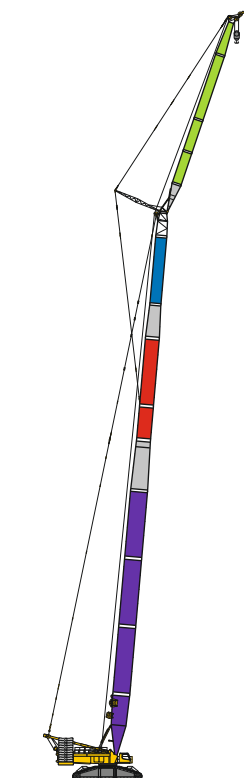


HSL3AF

LR 1800-1.0



HSL3AF

HSL3 177 ft - 335 ft
F 39 ft - 128 ft

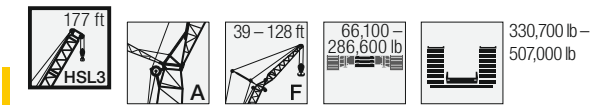
Proposition 65



WARNING: This product can expose you to chemicals, including exhaust emissions, including lead and lead compounds, which are known to the State of California to cause cancer, birth defects or other reproductive harm.

For more information see: www.P65warnings.ca.gov/diesel

LIEBHERR



 ft	HSL3 177																												 ft
	F 39			F 49			F 59			F 69			F 79			F 89			F 98			F 108		F 118		F 128			
	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	18°	30°	18°	30°	18°	30°		
38	408																											38	
40	408																											40	
45	408	404		393																								45	
50	408	388	268	374	324		324			287																		50	
55	408	374	260	358	311	229	309	266		274	240		256			238												55	
60	408	360	253	342	299	223	295	256	196	261	231		243	211		226			215									60	
65	405	347	246	328	288	217	282	246	190	250	222		232	203		216	188		205									65	
70	392	335	240	314	278	211	271	238	184	240	214	158	222	195	147	207	180		196	170		162		156		152		70	
75	372	323	234	302	269	205	260	230	179	230	206	154	213	187	143	198	174	134	187	163		156		150		145		75	
80	346	313	229	290	261	199	251	222	170	221	199	150	204	181	139	190	167	130	179	157		149		144		139		80	
85	320	303	224	280	253	194	241	215	161	214	193	146	197	175	135	182	161	126	172	151	121	144	115	138		133		85	
90	297	290	219	270	245	189	233	208	157	206	186	142	189	169	131	175	155	123	165	146	117	138	111	133	106	128	102	90	
95	276	274	215	262	238	184	225	203	153	199	181	138	182	164	128	169	150	119	159	141	114	133	108	128	103	123	98.4	95	
100	256	257	210	252	231	179	218	197	149	192	176	135	176	159	124	163	146	116	153	136	111	129	105	123	99.6	118	95.2	100	
105	238	240	207	240	225	171	211	192	146	186	170	131	170	154	121	157	141	113	147	132	108	124	102	119	96.5	114	92	105	
110	223	225	203	225	218	165	205	186	143	180	166	128	165	149	118	152	137	110	142	128	105	120	99.2	115	93.7	110	89.3	110	
115	210	211	200	211	212	159	199	181	140	174	161	125	160	145	115	147	132	107	137	124	102	116	96.5	111	90.9	106	86.7	115	
120	197	198	196	199	201	156	193	177	137	169	157	123	155	141	113	142	129	105	133	120	99.4	113	93.8	107	88.5	102	84.1	120	
125	186	187	189	187	190	153	186	172	134	164	153	120	150	137	110	138	125	102	128	117	96.9	109	91.3	104	86.3	99.1	81.8	125	
130	175	176	179	177	179	150	178	168	131	160	150	118	146	134	108	133	122	100	124	113	94.5	106	89.2	101	84.1	95.8	79.4	130	
135	166	167	169	167	169	147	170	164	129	156	146	115	142	130	106	129	119	97.7	121	110	92.3	103	87.1	97.6	82	92.8	77.3	135	
140	158	158	161	158	160	145	161	159	126	151	143	113	138	127	103	126	116	95.6	117	107	90.1	100	85.1	94.6	79.9	90	75.3	140	
145	149	150	152	150	152	142	153	153	124	148	139	111	135	125	101	122	113	93.5	114	105	88.1	97.4	83.1	91.7	77.9	87.3	73.3	145	
150	142	142	145	143	145	139	145	146	122	143	136	109	131	122	99.2	119	110	91.5	111	102	86	94.8	81.3	89.3	76	84.7	71.5	150	
155	135	135	138	136	138	136	138	139	120	138	133	107	128	119	97.2	116	108	89.7	108	99.4	84.2	92.3	79.4	86.8	74.2	82.4	69.8	155	
160	128	129	131	130	131	131	132	133	118	132	130	105	125	116	95.5	113	105	87.8	105	97	82.5	89.9	77.6	84.5	72.5	80	68.2	160	
165	122	122	125	123	125	127	125	126	116	126	126	103	122	114	93.8	110	103	86.1	102	94.7	80.9	87.6	75.9	82.3	70.8	77.7	66.5	165	
170	116	117	118	118	119	121	120	121	114	121	121	102	118	111	92.3	107	101	84.5	99.5	92.5	79.3	85.6	74.3	80.2	69.2	75.6	64.9	170	
175	111	111	113	112	113	116	114	115	112	115	116	100	114	109	90.6	105	98.5	83	97	90.4	77.6	83.7	72.7	78.1	67.8	73.4	63.3	175	
180	106	106	108	107	108	110	109	110	109	110	112	98.7	111	107	89.2	103	96.6	81.6	94.7	88.4	76.2	81.8	71.1	76.1	66.5	71.5	61.9	180	
185	101	102	103	102	104	105	104	105	106	105	107	97.3	107	105	87.8	101	94.7	80.2	92.5	86.5	74.8	79.9	69.7	74.4	65.2	69.7	60.6	185	
190	96.8	97	98.2	97.8	98.9	100	100	100	102	101	102	96	103	102	86.4	98.3	92.8	79	90.3	84.8	73.5	78.1	68.4	72.6	63.9	68	59.4	190	
195	92.6	92.8	93.9	93.6	94.7	96	95.7	96.2	98.1	96.4	97.9	94.7	98.3	98.3	85.2	95.7	91	77.8	88.1	83.1	72.2	76.5	67.2	71	62.7	66.3	58.2	195	
200				89.6	90.6	91.8	91.6	92	93.7	92.4	93.8	92.7	94.2	94.6	84.2	92.9	89.4	76.4	86.2	81.5	71	74.9	66	69.5	61.5	64.8	57.1	200	
205				85.8	86.7	87.7	87.8	88.2	89.6	88.5	89.9	89.8	90.4	91	82.9	90.1	87.9	75.3	84.5	79.9	69.8	73.3	64.9	68	60.4	63.4	56	205	
210							84.1	84.5	85.7	84.9	86.1	86.8	86.7	87.4	81.9	87	86.3	74.3	82.8	78.6	68.8	71.8	63.8	66.5	59.3	62	55	210	
215								81	82	81.4	82.6	83.3	83.1	83.8	81	83.6	83.6	73.2	81	77.2	67.7	70.5	62.7	65.1	58.4	60.7	54	215	
220										78.1	79.2	79.7	79.8	80.3	80	80.2	80.6	72.4	79	75.9	66.8	69.1	61.6	63.8	57.4	59.3	53	220	
225											75.9	76.4	76.6	77.1	77.5	77	77.6	71.6	77	74.7	65.8	67.8	60.7	62.6	56.5	58.1	52.1	225	
230													73.5	74	74.6	74	74.6	70.8	75	73.5	65.1	66.7	59.7	61.5	55.6	56.9	51.2	230	
235														71	71.6	71.1	71.7	69.9	72.4	72.2	64.3	65.7	58.9	60.3	54.8	55.7	50.3	235	
240																68.3	68.8	68.9	69.6	69.8	63.6	64.7	58.2	59.3	53.9	54.6	49.6	240	
245																		66.8	66.9	67.3	63	63.7	57.5	58.3	53.2	53.6	48.8	245	
250																			64.4	64.8	62.4	62.9	56.9	57.3	52.5	52.7	48	250	
255																					61.5	61.9	56.3	56.4	51.9	51.7	47.4	255	
260																						60.3	55.8	55.5	51.3	50.9	46.8	260	
265																							55.5	54.7	50.8	50	46.2	265	
270																								54.1	50.3	49.2	45.9	270	
275																									49.9	48.5	45.5	275	
280																										45.1		280	



330,700 lb –
507,000 lb

 ft	HSL3 197																												 ft	
	F 39			F 49			F 59			F 69			F 79			F 89			F 98			F 108		F 118		F 128				
	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	18°	30°	18°	30°	18°	30°	18°	30°	
40	408			397																									40	
45	408	407																											45	
50	408	393	269	379	327		328																						50	
55	408	379	262	363	315		313	269		278			257																55	
60	408	366	256	348	304	224	300	259		265	233		246			229													60	
65	408	354	249	334	293	219	288	250	192	255	224		236	204		219	190		207										65	
70	397	341	243	322	283	213	277	242	186	244	217	159	226	197		210	182		198	172		164							70	
75	372	331	238	310	274	208	267	234	181	236	209	155	218	190	144	201	176		190	165		157		151			147		75	
80	346	320	233	299	266	202	257	227	175	227	203	151	210	183	140	194	170	131	183	160		151		145			140		80	
85	319	306	228	289	258	197	248	220	167	219	197	148	202	178	136	187	164	127	176	154	122	146		140			135		85	
90	292	290	223	279	251	193	239	213	159	212	191	144	195	173	133	180	159	124	168	149	118	141	112	135	107	130			90	
95	272	273	219	268	244	188	232	207	156	205	186	141	188	167	129	173	153	121	162	144	115	136	109	130	104	125	98.9		95	
100	253	255	214	254	237	184	225	202	152	198	180	137	181	162	126	167	149	118	157	139	112	131	106	126	101	121	95.9		100	
105	236	238	210	237	229	180	219	196	149	191	175	134	176	158	123	162	145	115	151	135	109	127	103	121	97.5	116	93.2		105	
110	220	222	206	222	221	173	212	191	146	186	170	131	171	153	120	156	140	112	146	131	106	123	100	117	94.9	112	90.5		110	
115	206	207	201	208	211	166	204	187	143	181	166	128	166	149	118	151	137	109	142	127	104	119	97.6	114	92.4	109	88.1		115	
120	194	195	196	195	198	161	196	182	140	176	162	126	161	145	115	147	133	107	137	123	101	116	95.3	110	89.9	105	85.6		120	
125	182	184	187	184	186	157	186	178	137	171	158	123	156	141	113	142	129	104	133	120	98.9	112	93.2	107	87.6	102	83.3		125	
130	172	173	176	174	176	155	176	174	134	166	154	121	152	138	110	138	126	102	129	117	96.6	109	91	103	85.4	98.5	81		130	
135	162	163	166	164	166	152	167	166	132	161	150	118	147	135	108	134	123	100	125	114	94.4	106	89	100	83.3	95.4	78.7		135	
140	153	154	157	155	157	149	158	159	130	155	147	116	143	132	106	131	120	97.9	122	111	92.2	103	87	97.5	81.4	92.6	76.6		140	
145	146	146	149	147	148	146	149	151	128	149	144	114	140	129	104	127	117	95.9	118	108	90.2	101	85	94.8	79.5	90	74.8		145	
150	138	139	142	139	141	143	141	143	125	142	140	112	136	126	102	124	114	93.9	115	105	88.4	98	83.2	92.2	77.7	87.6	73		150	
155	132	132	135	132	134	137	134	136	123	135	136	110	133	123	99.9	121	111	92.1	112	103	86.6	95.6	81.4	89.8	76	85.1	71.2		155	
160	125	126	128	126	128	131	128	129	121	129	131	108	129	120	98	118	109	90.4	109	100	84.8	93.3	79.7	87.6	74.3	82.8	69.6		160	
165	119	119	122	120	122	124	122	123	120	123	125	106	124	118	96.4	115	107	88.8	106	98	83.2	91	78	85.4	72.7	80.6	68		165	
170	113	113	116	114	116	118	116	117	117	117	119	105	119	115	94.8	112	104	87.3	104	95.8	81.6	88.8	76.4	83.3	71.2	78.6	66.4		170	
175	107	108	110	108	110	113	111	112	113	112	114	103	114	112	93.3	110	102	85.4	101	93.9	80.1	86.6	74.9	81.3	69.8	76.6	65		175	
180	102	103	105	104	105	107	106	107	108	107	109	101	109	109	91.8	107	100	84	98.7	92	78.6	84.8	73.5	79.3	68.5	74.7	63.5		180	
185	97.5	97.9	99.7	98.8	100	102	101	102	104	102	104	99.5	104	105	90.4	104	97.9	82.6	96.4	90.1	77.1	83	72.1	77.4	67.1	72.7	62.3		185	
190	93.1	93.5	95.2	94.3	95.4	97.6	96.5	97.5	99.4	97.2	99.1	97.5	99.2	100	89.1	99.5	95.6	81.3	94	88.3	75.7	81.3	70.8	75.5	65.8	70.9	61		190	
195	88.7	89.1	90.7	90.1	91.3	93.1	92	93.1	95.1	93	94.7	95.2	94.9	95.8	87.9	95.3	92.9	80	91.7	86.5	74.5	79.5	69.4	73.9	64.5	69.2	59.8		195	
200	85	85.3	86.6	85.9	87.2	89.1	88.1	88.8	90.8	88.9	90.6	91.9	90.8	91.7	86.6	91.2	90.4	78.9	89.4	84.9	73.2	77.9	68.2	72.3	63.3	67.7	58.7		200	
205	81.3	81.5	82.8	82	83.2	85.1	84.3	85	86.7	84.9	86.6	88	87	87.8	85	87.4	87.6	77.9	87.1	83.3	72	76.3	66.9	70.9	62.2	66.2	57.6		205	
210	77.8	77.9	79.1	78.5	79.7	81.2	80.6	81.2	83	81.3	82.8	84	83.3	84.1	82.9	83.8	84.6	76.8	84.4	81.6	71	74.8	65.8	69.4	61.1	64.7	56.5		210	
215				75.1	76.3	77.5	77.1	77.5	79.3	77.9	79.4	80.4	79.8	80.4	80.5	80.3	81.2	75.8	81.4	79.6	70	73.3	64.7	68.1	60.2	63.4	55.6		215	
220				71.8	72.9	73.9	73.9	74.2	75.8	74.5	76	77	76.5	77.2	78.1	76.8	77.8	74.7	78.2	77.4	68.8	71.8	63.7	66.7	59.2	62	54.6		220	
225							70.7	71	72.4	71.4	72.7	73.6	73.3	74	75.1	73.8	74.4	73.6	74.9	74.8	67.9	70.5	62.7	65.4	58.3	60.7	53.6		225	
230							67.7	68	69.1	68.5	69.7	70.4	70.1	70.8	72	70.8	71.4	72.3	71.9	72.3	67	69.3	61.8	64.1	57.4	59.4	52.8		230	
235										65.6	66.8	67.5	67.3	67.8	68.8	67.9	68.5	69.7	69	69.7	66.2	68.1	61	63	56.5	58.2	51.9		235	
240										62.9	64	64.5	64.6	65.1	65.9	65.1	65.5	66.8	66.2	67.1	65.1	66.6	60.2	61.9	55.7	57	51		240	
245													62	62.4	63.2	62.4	62.9	63.9	63.5	64.4	63.6	64.5	59.5	60.7	55	55.9	50.2		245	
250													59.4	59.7	60.4	59.8	60.4	61.3	61	61.7	62	62.1	58.7	59.4	54.3	54.9	49.5		250	
255																57.2	57.9	58.7	58.7	59.3	60.3	59.6	58	58	53.6	53.8	48.9		255	
260																			55.4	56.2	56.4	56.9	57.9	57.2	57.3	56.5	52.9	52.9	48.2	260
265																						54.1	54.6	55.5	54.9	56.1				



330,700 lb-
507,000 lb

 ft	HSL3 217																								 ft			
	F 39			F 49			F 59			F 69			F 79			F 89			F 98			F 108		F 118		F 128		
	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	18°	30°	18°	30°	18°	30°	
45	408																											45
50	408	398		384																								50
55	408	384	264	368	318		317	270		279																		55
60	408	371	257	354	308	225	304	261		268	235		249			231												60
65	408	359	252	341	297	221	293	252	192	258	227		239	206		221	190		209									65
70	393	348	246	329	288	215	282	244	188	248	220	161	229	199		212	184		200	173								70
75	365	337	241	317	280	210	272	237	183	239	213	157	221	192	145	204	178		193	167		159		152		148		75
80	339	324	236	307	272	205	263	230	179	231	206	153	213	186	141	197	172	132	186	161		153		146		142		80
85	313	309	231	297	264	200	254	223	172	224	200	149	206	181	137	190	166	128	179	156	122	148		141		137		85
90	290	291	226	286	257	196	247	217	165	216	195	146	199	175	134	183	161	125	172	151	119	142	113	136		132		90
95	267	270	222	268	249	191	239	212	158	209	189	142	193	170	131	177	156	122	166	147	116	138	110	132	104	127	99.3	95
100	248	249	218	250	241	187	232	206	155	203	184	139	187	165	128	172	152	119	160	142	113	134	107	128	101	123	96.4	100
105	231	233	214	233	233	183	225	201	151	197	179	136	181	161	125	166	147	116	155	138	110	129	104	123	98.6	119	93.8	105
110	216	218	209	218	221	179	216	196	148	191	174	133	176	157	122	161	144	114	150	134	108	125	101	120	96	115	91.2	110
115	202	204	202	204	207	174	205	191	145	186	170	130	170	153	120	156	140	111	145	130	105	122	99	116	93.7	111	88.8	115
120	189	191	194	191	194	168	194	187	142	181	166	128	165	149	117	151	136	109	141	126	103	118	96.6	112	91.3	108	86.5	120
125	178	179	184	180	183	162	183	180	140	175	162	125	161	145	115	147	132	106	137	123	100	115	94.4	109	89.1	104	84.3	125
130	168	169	173	169	172	158	172	174	138	169	158	123	156	142	113	143	129	104	133	119	98.2	112	92.3	106	87	101	82.2	130
135	158	160	163	159	162	155	162	164	135	162	155	121	152	138	110	139	126	102	129	116	96.1	109	90.2	103	84.9	98.2	80.2	135
140	149	150	154	151	153	151	154	155	133	154	151	118	149	135	108	135	123	99.9	126	114	94.1	106	88.3	100	82.9	95.2	78.3	140
145	141	142	145	142	145	146	145	147	131	147	148	116	145	132	106	132	120	98	122	111	92	103	86.4	97.6	81	92.5	76.4	145
150	134	134	137	135	137	140	138	139	129	139	141	115	139	129	104	129	117	96.1	119	108	90.2	101	84.6	95.1	79.1	90	74.7	150
155	127	127	130	128	130	134	131	132	126	132	134	112	133	126	102	125	114	94.3	116	106	88.6	98.3	83	92.6	77.3	87.6	72.9	155
160	120	121	124	121	123	126	124	125	123	125	128	111	127	124	100	122	112	92.5	113	103	86.9	95.9	81.4	90.2	75.7	85.3	71.2	160
165	114	115	117	115	117	120	118	119	120	118	121	109	121	120	98.8	119	110	90.8	110	101	85.2	93.7	79.9	88	74.3	83	69.6	165
170	108	109	112	110	111	115	112	113	116	113	115	107	115	116	97.3	115	108	89.2	108	98.9	83.6	91.6	78.4	85.7	72.8	81	68	170
175	103	103	106	104	106	109	107	108	111	107	110	106	110	111	95.8	110	106	87.8	105	96.9	82.1	89.5	76.9	83.8	71.4	78.9	66.5	175
180	97.8	98.4	101	99	101	104	102	103	106	102	105	103	105	106	94.4	105	104	86.4	103	94.9	80.7	87.5	75.5	81.8	70	77.1	65	180
185	93.2	93.8	95.9	94.2	96.1	98.9	97	97.9	101	97.7	99.8	100	99.9	101	92.9	100	101	85	99.9	93.1	79.3	85.6	74.1	80	68.7	75.2	63.7	185
190	88.6	89.2	91.5	89.8	91.5	94	92.3	93.2	96.1	93.3	95.4	96.9	95.4	96.5	91.6	95.7	96.8	83.7	96.2	91.2	77.9	84	72.7	78.2	67.4	73.5	62.4	190
195	84.4	84.8	87.1	85.6	87.3	89.6	88	88.8	91.5	88.9	91.1	92.9	91.2	92.2	90	91.2	92.7	82.3	92.4	89.5	76.6	82.3	71.4	76.6	66.1	71.7	61.3	195
200	80.5	80.9	82.9	81.4	83.1	85.5	84	84.7	87.3	84.8	86.7	88.7	87.1	88.2	88	87.5	88.4	81.1	88.3	87.5	75.3	80.7	70.1	75	64.9	70.2	60.2	200
205	76.7	77.1	79	77.7	79.2	81.4	80.2	80.8	83.3	80.9	82.8	84.5	83.1	84.2	84.8	83.7	84.8	79.7	84.7	85.4	74.1	79	68.8	73.5	63.8	68.6	59.1	205
210	72.9	73.4	75.1	74.2	75.7	77.6	76.3	77	79.6	77.4	79.1	80.7	79.4	80.4	81.5	79.9	81.1	78	81.2	82.3	73	77.3	67.8	72	62.7	67.2	58	210
215	69.7	70	71.5	70.7	72.2	74	73	73.5	75.8	73.9	75.6	77.1	76	76.8	78.2	76.3	77.4	76	77.6	78.8	71.9	75.3	66.7	70.5	61.7	65.8	57	215
220	66.5	66.8	68.2	67.4	68.8	70.4	69.7	70.2	72.4	70.6	72	73.5	72.7	73.5	75	73	74	74.1	74.2	75.4	70.9	73	65.8	69.1	60.7	64.4	56.1	220
225	63.3	63.6	64.9	64.4	65.8	67	66.5	67	69.1	67.5	68.9	70	69.4	70.3	71.8	69.9	70.7	71.8	71	72.1	70	70.7	64.8	67.7	59.7	63	55.2	225
230		60.7	61.8	61.4	62.7	63.9	63.5	63.9	65.9	64.5	65.9	67	66.5	67.1	68.6	66.8	67.7	69.3	68	68.9	69	68.4	63.9	66.3	58.8	61.8	54.3	230
235				58.6	59.8	60.8	60.7	61.1	62.9	61.5	63	64	63.6	64.2	65.5	63.7	64.6	66.3	65.1	66.1	67.3	66	62.9	64.9	58	60.5	53.4	235
240					57.9	57.9	57.9	58.3	59.9	58.7	60.1	61.1	60.8	61.3	62.6	61	61.8	63.3	62.2	63.2	65.1	63.4	61.8	63.1	57.2	59.3	52.5	240
245							55.3	55.6	57.1	56.1	57.5	58.3	58	58.5	59.7	58.4	59.1	60.5	59.6	60.4	62.4	60.8	60.4	61.2	56.4	57.9	51.7	245
250									54.4	53.5	54.9	55.5	55.5	55.9	56.9	55.8	56.5	57.9	57.1	57.8	59.6	58.1	58.6	58.7	55.5	56.4	50.9	250
255										51.1	52.3	52.8	53	53.5	54.3	53.3	53.9	55.3	54.7	55.4	57.1	55.6	56.6	56.3	54.5	54.6	50.1	255
260											50.4		50.6	51.1	51.9	51.1	51.6	52.8	52.2	53	54.6	53.3	54.7	53.9	53.4	52.8	49.4	260
265													48.4	48.8	49.5	48.9	49.4	50.5	50.1	50.6	52.1	51	52.5	51.6	52.3	51	48.8	265
270</																												



330,700 lb –
507,000 lb

	HSL3 236																										
	F 39			F 49			F 59			F 69			F 79			F 89			F 98			F 108		F 118		F 128	
	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	18°	30°	18°	30°	18°	30°
45	408																										45
50	408	401		388																							50
55	408	388	264	372	321		319																				55
60	408	376	259	358	311		307	263		271			250														60
65	408	364	254	346	301	221	296	255		260	229		241	207		224			211								65
70	382	354	248	335	292	217	286	247	189	251	222		232	200		215	185		203								70
75	353	344	242	324	283	212	277	240	184	243	215	157	224	194		207	179		195	168		160					75
80	328	330	238	313	276	208	268	233	175	235	209	153	216	189	142	200	173	133	188	163		154		148		143	80
85	306	309	233	298	268	203	259	227	167	228	203	150	209	183	138	193	168	129	181	158		149		143		138	85
90	284	286	229	281	261	198	252	221	163	221	197	147	203	178	135	187	163	126	175	153	120	145	113	138		133	90
95	264	265	225	264	255	194	244	216	160	214	192	144	196	173	132	180	159	123	169	148	117	140	110	134	104	129	99.9
100	245	247	221	246	245	191	236	211	157	208	187	141	190	168	129	175	154	120	164	144	114	136	107	130	102	125	97.2
105	227	228	218	229	231	187	226	205	154	202	182	138	185	164	127	170	150	117	159	139	111	132	105	126	99.1	121	94.5
110	212	214	214	213	217	180	214	200	151	196	178	135	180	160	124	165	146	115	154	136	109	128	102	121	96.7	117	91.9
115	199	200	204	200	203	173	203	195	148	191	174	132	175	156	121	160	142	112	149	132	107	124	99.8	118	94.4	113	89.3
120	185	187	192	188	191	167	191	189	145	185	170	130	170	152	119	156	139	110	145	129	104	121	97.6	115	92.1	110	87.2
125	174	176	180	176	180	164	179	180	143	177	166	127	165	149	117	151	135	108	141	125	102	117	95.4	111	89.9	107	85.1
130	163	165	169	166	169	160	169	170	140	168	162	125	161	145	114	147	132	106	136	122	99.7	114	93.3	108	87.7	103	83
135	154	155	159	156	159	156	159	161	138	160	157	123	157	142	112	143	129	104	133	119	97.6	112	91.3	105	85.8	100	81
140	145	146	150	147	149	151	150	152	136	151	152	121	151	139	110	139	126	102	129	117	95.8	109	89.3	103	83.8	97.7	79.2
145	137	138	142	138	141	145	142	143	133	143	146	119	146	135	108	135	123	99.9	126	114	93.9	106	87.7	99.7	82	94.9	77.3
150	129	130	134	131	134	137	134	136	131	135	138	117	138	132	107	132	120	98	123	111	92.1	104	86.1	97.2	80.3	92.3	75.6
155	122	123	127	124	127	130	127	128	128	128	131	115	130	128	105	128	117	96.2	120	109	90.4	101	84.5	94.8	78.6	89.9	73.9
160	116	117	120	117	120	123	120	122	123	121	124	113	124	124	103	123	115	94.5	117	106	88.7	98.8	82.9	92.5	76.9	87.6	72.3
165	110	111	114	111	113	117	114	115	118	115	118	111	117	119	101	118	112	92.8	113	104	87	96.5	81.4	90.3	75.4	85.4	70.8
170	104	105	108	105	108	111	108	109	113	109	112	110	112	113	99.6	112	109	91.4	110	102	85.4	94.3	79.9	88.1	74	83.2	69.3
175	99.1	99.8	102	100	102	105	103	104	107	104	106	107	106	108	98.1	107	106	89.9	106	99.8	83.9	92.1	78.4	86.1	72.6	81.3	67.9
180	94.1	94.8	97.1	95.1	97.2	100	97.8	98.6	102	98.6	101	103	101	102	96.5	101	102	88.6	102	97.7	82.4	90.1	77.1	84.2	71.2	79.5	66.5
185	89	89.9	92.3	90.4	92.6	95	93	93.8	97.1	93.7	96.3	98.4	96.1	97.4	94.8	96.4	98.2	87	97.6	95.3	81	88.2	75.8	82.4	69.9	77.7	65.2
190	84.6	85.2	87.4	85.8	88.1	90.5	88.7	89.2	92.5	89.1	91.8	93.9	91.5	92.9	92.6	91.9	93.5	85.7	93.1	92.8	79.8	86.4	74.5	80.6	68.6	75.9	64
195	80.4	80.9	83.1	81.3	83.5	86.1	84.5	85.1	88	84.8	87.4	89.5	87.2	88.4	90.2	87.6	89.1	84.4	88.7	89.3	78.5	84.6	73.3	78.9	67.4	74.2	62.8
200	76.3	76.9	79.1	77.3	79.4	81.6	80.2	80.9	84	80.9	83.4	85.3	83.1	84.3	86.5	83.5	84.9	83	84.7	85.8	77.3	83	72.1	77.2	66.4	72.5	61.7
205	72.2	72.9	75.2	73.6	75.5	77.7	76.3	76.8	80	77	79.4	81.3	79.4	80.3	82.7	79.6	81	80.9	80.8	82.2	76.1	81.2	70.9	75.7	65.3	70.9	60.6
210	68.7	69.2	71.3	70.1	71.7	74	72.6	73.2	76.1	73.2	75.5	77.5	75.7	76.8	78.8	76.2	77.1	78.4	77.1	78.6	74.9	78.3	69.7	74	64.3	69.5	59.5
215	65.4	65.9	67.8	66.5	68.1	70.3	69.2	69.8	72.4	69.7	71.8	73.7	72.1	73.2	75.2	72.7	73.7	75.5	73.8	75	73.6	75.2	68.6	72.2	63.3	68	58.4
220	62.1	62.7	64.4	63.4	64.7	66.7	65.8	66.5	68.9	66.4	68.3	70.1	68.7	69.6	71.7	69.4	70.4	72.5	70.5	71.7	72.1	71.8	67.5	70.3	62.3	66.7	57.3
225	58.9	59.6	61.1	60.3	61.6	63.5	62.6	63.1	65.5	63.2	65.2	66.7	65.5	66.4	68.3	66.1	67.1	69.3	67.3	68.6	70.4	68.6	66.4	68.2	61.4	65.3	56.4
230	56.2	56.7	58	57.3	58.5	60.4	59.6	60.2	62.1	60.1	62.1	63.6	62.6	63.3	65	63	63.9	66.1	64.1	65.5	67.7	65.7	65.1	66	60.4	63.8	55.5
235	53.4	53.8	55.2	54.4	55.5	57.3	56.8	57.3	59.2	57.3	59	60.5	59.7	60.4	62	60.2	61	62.9	61.2	62.3	64.7	62.8	63.4	63.2	59.4	62.2	54.6
240	50.8	51.1	52.4	51.8	52.9	54.4	54	54.5	56.3	54.6	56.3	57.5	56.8	57.5	59.1	57.4	58.2	60	58.4	59.5	61.7	59.9	61.1	60.4	58.3	59.7	53.7
245	48.2	48.4	49.7	49.1	50.3	51.8	51.4	51.7	53.4	52.1	53.7	54.7	54.2	54.7	56.3	54.6	55.5	57.2	55.8	56.8	58.9	57.2	58.7	57.6	56.8	57.2	52.8
250				46.6	47.8	49.1	48.9	49.2	50.8	49.5	51.1	52.1	51.7	52.2	53.6	52.1	52.8	54.4	53.3	54.2	56.1	54.6	56.3	55	55.1	54.8	51.8
255				44.3	45.3	46.6	46.4	46.7	48.3	47.2	48.6	49.5	49.2	49.8	51.1	49.6	50.4	51.8	50.7	51.7	53.6	52.2	54	52.4	53.5	52.3	50.9
260							44	44.3	45.8	44.9	46.3	47.1	46.7	47.4	48.6	47.3	48	49.3	48.4	49.2	51.1	49.8	51.7	50.2	51.8	50	49.9
265							41.8	42.1	43.4	42.7	44	44.7	44.6	45	46.1	45	45.6	46.9	46.2	47	48.6	47.5	49.4	47.9	49.9	47.8	49
270										40.5	41.7	42.4	42.4	42.8	43.8	42.7	43.3	44.6	44	44.8	46.3	45.3	47.1	45			



330,700 lb-
507,000 lb

 ft	HSL3 256																								 ft			
	F 39			F 49			F 59			F 69			F 79			F 89			F 98			F 108		F 118		F 128		
	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	18°	30°	18°	30°	18°	30°	
50	408.0	402.0																										50
55	408.0	390.0		375.0	321.0		321.0																					55
60	408.0	378.0	262.0	362.0	312.0		310.0	264.0		272.0																		60
65	401.0	368.0	258.0	350.0	303.0	222.0	299.0	257.0		263.0	230.0		243.0															65
70	370.0	358.0	254.0	338.0	295.0	217.0	289.0	249.0	189.0	254.0	223.0		234.0	201.0		217.0			204.0									70
75	342.0	341.0	249.0	327.0	287.0	213.0	280.0	242.0	185.0	246.0	217.0	158.0	226.0	195.0		209.0	180.0		197.0	169.0								75
80	318.0	321.0	244.0	313.0	279.0	208.0	272.0	236.0	179.0	238.0	211.0	154.0	219.0	190.0	142.0	202.0	175.0		190.0	164.0		155.0		149.0		144.0		80
85	296.0	299.0	240.0	296.0	272.0	204.0	264.0	230.0	171.0	231.0	205.0	151.0	212.0	185.0	139.0	196.0	170.0	130.0	184.0	159.0		150.0		144.0		139.0		85
90	277.0	279.0	236.0	277.0	264.0	200.0	255.0	224.0	165.0	224.0	200.0	148.0	206.0	180.0	136.0	190.0	165.0	127.0	177.0	154.0	120.0	145.0		139.0		134.0		90
95	259.0	260.0	232.0	259.0	253.0	196.0	246.0	219.0	162.0	217.0	195.0	145.0	200.0	175.0	133.0	184.0	160.0	124.0	172.0	150.0	117.0	141.0	110.0	135.0	105.0	130.0		95
100	241.0	243.0	228.0	242.0	241.0	193.0	236.0	213.0	158.0	211.0	190.0	142.0	194.0	171.0	130.0	178.0	156.0	121.0	167.0	146.0	115.0	137.0	108.0	131.0	102.0	126.0	97.6	100
105	224.0	226.0	222.0	226.0	228.0	189.0	226.0	208.0	156.0	206.0	185.0	139.0	188.0	166.0	128.0	172.0	152.0	119.0	162.0	142.0	112.0	133.0	105.0	127.0	99.4	122.0	95.1	105
110	208.0	210.0	211.0	210.0	215.0	186.0	214.0	203.0	153.0	200.0	181.0	137.0	183.0	162.0	125.0	168.0	148.0	116.0	157.0	138.0	110.0	129.0	103.0	123.0	97.0	118.0	92.6	110
115	195.0	196.0	201.0	196.0	201.0	180.0	200.0	195.0	150.0	192.0	176.0	134.0	178.0	158.0	123.0	163.0	144.0	114.0	152.0	134.0	108.0	126.0	101.0	120.0	94.7	115.0	90.2	115
120	182.0	184.0	190.0	184.0	187.0	173.0	187.0	186.0	147.0	184.0	173.0	132.0	174.0	155.0	120.0	158.0	141.0	111.0	148.0	131.0	105.0	123.0	98.5	116.0	92.6	111.0	87.9	120
125	171.0	172.0	179.0	172.0	176.0	167.0	176.0	177.0	145.0	176.0	169.0	130.0	169.0	151.0	118.0	154.0	138.0	109.0	144.0	128.0	103.0	120.0	96.4	113.0	90.6	108.0	85.8	125
130	160.0	161.0	168.0	162.0	165.0	161.0	165.0	167.0	142.0	167.0	166.0	127.0	165.0	148.0	116.0	150.0	135.0	107.0	140.0	125.0	101.0	116.0	94.4	110.0	88.6	105.0	83.8	130
135	150.0	152.0	158.0	152.0	156.0	156.0	156.0	158.0	140.0	157.0	159.0	125.0	158.0	145.0	114.0	146.0	132.0	105.0	136.0	122.0	99.0	114.0	92.4	108.0	86.7	102.0	81.8	135
140	142.0	143.0	149.0	143.0	146.0	149.0	147.0	149.0	138.0	148.0	151.0	123.0	150.0	141.0	112.0	142.0	129.0	103.0	132.0	119.0	97.1	111.0	90.5	105.0	85.0	99.4	80.0	140
145	133.0	135.0	140.0	134.0	138.0	143.0	138.0	140.0	135.0	140.0	143.0	121.0	142.0	137.0	110.0	137.0	126.0	102.0	129.0	116.0	95.1	108.0	88.7	102.0	83.3	96.9	78.4	145
150	126.0	127.0	132.0	127.0	130.0	135.0	131.0	132.0	132.0	132.0	135.0	119.0	134.0	133.0	108.0	132.0	123.0	99.6	126.0	114.0	93.5	106.0	87.0	99.8	81.6	94.5	76.8	150
155	118.0	120.0	125.0	120.0	123.0	127.0	124.0	125.0	127.0	125.0	128.0	117.0	127.0	128.0	106.0	127.0	120.0	97.8	122.0	111.0	91.8	103.0	85.5	97.3	80.0	92.1	75.2	155
160	112.0	113.0	118.0	114.0	116.0	121.0	117.0	119.0	122.0	118.0	121.0	115.0	120.0	122.0	105.0	121.0	117.0	96.3	119.0	109.0	90.2	101.0	83.9	95.0	78.5	89.8	73.7	160
165	106.0	107.0	112.0	107.0	110.0	114.0	111.0	112.0	116.0	112.0	115.0	114.0	114.0	116.0	103.0	115.0	113.0	94.8	114.0	106.0	88.7	98.8	82.4	92.8	76.9	87.6	72.2	165
170	100.0	101.0	106.0	102.0	104.0	108.0	105.0	106.0	110.0	106.0	109.0	111.0	109.0	110.0	101.0	109.0	109.0	93.3	109.0	104.0	87.0	96.5	81.0	90.6	75.4	85.5	70.6	170
175	94.8	95.7	101.0	96.3	98.4	103.0	99.2	100.0	105.0	100.0	103.0	106.0	103.0	105.0	99.9	104.0	105.0	91.8	104.0	102.0	85.4	94.5	79.7	88.5	74.0	83.4	69.2	175
180	89.7	90.8	95.3	91.1	93.6	97.1	93.9	95.2	99.1	94.9	97.8	101.0	97.9	99.4	97.4	98.4	99.9	90.4	99.3	99.1	84.0	92.5	78.3	86.6	72.6	81.5	67.8	180
185	85.2	86.1	90.4	86.4	88.8	92.2	89.2	90.4	94.1	89.9	93.0	95.8	92.9	94.3	94.8	93.4	95.1	88.9	94.6	95.4	82.6	90.2	77.0	84.7	71.2	79.7	66.5	185
190	80.8	81.7	85.8	81.8	84.3	87.4	84.7	85.9	89.3	85.5	88.2	90.9	88.1	89.7	91.6	88.7	90.3	87.6	89.9	91.5	81.3	87.8	75.8	83.0	69.9	77.9	65.2	190
195	76.5	77.4	81.5	77.8	80.2	82.9	80.4	81.7	84.9	81.2	84.0	86.3	83.9	85.1	88.2	84.3	85.9	86.0	85.5	87.3	80.2	85.3	74.6	81.4	68.7	76.2	63.9	195
200	72.4	73.0	77.2	73.8	76.2	78.8	76.5	77.5	80.7	77.2	79.9	82.2	79.8	81.1	83.9	80.2	81.7	84.0	81.4	83.2	78.9	82.3	73.5	79.6	67.5	74.5	62.7	200
205	68.6	69.3	73.1	69.7	72.2	74.8	72.7	73.8	76.6	73.3	76.0	78.1	76.0	77.1	79.6	76.3	77.8	80.9	77.4	79.3	77.5	79.5	72.4	77.7	66.5	72.8	61.6	205
210	65.2	65.7	69.3	66.2	68.4	70.9	69.0	70.1	73.0	69.9	72.4	74.4	72.2	73.4	75.8	72.6	74.1	77.0	73.8	75.6	75.8	75.8	71.3	75.4	65.5	71.1	60.5	210
215	61.8	62.3	65.9	62.8	64.8	67.3	65.4	66.3	69.5	66.4	68.9	70.7	68.9	69.7	72.1	69.1	70.6	73.3	70.2	72.1	73.4	72.2	70.1	72.1	64.5	69.2	59.5	215
220	58.4	59.0	62.5	59.6	61.6	63.8	62.1	62.9	65.9	62.9	65.4	67.3	65.6	66.5	68.6	65.9	67.2	69.8	66.9	68.6	70.8	68.8	68.7	68.9	63.5	67.1	58.5	220
225	55.5	55.9	59.1	56.5	58.4	60.7	59.1	59.7	62.6	59.7	61.9	63.9	62.3	63.3	65.3	62.9	64.1	66.4	63.8	65.4	67.9	65.4	67.2	65.8	62.6	64.9	57.5	225
230	52.5	53.0	56.0	53.4	55.2	57.5	56.1	56.8	59.4	56.7	58.9	60.5	59.1	60.1	62.2	59.9	61.1	63.1	60.9	62.3	64.9	62.3	64.7	62.8	61.6	62.3	56.6	230
235	49.7	50.1	53.0	50.7	52.4	54.5	53.2	53.8	56.5	53.9	55.9	57.5	56.1	57.1	59.1	56.9	58.1	60.2	58.0	59.5	61.8	59.3	62.2	59.9	60.1	59.7	55.7	235
240	46.8	47.2	50.0	48.0	49.7	51.6	50.4	50.9	53.5	51.1	53.2	54.6	53.4	54.2	56.1	54.1	55.1	57.2	55.1	56.7	58.9	56.7	59.3	57.1	58.4	57.0	54.8	240
245	44.4	44.7	47.2	45.3	47.0	48.9	47.8	48.3	50.6	48.3	50.4	51.8	50.7	51.														



330,700 lb -
507,000 lb

 ft	HSL3 276																								 ft			
	F 39			F 49			F 59			F 69			F 79			F 89			F 98			F 108		F 118		F 128		
	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	18°	30°	18°		30°	18°	30°
50	408																										50	
55	408	392		377																							55	
60	408	381	263	365	314		312			274																	60	
65	388	371	259	353	305	223	302	260		265																	65	
70	358	360	255	342	297	219	292	255	190	256	224		236	203		218			206								70	
75	331	334	251	330	289	214	283	249	186	248	218	158	229	197		211	181		199								75	
80	307	310	246	307	282	210	275	243	182	241	212	155	222	191	143	204	176		192	165		156		149			80	
85	286	289	242	286	275	206	267	237	176	234	207	152	215	186	140	198	171	130	186	160		151		145		140	85	
90	267	270	238	267	268	202	260	231	168	228	202	149	208	181	136	191	166	128	180	155		147		140		135	90	
95	250	252	233	250	255	199	250	226	163	221	197	146	203	177	134	186	162	125	174	151	118	142	111	136		131	95	
100	234	236	227	234	239	195	237	220	160	215	193	144	197	172	131	181	158	122	169	147	116	138	108	132	102	127	97.6	100
105	219	221	221	220	225	192	223	213	157	208	188	141	192	168	129	175	154	119	164	143	113	135	106	128	99.8	123	95.1	105
110	204	206	212	206	210	188	209	206	154	201	184	138	186	164	127	170	150	117	159	140	111	131	104	125	97.7	120	92.7	110
115	189	192	200	193	197	185	196	198	152	194	180	136	182	161	124	166	146	115	155	136	109	128	101	121	95.6	116	90.5	115
120	177	179	187	179	184	179	184	188	149	184	175	133	176	157	122	162	143	113	151	133	106	124	99.1	118	93.6	113	88.4	120
125	166	168	174	168	171	172	171	176	147	173	169	131	169	154	120	157	140	111	146	130	104	121	97.2	115	91.5	110	86.5	125
130	156	157	164	158	161	164	161	165	144	163	162	129	162	150	118	153	137	109	143	127	102	118	95.2	112	89.5	107	84.6	130
135	146	148	154	148	151	156	152	155	142	153	155	127	154	147	115	149	134	107	139	124	100	115	93.3	109	87.5	104	82.8	135
140	137	138	145	139	143	148	143	147	139	144	147	125	146	144	113	145	131	105	136	121	98.5	113	91.5	107	85.7	101	81	140
145	129	130	136	130	134	139	135	138	135	136	140	123	138	139	112	139	128	103	132	118	96.7	110	89.8	104	84.1	98.8	79.3	145
150	121	122	128	123	126	131	127	130	130	128	132	121	131	133	110	131	124	101	128	116	94.9	108	88.1	102	82.6	96.4	77.7	150
155	114	115	121	116	118	124	119	123	125	121	125	119	124	126	108	124	121	99.7	122	113	93.2	105	86.5	99.2	81	94	76.1	155
160	108	109	114	109	112	116	112	116	119	114	118	116	117	119	106	117	116	98.1	117	111	91.6	103	85	96.9	79.5	91.7	74.5	160
165	101	103	108	103	106	110	106	110	113	107	111	113	111	112	104	111	112	96.5	112	108	90	101	83.5	94.7	78.1	89.5	73	165
170	95.7	96.6	102	96.9	100	104	101	104	106	102	105	108	104	106	102	105	107	94.9	106	106	88.5	98.4	82.1	92.7	76.6	87.6	71.5	170
175	90.2	90.9	96.2	91.5	94.2	98.5	95.2	98.1	101	95.9	99.5	103	99.2	101	99.7	99.3	102	93.3	101	102	87.2	96	80.8	90.7	75.2	85.6	70	175
180	85.2	85.9	90.9	86.3	89.1	92.9	89.8	92.7	95.4	90.8	94.2	97.4	93.9	95.6	96.6	94.4	96.1	91.7	95.5	97.4	85.8	93.4	79.5	88.6	73.8	83.7	68.7	180
185	80.5	81.2	86.1	81.6	84.1	88	84.9	87.7	90.4	85.7	89.3	92.3	89.1	90.6	93.1	89.4	91.4	90.1	90.8	92.5	84.5	90.3	78.2	86.6	72.5	81.8	67.4	185
190	76	76.8	81.3	77.1	79.7	83.1	80.2	83	85.5	81.2	84.5	87.5	84.3	86.1	88.9	84.9	86.6	88.4	86	88.1	83.1	87.1	77	84.7	71.3	80	66.2	190
195	71.9	72.6	76.9	72.9	75.3	78.8	75.9	78.6	81	76.7	80.1	82.7	79.9	81.5	84.7	80.4	82.2	84.9	81.8	83.6	81.7	83.4	75.7	82.4	70.1	78.2	65	195
200	68.1	68.8	72.7	68.8	71.3	74.6	71.9	74.5	76.7	72.8	75.8	78.4	75.7	77.3	80.4	76.2	77.8	81.3	77.5	79.4	79.5	79.6	74.5	79.2	68.9	76	63.8	200
205	64.2	65	69	65.3	67.4	70.6	68	70.6	72.7	68.8	71.9	74.3	71.8	73.2	76.1	72.2	73.8	77.3	73.6	75.3	76.9	75.7	73	76.1	67.8	73.5	62.7	205
210	60.4	61.2	65.3	61.7	63.9	66.9	64.4	66.8	68.9	65.2	68	70.5	68.1	69.5	72.2	68.4	70	73.2	69.9	71.5	74	71.8	71.3	72.5	66.7	70.9	61.7	210
215	57	57.7	61.5	58.2	60.5	63.4	61.1	63.4	65.2	61.6	64.4	66.7	64.6	65.8	68.3	64.9	66.4	69.5	66.3	68	70.9	68.1	69.5	68.8	65.6	67.9	60.6	215
220	53.8	54.3	58.2	54.8	56.9	60	57.8	60.2	61.9	58.5	61	63.2	61.1	62.3	64.8	61.5	63	66	62.9	64.5	67.7	64.7	67.4	65.4	64.6	64.9	59.7	220
225	50.7	51.3	54.9	51.6	53.8	56.5	54.5	56.9	58.6	55.4	57.9	59.7	58	58.9	61.4	58.3	59.7	62.7	59.6	61.3	64.4	61.4	65.1	62.1	63.3	61.8	58.7	225
230	47.7	48.3	51.8	48.8	50.8	53.4	51.5	53.7	55.4	52.3	54.8	56.7	55.1	56	58.2	55.3	56.5	59.5	56.5	58.1	61.1	58.4	61.9	58.9	62	58.8	57.6	230
235	44.8	45.3	48.7	45.9	47.9	50.4	48.6	50.8	52.3	49.3	51.7	53.7	52.1	53.1	55.2	52.5	53.6	56.5	53.5	55.1	58.1	55.4	58.7	56	59.2	55.9	56.5	235
240	42.2	42.7	45.8	43.1	45.1	47.5	45.9	48	49.4	46.6	48.9	50.7	49.1	50.2	52.4	49.8	50.9	53.5	50.9	52.1	55	52.7	55.8	53.1	56.3	53.1	54.7	240
245	39.7	40.1	43.1	40.5	42.3	44.6	43.3	45.3	46.7	44	46.1	47.8	46.4	47.4	49.6	47.1	48.2	50.7	48.3	49.6	52.2	49.9	52.9	50.5	53.6	50.3	52.8	245
250	37.1	37.6	40.6	38.1	39.9	41.9	40.6	42.7	44	41.6	43.6	45.1	43.8	44.8	46.8	44.5	45.5	48	45.7	47.1	49.4	47.5	50.2	47.8	50.9	47.8	50.7	250
255	34.6	35	38.1	35.8	37.5	39.4	38.3	40.1	41.3	39.2	41.1	42.6	41.5	42.3	44.3	42	42.9	45.3	43.1	44.6	46.9	45	47.5	45.4	48.4	45.2	48.4	255
260	32.6	32.9	35.7	33.6	35.2	37	36	37.8	38.9	36.8	38.6	40.1	39.2	40	41.8	39.7	40.5	42.6	40.8	42.1	44.4	42.6	45.2	43.1	45.9	43	46.1	260
265	30.6	30.8	33.4	31.3	32.8	34.6	33.8	35.5	36.5	34.7	36.3	37.6	36.9	37.7	39.4	37.4	38.2	40.1	38.5	39.8	41.9	40.2	42.8	40.8	43.5	40.8	43.7	265
2																												



330,700 lb -
507,000 lb

 ft	HSL3 295																								 ft					
	F 39			F 49			F 59			F 69			F 79			F 89			F 98			F 108		F 118		F 128				
	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	18°	30°	18°	30°	18°	30°	18°	30°	
55	408	394																											55	
60	404	383		366	315		313																						60	
65	376	373	260	355	306		304	262																					65	
70	346	350	256	342	298	220	295	256		258	225		238																70	
75	320	324	252	320	291	216	286	250	187	250	219		230	198		212			200										75	
80	297	300	248	297	284	212	278	244	183	243	214	156	223	193		205	176		193	165									80	
85	276	279	244	277	276	208	269	239	179	236	209	153	217	188	140	200	172		187	161		152		145		140			85	
90	258	261	240	258	263	204	258	233	172	230	204	150	211	183	137	194	167	128	181	156		147		141		136			90	
95	241	244	236	242	247	200	244	228	165	224	199	147	205	178	134	188	163	125	176	152	119	143		137		131			95	
100	226	228	230	226	232	197	229	223	162	218	195	145	200	174	132	183	159	123	171	148	116	140	108	133	103	128			100	
105	212	214	220	212	218	193	216	216	159	211	191	142	195	170	129	178	156	120	167	144	114	136	106	129	100	124	95.2			105
110	199	201	207	200	205	189	203	207	156	202	186	140	189	167	127	173	152	118	162	141	111	133	104	126	97.9	121	93			110
115	186	188	195	188	193	186	191	195	154	191	181	137	183	163	125	168	148	116	158	138	109	129	102	123	95.8	118	90.9			115
120	173	176	183	176	180	182	180	184	151	180	176	135	177	160	123	164	145	114	153	135	107	126	99.7	120	93.7	115	89			120
125	162	163	171	164	169	174	169	173	149	170	171	133	170	156	121	160	142	112	150	132	105	123	97.8	116	91.8	112	87			125
130	152	153	160	153	158	164	158	163	146	159	164	131	162	153	119	155	139	110	146	129	103	120	95.9	113	90	109	85.2			130
135	142	144	150	144	148	154	148	152	143	149	154	128	153	148	117	149	136	108	141	126	101	118	94	111	88.3	106	83.5			135
140	133	135	141	135	139	144	139	143	140	140	145	126	144	142	115	142	133	106	137	123	99.4	115	92.3	108	86.5	103	81.8			140
145	125	126	133	127	131	136	131	135	137	132	136	124	135	135	113	135	129	104	132	121	97.6	112	90.6	106	84.9	101	80.1			145
150	117	119	125	119	123	128	123	127	131	124	128	122	127	129	112	128	126	102	127	118	95.9	110	89	103	83.3	98.1	78.4			150
155	110	112	118	112	116	121	115	120	123	117	121	119	120	123	110	121	122	101	122	116	94.3	107	87.4	101	81.7	95.8	76.8			155
160	104	105	111	105	109	114	109	112	117	110	114	115	114	116	108	114	117	99.1	115	112	92.8	105	85.9	98.5	80.2	93.7	75.2			160
165	97.6	99	104	99.1	102	107	102	106	110	104	108	110	107	110	105	108	110	97.5	109	108	91.2	102	84.5	96.3	78.7	91.5	73.7			165
170	91.9	93.2	98.5	93.2	96.8	101	96.8	100	104	98.2	102	105	101	103	103	102	104	96	103	104	89.7	99.4	83.1	94.3	77.3	89.4	72.3			170
175	86.3	87.5	93	87.9	91.2	95.3	91.3	94.7	97.8	92.7	95.9	99.7	95.4	97.8	99.3	96.2	98.4	94.7	97.3	99	88.3	96.3	81.8	92.5	75.9	87.5	70.9			175
180	81.2	82.3	87.5	82.6	86	89.9	86.2	89.4	92.4	87.5	90.8	94.3	90.2	92.5	96.1	90.8	93.2	92.6	92.3	94.3	87.1	93	80.5	90.3	74.6	85.6	69.6			180
185	76.3	77.3	82.6	77.8	80.8	84.9	81.3	84.5	87.4	82.5	85.9	89	85.4	87.5	91.3	85.9	88.3	90.5	87.4	89.7	85.5	89.7	79.2	88.1	73.3	83.5	68.4			185
190	72	72.9	77.8	73.2	76.2	80	76.6	79.7	82.6	77.8	81.2	84.4	80.7	82.8	86.3	81.3	83.5	87	82.8	85	83.8	85.3	77.9	85.5	72.1	81.4	67.2			190
195	67.8	68.6	73.5	69.1	71.7	75.6	72.3	75.3	78	73.2	76.8	79.8	76.4	78.2	81.8	76.9	79.2	82.7	78.5	80.5	81.5	80.8	76.5	81.2	71	78.7	66.2			195
200	63.9	64.7	69.2	65	67.7	71.2	68.1	71	73.6	69.2	72.4	75.5	72	73.9	77.4	72.7	74.8	78.5	74.3	76.4	78.4	76.5	75	76.9	69.8	75.4	65.1			200
205	60.1	60.8	65.4	61.3	63.8	67.4	64.4	67.2	69.5	65.2	68.4	71.3	68.2	69.7	73.2	68.6	70.9	74.5	70.4	72.3	75.3	72.5	73	73	68.7	72.1	64			205
210	56.7	57.4	61.5	57.7	60.2	63.6	60.8	63.5	65.6	61.7	64.5	67.4	64.9	66.9	70.5	66.4	66.9	70.5	66.4	68.5	71.8	68.5	71.1	69.2	67.7	68.8	63			210
215	53.3	54	58.2	54.4	56.7	60.1	57.3	60	62.1	58.1	61.1	63.5	60.9	62.2	65.3	61.4	63.3	66.7	63	64.8	68.3	65	68.3	65.5	66.7	65.4	61.9			215
220	49.9	50.7	54.8	51.2	53.6	56.6	54	56.6	58.6	54.8	57.6	60	57.6	58.9	61.8	58	59.9	63	59.6	61.3	64.9	61.4	65.3	62.1	64.6	62	60.8			220
225	46.8	47.4	51.4	48	50.4	53.4	51	53.5	55.4	51.6	54.5	56.7	54.4	55.7	58.4	54.8	56.6	59.7	56.3	58.1	61.3	58.2	62.2	58.8	62.2	58.7	59.1			225
230	43.7	44.4	48.3	44.8	47.2	50.2	48	50.5	52.3	48.8	51.3	53.5	51.3	52.6	55.2	51.7	53.4	56.4	53.2	54.9	58.1	55.1	58.9	55.6	59.5	55.3	57.3			230
235	41.1	41.6	45.3	42	44.2	47	45	47.5	49.3	46	48.5	50.4	48.5	49.6	52.1	48.8	50.3	53.3	50.2	52	55	52.1	55.7	52.7	56.4	52.4	55.3			235
240	38.4	38.9	42.5	39.3	41.4	44.1	42.2	44.5	46.4	43.3	45.7	47.6	45.9	46.9	49.2	46	47.4	50.2	47.4	49	52.1	49.3	52.8	49.8	53.4	49.6	53			240
245	35.7	36.3	39.8	36.9	38.9	41.3	39.5	41.8	43.4	40.5	42.9	44.8	43.3	44.3	46.3	43.5	44.6	47.3	44.5	46.3	49.3	46.4	49.8	47.1	50.6	46.9	50.7			245
250	33.3	33.7	37.2	34.5	36.3	38.8	37.1	39.2	40.7	38	40.2	42.1	40.7	41.7	43.8	41	42.2	44.5	42.2	43.6	46.5	43.8	47.2	44.4	47.9	44.3	48.2			250
255	31	31.4	34.7	32	33.8	36.2	34.8	36.8	38.1	35.4	37.6	39.4	38.1	39.1	41.2	38.5	39.7	41.9	39.8	41.2	43.9	41.2	44.5	41.9	45.3	41.7	45.5			255
260	28.8	29.2	32.4	29.8	31.5	33.7	32.5	34.4	35.7	33.2	35.2	36.9	35.7	36.7	38.7	36	37.3	39.5	37.4	38.8	41.3	38.9	42	39.4	42.7	39.4	43			260
265	26.7	27	30.1	27.6	29.3	31.4	30.2	32	33.4	30.9	32.9	34.4	33.4	34.3	36.2															



330,700 lb-
507,000 lb

 ft	HSL3 315																								 ft	
	F 39			F 49			F 59			F 69			F 79			F 89			F 98			F 108		F 118		
	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	18°	30°	18°	30°	
55	408																									55
60	395	257		366																						60
65	364	364	262	353	307		304																			65
70	335	338	258	335	300	219	296	257		259																70
75	310	313	254	310	293	216	288	252	187	251	220		231			213			200							75
80	287	290	250	287	286	212	280	246	183	244	215	156	224	193		207	177		194							80
85	267	270	245	267	274	209	270	241	180	238	210	153	218	188	140	201	172		188	161		152		145		85
90	249	252	240	249	255	205	252	235	175	231	205	150	212	184	137	195	168		183	157		148		141		90
95	232	235	234	233	239	202	236	229	168	224	201	148	207	180	135	190	164	125	178	153		144		137		95
100	217	220	228	218	224	198	221	221	162	217	197	145	202	176	132	185	160	123	173	150	116	141	109	134		100
105	204	206	216	205	210	195	208	213	160	207	192	143	197	172	130	180	157	121	168	146	114	137	106	131	101	105
110	191	194	203	192	197	191	195	201	157	195	188	140	192	168	128	176	153	119	164	142	112	134	104	127	98.5	110
115	180	182	191	180	186	185	184	190	155	184	183	138	186	165	126	171	150	117	159	139	110	131	102	124	96.4	115
120	169	171	180	170	175	177	173	179	153	173	176	136	176	161	124	166	147	115	155	136	108	128	100	121	94.4	120
125	158	160	168	160	165	169	164	169	150	164	167	134	167	157	122	160	144	113	152	133	106	124	98.2	118	92.4	125
130	147	149	158	150	154	160	154	159	148	155	159	132	157	153	120	154	141	111	148	130	104	121	96.5	115	90.6	130
135	138	139	147	140	144	151	144	149	145	146	151	130	149	149	118	148	138	109	144	127	102	119	94.8	112	88.9	135
140	129	131	138	131	135	141	135	140	139	137	142	127	141	143	116	141	134	107	139	125	101	116	93.1	110	87.3	140
145	121	123	129	123	127	132	127	131	133	128	133	125	132	135	115	133	130	106	133	122	98.9	114	91.4	107	85.7	145
150	113	115	122	116	119	125	119	123	126	120	125	121	124	127	113	125	124	104	126	118	97.3	111	89.8	105	84.1	150
155	106	108	114	108	112	117	112	116	120	113	118	118	117	119	111	117	119	102	118	115	95.7	109	88.3	102	82.6	155
160	99.1	101	107	101	105	111	105	110	113	107	111	114	110	112	110	111	113	100	112	111	94.2	107	86.8	100	81.2	160
165	93.1	94.3	101	95	98.5	104	98.9	103	107	100	105	109	104	106	107	104	107	98.9	106	107	92.7	104	85.4	98.3	79.7	165
170	87.4	88.8	94.6	89.1	92.3	97.7	93.1	96.8	100	94	98.6	103	97.8	100	104	98.4	101	97.3	99.7	102	91.1	101	84.1	96.1	78.3	170
175	82	83.3	89.2	83.9	87	91.8	87.4	91.1	94.4	88.6	92.8	97	92	94.3	98.3	92.6	95.4	94.7	94.1	96.9	89.6	97.2	82.8	93.4	77	175
180	76.9	78.3	83.8	78.8	81.9	86.4	82.4	85.7	89	83.1	87.5	91.2	86.9	88.8	93.1	87.1	89.8	91.2	88.5	91.6	87.7	91.9	81.6	89.6	75.7	180
185	72	73.3	79	74.1	77	81.4	77.4	80.9	83.6	78.5	82.2	86.1	81.7	83.9	87.9	82.3	84.5	87.3	83.5	86.3	85.3	86.9	80.2	85.5	74.4	185
190	67.6	68.8	74	69.3	72.4	76.6	72.9	76.1	79.1	73.8	77.7	81.1	77.2	79	82.9	77.4	79.9	83.5	78.9	81.3	82.6	81.8	78.9	81.6	73.2	190
195	63.3	64.4	69.8	65	67.9	72	68.3	71.8	74.5	69.4	73.1	76.5	72.7	74.7	78.3	73.2	75.2	79.5	74.3	76.9	79.8	77.2	77.3	77.6	72	195
200	59.4	60.4	65.6	60.7	63.8	67.7	64.2	67.4	70.2	65.2	68.8	72.1	68.5	70.4	73.8	69.1	71.1	75.2	70.4	72.5	77	73	75.4	73.7	70.8	200
205	55.5	56.5	61.8	57	59.8	63.7	60.3	63.5	66	61.2	64.7	67.9	64.4	66.3	69.9	65.2	67.2	70.9	66.4	68.6	73.1	68.8	73.5	69.7	69.4	205
210	51.9	52.8	57.9	53.3	56.1	59.8	56.6	59.7	62.1	57.5	60.8	63.9	60.4	62.4	65.9	61.4	63.3	67	62.7	64.8	69.1	65.2	70	65.7	68	210
215	48.4	49.3	54.4	49.9	52.5	56.3	53.2	56.1	58.5	53.9	57.2	59.9	57	58.5	62.2	57.7	59.7	63.3	59.2	61.2	65.3	61.6	66.2	62.2	65.3	215
220	45.5	46.2	50.9	46.6	49.2	52.7	49.8	52.7	54.9	50.7	53.7	56.5	53.5	55.2	58.6	54.3	56.1	59.7	55.6	57.8	61.8	58	62.5	58.7	62.3	220
225	42.5	43.2	47.8	43.6	45.9	49.4	46.7	49.4	51.6	47.5	50.6	53	50.4	51.8	55.1	51	52.8	56.3	52.5	54.3	58.3	54.8	59.1	55.3	59.3	225
230	39.5	40.3	44.7	40.7	43.1	46.1	43.6	46.2	48.3	44.5	47.4	49.9	47.3	48.7	51.7	47.9	49.5	52.9	49.3	51.2	55	51.5	55.7	52.1	56.3	230
235	36.6	37.3	41.7	37.8	40.2	43.3	40.9	43.3	45.3	41.5	44.5	46.8	44.4	45.7	48.5	45	46.5	49.8	46.4	48.2	51.7	48.5	52.6	48.9	53.3	235
240	33.9	34.6	38.7	35	37.4	40.5	38.2	40.6	42.3	38.9	41.6	43.9	41.6	42.9	45.5	42.1	43.7	46.8	43.6	45.2	48.6	45.6	49.4	46.1	50.3	240
245	31.4	31.9	36	32.3	34.6	37.7	35.5	37.9	39.7	36.3	39	41	38.9	40.2	42.6	39.5	41	44	40.9	42.6	45.7	42.8	46.5	43.4	47.4	245
250	29	29.5	33.4	29.8	32	34.9	32.8	35.3	37	33.8	36.5	38.4	36.5	37.6	40	36.8	38.4	41.2	38.4	39.9	42.9	40.2	43.7	40.7	44.5	250
255	26.6	27.2	31	27.4	29.5	32.4	30.4	32.7	34.4	31.2	33.9	35.9	34.1	35.2	37.3	34.6	35.9	38.6	35.8	37.4	40.3	37.6	40.9	38.2	41.9	255
260	24.3	24.8	28.6	25.2	27.3	29.9	27.9	30.3	31.9	28.8	31.4	33.4	31.7	32.8	34.9	32.2	33.6	36	33.6	34.9	37.7	35.2	38.4	35.7	39.3	260
265	22.2	22.6	26.2	23	25	27.6	25.8	28	29.4	26.6	29.1	30.9	29.2	30.4	32.5	29.9	31.2	33.6	31.4	32.7	35.3	32.8	35.9	33.4	36.9	265
270	20.1	20.5	24.1	20.8	22.8	25.4	23.7	25.8	27.2	24.4	26.8	28.5	27.1	28.1	30.2	27.6	28.9	31.4	29.2	30.6	33	30.6	33.6	31.2	34.5	270
275	18.1	18.6	21.9	18.9	20.8	23.1	21.6	23.7	25	22.5	24.7	26.2	24.9	25.9	27.8	25.5	26.6	29.1	27.1	28.4	30.8	28.6	31.3	29	32.2	275
280	16.2	16.6	19.9	17	18.8	21.1	19.6	21.5	22.9	20.5	22.7	24.2	23	23.8	25.7	23.4	24.5	26.8	25	26.3	28.7	26.5	29.1	27.1	30	280
285	14.2	14.6	17.8	15.3	17	19.1	17.7	19.7	20.8	18.5	20.8	22.2	21.1	21.9	23.6	21.5	22.4	24.6	23	24.2	26.6	24.5	27.2	25.1	27.8	2

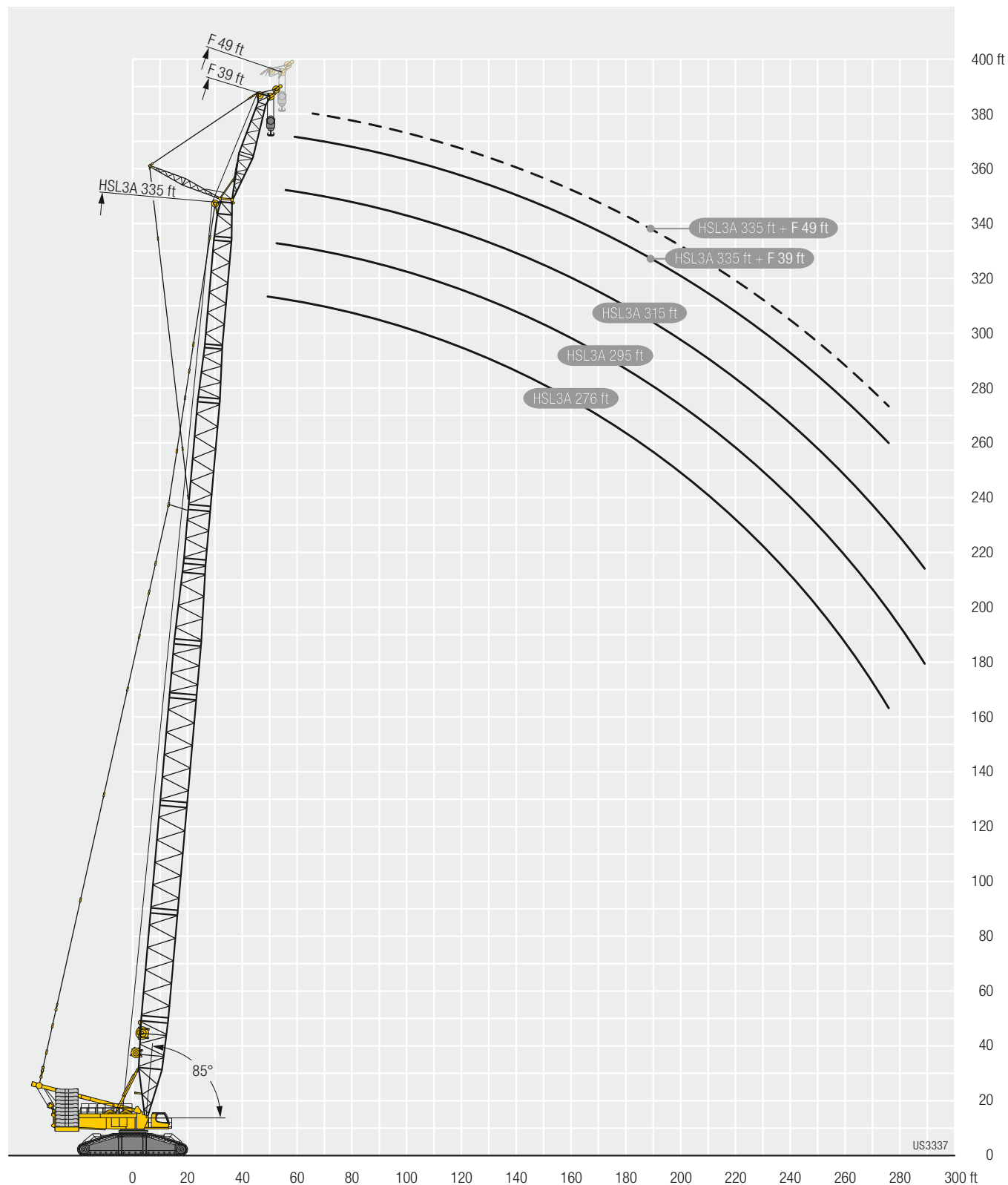


330,700 lb –
507,000 lb

 ft	HSL3 335						HSL3 344						 ft
	F 39			F 49			F 39			F 49			
	12°	18°	30°	12°	18°	30°	12°	18°	30°	12°	18°	30°	
60	374						On request Sur demande						60
65	350	350		338									65
70	322	326	256	323	296								70
75	297	301	252	301	290	215							75
80	276	279	248	279	281	211							80
85	256	259	244	260	263	207							85
90	238	242	240	242	246	204							90
95	222	225	232	226	229	201							95
100	208	210	222	211	215	197							100
105	194	197	208	198	201	194							105
110	182	185	195	186	189	192							110
115	171	173	183	175	177	185							115
120	160	163	173	164	167	175							120
125	151	153	162	154	157	165							125
130	142	144	153	146	148	155							130
135	133	135	144	137	139	147							135
140	125	126	134	129	131	138							140
145	117	118	126	120	122	129							145
150	109	111	118	113	115	121							150
155	102	104	110	106	107	113							155
160	94.9	96.4	104	98.9	101	106							160
165	88.6	90.2	96.7	92.3	94.2	100							165
170	82.5	84.1	90.9	86.5	88.2	93.7							170
175	77.4	78.6	85.1	80.8	82.6	87.7							175
180	72.3	73.6	79.9	75.9	77.2	82.4							180
185	67.6	68.7	75	71.1	72.5	77							185
190	62.9	64.2	70.2	66.5	67.9	72.5							190
195	58.6	59.6	65.8	62.2	63.5	68							195
200	54.6	55.6	61.3	57.9	59.3	63.8							200
205	50.7	51.7	57.4	54.1	55.3	59.6							205
210	47.1	48.1	53.5	50.3	51.6	55.7							210
215	43.5	44.5	50	46.9	47.9	52							215
220	40.3	41.2	46.5	43.5	44.7	48.3							220
225	37	38	43.3	40.3	41.4	45.1							225
230	34.3	35	40.1	37.2	38.4	41.9							230
235	31.6	32.3	37.2	34.3	35.3	38.9							235
240	28.9	29.6	34.4	31.7	32.7	35.9							240
245	26.1	26.9	31.6	29.1	30.1	33.3							245
250	23.7	24.3	28.8	26.6	27.5	30.7							250
255	21.2	21.9	26.2	24	24.9	28.1							255
260	19.1	19.6	23.7	21.7	22.5	25.5							260
265	17	17.6	21.5	19.5	20.2	23.2							265
270	15	15.5	19.4	17.5	18.1	20.8							270
275	12.9	13.4	17.2	15.5	16.1	18.8							275
280	11	11.5	15.1	13.5	14.1	16.8							280
285			13.2	11.6	12.1	14.7							285
290			11.3			12.8							290

Lifting heights Hauteurs de levage

HSL3AF



Lifting heights Hauteurs de levage

HSL3AF

