0		4.0		5.5		11.5					2.0			5.5	5.5		
8- 9	2.5					1.0		3.5	4.5			12.0						2.5			8.5	2.0	
9-10			4.5			0.5		3.0	2.5	1.0								2.5					
10-11				1.0		0.5		3.0	0.5								3.0					5.0	
11-12						0.5		2.5						12.0			3.5		0.0		5.0		
12-13	12.0					0.5		2.0		2.5								4.0		6.5	8.5	1.5	
13-14	3.0					0.5		2.0									4.0					5.0	
14-15			1.5	2.5		0.0		1.5										4.5			1.5	8.0	6.0
15-16	0.5					0.0		1.0	3.0	3.5							5.0	0.0			4.5		
16-17			3.5				12.5	1.0	1.0								0.5		1.5		8.0	1.0	
17-18	13.0						12.5	0.5										1.0		7.5	11.5	4.5	
18-19	4.0			4.5			12.0	0.5		5.0							1.0				1.0	8.0	
19-20																		1.5			4.0	11.0	
20-21	1.5									1.0	0.0						2.0				7.5	0.5	
21-22			0.5						3.5	6.0	0.5							2.0	2.5		11.0	4.0	
22-23		1.5		6.0					1.5		0.5			12.0			2.5			9.0	0.5	7.5	
23-24	4.5		2.5							2.0	1.0							3.0			4.0	10.5	
24-25					3.0						1.0		11.0				3.5				7.0	0.5	
25-26	2.0		4.5		3.0						1.5		11.5					3.5			10.5	3.5	
26-27					3.0					3.0	1.5		12.0				4.0		4.0		0.0	7.0	
27-28					3.0				4.0		2.0		12.0					4.5			3.5	10.5	

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	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	R	RT	SX	TU	TZ	TZ
	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA	CMA	CMA	CMA
MAX	6.0	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
MIN	6.7	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
DUR	5	4	3	3	3	3	3	3	3	3	3	5	6	3	5	5	5	4	5	4	4	4	4
TOT	(S)				(S)		(S)		(S)		(S)					(S)							(S)
0- 1			7.0				7.0			6.5				3.5	11.5		8.5						
1- 2		6.0					6.0	7.0						8.0		12.0	2.5						
2- 3			1.5		3.0		5.5	6.0			5.0	12.0		12.5		6.0			1.0	6.5	2.5		
3- 4			6.0				5.0	5.0		6.0			4.5	2.5	3.5	0.5	9.5				5.5		
4- 5				6.5			4.0		7.5		6.5			7.0	11.5		4.0						
5- 6			0.5			7.5			6.5					11.5		7.5		1.5					
6- 7		5.0	5.0			7.0			5.0	5.0			12.0	1.5		2.0	11.0	4.5					
7- 8			9.0	2.5		6.0					6.0	11.5		6.0	3.0		5.5	8.0	5.0	3.5			
8- 9	1.0					5.5		6.5		7.0				10.5	11.0	9.0							
9-10			3.5		6.0	5.0		5.5						1.0		3.0	12.5						
10-11			8.0			4.0					5.5			5.5			6.5						
11-12		4.5					7.5		7.0	6.5				10.0	2.5	10.0	1.0		2.5		3.0		
12-13	4.5		2.5		2.0		7.0		5.5			11.5			10.5	4.5				0.5	6.0	7.0	
13-14			7.0				6.0				4.5		2.5	4.5			8.0	0.0					
14-15				5.5			5.5	7.0		5.5				9.0		11.5	2.5	3.5					6.0
15-16			1.5				5.0	6.0			6.5				2.5	6.0		6.5		6.5			
16-17	7.5	4.0	6.0		8.5		4.0	5.0					10.0	3.5	10.5	0.5	9.5		6.5			2.5	
17-18				1.5		7.5			7.5	5.0		11.5		8.0		13.0	4.0						
18-19			0.5			7.0			6.5		6.0			12.5		7.5							1.5
19-20			5.0		5.0	6.0			5.0	7.0				3.0	2.0	1.5	11.0				0.5		
20-21			9.0			5.5								7.5	10.0		5.0		3.5	3.5	3.5		
21-22		3.5		8.0		5.0		6.5			5.5			11.5		8.5						6.5	
22-23			4.0		1.0	4.0		5.5		6.0		11.0		2.0		3.0	12.0	2.0					
23-24			8.0				7.5						0.5	6.5	1.5		6.5	5.5					
24-25				4.5			7.0		7.0		4.5			11.0	9.5	10.0	1.0		1.0				
25-26			2.5				6.0		6.0	5.5				1.0		4.5				0.5			
26-27		3.0	7.0		7.5		5.5				6.5		8.0	5.5			8.0						
27-28				0.5			5.0	7.5				11.0		10.0	1.5	11.5	2.0						

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	UU	XZ	AK	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	
	CMA	CMI	CMI	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	
MAX	10.0	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	
MIN	12.5	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	
DUR	5	3	4	4	4	4	4	3	3	4	4	5	5	4	3	3	4	4	5	4	4	3	3	
TOT																				2				
										(S)									(S)				(S)	
0- 1		3.0	1.5				4.0	2.5	6.0										6.5			4.0	9.0	
1- 2		7.0	4.5	12.5			13.0	1.5	5.0		6.0	1.5										0.0	5.0	
2- 3			8.0			5.0		0.0	4.0	4.0			5.0		12.5					8.5		6.0	1.0	
3- 4		0.5			4.0			7.0	3.0		2.5		2.5		10.5		1.0	5.5			12.0	2.0	7.0	
4- 5		4.5	0.5		9.0	0.5	6.5	6.0	2.0	12.5		13.0	8.5								10.0	8.0	3.0	
5- 6		8.0	4.0					5.0	1.0							4.5						4.0	9.0	
6- 7			7.0					3.5	7.5	2.0					1.0							0.5	5.5	
7- 8		2.0					0.0	2.5	6.5											8.0	3.0	6.5	1.5	
8- 9		5.5					9.0	1.5	5.5		1.0		0.0	2.0							0.5	2.5	7.5	
9-10	0.0	9.5	3.0		3.5	11.0		0.5	4.5	5.5			4.0	8.0	13.0							8.5	3.5	
10-11			6.0		8.0			7.0	3.5	0.5	2.0	11.0				10.5						4.5	9.5	
11-12	4.0	3.0	9.0		13.0	6.5	2.5	6.0	2.5													0.5	5.5	
12-13		7.0					11.5	5.0	1.5		3.0					4.5					7.5	12.5	6.5	1.5
13-14			2.0			2.0		4.0	0.0	4.0	11.5			1.5	1.0		2.0		13.0			10.0	2.5	7.5
14-15		0.5	5.0					3.0	7.0		4.0	3.5		7.5								8.5	3.5	
15-16		4.5	8.0		3.0		5.0	2.0	6.0	12.5	12.5											0.0	4.5	9.5
16-17		8.0			7.5			1.0	5.0				3.0		13.0		4.0		11.5		3.0	0.5	5.5	
17-18			1.0		12.5			7.5	3.5	2.0						10.5				7.5	0.5	7.0	2.0	
18-19		2.0	4.0			12.5		6.5	2.5					1.0								3.0	8.0	
19-20		5.5	7.5				7.5	5.5	1.5					7.0		4.5			10.5			9.0	4.0	
20-21		9.5						4.5	0.5	5.5				13.0	1.0							5.0	10.0	
21-22			0.0		2.5			3.5	7.0	0.0		12.5										13.0	1.0	6.0
22-23	0.0	3.0	3.0		7.0	3.5	1.0	2.5	6.0											9.0	7.0	10.5	7.0	2.0
23-24		7.0	6.5		12.0		9.5	1.5	5.0		0.5		1.5	1.0	13.0			2.5				3.0	8.0	
24-25	4.0		9.5					0.5	4.0	3.5			5.5	6.5		10.5						9.0	4.0	
25-26		0.5						7.0	3.0		1.5	5.0		12.5					7.5		3.5	5.0	0.0	
26-27		4.0	2.5				3.5	6.0	2.0	12.0						4.5		4.5			1.0	1.0	6.0	
27-28		8.0	5.5		2.0		12.0	5.0	1.0		2.5	1.0			1.0					6.5		7.0	2.0	

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	XX	DK	DL	DV	EG	SS	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	W	W	RV	RV	V	Y	SW
	CEP	CEP	CEP	CEP	CEP	CET	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG
MAX	8.5	12.2	12.4	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	7.0	9.3
MIN	9.6	14.2	13.2	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	7.6	11.8
DUR	4	4	5	4	3	5	3	3	3	3	4	4	2	2	5	4	4	4	4	4	4	6	5
TOT						2																	2
								(S)		(S)			(S)					(S)		(S)		(S)	
0- 1	0.5			1.5	9.0		5.0		3.5	7.5		6.5	4.0				9.5	4.5			6.5		
1- 2				5.5	11.0		4.0		3.5	7.5	7.5			4.0		8.5		8.5		8.0		11.5	
2- 3	8.5		12.5	9.0	0.0			5.5	4.0	8.0		8.0	3.5					8.0		11.0		9.0	
3- 4					2.0			4.0	4.5		9.0	4.0		3.5		13.0		7.0					
4- 5			3.5		4.5			3.0	5.0		5.0	9.5	3.5		6.0	6.0	6.5			7.5	11.5	11.5	
5- 6					6.5		4.5		5.0		5.5		3.0					5.5	11.0		4.5		
6- 7					8.5		3.5		5.5		6.5		3.0			10.5	5.0						
7- 8	1.0		10.0	1.0	10.5			5.0	6.0		7.0		3.0				9.0			7.5	7.0	11.5	
8- 9				4.5	13.0			4.0	6.5		8.0		2.5	5.5				8.0	10.5				
9-10	9.0		1.0	8.5	2.0		5.5		6.5		3.5	8.5	5.0			8.5	7.5				9.5		
10-11				12.5	4.0		4.5		7.0		9.5	4.5		5.0				7.0		7.0		11.5	
11-12					6.0		3.0		7.5	3.5	5.0		5.0			12.5	6.0		10.5		12.0		
12-13					8.5			4.5	7.5	3.5		6.0		4.5		6.0		5.5		13.0	5.0		
13-14					10.5			3.5	8.0	4.0	7.0		4.5				4.5	9.5		6.5		11.5	
14-15	1.0			0.0	12.5		5.0			4.5		7.5		4.5		10.5	8.5		10.0		7.5		
15-16				4.0	1.5		4.0			5.0	8.5		4.0					8.0		12.5			
16-17	9.5			8.0	4.0	4.5		5.5		5.0	4.0	9.0		4.0			7.0			6.5	10.0	11.0	10.5
17-18			4.5	12.0	6.0			4.5		5.5	10.0	5.0	4.0			8.0		6.5	10.0				
18-19		12.5			8.0			3.0		6.0	5.5			3.5			5.5			12.5			
19-20		12.5			10.5	4.0	4.5			6.5		6.5	3.5			12.5		5.0		6.0	5.5	11.0	
20-21		12.0	11.0		12.5		3.5			6.5	7.0			3.5		6.0		9.0	9.5				
21-22	1.5	11.5			1.5			5.0	3.0	7.0		8.0	3.0		12.0		8.0			12.0	8.0		0.5
22-23		11.5	2.0	3.5	3.5	3.5		4.0	3.5	7.5	8.5	4.0		3.0		10.0		7.5		6.0		11.0	
23-24	9.5	11.0		7.0	6.0		5.5	2.5	3.5	8.0	4.5	9.5	3.0				7.0		9.5		10.5		
24-25		10.5		11.0	8.0		4.5		4.0			5.5	5.5	2.5				6.0		11.5			
25-26		10.5	8.5		10.0	2.5	3.0		4.5		6.0			5.0		8.0	5.5			5.5		11.0	
26-27		10.0			12.0			5.0	5.0			7.0	5.0				9.5	4.5	9.0		6.0		
27-28		9.5			1.5			3.5	5.0		7.5			5.0		12.0		8.5		11.5			

	WW	ZZ	AE	BR	CG	DK	KV	V346	V387	V388	V456	V466	V466	V477	V477	V704	TY	YY	FZ	Z	RZ	TW	UZ		
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DRA	DRA	DRA	DRA		
MAX	9.9	10.7	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	9.6	11.0	10.2	10.8	10.0	7.8	9.9		
MIN	13.2	12.0	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	10.8	12.0	11.3	13.6	10.9	9.5	10.7		
DUR	5	4	4	4	3	4	5	5	3	3	3	4	4	4	4	4	4	4	3	4	3	5	5		
TOT																							1		
													(S)	(S)											
0- 1		0.5			11.0															12.5	5.0	6.5	5.5	12.0	
1- 2							13.0						13.0											9.0	
2- 3										12.5							12.5							11.5	
3- 4				12.0		0.5					12.5					13.0			12.5			0.5	0.5		
4- 5		10.5							0.0		10.0			11.0				12.0			6.5				
5- 6					12.0																			5.5	
6- 7							12.5					10.0												8.0	
7- 8	10.0			12.0											12.0	12.5								10.5	
8- 9					0.5				12.0	13.0			12.0								8.0	12.5			
9-10		11.0																							
10-11																								7.0	
11-12			12.5	12.0		0.5					13.0			12.0		12.5					1.5	7.0	11.0		
12-13			11.5		11.0						10.5										10.0	9.5			
13-14																								11.5	
14-15		11.5																						1.0	
15-16				12.0					13.0				11.0			12.5					3.0			6.0	
16-17																2.0					11.5	6.0			
17-18		0.0			12.0			12.0	11.0															8.5	
18-19														12.5											10.5
19-20		12.5		11.5		0.5										12.5					5.0				
20-21					0.5			0.5			11.0						2.0								2.0
21-22		9.5																							
22-23		1.0											10.0												7.5
23-24				11.5												12.0		12.5			6.5	9.5		8.0	
24-25	0.0							12.0		0.5	12.0					2.0									12.0
25-26																									11.5
26-27		10.5																							
27-28			0.5	11.5		0.5				10.5						12.0	12.5	12.0			8.5	6.0			



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	UZ	AI	TZ	YY	YY	RW	AF	SZ	TU	UX	CC	CT	AV	DF	DF	DI	DK	SW	SW	VX	CM	CO	CO
	DRA	DRA	ERI	ERI	ERI	GEM	GEM	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC
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	11.0	11.0	10.5	9.2	9.2	10.9	8.5	10.5	10.5
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	11.5	11.5	12.0	11.0	10.0	10.0	12.3	9.5	11.0	11.0
DUR	5	4	4	3	3	5	4	4	5	5	4	4	4	4	4	4	4	3	3	4	4	5	5
TOT			1			1			1														
	(S)			(S)									(S)					(S)				(S)	
0- 1				0.5	4.5			8.5					2.5	4.0	8.0	3.5		2.5					
1- 2					3.5								11.0	3.5	7.5	9.0		1.5			12.5		
2- 3	3.5	7.5			3.0				9.0				3.5	3.5	7.5			0.5					
3- 4		12.0			2.0					10.0				3.5	7.5	5.0						1.5	
4- 5				5.0	1.0		4.0	10.5				10.5	5.0	3.0	7.0				2.0		11.5		
5- 6	9.5			4.0	0.5		10.0							3.0	7.0	1.5	3.5		1.5	13.0			
6- 7				3.5						12.0				6.0	2.5	6.5	7.0	4.5		0.5		2.0	3.5
7- 8			5.0	2.5		6.5								2.5	6.5		5.5						
8- 9		7.5		1.5	5.5			12.5					7.0	2.5	6.5	3.0	6.5	3.0					10.5
9-10		12.0		0.5	4.5		3.5	8.5						2.0	6.0	8.5	8.0	2.0					
10-11					3.5	3.5	9.0				11.5			8.5	2.0	6.0	9.0	1.0					
11-12					3.0				10.5						2.0	5.5	5.0	10.0	0.0				12.5
12-13					2.0									9.5	1.5	5.5			2.5		12.5		
13-14				5.0	1.0	0.0		10.5				8.5	2.0	1.5	5.5				1.5	1.5			1.5
14-15		7.0		4.0	0.5		2.5						11.0	1.0	5.0	6.5			1.0				
15-16	4.5	12.0	0.5	3.5			8.5							3.0	1.0	5.0							
16-17				2.5											1.0	4.5	3.0	2.5					3.5
17-18				1.5	5.5			12.5			10.0			4.5	0.5	4.5	8.5	3.5	2.5				
18-19	10.5			1.0	4.5			8.5							0.5	4.5		4.5	1.5			12.0	
19-20					4.0		2.0							5.5	0.0	4.0	4.5	6.0	0.5				
20-21		7.0	5.5		3.0		8.0		12.0	10.5					8.0	4.0	10.0	7.0			13.0	1.0	
21-22		12.0			2.0										7.0	7.5	4.0		8.0				
22-23				5.0	1.0			10.5							7.5	3.5	6.5	9.0		1.0			
23-24				4.0	0.5									8.0	7.5	3.5		10.0		0.5			3.0
24-25				3.5			1.5								7.0	3.0	2.5						
25-26				2.5			7.5								9.0	7.0	3.0	8.0		3.0			
26-27		7.0		1.5				12.5						1.5	7.0	3.0			2.0				5.0
27-28		11.5		1.0	4.5	8.0		8.5	7.5					10.5	6.5	2.5	4.5		1.0		0.5		

	Y	UU	UV	VZ	T	RR	SS	DELT	RY	UZ	EW	FL	RU	RU	RW	BB	BO	U	SX	1010	EQ	ER	ER
	LEO	LEO	LEO	LEO	LMI	LEP	LIB	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	OPH	OPH	OPH	ORI	ORI	ORI
MAX	9.5	11.4	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	10.8	5.8	10.5	6.2	10.3	9.5	9.5
MIN	12.7	12.7	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	11.3	12.1	6.5	11.2	7.0	13.3	10.2	10.2
DUR	5	4	3	4	6	4	6	7	4	5	5	4	5	5	5	4	5	5	5	4	4	3	3
TOT															1		1						
															(S)								(S)
0- 1			12.0		3.0	1.0			9.0													0.5	5.5
1- 2			2.5	1.0											6.5	2.0	4.5				1.5		1.5
2- 3			7.5	3.5																		3.0	
3- 4	8.5		12.0	5.5	3.5		12.5		6.0						4.0	7.0							4.5
4- 5		7.5	2.5	7.5									4.5			0.5						6.0	1.0
5- 6	1.0		7.5	9.5											2.0							2.0	
6- 7			12.0	12.0	3.5				3.0		11.0					5.0							3.5
7- 8			2.5																				5.0
8- 9	10.0		7.5				12.0														1.0	1.5	6.5
9-10		8.5	12.0		4.0	4.5				13.0						3.5				13.0			3.0
10-11	2.0		2.5			2.5		12.0	10.0									2.0				4.0	
11-12			7.5			0.5	9.0			10.5						8.5						0.5	5.5
12-13			12.0		4.5											2.0	7.5	9.5			12.5		2.0
13-14	11.0		2.5	1.0					7.0												12.0	6.5	3.5
14-15		9.5	7.5	3.0												6.5							4.5
15-16	3.5		12.0	5.0	5.0											0.0					12.0	0.5	6.0
16-17		1.5	2.5	7.5					4.0					3.5								2.5	
17-18			7.5	9.5				11.5			8.0					5.0		10.0			11.5		4.0
18-19	12.5		12.0	11.5	5.5																	5.0	0.0
19-20		10.5	2.5						1.0		12.5										11.0		1.5
20-21	5.0		7.5			4.5			11.5						8.0	3.5						6.0	3.0
21-22		2.5	12.0		6.0	2.5	10.5			12.0							5.0				10.5		4.5
22-23			2.5			0.5							3.0		5.5	8.0		11.0			0.0	0.5	6.0
23-24			7.5						8.0	11.0				7.5		1.5			8.5	10.5			2.0
24-25		11.0	12.0		6.5			11.0							3.5							3.5	
25-26	6.5		2.5	0.5						9.5						6.5		10.0	10.0				5.0
26-27		3.5	7.5	2.5					5.0						1.0	0.0						6.5	1.0
27-28			12.0	5.0	7.0					8.5								11.5	11.5	9.5	6.0	2.5	

	ET	FL	FT	FZ	FZ	GU	GU	U	U	TY	BB	BB	BX	DI	RT	RV	ST	XZ	BETA	UZ	UZ	U 1968	
	ORI	ORI	ORI	ORI	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PUP	PUP	SGE	SGR
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	10.6	10.3	9.7	10.6	2.2	9.7	9.7	6.4	12.3
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	12.0	12.7	13.2	12.7	3.5	10.6	10.3	9.1	13.3
DUR	5	3	4	3	3	4	4	3	3	6	3	3	3	2	4	8	5	4	8	4	4	6	4
TOT																	1						2
					(S)		(S)		(S)			(S)									(S)		
0- 1				1.0	6.0	5.0										5.0				3.0		11.0	
1- 2				6.0	1.0	3.5			2.5						5.5			3.5			8.0		
2- 3				1.0	6.0	2.0	7.5	1.0							1.5	4.5		7.0			3.0		
3- 4	6.0			6.0	1.0	0.5	6.5												5.5	7.5			
4- 5	5.0			1.0	6.0		5.0		2.5				1.5			3.5				2.5			
5- 6	3.5			6.0	1.0		3.5	1.0													7.0		
6- 7	2.5		3.0	1.0	6.0	7.5	2.0			1.0				7.5	3.0				2.0		2.0		
7- 8	1.0			6.0	1.0	6.5	0.5		2.5			0.0		4.0	3.0		5.0			7.0			
8- 9	0.0			1.0	6.0	5.0		1.0			0.5			0.5	2.5			1.5		2.0		12.5	
9-10		1.5	6.5	6.0	1.0	3.5							1.5					5.0			6.5		
10-11				1.0	6.0	2.0	7.5		2.5		0.5					2.0		8.5			1.5		
11-12				6.0	1.0	0.5	6.5	1.0													6.0		
12-13		4.0		1.0	6.0		5.0					0.0			6.5	1.0				1.5		11.5	
13-14				6.0	1.0		3.5		2.5						3.0						6.0		
14-15				1.0	6.0	8.0	2.0	1.0				0.5	1.0			0.5					1.0		
15-16		6.0		6.0	1.0	6.5	0.5										3.5			5.5			
16-17				1.0	6.0	5.0			2.0	1.0								3.0		0.5			
17-18				6.0	1.0	3.5		0.5										6.5			5.5	13.0	
18-19				1.0	6.0	2.0	8.0								5.0						0.5		
19-20				6.0	1.0	0.5	6.5		2.0					0.5	1.5						5.0		
20-21				1.0	6.0		5.0	0.5													0.0		
21-22				6.0	1.0		3.5					1.0	0.5								4.5	11.5	
22-23	6.5			1.0	6.0	8.0	2.0		2.0														
23-24	5.0	0.5		6.0	1.0	6.5	0.5	0.5			0.5				7.5		2.0	0.5	7.0	4.5			
24-25	4.0			1.0	6.0	5.0							0.0	4.0				4.5					
25-26	3.0		0.5	6.0	1.0	3.5			2.0		0.5			0.0	4.0			8.0			4.0		
26-27	1.5	3.0		1.0	6.0	2.0	8.0	0.5											4.0	8.5			
27-28	0.5			6.0	1.0	1.0	6.5				0.0									4.0		12.0	

	AO	CC	CC	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	W	TX	TY	TY	UX	VV	XZ	ZZ	
	SER	SER	SER	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	
MAX	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	12.7	10.1	10.1	9.8	
MIN	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	13.8	11.0	11.7	11.2	
DUR	4	4	4	4	3	2	4	6	5	3	3	4	4	4	3	3	6	3	3	1	3	3	4	
TOT				1																				
			(S)							(S)					(S)			(S)						
0- 1	12.0		9.5		4.5		0.5			5.0	1.0				2.0	6.0		3.0	7.5	7.0	11.5			
1- 2	9.0		10.5		0.0	2.0				5.5	1.5				2.0	6.0		4.5	0.5		4.0			
2- 3			11.0		6.0	3.5	2.5			6.5	2.0			6.0	2.0	6.0		6.0	2.0	6.0	13.0			
3- 4			12.0		2.0	5.5					3.0	3.5		0.0	2.0	6.0		7.5	3.5		5.5	2.5	5.5	
4- 5		6.5					4.5				3.5				2.0	6.0	1.0	0.5	5.0	5.0		7.5		
5- 6		7.0			4.0						4.0				2.0	6.0		2.0	6.5		7.0		12.5	
6- 7		8.0					6.0			0.5	4.5	1.5		0.5	2.0	6.0		3.5	8.0	4.5				
7- 8	13.0	8.5			6.0			0.0	1.0	5.0					2.0	6.0	2.5	5.0	1.0	8.5	8.5			
8- 9	10.0	9.5			2.0		8.0			1.5	5.5				2.0	6.0		6.5	2.5	3.5	1.0			
9-10	7.0	10.5					0.5		1.0	2.0	6.0				1.0	2.0	6.0		8.0	4.0	8.0	9.5	5.0	
10-11		11.0		6.5	3.5					2.5	7.0	4.0			2.0	6.0	4.0	1.5	5.5	3.0	2.0	10.5	3.0	
11-12		12.0					2.5		2.5	3.5					2.0	6.0		3.0	7.0	7.0	11.0			
12-13			6.5		5.5					4.0				1.0	2.0	6.0		4.5	0.0	2.0	3.5		10.0	
13-14			7.0	1.0	1.5		4.5		3.5	4.5	0.5	2.0			2.0	6.0	5.5	6.0	1.5	6.5	12.5			
14-15			8.0		7.5	0.0				5.0	1.0				2.5	6.5		7.5	3.0		5.0	2.5		
15-16	11.0		8.5		3.5	2.0	6.5		4.5	5.5	1.5			1.5	2.5	6.5		0.5	4.5	5.5		7.5		
16-17	8.0		9.5			4.0				6.0	2.0	0.5			2.5	6.5	7.0	2.0	6.0		6.5			
17-18			10.0		5.5	5.5	8.0		5.5	7.0	2.5	4.5			2.5	6.5		3.5	7.5	5.0			0.5	
18-19			11.0		1.5		1.0				3.0				2.0	2.5	6.5		5.0	0.5	9.0	8.0		
19-20			12.0		7.0				6.5		4.0				2.5	6.5	8.5	6.5	2.5	4.0	0.5		7.5	
20-21		6.5			3.0		2.5			0.5	4.5	2.5			2.5	6.5		8.0	4.0	8.5	9.5	5.0		
21-22		7.0							7.5	1.0	5.0				2.0	2.5	6.5		1.0	5.5	3.0	2.0	10.5	
22-23	11.5	8.0			5.0		4.5			1.5	5.5				2.5	6.5	10.0	2.5	7.0	7.5	11.0			
23-24	9.0	8.5			1.0			0.5		2.0	6.0	1.0			2.5	6.5		4.0	8.5	2.5	3.5			
24-25		9.5		3.0	7.0		6.5			2.5	6.5	5.0			2.5	6.5		5.5	1.5	6.5	12.5			
25-26		10.0			3.0			1.5		3.0					2.5	6.5	11.5	7.0	3.0		5.0	2.5		
26-27		11.0					8.5			4.0			5.0		2.5	6.5		0.0	4.5	6.0		7.5	5.0	
27-28		11.5			4.5		1.0	2.5		4.5	0.0	3.0	4.0	3.0	2.5	6.5		1.5	6.0		6.5			



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	RT	TW	UU	WZ	XZ	AB	AD	AD	BD	BX	DS	RY	CX	XZ	OO	OO	V342	V343	V346	SS	SS	WW	WW
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQL	AQL	AQL	AQL	AQL	AQL	ARI	ARI	AUR	AUR
MAX	9.3	8.8	11.2	11.6	10.0	9.3	11.1	11.1	11.3	8.6	10.8	8.8	10.7	9.3	9.2	9.2	9.0	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	11.6	11.6	11.7	9.5	11.4	10.1	12.0	11.2	10.1	10.1	12.5	12.3	10.4	11.1	11.1	6.4	6.4
DUR	3	11	8	4	3	3	4	4	3	4	4	5	3	7	3	3	7	4	4	3	3	5	5
TOT		2															3						
								(S)								(S)					(S)		(S)
0- 1									2.0		2.0												
1- 2	11.5				1.0					4.5	2.5												
2- 3	3.0			1.5					9.5		2.5							9.5		0.5			
3- 4											3.0							12.0	1.0		5.0		
4- 5											3.0										1.5		
5- 6					3.0						3.5	12.5								1.5			
6- 7	12.5								2.5	1.5	3.5									2.0			
7- 8									0.5		4.0						11.5			2.5			
8- 9	9.5								10.0		4.0									2.5	6.0		
9-10	1.0									2.5					9.5					3.0			
10-11													12.5		9.5								
11-12				2.5											10.0		10.5						
12-13			2.0							4.0					10.5								1.0
13-14	10.5								1.0						10.5			11.0			7.5		
14-15	1.5					1.5			10.5						11.0								
15-16			1.0			1.0						12.5			11.5								
16-17						1.0									11.5					0.5			
17-18						1.0				1.0					12.0						1.0	2.5	
18-19	11.0		0.5	1.5		1.0														1.5			
19-20	2.5					1.0	2.5		1.5												2.0		
20-21					1.0	0.5	2.0		11.0	2.5							9.5			2.0			
21-22						0.5	2.0														2.5		
22-23						0.5	1.5														3.0		3.5
23-24	12.0						1.0			3.5								10.0		3.0			
24-25					3.0		1.0																
25-26						0.5	12.5	2.0															
26-27							12.0						12.0										
27-28		1.0		2.5			11.5	9.5							9.0								4.5
28-29							11.5		0.5						9.5	9.5							
29-30							11.0								9.5					0.5			
30-31	10.0						10.5								10.0						1.0		

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	AP	AP	AR	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	R	RT	SX
	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA
MAX	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	6.8	10.6	8.6	10.5	11.6	11.6	6.2	11.4	10.3
MIN	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	7.6	12.4	9.4	11.3	11.8	11.8	6.8	12.9	11.4
DUR	4	4	5	5	4	3	3	3	3	3	3	3	3	3	5	6	3	5	5	5	4	5	4
TOT		(S)		(S)				(S)		(S)		(S)		(S)						(S)			
0- 1	7.0					1.5			4.0	6.0			5.0				9.0	5.5					
1- 2		3.5				6.0		4.0	7.5	3.5	5.0						5.0			9.0		5.0	
2- 3		6.5							6.5	3.0	4.0	7.5	7.0	3.0			9.0			3.5	1.0		
3- 4	3.0			2.5	0.5	7.0			6.0			6.5	4.0					1.0	7.0		4.5		
4- 5	6.5					5.0			5.5			5.5		5.0	10.5		4.0	9.0	1.5	10.5			
5- 6		3.0							5.0			4.0	6.0				8.5			5.0		2.0	3.5
6- 7		6.5					3.5		4.0		6.5	3.0	3.5	7.0					8.5				
7- 8	3.0				4.0				3.5	7.5	5.5			4.5			3.0	0.5	3.0	12.0			
8- 9	6.0			2.0				6.5	3.0	6.5	4.5			5.5		6.0	7.5	8.5					
9-10		2.5								6.0	3.0	7.0	3.0	6.5	10.5		12.0		10.0	0.5			
10-11		6.0			3.0					5.5		6.0		4.0			2.5		4.0				
11-12	2.5	9.5	1.5		7.0		3.0		5.0		4.5	4.5					6.5			7.5	3.0		
12-13	6.0								4.0	7.5	3.5			5.5			11.0	8.0	11.0	2.0			
13-14	9.0	2.5		3.0	1.5	1.5	6.0		7.5	3.5	6.0		6.5	3.0			1.5		5.5				
14-15		5.5				6.0			6.5	3.0	5.0		4.0		10.5		6.0			9.0		3.5	
15-16	2.0	9.0	4.5						6.0		4.0			5.0			10.5		12.5	3.5			
16-17	5.5					0.5	2.5		5.5			6.5	6.0				0.5	7.5	7.0				
17-18	9.0	2.0		6.0		5.0			5.0		5.5	3.5	7.0				5.0		1.0	10.5			
18-19		5.5			1.0			5.5	4.0		4.0		4.5		4.0	9.5				4.5		0.5	3.0
19-20	2.0	8.5			7.0				3.5	7.5	7.0	3.0	5.5		10.0				8.0		2.0		
20-21	5.0				4.0				3.0	6.5	5.5		2.5	6.5			4.0	7.5	2.5	11.5	5.5		
21-22	8.5	1.5					2.0		6.0	4.5				3.5		11.5	8.5			6.0			
22-23		5.0							5.5	3.5	7.0	4.5							9.5	0.5			
23-24	1.5	8.5				3.0	5.0		4.5		6.0		5.5				3.5		4.0			5.0	
24-25	5.0			6.5	7.0				4.0		5.0	6.5	3.0	10.0			8.0	7.0		7.5			
25-26	8.0	1.5						7.5	3.5	7.5	3.5	4.0					12.5		11.0	2.0			
26-27		4.5				1.5	1.5		6.5	3.0	6.0			5.0			2.5		5.5				6.0
27-28	1.0	8.0			6.0				6.0		5.0		6.0				7.0			9.0	1.0	2.0	
28-29	4.5						4.5	5.5		4.0			3.5	7.0		2.0	11.5	6.5	12.5	3.0	4.0		
29-30	8.0	1.0			5.5	0.5			4.5		6.5		4.0	9.5			2.0		6.5				
30-31		4.5				5.0			4.0			5.5	5.0				6.0		1.0	10.0			

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	TU	TZ	TZ	UU	XZ	AK	RW	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375
	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	11.3	11.4	10.0	10.0	11.2	11.2	10.1
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	11.9	12.4	10.6	10.6	11.7	11.7	10.9
DUR	4	4	4	5	3	4	5	4	4	4	4	3	3	4	4	5	5	4	3	3	4	4	5
TOT																							
			(S)										(S)									(S)	
0- 1	1.0								6.5			4.0	7.5	1.5	11.0						12.5		6.5
1- 2	4.0				1.5				11.0	9.5		2.5	6.5					6.5					
2- 3					5.5	1.5					6.0	1.5	5.5	10.0	12.0		0.5	12.0			1.5		
3- 4						4.5				5.0		0.5	4.5				4.5			10.5			5.0
4- 5						7.5						7.0	3.5										
5- 6					3.0				1.5	0.5		6.0	2.5				12.0				3.5		
6- 7					6.5	0.5			6.0		8.0	5.0	1.5			9.5		6.0	1.0				4.0
7- 8		5.5				3.5			10.5			4.0		3.0				11.5					
8- 9						6.5						3.0	7.0										
9-10	1.5		4.5	4.0	4.0						2.0	2.0	6.0	11.5									2.5
10-11	4.5				8.0		11.5			11.0	10.5	1.0	5.0			2.0	3.0			11.0			
11-12		1.0				2.5				0.5		7.5	4.0	1.5				5.5					
12-13					1.5	6.0				5.5		6.5	2.5		1.0			11.5			2.0	1.5	
13-14					5.5					10.0	4.0	5.5	1.5	10.0	9.5				1.0				
14-15										2.0		4.5	0.5		2.0								
15-16						1.5						3.5	7.0		10.5						4.0		
16-17					3.0	5.0						2.5	6.0		3.0			5.0					11.5
17-18					6.5						6.5	1.5	5.0		11.5	11.0	2.0	11.0		11.0	11.5		
18-19	2.0								5.0				4.0	3.0									
19-20						1.0			9.5			7.0	3.0		12.5						0.5		10.0
20-21					4.0	4.0	12.0					6.0	2.0	11.5					1.0				
21-22					8.0	7.0					9.0	5.0	1.0			3.5		4.5					
22-23			4.0									4.0	7.5	1.0				10.5			2.5		9.0
23-24					1.5					3.5		2.5	6.5										
24-25					5.5	3.0			4.0		2.5	1.5	5.5	9.5		1.0			11.0				
25-26						6.0			9.0		11.5	0.5	4.5			4.5							7.5
26-27												7.5	3.5					4.0					
27-28	2.5				3.0							6.0	2.5			12.0	10.0	1.0			12.5		
28-29					6.5	2.0				5.0	5.0	1.5				12.0							6.5
29-30						5.5						4.0		2.5	1.0						1.5		
30-31		4.0						11.5	3.5	10.0		3.0	7.0			10.0	8.5						



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	U	SU	WZ	WZ	XX	DK	DL	DV	EG	SS	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	W	W	RV
	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CET	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV
MAX	6.7	8.8	11.7	11.7	8.5	12.2	12.4	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
MIN	9.8	9.8	11.3	11.1	9.6	14.2	13.2	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
DUR	4	4	3	3	4	4	5	4	3	5	3	3	3	3	4	4	2	2	5	4	4	4	4
TOT	2									2													
				(S)							(S)		(S)		(S)		(S)					(S)	
0- 1			3.0	8.5	2.0	9.5			3.5	2.0	5.0	2.5	5.5	1.5	3.5	8.5	4.5	2.0	10.0	5.5	8.0	3.0	
1- 2			9.5	4.5		9.0		2.5	5.5		4.0	1.0	6.0	2.0	9.0	4.0	2.0	4.5				7.0	9.0
2- 3			5.5		10.0	8.5		6.5	7.5		3.0	5.5	6.5	2.5	5.0		4.5	1.5		10.0	6.5		
3- 4		11.0	1.5	6.5		8.5		10.5	10.0	1.5	1.5	4.5	6.5	2.5		6.0	1.5	4.0				5.5	
4- 5	6.5	8.5	7.5	2.5		8.0			12.0			3.0	7.0	3.0	6.5		4.0	1.5				5.0	8.5
5- 6			3.5	8.5		7.5	12.0		1.0		5.0	2.0	7.5	3.5	2.5	7.5	1.0	4.0		7.5	9.0	4.5	
6- 7			9.5	4.5		7.5			3.0	1.0	3.5		8.0	4.0	8.0	3.0	3.5	1.0				3.5	8.0
7- 8		1.5	5.5	0.5	2.0	7.0	3.0		5.5		2.5	5.0		4.0	4.0	9.0	1.0	3.5	7.5	12.0	7.5	3.0	8.5
8- 9			1.5	6.5		6.5		2.0	7.5		1.0	4.0		4.5	9.5	4.5	3.5			5.5		7.0	
9-10	6.0		7.5	2.5	10.0	6.5		6.0	9.5		5.5	3.0		5.0	5.5			3.0			6.0		
10-11			3.5	8.5			9.5	10.0	12.0		4.5	1.5	1.0	5.0		6.0	3.0			9.5		5.5	8.0
11-12			9.5	4.5					1.0		3.0		1.5	5.5	7.0	2.0		3.0			4.5	9.5	
12-13		11.0	6.0	1.0			0.5		3.0		2.0	5.0	2.0	6.0	3.0	7.5	2.5	5.5			8.5	4.0	
13-14		9.0	2.0	7.0					5.0			3.5	2.5	6.5	8.5	3.5	5.0	2.5		7.5	3.0	8.0	8.0
14-15	5.5		8.0	3.0	2.5				7.5		5.5	2.5	2.5	6.5	4.5	9.5	2.5	5.0	5.5		7.0		
15-16			4.0	9.0			7.0	1.5	9.5		4.0	1.0	3.0	7.0		5.0	5.0	2.0		11.5		6.5	
16-17		2.0	10.0	5.0	10.5			5.0	11.5		3.0		3.5	7.5	6.0		2.0	4.5		5.0	5.5		7.5
17-18			6.0	1.0		3.5		9.0	0.5		1.5	4.5	4.0	8.0	1.5	6.5	4.5	2.0				5.0	
18-19			2.0	7.0		3.0			3.0			3.5	4.0		7.5	2.5	1.5	4.5		9.5	4.5	9.0	
19-20	5.5		8.0	3.0		3.0			5.0		5.0	2.0	4.5		3.0	8.0	4.0	1.5			8.0	3.5	7.0
20-21			4.0	9.0		2.5			7.0		3.5		5.0		9.0	4.0	1.5	4.0			3.0	7.5	
21-22		11.5		5.0	2.5	2.0			9.0		2.5	5.5	5.5	1.0	5.0	9.5	4.0	1.0		7.0	7.0		
22-23		9.0	6.0	1.0		2.0		0.5	11.5		1.5	4.0	5.5	1.5		5.5	1.0	3.5				6.0	7.0
23-24			2.5	7.5	10.5	1.5	10.5	4.5				3.0	6.0	2.0	6.5		3.5	1.0		11.5	5.5		
24-25	5.0		8.5	3.5		1.0		8.5	2.5		4.5	1.5	6.5	2.5	2.0	7.0		3.5		5.0		4.5	
25-26		2.0	4.5	9.5		1.0	1.5	12.5	4.5		3.5		7.0	2.5	8.0	3.0	3.0				4.0	8.5	6.5
26-27				5.5		0.5			7.0		2.0	5.0	7.0	3.0	3.5	8.5		3.0		9.0	8.0	3.0	
27-28			6.5	1.5					9.0		1.0	3.5	7.5	3.5	9.5	4.5	3.0					7.0	
28-29			2.5	7.5	3.0		8.0		11.0		5.5	2.5	8.0	4.0	5.0		5.0	2.5			6.5		6.5
29-30	4.5		8.5	3.5							4.0	1.5		4.0		6.0	2.5	5.0		7.0		5.5	
30-31		12.0	4.5	9.5	11.0			4.0	2.5		3.0			4.5	6.5	2.0	5.0	2.5			5.0		

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	RV	V	Y	SW	ZZ	AE	BR	CG	DK	KV	V346	V387	V388	V456	V466	V466	V477	V477	V704	W	TY	YY	FZ	
	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	
MAX	9.0	9.5	7.0	9.3	10.7	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	9.6	11.0	10.2	
MIN	10.0	10.2	7.6	11.8	12.0	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	10.8	12.0	11.3	
DUR	4	4	6	5	4	4	4	3	4	5	5	3	3	3	4	4	4	4	4	7	4	4	3	
TOT				2																2				
	(S)		(S)													(S)		(S)						
0- 1	5.5	8.5	11.0		7.5				10.5		11.5			11.5										
1- 2								12.0						9.0		9.0								
2- 3	11.0																					8.5		
3- 4	5.0	4.0	10.5		11.0		11.5	9.0						11.0								12.0	11.0	
4- 5																							12.0	
5- 6	11.0	6.5			8.5						11.5	11.0										11.5		
6- 7	5.0		10.5																			8.5		
7- 8		9.0					11.5					9.5										12.0	10.0	
8- 9	10.5				12.0			10.5	10.5					12.0		8.0								
9-10	4.5		10.5											9.5										
10-11		4.5			9.0					10.5					10.0									
11-12	10.5			7.5			11.5				10.5		11.0									11.5	10.5	
12-13	4.5	7.0	10.5													12.0		8.5						
13-14					12.5			11.5																
14-15	10.0	9.5									10.5													
15-16	4.0	2.5	10.5		9.5	12.0	11.5	9.0														11.5	11.0	
16-17						11.0			10.5					12.5			8.5							
17-18	10.0	5.0				10.5							11.5	10.0	9.0									
18-19	4.0		10.5			9.5																		
19-20		7.5					11.5									11.0		9.5	11.5					
20-21	9.5			11.0	10.5			10.0													9.5			
21-22		10.0	10.0										12.0											
22-23		3.0			7.5						10.0												12.0	12.0
23-24	9.5						11.5					10.0	11.5				9.5		11.5					
24-25		5.5	10.0						10.5						8.0									
25-26					11.0			11.5						10.5										
26-27	9.0	8.0														10.0		10.5				11.0		
27-28			10.0		8.5		11.0	9.0		11.5												11.0		
28-29															12.0									
29-30	9.0	3.5											12.0											
30-31			10.0		12.0			12.5				11.0	8.5				10.5					12.0	10.0	

	Z	RZ	TW	UZ	UZ	AI	TZ	YY	YY	RW	AF	SZ	TU	UX	CC	CT	AV	DF	DF	DI	DK	SW	SW
	DRA	DRA	DRA	DRA	DRA	DRA	ERI	ERI	ERI	GEM	GEM	HER	HER	HER	HER	HER	HYA	HYA	HYA	HYA	HYA	LAC	LAC
MAX	10.8	10.0	7.8	9.9	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	11.0	11.0	10.5	9.2	9.2
MIN	13.6	10.9	9.5	10.7	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	11.5	11.5	12.0	11.0	10.0	10.0
DUR	4	3	5	5	5	4	4	3	3	5	4	4	5	5	4	4	4	4	4	4	4	3	3
TOT			1					1		1			1										
					(S)				(S)										(S)				(S)
0- 1		8.5	7.0		5.5		1.5										3.0	6.5	2.5		2.5		
1- 2		11.0							3.0		1.0					10.5		6.0	2.0	1.0	4.0		
2- 3	1.5								2.0	4.5	6.5						4.0	6.0	2.0	6.5	5.0		
3- 4	10.0		2.5		12.0				1.5			10.5		7.0	7.0	5.5		6.0	2.0		6.0		1.0
4- 5		5.0				6.5			0.5			6.0					5.0	5.5	1.5	2.5	7.0		
5- 6		7.5		3.0		11.5		3.5		1.5							5.5	1.5	8.0	8.0			
6- 7	3.0	10.0						2.5						9.5			6.5	5.0	1.0				
7- 8	12.0							1.5			6.0						5.0	1.0	4.5				
8- 9				9.0				1.0				8.0	9.0		11.5		7.5	5.0	1.0			0.5	
9-10		4.0												11.5			4.5	0.5	0.5				
10-11	5.0	6.5				6.5			3.0							9.0	9.0	4.5	0.5	6.0	0.5		
11-12		9.0	12.5			11.5			2.0								1.0	4.0			2.0		
12-13		11.5							1.5		5.5	10.5						4.0		2.5	3.0		
13-14					6.5		2.0		0.5			6.0					2.5	4.0	8.0	8.0	4.0		
14-15	6.5		7.5					3.5										3.5	7.5		5.0		
15-16		5.5						2.5							10.0		3.5	3.5	7.5	4.0	6.0		
16-17		8.0				6.5		2.0										3.0	7.0		7.0	1.0	
17-18		10.5	3.0			11.0		1.0			5.0	8.0	10.5			12.5	5.0	3.0	7.0		8.0		
18-19	8.5			4.0														3.0	7.0	6.0			
19-20									3.0								7.5	6.0	2.5	6.5			
20-21		4.5							2.0					8.0				2.5	6.5	2.0			0.5
21-22	1.5	7.0		10.5					1.5			10.5					7.5	2.0	6.0	7.5			
22-23	10.0	9.5				6.5			0.5	6.0	4.0	6.0			8.5			2.0	6.0		1.0		
23-24		12.0			1.5	11.0		3.5						10.0			8.5	2.0	6.0	4.0	2.0		
24-25								2.5					5.5				1.0	1.5	5.5		3.0		
25-26	3.5	3.5						2.0		3.0							9.5	1.5	5.5		4.0	0.5	
26-27	12.0	6.0			7.5		3.0	1.0				8.0	12.0	12.5		11.0	2.0	1.5	5.0	5.5	5.0		
27-28		8.5									3.5							1.0	5.0		6.0		
28-29		11.0	8.5			6.0			3.0							5.5	3.5	1.0	5.0	2.0	7.0		
29-30	5.0					11.0			2.5									0.5	4.5	7.5	8.0		
30-31									1.5			10.5						4.5	0.5	4.5			

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	VX	CM	CO	CO	Y	UU	UV	VZ	T	RR	SS	DELT	RY	UZ	EW	FL	RU	RU	RW	AT	BB	BO	U
	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEO	LMI	LEP	LIB	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	MON	OPH
MAX	10.9	8.5	10.5	10.5	9.5	11.4	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
MIN	12.3	9.5	11.0	11.0	12.7	12.7	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
DUR	4	4	5	5	5	4	3	4	6	4	6	7	4	5	5	4	5	5	5	5	4	5	5
TOT																			1			1	
				(S)														(S)					
0- 1				12.0			2.5	7.0						11.0							5.0		
1- 2							7.5	9.0					2.0		7.0								
2- 3				1.0	8.0				7.5					8.0		10.0						3.0	
3- 4						4.5	2.5			4.0	12.0	10.5									3.0		
4- 5			9.0				7.5			2.0													12.5
5- 6	11.5			3.0					8.0				9.5										
6- 7							2.5				9.0						1.5				1.5		
7- 8			11.0		9.0		7.5																
8- 9						5.5			8.5				6.0								6.0		
9-10					1.5		2.5																
10-11							7.5	2.5			10.0												
11-12								4.5	9.0				3.0								4.5	0.5	
12-13			2.0		10.5		2.5	7.0									1.0						
13-14		9.5				6.5	7.5	9.0								7.0		6.0	7.0			6.0	
14-15				9.0	3.0				9.5	3.5											3.0		
15-16							2.5			1.5			10.5			11.5			5.0				
16-17							7.5				10.5												
17-18				11.0					10.0			10.0		11.5					2.5		1.0		
18-19						7.5	2.5						7.0										
19-20	10.5				4.5		7.5				7.5			8.5			5.0			1.0	6.0		
20-21	12.5								10.5														
21-22		10.0					2.5						4.0							1.5			7.0
22-23				2.0			7.5	2.0													4.5	3.5	
23-24		0.5				8.0		4.5	11.0											2.5			
24-25			10.0		6.0		2.5	6.5			9.5	1.0											
25-26						0.5	7.5	8.5		3.5			11.5						3.0	2.5			
26-27									11.5	1.5	12.0					9.0							8.0
27-28			12.0				2.5													4.0			
28-29	1.0					9.0	7.5						8.5								1.0		
29-30		10.5	1.0		7.5						9.0									4.5			
30-31						1.5	2.5														5.5		

	SX	V508	V839	1010	EQ	ER	ER	ET	FL	FT	FZ	FZ	GU	GU	U	Z	RT	ST	XZ	BETA	UZ	UZ	U
	OPH	OPH	OPH	OPH	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	PEG	PER	PER	PER	PER	PER	PUP	PUP	SGE
MAX	10.5	10.1	8.8	6.2	10.3	9.5	9.5	11.2	10.5	9.1	10.7	10.7	12.6	12.6	9.7	9.9	10.6	9.7	10.6	2.2	9.7	9.7	6.4
MIN	11.2	10.7	9.4	7.0	13.3	10.2	10.2	12.4	13.2	9.7	11.3	11.3	13.5	13.5	10.5	12.4	12.0	13.2	12.7	3.5	10.6	10.3	9.1
DUR	5	3	3	4	4	3	3	5	3	4	3	3	4	4	3	6	4	5	4	8	4	4	6
TOT																2		1					2
						(S)					(S)		(S)								(S)		
0- 1						4.0				4.0	1.0			5.0									
1- 2				9.0								1.0		3.5	0.5		6.0			0.5		3.5	
2- 3						2.0					1.0			2.0			2.5						
3- 4				9.0			3.0					1.0	6.5	1.0				1.0	2.0			3.0	
4- 5						4.5					1.0		5.0		0.5				6.0				
5- 6			8.0	8.5		1.0						1.0	3.5									3.0	
6- 7							2.5				1.0		2.0										
7- 8			9.0	8.0		3.5						1.0	1.0	6.5	0.5		5.0					2.5	
8- 9		7.5									1.0			5.0			1.0						
9-10				7.5			1.5					1.0		3.5									2.0
10-11						3.0					1.0			2.0	0.5							7.0	
11-12							4.5					1.0	6.5	1.0					3.5			2.0	
12-13							0.5		2.0		1.0		5.0										6.5
13-14						2.0						1.0	3.5			1.0	3.5						1.5
14-15			8.0				3.5				1.0		2.0									6.0	
15-16								4.5	4.0			1.0	1.0	6.5								1.5	
16-17			9.0			1.0		3.5			1.0			5.0		2.5							6.0 10.0
17-18							2.5	2.0				1.0		3.5									1.0
18-19		7.5				4.0		1.0			1.0			2.5			6.0		1.5	5.5	5.5		
19-20										1.5		1.0	6.5	1.0		3.5	2.0		5.0			0.5	
20-21					4.5		1.5				1.0		5.0										5.5
21-22						3.0						1.0	3.5							2.5			
22-23							4.5			5.5	1.0		2.5			5.0						5.0	
23-24			8.0				1.0					1.0	1.0	6.5									
24-25						2.0					1.0			5.0			4.5						4.5
25-26			9.0				3.5					1.0		3.5			1.0						
26-27	7.0			12.5					1.0		1.0			2.5							3.0	4.5	
27-28					4.5	1.5						1.0	6.5	1.0					6.5				
28-29	8.5	7.5		12.0			2.5				1.0		5.0										4.0
29-30						4.0			3.0			1.0	3.5										
30-31	10.0			11.5		0.5					1.0		2.5				3.0						3.5

	V505	1968	AO	CC	CC	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	W	TX	TY	TY	UX	VV
	SGR	SGR	SER	SER	SER	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA
MAX	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	12.7	10.1
MIN	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	13.8	11.0
DUR	5	4	4	4	4	4	3	2	4	6	5	3	3	4	4	4	3	3	6	3	3	1	3
TOT						1																	
					(S)							(S)					(S)			(S)			
0- 1					6.5		0.5					5.0	1.0		3.5		2.5	6.5		3.0	7.5	5.0	
1- 2			12.5		7.0			2.0	3.0	3.5			1.5		3.0		2.5	6.5		5.0	0.5	9.5	8.0
2- 3		12.0	9.5		8.0		2.5	4.0					2.0	1.5	2.0	3.5	2.5	6.5		6.5	2.0	4.5	0.5
3- 4			6.5		8.5				4.5	4.5			2.5		1.5		2.5	6.5		8.0	3.5	8.5	9.5
4- 5					9.5		4.5						3.0		0.5		2.5	6.5		1.0	5.0	3.5	2.0
5- 6					10.0				6.5				3.5			3.5	2.5	6.5		2.5	6.5	8.0	11.0
6- 7	10.5			4.5	11.0								4.5				2.5	6.5		4.0	8.0	2.5	3.5
7- 8				5.5	11.5	4.5	2.5					1.0	5.0				2.5	6.5		5.5	1.0	7.0	
8- 9				6.5					1.0				1.5			4.0	2.5	6.5		7.0	2.5	2.0	5.0
9-10		10.5		7.0			4.0						2.0		2.0		3.0	7.0		8.5	4.0	6.0	
10-11			7.5	8.0					3.0				2.5				3.0	7.0		1.5	6.0	1.0	6.5
11-12		12.0		8.5									3.0				3.0	7.0		3.0	7.5	5.5	
12-13				9.5			2.0		5.0				3.5				3.0	7.0		4.5			8.0
13-14				10.0									4.0				3.0	7.0		6.0	2.0	4.5	0.5
14-15				11.0	4.5		4.0		6.5				5.0	0.5			3.0	7.0		7.5	3.5	9.0	9.5
15-16	10.5	11.0		11.5	5.5			2.0					1.5				3.0	7.0		0.5	5.0	4.0	2.0
16-17			11.5		6.0			4.0					2.0	2.5			3.0	7.0		2.0	6.5	8.0	11.0
17-18			8.5		7.0		1.5		1.0				2.5				3.0	7.0		3.5	8.0	3.0	3.5
18-19			5.5		8.0								3.0				3.0	7.0		5.0	1.0	7.5	
19-20		9.5			8.5		3.5		3.0				3.5	0.5			3.0	7.0		6.5	2.5	2.0	5.0
20-21		12.5			9.5								4.0				3.0	7.0		8.5	4.0	6.5	
21-22					10.0	1.0	5.5		5.0				0.5	4.5			3.0	7.0		1.5	5.5	1.5	6.5
22-23				4.5	11.0		1.5						1.0				3.0	7.0		3.0	7.0	5.5	
23-24			12.0	5.5	11.5				7.0				2.0		3.0		3.0	7.0		4.5		0.5	8.0
24-25		11.0	9.0	6.0			3.5						2.5				3.0	7.0		6.0	1.5	5.0	0.5
25-26			6.5	7.0									3.0				3.0	7.0	1.0	7.5	3.0	9.5	9.5
26-27				7.5			5.0		1.5				3.5		1.5		3.0	7.0		0.5	4.5	4.0	2.0
27-28				8.5			1.0						4.0				3.0	7.0		2.0	6.0	8.5	11.0
28-29	11.0	9.5		9.5				0.5	3.0		1.5	4.5	0.5				3.0	7.0	2.5	3.5	7.5	3.5	3.5
29-30				10.0			3.0	2.5					1.0				3.0	7.0		5.0	1.0	7.5	12.5
30-31				11.0	4.5			4.0	5.0		2.5		1.5			0.5	3.0	7.0		6.5	2.5	2.5	5.0







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	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	R	RT	SX	TU	TZ	TZ	XZ
	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA	CMA	CMA	CMA	CMI
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	9.7
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	10.2
DUR	4	3	3	3	3	3	3	3	3	3	5	6	3	5	5	5	4	5	4	4	4	4	3
TOT																							
				(S)		(S)		(S)		(S)						(S)						(S)	
0- 1				1.0	3.5	7.5		4.0	2.5	6.0		9.5	10.5		4.5				3.0				4.0
1- 2					3.0	6.5	7.0	3.0	7.0	3.5			1.0	6.5	8.0							3.0	
2- 3		4.0	4.0		2.0	6.0	5.5	2.0	4.5	1.0			5.5		2.5	11.5							
3- 4					1.5	5.5	4.5		2.0	5.5	9.5		10.0			6.0							1.5
4- 5						4.5	3.5	7.0	6.5	3.0					9.5								5.5
5- 6		3.0				4.0	2.0	6.0	4.0				4.5	6.0	3.5		3.0						
6- 7					7.5	3.5	1.0	5.0	1.0	5.0			9.0			7.0							
7- 8				3.5	6.5	2.5	7.5	3.5	5.5	2.0					10.5	1.5							2.5
8- 9	4.5	2.0			6.0	2.0	6.5	2.5	3.0	6.5	9.5		3.5		5.0								
9-10					5.5	1.5	5.0	1.5		4.0			8.0	5.5		8.5							
10-11					4.5		4.0		5.0	1.5		7.5				3.0							
11-12					4.0		3.0	6.5	2.5	6.0			3.0		6.5								4.0
12-13		5.0	3.5		3.5	7.5	1.5	5.5	7.0	3.5			7.5		10.0								
13-14	4.0				2.5	6.5		4.5	4.5		9.0			5.0		4.5	2.0		3.0				
14-15					2.0	6.0	7.0	3.0	2.0	5.5			2.0		8.0								1.5
15-16		4.0			1.5	5.5	6.0	2.0	6.5	2.5			6.5		2.0	11.5							5.0
16-17						4.5	4.5		3.5				11.0			5.5							
17-18				3.0		4.0	3.5	7.0	1.0	4.5			1.0	5.0	9.0								
18-19	3.5	3.0			7.5	3.5	2.5	6.0	5.5	2.0	9.0		5.5		3.5			2.0					2.5
19-20					6.5	2.5	1.0	5.0	3.0	6.5			10.0			7.0							
20-21					6.0	2.0	7.5	4.0		4.0		5.5			10.5	1.5							
21-22		2.0			5.5	1.5	6.5	2.5	5.0	1.5			5.0	4.5	5.0								
22-23			2.5		4.5		5.0	1.5	2.5	6.0			9.5			8.5	4.0		1.0	2.5			4.0
23-24	3.0				4.0		4.0		7.0	3.5	8.5					2.5							
24-25					3.5	7.0	3.0	6.5	4.5				4.0		6.0							1.5	
25-26		5.0			2.5	6.5	1.5	5.5	1.5	5.0			8.5	4.0		9.5							1.5
26-27					2.0	6.0		4.5	6.0	2.5						4.0			3.0				5.0
27-28				2.0	1.5	5.5	7.0	3.0	3.5				3.0		7.5								
28-29	2.5	4.0				4.5	6.0	2.0	1.0	4.5	8.5		7.5		2.0	11.0							
29-30			5.0			4.0	4.5		5.5	2.0				4.0		5.5							2.5

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	AK	RW	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX
	CMI	CAP	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP
MAX	10.1	9.8	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	11.5	10.8	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	4	5	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)
0- 1				8.5			2.0	6.0	11.0				4.0		11.0			5.0		9.5		5.5	
1- 2	1.0					7.5	1.0	5.0		11.0			9.5	7.0						7.0	6.5	1.5	
2- 3	4.5						7.5	4.0													2.5	7.5	
3- 4							6.5	2.5				11.0		1.0		11.0		4.0	4.5		8.5	3.5	
4- 5						1.0	5.5	1.5	9.5												5.0	10.0	3.0
5- 6				3.0		10.0	4.5						3.5									6.0	
6- 7	3.5			8.0			3.5	7.5					9.5					2.5			7.0	2.0	11.5
7- 8							2.5	6.0							11.0						3.0	8.0	
8- 9					11.5	3.5	1.5	5.0	7.5			2.0		7.0		2.0			4.0		9.0	4.0	
9-10			10.5					4.0														10.0	10.0
10-11	2.5						7.0	3.0		7.5	9.5	10.0	3.0	1.0			9.5	1.0		7.5	1.0	6.0	
11-12	5.5			2.5			6.0	2.0	11.0				9.0							5.0	7.0	2.0	3.5
12-13				7.0	2.5	6.0	5.0	1.0		8.5	5.5										3.0	8.0	
13-14		9.5					4.0	7.5									11.5	11.5	3.5		9.0	4.0	11.5
14-15	1.5						3.0	6.5		9.5	2.0				11.0						5.0		
15-16	4.5						1.5	5.5	9.0			1.0	2.5	7.0							1.5	6.5	
16-17						8.5		4.5		10.5			8.5					10.0			7.5	2.5	
17-18				2.0			7.5	3.5						1.0							3.5	8.5	
18-19				6.5			6.0	2.5		11.5									3.5	10.0	9.5	4.5	4.0
19-20	4.0		9.5	11.5	8.5	2.0	5.0	1.5	7.0									9.0		8.0	5.5		
20-21						10.5	4.0						2.0			10.5				5.5	1.5	6.5	
21-22							3.0	7.0			10.5		8.0		11.0						7.5	2.5	
22-23							2.0	6.0	10.5					7.0				7.5			3.5	8.5	
23-24	3.0			1.5		4.5	1.0	5.0			7.0								3.0		9.5	4.5	
24-25				6.0			7.5	4.0						1.5							5.5		
25-26				11.0			6.5	3.0			3.0	11.5	1.5			1.5		6.0			1.5	6.5	4.0
26-27							5.5	1.5	9.0				7.5								8.0	3.0	
27-28	2.0					7.0	4.5			7.5										10.5	4.0	9.0	
28-29	5.0				10.0		3.5	7.5							11.0			5.0	2.5	8.0	10.0	5.0	
29-30							2.5	6.0		8.5				7.5							6.0	6.0	

## AAVSO Eclipsing Binary Ephemeris for April 2019

all times in U.T.

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	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																							2
					(S)		(S)		(S)		(S)				(S)		(S)		(S)				
0- 1		7.5	4.5	1.5	4.5		5.0	2.5	7.5	2.0	5.0	11.5	11.0	9.0	4.5	6.0		6.0					
1- 2		11.5	6.5		3.5	1.5	5.5	8.5	3.5	4.5	2.0		4.5	3.5	8.5		8.5					9.0	
2- 3	5.5		9.0	5.0	2.0	1.5	5.5	4.0	9.0	2.0	4.5			7.5	3.0		2.5		10.0				
3- 4			11.0	4.0	1.0	2.0	6.0	10.0	5.0	4.5	1.5		9.0	2.0	7.0	6.0		1.5				6.5	
4- 5				2.5	5.5	2.5	6.5	5.5		1.5	4.0		2.5	6.0	1.5		8.5						
5- 6	11.5		2.0	1.5	4.0	2.5	7.0	1.5	6.5	4.0	1.5				5.5		2.0	4.0	10.0				
6- 7		3.0	4.5		3.0	3.0	7.0	7.0	2.0	1.0	4.0		6.5	4.5		5.5						10.0	
7- 8		7.0	6.5	4.5	2.0	3.5	7.5	3.0	8.0	3.5	1.0	9.0		8.5	4.0		8.0	6.5					
8- 9		11.0	8.5	3.5		4.0	8.0	8.5	3.5		3.5		11.0	3.0	8.0		2.0		9.5			7.0	
9-10			10.5	2.0	5.0	4.0		4.5	9.5	3.5			4.5	7.0	2.5	5.5							
10-11	9.0			1.0	4.0	4.5			5.5		3.0				2.0	6.5		8.0	2.0				
11-12			2.0	5.5	2.5	5.0	1.0	6.0	1.0	3.0			8.5	6.0	1.0		1.5		9.5		11.0	10.5	
12-13			4.0	4.5	1.5	5.5	1.5	2.0	7.0		3.0		2.0		5.0	5.0		4.5		7.5			
13-14		2.5	6.0	3.0		5.5	1.5	7.5	2.5	2.5	5.0			4.5	9.0		7.5					7.5	
14-15		6.5	8.5	2.0	4.5	6.0	2.0	3.5	8.5	5.0	2.5	7.0	6.5	8.5	3.5			7.0	9.5				
15-16	6.5	10.5	10.5		3.5	6.5	2.5	9.0	4.0	2.5	5.0			3.0	7.5	5.0							
16-17				5.0	2.0	7.0	3.0	5.0	10.0	4.5	2.0		10.5	7.0	2.0		7.0					11.0	11.5
17-18			1.5	4.0	1.0	7.0	3.0		5.5	2.0	4.5		4.0	1.5	6.0			2.5	9.5				11.0
18-19			4.0	2.5	5.5	7.5	3.5	6.5	1.5	4.5	2.0			5.5		4.5						8.5	10.0
19-20			6.0	1.5	4.5	8.0	4.0	2.5	7.0	1.5	4.0		8.5		4.5		7.0	5.0					9.5
20-21		2.0	8.0		3.0		4.5	8.0	3.0	4.0	1.5		2.0	4.0	8.5				9.5			5.5	8.5
21-22		5.5	10.0	4.5	2.0		4.5	4.0	9.0	1.5	4.0	4.5		8.0	3.5	4.5		7.5		11.0	9.5		8.0
22-23		9.5		3.5		1.0	5.0	9.5	4.5	3.5	1.0		6.0	2.5	7.0		6.5						
23-24	10.0		1.5	2.5	5.0	1.5	5.5	5.5		1.0	3.5			6.5	2.0				9.0			9.0	
24-25			3.5	1.0	4.0	1.5	6.0	1.0	6.0	3.5			10.5	1.0	6.0	4.0		3.0					
25-26	1.0		5.5	5.5	2.5	2.0	6.0	7.0	2.0		3.5		4.0	5.0			6.5					6.5	
26-27			8.0	4.5	1.5	2.5	6.5	2.5	7.5	3.0				9.0	4.5			5.5	9.0				
27-28		1.0	10.0	3.0		3.0	7.0	8.5	3.5		3.0		8.0	3.5	8.5	4.0							
28-29	7.5	5.0		2.0	4.5	3.0	7.5	4.5	9.0	3.0		2.5		7.5	3.0		6.0	8.0				10.0	
29-30		9.0	1.0		3.5	3.5	7.5		5.0	5.0	2.5			2.0	7.0				9.0				

	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	11.0								7.0				11.0							5.0	4.0	5.0	
1- 2		10.0	10.5			9.0														7.5			
2- 3			9.5		9.5			10.5		9.0		11.5						11.5	7.0	10.0			
3- 4		7.5	8.0			7.5		8.0					7.5				9.5					11.5	
4- 5	11.0								11.0				11.0										
5- 6							9.0									11.0				1.5			
6- 7		11.0									11.5									4.0			2.5
7- 8									6.0				7.5				8.5		9.5	8.5	6.5		
8- 9	11.0	8.5				10.5							11.0								11.5		9.0
9-10			11.0								8.0												
10-11			9.5			8.5		11.0												10.5	3.0		
11-12			8.0				9.5	8.5	10.0				7.5		9.0	10.0	7.5				5.5	9.5	
12-13	11.0							6.0					11.0										8.0
13-14		10.0			9.0									10.5					10.5	3.5	10.5		6.0
14-15																		12.0			4.5		
15-16		7.0				11.5							7.0										2.0
16-17	11.0			8.5						7.0			10.5										4.5
17-18			11.0			9.5	9.5									9.0		8.5	5.0	7.0			
18-19		11.0	9.5					11.5	9.0								11.0				9.5		3.5
19-20			8.0			7.5		9.0					7.0										
20-21	11.0	8.5						6.5		11.0			10.5										
21-22												6.0									7.0	3.5	10.0
22-23																		10.0					6.0
23-24							10.0			6.0			7.0										8.5
24-25	11.0				8.0	10.5	6.5						10.5					9.5					11.0
25-26		9.5	11.0							8.0										8.5	10.0		
26-27			9.5			9.0											9.5						2.5
27-28		7.0	8.0					9.5		10.0			7.0										5.0
28-29	11.0							7.0					7.0	10.5						2.0	7.5	5.5	
29-30							10.0													10.5	10.0		

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

	RR	SS	DELT	RY	UZ	EW	FL	RU	RU	RW	BB	BO	U	SX	V508	V839	1010	ER	ER	ET	FL	FT	FZ
	LEP	LIB	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	OPH	OPH	OPH	OPH	OPH	ORI	ORI	ORI	ORI	ORI	ORI
MAX	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	9.5	9.5	11.2	10.5	9.1	10.7
MIN	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	10.2	10.2	12.4	13.2	9.7	11.3
DUR	4	6	7	4	5	5	4	5	5	5	4	5	5	5	3	3	4	3	3	5	3	4	3
TOT										1		1											
									(S)										(S)				
0- 1			9.0	5.0				4.0			1.0	8.5						2.0					
1- 2		6.5				11.5								11.5		8.0	11.5						1.0
2- 3										4.0													
3- 4				2.0		10.0										9.0	11.0		1.0				1.0
4- 5															5.0			2.5					
5- 6					9.0	9.0				4.0	2.5		9.5		6.0		10.5			2.5			1.0
6- 7	1.0						6.0	3.0							7.0	5.5				1.5			
7- 8			8.5	9.5	6.5	8.0				1.5					7.5		10.0	1.5					1.0
8- 9		11.0					10.5									6.5							
9-10						6.5											9.5						1.0
10-11				6.5									10.0				7.5					3.0	
11-12		8.0				5.5						4.0					9.5		2.0				1.0
12-13																9.0					2.5		
13-14				3.0						4.0							9.0						1.0
14-15		5.0	8.0															1.0					
15-16													11.0		6.0	5.5	8.5	2.5					1.0
16-17											2.0				6.5								
17-18															7.5	6.5	8.0						1.0
18-19									2.0									1.5					
19-20							8.0										7.5	8.0					1.0
20-21				7.5								2.0	11.5										
21-22		9.5	7.5														9.0	7.5					1.0
22-23					9.5														2.5				
23-24				4.0													7.0						1.0
24-25		6.5			7.0			1.5			3.5			4.5	5.0	5.5							1.0
25-26															6.0		6.5		1.5	2.0			1.0
26-27				1.0						3.0				6.0	6.5	6.5					1.5		
27-28	2.0										2.0				7.5		6.5						1.0
28-29			7.0							1.0						7.5							
29-30																	6.0	2.0					1.0

	FZ	GU	GU	DI	GP	Z	RT	RV	ST	XZ	Y	UZ	UZ	U	V505	1968	AO	CC	CC	RW	RZ	TY	WY
	ORI	ORI	ORI	PEG	PEG	PER	PER	PER	PER	PER	PSC	PUP	PUP	SGE	SGR	SGR	SER	SER	SER	TAU	TAU	TAU	TAU
MAX	10.7	12.6	12.6	9.6	10.2	9.9	10.6	10.3	9.7	10.6	9.0	9.7	9.7	6.4	6.4	12.3	10.6	11.1	11.1	8.0	10.5	11.5	11.5
MIN	11.3	13.5	13.5	10.8	11.0	12.4	12.0	12.7	13.2	12.7	12.0	10.6	10.3	9.1	7.6	13.3	12.1	11.7	11.7	12.5	11.2	12.0	11.7
DUR	3	4	4	2	4	6	4	8	5	4	7	4	4	6	5	4	4	4	4	4	3	2	4
TOT						2			1					2						1			
	(S)		(S)										(S)						(S)				
0- 1	1.0																10.0	11.5	5.5				
1- 2					11.5							3.5				8.5	7.0		6.0	3.0			
2- 3	1.0		3.5		11.0									7.5		11.5	4.5		7.0				
3- 4			2.5	10.5	10.5					4.5		3.0			8.5				7.5		3.0		
4- 5	1.0		1.0		9.5														8.5				1.5
5- 6							2.0						3.0					3.0	9.5				
6- 7	1.0	4.0				11.5										10.0		4.0	10.0				3.5
7- 8		2.5										2.5					11.0	4.5	11.0				
8- 9	1.0	1.0															8.0	5.5	11.5		2.5		5.5
9-10									2.5				2.0				5.0	6.0					
10-11	1.0		4.0				4.0			2.5					11.0	8.5		7.0					
11-12			2.5									2.0				11.5		7.5					
12-13	1.0		1.0											11.0				8.5				2.5	
13-14													1.5					9.0	3.0		2.0		1.5
14-15	1.0	4.0															12.0	10.0	4.0				
15-16		2.5										1.5				10.5	9.0	11.0	4.5				3.5
16-17	1.0	1.0					3.0								9.0		6.0	11.5	5.5				
17-18									1.5				1.0				3.0		6.0				
18-19	1.0		4.0							4.0									7.0		2.0		
19-20			2.5													9.0			7.5				
20-21	1.0		1.0					3.5											8.5				
21-22																			3.0	9.0			
22-23	1.0	4.0					1.5	3.0			11.5	5.0					9.5	4.0	10.0				2.0
23-24		2.5													11.5	7.5	7.0	4.5	10.5		1.5		
24-25	1.0	1.0						2.5								10.5	4.0	5.5	11.5				3.5
25-26										1.5								6.0			3.5		
26-27	1.0		4.0					1.5				4.5						7.0				2.5	
27-28			2.5				4.0											7.5					
28-29	1.0		1.0					1.0								9.0		8.5			1.5		
29-30														8.5	9.5		10.5	9.0	3.0				

	AC	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	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	9.7	10.0	10.8
MIN	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	10.2	11.5	11.9
DUR	6	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				2.5				3.0	7.0	4.0	8.0	4.0	7.0		8.0			3.5	2.5	2.0	6.5	6.0	
1- 2		3.5		3.0	12.0			3.5	7.5		1.0	5.5	1.5	6.5			2.0		9.5	7.0	2.5	7.5	
2- 3								3.5	7.5		2.5	7.0	6.0				3.0	9.0		2.5	7.5		
3- 4		4.5						3.5	7.5	5.5	4.0	8.5	1.0	8.0			4.5	6.5	7.5	8.0	3.0	6.0	2.0
4- 5								3.5	7.5		5.5	1.5	5.5				5.5	3.5		3.5	8.5	10.5	3.5
5- 6			1.0				1.0	3.5	7.5		7.0	3.0		9.5	5.0		6.5		6.0	9.0	4.0		5.0
6- 7			1.5			1.5		3.5	7.5	7.0		4.5	4.5	2.0	10.5	7.0	8.0	9.5		4.5	9.5		6.5
7- 8			2.5					3.5	7.5		1.5	6.0	9.0	11.0			9.0	6.5	4.0		5.0		8.0
8- 9			3.0				1.5	3.5	7.5		3.5	7.5	3.5	3.5			10.5	4.0					
9-10								3.5	7.5	8.5	5.0		8.0				11.5		2.5	1.0	6.0	5.0	2.5
10-11								3.5	7.5		6.5	2.0	3.0	5.0	2.5			9.5	9.5	6.5	1.5	10.0	4.0
11-12							2.0	3.5	7.5		8.0	3.5	7.0		8.0		1.5	7.0		2.0	7.0		5.5
12-13				1.0				3.5	7.5	10.0		5.0	2.0	6.5			2.5	4.5	7.5	7.5	2.5		6.5
13-14	1.5			1.5				3.5	7.5		2.5	6.5	6.5			5.0	3.5			3.0	7.5		8.0
14-15				2.0			2.5	3.5	7.5		4.0	8.0	1.5	8.0			5.0	10.0	6.0	8.0	3.5		1.0
15-16	2.5			3.0				3.5	7.5		5.5	1.0	5.5				6.0	7.5		3.5	8.5	4.5	2.5
16-17								3.5	7.5		7.0	2.5		9.5	5.0		7.5	5.0	4.0	9.0	4.0	9.0	4.0
17-18								3.5	7.5		8.5	4.5	5.0	2.0	10.5		8.5			4.5	9.5		5.5
18-19								3.5	7.5		1.5	6.0	9.0	11.0			9.5	10.5	2.5		5.0		7.0
19-20			1.0		1.0			3.5	7.5		3.0	7.5	4.0	3.5			11.0	8.0	9.5	5.5			
20-21			1.5					3.5	7.5		4.5		8.5			2.5		5.0		1.0	6.0		1.5
21-22			2.0					3.5	7.5		6.0	2.0	3.0	5.0	2.5			2.5	7.5	6.5	1.5	3.5	3.0
22-23			2.5					3.5	7.5		7.5	3.5	7.5		8.0	9.5	2.0			2.0	7.0	8.5	4.5
23-24								3.5	7.5		5.0	2.5	6.5				3.0	8.0	6.0	7.5	2.5		6.0
24-25								3.5	8.0		2.0	6.5	6.5				4.5	5.5		3.0	8.0		7.5
25-26								4.0	8.0		3.5	8.0	1.5	8.0			5.5	3.0	4.0	8.0	3.5		
26-27				1.0				4.0	8.0		5.0	1.0	6.0				6.5			4.0	8.5		2.0
27-28				1.5				4.0	8.0		7.0	2.5		9.5	5.0		8.0	8.5	2.5	9.0	4.5		3.5
28-29				2.0				4.0	8.0		8.5	4.0	5.0	2.0	10.5		9.0	6.0	9.0	4.5	9.5	7.5	5.0
29-30				2.5				4.0	8.0		1.5	5.5	9.5	11.0		7.0	10.5	3.5			5.0		6.5



	AW	AZ	AZ	BH	Z	AW	AX	AY	BE	BO	BS	BT	BU	CD
	VIR	VIR	VIR	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	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	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	3	3	3	4	6	5	5	4	5	4	3	3	3	4
TOT														
	(S)		(S)											
0- 1	1.5		4.5	5.0		10.5								
1- 2	3.0	1.5	5.5							10.5				8.0
2- 3	4.5	2.5	6.5							9.0				
3- 4	6.0	3.5	8.0	11.5						8.0		10.0	9.0	
4- 5	7.5	5.0		7.0		11.5				7.0	7.5			
5- 6		6.0	2.0	3.0							11.0		10.5	
6- 7	2.0	7.5	3.0					7.5	7.5	11.0				
7- 8	3.5		4.0										10.0	11.5
8- 9	5.0	1.0	5.5	9.0	10.5					9.5				
9-10	6.5	2.5	6.5	5.0		7.5			10.0					
10-11	8.0	3.5	8.0							8.5	11.5			
11-12		4.5					7.5				10.0		9.5	
12-13	2.5	6.0	1.5	11.0						7.0	9.0	7.0		
13-14	4.0	7.0	3.0	7.0	8.5	8.5	8.0				8.0	10.5		
14-15	5.5	8.5	4.0	2.5							6.5			7.5
15-16	7.0		5.5				8.5						9.0	
16-17	8.5	2.0	6.5											9.0
17-18	1.5	3.5	7.5	9.0		9.0	9.0							
18-19	3.0	4.5		4.5	6.0			9.0						10.0
19-20	4.5	6.0	1.5										8.5	
20-21	6.0	7.0	2.5						7.0		11.0	7.0		11.5
21-22	7.5	8.0	4.0	11.0		10.0	10.0				10.0	10.5		
22-23			5.0	6.5							9.0			
23-24	2.0	2.0	6.5	2.0			11.0		9.5		8.0		8.0	
24-25	3.5	3.0	7.5								6.5		11.5	
25-26	5.0	4.5				10.5	11.5							
26-27	6.5	5.5	1.5	8.5										
27-28	8.0	7.0	2.5	4.0									8.0	7.5
28-29		8.0	4.0										11.0	
29-30	2.5		5.0			11.5						10.0		8.5



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	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	R	XZ	AK	RW	TY	RZ
	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMI	CMI	CAP	CAP	CAS
MAX	6.0	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	9.7	10.1	9.8	10.5	6.4
MIN	6.7	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	10.2	11.5	10.8	11.6	7.8
DUR	5	4	3	3	3	3	3	3	3	3	3	5	6	3	5	5	5	4	3	4	5	4	4
TOT																							
					(S)		(S)		(S)		(S)						(S)						
0- 1						7.0	3.5	3.5	7.5	3.0	6.5		3.5	2.5		9.0					8.5		5.5
1- 2			3.0			6.5	2.5	2.5	6.0		4.0			7.0		3.5							10.0
2- 3						6.0	2.0		5.0	5.0							7.0						
3- 4		2.0				5.5	1.5		4.0	2.0	6.0	8.5	11.0	1.5	3.5	10.5			4.0				
4- 5			2.0			4.5		6.5	2.5	6.5	3.0			6.0		4.5							
5- 6						4.0		5.5	1.5	4.0				10.5			8.0						
6- 7						3.5	7.0	4.0		1.5	5.0						2.5			3.0			5.0
7- 8						2.5	6.5	3.0	7.0	6.0	2.5			5.0	3.0	6.0							9.5
8- 9		1.5				2.0	6.0	2.0	5.5	3.5	7.0	8.0		9.5	11.0		9.5	1.5					
9-10							5.0		4.5		4.5						4.0					8.0	
10-11							4.5	7.0	3.5	5.5	2.0		1.5	4.5		7.5			2.5	2.5			
11-12							4.0	6.0	2.0	3.0	6.5			9.0	2.5	1.5	11.0						
12-13	2.0					7.0	3.5	4.5			3.5				10.5		5.0						4.5
13-14						6.5	2.5	3.5	7.5	4.5		8.0	9.0	3.5		8.5							9.0
14-15			3.0			6.0	2.0	2.5	6.0	2.0	5.5			8.0		3.0			4.0	1.5			
15-16						5.0			5.0	6.5	3.0				2.5		6.5						
16-17						4.5			4.0	4.0				2.5	10.0	10.0						10.5	
17-18			2.0			4.0		6.5	2.5	1.5	5.0			7.0		4.5					7.5		
18-19						3.5	7.0	5.5	1.5	6.0	2.5	7.5					8.0						4.0
19-20				3.0		2.5	6.5	4.0		3.5	7.0			2.0	2.0		2.5			3.5		7.0	8.5
20-21						2.0	6.0	3.0	7.0		4.5			6.5	10.0	6.0							
21-22							5.0	2.0	5.5	5.5	1.5			11.0			9.5		2.5				
22-23							4.5		4.5	2.5	6.0						3.5						
23-24							4.0	7.0	3.5		3.5	7.5	7.0	5.5	1.5	7.0				2.5			
24-25					2.5	7.0	3.5	6.0	2.0	4.5				10.0	9.5	1.5	10.5						3.0
25-26						6.5	2.5	5.0		2.0	5.5						5.0		3.5				8.0
26-27						6.0	2.0	3.5	7.5	6.5	3.0			4.5		8.5						10.0	
27-28			3.0			5.0		2.5	6.5	4.0				9.0		3.0				1.5			
28-29						4.5			5.0		5.0	7.5			9.0		6.5						
29-30				2.0		4.0	8.0		4.0	6.0	2.5			4.0		10.0							
30-31			2.0			3.0	7.0	6.5	3.0	3.0	7.0			8.5		4.0							2.5

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	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK	DL	DV	EG
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP
MAX	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	11.6	9.6
MIN	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	12.4	10.6
DUR	4	4	3	3	4	4	5	5	4	3	3	4	4	5	4	4	3	3	4	4	5	4	3
TOT															2								
				(S)								(S)						(S)					
0- 1	5.5		1.5	5.0	7.0						5.0		11.0			3.5	2.0	7.0				3.5	
1- 2		9.0		4.0		9.5			7.0					3.5			8.0	3.0				5.5	
2- 3			7.0	3.0				10.0									4.0	9.0	4.5			7.5	
3- 4			6.0	2.0	10.5	10.5									2.5			5.0		5.0		10.0	
4- 5		3.0	5.0				8.0					7.5		2.5			6.0			11.0			
5- 6			4.0	7.5							11.0						2.0	7.0		10.5		4.5	
6- 7			3.0	6.5			4.0		7.0	7.5						11.0	8.0	3.0		10.5	11.0	8.0	3.0
7- 8			1.5	5.5	8.5						5.0	10.0				8.5	4.0	9.0		10.0		5.5	
8- 9		5.0		4.5		5.0									2.0	6.0		5.5		9.5		7.5	
9-10	7.0		7.5	3.5				9.0								4.0	6.5		4.5	9.5		9.5	
10-11			6.5	2.5		6.0											2.5	7.5		9.0			
11-12			5.0	1.5	6.5				6.5								8.5	3.5		8.5	8.5		
12-13		7.5	4.0			7.0					11.0						4.5	9.5		8.5		3.5	3.0
13-14			3.0	7.0						7.5					1.5			5.5		8.0		7.5	5.0
14-15			2.0	6.0	10.0	8.0					5.0		8.5	10.0			6.5	1.5		7.5			7.0
15-16				5.0			9.0										2.5	7.5		7.5			9.5
16-17		10.0		4.0		9.0		7.5	6.0							9.0	8.5	3.5	5.0	7.0	6.0		
17-18			6.5	3.0			5.5						10.5	8.5		6.5	4.5	9.5		6.5			
18-19	8.5		5.5	1.5	8.0	10.0										4.0		5.5		6.0			2.5
19-20		3.5	4.5														7.0	2.0		6.0		3.0	5.0
20-21			3.5	7.5		11.0				7.5							3.0	8.0		5.5		7.0	7.0
21-22			2.5	6.5					5.5		5.0						9.0	4.0		5.0	3.0	11.0	9.0
22-23			1.5	5.0	6.5												5.0	10.0		5.0			
23-24		6.0		4.0										6.0				6.0	5.0	4.5			
24-25			7.0	3.0			10.5					9.0					7.0	2.0		4.0	9.5		2.5
25-26			6.0	2.0	9.5	5.5										9.0	3.0	8.0		4.0			4.5
26-27			5.0				10.5		5.0					5.0		7.0	9.0	4.0		3.5		2.5	7.0
27-28	10.0	8.5	4.0			6.5			11.0	7.5						4.5	5.0			3.0		6.0	9.0
28-29			3.0	6.5			6.5				5.5							6.0		3.0		10.0	11.0
29-30	5.5		2.0	5.5	8.0	7.5								3.5			7.0	2.0		2.5	7.0		
30-31		2.0		4.5													3.5	8.5	5.5	2.0			2.5

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

	KV	V346	V387	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	RW	AF
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	GEM	GEM
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	9.6	10.2
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	11.6	11.3
DUR	5	5	3	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5	5	4	5	4
TOT											2							1				1	
							(S)		(S)												(S)		
0- 1			5.0	7.0			5.0						8.5										
1- 2										7.0				11.0		1.5				4.5			
2- 3						7.0		7.0		10.0					3.5	4.0							
3- 4	9.0		10.0													6.5					5.5		
4- 5							9.0					8.0		7.5		9.0				11.0	10.0		
5- 6		7.5	8.0	10.5	10.0				8.0	6.5				9.0									
6- 7	5.0			7.0	7.5					10.0			10.0			5.5			2.0				
7- 8			6.0		5.0			4.0			11.0						3.0					2.5	
8- 9													7.0				5.5						
9-10						6.0		8.0		6.5				7.0			8.0	11.0	8.5		5.0		
10-11			11.0							10.0						7.0	10.0				10.0		
11-12				11.0			8.0							11.0									
12-13			9.0	7.5					9.0		6.5		9.0	6.0	10.0		2.0	6.5					4.0
13-14					10.5	10.5				6.5							4.5						
14-15			7.0		8.0					10.0						8.5	7.0			6.0			
15-16					5.5								10.0				9.0	1.5			5.0		
16-17		7.0	5.5			5.0		9.0						8.0							10.0		
17-18				11.0						6.5						2.0							3.0
18-19				8.0			7.0			9.5			8.0			10.5	3.5						
19-20			10.0						10.0					9.5	11.0		5.5		3.0				
20-21	10.0					9.5											8.0						
21-22			8.5		11.0					6.0						3.5	10.5				5.0		
22-23					8.5					9.5									9.5		9.5		2.5
23-24	6.0		6.5		6.0	4.0		10.0						8.5	9.0		2.5						
24-25				8.0							10.5	7.0					4.5						
25-26				4.5			6.0			6.0						5.5	7.0						
26-27									11.0	9.5							9.5	7.0					
27-28		6.0				8.0						7.5		7.5	7.0					7.0	5.0		2.0
28-29			9.5																		9.5		
29-30							10.5			6.0						7.0	3.5	2.5					
30-31			7.5	8.5	9.0			11.0		9.5					10.5		6.0						



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	UZ	EW	FL	RW	AT	BB	BO	U	SX	V508	V839	1010	FT	GU	GU	TY	AQ	BB	BB	BX	DI	GP	Z
	LYR	LYR	LYR	MON	MON	MON	MON	OPH	OPH	OPH	OPH	OPH	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER
MAX	9.8	11.2	8.7	9.1	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
MIN	11.0	13.6	9.5	11.9	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
DUR	5	5	4	5	5	4	5	5	5	3	3	4	4	4	4	6	12	3	3	3	2	4	6
TOT				1			1										4						2
															(S)			(S)					
0- 1			5.5						9.0		8.5												
1- 2											4.5	5.5		2.5									
2- 3			9.5					5.5	10.5	3.5	10.0							8.5					
3- 4										4.0	5.5	5.0									6.0		
4- 5										5.0									8.0				
5- 6										6.0	6.5	5.0			2.5								
6- 7										6.5								8.0					
7- 8								6.0		7.5	7.5	4.5				10.5							
8- 9						1.5													7.5				
9-10	10.0										8.5	4.0		2.5									
10-11		11.0					2.5				4.5									6.5	11.0		
11-12	7.5		2.5								10.0	3.5											
12-13		9.5						7.0		3.5	5.5											11.0	
13-14	5.0		7.0							4.0					2.5		8.5					10.5	
14-15		8.5								5.0	6.5	11.0										9.5	
15-16										6.0											10.5	9.0	
16-17		7.0								6.5	7.5	10.5										8.5	
17-18				2.5				7.5		7.5				2.5					8.5	6.5		8.0	
18-19		6.0									8.5	10.5										7.5	
19-20						1.5					4.5							8.0					
20-21		4.5									9.5	10.0									10.0		
21-22											5.5		2.0		2.5				8.0				
22-23		3.5						8.5		3.5		9.5											
23-24										4.0	6.5							7.5					
24-25		2.0	4.5							5.0		9.0				11.0							
25-26									3.0	6.0	7.5			2.5					7.5		9.5		9.5
26-27	10.5		8.5							6.5		9.0											
27-28								9.5	4.5	7.5	8.5												
28-29	8.0										4.0	8.5											10.5
29-30					1.5				6.0		9.5				2.5								
30-31	5.5						3.0				5.5	8.0									9.5		



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	RT	XZ	BETA	Y	UZ	UZ	U	V505	1968	AO	CC	CC	RZ	WY	AM	V	RV	W	W	TX	TY	TY	UX
	PER	PER	PER	PSC	PUP	PUP	SGE	SGR	SGR	SER	SER	SER	TAU	TAU	TAU	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA
MAX	10.6	10.6	2.2	9.0	9.7	9.7	6.4	6.4	12.3	10.6	11.1	11.1	10.5	11.5	10.4	10.9	11.4	9.1	9.1	6.8	11.7	11.7	12.7
MIN	12.0	12.7	3.5	12.0	10.6	10.3	9.1	7.6	13.3	12.1	11.7	11.7	11.2	11.7	12.3	11.9	12.5	9.9	9.9	8.9	12.4	12.4	13.8
DUR	4	4	8	7	4	4	6	5	4	4	4	4	3	4	5	4	4	3	3	6	3	3	1
TOT							2																
						(S)						(S)							(S)		(S)		
0- 1										7.5	10.0	3.5						4.0	8.0		3.0	7.0	4.5
1- 2										4.5	10.5	4.5		2.0			10.5	4.0	8.0		4.5		8.5
2- 3									8.0	2.0		5.5						4.0	8.0		6.0	1.5	3.5
3- 4		3.0							11.0			6.0						4.0	8.0		7.5	3.0	8.0
4- 5												7.0					10.5	4.0	8.0			4.5	2.5
5- 6							7.0				1.5	7.5				10.5		4.0	8.0		2.0	6.0	7.0
6- 7						3.0			6.5		2.0	8.5						4.0			3.5	8.0	2.0
7- 8									9.5	8.5	3.0	9.0				11.0		4.0			5.0		6.0
8- 9					2.5					5.5	3.5	10.0						4.0			6.5	2.5	
9-10										2.5	4.5	10.5						4.0			8.0	4.0	5.5
10-11						2.0					5.0			2.0				4.0				5.5	
11-12									8.0		6.0							4.0			2.5	7.0	4.5
12-13	11.0				2.0			9.5	11.0		7.0					11.0		4.0			4.0	8.5	9.0
13-14											7.5							4.0		1.5	5.5	1.5	4.0
14-15						1.5				9.5	8.5	2.0			1.5			4.0			7.0	3.0	8.0
15-16									6.5	6.5	9.0	3.0						4.0				4.5	3.0
16-17							6.5		10.0	3.5	10.0	3.5						4.0		3.0	2.0	6.0	7.5
17-18			10.5								10.5	4.5						4.0			3.5	7.5	2.0
18-19		2.5							7.5			5.0						4.5			5.0		6.5
19-20										5.5		6.0		2.0				4.5		4.5	6.5	2.0	1.5
20-21	2.5									8.5		6.5						4.5			8.0	3.5	6.0
21-22											10.0	7.5						4.5				5.0	
22-23										7.0	2.0	8.5				9.5		4.5		6.0	2.5	6.5	5.0
23-24										4.5	3.0	9.0						4.5			4.0	8.0	9.5
24-25									7.0	1.5	3.5	10.0						4.5			5.5		4.0
25-26								10.0	10.0		4.5	10.5						4.5		7.5	7.0	3.0	8.5
26-27				9.0			9.5				5.0							4.5				4.5	3.5
27-28											6.0							4.5			1.5	6.0	7.5
28-29		11.0								5.5	11.0	6.5		2.5				4.5		9.0	3.0	7.5	2.5
29-30	10.5									8.5	8.0	7.5				10.0		4.5			4.5		7.0
30-31										5.0	8.0	2.0	1.5					4.5			6.0	2.0	2.0

	VV	XZ	ZZ	RU	VV	AG	AH	AH	AK	AW	AW	AZ	AZ	BH	Z	AW	AY	BE	BO	BS	BT	BU	CD	
	UMA	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	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	11.7	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	11.9	12.9	11.4	13.3	11.5	12.5	11.4	12.6	
DUR	3	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	3.5					7.5	5.5			8.0	4.0	2.0	6.0			7.0	10.5			11.0				
1- 2					9.0			6.0			5.5	3.0	7.5	6.0						10.0		7.5	10.0	
2- 3	5.0	2.5			6.5	5.5	6.5	1.5		2.5	7.0	4.5		1.5						9.0		10.5		
3- 4		8.0		2.5	3.5		2.0	7.0	2.0	4.0	8.5	5.5									7.5			
4- 5	6.5			3.5		4.0	7.5	2.5	6.5	5.5		6.5	2.5			7.5		6.0			6.5			
5- 6				5.0	9.0		3.0	8.0		7.0	2.5	8.0	3.5	8.0	10.5		6.5				5.5		7.0	
6- 7	8.0		4.5	6.0	6.5	2.5	8.5	3.5		8.5	4.0		5.0	4.0								6.5	10.0	5.0
7- 8				7.0	4.0		4.0	9.0		1.5	5.5	1.5	6.0					8.5			9.5			
8- 9	9.5	5.0		8.5	1.5			4.5		3.0	7.0	3.0	7.0			8.5								6.0
9-10	2.0			9.5		7.5	5.0			4.5		4.0	8.5											6.5
10-11				11.0	7.0			5.0	6.0	6.0	1.5	5.5		6.0	8.5			11.0		11.0		10.0	7.5	
11-12	3.5				4.5	5.5	5.5			7.5	3.0	6.5	2.5	1.5										10.0
12-13					2.0			6.0			4.5	7.5	3.5			9.0								8.5
13-14	5.0	2.5	2.0	2.0		4.0	6.5	1.5		2.0	6.0		4.5					10.5	7.5			6.0		
14-15		8.0		3.0	7.5		2.0	7.0		3.5	7.5	1.5	6.0	8.0							6.5	6.0	9.5	9.5
15-16	6.5		9.5	4.0	5.0	2.0	7.5	2.5		5.0		3.0	7.0	3.5	6.5				9.0	5.0	9.5			
16-17				5.5	2.0		3.0	8.0	5.0	6.5	2.0	4.0	8.0			10.0								11.0
17-18	8.0			6.5			8.5	3.5		8.0	3.5	5.0				5.0	8.0		7.5			5.5		
18-19				8.0	7.5	7.5	4.0	9.0			5.0	6.5	2.0	10.0				5.5					9.0	
19-20	9.5	5.0		9.0	5.0			4.5		2.5	6.5	7.5	3.5	5.5						6.5				
20-21	2.0			10.0	2.5	5.5	5.0			4.0	8.0		4.5		4.0	10.5								11.0
21-22								5.5		5.5		1.5	5.5			6.0		8.0	5.0	9.5		5.5	6.0	
22-23	3.5		7.0		8.0	4.0	6.0		4.5	7.0	2.5	2.5	7.0								8.5	6.0	8.5	
23-24					5.5			6.0		8.5	4.0	4.0	8.0	7.5							7.5	9.0		7.0
24-25	5.0	2.5		2.5	3.0	2.0	6.5	2.0			5.5	5.0		3.0			10.5				6.5			
25-26		8.0		3.5			2.0	7.0		3.0	7.0	6.0	2.0			7.0					5.0			8.5
26-27	6.5			5.0	8.5		7.5	2.5		4.0	8.5	7.5	3.0										8.0	
27-28				6.0	6.0	7.0	3.0	8.0		5.5	1.5		4.5	9.5										9.5
28-29	8.0			7.0	3.5		8.5	3.5	3.5	7.0	3.0		5.5	5.0										
29-30			4.5	8.5		5.5	4.0		8.5		4.5	2.5	6.5		7.5	9.5								11.0
30-31	9.5	5.0		9.5	9.0			4.5		1.5	6.0	3.5	8.0							11.0	5.5	8.0		

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	RT	TW	UU	WZ	XZ	AB	AB	AD	BD	BX	DS	CX	CZ	XZ	OO	OO	V342	V343	V346	SS	SS	AP	AP
	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AND	AQR	AQR	AQL	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	11.3	8.6	10.8	10.7	10.3	9.3	9.2	9.2	9.0	10.6	9.0	10.1	10.1	10.9	10.9
MIN	10.2	11.0	14.1	12.6	13.0	10.2	10.2	11.6	11.7	9.5	11.4	12.0	11.2	11.2	10.1	10.1	12.5	12.3	10.4	11.1	11.1	11.4	11.4
DUR	3	11	8	4	3	3	3	4	3	4	4	3	3	7	3	3	7	4	4	3	3	4	4
TOT		2															3						
							(S)	(S)							(S)					(S)		(S)	
0- 1			8.0			5.0		5.0							6.0		8.0						
1- 2	7.5				8.0	5.0						9.0			6.5					9.0	2.5		
2- 3						5.0									6.5		4.0	5.5	9.0				
3- 4	4.5		7.5	6.5					10.5						7.0			8.0		9.5		2.0	
4- 5	11.0								9.0	8.5					7.5	5.0		10.5					
5- 6				8.5	10.0				7.0						7.5						2.0		
6- 7	8.0								5.0			9.0			8.0								
7- 8			11.0						3.5	10.0				5.5	8.0								2.0
8- 9	5.5											9.0			8.5								
9-10								11.0						9.0	9.0								
10-11								10.5	9.0						3.0	9.0							
11-12	9.0					8.0		10.0	7.5			9.0			3.5	9.5		9.5					
12-13				7.5		8.0		10.0	5.5						4.0	10.0			4.5				
13-14	6.0	9.0				7.5		9.5	4.0						4.0	10.0		6.0	7.0				
14-15				9.5		7.5		9.0				10.0			4.5	10.5	9.5		9.5		8.5		
15-16	3.5					7.5		9.0		8.0					5.0	11.0				9.0			
16-17	9.5					7.5		8.5	9.5			9.0			5.0						9.5		
17-18						7.5		8.0	8.0						5.5					9.5			
18-19	7.0					7.0		8.0	6.0	9.5					6.0								
19-20				6.5		7.0		7.5	4.5						6.0								
20-21	4.5				8.0	7.0		7.0				6.5	11.0		6.5								
21-22	10.5			8.5		7.0		7.0		10.5		9.0			6.5		4.0						
22-23						7.0		6.5	10.0				5.0	7.0					3.5				
23-24	7.5			11.0		6.5		6.0	8.5					7.5				6.0					
24-25					10.0	6.5		6.0	6.5				8.5	7.5			7.5	8.5					
25-26	5.0					6.5		5.5	4.5			6.5			8.0								
26-27						6.5		5.0		7.5	7.5	9.0			8.5		3.5						
27-28						6.5		5.0			8.0		8.5		8.5								
28-29	8.5			7.5		6.0		4.5	10.5		8.0				9.0					9.0			
29-30						6.0			8.5	9.0	8.5				9.5	3.5					9.0		

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	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	RW	TY	RZ	TV	AB	CW	CW	DZ	IR	IS
	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CAP	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS
MAX	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	9.8	10.5	6.4	7.3	10.2	11.8	11.8	11.6	10.8	11.6
MIN	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	10.8	11.6	7.8	8.4	12.2	12.5	12.5	12.3	12.1	12.6
DUR	3	3	3	3	3	3	3	5	6	3	5	5	5	5	4	4	4	4	3	3	4	4	5
TOT	(S)		(S)		(S)		(S)						(S)							(S)			
0- 1		2.5	6.5	5.5			4.0						7.5		7.5		11.0	7.5	3.5		8.5		
1- 2		2.0	6.0	4.5		5.0				3.0	9.0		2.0						6.5	2.5			
2- 3			5.0	3.0	7.0	2.5	6.0	7.0	5.0	7.5		5.5							5.0		6.0	9.5	
3- 4			4.5	2.0	5.5	7.0	3.5						9.0	7.0				4.5	4.0				
4- 5		8.0	4.0		4.5	4.5				2.0			3.5						3.0	7.0		10.5	
5- 6		7.0	3.0	7.0	3.5	2.0	5.5			6.5	8.5	7.0			9.0	2.0			2.0	6.0	9.5		
6- 7		6.5	2.5	6.0	2.5	6.5	3.0						10.5		7.0					5.0	4.5		
7- 8		6.0	2.0	5.0		4.0		7.0					5.0				7.0	7.0		4.0		4.0	
8- 9		5.0		3.5	7.5		4.5			6.0		8.5			5.0				6.5	3.0			8.0
9-10		4.5		2.5	6.5	5.5	2.0			10.5	8.0	2.5							5.5	2.0	7.5	5.0	
10-11		4.0	7.5		5.0	3.0	6.5						6.0						4.5				4.0
11-12		3.0	7.0		4.0		4.0			5.0		9.5						9.5	3.5	7.5		6.0	
12-13		2.5	6.5	6.5	3.0	5.0		6.5	3.0	9.5		4.0				6.0			2.5	6.5			
13-14		2.0	6.0	5.5		2.5	6.0				7.5		7.5		11.0					5.0	6.0	7.0	
14-15	11.0		5.0	4.5		7.0	3.5			4.0			2.0					3.0		4.0			
15-16			4.5	3.0	7.0	4.5			10.0	8.5		5.5			8.0				7.0	3.0		8.0	
16-17		7.5	4.0	2.0	6.0	1.5	5.5						9.0				8.5		6.0	2.0	9.0		
17-18		7.0	3.0		4.5	6.5	2.5	6.5		3.5	7.5		3.0						5.0		4.0	9.0	
18-19		6.5	2.5	7.5	3.5	3.5				8.0		6.5				5.5	4.0	5.5	4.0				
19-20		6.0	2.0	6.0	2.5		4.5						10.0		10.5				3.0	6.5		10.0	9.0
20-21		5.0		5.0		5.5	2.0			2.5			4.5	6.0					2.0	5.5	7.5		
21-22		4.5		4.0	7.5	3.0	6.5			7.0	7.0	8.0								4.5		11.0	5.0
22-23		4.0	7.5	2.5	6.5		4.0	6.5				2.5			11.0			8.0	7.5	3.5		3.5	
23-24		3.0	7.0		5.5	5.0							6.0						6.5	2.5	10.5		
24-25		2.5	6.5		4.0	2.5	6.0			6.0		9.5				5.0			5.5		5.5	4.5	
25-26		2.0	6.0	6.5	3.0	7.0	3.5		8.0	10.5	6.5	4.0			7.0	9.5	10.0		4.0				
26-27			5.0	5.5	2.0	4.0							7.5					10.0	3.0	7.0		5.5	
27-28			4.5	4.5			5.0	6.0		5.5		11.0					5.5		2.0	6.0	9.0		
28-29		7.5	4.0	3.5	7.0	6.0	2.5			9.5		5.0								5.0	3.5	6.5	
29-30		7.0	3.0	2.0	6.0	3.5	7.0				6.5		8.5					4.0		4.0			

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	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK	DL	DV	EG	RW	RW	RZ	RZ	SS	SS	CC	
	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	COM	COM	COM	COM	COM	COM	COM	
MAX	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	10.0	10.0	10.9	10.9	11.0	
MIN	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	10.7	10.7	11.5	11.5	11.9	
DUR	5	4	3	3	4	4	5	4	4	3	3	4	4	5	4	3	3	3	3	3	4	4	2	
TOT								2																
						(S)					(S)							(S)		(S)		(S)		
0- 1	9.0	4.5				8.0					9.5	4.5	2.0			4.5		4.5	7.5	3.5	5.0		5.0	
1- 2		10.5					2.5				5.5					6.5		3.5	7.5	3.5		5.5	2.5	
2- 3												6.5				8.5	5.0	2.0		4.0	6.5		5.0	
3- 4			7.5			10.0			9.5	7.5	2.5			4.5	5.5	11.0	4.0			4.5	2.0	7.0	2.0	
4- 5				5.5					7.0	3.5	8.5				9.5		2.5	5.5		5.0		3.0	4.5	
5- 6		4.5							5.0	9.5	4.5					2.0		4.0		5.0	4.0		1.5	
6- 7		10.0							2.5	5.5		6.0		10.5		4.0		3.0		5.5		4.5	4.0	
7- 8	8.0				6.5						6.5					6.5	4.5		2.0	6.0	5.5			
8- 9										7.5	2.5					8.5	3.5		2.0	6.5		6.0	4.0	
9-10										3.5	8.5					10.5	2.0	5.0	2.5	6.5	7.0	2.0		
10-11		4.0	7.5		8.5					9.5	4.5				5.0			4.0	3.0	7.0	2.5	7.5	3.5	
11-12		10.0		5.5		10.0				6.0				8.0	8.5	2.0	5.5	2.5	3.5	7.5		3.5		
12-13								10.0	2.0	7.0						4.0	4.0		3.5	8.0	4.0		3.0	
13-14					10.5				7.5	8.0	3.0	6.0				6.0	3.0		4.0			5.0		
14-15	7.0						8.5		5.0	4.0	9.0					8.5	2.0	4.5	4.5		6.0		3.0	
15-16	10.5	3.5							3.0	10.0	5.0					10.5		3.5	5.0			6.5		
16-17		9.5								6.0				5.5				5.0	2.0	5.0		7.5	2.5	2.5
17-18			7.5			7.0	7.5			2.0	7.0				4.0		4.0		5.5		3.0		5.0	
18-19				5.5						8.0	3.0				8.0	4.0	2.5	5.5	6.0	2.0		4.0	2.0	
19-20										4.0	9.0					6.0		4.0	6.5	2.5	4.5		4.5	
20-21		3.0				9.0	6.0				5.0	6.5				8.0		3.0	6.5	2.5		5.5	2.0	
21-22	5.5	9.0						10.0	6.0					3.0		10.0	4.5	2.0	7.0	3.0	6.0		4.5	
22-23	9.5								8.0	2.5	7.5						3.5		7.5	3.5	2.0	7.0		
23-24							4.5		5.5	8.5	3.5						2.0	5.0		3.5	7.5	3.0	4.0	
24-25			7.5		6.0			11.0	3.0	4.5	9.5			9.0	3.5	3.5		4.0		4.0	3.5			
25-26				5.5							5.5				7.5	5.5	5.5	2.5		4.5		4.5	3.5	
26-27		8.5					3.5			6.5						8.0	4.5			5.0	5.0			
27-28					8.0					2.5	7.5	6.5				10.0	3.0			5.0		6.0	3.5	
28-29										8.5	3.5						2.0	4.5		5.5	6.5			
29-30	8.5						2.0	10.5		4.5	9.5			6.5				3.5	2.0	6.0	2.5	7.5	3.0	

	CC	U	RW	W	W	RV	RV	V	Y	SW	WW	ZZ	AE	BR	CG	DK	KV	V346	V387	V388	V456	V466	V466
	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	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	9.7	10.8	10.8	10.8
MIN	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	10.3	11.9	11.6	11.6
DUR	2	5	4	4	4	4	4	4	6	5	5	4	4	4	3	4	5	5	3	3	3	4	4
TOT										2													
	(S)			(S)		(S)		(S)															(S)
0- 1	2.5			2.5		3.5					5.0	2.5			9.0	5.5			5.0	6.5			
1- 2	5.0		5.0	2.0					8.0			8.5				4.0			5.5		4.0		5.0
2- 3	2.0													2.5	6.5								
3- 4	4.5		9.5		5.0		3.0	3.0				5.5		10.5					4.0			7.0	
4- 5	2.0		3.0	4.5					8.0						4.0				10.5				
5- 6	4.5	1.5			3.5							3.0			10.0	9.5				8.5			9.5
6- 7			7.0	3.0			2.5			4.5		9.0		2.0		8.5	10.5		8.5	5.5		2.0	
7- 8	4.0				2.5				8.0					10.0	7.5	7.0		5.5			9.5		
8- 9												6.5				5.5			7.0		7.0		4.0
9-10	3.5		5.0				2.5								5.0	4.0	7.0				4.5		
10-11				5.0				3.5	8.0		4.0	3.5		2.0						5.0			6.0
11-12	3.5		9.0	4.0								10.0		10.0							9.0		
12-13			2.5		3.5		2.0								9.0		3.0			3.0	5.5		8.5
13-14	3.0			2.5					7.5			7.0					9.5			10.0			
14-15			7.0		2.0									2.0	6.0	8.5						10.5	
15-16	2.5	10.5					2.0			8.0		4.5		10.0		7.0			8.0		10.0		3.0
16-17	5.0			5.0		5.5			7.5			10.5			3.5	5.5					7.5		
17-18	2.5		4.5		4.5			4.0							10.0	4.0				6.0	9.5	5.0	5.0
18-19	5.0			3.5								8.0		2.0				5.0		6.0	2.0		
19-20	2.0		9.0		3.0	5.0			7.5				10.5	10.0	7.5					4.0	2.5		7.5
20-21	4.5		2.5	2.5							3.0	5.0	10.0										
21-22	1.5												9.0		5.0	10.0							9.5
22-23	4.0	8.0	6.5			5.0		2.0	7.5			2.5	8.5	2.0		8.5			9.0				2.0
23-24				5.0							10.5	8.5	7.5	10.0		7.0					9.5	10.5	
24-25	4.0				4.0								7.0		8.5	5.5			7.0	6.5	8.0	4.0	
25-26			4.5	3.5		4.5			7.5			6.0	6.0			4.0				3.0	5.5		
26-27	3.5				2.5								5.5	2.0	6.0		7.5	10.5	5.5		2.5		6.5
27-28			8.5	2.0								3.0	5.0	10.0									
28-29	3.0		2.0			4.5			7.5			9.0	4.0		3.5					3.5			8.5
29-30		5.5			5.0			2.5					3.5		10.0	10.0	4.0	4.5	10.0	10.0			

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	V477 CYG	V477 CYG	V704 CYG	W DEL	TT DEL	TY DEL	YY DEL	FZ DEL	Z DRA	RZ DRA	TW DRA	UZ DRA	UZ DRA	AI DRA	SZ HER	TU HER	UX HER	CC HER	CT HER	AV HYA	DF HYA	DF HYA	DI HYA
MAX	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	10.2	10.6	8.9	9.5	9.9	10.2	11.0	11.0	11.0
MIN	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	12.0	13.4	9.8	12.8	11.2	10.6	11.5	11.5	12.0
DUR	4	4	4	7	5	4	4	3	4	3	5	5	5	4	4	5	5	4	4	4	4	4	4
TOT				2							1					1							
		(S)											(S)									(S)	
0- 1	4.0					10.5	7.0	5.0		8.5						6.0							
1- 2			2.5									4.5			10.0		3.0						
2- 3			6.0						9.0					4.5	6.0				8.0				
3- 4			9.0				11.0	8.5		2.5				9.5			4.5		2.5				2.0
4- 5	3.5						6.0			5.0		10.5					5.5		3.0				
5- 6				7.0		5.0			2.0	7.5										4.0	3.0		
6- 7			5.5			9.5			10.5	10.0					8.0							3.0	
7- 8	5.0	9.0					10.0	6.5							3.5		7.5					3.0	
8- 9							5.0											9.5				2.5	
9-10									3.5	4.0	8.0		8.0	9.0		7.5						2.5	
10-11			5.5					9.5		6.5					10.0		10.0	3.0				2.0	
11-12	4.5		9.0					9.5		9.0					6.0				6.5			2.0	2.0
12-13						8.5	4.5				3.5											2.0	
13-14									5.5														
14-15		5.5	5.5						7.5	3.0		5.5			4.5								
15-16			9.0					8.5		5.5					9.0	8.0		8.0					
16-17					9.5					8.0					3.5	3.0				2.5			
17-18								10.5	7.0	10.5													
18-19	5.5		5.5			7.5		5.5								9.0	4.0		10.0	3.5			
19-20			8.5		6.5		7.5			2.0			3.0		10.0								
20-21										4.5					4.0	6.0				4.5			
21-22		6.5							8.5	9.0	7.0				9.0		6.0						
22-23			5.0							9.5			9.0					6.5					
23-24			8.5				7.0				9.0												
24-25						6.0			2.0						8.0		8.5						
25-26	6.5					11.0		6.5	10.5	3.5					3.5	4.5							
26-27			5.0				11.0			6.0	4.0			4.0									3.0
27-28			8.5				6.0			8.5		6.5		9.0		11.0	11.0		8.0				3.0
28-29		7.5						10.0	4.0	11.0					10.0								2.5
29-30				8.0				4.5							6.0			5.0	3.0	2.0			2.5

	DK	SW	SW	VX	CM	CO	CO	Y	UU	UV	VZ	T	SS	DELT	RY	UZ	EW	FL	U	SX	V508	V839	1010
	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEO	LMI	LIB	LIB	LYN	LYR	LYR	LYR	OPH	OPH	OPH	OPH	OPH
MAX	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	4.8	11.9	9.8	11.2	8.7	5.8	10.5	10.1	8.8	6.2
MIN	11.0	10.0	10.0	12.3	9.5	11.0	11.0	12.7	12.7	10.2	11.7	12.6	11.3	5.9	13.3	11.0	13.6	9.5	6.5	11.2	10.7	9.4	7.0
DUR	4	3	3	4	4	5	5	5	4	3	4	6	6	7	4	5	5	4	5	5	3	3	4
TOT				(S)			(S)																
0- 1			4.5			6.5														8.0	2.5		
1- 2										3.0						3.0			10.0		3.5	6.5	7.5
2- 3		7.0											2.5	5.0						9.5	4.0	2.0	
3- 4	2.5	6.0			5.5	8.5					3.0								2.5		5.0	7.5	7.5
4- 5		5.5					2.5			3.0											6.0	3.0	
5- 6															5.5						6.5	8.5	7.0
6- 7			7.0		10.5	10.5												6.0	11.0		7.5	4.0	
7- 8			6.0				4.5			3.0											8.5	9.5	6.5
8- 9			5.0					3.0							2.5			10.0	3.0			5.5	
9-10													7.0	4.5									6.0
10-11		7.5					6.5			3.0											2.5	6.5	
11-12		6.5		6.0	6.0																3.5	2.0	6.0
12-13		5.5		8.0									4.0								4.0	7.5	
13-14		5.0		9.5			8.5	4.5		3.0									4.0		5.0	3.0	5.5
14-15			7.5			4.0											8.5				6.0	8.5	
15-16			6.5								2.5										6.5	4.0	5.0
16-17			5.5				10.5			3.0				4.0		6.0					7.5	9.5	
17-18			4.5			6.0															8.0	5.0	4.5
18-19															3.5	3.5	10.5		4.5				
19-20		7.0			7.0					3.0			8.5					7.5				6.5	4.0
20-21		6.0				8.0															2.5	2.0	
21-22		5.0																			3.5	7.5	4.0
22-23										3.0			5.5				8.0				4.0	3.0	
23-24			7.0			10.0								3.5					5.5		5.0	8.5	3.5
24-25			6.0				4.0										6.5				5.5	4.0	
25-26			5.0	5.5						3.0			2.5							2.0	6.5	9.5	3.0
26-27				7.0													5.5				7.5	5.0	
27-28		7.5		9.0	7.5		6.0		2.0		2.0									3.5	8.0		2.5
28-29		6.5		10.5						3.0		2.0			4.5		4.0		6.0			6.0	
29-30		5.5																		5.0		2.0	2.5



	U	TY	AQ	BB	BB	BX	DI	GP	RT	RV	ST	XZ	BETA	Y	U	V505	1968	AO	CC	CC	V	X	RV
	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PSC	SGE	SGR	SGR	SER	SER	SER	TRI	TRI	TRI
MAX	9.7	10.5	10.3	10.6	10.6	10.9	9.6	10.2	10.6	10.3	9.7	10.6	2.2	9.0	6.4	6.4	12.3	10.6	11.1	11.1	10.9	8.9	11.4
MIN	10.5	12.6	13.0	11.2	11.2	11.5	10.8	11.0	12.0	12.7	13.2	12.7	3.5	12.0	9.1	7.6	13.3	12.1	11.7	11.7	11.9	12.0	12.5
DUR	3	6	12	3	3	3	2	4	4	8	5	4	8	7	6	5	4	4	4	4	4	4	4
TOT			4								1				2								
					(S)															(S)			
0- 1				6.5												8.0		2.5	9.0	3.0		10.5	
1- 2				8.5													4.5		10.0	3.5	8.5	10.0	8.0
2- 3	8.0				6.0	6.0									4.0		7.5			4.5		9.0	
3- 4					8.0												10.5			5.0		8.5	
4- 5				6.0		5.5	9.0		9.5			9.0								6.0			8.5
5- 6	8.0			8.0														9.0		6.5	11.0		
6- 7					5.5	4.5					9.0					5.5	6.0	6.0		7.5			
7- 8		8.5			7.5											10.0	9.0	3.0	2.0	8.0			8.5
8- 9	8.0			5.5															3.0	9.0	9.0		
9-10				7.5		6.5	8.5						9.0							3.5	9.5		
10-11		10.5												10.5									9.0
11-12	8.0				7.0	5.5														7.5			
12-13									10.5			10.5			7.5		10.5	9.5	6.0				
13-14				7.0		4.5										8.0		7.0	6.5				9.5
14-15	8.0						8.0											4.0	7.5				
15-16					6.5				10.5									6.0	8.0	2.0	9.5		
16-17					8.5	6.5												9.5	9.0	3.0			9.5
17-18	8.0			6.5															9.5	3.5			
18-19				8.5		6.0														4.5	8.0		
19-20					6.0		7.5									6.0	5.0	10.5		5.0			10.0
20-21	8.0				8.0	5.0										10.5	8.0	7.5		6.0			
21-22			5.0	5.5			11.0	11.0	9.0									11.0	5.0		6.5		
22-23				7.5		4.0		10.5							11.0			2.0		7.5	10.0		10.5
23-24	8.0				5.5			9.5										3.5	2.0	8.0			
24-25					7.5		7.0	9.0										6.5	2.5	9.0			
25-26						6.0		8.5										9.5	3.5	9.5	8.5		10.5
26-27	8.0			7.0			10.5	8.0								8.5			4.5				
27-28						5.0		7.5			10.0							8.5	5.0				
28-29					7.0			7.0										5.0	5.5	6.0			
29-30	8.0					4.5	7.0	6.0					11.0	5.0		8.0	2.5	6.5			10.5		

	W	TY	TY	UX	VV	XZ	ZZ	RU	VV	AG	AH	AH	AK	AW	AW	AZ	AZ	BH	Z	AW	AX	AY	BE
	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VUL	VUL	VUL	VUL	VUL
MAX	9.1	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	10.8	11.0	11.0	9.9
MIN	9.9	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	11.9	12.5	12.9	11.4
DUR	3	3	3	1	3	3	4	4	4	4	4	4	4	3	3	3	3	4	6	5	5	4	5
TOT			(S)								(S)			(S)		(S)							
0- 1	4.5	7.5	3.5	6.0	2.0			11.0	6.0	4.0	5.0			3.0	7.5	5.0							
1- 2	4.5		5.0						3.5			5.5		4.5		6.0	2.0	7.0	11.0				4.5
2- 3	4.5	2.0	6.5	5.5	3.5					2.0	6.0			6.0	2.0	7.0	3.0	2.5		8.5			
3- 4	4.5	3.5	8.0					1.5				6.5	3.0		3.5		4.0			3.5		5.0	
4- 5	4.5	5.5		4.5	4.5	2.5		3.0	6.5		7.0	2.0			5.0		5.5						7.0
5- 6	4.5	7.0	2.5	9.0			2.0	4.0	4.0		2.5			2.0	6.5	2.5	6.5						
6- 7	4.5	8.5	4.0	3.5	6.0			5.5				3.0		3.5		3.5	7.5	4.5	8.5	9.0			
7- 8	4.5		5.5	8.0			9.0	6.5		5.5	3.0			5.0		4.5				4.5			9.5
8- 9	4.5	3.0	7.0	3.0	7.5			7.5	7.0			3.5		6.5	2.5	6.0							
9-10	4.5	4.5		7.0				9.0	4.5	3.5	4.0		2.0		4.0	7.0	3.0						
10-11	5.0	6.0		2.0		5.0		10.0	2.0			4.5	7.0		5.5		4.0	7.0		10.0		11.0	
11-12	5.0	7.5	3.0	6.5						2.0	5.0			2.5	7.0		5.0	2.5	6.5	5.0			
12-13	5.0		4.5						7.5			5.5		4.0		2.0	6.5						
13-14	5.0	2.0	6.5	5.5	3.0				4.5		6.0			5.5		3.5	7.5						
14-15	5.0	3.5	8.0				6.5	2.5	2.0			6.5		7.0	3.0	4.5				10.5			
15-16	5.0	5.0		5.0	4.5	2.5		3.5			7.0	2.0			4.5	5.5		4.5		6.0		6.5	4.0
16-17	5.0	6.5	2.5	9.0				4.5		5.5	2.5		6.0		6.0	7.0	2.5		4.5				
17-18	5.0	8.0	4.0	4.0	6.0			6.0	5.0			3.0		3.0	7.0		4.0						
18-19	5.0		5.5	8.5				7.0	2.5	3.5	3.5			4.5			5.0						6.5
19-20	5.0	2.5	7.0	3.0	7.5			8.5				4.0		6.0		2.0	6.0	6.5		7.0	3.5		
20-21	5.0	4.0	8.5	7.5				9.5		2.0	4.0			7.5	3.0	3.0	7.5	2.0					
21-22	5.0	5.5		2.5		5.0	4.0	10.5	5.5			4.5			4.5	4.5			2.0		4.0		9.0
22-23	5.0	7.0	3.0	6.5					3.0		5.0		5.0	2.0	6.0	5.5							
23-24	5.0		4.5									5.5		3.5		6.5	2.5			7.5	4.5		
24-25	5.0	2.0	6.0	6.0	3.0						6.0			5.0		8.0	3.5	4.0		3.0			
25-26	5.0	3.5	7.5					3.0	6.0	5.5		6.5		6.5	2.0		5.0				5.5		
26-27	5.0	5.0		5.0	4.5	2.5		4.0	3.5			2.0			3.5	2.0	6.0						
27-28	5.0	6.5	2.0					5.5		3.5	2.5				5.0	3.0	7.0						
28-29	5.0	8.0	3.5	4.5	6.0		2.0	6.5				3.0	4.5	2.5	6.5	4.0		6.0	11.0	3.5		6.0	8.0
29-30	5.0		5.0	8.5				7.5	6.0	2.0	3.5			4.0		5.5					6.5		3.0

	BO	BS	BT	BU	CD
	VUL	VUL	VUL	VUL	VUL
MAX	10.4	11.0	11.8	10.6	11.5
MIN	13.3	11.5	12.5	11.4	12.6
DUR	4	3	3	3	4
TOT					

0- 1		9.5	9.0		
1- 2		8.5			4.5
2- 3		7.5		4.0	
3- 4		6.0		7.5	5.5
4- 5		5.0		10.5	
5- 6		4.0			7.0
6- 7		2.5		3.5	
7- 8			5.0	7.0	8.0
8- 9			8.5	10.5	
9-10		10.5			9.5
10-11		9.5		3.5	
11-12		8.5		6.5	10.5
12-13		7.0		10.0	3.0
13-14		6.0			
14-15		5.0			4.0
15-16		3.5	5.0	6.0	
16-17		2.5	8.5	9.5	5.5
17-18					
18-19					6.5
19-20	9.5	10.5		5.5	
20-21		9.5		9.0	8.0
21-22	8.5	8.0			
22-23		7.0			9.0
23-24	7.0	6.0	4.5	5.5	
24-25		5.0	8.0	8.5	10.5
25-26	6.0	3.5			
26-27		2.5			
27-28	4.5			5.0	4.0
28-29				8.0	
29-30	3.0	10.5			5.0

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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)
0- 1	6.0			9.5		6.0			4.0	7.0		8.5		6.5			9.5	3.5				9.5	
1- 2						6.0			3.5	5.0		9.0		9.5			10.0	4.0	8.5				
2- 3	3.0					6.0			3.0	3.5	10.0	9.0					10.5	4.0				2.5	
3- 4	9.0					5.5			3.0			9.5			9.5		10.5	4.5				5.0	
4- 5						5.5			2.5	11.0	6.0	9.5			6.0		11.0	5.0				7.5	
5- 6	6.5			6.5	6.5	5.5				9.0		10.0		6.5				5.0		9.0	10.0		
6- 7						5.5				7.5		10.0		9.5				5.5					7.0
7- 8	4.0			8.5		5.5			5.5	7.5	10.5					4.5		6.0		5.5		7.0	
8- 9	10.0					5.0			4.0		10.5							6.0	3.0				7.5
9-10				11.0	8.5	5.0				2.0		11.0				10.5	7.5					8.0	
10-11	7.5					5.0					8.5			7.0	7.0			7.0					8.0
11-12						5.0				9.5				9.5		11.0		7.0				8.5	
12-13	4.5	5.5		5.5		4.5				8.0								7.5					9.0
13-14	10.5		10.5		10.0	4.5				6.0	9.5						1.5	8.0			4.0	9.5	
14-15	2.0			7.5		4.5		11.0		4.0							2.0	8.0			6.5		9.5
15-16	8.0					4.5		10.5		2.5	5.5		10.5	7.0			2.5	8.5			9.0		
16-17		8.5	10.0	9.5		4.5		10.5			11.0			9.5	8.0		2.5	9.0		10.5			
17-18	5.5					4.0		10.0		10.0			9.5				3.0	9.0					
18-19						4.0		9.5		8.0	7.0						3.5	9.5	7.0	7.0			
19-20	2.5		9.0			4.0		9.5		6.5			9.0				3.5	10.0					6.5
20-21	9.0					4.0	8.0	9.0		4.5				7.0			4.0	10.0		3.5		7.0	
21-22				6.5		4.0	8.0	8.5		3.0	8.0		8.0	9.5			4.5	10.5					7.5
22-23	6.0		8.5			3.5	7.5	8.5							9.0	4.0	4.5	11.0				7.5	
23-24				8.5		3.5	7.5	8.0		10.5			7.5				5.0	11.0				3.0	8.0
24-25	3.5				6.5	3.5	7.5	7.5		8.5	9.5			4.5		7.0	5.5				5.5	8.5	
25-26	9.5		8.0	11.0		3.5	7.5	7.5		7.0			6.5	7.0			5.5		2.0		8.0		8.5
26-27						3.5	7.5	7.0		5.0				10.0		10.5	6.0				10.5	9.0	
27-28	7.0					3.0	7.0	6.5		3.5	10.5		5.5				6.5						9.5
28-29			7.0	5.5	8.5	3.0	7.0	6.5							10.0		6.5						
29-30	4.0					3.0	7.0	6.0		11.0	6.5		5.0	4.5	6.5		7.0			8.5			
30-31	10.5			7.5			7.0	5.5		9.0					7.0		7.5						

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	WW	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	RW	TY	RZ	TV	AB
	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CAP	CAP	CAS	CAS	CAS
MAX	5.7	6.0	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	9.8	10.5	6.4	7.3	10.2
MIN	6.4	6.7	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	10.8	11.6	7.8	8.4	12.2
DUR	5	5	4	3	3	3	3	3	3	3	3	3	5	6	3	5	5	5	5	4	4	4	4
TOT																							
		(S)				(S)		(S)		(S)		(S)						(S)					
0- 1							6.5	2.5		4.5		4.5			4.5			3.0	10.0		4.5		
1- 2							5.5	2.0	7.5	3.5	5.5	2.0			9.0		6.5				9.0		
2- 3							5.0		6.0	2.5	3.0	6.5	6.0					10.0		10.0			
3- 4							4.5		5.0			4.0			3.5	6.0		4.5					6.0
4- 5						9.0	4.0	7.5	4.0		5.0				8.0		8.0						
5- 6							3.0	7.0	2.5	6.5	2.0	6.0		6.0			2.0			6.5			
6- 7							2.5	6.5		5.5	6.5	3.0			3.0			5.5			4.0	7.0	
7- 8	11.0						2.0	5.5		4.0	4.0		5.5		7.0	5.5	9.0		5.0		8.5		8.5
8- 9								5.0	7.0	3.0		5.0					3.5					2.5	
9-10								4.5	5.5	2.0	6.0	2.5			2.0			7.0					
10-11				11.0			7.5	4.0	4.5		3.5	7.0			6.5		10.5						2.5
11-12							7.0	3.0	3.5	7.0		4.5			11.0	5.0	5.0						11.0
12-13							6.5	2.5	2.0	6.0	5.5	2.0	5.5					8.5		9.0	3.5		
13-14							5.5	2.0		5.0	2.5	6.5			5.5			3.0			8.0		
14-15							5.0		7.5	3.5		3.5			10.0		6.5						4.5
15-16							4.5		6.5	2.5	4.5		4.0			5.0		10.0		5.5		8.5	
16-17							3.5	7.5	5.0		2.0	5.5			5.0			4.0					
17-18							3.0	7.0	4.0		6.5	3.0	5.5		9.0			7.5		9.0		4.0	
18-19							2.5	6.5	3.0	6.5	4.0							2.0			3.0		7.0
19-20							2.0	5.5		5.5		5.0			4.0	4.5		5.5			7.5		
20-21								5.0		4.0	6.0	2.5			8.5		9.0						
21-22						10.5		4.5	7.0	3.0	3.5	7.0					3.5						
22-23							7.5	3.5	5.5	2.0		4.5	5.0		3.0			7.0		8.5			9.5
23-24	10.5			11.0			7.0	3.0	4.5		5.0				7.5	4.0	10.5						
24-25							6.5	2.5	3.5	7.0	2.5	6.0					4.5		4.0		2.0	10.0	
25-26			11.0				5.5	2.0	2.0	6.0		3.5		2.5	2.5			8.0		4.5	7.0		3.0
26-27					10.0		5.0			5.0	4.5				6.5			2.5				5.5	
27-28							4.5		7.5	3.5	2.0	5.5	5.0			3.5	6.0						
28-29							3.5	7.5	6.5	2.5	6.5	3.0		9.5				9.5					
29-30							3.0	7.0	5.0		4.0				6.0			4.0		11.0			5.5
30-31			10.5				2.5	6.5	4.0			5.0			10.5		7.5						

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	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)
0- 1	6.5	3.0		7.5	10.0		2.5			10.0				10.5		5.5					3.5	5.0	2.5
1- 2	5.5	2.0	7.0				8.0	7.5			4.5			8.0	6.5				3.0	5.5	4.0		
2- 3	4.5		2.0	8.5	6.5				5.5					6.0	2.5	7.5				6.5	7.5	2.5	5.5
3- 4	3.5	7.5												3.5	9.0	3.5				10.5	9.5		4.5
4- 5	2.5	6.5	10.5	9.5	2.5					6.5		10.0		5.0	10.0	7.0		4.0					3.0
5- 6		5.5	5.5			3.5	2.0									6.0						5.0	2.0
6- 7		4.0		10.5		7.0	7.5					11.0			7.0	2.0					3.0	3.5	
7- 8	7.0	3.0		2.5		11.0					8.5				3.0	8.0		10.0			5.0	2.5	5.0
8- 9	6.0	2.0	8.5					7.5							9.0	4.0				2.0	7.5		4.0
9-10	5.0		3.5	3.5					5.5			9.5	10.0	11.0	5.0					6.0	9.5	5.5	2.5
10-11	4.0							2.0			10.5			8.5		6.0				10.0			4.5
11-12	3.0	6.5		4.5			7.5			5.0				6.0	7.0	2.0	7.5						3.0
12-13	2.0	5.5	7.0									8.5		4.0	3.0	8.0			7.5		3.0	2.0	5.0
13-14		4.5		5.5	7.5	6.0									9.0	4.0		11.0			5.0		3.5
14-15	7.5	3.5				9.5				7.0			9.5		5.0			10.5			7.0	5.0	2.5
15-16	6.5	2.5	10.0	6.5	3.5			8.0				7.0				6.5		10.5			9.5	4.0	
16-17	5.5		5.0				7.0		5.5						7.5	2.5		10.0		5.5		3.0	5.5
17-18	4.5			7.5				2.0		9.5					3.5	8.5		9.5	5.0	9.5			4.5
18-19	3.0	7.0									4.0	6.0			9.5	4.5	7.5	9.5			2.5		3.0
19-20	2.0	6.0	8.5	8.5									9.0	9.0	5.5			9.0			5.0	5.0	2.0
20-21		5.0	3.0			4.5								6.5		6.5		8.5	11.0		7.0	3.5	
21-22		4.0		9.5		8.5	6.5				6.0	4.5		4.0	7.5	2.5		8.5			9.0	2.5	5.0
22-23	6.5	3.0		2.0				8.0						1.5	3.5	8.5		8.0	2.5				4.0
23-24	5.5	2.0	6.5	10.5					5.5						9.5	4.5		7.5		4.5		5.5	3.0
24-25	4.5			3.0	8.5			2.0			8.0	3.5	9.0		5.5			7.0		8.5	2.5	4.5	
25-26	3.5	7.5														6.5	8.0	7.0	8.5		4.5	3.5	
26-27	2.5	6.5	10.0	4.0	5.0		6.0								8.0	3.0		6.5			6.5	2.0	5.0
27-28		5.5	4.5			3.5					10.0	2.0			4.0	9.0		6.0			9.0		3.5
28-29		4.5		5.0		7.5				4.5					9.0	10.0	5.0		6.0		11.0	5.5	2.5
29-30	7.0	3.0						8.0					8.5	7.0	6.0			5.5				4.0	
30-31	6.0	2.0	8.0	6.0					5.5					4.5	2.0	7.0		5.0	6.0	4.0	2.0	3.0	

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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			3.0		3.0		6.5							2.0	6.5	2.5	2.0		8.5			
1- 2	2.5		4.0		2.5								7.0				2.0	10.0	7.0	7.0			8.5
2- 3	3.0			4.5	5.0	2.5			3.0							3.5				5.5			
3- 4	3.5		5.5		2.5	5.0		4.0		2.5					9.5	10.0			4.5	4.0			6.5
4- 5	4.0				5.0	2.0							7.0				2.0	11.0	3.0				
5- 6	4.0			2.0	2.0	4.5		8.5								7.0		10.0	2.0				4.5
6- 7	4.5		3.0		4.5	2.0	3.5	2.0											8.5				
7- 8	5.0			3.5	1.5	4.5							7.0			4.5				10.0		10.0	2.5
8- 9	5.5		4.5		4.0			6.0		3.5				5.0		10.5		2.0	6.0	8.5			9.5
9-10	5.5			5.0		4.0			2.5									10.0		7.0			
10-11		2.0			4.0					2.0	3.0		7.0			8.0			3.5	5.5		3.5	7.5
11-12		2.5	2.0			3.5		4.0											9.5	4.0			
12-13		2.5		2.5	3.5											5.0		1.5		3.0			5.5
13-14		3.0	3.5			3.5		8.0			3.0		7.0		8.5			9.5	7.0		8.5		
14-15		3.5		4.0	3.0											2.5							4.0
15-16		4.0	5.0			3.0				3.0						8.5			4.5	10.0			10.5
16-17		4.0		5.5	3.0			6.0	2.5		2.5		7.0						11.0	8.5	4.5		2.0
17-18		4.5				2.5								8.5		6.0		9.5	2.0	7.0			8.5
18-19		5.0	2.0		2.5	5.0													8.0	5.5		9.0	
19-20		5.5		3.0	5.0	2.5		3.5			2.5		6.5			3.0				4.5			7.0
20-21		5.5	3.5		2.0	5.0										9.0	11.0		5.5	3.0			
21-22	2.0			4.5	4.5	2.0		8.0	3.5								10.5	9.5				3.0	5.0
22-23	2.5		5.5		2.0	4.5				2.5	2.0		6.5			6.5	9.5		3.0				
23-24	2.5				4.5				2.0						7.5		9.0		9.5	10.0			3.0
24-25	3.0			2.0		4.0		5.5								3.5	8.0			8.5			10.0
25-26	3.5		2.5		4.0						2.0	2.0	6.5			10.0	7.5	9.5	7.0	7.0			
26-27	4.0			3.5		4.0											6.5			5.5			8.0
27-28	4.0		4.0		3.5			3.5								7.0	6.0		4.5	4.5			
28-29	4.5			5.0		3.5			3.0				6.5				5.0		10.5	3.0			6.0
29-30	5.0		5.5		3.5			8.0		2.5						4.5	4.5	9.5				8.5	
30-31	5.5					3.0	7.5									10.5	3.5		8.0		9.5		4.0

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	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	SZ	TU	UX	CC	CT
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	HER	HER	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	10.2	10.6	8.9	9.5	9.9
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	12.0	13.4	9.8	12.8	11.2
DUR	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5	5	4	4	5	5	4	4
TOT								2							1					1			
				(S)		(S)											(S)						
0- 1	6.5			10.5			5.0			5.0	10.0			2.5									
1- 2	3.0	11.0	3.0				8.5			10.0	5.0			5.0									
2- 3		8.5			7.5							8.0	5.5	7.5			4.0	4.0			2.5		
3- 4		6.0		5.5								2.5		10.0				8.5	8.0				
4- 5		3.0					5.0	3.5			9.5								3.5	6.0			
5- 6	10.5		7.5			8.5	8.0				4.5	11.0					10.0				5.0		
6- 7	7.0									4.0		6.0	7.5	4.0								3.5	6.5
7- 8	3.5			9.5						8.5				6.5	9.5				10.0				
8- 9			2.0				4.5				8.5			9.0				4.0	6.0		7.0		
9-10					8.5		8.0		9.0		3.5	9.0						8.5					
10-11		9.0		4.5								3.5	9.0		5.0	7.5							
11-12	10.5	6.5												3.0							9.5	8.0	
12-13	7.5	3.5	6.5			9.5	4.5		6.0	3.0	7.5			5.5					8.0				
13-14	4.0						8.0			7.5	2.5	7.0	2.0	8.0					3.5	7.5		2.0	
14-15				8.5									11.0	10.5				3.5					
15-16									3.0								5.0	8.5					5.0
16-17			10.5		9.5		4.5				7.0	10.0		2.0					10.0				
17-18	11.0			3.5		2.5	8.0				2.0	5.0	4.0	4.5					5.5				
18-19	7.5	9.5												7.0								6.5	
19-20	4.0	7.0	5.5			10.5				6.5	11.0			9.5							3.5		
20-21		4.0					4.5				6.0	8.0				2.5		3.5		3.0			
21-22				7.5	2.0		7.5					3.0	5.5		10.5			8.5	8.0				
22-23							11.0							3.5					3.5	9.5	5.5		8.5
23-24			9.5		10.5			8.5			10.0			6.0		8.5							
24-25	8.0			2.5		3.5	4.0				5.0	6.0		8.5	6.0								3.5
25-26	4.5						7.5			5.5			7.5	10.5					10.0		8.0	5.0	
26-27		10.0	4.5				11.0					10.0						3.5	5.5				
27-28		7.5									9.5	9.5		2.5				8.0					
28-29		4.5		6.5	3.0		4.0	4.0			4.5	4.0		5.0		6.0					10.5		
29-30		2.0					7.5						9.0	7.5						4.5			
30-31	8.0		8.5				11.0							9.5					8.0				



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	SW	SW	VX	CM	CO	CO	Y	UV	VZ	T	SS	DELT	RY	UZ	EW	FL	U	SX	V508	V839	1010	ET	U
	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LMI	LIB	LIB	LYN	LYR	LYR	LYR	OPH	OPH	OPH	OPH	OPH	ORI	PEG
MAX	9.2	9.2	10.9	8.5	10.5	10.5	9.5	9.5	10.6	10.2	10.4	4.8	11.9	9.8	11.2	8.7	5.8	10.5	10.1	8.8	6.2	11.2	9.7
MIN	10.0	10.0	12.3	9.5	11.0	11.0	12.7	10.2	11.7	12.6	11.3	5.9	13.3	11.0	13.6	9.5	6.5	11.2	10.7	9.4	7.0	12.4	10.5
DUR	3	3	4	4	5	5	5	3	4	6	6	7	4	5	5	4	5	5	3	3	4	5	3
TOT																							
			(S)																				
0- 1	5.0											3.5			3.0	5.0				2.5	7.5		
1- 2	4.0	7.5			3.0			3.0		2.5								6.5	3.0	3.0	2.0		
2- 3	3.0	6.5		3.0												9.5				4.0	8.5		8.0
3- 4		5.5				10.0											7.0			5.0	4.0		
4- 5		4.5			5.0			3.0		3.0										5.5	9.5	10.5	
5- 6		3.5		8.0			2.5				4.0				4.0					6.5	5.0		8.0
6- 7	7.0	3.0																		7.5			
7- 8	6.0				7.0			3.0		3.5		3.0								8.0	6.0		
8- 9	5.0		2.5														7.5				2.0		7.5
9-10	4.5		4.5																				
10-11	3.5	7.0	6.5	3.5	9.0			3.0															
11-12		6.0	8.0			3.0							2.5			2.5				3.0	8.5		7.5
12-13		5.0	10.0																	4.0	4.0	8.0	
13-14		4.0		8.5	11.0			3.0								6.5	8.5			5.0	9.5		
14-15	7.5	3.0				5.0						2.5								5.5	5.0	7.5	7.5
15-16	6.5										5.5					11.0				6.5			
16-17	5.5							3.0												7.5	6.0	7.0	
17-18	4.5					7.0														8.0	2.0		7.5
18-19	4.0	7.5		4.0	2.0						2.5			9.5			9.0				7.0	6.5	
19-20	3.0	6.5						3.0															
20-21		5.5				9.0																	
21-22		4.5		9.0	4.0							2.0	3.5								3.0	4.0	
22-23		3.5						3.0													4.0	9.5	6.0
23-24	7.0	2.5	4.0			11.0														5.0	5.0		7.5
24-25	6.0		5.5		6.0									2.0		4.0				5.5		5.5	
25-26	5.0		7.5					3.0								11.0				6.5	6.0		
26-27	4.5		9.0	4.5													2.0			7.5	1.5	5.0	7.5
27-28	3.5	7.0	11.0		8.0										9.5					8.0	7.0		
28-29		6.0				2.0		3.0			4.5							2.5			3.0	5.0	
29-30		5.0		9.5												8.5					8.5		7.5
30-31		4.0			10.0												3.0	4.0	2.5	4.0	4.5		

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

	WY	V	X	RV	W	W	TX	TY	TY	UX	VV	XZ	ZZ	RU	VV	AG	AH	AH	AK	AW	AW	AZ	AZ
	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR	VIR
MAX	11.5	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	10.8	11.0	11.0
MIN	11.7	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	11.9	11.8	11.8
DUR	4	4	4	4	3	3	6	3	3	1	3	3	4	4	4	4	4	4	4	3	3	3	3
TOT																							
						(S)			(S)									(S)		(S)		(S)	
0- 1					5.0			2.5	6.5	3.5			9.0	9.0	3.5			4.0		5.5			2.5
1- 2					5.0		1.5	4.0	8.0	8.0				10.0				4.5				2.5	3.5
2- 3	10.5	9.0			5.0			5.5		2.5								4.5				4.0	4.5
3- 4					5.5			7.0	3.0	7.0												5.5	6.0
4- 5			10.5		5.5		3.5		4.5	2.0					4.0					3.5	3.0		3.0
5- 6		7.0	10.0		5.5				6.0	6.5	3.0			2.0							4.5		4.0
6- 7		11.0	9.5		5.5			3.0	7.5					3.5		3.5							5.0
7- 8			8.5		5.5		5.0	4.5		5.5	4.5	2.5	6.5	4.5				2.0				3.0	2.0
8- 9			8.0	6.0	5.5			6.0	2.0					6.0	4.5	2.0	2.5				4.5		3.5
9-10		9.5	7.0		5.5			7.5	3.5	4.5				7.0	2.0			3.0			1.5		4.5
10-11			6.5		5.5				5.0	9.0				8.0				3.5		3.0	3.0		5.5
11-12	10.5			6.5	5.5			2.0	6.5	4.0				9.5				4.0			4.5		2.5
12-13		7.5			5.5			4.0	8.0	8.0				10.5	4.5			4.5				2.0	4.0
13-14					5.5			5.5		3.0					2.0				5.0			3.5	5.0
14-15				7.0	5.5			7.0	2.5	7.5			4.0									5.0	2.0
15-16		6.0			5.5				4.0	2.5						3.5					2.0		3.0
16-17		10.0			5.5				5.5	6.5	3.0			3.0	5.0					2.0	3.5		4.5
17-18				7.5	5.5			3.0	7.0					4.0	2.5		1.5				5.0		5.5
18-19					5.5			4.5		6.0	4.5	2.5		5.0				2.0				2.5	2.5
19-20		8.0			5.5			6.0						6.5			2.5					4.0	3.5
20-21	10.5			7.5	5.5			7.5	3.0	5.0				7.5	5.5			3.0				5.5	5.0
21-22					5.5				5.0					9.0	3.0			3.5			2.5		2.0
22-23		6.5			5.5			2.0	6.5	4.0				10.0				4.0			4.0		3.0
23-24		10.5		8.0	5.5			3.5	8.0	8.5			9.0					4.5			5.5		4.0
24-25					5.5			5.0		3.5						3.5						3.0	5.5
25-26					5.5			6.5	2.5	7.5					3.0							4.5	2.5
26-27		8.5		8.5	5.5	1.5		8.0	4.0	2.5				2.0									3.5
27-28					6.0	2.0			5.5	7.0	3.0			3.5						3.0			4.5
28-29					6.0	2.0		2.5	7.0	2.0				4.5			2.0			4.5			6.0
29-30	10.5	7.0		8.5	6.0	2.0		4.0		6.0	4.5	2.5		6.0	3.5			2.5				2.0	3.0
30-31		11.0			6.0	2.0		5.5					6.5	7.0				2.5				3.5	4.0

	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								9.5			
1- 2			9.0	7.0			2.0	8.0	4.5	4.5	6.5
2- 3			4.5		4.0	5.5		7.0	8.0	8.0	
3- 4	3.5	8.5		7.5				6.0		11.0	7.5
4- 5								4.5			
5- 6			10.0	8.5		8.0		3.5		4.0	9.0
6- 7			5.0					2.5		7.5	
7- 8	5.5			9.0						10.5	10.0
8- 9		6.5				10.5					2.5
9-10			10.5	9.5	9.5			10.5	4.0	3.5	
10-11			6.0					9.0	7.5	7.0	4.0
11-12				10.0				8.0	11.0	10.5	
12-13	3.5							7.0			5.0
13-14		4.5		10.5		2.5		5.5		3.5	
14-15			7.0		5.5			4.5		6.5	6.0
15-16			2.0					3.5		10.0	
16-17	5.5					5.0		2.0			7.5
17-18									4.0	3.0	
18-19		2.0	7.5						7.0	6.0	8.5
19-20			3.0			7.5		10.0	10.5	9.5	
20-21								9.0			10.0
21-22	3.0				11.0			8.0		2.5	2.5
22-23			8.5			10.0		7.0		6.0	11.0
23-24			3.5					5.5		9.0	3.5
24-25							10.5	4.5			
25-26	5.0	11.0						3.5	3.5	2.0	5.0
26-27			9.0		7.0		9.0	2.0	7.0	5.5	
27-28			4.5						10.5	8.5	6.0
28-29							7.5				
29-30								10.0			7.0
30-31	2.5	9.0	10.0			4.0	6.5	9.0		5.0	

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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	1.5		6.5			3.0	6.5	5.5		7.5		4.5	4.0	10.0			7.5	1.5		5.0		6.0	
1- 2	7.5			9.5	10.0	2.5	6.5	5.0		5.5	7.5	4.5					8.0	2.0					6.5
2- 3						2.5	6.5	5.0		3.5		5.0	3.5				8.5	2.0			2.0	6.5	
3- 4	5.0		6.0			2.5	6.5	4.5		2.0	3.5	5.0		4.5	11.0		8.5	2.5			4.5		7.0
4- 5	11.0			4.5		2.5	6.5	4.0			9.0	5.5	2.5	7.5	7.5		9.0	3.0	6.0		7.0	7.5	
5- 6	2.0					2.0	6.0	4.0		9.5		5.5		10.0	4.0		9.0	3.0			9.5		8.0
6- 7	8.5		5.5	6.5		2.0	6.0	3.5		7.5	5.0	6.0	1.5			3.0	9.5	3.5				8.0	
7- 8						2.0	6.0	3.0		6.0	10.0	6.0					10.0	4.0					8.5
8- 9	5.5			8.5	5.0	2.0	6.0	3.0		4.0		6.5		4.5		6.5	10.0	4.0				9.0	
9-10			4.5			2.0	6.0	2.5		2.5	6.0	6.5		7.5				4.5		10.0			9.0
10-11	3.0	2.0		11.0		1.5	5.5	2.0			11.5	7.0		10.0		8.5	10.0	5.0				9.5	4.5
11-12	9.0			3.5		1.5	5.5	2.0		10.0		7.0			5.0			5.0		6.5		5.0	
12-13			4.0		6.5	1.5	5.5	1.5		8.0	7.0	7.5						5.5					5.5
13-14	6.5			5.5		1.5	5.5			6.5		7.5		5.0				6.0		3.0	3.5	6.0	
14-15		5.0				1.5	5.5			4.5		8.0		7.5				6.0			6.0		6.0
15-16	3.5		3.5	7.5			5.0			3.0	8.5	8.0		10.0				6.5			8.5	6.5	
16-17	10.0				8.5		5.0					8.5			9.5			6.5					7.0
17-18				9.5			5.0			10.5	4.5	8.5			6.0			7.0				7.0	
18-19	7.0	8.0					5.0		11.5	8.5	9.5	9.0		5.0			1.5	7.5					7.5
19-20							5.0		11.0	7.0		9.0		7.5			1.5	7.5				8.0	
20-21	4.5			4.5	10.0		4.5		10.5	5.0	5.5	9.5		10.0				2.0	8.0				8.5
21-22	10.5						4.5		10.5	3.0	11.0	9.5				2.5	2.5	8.5	5.0			8.5	
22-23	1.5	11.0		6.5			4.5		10.0	1.5		10.0			10.5		2.5	8.5		8.0			9.0
23-24	8.0				3.0		4.5		9.5	11.0	7.0	10.0		5.0	7.0	6.0	3.0	9.0			2.5	9.5	4.5
24-25				8.5			4.0		9.5	9.0		10.5		7.5			3.5	9.5		4.5	5.0	5.0	9.5
25-26	5.0						4.0		9.0	7.0		10.5		10.5		9.0	3.5	9.5			7.5		5.0
26-27	11.5		11.0				4.0		8.5	5.5	8.0	11.0					4.0	10.0			10.0	5.5	
27-28	2.5			3.5	5.0	8.0	4.0		8.5	3.5		11.0		2.5				4.0					6.0
28-29	8.5					8.0	4.0		8.0	2.0	4.0	11.5		5.0	11.0			4.5				6.5	
29-30			5.5			7.5	3.5		7.5		9.0			7.5	8.0			5.0					6.5
30-31	6.0					7.5	3.5		7.5	9.5				10.5	4.5			5.0					7.0

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	WW	WW	AP	AP	AR	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	AK	
	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CAM	
MAX	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	6.8	10.6	8.6	10.5	11.6	11.6	10.1	
MIN	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	7.6	12.4	9.4	11.3	11.8	11.8	11.5	
DUR	5	5	4	4	5	5	4	3	3	3	3	3	3	3	3	3	5	6	3	5	5	5	4	
TOT		(S)		(S)		(S)				(S)		(S)			(S)								(S)	
0- 1		11.0	11.0							9.5	2.0	5.5	3.0	6.5	6.0	2.0				3.5	2.0	11.0		
1- 2												5.0	1.5	5.5	3.0	7.0	4.5		5.0	11.5			5.5	
2- 3				10.5								4.5		4.5		4.0			9.5		9.0			
3- 4												3.5		3.0	5.0	1.5					3.0			
4- 5			10.5				10.0					3.0	6.0	2.0	2.5	6.0			4.0	3.0			6.5	
5- 6								11.0	9.0			2.5	4.5		7.0	3.5			8.5	11.0	10.0			
6- 7				10.5							5.5	1.5	3.5		4.5		4.5					4.5		
7- 8											5.0		2.5	6.0	2.0	5.5		7.5	3.5				8.0	
8- 9			10.0						10.0			4.5		5.0	6.5	3.0			8.0	2.5	11.5		2.5	
9-10							9.5					3.5		4.0	3.5					10.5	6.0			
10-11				10.0						8.5	3.0		6.5	2.5		4.5				2.5			9.5	
11-12								9.0				2.5		5.0	1.5	5.5	2.0	4.5		7.0			3.5	11.0
12-13			10.0								1.5	5.5	4.0		3.0	6.5				11.5	2.5	7.0		
13-14												5.0	3.0	6.5		4.0				1.5	10.0	1.5	10.5	
14-15				9.5			8.5					4.5	2.0	5.5	5.0	1.5			6.0				5.0	
15-16									8.5			3.5		4.5	2.5	6.0				10.5		8.5		
16-17			9.5									3.0		3.0	7.0	3.5	4.0				2.0	3.0		
17-18									11.5			2.5	6.0	2.0	4.5			5.5	5.5	10.0			6.5	
18-19				9.5				11.0			5.5	1.5	4.5		1.5	5.5				10.0		10.0		
19-20	9.5				7.5		8.0				5.0		3.5		6.0	2.5						4.5		
20-21			9.0							8.0	4.5		2.5	6.0	3.5					4.5	1.5		8.0	
21-22						9.0		10.0			3.5			5.0		4.5	4.0			9.0	9.5	11.5	2.0	
22-23									11.0			3.0		4.0	5.5	2.0						5.5		
23-24					10.5						2.5		6.5	2.5	3.0	6.5				3.5			9.0	
24-25	10.5						7.5	9.0			1.5	5.5	5.5	1.5		4.0				8.0			3.5	
25-26									7.5			5.0	4.0		5.0	1.5					9.0	7.0		
26-27											4.5	3.0	7.0	2.5	6.0	4.0			3.0		1.5	10.5		
27-28									10.5		3.5	2.0	5.5	7.0	3.0			3.5	7.5				5.0	
28-29											3.0		4.5	4.0								8.5		
29-30							7.0				2.5		3.5	1.5	5.0					2.0	8.5	2.5		
30-31											5.5	1.5	6.0	2.0	6.0	2.5		11.0	6.5				6.0	

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	RW	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ	XX	DK
	CAP	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP	CEP	CEP
MAX	9.8	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	10.8	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	5	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)		
0- 1			6.5			5.0		3.0				5.5	2.0		6.5				2.0	8.0	3.0		5.0
1- 2		7.5	11.0			4.0			7.0											4.0	9.0	8.0	4.5
2- 3				11.5	8.0	3.0	6.5	11.5														5.0	4.0
3- 4	8.0					2.0	5.5	6.5	8.0		2.5				8.5		11.0	8.0		6.0			4.0
4- 5		4.0		7.0			4.5			10.0	6.0					3.0				2.0	7.0		3.5
5- 6					1.5	7.5	3.5		9.0		10.0	5.5	8.0								8.0	3.0	3.0
6- 7			6.0	2.5	10.5	6.5	2.5	9.5	1.5	6.0		11.0		5.5	10.5		9.5		9.5	4.0	9.5		3.0
7- 8			10.5			5.5	1.5	4.5	10.0				2.0			5.5			7.0		5.5		2.5
8- 9						4.5			2.5	2.0								8.0	5.0	6.5	1.5	8.5	2.0
9-10				4.0	3.0	7.0		11.0									8.5		2.5	2.5	7.5		2.0
10-11	3.0				2.0	6.0	8.0	3.5			5.0					7.5				8.5	3.5		1.5
11-12		6.5				5.0	2.5				5.0	11.0			2.0						4.5	9.5	
12-13			5.0			4.0		4.5			9.0		8.0				7.0					5.5	
13-14			10.0	8.5	6.5	6.5	3.0	11.0						6.0		9.5		7.5		6.5	1.5		
14-15		3.0				5.5	2.0	6.0	5.5				2.0		4.0						2.5	7.5	
15-16			4.0			4.5				11.0		4.5					6.0	10.0	8.5	3.5	8.5		
16-17						3.5	7.5		6.5			10.5				11.5			7.5	4.5	9.5		
17-18				9.0	2.5	6.5	9.5		7.0					6.0					5.0		5.5		
18-19		9.5	4.5			1.5	5.5	4.0	7.5		4.0						4.5	7.0	2.5	7.0	2.0		
19-20			9.5			4.5				3.5	7.5		8.0								3.0	8.0	
20-21	7.5				2.5	7.0	3.0		8.5		11.5	4.0		6.0	8.0						9.0	4.0	
21-22		5.5			11.0	6.0	2.0	7.5			10.0	2.0				2.5	3.0				5.0	10.0	
22-23				10.0		5.0		2.5	9.5												6.0	9.0	
23-24						4.0			2.0					10.0			7.0			7.0	2.0		
24-25		2.0	4.0	5.5	5.0	3.0	6.5	11.0	10.5							4.5	2.0		10.0	3.0	8.0		
25-26			8.5			2.0	5.5	5.5	3.0		2.5	3.5							8.0	9.0	4.0		
26-27						4.5		11.5			6.5	9.5	8.0						5.5	5.0			
27-28	2.0					7.5	3.5		4.0		10.0			6.0		6.5			3.0		6.0		
28-29		8.5		7.5	6.5	2.5	9.0		8.5				2.0					6.5		7.0	2.0		
29-30						5.5	1.5	4.0	5.0												3.5	8.5	9.5
30-31			3.5			4.5				4.5		3.0				9.0					9.5	4.5	

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	DL	DV	EG	RW	RW	RZ	RZ	SS	SS	CC	CC	U	RW	W	RV	RV	Y	SW	WW	ZZ	AE	BR	CG
	CEP	CEP	CEP	COM	COM	COM	COM	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CYG	CYG	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	9.0	9.0	7.0	9.3	9.9	10.7	11.8	9.4	11.0
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	10.0	10.0	7.6	11.8	13.2	12.0	12.8	10.5	11.8
DUR	5	4	3	3	3	3	3	4	4	2	2	5	4	4	4	4	6	5	5	4	4	4	3
TOT																							
					(S)			(S)		(S)				(S)		(S)	(S)						
0- 1		8.0	4.5	1.5				1.5		2.5	3.0				1.5		6.5	1.5		1.5	3.0		
1- 2			6.5		3.5		2.0	3.0			3.0		5.5							8.0	2.0	1.5	5.5
2- 3			8.5		2.0		2.5		4.0	2.5									6.0		1.5	9.5	
3- 4			11.0	3.5			3.0				2.5					6.0				5.0			3.0
4- 5	3.5			2.5			3.0			2.5			3.5							11.5			9.0
5- 6			2.0	1.5			3.5				2.0									2.5		1.5	
6- 7		3.5	4.0		3.0			2.0		2.0		5.0					6.0			8.5		9.5	6.5
7- 8	9.5	7.0	6.5		1.5			2.5			2.0												
8- 9		11.0	8.5	3.5				3.5		1.5										6.0			4.0
9-10			10.5	2.0							1.5		5.5				6.0	5.0				1.5	10.5
10-11					3.5	1.5					1.5									3.0		9.5	1.5
11-12			2.0		2.5	1.5														9.5			8.0
12-13	7.0		4.0		1.5	2.0			1.5				3.0				6.0		5.0				
13-14		2.5	6.0	3.0		2.5		2.5				3.0								6.5		1.5	5.0
14-15		6.5	8.0	1.5		3.0			3.0		3.5											9.5	11.5
15-16		10.5	10.5		3.5	3.0				3.0							6.0			4.0			2.5
16-17					2.0	3.5					3.0									10.0			9.0
17-18	4.5		1.5	4.0						3.0			5.0										
18-19			3.5	2.5				1.5			2.5						6.0	8.5		7.0		9.0	6.5
19-20			6.0	1.5					2.0	2.5				1.5									
20-21	10.5	2.0	8.0		3.0			3.0			2.5		3.0							4.5	11.5		4.0
21-22		6.0	10.0		2.0		1.5		3.5	2.0							5.5			10.5	10.5		10.0
22-23	2.0	10.0		3.5			1.5			2.0			7.0						4.0	1.5	10.0	9.0	1.5
23-24			1.5	2.0			2.0			2.0										8.0	9.0		7.5
24-25			3.5		4.0		2.5				1.5						5.5				8.5		
25-26	8.0		5.5		2.5		3.0	1.5		1.5			5.0						11.5	5.0	7.5		5.0
26-27			8.0		1.5		3.0		2.5		1.5									11.5	7.0	9.0	11.5
27-28		1.5	10.0	3.0			3.5	3.0									5.5			2.5	6.0		2.5
28-29		5.0		2.0									2.5			1.5				8.5	5.5		9.0
29-30		9.0			3.5																4.5		
30-31	5.5		3.5		2.0					3.5			7.0				5.5			6.0	4.0	9.0	6.0



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	DK	KV	V346	V387	V388	V456	V466	V466	V477	V477	V704	W	TT	TY	YY	FZ	Z	RZ	TW	UZ	UZ	AI	TZ
	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	DEL	DEL	DEL	DEL	DEL	DRA	DRA	DRA	DRA	DRA	DRA	ERI
MAX	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	7.2	9.8
MIN	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	8.2	12.6
DUR	4	5	5	3	3	3	4	4	4	4	4	7	5	4	4	3	4	3	5	5	5	4	4
TOT												2							1				1
									(S)	(S)												(S)	
0- 1	10.0			11.0	5.0					4.5				4.5	8.5	7.5							
1- 2	8.5		2.5	2.5	1.5			10.5			4.0		8.0	9.0	3.5	2.0	2.5	1.5				3.0	
2- 3	7.0	5.5		9.0				3.5			7.5						11.0	4.0		3.5		8.0	
3- 4	6.0					10.5					11.0				10.5			6.0					10.0
4- 5	4.5			7.0		8.0		5.5	4.0				5.0		7.5	5.5		8.5	11.0				
5- 6	3.0	1.5			8.5	5.0					4.0				2.5		4.0	11.0		9.5			
6- 7	1.5			5.5	5.0	2.5	7.5				7.0			3.5									
7- 8					2.0					5.5	10.5		2.0	8.0		8.5		3.0	6.5				3.0
8- 9	10.0			3.5				9.5							7.0	3.0		5.0					8.0
9-10	8.5		8.0	10.0			2.5				3.5				2.0		6.0	7.5					
10-11	7.0			1.5							7.0							10.0	2.0		7.0		
11-12	6.0			8.5	9.0	11.0		4.5	5.0		10.5				11.0	6.5							
12-13	4.5		1.5		5.5	8.5								2.5	6.0			2.0					
13-14	3.0			6.5	2.0	5.5	6.5				3.5			7.0			7.5	4.0				3.0	
14-15	1.5					3.0				6.5	7.0			11.5		9.5		6.5					7.5
15-16				4.5				8.5			10.5				10.0	4.5		9.0		4.5			
16-17	10.0	10.0		11.5			1.5					9.5			5.0			11.5					11.0
17-18	8.5			2.5	9.0		10.5				3.5						9.0						
18-19	7.5			9.5	6.0			3.5	6.0		7.0					7.5		3.0		11.0			
19-20	6.0	6.5			2.5	11.5					10.5			6.0	9.0	2.5		5.5					3.0
20-21	4.5		7.5	7.5		9.0	5.5							10.5	4.5		2.5	8.0			2.0	7.5	
21-22	3.0				6.0					7.0	3.5	5.0	10.5				11.0	11.0	10.5	7.5			
22-23	1.5	2.5		5.5		3.5		7.5			7.0						5.5						
23-24					9.5						10.0				8.5			2.0				8.0	
24-25	10.0			4.0	6.0		9.5						7.5		3.5		4.0	4.5	3.0				
25-26	8.5			10.5	2.5			2.5	7.0		3.0			5.0		9.0		7.0					2.5
26-27	7.5			2.0							6.5			9.5		3.5		9.5					7.5
27-28	6.0			8.5			4.5				10.0		4.5		7.5								
28-29	4.5					9.5				8.0					2.5		6.0			5.5			
29-30	3.0			7.0	10.0	6.5		6.5			3.0					7.0		3.5					
30-31	1.5				6.5	4.0					6.5		1.5			1.5		6.0					

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	RW	AF	SZ	TU	UX	CC	CT	SW	SW	VX	CM	CO	CO	RR	SS	RY	UZ	EW	FL	U	SX	V508	V839
	GEM	GEM	HER	HER	HER	HER	HER	LAC	LAC	LAC	LAC	LAC	LAC	LEP	LIB	LYN	LYR	LYR	LYR	OPH	OPH	OPH	OPH
MAX	9.6	10.2	10.2	10.6	8.9	9.5	9.9	9.2	9.2	10.9	8.5	10.5	10.5	10.2	10.4	11.9	9.8	11.2	8.7	5.8	10.5	10.1	8.8
MIN	11.6	11.3	12.0	13.4	9.8	12.8	11.2	10.0	10.0	12.3	9.5	11.0	11.0	10.9	11.3	13.3	11.0	13.6	9.5	6.5	11.2	10.7	9.4
DUR	5	4	4	5	5	4	4	3	3	4	4	5	5	4	6	4	5	5	4	5	5	3	3
TOT	1			1																			
										(S)			(S)										
0- 1			3.5				7.0	7.5	3.0				4.0	1.5			7.0					3.0	
1- 2						3.5		6.5	2.5												5.5	4.0	5.0
2- 3					2.0		1.5	5.5	1.5									6.0				5.0	
3- 4		11.5						4.5			5.0		6.0		1.5							5.5	6.0
4- 5			5.5					4.0	7.0								10.0	5.0	1.5	4.0		6.5	1.5
5- 6			1.5		4.0			3.0	6.5													7.5	7.0
6- 7								2.0	5.5	3.0	10.0		8.0				7.5	3.5	5.5			8.0	3.0
7- 8				6.0					4.5	5.0		3.0											8.0
8- 9		10.5	8.0		6.5	2.0			3.5	6.5							5.0	2.5	10.0			1.5	4.0
9-10			3.5				5.0	7.0	2.5	8.5			10.0	11.0						4.5		2.5	
10-11								6.0	2.0	10.0		5.5			3.0		2.5					3.0	5.0
11-12								5.0				5.5										4.0	
12-13								4.0	7.5													5.0	6.0
13-14		10.0	5.5					3.5	7.0				7.5									5.5	1.5
14-15			1.5	1.5				2.5	6.0		10.5									5.5		6.5	7.0
15-16	9.5							1.5	5.0													7.5	2.5
16-17				8.0					4.0			9.5										8.0	8.0
17-18			8.0					7.5	3.0				3.5		10.0				3.0				4.0
18-19			3.5				3.5	6.5	2.0													1.5	
19-20					3.0			5.5	1.5		6.5	11.5							7.5	6.0		2.5	5.0
20-21						5.5		4.5		2.0			5.5	10.5	4.5							3.0	
21-22								4.0	7.0	4.0							10.5					4.0	6.0
22-23			5.5		5.0			3.0	6.5	6.0	11.5											5.0	1.5
23-24			1.5	3.0				2.0	5.5	7.5			7.5	1.5		8.0						5.5	7.0
24-25								4.5	9.5	2.0	2.5									7.0		6.5	2.5
25-26					7.5		7.0		3.5	11.0						5.5						7.0	8.0
26-27			8.0					7.0	2.5				9.5									8.0	4.0
27-28			3.5			4.0	2.0	6.0	1.5		7.0	4.5			11.0	3.0							
28-29								5.0														1.5	5.0
29-30								4.0	7.5				11.5									2.0	
30-31								3.5	6.5			6.5							4.5		2.5	3.0	6.0

	1010	EQ	ER	ER	ET	FL	FT	GU	GU	U	U	TY	AQ	BB	BB	BX	DI	GP	RT	RV	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	10.6	10.3	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	12.0	12.7	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	4	8	5	4	8
TOT													4								1		
				(S)					(S)		(S)						(S)						
0- 1								10.0		4.5	9.0				4.5	3.5	7.5	11.0	7.0				
1- 2	4.0									7.5	3.0			2.0	6.5	6.5		10.5					
2- 3											6.0			4.0	8.5	2.5	11.0	9.5					
3- 4	3.5	9.5		9.5						4.5	9.0			6.0	2.0	5.5	4.0	9.0				6.0	
4- 5								10.0		7.5				8.0	4.0	1.5		8.5				10.0	
5- 6	3.5										6.0	2.5		1.5	6.0	4.5	7.0	8.0	9.5				
6- 7					10.0					4.5	9.0			3.5	8.0			7.5	6.0		7.0		
7- 8	3.0									7.5				5.5		3.5	10.5	7.0					
8- 9								10.0			6.0	4.5		7.5	3.5	6.5	3.5	6.0					
9-10	2.5									4.5	9.0				5.5	3.0		5.5					
10-11		9.0	9.5							7.0			3.5	3.0	7.5	6.0	6.5	5.0					
11-12	2.0										5.5	7.0		5.0		2.0		4.5	8.0			7.5	11.0
12-13					10.5			10.0		4.0	8.5			7.0	2.5	5.0	10.0	4.0	4.5			11.5	
13-14	2.0				9.0					7.0					4.5		3.0	3.5					
14-15				10.0							5.5	9.0		2.5	6.5	4.0		2.5			5.5		8.0
15-16	1.5									4.0	8.5			4.5			6.5	2.0					
16-17								10.0		7.0				6.5	2.0	3.0		1.5	10.5				
17-18											5.5	11.5		8.5	4.0	6.0	9.5		7.0				5.0
18-19										4.0	8.5			2.0	6.0	2.0	2.5					5.5	
19-20										7.0				4.0	8.0	5.0						9.0	
20-21						9.0	10.5		10.0		5.5			6.0	1.5	1.5	6.0						
21-22			9.5							4.0	8.5		5.5	8.0	3.5	4.0							
22-23										7.0				1.5	5.5		9.0		9.0	11.5			
23-24						11.5					5.5			3.5	7.5	3.5			5.5				
24-25								10.0		4.0	8.5			5.5		6.5				11.0			
25-26				10.0						7.0				7.5	3.0	2.5	5.5						
26-27											5.5				5.0	5.5				10.0		7.0	
27-28										4.0	8.5			2.5	7.0	1.5	9.0		11.5		11.5	10.5	
28-29								10.0		7.0				5.0		4.5			8.0	9.5			
29-30											5.5			7.0	2.5				4.0				
30-31										4.0	8.5				4.5	3.5	5.0				9.0		

## AAVSO Eclipsing Binary Ephemeris for August 2019

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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								10.0							7.0			2.0			3.0	5.5	
1- 2												10.0			7.5	5.0		9.0	2.0			4.5	
2- 3	4.0			3.0			2.0									9.0			2.0		2.0	6.0	4.5
3- 4			4.5	6.5			2.5		8.0			11.0							2.0		3.5		
4- 5					4.0		3.5											9.5	2.0		5.0		3.5
5- 6		9.5					4.0		9.5	9.0	9.0					7.5			2.0			2.0	
6- 7				2.0			5.0	11.5		11.0				6.5		11.5	11.5		2.0			3.5	3.0
7- 8				5.0			5.5				11.0			7.0			10.5	9.5	2.0			5.0	
8- 9									7.5					7.5		5.5	10.0		2.0		2.5		2.0
9-10			2.5													9.5	9.5		2.0		4.0		6.5
10-11			7.0			1.5			9.5								8.5	10.0	2.0		5.5	1.5	1.5
11-12				3.5	5.0	2.5										4.0	8.0	4.0	2.0			3.0	5.5
12-13		4.0		6.5	2.0	3.5										8.0	7.5		2.0			4.5	
13-14	11.0					4.0								6.5		6.5	10.5	2.0			1.5	6.0	5.0
14-15						5.0					9.0			7.0		6.0	4.5	2.0			3.0		
15-16				2.0		5.5			9.0					7.5	6.0	5.5		2.0			4.5		4.0
16-17			5.0	5.0		6.5					11.0					10.5	4.5	11.0	2.0		6.0	2.0	
17-18	5.5																	5.0	2.0			3.5	3.5
18-19					5.5	1.5										4.5			2.0			5.0	
19-20					3.0	2.5				9.5						8.5		11.0	2.5	2.0	2.5		2.5
20-21				4.0		3.0	8.0	9.0	11.0					6.5				5.0	2.5		4.0		7.0
21-22				7.0		4.0								7.0					2.5		5.5		1.5
22-23		7.0	3.0			5.0								7.5		6.5		11.5	2.5	3.5		2.5	6.0
23-24			7.5			5.5				9.0				8.0		11.0		5.5	2.5			4.0	
24-25				2.5		6.5													2.5		1.5	5.5	5.0
25-26				5.5	6.5				8.5	11.0						5.0			2.5		3.0		
26-27					3.5	1.5										9.0		6.0	2.5		4.5		4.5
27-28						2.5									6.5				2.5		6.0	1.5	
28-29						3.0								7.0					2.5			3.0	3.5
29-30		1.5	5.5	4.0		4.0								7.5	7.5		6.5	2.5				5.0	
30-31						5.0			8.0			9.5		8.0	11.5				2.5		2.0	6.5	3.0

	VV	XZ	ZZ	RU	VV	AG	AH	AH	AK	AW	AW	AZ	AZ	BH	Z	AW	AY	BE	BO	BS	BT	BU	CD
	UMA	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	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	11.7	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	11.9	12.9	11.4	13.3	11.5	12.5	11.4	12.6
DUR	3	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				8.0												5.0	2.5			8.0		8.5	8.5
1- 2				9.5						2.0		2.0							5.0	6.5			
2- 3				10.5						3.5		3.5						6.5		5.5	3.5		9.5
3- 4					1.5											10.5			4.0	4.5	6.5	4.5	2.0
4- 5						1.5					2.0		1.5		6.5	6.0				3.0	10.0	8.0	11.0
5- 6	1.5	10.5		1.5									2.5			1.5		9.0	2.5	2.0		11.0	3.5
6- 7	10.5		4.0	2.5									4.0										
7- 8	3.0			4.0	1.5			1.5		2.5						11.5	8.5					4.0	4.5
8- 9			11.0	5.0		2.0						2.0		2.5		7.0		11.5		10.0		7.5	
9-10		2.5		6.5				2.5				3.0			4.5	2.0				9.0		11.0	6.0
10-11				7.5			3.0				2.5									7.5	3.0		
11-12				8.5	2.0								1.5							6.5	6.5	3.5	7.0
12-13				10.0						1.5			2.5			7.5	4.0			5.5	10.0	7.0	
13-14			1.5	11.0		1.5				3.0			3.5			3.0		3.5		4.0		10.5	8.5
14-15															2.5					3.0			
15-16			8.5		2.5						1.5	2.0								2.0		3.5	9.5
16-17	1.5	10.5		2.0					3.0		3.0	3.0				8.5		6.0				6.5	2.0
17-18	10.5			3.5										2.0		3.5						10.0	10.5
18-19	3.0			4.5				1.5		2.0										10.0	2.5		3.0
19-20				5.5	3.0	2.0				3.5			2.5				10.0	8.5		8.5	6.0	3.0	
20-21				7.0				2.5					3.5			9.0				7.5	9.5	6.0	4.5
21-22				8.0							2.0					4.5				6.5		9.5	
22-23			6.0	9.5		1.5			2.0		3.5	1.5						11.0		5.5			5.5
23-24				10.5	3.0							3.0								4.0		2.5	
24-25										2.0						10.0	5.5			3.0		6.0	7.0
25-26																5.0				2.0		9.0	
26-27				1.5									2.0	1.5	9.0							2.5	8.0
27-28	1.5	10.5		2.5							2.5		3.5					2.5				6.0	2.0
28-29	10.5			4.0					1.5							10.5			11.0	10.0	9.0	5.5	9.5
29-30	3.0		3.5	5.0				1.5				1.5				6.0	1.5			8.5		8.5	1.5
30-31				6.0		2.0				2.5		2.5		3.5		1.5		5.0	9.5	7.5			10.5

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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)
0- 1			11.5	7.5	6.5	7.5	3.5		7.0	7.5	5.0						5.5					2.5	7.5
1- 2	3.0					7.5	3.5		6.5	6.0	10.5			2.5			6.0					7.5	3.0
2- 3	9.5			10.0		7.5	3.5		6.5	4.0				5.0			6.0				1.5	3.0	8.0
3- 4			11.0	2.5		7.0	3.0		6.0	2.5	6.5			8.0			6.5				4.0	8.5	3.5
4- 5	6.5			12.0	8.5	7.0	3.0		5.5		11.5				9.0		7.0	1.0		6.0	6.5	4.0	9.0
5- 6				4.5		7.0	3.0		5.5	10.0	2.5				5.5	2.0	7.0	1.0				9.0	4.5
6- 7	4.0		10.5			7.0	3.0		5.0	8.0	7.5	1.5		2.5	2.5		7.5	1.5		2.5		4.5	9.5
7- 8	10.0			6.5	1.5	7.0	3.0		4.5	6.5		2.0		5.0		5.5	8.0	2.0	4.0				5.0
8- 9	1.0				10.0	6.5	2.5		4.5	4.5	3.5	2.0		8.0			8.0	2.0				5.5	
9-10	7.5		9.5	8.5		6.5	2.5		4.0	2.5	9.0	2.5						2.5					5.5
10-11				1.5		6.5	2.5		3.5	1.0		2.5			10.0			2.5				6.0	
11-12	4.5			11.0	3.5	6.5	2.5		3.5	10.5	4.5	3.0		2.5	6.5			3.0					6.5
12-13	11.0	1.5	9.0	3.5	12.0	6.5	2.5		3.0	8.5	10.0	3.0		5.5	3.0			3.5				7.0	
13-14	2.0					6.0	2.0		2.5	6.5		3.5		8.0				3.5			3.0		7.0
14-15	8.0			5.5		6.0	2.0		2.5	5.0	6.0	3.5						4.0			5.5	7.5	2.5
15-16			8.5		5.0	6.0	2.0		2.0	3.0	11.0	4.0						4.5		7.5	8.0	3.0	8.0
16-17	5.5	4.5		7.5		6.0	2.0		1.5	1.5	2.0	4.0		2.5				4.5				8.0	3.5
17-18	11.5					5.5	2.0		1.5	10.5	7.0	4.5		5.5	7.5			5.0		4.0		3.5	8.5
18-19	2.5		7.5	10.0		5.5	1.5		1.0	9.0		4.5	8.0	8.0	4.0			5.5				9.0	4.0
19-20	9.0			2.5	7.0	5.5	1.5		0.5	7.0	3.0	5.0						5.5				4.5	9.5
20-21		7.5		12.0		5.5	1.5			5.5	8.5	5.0	7.5			1.5		6.0				9.5	5.0
21-22	6.0		7.0	4.5		5.5	1.5	12.0		3.5		5.5		3.0				6.5				5.0	
22-23						5.0	1.0	11.5		2.0	4.5	5.5	6.5	5.5		4.5	0.5	6.5					5.5
23-24	3.5			6.5	8.5	5.0	1.0	11.0			9.5	6.0		8.0	8.5		1.0	7.0			2.0	6.0	
24-25	9.5	10.5	6.5			5.0	1.0	11.0		9.5		6.0	5.5		5.0		1.0	7.5	3.0		4.5		6.0
25-26	1.0			8.5		5.0	1.0	10.5		7.5	5.5	6.5					1.5	7.5			7.0	6.5	
26-27	7.0			1.5	1.5	5.0	1.0	10.0		6.0	11.0	6.5	5.0	3.0			2.0	8.0					7.0
27-28			6.0	11.0	10.0	4.5	0.5	10.0		4.0		7.0		5.5			2.0					7.5	
28-29	4.5			3.5		4.5	0.5	9.5		2.0	6.5	7.0	4.0	8.5			2.5			5.5		3.0	7.5
29-30	10.5					4.5		9.0			12.0	7.5			9.5		3.0					8.0	3.0

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	WW	AP	AP	AR	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	R	RT
	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	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	6.8	10.6	8.6	10.5	11.6	11.6	6.2	11.4
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	7.6	12.4	9.4	11.3	11.8	11.8	6.8	12.9
DUR	5	4	4	5	5	4	3	3	3	3	3	3	3	3	3	5	6	3	5	5	5	4	5
TOT	(S)		(S)		(S)				(S)		(S)		(S)		(S)							(S)	
0- 1			11.5				11.0				1.0	5.0	1.0	3.5				11.0		9.5	0.5		
1- 2		8.0						10.0					3.5		1.0	4.5		1.0		4.0			
2- 3	6.5	11.5								3.5		2.5			2.0			5.5	8.5		7.5		
3- 4			8.0			6.5	10.0			3.0		1.5		3.0				10.0		11.0	2.0		
4- 5			11.5					6.5		2.5			4.0		4.0					5.5			
5- 6		8.0								1.5			2.5	4.5	1.0			5.0			9.0	11.5	
6- 7		11.0					9.0		9.5	1.0			1.5	2.0			1.5	9.5	8.0		3.5		
7- 8	8.0		7.5									4.0			3.0					7.0			9.5
8- 9			11.0			6.0					3.5	3.0		4.0				4.0		1.0	10.5		
9-10		7.5				12.0	8.0		6.0		3.0	2.0		1.5	5.0		9.0	8.5			4.5		
10-11		11.0									2.5	0.5	4.5		2.5	3.0			7.5	8.0			
11-12			7.5					9.0			1.5		3.5	3.5				3.0		2.5	11.5		
12-13	9.0		10.5				7.0				1.0		2.0	1.0	4.5			7.5			6.0		
13-14		7.0				5.5	11.0					5.0	1.0	5.5	1.5					9.5		10.5	
14-15		10.5				11.5		5.5		3.5		3.5		2.5				2.5	7.5	4.0			
15-16										3.0		2.5			3.5	3.0		7.0			7.5		
16-17			10.5				10.0		8.5	2.5		1.5		4.5	1.0			11.5		11.0	1.5		10.5
17-18	10.0			6.0						1.5			4.0	2.0				1.5		5.0			
18-19		10.0						12.0		1.0			3.0		3.0			6.0	7.0		8.5		
19-20					7.5	11.0	9.0		5.0				1.5	4.0			7.0	10.5			3.0		
20-21			10.0								3.5	4.5		1.5	5.0	3.0		0.5		6.5			
21-22				9.0				8.0			3.0	3.0			2.5			5.0		1.0	10.0		
22-23	11.5	10.0					8.0				2.0	2.0		3.5				9.5	6.5		4.5		
23-24					11.0				11.5		1.5	1.0	4.5	0.5	4.0					8.0			
24-25			9.5			10.5					1.0		3.5	5.0	1.5			4.5		2.5	11.5		
25-26							7.0						2.5	2.5		2.5		9.0			6.0		12.0
26-27		9.5					11.0		7.5	3.5			1.0		3.5				6.0	9.5			
27-28										3.0		3.5		4.5	1.0			3.5		3.5			
28-29			9.0					11.0		2.0		2.5		2.0				8.0			7.0		
29-30						10.0	10.0			1.5		1.5			3.0		5.0			10.5	1.5		9.0

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	SX	TU	UU	XZ	AK	RW	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	MM	OR	PV	PV	V364	V364	V375	U	
	CMA	CMA	CMA	CMI	CMI	CAP	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	
MAX	10.3	9.7	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	11.3	11.4	10.0	10.0	11.2	11.2	10.1	6.7	
MIN	11.4	10.7	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	11.9	12.4	10.6	10.6	11.7	11.7	10.9	9.8	
DUR	4	4	5	3	4	5	4	4	4	4	3	3	4	4	5	5	4	3	3	4	4	5	4	
TOT																							2	
												(S)									(S)			
0- 1							5.0	8.0	11.5	1.0	3.5	7.0		6.0			9.0			3.5		11.0		
1- 2	10.5				10.0					9.5	2.0	6.0	7.0		1.0	1.5			12.0					
2- 3									7.0		1.0	5.0	2.0	7.0		5.5		8.0			11.0		6.0	
3- 4			10.5				1.0					4.0				9.0			6.0	5.5		9.5		
4- 5									2.5	3.5	6.5	3.0	10.5	8.0			3.0	2.0						
5- 6								3.0			5.5	2.0	5.5				8.5							
6- 7					12.0	6.5		7.5			4.5	1.0		9.0							7.5		8.0	
7- 8				12.0							3.5	7.5		1.5							2.0		6.0	
8- 9										5.5	2.5	6.5	9.0	10.0	9.5				12.0					
9-10											1.5	5.5	3.5	2.5		4.0	2.5	8.0		9.5		7.0		
10-11				9.5	11.0		4.0				4.5			11.0	6.0	8.0	8.5		6.0		4.0			
11-12			11.5					2.5	8.5		7.0	3.5		3.5		11.5		2.0						
12-13								7.0		8.0	6.0	2.0	7.0	12.0	2.0						11.5		5.5	5.5
13-14		10.0						11.5	4.0		5.0	1.0	2.0	4.5								6.0		
14-15	10.5			10.5	10.0						4.0							2.0			0.5			
15-16										1.5	3.0	6.5	10.5	5.5			8.0		12.0				4.5	
16-17										10.5	2.0	5.5	5.0			3.0		8.0			8.0			
17-18							7.0	2.0			1.0	4.5		6.5		6.5			6.0	2.5			5.0	
18-19				12.0	9.0			6.5			7.5	3.5				10.5		2.0				3.0		
19-20								11.0		4.0	6.5	2.5	8.5	7.5	10.5		1.5				10.0			
20-21							3.0		10.0		5.5	1.5	3.5				7.5				4.5			
21-22				9.5							4.5			8.5	7.0							2.0		
22-23		10.5									3.5	7.0	12.0	0.5									5.0	
23-24					11.5	5.5		1.0		6.5	2.0	6.0	6.5	9.5	3.0	1.5		8.0		7.0				
24-25			11.5					6.0	1.0		1.0	5.0	1.5	1.5		5.5	1.0		6.0		1.5	0.5		
25-26				10.5				10.5				4.0		10.5		9.5	7.0	2.0				12.0		
26-27											7.0	3.0	10.0	2.5						9.0				
27-28	10.0				10.5		6.0			9.0	5.5	2.0	5.0	11.5							3.5		4.5	
28-29											4.5	1.0		3.5								10.5		
29-30				12.0				0.5	11.5		3.5	7.5					0.5			11.0				



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



	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		2.5						5.5							2.5	6.0					10.0		11.5
1- 2		7.5						1.5	4.5						1.5	5.0		2.5					
2- 3	3.0				7.5		7.5			1.5					0.5	4.0			8.5				
3- 4					6.5						2.5				7.5	3.0	1.5				2.5		
4- 5						11.0									6.5	2.0	3.5	7.5					
5- 6	9.5							3.5		3.5					5.5	1.5	5.0		10.5		11.5		
6- 7		2.5	7.0												4.5		7.0				4.5		
7- 8		7.0		7.0		7.5							11.5		3.5	7.0	8.5						
8- 9										6.0					3.0	6.5	10.5						
9-10								5.5							2.0	5.5		3.0			6.5		
10-11								1.0	6.5		1.0				1.0	4.5			1.5				
11-12					7.5											3.5							
12-13		2.0			6.5							3.5			7.0	2.5		8.0		8.5			11.5
13-14		7.0													6.0	1.5			3.5				
14-15								3.5							5.0	1.0							
15-16	4.0														4.0	7.5				10.5			
16-17				7.0											3.0	6.5			5.5				
17-18									1.5						2.5	6.0	0.5	3.5					
18-19	10.5	2.0					11.5	5.5							1.5	5.0	2.5						
19-20		7.0	8.0					1.0		2.5						4.0	4.5		7.5				
20-21					7.5										7.5	3.0	6.0	8.5		1.5			
21-22					6.5							2.0			6.5	2.0	8.0						
22-23										4.5	4.0				5.5	1.0	9.5		9.5				
23-24							11.0	3.5							4.5		11.5			3.5			
24-25		2.0													3.5	7.0							11.0
25-26		6.5		7.0											3.0	6.0		4.0	11.5				
26-27									3.0						2.0	5.5				5.5			
27-28						9.0		5.5							1.0	4.5			0.5		11.5		
28-29	5.0						10.5	1.0					12.0			3.5		9.0					
29-30					7.5						2.5				7.0	2.5				7.5			

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

	GU	GU	U	U	TY	AQ	BB	BB	BX	DI	GP	Z	RT	RV	ST	XZ	BETA	Y	UZ	UZ	U	V505	1968
	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PER	PSC	PUP	PUP	SGE	SGR	SGR
MAX	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	12.3
MIN	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	13.3
DUR	4	4	3	3	6	12	3	3	3	2	4	6	4	8	5	4	8	7	4	4	6	5	4
TOT						4						2			1						2		
		(S)		(S)																(S)			
0- 1			7.0	2.5			2.0	6.5	6.5			4.5											
1- 2	10.0		1.0	5.5		8.0	4.0	8.5	2.5	8.5				8.5				7.0					
2- 3	8.5		4.0	8.5			6.0	2.0	5.5	1.5			10.0			5.0							2.5
3- 4	7.5		7.0	2.5			8.5	4.0	2.0	11.5		6.0	6.5	7.5		8.5	9.5						
4- 5			1.0	5.5			1.5	6.0	4.5	4.5			3.0		10.0							3.0	
5- 6		10.0	4.0	8.5	0.5		3.5	8.0	1.0					7.0				1.0					
6- 7		8.5	7.0	2.5			5.5	1.5	4.0	8.0		7.0					6.5						1.5
7- 8		7.5	1.0	5.5			7.5	3.5		1.0				6.5									4.5
8- 9			4.0	8.5	3.0		1.0	5.5	3.0	11.0	11.5		9.0								5.0		
9-10	10.0		7.0	2.5			3.0	7.5	6.0	4.5	11.0	8.5	5.5	5.5			3.5			12.0			
10-11	8.5		1.0	5.5			5.0	1.0	2.0		10.5					6.5						1.0	
11-12	7.5		4.0	8.5	5.0		7.0	3.0	5.0	7.5	9.5			5.0		10.0			11.5			5.5	3.0
12-13			7.0	2.5				5.0	1.0	0.5	9.0	10.0			8.5								
13-14		10.0		5.5			2.5	7.0	4.0	11.0	8.5		11.0	4.5						11.5			
14-15		8.5	3.5	8.0	7.0		4.5			4.0	8.0			7.5									
15-16		7.5	6.5	2.0			6.5	2.0	3.0		7.5	11.0	4.0							11.0			1.5
16-17				5.0			8.5	4.5	6.0	7.0	7.0							8.5					4.5
17-18	10.0		3.5	8.0	9.5		2.0	6.5	2.5		6.0					4.0				10.5	3.5		
18-19	8.5		6.5	2.0			4.0	8.5	5.0	10.5	5.5					8.0					8.5		
19-20	7.5			5.0			6.0	1.5	1.5	3.5	5.0		10.0			11.5			10.5				
20-21			3.5	8.0	11.5		8.0	3.5	4.5		4.5		6.5		7.5			2.5					3.5
21-22		10.0	6.5	2.0			1.5	5.5	0.5	6.5	4.0			2.5									
22-23		9.0		5.0			3.5	7.5	3.5		3.5												
23-24		7.5	3.5	8.0			5.5	1.0	6.5	10.0	2.5						11.5					1.5	
24-25			6.5	2.0			7.5	3.0	2.5	3.0	2.0											6.0	2.0
25-26	10.0			5.0			1.0	5.0	5.5		1.5		8.5			5.5					2.5		5.0
26-27	9.0		3.5	8.0			3.0	7.0	1.5	6.5	1.0		5.0			9.5	8.0						
27-28	7.5		6.5	2.0			5.0	0.5	4.5														
28-29				5.0			7.0	2.5	1.0	9.5					6.0								0.5
29-30		10.0	3.5	8.0		2.0		4.5	3.5	2.5							5.0						3.5

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

	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								7.0		1.0				6.5		1.5	3.0
1- 2				1.5		1.0							8.5	5.0		5.0	
2- 3									7.0	1.5		7.5		4.0		8.5	4.0
3- 4		0.5							2.0				7.0	3.0	2.0		
4- 5			1.5				1.5			2.0				1.5	5.5	1.5	5.5
5- 6					1.5			4.5			7.0		5.5	0.5	9.0	4.5	
6- 7									7.5	3.0						8.0	6.5
7- 8	1.0								3.0				4.5				
8- 9						0.5				3.5				8.5		1.0	8.0
9-10			0.5			2.0							3.0	7.5		4.0	
10-11								2.5	8.5	4.0	3.0	1.5		6.0		7.5	9.0
11-12									3.5				2.0	5.0	2.0		1.5
12-13				1.0	1.0					4.5				4.0	5.5		
13-14							1.0					4.0		2.5	8.5	4.0	2.5
14-15									9.0	5.0				1.5		7.0	
15-16			1.0			0.5			4.5								4.0
16-17						1.5				5.5		6.5					
17-18											8.5					3.5	5.0
18-19				1.0						6.5				8.5		6.5	
19-20					1.0				5.0			9.0		7.0	1.5	10.0	6.5
20-21									0.5	7.0				6.0	5.0		
21-22			1.5											5.0	8.5	3.0	7.5
22-23							0.5			7.5	4.5			4.0		6.5	
23-24						1.5			6.0					2.5		9.5	9.0
24-25									1.5	8.0		1.0		1.5			1.5
25-26																2.5	
26-27					1.0					8.5						6.0	2.5
27-28								7.0	6.5			3.5			1.5	9.0	
28-29									2.0	9.5				8.5	4.5		3.5
29-30				0.5										7.0	8.0	2.0	

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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	1.5		5.0	5.5	3.5	4.5	0.5	9.0		10.0	2.5	7.5		3.0	0.5	6.0		3.0			2.0		3.5
1- 2	7.5				12.0	4.5	0.5	8.5		8.0	8.0	8.0			3.0	3.0		3.5					8.5
2- 3				7.5		4.0	0.0	8.0		6.0		8.0		2.5	5.5			4.0					4.0
3- 4	5.0		4.5	0.5		4.0	0.0	8.0		4.5	4.0	8.5			8.5			4.0				1.0	9.5
4- 5	11.0			10.0	5.0	4.0	8.0	7.5		2.5	9.0	8.5		1.5				4.5				3.5	5.0
5- 6	2.5			2.5		4.0	8.0	7.0		1.0		9.0			0.5		0.5	5.0				6.0	
6- 7	8.5		4.0	12.0		4.0	7.5	7.0		10.0	5.0	9.0		1.0	3.0	7.0		5.0					5.5
7- 8				4.5		3.5	7.5	6.5		8.5	10.5	9.5			6.0	3.5	4.0	5.5					1.0
8- 9	6.0				7.0	3.5	7.5	6.0		6.5	1.0	9.5		0.0	8.5	0.5		6.0					6.5
9-10	12.0		3.0	6.5		3.5	7.5	6.0		5.0	6.0	10.0						6.0		0.0			2.0
10-11	3.0					3.5	7.5	5.5		3.0	11.5	10.0			0.5				0.5				7.0
11-12	9.0			8.5		3.0	7.0	5.0		1.5	2.0	10.5			3.0				0.5	1.5	3.5		2.5
12-13	0.5		2.5	1.5	8.5	3.0	7.0	5.0		10.5	7.5	10.5			6.0	8.0			1.0				8.0
13-14	6.5			11.0		3.0	7.0	4.5		9.0		11.0				4.5			1.5				3.5
14-15				3.5		3.0	7.0	4.0		7.0	3.5	11.0				1.5			1.5			2.5	8.5
15-16	4.0	1.0	2.0		1.5	3.0	7.0	4.0		5.5	8.5	11.5			0.5				2.0			5.0	4.0
16-17	10.0			5.5	10.5	2.5	6.5	3.5		3.5		11.5			3.5				2.5				9.5
17-18	1.0					2.5	6.5	3.0		1.5	4.5	12.0			6.0				2.5				4.5
18-19	7.5		1.0	7.5		2.5	6.5	3.0		11.0	10.0	12.0	0.0						3.0				
19-20		4.0		0.5	3.5	2.5	6.5	2.5		9.5	0.5	12.5	0.5			5.5			3.5				5.5
20-21	4.5			10.0	12.0	2.5	6.5	2.0		7.5	6.0		0.5		0.5	2.5	0.0		3.5				1.0
21-22	10.5		0.5	2.5		2.0	6.0	2.0		5.5	11.0		1.0		3.5				4.0				6.0
22-23	2.0		12.0	12.0		2.0	6.0	1.5		4.0	1.5		1.0		6.0		3.5		4.5		5.0		1.5
23-24	8.0	7.0		4.5	5.0	2.0	6.0	1.5		2.0	7.0		1.5						4.5				7.0
24-25						2.0	6.0	1.0		0.5	12.5		1.5						5.0		1.5	1.5	2.5
25-26	5.5		11.5	6.5		2.0	6.0	0.5	12.5	9.5	3.0		2.0		1.0	6.5			5.0			4.0	7.5
26-27	11.5					1.5	5.5	0.5	12.0	8.0	8.0		2.0		3.5	3.0			5.5			6.5	3.0
27-28	2.5	10.0		8.5	7.0	1.5	5.5		12.0	6.0			2.5		6.0				6.0				8.5
28-29	9.0		11.0	1.5		1.5	5.5		11.5	4.5	4.0		2.5					0.0	6.0	0.5			4.0
29-30				11.0		1.5	5.5		11.0	2.5	9.5		3.0						0.5				9.0
30-31	6.0			3.5	0.0	1.5	5.5		11.0	1.0	0.0		3.0		1.0				1.0				4.5



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	SS	WW	WW	AP	AP	AR	AR	CL	EP	HP	HP	TU	TU	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD
	ARI	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM
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	6.8	10.6	8.6	10.5	11.6	11.6
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	7.6	12.4	9.4	11.3	11.8	11.8
DUR	3	5	5	4	4	5	5	4	3	3	3	3	3	3	3	3	3	5	6	3	5	5	5
TOT	(S)		(S)		(S)		(S)			(S)		(S)			(S)		(S)						(S)
0- 1	8.5			9.0								1.0		0.5		0.5				2.5	6.0	5.0	
1- 2	4.0	7.5		12.5	5.5				4.5	7.0		0.5			3.0	1.0				7.0			8.5
2- 3	9.0			9.0					9.0						1.5	2.0		12.5	11.5		12.0	3.0	
3- 4	4.5			5.5	12.0			3.5		10.5					0.5	3.0				2.0	6.5		
4- 5				8.5				9.0		3.5						0.5				6.5	5.5	0.5	10.0
5- 6	5.5			12.0	5.0				8.0			1.5	2.0			1.5				11.0			4.0
6- 7	1.0	8.5			8.5				12.5		6.5	1.0	1.0			2.5				1.0		7.5	
7- 8	6.0				12.0							0.5								5.5		2.0	11.0
8- 9	1.5			8.5					7.0	10.0					2.5		1.0			10.0	5.0		5.5
9-10	6.5			11.5				8.5	11.5		3.0				1.0	2.0		3.0	0.0		9.0		
10-11	2.0				8.0										0.0		2.5			4.5	3.5		
11-12	7.5	10.0			11.5				6.0	6.0		1.5		2.5		0.0				9.0			7.0
12-13	3.0			8.0					10.0			1.0		1.5		1.0		10.5		5.0	10.5	1.5	
13-14	8.0			11.5							9.5	0.0		0.5		2.0				4.0	5.0		
14-15	3.5				8.0			8.0	4.5							3.0				8.5			8.5
15-16	9.0		5.0		11.0				9.0						2.0	0.5						12.0	2.5
16-17	4.5	11.0		7.5		4.5					5.5				0.5	1.5				3.0	4.5	6.0	
17-18	9.5			11.0								1.5			2.5					7.5	12.5	0.5	9.5
18-19	5.0				7.5	6.0			8.0	9.0		1.0	2.0			3.5				12.0			4.0
19-20	0.5				11.0			7.5	12.5			0.0	1.0			0.5		1.0	2.0		7.5		
20-21	6.0		6.0	7.5		8.0					12.0					1.5				6.5	4.0	2.0	11.0
21-22	1.5	12.5		10.5					7.0	5.0					2.5		2.5			11.0	12.0		5.5
22-23	6.5				7.0	9.5			11.5						1.0	0.0		8.5	1.5		9.0		
23-24	2.0				10.5						8.5	1.5			0.0	1.0				6.0	3.0	12.5	
24-25	7.5			7.0		11.0		7.0	6.0			1.0		2.5		2.0				10.5	3.5		6.5
25-26	2.5		7.0	10.5					10.0	11.5		0.0		1.5		3.0				0.5	11.5	10.0	1.0
26-27	8.0				7.0						4.5			0.5		0.5				5.0		4.5	
27-28	3.5				10.0				5.0							1.5				9.5			8.0
28-29	8.5			6.5					9.0	8.0					2.0	2.0					3.5	11.5	2.5
29-30	4.0			10.0				6.5				1.5		0.5		3.0				4.0	11.0	6.0	
30-31	9.5		8.5		6.5			12.5		11.0		1.0				0.5	1.0			8.5		0.5	9.5

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	R	RT	SX	TU	TZ	TZ	UU	XZ	AK	RW	TY	RZ	TV	AB	CW	CW	DZ	IR	IS	IV	MM	OR	PV
	CMA	CMA	CMA	CMA	CMA	CMA	CMA	CMI	CMI	CAP	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS
MAX	6.2	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
MIN	6.8	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
DUR	4	5	4	4	4	4	5	3	4	5	4	4	4	4	3	3	4	4	5	5	5	4	3
TOT																							
						(S)											(S)						
0- 1	11.0			8.0						0.0	2.5	5.5		2.5	2.5	6.5	8.0	4.5	12.0	12.0	0.5	6.5	8.5
1- 2				11.0					9.5			10.0	7.0	11.5	1.5	5.5	3.0			12.0	4.5		
2- 3								9.5								0.5	4.5		5.5	8.0	12.0	8.0	2.5
3- 4					11.5								2.5			7.0	3.5	11.5			12.0	12.0	
4- 5														5.0	6.0	2.0	6.5	7.0	4.5	12.0		0.5	
5- 6						10.5			8.5			0.0			5.0	1.0	1.0			12.0		6.0	
6- 7								10.5	12.0			4.5			4.0	0.0		8.0	0.5	12.0		12.0	
7- 8							11.5				5.0	9.5			3.0	7.0	9.5	0.0		12.0			8.5
8- 9	10.0	10.5												7.5	2.0	5.5	4.5	9.0		11.5	3.0		
9-10				8.5				8.0	7.5						1.0	4.5		1.0		11.5	7.0		2.5
10-11			10.0	11.5				12.0	11.0	4.5	1.5		8.5		7.5	3.5		10.0		11.5	11.0	6.0	
11-12														1.0	6.5	2.5	8.0	2.0		11.5		11.5	
12-13		7.5										4.0	4.0	10.0	5.5	1.5	3.0	11.0		11.5			
13-14								9.0				9.0			4.5	0.5		3.0	9.5	11.5			
14-15									10.0						3.5	7.0	11.5	12.0		11.5			8.5
15-16														3.5	2.5	6.0	6.0	4.0	5.5	11.5	2.0	5.5	
16-17	9.0													12.0	1.0	5.0	1.0			11.5	6.0	11.5	2.5
17-18	12.0	12.0						10.5			4.5				0.0	4.0		5.0	1.5	11.5	9.5		
18-19				9.0					9.0			3.5			7.0	3.0	9.5			11.5			
19-20				12.0					12.0			8.5	10.0	6.0	5.5	2.0	4.5	6.0		11.5			
20-21							11.5	8.0			0.5				4.5	1.0				11.5		5.0	
21-22		9.0						11.5					5.5		3.5	7.5		7.0		11.5		11.0	8.5
22-23									8.0						2.5	6.5	7.5			11.0	1.0		
23-24			10.0						11.5				1.0	8.5	1.5	5.5	2.5	8.0		11.0	4.5		2.5
24-25								9.0				3.0			0.5	4.5		0.5	10.5	11.0	8.5		
25-26	11.0											7.5			7.0	3.5	11.0	9.0		11.0	12.0	4.5	
26-27					10.0				7.0			12.5		2.0	6.0	2.5	6.0	1.5	6.5	11.0		10.5	
27-28				9.5					10.5	3.5	3.5			10.5	5.0	1.0	0.5	10.0		11.0			
28-29						9.0		10.5					11.5		4.0	0.0		2.5	3.0	11.0			8.5
29-30															3.0	7.0	9.0	11.0		11.0			
30-31		10.5										2.5	7.0	4.5	2.0	5.5	4.0	3.5		11.0	3.5	4.0	2.5

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

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

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	TZ	YY	YY	RW	AF	SZ	TU	UX	CC	CT	AV	DI	DK	SW	SW	VX	CM	CO	CO	Y	UU	VZ	Z	
	ERI	ERI	ERI	GEM	GEM	HER	HER	HER	HER	HER	HYA	HYA	HYA	LAC	LAC	LAC	LAC	LAC	LAC	LEO	LEO	LEO	LEP	
MAX	9.8	8.4	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	10.6	11.0	
MIN	12.6	9.1	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	11.7	12.5	
DUR	4	3	3	5	4	4	5	5	4	4	4	4	4	3	3	4	4	5	5	5	4	4	4	
TOT	1			1			1																	
			(S)												(S)			(S)						
0- 1			6.5	6.0						0.5				6.0	1.5			2.5					10.5	
1- 2			6.0								9.5			5.0	1.0									10.0
2- 3	8.5		5.0			3.5								4.0	7.5	2.0			9.5	11.0	12.5			10.0
3- 4					9.5			1.0			10.5	10.0		3.0	6.5	3.5	4.5	4.5						10.0
4- 5		7.0												2.5	5.5	5.5								9.5
5- 6		6.0					5.0				11.5			1.5	5.0	7.0			11.5				9.0	9.5
6- 7		5.5						3.0	1.0			11.5		0.5	4.0	9.0	9.5	6.5				11.0		9.5
7- 8		4.5				1.0								7.5	3.0	10.5			0.5					9.5
8- 9			7.5		9.0							11.0		6.5	2.0		0.0							9.0
9-10			6.5									12.0		5.5	1.0			9.0						9.0
10-11			6.0											4.5	0.5				2.5					9.0
11-12			5.0			3.5					9.5			3.5	7.0		5.0							8.5
12-13														2.5	6.0			11.0						8.5
13-14		7.0			8.5									2.0	5.5				4.5					8.5
14-15		6.5									11.5			1.0	4.5		10.0							8.0
15-16	9.5	5.5												0.0	3.5									8.0
16-17		4.5				1.0				2.5	10.0			7.0	2.5	1.0	0.5		7.0					8.0
17-18			7.5	10.5										6.0	1.5	3.0		2.0				8.5		8.0
18-19			6.5		8.0						11.5			5.0	0.5	4.5						10.5		7.5
19-20			6.0											4.0	7.5	6.5	6.0		9.0					7.5
20-21			5.0	7.5		3.5		1.5					11.0	3.0	6.5	8.0		4.0						7.5
21-22							1.5						12.0	2.5	5.5	10.0								7.0
22-23		7.0									11.0			1.5	5.0				11.0					7.0
23-24	5.0	6.5			7.0			4.0						0.5	4.0			6.0						7.0
24-25		5.5												7.0	3.0		1.5			9.0				6.5
25-26		4.5				1.0				0.5				6.5	2.0									6.5
26-27			7.5											5.5	1.0			8.0						6.5
27-28			7.0											4.5	0.5		6.5		2.0					6.5
28-29	10.0		6.0		6.5									3.5	7.0									6.0
29-30			5.0		12.5	3.5					10.0			2.5	6.0			10.0		10.5	9.5			6.0
30-31							3.0					11.0		2.0	5.0	0.0			4.0			10.5		6.0

	RR	SS	RY	UZ	EW	FL	RU	RU	RW	BB	BO	U	SX	V508	V839	1010	EQ	ER	ER	ET	FL	FT	FZ
	LEP	LIB	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	OPH	OPH	OPH	OPH	OPH	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	10.8	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	10.9	11.3	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	9.7	11.3
DUR	4	6	4	5	5	4	5	5	5	4	5	5	5	3	3	4	4	3	3	5	3	4	3
TOT									1		1												
									(S)										(S)				
0- 1				4.0									1.5	4.0				10.0				9.5	
1- 2									8.0					4.5	3.5	0.5		6.0		6.0			6.0
2- 3	11.0		8.0	1.5			9.0			8.5								7.5					
3- 4	9.0								6.0							0.0	12.0		9.0				6.0
4- 5	7.0					1.0									0.5						8.5		
5- 6																	6.0	6.5					6.0
6- 7						5.5								0.5	1.5				8.0				
7- 8									11.5					1.5				9.5			11.0		6.0
8- 9											10.0			2.0	2.5			6.0		12.0			
9-10			12.0											3.0					7.5	10.5			6.0
10-11									9.5					4.0	3.5		11.5	8.5		9.5			
11-12														4.5					10.0	8.0			6.0
12-13			9.0														5.5		6.5	7.0			
13-14	10.5									8.0						0.5		8.0		6.0			6.0
14-15	8.5							7.5											9.0	4.5			
15-16	6.5		6.0	7.0															5.5		5.0		6.0
16-17														0.5				7.0					
17-18				4.5	6.0	3.0								1.5	2.5		11.0		8.5				6.0
18-19									12.0	11.0				2.0				10.0			7.5		
19-20				2.0	5.0	7.0								3.0	3.5		5.0	6.0				7.0	6.0
20-21									9.5					4.0						7.5			
21-22		0.5			3.5			11.5		9.5				4.5				9.0			10.0		6.0
22-23			10.0						7.5						0.0							11.0	
23-24	12.5				2.5														6.5				6.0
24-25	10.5									8.0						1.5	11.0	8.0			12.5		
25-26	8.5		7.0		1.0														9.5				6.0
26-27	6.5																		6.0				
27-28							11.0					0.5		1.5				7.0		12.0			6.0
28-29						0.0					10.5			2.0	3.5				8.5	11.0			
29-30									11.0					3.0				10.0		10.0			6.0
30-31						4.5								3.5	4.5			6.5		8.5			

	FZ	GU	GU	U	U	TY	AQ	BB	BB	BX	DI	GP	Z	RT	ST	XZ	BETA	Y	UZ	UZ	U	V505	1968
	ORI	ORI	ORI	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PEG	PER	PER	PER	PER	PER	PSC	PUP	PUP	SGE	SGR	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	9.7	10.6	2.2	9.0	9.7	9.7	6.4	6.4	12.3
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	13.2	12.7	3.5	12.0	10.6	10.3	9.1	7.6	13.3
DUR	3	4	4	3	3	6	12	3	3	3	2	4	6	4	5	4	8	7	4	4	6	5	4
TOT							4						2		1						2		
	(S)		(S)		(S)					(S)										(S)			
0- 1	6.0		9.0	6.5	2.0			2.5	6.5	6.5				11.0								4.0	
1- 2			7.5	0.5	5.0			4.5	8.5	3.0	6.0			7.5				10.0	8.5				
2- 3	6.0		6.0	3.5	8.0			6.5	2.0	5.5				3.5		3.5	2.0						
3- 4		10.0		6.5	2.0			8.5	4.0	2.0	9.0					7.0				8.0		2.0	
4- 5	6.0	9.0		0.5	5.0			1.5	6.0	5.0	2.0					10.5							
5- 6		7.5		3.5	8.0			3.5	8.0	1.0								4.5			6.0		
6- 7	6.0	6.0		6.5	2.0			6.0	1.5	4.0	5.5			9.5	4.5							1.5	
7- 8			10.0	0.5	5.0			8.0	3.5	0.0				6.0									1.0
8- 9	6.0		9.0	3.5	8.0			1.0	5.5	3.0	8.5			2.5					12.0				
9-10			7.5	6.5	2.0	1.0		3.0	7.5	6.0	2.0					1.5							
10-11	6.0		6.0	0.5	5.0		4.0	5.0	1.0	2.0						5.0				12.0			
11-12		10.5		3.5	8.0			7.0	3.0	5.0	5.0			12.0	12.0	8.5							
12-13	6.0	9.0		6.5	2.0	3.0		0.5	5.0	1.5				8.5		12.0				11.5	0.0	2.5	
13-14		7.5		0.5	5.0			2.5	7.0	4.0	8.5			4.5								4.0	
14-15	6.0	6.0		3.5	8.0			4.5	0.5	0.5	1.5			1.0	3.5					11.5			
15-16			10.5	6.5	2.0	5.5		6.5	2.5	3.5													
16-17	6.0		9.0	0.5	5.0			0.0	4.5	6.0	4.5		0.5				10.0		11.0				1.0
17-18			7.5	3.5	8.0			2.0	6.5	2.5				10.5		3.0							
18-19	6.0		6.0	6.5	2.0	7.5		4.0	8.5	5.5	8.0			7.0		6.5				10.5			
19-20		10.5		0.5	4.5			6.0	2.0	1.5	1.0			2.0	3.5	10.5	10.0	6.5				2.0	
20-21	6.0	9.0		3.0	7.5			8.0	4.0	4.5		10.5						6.0	10.5				
21-22		7.5		6.0	1.5	9.5	6.5	1.5	6.0	0.5	4.0	9.5											3.0
22-23	6.0	6.0		0.0	4.5			3.5	8.0	3.5		9.0	3.5		2.0		3.5			10.0	3.5		
23-24			10.5	3.0	7.5			5.5	1.0	6.5	7.5	8.5		9.5									
24-25	6.0		9.0	6.0	1.5			7.5	3.0	2.5	0.5	8.0		5.5				0.0	10.0				
25-26			7.5	0.0	4.5			1.0	5.5	5.5		7.5	5.0	2.0		4.0							1.5
26-27	6.0		6.0	3.0	7.5			3.0	7.5	2.0	4.0	7.0				8.0				9.5	4.5		
27-28		10.5		6.0	1.5			5.0	0.5	4.5		6.0			9.0	11.5							
28-29	6.0	9.0		0.0	4.5			7.0	2.5	1.0	7.0	5.5	6.0	11.5					9.0				
29-30		7.5		3.0	7.5			0.5	4.5	4.0	0.0	5.0		8.0									0.0
30-31	6.0	6.0		6.0	1.5			2.5	6.5	0.0		4.5		4.5	1.0					9.0			3.0

	AO	CC	CC	RW	RZ	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	TX	TY	TY	UX	VV	XZ	ZZ	RU
	SER	SER	SER	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI
MAX	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	10.7
MIN	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	11.4
DUR	4	4	4	4	3	2	4	6	5	3	3	4	4	4	3	6	3	3	1	3	3	4	4
TOT				1																			
			(S)							(S)								(S)					
0- 1						9.5	11.5			5.5		11.5			7.0					10.0		8.5	5.5
1- 2					8.5	11.5	4.5			6.0		2.0		10.0	7.0		8.5						6.5
2- 3	2.0				4.5					6.5	2.5	6.0		4.5	7.0		1.5			11.5			8.0
3- 4							6.0			7.0	3.0	10.0			7.0								9.0
4- 5			0.5		6.0					8.0	3.5	0.0		10.5	7.5		0.0	3.0		8.0			10.5
5- 6			1.5				8.0				4.5	4.0		4.5	7.5		1.5		5.5				11.5
6- 7			2.5	9.5	8.0						5.0	8.0			7.5				2.0				0.0
7- 8					4.0		10.0				5.5	12.5		11.0	7.5		0.5			7.0		6.0	1.5
8- 9									5.5		6.0	2.5		5.0	7.5		2.0		1.5				2.5
9-10	3.0			4.0	6.0		12.0			2.5	6.5	6.5			7.5			8.0		8.5			3.5
10-11							4.5		6.5	3.0	7.0	10.5		11.0	7.5			1.0	0.5		10.5		5.0
11-12					8.0	4.0				3.5	8.0	0.5		5.5	7.5					10.0			6.0
12-13		0.5			4.0	6.0	6.5		7.5	4.0		4.5	12.5		7.5		8.0						7.5
13-14		1.5			9.5	8.0				5.0		8.5	11.5	11.5	7.5		1.0			11.5			8.5
14-15		2.0			5.5	10.0	8.0		8.5	5.5			11.0	5.5	7.5							3.5	9.5
15-16						11.5				6.0		3.0	10.0		7.5			0.0		8.0			11.0
16-17					7.5		10.0		10.0	6.5	2.5	7.0	9.5	12.0	7.5		1.5		5.5		10.5	12.0	
17-18	1.0			11.5	3.5					7.0	3.0	11.0	9.0	6.0	7.5				2.5				0.5
18-19					9.5		12.0		11.0	7.5	3.5	1.0	8.0	0.0	7.5		0.5			7.0			2.0
19-20					5.5		4.5				4.0	5.0	7.5	12.5	7.5	8.5	2.0		1.5				3.0
20-21			0.5	5.5					12.0		5.0	9.5	7.0	6.5	7.5							8.5	4.5
21-22			1.5		7.5		6.5				5.5		6.0	0.5	7.5			0.5	1.0		11.0	1.0	5.5
22-23			2.0								6.0	3.5	5.5		7.5	10.0		2.0		10.0			6.5
23-24					9.0		8.5			2.5	6.5	7.5	5.0	6.5	7.5		8.0		0.0			8.0	8.0
24-25	1.5				5.0			4.5		3.0	7.0	11.5	4.0	1.0	7.5		1.0			11.5			9.0
25-26						4.5	10.0			3.5	7.5	1.5	3.5		7.5	11.5							10.5
26-27					7.0	6.0		5.5		4.0		5.5	2.5	7.0	7.5			8.5			8.0		11.5
27-28						8.0	12.0			4.5		10.0	2.0	1.0	7.5		1.5			5.5			0.0
28-29		0.5			9.0	10.0	4.5	6.5		5.5			1.5		8.0				3.0				1.0
29-30		1.5			5.0	12.0				6.0		4.0	0.5	7.5	8.0		0.0			7.0			2.5
30-31		2.0					6.5	7.5		6.5		8.0		1.5	8.0		1.5		2.0			5.5	3.5



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	AG	Z	AW	AY	BE	BO	BS	BT	BU	CD
	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	8.8	7.4	10.8	11.0	9.9	10.4	11.0	11.8	10.6	11.5
MIN	9.4	9.2	11.9	12.9	11.4	13.3	11.5	12.5	11.4	12.6
DUR	4	6	5	4	5	4	3	3	3	4
TOT										
0- 1					6.0		6.0		5.5	5.0
1- 2			7.5				5.0			
2- 3		4.5	3.0				3.5			6.0
3- 4	11.5						2.5		1.5	
4- 5				6.0			1.5		5.0	7.5
5- 6							0.0	1.0		
6- 7			3.5					4.5		
7- 8		2.5							1.5	1.0
8- 9					0.0				4.5	
9-10				1.5					8.0	2.5
10-11			4.5			6.5	6.0			
11-12					2.5		4.5		1.0	3.5
12-13	11.5	0.5				5.0	3.5		4.0	
13-14							2.5	1.0	7.5	4.5
14-15			5.0		5.0	3.5	1.0	4.0		
15-16			0.5				0.0	7.5	0.5	6.0
16-17				7.5		2.5			4.0	
17-18					7.5				7.0	7.0
18-19			6.0			1.0				
19-20			1.5						0.0	
20-21							6.0		3.5	1.0
21-22	11.5			3.0			4.5	0.5	6.5	
22-23			6.5				3.5	4.0		2.0
23-24			2.0				2.5	7.5		
24-25							1.0		3.0	3.5
25-26					2.0				6.5	
26-27			7.5							4.5
27-28			3.0							
28-29					4.5				2.5	6.0
29-30		5.0						0.0	6.0	
30-31	11.0						5.5	3.5		7.0

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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			10.0		8.5	1.0	5.0	10.5	10.0	5.5	3.5		3.5			1.0					0.0	5.0	
1- 2	3.5			5.5		1.0	5.0	10.0	8.5	10.5	3.5		6.5	4.0		1.5					5.0	0.5	
2- 3	9.5					1.0	5.0	10.0	6.5	1.5	4.0			1.0		2.0					0.5	5.5	
3- 4	0.5		9.5	7.5	1.5	1.0	5.0	9.5	5.0	6.5	4.0					2.0				0.5	6.0	1.0	3.5
4- 5	7.0			0.5	10.5	0.5	4.5	9.0	3.0	12.0	4.5		1.0			2.5		3.0	3.0	1.5	6.5		
5- 6				10.0		0.5	4.5	9.0	1.0	2.5	4.5		3.5			2.5					6.5	2.0	
6- 7	4.0		9.0	2.5		0.5	4.5	8.5		8.0	5.0		6.5		3.0	3.0					2.0	7.0	
7- 8	10.5				3.5	0.5	4.5	8.0	8.5		5.0			5.0		3.5					7.5	2.5	
8- 9	1.5			4.5	12.0	0.5	4.5	8.0	7.0	3.5	5.5			2.0		3.5					3.0	8.0	4.5
9-10	7.5		8.0			0.0	4.0	7.5	5.0	9.0	5.5		1.0			4.0					8.0	3.0	
10-11				6.5		0.0	4.0	7.0	3.5		6.0		4.0								3.5	8.5	
11-12	5.0				5.0	0.0	4.0	7.0	1.5	5.0	6.0		6.5								9.0	4.0	
12-13			7.5	8.5		8.0	4.0	6.5		10.0	6.5										4.5	9.0	
13-14	2.0			1.5		8.0	4.0	6.0	9.0	1.0	6.5			6.0							9.5	4.5	5.5
14-15	8.5			11.0		7.5	3.5	6.0	7.5	6.0	7.0		1.0	3.0						2.0	5.0	0.0	
15-16			7.0	3.5	7.0	7.5	3.5	5.5	5.5	11.5	7.0		4.0							4.5	0.5	5.5	
16-17	5.5					7.5	3.5	5.0	4.0	2.0	7.5					0.0					6.0	1.0	
17-18		1.0		5.5		7.5	3.5	5.0	2.0	7.5	7.5					0.5		1.0			1.0	6.0	
18-19	3.0		6.5		0.0	7.5	3.5	4.5	0.5		8.0					1.0					6.5	1.5	7.0
19-20	9.0			7.5	8.5	7.0	3.0	4.0	9.5	3.5	8.0		1.5			1.0					2.0	7.0	
20-21	0.0			0.5		7.0	3.0	4.0	8.0	8.5	8.5		4.0	3.5		1.5					7.0	2.5	
21-22	6.5	3.5	5.5	10.0		7.0	3.0	3.5	6.0		8.5			0.5	2.0						2.5	7.5	
22-23				2.5	2.0	7.0	3.0	3.0	4.5	4.5	9.0					2.0					8.0	3.0	
23-24	3.5				10.5	6.5	3.0	3.0	2.5	10.0	9.0					2.5					3.5	8.5	8.0
24-25	10.0		5.0	4.5		6.5	2.5	2.5	0.5	0.5	9.5		1.5			3.0	3.5		1.0		8.5	4.0	
25-26	1.0	6.5				6.5	2.5	2.0	10.0	5.5	9.5		4.0			3.0			3.5		4.0	9.0	
26-27	7.0			6.5	3.5	6.5	2.5	2.0	8.0	11.0	10.0	4.0		4.5		3.5					9.5	4.5	
27-28			4.5		12.0	6.5	2.5	1.5	6.5	1.5	10.0			1.5		4.0					5.0	9.5	
28-29	4.5			8.5		6.0	2.0	1.0	4.5	7.0	10.5	3.0				4.0		2.5			0.5	5.0	9.5
29-30	10.5	9.5		1.5		6.0	2.0	1.0	3.0	12.0	10.5		1.5								5.5	0.5	

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	WW	AP	AP	AR	AR	CL	EP	HP	HP	TY	TY	TZ	TZ	ZZ	Y	SV	AL	CD	CD	R	RT	SX	TU
	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	BOO	BOO	BOO	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA	CMA
MAX	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	6.8	10.6	8.6	10.5	11.6	11.6	6.2	11.4	10.3	9.7
MIN	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	7.6	12.4	9.4	11.3	11.8	11.8	6.8	12.9	11.4	10.7
DUR	5	4	4	5	5	4	3	3	3	3	3	3	3	5	6	3	5	5	5	4	5	4	4
TOT	(S)		(S)		(S)				(S)		(S)		(S)	(S)					(S)				
0- 1			10.0				8.0	4.0										13.0	4.0			12.5	
1- 2		6.5					12.5								6.5	3.5	3.0	7.5		6.5			
2- 3		9.5					2.5	7.5								8.0	11.0	1.5	11.0	10.0			
3- 4			6.0			6.0	7.0					1.0				12.0			5.0		7.5		
4- 5	9.5		9.5			12.0	11.5	10.5								2.5		8.5				7.0	
5- 6		6.0	13.0						3.5		0.0					7.0	2.5	3.0	12.0			9.5	10.0
6- 7		9.5					6.0					0.0			0.0		13.0		11.5	10.5		6.5	
7- 8		12.5	6.0				10.5	7.0					1.0			1.5		10.0	1.0				
8- 9			9.0			5.5				0.5						6.0		4.5			11.5		
9-10	11.0	5.5	12.5			11.5	5.0		10.0							10.5	2.5		8.0				
10-11		9.0					9.0	3.5					0.5			1.0	10.0	11.5	2.0	8.5		6.5	
11-12		12.5	5.5									1.0			12.5	4.5	5.5		5.5		12.0		
12-13			9.0		1.5		4.0		6.5							9.5		0.0	9.0		9.0		
13-14		5.5	12.0			5.0	8.0										2.0	12.5	3.5			12.5	7.5
14-15	12.0	8.5		3.5		11.0	12.5	9.5				0.5			12.0	4.5	10.0	7.0					10.5
15-16		12.0	5.0				2.5		3.0							9.0		1.5	10.5				
16-17			8.5		5.0		7.0		13.0								12.5			5.0		6.0	
17-18		5.0	12.0				11.5	6.0					0.0				3.5	1.5	8.5				
18-19		8.5		6.5		4.5					0.0		1.0				8.0	9.5	3.0	12.0	7.5		9.5
19-20		11.5	5.0			10.0	6.0		9.0								12.5			6.5	11.0		
20-21			8.0		8.0		10.5	2.5									3.0		10.0	0.5			
21-22		4.5	11.5					12.5		0.5			0.5	12.5	2.5	7.0	1.0	4.0				10.0	
22-23		8.0		9.5			5.0		5.5				1.5				11.5	9.0		7.5			8.0
23-24		11.5	4.5			4.0	9.5										2.0		11.0	2.0		6.5	11.0
24-25			8.0		11.5	9.5		8.5			1.0				10.0	6.5		5.5					
25-26		4.5	11.0				4.0		2.0				0.5				11.0	1.0		9.0		7.5	
26-27		7.5		13.0			8.0		12.0								1.0	8.5	12.5	3.5	6.5		12.5
27-28	3.0	11.0	4.0				12.5	5.0									5.5		7.0		9.5		
28-29			7.5			3.5	2.5										10.0		1.0	10.5	13.0		
29-30		4.0	11.0			9.0	7.0		8.0				1.0				0.5	0.5		4.5			

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	TZ	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	9.8	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	10.1
MIN	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	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)
0- 1			7.5	8.0	9.5			7.0			1.0	4.5				11.0	7.0	10.0		0.5		2.0	
1- 2				11.5	12.5			12.0	2.5		7.5	3.5		4.5		11.0	11.0						8.0
2- 3			11.5								6.5	2.5	7.5			11.0					9.5		
3- 4					5.5					6.5	5.5	1.5	2.0	5.5		11.0						4.0	
4- 5				9.0	8.5						4.5	0.5			11.5	11.0		4.0	8.5				6.5
5- 6				13.0	11.5			2.0			3.5	7.0	10.5	6.5		10.5		9.5		6.5	11.5		
6- 7						2.5	6.5			0.5	2.5	6.0	5.5		8.0	10.5	2.5		2.5			6.0	
7- 8				6.5				11.5		9.0	1.0	5.0	0.5	7.5		10.5	6.0			0.5	1.0		5.5
8- 9				10.5	7.5				8.5		0.0	4.0			4.0	10.5	10.0						
9-10					10.5						7.0	3.0	9.0	8.5		10.5						8.5	
10-11									4.0	2.5	6.0	2.0	3.5	1.0	0.0	10.5		9.0			3.0		4.0
11-12				8.0				1.5		11.5	4.5	1.0		9.5		10.5			8.5				
12-13				11.5	6.5			6.0			3.5	7.5		2.0		10.5				6.5		10.5	
13-14			7.5		10.0	2.5		10.5			2.5	6.5	7.0	10.5		10.5	1.0		2.5		5.0		3.0
14-15	13.0				13.0					5.0	1.5	5.5	2.0	3.0		10.5	5.0	3.0		0.5			
15-16			11.5	9.0							0.5	4.5			13.0	10.5	8.5	9.0					
16-17		12.0		13.0	5.5	1.5					7.0	3.5	10.5	4.0		10.5	12.5				7.0		1.5
17-18					9.0			1.0	10.0		6.0	2.5	5.5		9.0	10.5						1.5	13.0
18-19	8.5			6.5	12.0			5.5		7.5	5.0	1.0	0.0	5.0		10.5			8.5				
19-20				10.5				10.0	5.5		4.0	0.0			5.0	10.0		2.5		6.5	9.0		0.5
20-21		7.5									3.0	7.0	8.5	6.0		10.0		8.5	2.5			3.5	11.5
21-22					8.0				1.0	1.0	2.0	6.0	3.5		1.5	10.0	3.5			0.5			
22-23				7.5	11.0					10.0	1.0	4.5		7.0		10.0	7.5				11.0		
23-24				11.5				0.0			7.5	3.5				10.0	11.5					5.5	10.5
24-25								5.0			6.5	2.5	7.0	8.0		10.0		2.0				0.0	
25-26					7.0			9.5		3.5	5.5	1.5	1.5	0.5		10.0		8.0	8.5				
26-27			7.5	9.0	10.0	1.0			11.5	12.5	4.5	0.5		9.0		10.0				6.5		7.5	9.0
27-28				13.0							3.5	7.0	10.0	1.5		10.0			2.5		2.0		
28-29			11.5						7.0		2.5	6.0	5.0	10.0	10.0	10.0	2.5			0.5			
29-30				6.5	6.0					6.0	1.5	5.0		2.5		10.0	6.5	1.5				10.0	8.0

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	U	SU	WZ	WZ	XX	DK	DL	DV	EG	SS	SS	U	RW	RV	V	Y	SW	WW	ZZ	AE	BR	CG	DK	
	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	CEP	COM	COM	CRB	CRB	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG	CYG	
MAX	6.7	8.8	11.7	11.7	8.5	12.2	12.4	11.6	9.6	10.9	10.9	7.6	10.1	9.0	9.5	7.0	9.3	9.9	10.7	11.8	9.4	11.0	10.3	
MIN	9.8	9.8	11.3	11.1	9.6	14.2	13.2	12.4	10.6	11.5	11.5	8.8	10.6	10.0	10.2	7.6	11.8	13.2	12.0	12.8	10.5	11.8	10.8	
DUR	4	4	3	3	4	4	5	4	3	4	4	5	4	4	4	6	5	5	4	4	4	3	4	
TOT	2																2							
				(S)						(S)			(S)		(S)									
0- 1		0.5	4.0	9.0	12.0		4.5	3.0	5.5			12.5	1.0							4.5		2.5	5.0	
1- 2	2.0		0.0	5.0				7.0	7.5							3.5			2.5	4.0	0.0		3.5	
2- 3			6.0	1.0				11.0	9.5					11.5						3.0		0.0	2.0	
3- 4			2.0	7.0			10.5		12.0									3.5		2.5		6.5	0.5	
4- 5			8.0	3.0					1.0						3.5	2.5		6.0	1.5					
5- 6			4.5	9.5	4.0		2.0		3.0											1.0	0.0	4.0		
6- 7	2.0	8.0	0.5	5.5					5.0										3.0	0.0				
7- 8		6.0	6.5	1.5	12.0			2.5	7.5						3.5							1.5	6.5	
8- 9		3.5	2.5	7.5			8.0	6.0	9.5	10.0		0.5	13.0						0.5					5.0
9-10		1.0	8.5	3.5				10.0	11.5						12.0				6.5		0.0			3.5
10-11			4.5	9.5					0.5							3.5						5.0	2.0	
11-12	1.5		0.5	5.5					3.0				12.5						4.0					0.5
12-13			6.5	1.5	4.5				5.0													2.5		
13-14			2.5	7.5			5.5		7.0							3.0	6.0	2.5	1.0		0.0			
14-15			8.5	3.5	12.5			1.5	9.0	9.5			12.5											
15-16		8.5	4.5	9.5				5.5	11.5													6.0	6.5	
16-17	1.0	6.0	0.5	5.5				9.5	0.5			0.5		12.5	3.0				4.5				5.0	
17-18		3.5	7.0	2.0					2.5				12.0									3.5	3.5	
18-19		1.5	3.0	8.0			3.0		4.5										2.0				2.0	
19-20			9.0	4.0	4.5				7.0							3.0						1.0	0.5	
20-21			5.0	10.0					9.0					12.0										
21-22	1.0		1.0	6.0	13.0		9.0	1.0	11.0						10.5				5.5					
22-23			7.0	2.0				5.0	0.0							3.0						5.0		
23-24	12.5		3.0	8.0			0.5	9.0	2.5				11.5	13.0				1.5	2.5				6.5	
24-25		9.0	9.0	4.0				12.5	4.5			0.0										2.5	5.0	
25-26		6.5	5.0	0.0					6.5							3.0							3.5	
26-27	0.5	4.0	1.0	6.0	5.0		6.5		8.5										6.0				2.0	
27-28		1.5	7.0	2.0					11.0	9.5												6.0	1.0	
28-29	12.5		3.5	8.5		11.5		0.5							11.0	3.0			3.5					
29-30			9.5	4.5		11.5		4.0	2.0											6.5		3.5		

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	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			1.5	3.0											1.0	12.0							7.0
1- 2	2.0									1.0			2.0	3.5		9.5	1.5		11.0				6.5
2- 3								1.5		4.5							3.5	7.0					5.5
3- 4			6.5		5.5					8.0					1.5		6.0			2.0			4.5
4- 5					3.0		1.5					2.0				3.0							4.0
5- 6		3.0	4.5		0.0					1.0				2.5		11.5		2.0			1.0	6.0	3.0
6- 7				3.0		4.0		1.0		4.5	2.5				5.0		0.5			8.5			
7- 8			2.5							8.0			1.0				2.5						
8- 9																4.5	5.0						
9-10			0.5							2.5	1.0			2.0									7.5
10-11										4.5					3.0							11.0	6.5
11-12					6.0		0.5			7.5							12.5		6.0		1.0		5.5
12-13			5.5	3.5	3.5											6.0	1.5						4.5
13-14				0.0	0.5	3.0		2.0		1.0			0.0	1.0			4.0	12.5					4.0
14-15			3.5							4.0					4.5		1.0		6.5	12.0			3.0
15-16								5.0		7.5													
16-17		2.0	2.0							3.5				5.0		8.0	11.5	7.5			3.5		
17-18										0.5				0.0	4.0		0.5				0.5		
18-19	2.5			3.5						4.0							3.0					6.5	7.5
19-20			6.5	0.5	6.5					7.5						1.0	5.5	3.0		9.5			6.5
20-21					4.0	1.5		3.0					3.5	4.0		9.5							5.5
21-22			5.0		1.0					0.5										0.5			5.0
22-23							4.0			4.0													4.0
23-24			3.0							4.5	7.5					3.0	2.0				0.5	11.5	3.0
24-25				4.0								4.5		3.5		11.5	4.5		7.0				
25-26			1.0	0.5						0.5					0.0		7.0						
26-27										4.0			2.5										
27-28		1.5				0.5		4.0		7.0		1.5				4.5	12.0						7.5
28-29			6.0		4.5									2.5	3.0		1.0						6.5
29-30					1.5		3.0			0.5							3.5			4.5	0.5		5.5

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

	R Y	U Z	E W	F L	R U	R U	R W	A T	B B	B O	V 508	V 839	E Q	E R	E R	E T	F L	F T	F Z	F Z	G U	G U	U	
	L Y N	L Y R	L Y R	L Y R	M O N	M O N	M O N	M O N	M O N	M O N	O P H	O P H	O R I	O R I	O R I	O R I	O R I	O R I	O R I	O R I	O R I	O R I	P E G	
MAX	11.9	9.8	11.2	8.7	10.6	10.6	9.1	10.6	10.6	10.8	10.1	8.8	10.3	9.5	9.5	11.2	10.5	9.1	10.7	10.7	12.6	12.6	9.7	
MIN	13.3	11.0	13.6	9.5	11.3	11.3	11.9	11.4	11.3	12.1	10.7	9.4	13.3	10.2	10.2	12.4	13.2	9.7	11.3	11.3	13.5	13.5	10.5	
DUR	4	5	5	4	5	5	5	5	4	5	3	3	4	3	3	5	3	4	3	3	4	4	3	
TOT							1			1														
							(S)								(S)					(S)		(S)		
0- 1											0.0	10.5			7.5	7.5			6.0		4.5	10.5	0.0	
1- 2	11.0					5.5		7.0	9.5						9.0	4.0	6.5	6.5			6.0	3.5	9.0	3.0
2- 3												1.5	4.5	5.5			5.0		6.0				7.5	6.0
3- 4		5.0						7.5								7.0	4.0				6.0		6.0	0.0
4- 5	8.0								7.5			2.5		8.0		3.0	9.0		6.0		10.5	4.5	3.0	
5- 6		2.5						8.5			0.5			4.5	9.5					6.0	9.0	3.5	6.0	
6- 7									12.5	8.5	1.0				6.0				6.0		7.5			
7- 8	5.0				5.0			9.0	6.0		2.0		10.0	7.5			11.5	5.0		6.0	6.0		3.0	
8- 9						9.5	11.0							3.5	9.0				6.0		4.5	10.5	6.0	
9-10								10.0	10.5			0.0	4.0		5.0					6.0	3.5	9.0		
10-11				2.0			9.0							6.5				8.5	6.0				7.5	3.0
11-12	12.0							10.5				1.0				8.0				6.0			6.0	6.0
12-13							6.5		9.0					9.5	4.0		3.0		6.0		10.5	5.0		
13-14								11.0				2.5		5.5				12.0		5.5	9.0	3.5	3.0	
14-15	9.0				9.5		4.5						9.5		7.0				5.5		7.5		6.0	
15-16								12.0	7.5	6.0	0.5			8.5	3.5	12.5	5.5			5.5	6.0			
16-17											1.0		3.5	5.0	10.0	11.5			5.5		5.0	10.5	3.0	
17-18	6.0							12.5	12.0	11.5	2.0				6.0	10.5				5.5	3.5	9.0	6.0	
18-19									5.5			0.0		7.5		9.0	8.0		5.5				7.5	
19-20														4.0	9.0	8.0				5.5		6.0	3.0	
20-21								10.5				1.0			5.5	7.0			5.5		10.5	5.0	6.0	
21-22													9.5	6.5		5.5	10.5			5.5	9.0	3.5		
22-23		3.0													8.0	4.5			5.5		7.5		3.0	
23-24				3.5				9.0					3.0	9.5	4.5	3.0				5.5	6.0		6.0	
24-25	10.0	0.0												6.0			13.0		5.5		5.0	10.5		
25-26											0.5				7.0					5.5	3.5	9.0	2.5	
26-27					8.0			7.0	9.0		1.0			8.5	3.5				5.5			7.5	5.5	
27-28	7.0		4.0				12.5				2.0	0.0		5.0	10.0					5.5		6.0	8.5	
28-29								12.0					9.0		6.5				5.5		10.5	5.0	2.5	
29-30			3.0				10.0		5.5			1.0		8.0			4.5	6.0		5.5	9.0	3.5	5.5	





	TY	WY	AC	AM	EQ	EQ	V	X	RV	W	W	TY	TY	UX	VV	XZ	ZZ	RU	AG	AH	AH	BH	Z
	TAU	TAU	TAU	TAU	TAU	TAU	TRI	TRI	TRI	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMA	UMI	VIR	VIR	VIR	VIR	VUL
MAX	11.5	11.5	10.5	10.4	10.3	10.3	10.9	8.9	11.4	9.1	9.1	11.7	11.7	12.7	10.1	10.1	9.8	10.7	8.8	9.7	9.7	9.9	7.4
MIN	12.0	11.7	12.3	12.3	11.0	11.0	11.9	12.0	12.5	9.9	9.9	12.4	12.4	13.8	11.0	11.7	11.2	11.4	9.4	10.2	10.2	11.3	9.2
DUR	2	4	6	5	3	3	4	4	4	3	3	3	3	1	3	3	4	4	4	4	4	4	6
TOT																							
						(S)					(S)		(S)									(S)	
0- 1					7.0	3.0				8.0	4.0		7.5		8.5	5.5		5.0					
1- 2		8.5	8.5		7.5	3.5	2.0		8.0	8.0	4.0					11.0	13.0	6.0	9.5				
2- 3					8.0	4.0	6.5		2.0	8.0	4.0	6.0			10.0			7.0					
3- 4		10.5	10.0		0.5	4.5	10.5			8.0	4.0	8.0		0.5				8.5				12.0	2.5
4- 5		3.0			1.0	5.0	0.5		8.0	8.0	4.0				11.5			9.5					
5- 6		12.5	11.0		1.5	6.0	4.5		2.0	8.0	4.0		6.5	9.0	4.0			11.0					
6- 7		5.0			2.5	6.5	8.5			8.0	4.0		8.0			8.0	3.0	12.0	13.0				
7- 8	2.5		12.0		3.0	7.0			8.5	8.0	4.0			8.5	5.5			0.5					
8- 9	4.5	7.0			3.5	7.5	2.5		2.5	8.0	4.0	7.0					10.5	2.0	11.0				0.5
9-10	6.5				4.0	8.0	7.0			4.0	8.5				7.0			3.0		9.5			
10-11	8.0	8.5			4.5	0.5	11.0		9.0	4.0			5.5					4.0	9.5				
11-12	10.0				5.0	1.0	1.0		3.0	4.0					7.0		8.5	5.5	5.5				
12-13	12.0	10.5			5.5	1.5	5.0			4.0					0.0		11.0		6.5				
13-14		3.0			6.5	2.0	9.0		9.0	4.0	6.0				10.0		0.5	8.0					
14-15		12.5			7.0	3.0			3.5	4.0	7.5			0.5				9.0					
15-16		5.0			7.5	3.5	3.5			4.0					11.5		8.0	10.0	13.0				
16-17					8.0	4.0	7.5		9.5	4.0			6.5	9.5	4.0			11.5					
17-18		7.0			0.5	4.5		11.0	3.5	4.0			8.0			8.0		12.5	11.0				
18-19				2.5	1.0	5.0	1.5	10.5		4.0					8.5	5.5		1.0					
19-20		9.0			1.5	5.5	5.5	9.5	10.0	4.0	6.5							2.5	9.5		9.5		
20-21				3.5	2.0	6.5	9.5	9.0	4.0	4.5	8.0				8.0	7.0		3.5		10.0			
21-22	3.0	10.5			2.5	7.0		8.5		4.5								5.0					
22-23	4.5	3.5		5.0	3.5	7.5	4.0	7.5	10.0	4.5		7.0			8.5	5.5	5.5	6.0					
23-24	6.5	12.5			4.0	8.0	8.0	7.0	4.5	4.5		0.0				11.0		7.0					
24-25	8.5	5.0		6.0	4.5	0.5		6.0		4.5	6.0				10.0		12.5	8.5	12.5				
25-26	10.0				5.0	1.0	2.0	5.5	10.5	4.5	7.5			1.0				9.5					
26-27	12.0	7.0		7.0	5.5	1.5	6.0	5.0	4.5	4.5					11.5			10.5	11.0				
27-28					6.0	2.0	10.0	4.0		4.5		6.0	0.5	4.0				12.0					
28-29		9.0		8.0	7.0	2.5	0.0	3.5	11.0	4.5		7.5			13.0	8.0		0.5	9.0				
29-30					7.5	3.5	4.5	3.0	5.0	4.5				9.0	5.5		3.0	1.5					



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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)	
0- 1	1.5		3.5		5.0	6.0	2.0		0.5	1.0	3.0		2.5	4.0								1.0	6.0
1- 2	8.0			3.5		6.0	2.0		0.0		8.0											6.5	1.5
2- 3						6.0	2.0						1.5									1.5	6.5
3- 4	5.0		3.0	5.5		5.5	1.5			7.0	4.0				2.5							7.0	2.0
4- 5					7.0	5.5	1.5			5.0	9.5		1.0	1.5			0.0					2.5	7.5
5- 6	2.5			7.5		5.5	1.5			3.5		0.0		4.0						2.5		7.5	3.0
6- 7	8.5		2.5	0.5		5.5	1.5			1.5	5.5	0.5				1.5	0.5					3.0	8.0
7- 8					0.0	5.5	1.5					0.5					1.0					8.5	3.5
8- 9	6.0			2.5	8.5	5.0	1.0				1.0	1.0					1.5					4.0	9.0
9-10			1.5			5.0	1.0				7.5	6.5	1.0		1.5	3.0		1.5				9.0	4.5
10-11	3.0			4.5		5.0	1.0				5.5			4.5			2.0					4.5	
11-12					2.0	5.0	1.0	8.5		4.0	2.5	1.5								0.5		0.0	5.0
12-13	0.5		1.0	6.5		5.0	1.0	8.5		2.0	7.5	2.0										5.5	0.5
13-14	6.5					4.5	0.5	8.0		0.0		2.0										1.0	5.5
14-15				9.0		4.5	0.5	7.5			3.5	2.5		1.5								6.0	1.0
15-16	4.0		0.5	1.5	3.5	4.5	0.5	7.5		7.5	9.0	2.5		4.5	4.0					1.5		1.5	6.5
16-17						4.5	0.5	7.0		6.0		3.0			1.0							7.0	2.0
17-18	1.0			3.5		4.0	0.5	6.5		4.0	5.0	3.0										2.5	7.0
18-19	7.5					4.0	0.0	6.5		2.5	10.0	3.5										7.5	2.5
19-20				5.5	5.5	4.0	0.0	6.0		0.5	1.0	3.5		2.0								3.0	8.0
20-21	4.5	0.5				4.0		5.5			6.0	4.0		4.5								8.0	3.5
21-22				7.5		4.0		5.5		8.0		4.0				1.0						3.5	8.5
22-23	2.0			0.5		3.5		5.0		6.5	2.0	4.5			2.0					2.0		9.0	4.0
23-24	8.0				7.0	3.5		4.5		4.5	7.5	4.5										4.5	9.5
24-25		3.5		2.5		3.5		4.5		3.0		5.0		2.0								0.5	5.0
25-26	5.5					3.5		4.0		1.0	3.0	5.0										1.0	0.5
26-27				4.5	0.0	3.5		3.5			8.5	5.5										1.0	0.5
27-28	2.5				8.5	3.0	7.0	3.5				5.5										1.5	6.0
28-29		6.5		6.5		3.0	7.0	3.0		7.0	4.5	6.0			3.0				2.0	1.5		1.5	6.0
29-30	0.0					3.0	7.0	2.5		5.0	9.5	6.0		2.0								2.0	6.5
30-31	6.0			9.0	2.0	3.0	7.0	2.5		3.0	0.5	6.5										2.0	7.0

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	WW	WW	AP	AP	AR	AR	CL	EP	HP	HP	ZZ	Y	SV	AL	CD	CD	R	RT	SX	TU	TZ	TZ	UU
	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	AUR	BOO	CAM	CAM	CAM	CAM	CAM	CMA	CMA	CMA	CMA	CMA	CMA	CMA
MAX	5.7	5.7	10.9	10.9	6.0	6.0	11.7	10.8	10.8	10.8	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	6.4	6.4	11.4	11.4	6.7	6.7	13.2	11.3	11.5	11.5	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	5	5	4	4	5	5	4	3	3	3	5	6	3	5	5	5	4	5	4	4	4	4	5
TOT		(S)		(S)		(S)				(S)	(S)					(S)							(S)
0- 1			7.5					11.5	1.5				4.5	8.5	8.0						5.5		
1- 2			10.5	4.0				1.5	11.5		12.0	0.5	9.0		2.5	11.5			9.5	8.5			
2- 3		4.0		7.0				6.0		4.5						6.0							
3- 4	10.5		3.5	10.5			2.5	10.5					4.0	0.0	9.5	0.5							
4- 5			7.0				8.5	0.5	8.0			8.0	8.5	8.0	4.0		5.0	8.5					
5- 6			10.5	3.5				5.0		1.0			13.0			7.5	8.5						
6- 7				7.0				9.5		11.0	11.5		3.0		11.0	2.0	11.5		6.5				
7- 8		5.5	3.5	10.0					4.0				7.5		5.5						11.5		
8- 9	11.5		6.5				2.0	4.0					12.0	7.5		9.0		6.0					
9-10			10.0	3.0			8.0	8.0		7.5			2.0		12.5	3.0				6.0		10.5	7.5
10-11				6.5				12.5	0.5				6.5		6.5					9.0			
11-12			3.0	9.5		0.5		3.0	10.5		11.5		11.0		1.0	10.0					7.0		11.5
12-13		6.5	6.0					7.0		3.5			1.5	7.5		4.5	4.0						
13-14	13.0		9.5	2.5	2.0		1.5	11.5					6.0		8.0		7.5	10.0				6.0	
14-15			13.0	6.0			7.5	1.5	7.0			6.0	10.5		2.5	11.5	10.5		9.5				
15-16			2.5	9.5		3.5		6.0					0.5			6.0							
16-17	1.5		6.0	12.5				10.5		10.0	11.5		5.0	7.0	9.5	0.0							
17-18		8.0	9.0	2.5	5.0			0.5	3.0				9.5		3.5	13.0		7.0					
18-19			12.5	5.5			1.0	5.0								7.0					6.5		
19-20			2.0	9.0		6.5	7.0	9.5		6.5			4.0		10.5	1.5			6.0	9.5			
20-21			5.5	12.5			13.0						8.5	6.5	5.0								
21-22	2.5		9.0	2.0	8.5			4.0	9.5		11.0					8.5	6.0	4.5					
22-23		9.0	12.0	5.5				8.5		2.5			3.5		12.0	3.0	9.5		12.0				7.5
23-24			2.0	8.5		10.0	0.5	12.5		13.0			8.0		6.5								
24-25			5.0	12.0			6.5	3.0	6.0			4.0	12.5	6.0	1.0	10.0							11.5
25-26			8.5	1.5	11.5		12.5	7.0					2.5			4.5							
26-27	4.0		12.0	5.0				11.5		9.0	11.0		7.0		8.0			8.5			4.0		
27-28		10.0	1.5	8.5				2.0	2.0			11.0	11.5		2.0	11.5			9.0	7.0			
28-29			5.0	11.5			0.0	6.0	12.5				1.5	6.0		5.5					10.0		
29-30			8.0	1.5			6.0	10.5		5.5			6.0		9.0		5.0						
30-31			11.5	4.5			12.0	0.5					10.5		3.5	12.5	8.0	5.5			10.0		

	XZ	AK	RW	RZ	TV	AB	CW	CW	DZ	IR	IS	IV	MM	OR	PV	PV	V364	V364	V375	U	SU	WZ	WZ
	CMI	CMI	CAP	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CAS	CEP	CEP	CEP	CEP
MAX	9.7	10.1	9.8	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
MIN	10.2	11.5	10.8	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
DUR	3	4	5	4	4	4	3	3	4	4	5	5	5	4	3	3	4	4	5	4	4	3	3
TOT																				2			
									(S)										(S)				(S)
0- 1	10.0	9.0		4.5	2.5		0.0	4.0			6.5	10.0	7.5				4.5					5.5	0.5
1- 2		12.5		9.0			7.0	3.0	8.5	3.5										0.0		1.5	6.5
2- 3	4.0						6.0	2.0	3.0		2.5				8.5				6.5			7.5	2.5
3- 4	7.5	5.0				8.5	5.0	1.0		4.5						6.5	6.5			12.0		3.5	8.5
4- 5	11.5	8.5					3.5	7.5						1.5	2.5			1.0			7.0	9.5	4.5
5- 6		11.5					2.5	6.5	6.5	5.5			1.5	7.0		0.5			5.5		4.5	5.5	0.5
6- 7	5.0			3.5		2.0	1.5	5.5	1.5				5.0				8.5				2.0	1.5	6.5
7- 8	9.0	4.0		8.5	8.5	11.0	0.5	4.5		6.5			9.0					3.0				7.5	2.5
8- 9	12.5	7.5					7.0	3.5											4.0	11.5		3.5	8.5
9-10		10.5			4.0		6.0	2.5	4.5	7.5				1.0	8.5							10.0	5.0
10-11	6.5					4.5	5.0	1.5						7.0		6.5		5.0				6.0	1.0
11-12	10.0	3.5					4.0	0.0		8.5	7.5	9.5			2.5				3.0			2.0	7.0
12-13		6.5		3.0			3.0	7.0	8.0	0.5		9.5	0.0			0.5						8.0	3.0
13-14	4.0	9.5		8.0			2.0	6.0	3.0		4.0	9.5	4.0					7.0		11.5	7.0	4.0	9.0
14-15	7.5	13.0		12.5		7.0	1.0	5.0		1.5		9.5	8.0	0.5			1.5		1.5		4.5	10.0	5.0
15-16	11.5						7.5	3.5				9.5		6.5					13.0		2.5	6.0	1.0
16-17		5.5			10.0		6.5	2.5	6.0	3.0		9.5		12.5	9.0			9.0			0.0	2.0	7.0
17-18	5.0	8.5	1.0			0.5	5.5	1.5	1.0			9.0				6.5	3.5		0.0			8.0	3.0
18-19	9.0	12.0		2.5	5.5	9.5	4.5	0.5		4.0		9.0			3.0				11.5	11.0		4.0	9.0
19-20	12.5			7.5			3.5	7.0	9.5			9.0		0.0		0.5						0.0	5.0
20-21		4.5		12.0	1.0		2.5	6.0	4.5	5.0		9.0	3.0	6.0			5.5					6.0	1.0
21-22	6.5	7.5				3.0	1.5	5.0				9.0	6.5	12.0				0.0	10.5			2.5	7.5
22-23	10.0	11.0			11.5		0.5	4.0		6.0	9.0	9.0	10.5								7.5	8.5	3.5
23-24							7.0	3.0	8.0			9.0			9.0		8.0			11.0	5.0	4.5	9.5
24-25	4.0	3.5		2.0			6.0	2.0	2.5	7.0	5.0	9.0				6.5		2.5	9.0		2.5	0.5	5.5
25-26	7.5	7.0		6.5		5.5	5.0	1.0				9.0		5.5	3.0						0.5	6.5	1.5
26-27	11.5	10.0		11.5			3.5	7.5		8.0	1.0	9.0		11.5		0.5	10.0					2.5	7.5
27-28					7.0		2.5	6.5	6.0	0.0		9.0	1.5					4.5	8.0			8.5	3.5
28-29	5.0						1.5	5.5	1.0	9.0		9.0	5.5							10.5		4.5	9.5
29-30	9.0	6.0			2.5	7.5	0.5	4.5		1.0		9.0	9.0									0.5	5.5
30-31	12.5	9.0		1.5			7.0	3.5	9.5			9.0		5.0	9.0			6.5	6.5			6.5	1.5

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	XX	DK	DL	DV	EG	RZ	RZ	SS	SS	U	RW	W	W	RV	RV	V	Y	SW	WW	ZZ	AE	CG	DK
	CEP	CEP	CEP	CEP	CEP	COM	COM	COM	COM	CRB	CRB	CRV	CRV	CRV	CRV	CRT	CYG	CYG	CYG	CYG	CYG	CYG	CYG
MAX	8.5	12.2	12.4	11.6	9.6	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
MIN	9.6	14.2	13.2	12.4	10.6	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
DUR	4	4	5	4	3	3	3	4	4	5	4	4	4	4	4	4	6	5	5	4	4	3	4
TOT																		2					
							(S)		(S)				(S)		(S)								
0- 1				8.0	4.0						13.0									0.5			
1- 2			4.0	12.0	6.5			8.0									2.5					1.0	
2- 3					8.5		7.0		8.5						11.0						4.0		5.0
3- 4	5.0				10.5		7.5	9.5			10.5		9.5			8.5		0.5	4.0		3.5		3.5
4- 5		9.5			13.0		8.0					8.5					2.5				3.0	4.5	2.0
5- 6		9.0			2.0									10.5	11.5					1.0	2.0		1.0
6- 7		9.0	1.5	3.5	4.0												3.0				1.5	2.0	
7- 8		8.5		7.5	6.0												2.5				0.5		
8- 9		8.0		11.5	8.5		8.0			12.0	13.0				10.5								
9-10		8.0	7.5		10.5			9.0															
10-11	5.5	7.5			12.5			9.5					9.0			9.0	2.5			2.0			5.0
11-12		7.0			1.5						10.5					10.0						3.5	3.5
12-13		7.0			4.0											11.5							2.0
13-14		6.5		3.0	6.0	7.5											2.5					0.5	1.0
14-15		6.0	5.0	6.5	8.0	7.5		8.0								10.0							
15-16		6.0		10.5	10.0	8.0		8.5		9.5										2.5			
16-17		5.5			12.5			9.5			12.5	9.5					2.5						4.5
17-18	6.0	5.0			1.5								8.5			9.5							
18-19		5.0			3.5									13.0								2.0	5.0
19-20		4.5	2.5		5.5						10.5					12.0	2.0						3.5
20-21		4.0		2.0	8.0			7.5												3.5			2.5
21-22		4.0		6.0	10.0				8.5						12.5								1.0
22-23		3.5	8.5	10.0	12.0			9.0									2.0				0.5		
23-24		3.0			1.0				10.0			9.0											3.0
24-25	6.0	3.0			3.5		7.5				12.5			12.5		10.0							
25-26		2.5			5.5		7.5										2.0			4.0		0.5	
26-27		2.0			7.5		8.0										12.5						5.0
27-28		2.0	6.0	1.5	10.0			8.0			10.0			12.0						1.0			3.5
28-29		1.5		5.5	12.0				8.5								2.0					4.0	2.5
29-30		1.0		9.5	1.0			9.5									8.0						1.0
30-31		1.0			3.0						8.5			12.0						4.5		1.5	

	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			4.0							3.5	3.0							8.5					5.0
1- 2				1.0											6.5						10.0	7.5	4.0
2- 3			2.0										1.5	2.0	1.0		11.0			10.5			3.0
3- 4										0.0							0.0	4.0					2.0
4- 5			0.5							3.5							2.5		1.5				1.5
5- 6	3.5														8.0	5.0					0.0		0.5
6- 7							2.0						1.0										7.5
7- 8			5.0	1.5	2.0					0.0						10.0		8.0		10.0			6.5
8- 9		1.0								3.5			0.5			1.0	12.5						5.5
9-10			3.5												2.5	10.0	1.5					3.0	5.0
10-11														0.0			4.0						4.0
11-12			1.5																		0.0		3.0
12-13										3.5						3.0				5.5			2.5
13-14				1.5			1.0								0.5	11.5	11.5				9.5		1.5
14-15																0.5	9.5					8.0	0.5
15-16					2.5	3.0										3.0				11.5			7.5
16-17			4.5		0.0					3.0						4.5							6.5
17-18																		4.5	3.0				5.5
18-19			2.5														10.5						5.0
19-20		0.0		2.0													12.5				9.5		4.0
20-21			0.5							3.0		0.5			1.5	6.5	2.0		9.0				3.0
21-22													3.0	2.5			4.5						2.5
22-23	4.5						2.0													0.0		3.5	1.5
23-24					3.0												9.5						0.5
24-25					0.5					3.0						8.0	11.5						7.5
25-26	0.5		3.5	2.5										2.0			1.0		6.5	9.5			6.5
26-27								1.0									3.5						6.0
27-28			2.0										2.0		2.5	1.5						8.5	5.0
28-29										3.0						10.0		10.0		13.0			4.0
29-30						1.0								1.0			10.5						3.0
30-31								0.5											4.0				2.5



	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	1.0			1.0			13.0		12.5	8.0				4.5	0.0	4.0			0.0	11.5	7.5			
1- 2									5.0	7.5		10.0		3.5	7.0	6.0								
2- 3	7.0	7.0	2.0	12.0						7.5				2.5	6.0			8.0				8.5		
3- 4	6.0		8.0						6.5	7.5		6.5	7.0	1.5	5.0		4.0		2.0				5.5	
4- 5	5.5									7.0		12.0	8.0	1.0	4.5								7.5	
5- 6	4.5	3.5				13.0			7.5	7.0			9.0		3.5					13.0	8.5	8.5	9.5	
6- 7	3.5									6.5		8.0	10.5	6.5	2.5			4.0					12.0	
7- 8	2.5		1.5						8.5	6.5			11.5	6.0	1.5					5.5				
8- 9	2.0		7.5							6.5			12.5	5.0	0.5							8.5		
9-10	1.0			1.0					10.0	6.0		10.0		4.0					6.0					
10-11							11.5			6.0				3.0	6.5			1.5			9.5			
11-12	7.0			12.0					11.0	5.5		6.0		2.0	5.5		4.5					8.5		
12-13	6.0									5.5		11.5		1.0	4.5				8.5	6.5				
13-14	5.5		7.0						12.5	5.5				0.5	4.0	1.5		3.5						
14-15	4.5		12.5		11.5					5.0		8.0			3.0	3.5						8.5		
15-16	3.5									5.0			7.0	6.0	2.0	5.0					10.0		5.0	
16-17	2.5								6.0	4.5			8.5	5.5	1.0		0.0	5.5					7.0	
17-18	2.0									4.5		9.5	9.5	4.5	0.0					8.0		8.5	9.5	
18-19	1.0		6.0	1.0					7.0	4.5			10.5	3.5	7.0								11.5	
19-20		11.5	12.0		0.0							6.0	11.5	2.5	6.0		5.0	7.5						
20-21	7.0			12.0					8.5		8.0	11.5	12.5	1.5	5.0				1.5		11.0	8.5		
21-22	6.0					0.5					7.5			1.0	4.0									
22-23	5.5	8.5							9.5		7.5	8.0			3.5					9.5				
23-24	4.5		5.5								7.5			6.5	2.5			3.5				8.5		
24-25	3.5		11.5						10.5		7.0			5.5	1.5		1.0							
25-26	3.0	5.0									7.0	9.5		5.0	0.5						12.0			
26-27	2.0								12.0		6.5			4.0					5.5			8.5		
27-28	1.0			1.0							6.5	6.0	7.5	3.0	6.5	1.0	6.0	0.5		11.0			5.0	
28-29		2.0	5.0								6.5	11.5	8.5	2.0	5.5	2.5							7.0	
29-30	7.0		10.5	12.0					5.5		6.0		9.5	1.0	4.5	4.5			7.5			8.5	9.0	
30-31	6.5										6.0	7.5	10.5	0.5	3.5	6.0		2.5					11.0	

## AAVSO Eclipsing Binary Ephemeris for December 2019

all times in U.T.

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	T	RR	RY	UZ	EW	FL	RU	RU	RW	BB	BO	SX V508	EQ	ER	ER	ET	FL	FT	FZ	FZ	GU	GU		
	LMI	LEP	LYN	LYR	LYR	LYR	MON	MON	MON	MON	MON	OPH	OPH	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI	ORI		
MAX	10.2	10.2	11.9	9.8	11.2	8.7	10.6	10.6	9.1	10.6	10.8	10.5	10.1	10.3	9.5	9.5	11.2	10.5	9.1	10.7	10.7	12.6	12.6	
MIN	12.6	10.9	13.3	11.0	13.6	9.5	11.3	11.3	11.9	11.3	12.1	11.2	10.7	13.3	10.2	10.2	12.4	13.2	9.7	11.3	11.3	13.5	13.5	
DUR	6	4	4	5	5	4	5	5	5	4	5	5	3	4	3	3	5	3	4	3	3	4	4	
TOT									1		1													
								(S)								(S)					(S)		(S)	
0- 1			4.0											3.0	4.0	9.0				5.5		7.5	2.0	
1- 2					2.0				8.0	10.0						5.5					5.5	6.5		
2- 3							7.5			4.0					7.0	2.0	7.0	9.5	5.5		5.0	10.5		
3- 4					0.5			12.0	5.5						3.0	8.5					5.5	3.5	9.0	
4- 5			11.5			1.0				8.5					9.5	4.5					5.5	2.0	7.5	
5- 6									3.5		6.5		0.5	8.5	6.0		9.5				5.5	5.5	6.5	
6- 7															2.5	7.5	11.0			5.5		10.5	5.0	
7- 8		9.0	8.0							7.0	12.0			2.5	9.0	4.0	9.5				5.5	9.0	3.5	
8- 9	4.0	7.0													5.0		8.5			5.5		7.5	2.0	
9-10		5.0		3.5			11.5			11.5					1.5	6.5	7.0				5.5	6.5		
10-11		3.0	5.0							5.0					8.0	3.0	6.0	1.0		5.5		5.0	10.5	
11-12	4.5			0.5											4.5	9.5	5.0				5.5	3.5	9.0	
12-13										10.0					8.0		5.5	3.5			5.5		2.0	7.5
13-14			2.0							3.5					7.0	2.0	2.5	3.5			5.5		6.5	
14-15	5.0		12.5				6.0				4.0			2.0	3.5	8.5	1.5			5.5		10.5	5.0	
15-16										8.5		0.5			10.0	5.0					5.5	9.0	3.5	
16-17											9.5				6.0		6.0		5.5			7.5	2.0	
17-18	5.5		9.0			2.5									2.5	7.5					5.5	6.5		
18-19		8.5							11.5	6.5					9.0	4.0		4.0	5.5			5.0	10.5	
19-20		6.5										12.5		8.0	5.5		8.5				5.5	3.5	9.0	
20-21	6.0	4.5	6.0				5.5		9.5	11.5					1.5	7.0				5.5		2.0	8.0	
21-22		2.5						10.0		5.0					1.5	8.0	3.0		7.5		5.5		6.5	
22-23				12.0					7.0						4.5	9.5	11.0			5.5		10.5	5.0	
23-24	6.5		3.0							10.0						6.0					5.5	9.0	3.5	
24-25									5.0	3.5					7.5	2.0		11.0	5.5			8.0	2.0	
25-26											7.5		0.5		3.5	8.5					5.5	6.5		
26-27	6.5								2.5	8.0				7.5	10.0	5.0	10.0			5.5		5.0	10.5	
27-28			10.5				9.5				12.5				6.5	1.5	9.0	2.5			5.5	3.5	9.0	
28-29		10.0		1.5										1.5	3.0	8.0	7.5			5.5		2.0	8.0	
29-30	7.0	8.0								6.5					9.5	4.0	6.5				5.5		6.5	
30-31		6.0	7.0												5.5		5.5	5.0		5.5		10.5	5.0	



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

	AK	BH	Z	AW	AX	AY	BE	BO	BS	BT	BU	CD
	VIR	VIR	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL	VUL
MAX	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	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	6	5	5	4	5	4	3	3	3	4
TOT												
0- 1		11.0			4.0						2.5	1.5
1- 2						3.5				2.5		
2- 3									2.0			2.5
3- 4									0.5			
4- 5				0.5							2.0	
5- 6			0.5									
6- 7												
7- 8	12.5											
8- 9				1.5							2.0	
9-10		10.5					2.0			2.0		
10-11												
11-12												
12-13				2.0					1.5		1.5	
13-14	11.5	12.5							0.5			1.0
14-15												
15-16												2.5
16-17				3.0							1.0	
17-18										2.0		3.5
18-19		10.5				0.5						
19-20	11.0											
20-21				3.5							0.5	
21-22											4.0	
22-23		12.5							1.5			
23-24							1.5		0.5			
24-25											0.0	
25-26										1.5	3.5	
26-27												1.0
27-28		10.0						2.5				
28-29												2.0
29-30			0.5					1.0			3.0	
30-31						2.0						3.5