

Liftcrane Boom

Extended Upper Point Capacities

MLC650 SERIES 2

Boom No. B40:680-681-682
with 24.9 ft Extended Upper Boom Point
661,300 lb VPC (Variable Position Counterweight)
360 Degree Rating



LIFTING CAPACITIES: Lifting capacities for various boom lengths and operating radii are for freely suspended loads and may be based on percent of static tipping or strength of structural components. Capacities shown are for boom point or extended upper boom point and their respective operating radii.

Weight of all load blocks, hooks, weight ball, slings, hoist lines, etc., beneath sheaves is considered part of load. Boom is not to be lowered beyond radii where combined weights are greater than rated capacity. Where no capacity is shown, operation is not intended or approved.

BOOM BACKWARD STABILITY: Capacities indicated by (b) require 8,000 lb minimum weight and (c) require 13,000 lb minimum weight. **Caution: Do not operate in areas indicated by (b) or (c) without required minimum weights.** Boom will not lower and boom hoist wire rope may go slack causing wire rope damage or failure.

OPERATING CONDITIONS: Machine to operate on a firm, level, and uniformly supporting surface. Refer to Boom Rigging No. 81022863, Wire Rope Specification chart No. 9368-A, Counterweight Arrangement chart No. 9349-A, and Wind Conditions chart No. 9370-A. Crane operator judgment must be used to allow for dynamic load effects of swinging, hoisting or lowering, travel, wind conditions, as well as adverse operating conditions and physical machine depreciation. Refer to Operator's Manual for operating guidelines.

MACHINE TRAVEL: Machine to travel on a firm, level, and uniformly supporting surface. Boom must be within boom angle range shown in capacity chart. Refer to Maximum Allowable Travel Specification chart No. 9367-A.



EXTENDED UPPER BOOM POINT OPERATING RADIUS: Extended upper boom point operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block.



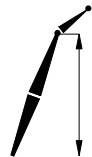
BOOM POINT OPERATING RADIUS: Boom point operating radius is horizontal distance from axis of rotation to center of vertical hoist line or load block on boom point.



BOOM ANGLE: Boom angle in degrees ($^{\circ}$) is angle between horizontal and centerline of boom butt and inserts, and is an indication of operating radius. In all cases, operating radius shall govern capacity.



EXTENDED UPPER BOOM POINT ELEVATION: Extended upper boom point elevation is vertical distance from ground level to centerline of extended upper boom point shaft.



BOOM POINT ELEVATION: Boom point elevation is vertical distance from ground level to centerline of boom point shaft.

MACHINE EQUIPMENT: Machine equipped with 36 ft 6 in. crawlers, 60 in. or 80 in. treads, 36 ft 1 in. live mast, 30 part boom hoist reeving, boom support straps, and 661,300 lb VPC.

Luffing Jib Backstay Deduct	
Boom Length	Deduct
144.4 ft	3,400 lb
164.0 ft	3,400 lb
183.7 ft	5,900 lb
203.4 ft	5,900 lb
223.1 ft	8,400 lb
242.8 ft	8,400 lb
252.6 ft	8,400 lb
262.5 ft	8,400 lb
272.3 ft	8,400 lb
282.2 ft	8,400 lb
292.0 ft	11,000 lb

Deduct the appropriate value from capacities when luffing jib backstays are stored on boom.

Upper Boom Point (upper sheave) Capacity for Liftcrane Service - Whip Line	
Drum 1 or 3	
1 Part	2 Parts
30,000 lb	60,000 lb

In all cases upper boom point (upper sheave) capacities cannot exceed those listed for extended upper boom point.

Boom Point Capacity for Liftcrane Service - Whip Line	
Drum 1	Drum 3
1 Part	
48,800 lb	30,000 lb
2 Parts	
97,600 lb	60,000 lb
3 Parts	
146,400 lb	90,000 lb
4 Parts	
195,200 lb	120,000 lb

Refer to **Tables 1 and 2** (with luffing jib backstays stored) and **Tables 3 and 4** (without luffing jib backstays stored) for raising ability with the maximum weight of all load blocks, hooks, weight balls, slings, and hoist lines beneath boom point and/or extended upper boom point (lower or upper sheaves). For block weights shown with #, load blocks, hooks, weight balls, and slings must remain on ground until combined weights are within rated capacity of chart. Raising is not permitted in shaded areas of table.

Caution: Combined weight beneath boom point and/or extended upper boom point (lower or upper sheaves) must not exceed block weight shown.

Raising With Block and With Luffing Jib Backstays

Table 1

Over End or Side of Crawlers	
Boom Length	Block Weight
144.4 ft	22,800 lb
164.0 ft	22,800 lb
183.7 ft	22,800 lb
203.4 ft	22,800 lb
223.1 ft	22,800 lb
242.8 ft	22,800 lb
252.6 ft	22,800 lb
262.5 ft	22,800 lb
272.3 ft	22,800 lb
282.2 ft	17,700 lb
292.0 ft	9,400 lb
301.8 ft	Raising Not Permitted
311.7 ft	
321.5 ft	
331.4 ft	
341.2 ft	
351.0 ft	
360.9 ft	

Table 2

Over End of Blocked Crawlers	
Boom Length	Block Weight
144.4 ft	22,800 lb
164.0 ft	22,800 lb
183.7 ft	22,800 lb
203.4 ft	22,800 lb
223.1 ft	22,800 lb
242.8 ft	22,800 lb
252.6 ft	22,800 lb
262.5 ft	22,800 lb
272.3 ft	22,800 lb
282.2 ft	22,800 lb
292.0 ft	9,400 lb
301.8 ft	Raising Not Permitted
311.7 ft	
321.5 ft	
331.4 ft	
341.2 ft	
351.0 ft	
360.9 ft	

Raising With Block and Without Luffing Jib Backstays

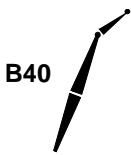
Table 3


Over End or Side of Crawlers	
Boom Length	Block Weight
144.4 ft	22,800 lb
164.0 ft	22,800 lb
183.7 ft	22,800 lb
203.4 ft	22,800 lb
223.1 ft	22,800 lb
242.8 ft	22,800 lb
252.6 ft	22,800 lb
262.5 ft	22,800 lb
272.3 ft	22,800 lb
282.2 ft	22,800 lb
292.0 ft	17,700 lb
301.8 ft	9,400 lb
311.7 ft	9,400 lb
321.5 ft	#
331.4 ft	#
341.2 ft	#
351.0 ft	Raising Not Permitted
360.9 ft	


Table 4

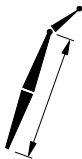
Over End of Blocked Crawlers	
Boom Length	Block Weight
144.4 ft	22,800 lb
164.0 ft	22,800 lb
183.7 ft	22,800 lb
203.4 ft	22,800 lb
223.1 ft	22,800 lb
242.8 ft	22,800 lb
252.6 ft	22,800 lb
262.5 ft	22,800 lb
272.3 ft	22,800 lb
282.2 ft	22,800 lb
292.0 ft	22,800 lb
301.8 ft	9,400 lb
311.7 ft	9,400 lb
321.5 ft	9,400 lb
331.4 ft	9,400 lb
341.2 ft	9,400 lb
351.0 ft	#
360.9 ft	#


Explanation of Symbols


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B40 Boom No. B40:680-681-682
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VPC (Variable Position Counterweight)
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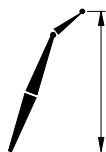
360° 360 Degree Rating
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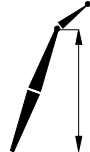
Boom Length
- 


Extended Upper Boom Point Offset Angle
- 

Extended Upper Boom Point Operating Radius (see page 1)
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Boom Point Operating Radius (see page 1)
- 

Boom Angle (see page 1)
- 

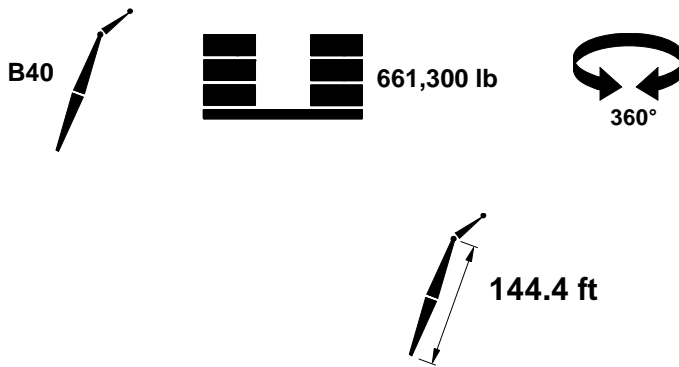
Extended Upper Boom Point Elevation (see page 1)
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Boom Point Elevation (see page 1)
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Lifting Capacities (see page 1)

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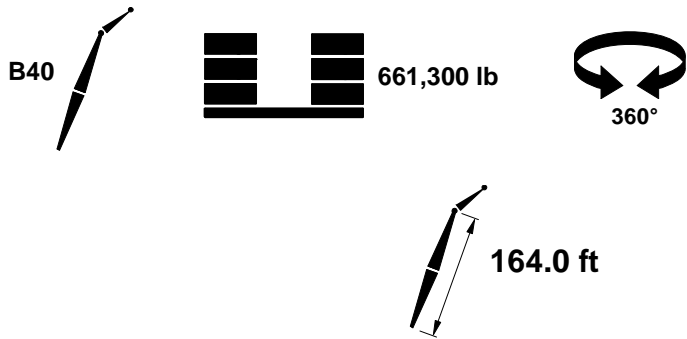
ASME B30.5



28°						35°					
ft	ft	ft	ft	ft	lb	ft	ft	ft	ft	ft	lb
32	176.4	22.6	151.9	84.8	292,800 c						
33	176.2	23.5	151.8	84.5	292,800 c						
34	176.1	24.3	151.7	84.1	292,800 c	34	175.2	22.3	152.0	85.0	292,800 c
35	175.9	25.2	151.6	83.8	292,800 c	35	175.0	23.1	151.8	84.6	292,800 c
36	175.7	26.0	151.4	83.5	292,800 c	36	174.8	24.0	151.7	84.3	292,800 c
37	175.5	26.9	151.3	83.1	292,800 b	37	174.6	24.9	151.6	83.9	292,800 b
38	175.3	27.7	151.2	82.8	292,800 b	38	174.4	25.7	151.5	83.6	292,800 b
40	174.9	29.5	150.9	82.1	292,800 b	40	174.0	27.4	151.2	82.9	292,800 b
45	173.8	33.7	150.1	80.3	292,800 b	45	172.8	31.7	150.5	81.1	292,800 b
50	172.5	38.0	149.1	78.6	292,800	50	171.5	36.1	149.6	79.4	292,800
55	171.0	42.3	148.0	76.8	292,800	55	170.0	40.4	148.5	77.6	292,800
60	169.4	46.6	146.8	75.0	292,800	60	168.4	44.7	147.4	75.8	292,800
65	167.5	50.9	145.4	73.2	292,800	65	166.6	49.1	146.0	74.0	292,800
70	165.5	55.2	143.9	71.4	292,800	70	164.6	53.4	144.5	72.1	292,800
75	163.3	59.5	142.2	69.5	292,800	75	162.4	57.8	142.9	70.2	292,800
80	161.0	63.8	140.3	67.6	292,800	80	160.0	62.1	141.1	68.3	292,800
85	158.4	68.1	138.3	65.7	276,400	85	157.3	66.5	139.1	66.4	276,600
90	155.6	72.5	136.1	63.7	257,800	90	154.5	70.9	136.9	64.5	258,000
95	152.5	76.8	133.6	61.8	241,500	95	151.4	75.3	134.5	62.4	241,700
100	149.2	81.1	131.0	59.7	227,100	100	148.1	79.7	131.9	60.4	227,300
105	145.7	85.5	128.2	57.6	214,300	105	144.6	84.1	129.1	58.3	214,400
110	141.8	89.8	125.0	55.5	202,800	110	140.7	88.6	126.0	56.1	202,900
115	137.7	94.2	121.7	53.3	192,500	115	136.5	93.0	122.7	53.9	192,600
120	133.2	98.6	118.0	51.0	183,100	120	132.0	97.5	119.0	51.6	183,200
125	128.3	103.0	114.1	48.6	174,500	125	127.0	101.9	115.0	49.2	174,600
130	123.0	107.4	109.7	46.1	166,700	130	121.7	106.4	110.7	46.7	166,800
135	117.2	111.8	105.0	43.5	159,500	135	115.8	111.0	105.9	44.0	159,600
140	110.8	116.2	99.7	40.8	152,900	140	109.3	115.5	100.6	41.2	153,000
145	103.8	120.7	93.9	37.8	146,800	145	102.1	120.1	94.7	38.2	146,800
150	95.8	125.2	87.3	34.6	141,100						
155	86.7	129.7	79.7	31.1	135,900						

MLC650 S-2

ASME B30.5



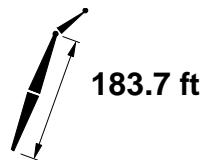
28°						35°					
ft	ft	ft	ft	ft	lb	ft	ft	ft	ft	ft	lb
34	196.0	24.6	171.4	84.8	292,800 b						
35	195.8	25.4	171.3	84.5	292,800 b						
36	195.7	26.3	171.2	84.2	292,800 b	36	194.7	24.2	171.5	84.9	292,800 b
37	195.5	27.2	171.1	83.8	292,800 b	37	194.5	25.1	171.3	84.6	292,800 b
38	195.3	28.1	170.9	83.5	292,800 b	38	194.4	26.0	171.2	84.3	292,800 b
39	195.1	28.9	170.8	83.2	292,800 b	39	194.2	26.8	171.1	84.0	292,800 b
40	194.9	29.8	170.7	82.9	292,800 b	40	194.0	27.7	171.0	83.7	292,800 b
45	193.9	34.2	170.0	81.4	292,800	45	193.0	32.1	170.3	82.1	292,800
50	192.8	38.5	169.1	79.8	292,800	50	191.8	36.5	169.5	80.5	292,800
55	191.5	42.9	168.1	78.2	292,800	55	190.5	40.9	168.6	78.9	292,800
60	190.0	47.2	167.0	76.6	292,800	60	189.0	45.3	167.5	77.3	292,800
65	188.4	51.6	165.8	75.0	292,800	65	187.4	49.7	166.3	75.7	292,800
70	186.6	55.9	164.4	73.4	292,800	70	185.7	54.1	165.0	74.1	292,800
75	184.7	60.3	162.9	71.8	292,800	75	183.7	58.5	163.5	72.5	292,800
80	182.6	64.7	161.2	70.1	292,800	80	181.6	62.9	161.9	70.8	292,800
85	180.4	69.1	159.4	68.5	278,500	85	179.3	67.4	160.1	69.1	278,700
90	177.9	73.5	157.4	66.8	259,800	90	176.9	71.8	158.2	67.4	260,000
95	175.3	77.9	155.3	65.0	243,400	95	174.2	76.3	156.1	65.7	243,600
100	172.5	82.3	153.0	63.3	229,000	100	171.4	80.7	153.9	63.9	229,100
105	169.4	86.7	150.5	61.5	216,100	105	168.3	85.2	151.4	62.1	216,200
110	166.2	91.1	147.9	59.7	204,500	110	165.1	89.6	148.8	60.3	204,600
115	162.7	95.5	145.0	57.8	194,100	115	161.6	94.1	146.0	58.4	194,200
120	159.0	99.9	141.9	55.9	184,600	120	157.8	98.6	142.9	56.5	184,700
125	155.0	104.4	138.6	54.0	176,000	125	153.8	103.1	139.6	54.5	176,100
130	150.7	108.8	135.1	52.0	168,100	130	149.4	107.6	136.0	52.5	168,200
135	146.0	113.3	131.2	49.9	160,900	135	144.8	112.2	132.2	50.4	161,000
140	141.1	117.7	127.1	47.7	154,300	140	139.7	116.7	128.1	48.2	154,300
145	135.7	122.2	122.6	45.5	148,100	145	134.3	121.3	123.6	46.0	148,200
150	129.9	126.7	117.7	43.2	142,400	150	128.4	125.8	118.7	43.6	142,500
155	123.6	131.2	112.4	40.7	137,200	155	122.0	130.4	113.3	41.1	137,200
160	116.6	135.7	106.6	38.1	132,200	160	115.0	135.1	107.4	38.5	132,300
165	109.0	140.2	100.1	35.3	127,600	165	107.2	139.7	100.9	35.7	127,600
170	100.3	144.8	92.8	32.3	123,300						
175	90.5	149.4	84.4	28.9	118,900						

MLC650 S-2

ASME B30.5



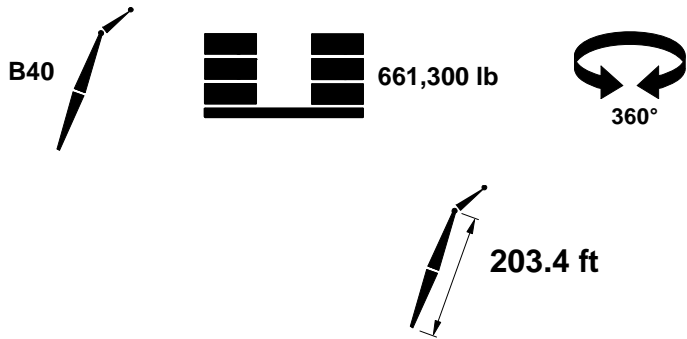
661,300 lb



28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
35	215.7	25.7	191.1	85.0	292,800						
36	215.6	26.6	191.0	84.7	292,800						
37	215.4	27.4	190.9	84.4	292,800						
38	215.2	28.3	190.8	84.2	292,800	38	214.3	26.2	191.0	84.8	292,800
39	215.1	29.2	190.7	83.9	292,800	39	214.1	27.1	190.9	84.5	292,800
40	214.9	30.1	190.5	83.6	292,800	40	214.0	28.0	190.8	84.3	292,800
41	214.7	31.0	190.4	83.3	292,800	41	213.8	28.9	190.7	84.0	292,800
42	214.6	31.8	190.3	83.0	292,800	42	213.6	29.7	190.6	83.7	292,800
45	214.0	34.5	189.9	82.2	292,800	45	213.0	32.4	190.2	82.9	292,800
50	212.9	38.9	189.1	80.8	292,800	50	212.0	36.9	189.5	81.4	292,800
55	211.8	43.3	188.2	79.4	292,800	55	210.8	41.3	188.6	80.0	292,800
60	210.5	47.8	187.2	77.9	292,800	60	209.5	45.7	187.7	78.6	292,800
65	209.0	52.2	186.1	76.5	292,800	65	208.0	50.2	186.6	77.1	292,800
70	207.4	56.6	184.8	75.1	292,800	70	206.5	54.7	185.4	75.7	292,800
75	205.7	61.0	183.4	73.6	292,800	75	204.7	59.2	184.0	74.2	292,800
80	203.9	65.5	181.9	72.1	292,800	80	202.9	63.6	182.6	72.7	292,800
85	201.8	69.9	180.3	70.6	281,200	85	200.8	68.1	181.0	71.2	281,400
90	199.7	74.3	178.6	69.1	262,300	90	198.7	72.6	179.3	69.7	262,500
95	197.4	78.8	176.7	67.6	245,800	95	196.3	77.1	177.4	68.2	246,000
100	194.9	83.2	174.6	66.1	231,100	100	193.8	81.6	175.4	66.7	231,300
105	192.2	87.7	172.4	64.5	218,100	105	191.1	86.1	173.2	65.1	218,200
110	189.4	92.1	170.1	62.9	206,400	110	188.3	90.6	170.9	63.5	206,500
115	186.4	96.6	167.6	61.3	195,900	115	185.2	95.1	168.4	61.9	196,000
120	183.1	101.1	164.8	59.7	186,300	120	182.0	99.6	165.8	60.2	186,400
125	179.7	105.6	162.0	58.0	177,600	125	178.5	104.2	162.9	58.5	177,700
130	176.0	110.0	158.9	56.3	169,700	130	174.9	108.7	159.9	56.8	169,800
135	172.2	114.5	155.6	54.5	162,400	135	170.9	113.2	156.6	55.0	162,500
140	168.0	119.0	152.1	52.7	155,600	140	166.8	117.8	153.1	53.2	155,700
145	163.6	123.5	148.4	50.9	149,400	145	162.3	122.4	149.4	51.4	149,500
150	158.9	128.0	144.4	49.0	143,700	150	157.6	127.0	145.4	49.5	143,800
155	153.8	132.6	140.1	47.0	138,300	155	152.5	131.5	141.1	47.5	138,400
160	148.4	137.1	135.5	45.0	133,400	160	147.0	136.2	136.5	45.4	133,400
165	142.6	141.6	130.5	42.9	128,100	165	141.1	140.8	131.5	43.3	128,500
170	136.3	146.2	125.2	40.7	122,100	170	134.8	145.4	126.1	41.1	122,400
175	129.5	150.8	119.3	38.3	116,500	175	127.8	150.1	120.2	38.7	116,800
180	122.0	155.3	112.9	35.9	111,200	180	120.3	154.8	113.7	36.2	111,400
185	113.8	159.9	105.8	33.2	106,100						
190	104.5	164.6	97.9	30.3	101,300						

MLC650 S-2

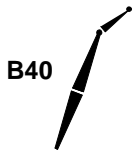
ASME B30.5



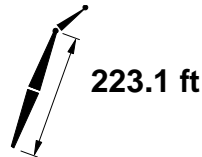
28°						35°					
ft	ft	ft	ft	ft	lb	ft	ft	ft	ft	ft	lb
37	235.3	27.7	210.7	84.9	292,800						
38	235.1	28.5	210.6	84.7	292,800						
39	235.0	29.5	210.5	84.4	292,800	39	234.0	27.3	210.7	85.0	292,800
40	234.8	30.3	210.4	84.2	292,800	40	233.9	28.2	210.6	84.8	292,800
41	234.7	31.2	210.3	83.9	292,800	41	233.7	29.1	210.5	84.5	292,800
42	234.5	32.1	210.2	83.6	292,800	42	233.5	30.0	210.4	84.3	292,800
43	234.3	33.0	210.0	83.4	292,800	43	233.4	30.9	210.3	84.0	292,800
45	234.0	34.8	209.8	82.9	292,800	45	233.0	32.7	210.1	83.5	292,800
50	233.0	39.2	209.1	81.6	292,800	50	232.1	37.2	209.4	82.2	292,800
55	232.0	43.7	208.2	80.3	292,800	55	231.0	41.6	208.6	80.9	292,800
60	230.8	48.2	207.3	79.0	292,800	60	229.8	46.1	207.7	79.6	292,800
65	229.5	52.7	206.3	77.7	292,800	65	228.5	50.6	206.7	78.3	292,800
70	228.0	57.1	205.1	76.4	292,800	70	227.0	55.2	205.6	77.0	292,800
75	226.5	61.6	203.9	75.1	292,800	75	225.5	59.7	204.4	75.6	292,800
80	224.8	66.1	202.5	73.7	292,800	80	223.8	64.2	203.1	74.3	292,800
85	223.0	70.6	201.0	72.4	283,200	85	222.0	68.7	201.7	73.0	283,400
90	221.0	75.1	199.4	71.1	264,200	90	220.0	73.2	200.1	71.6	264,400
95	219.0	79.6	197.7	69.7	247,600	95	217.9	77.8	198.4	70.2	247,800
100	216.7	84.0	195.8	68.3	232,800	100	215.7	82.3	196.6	68.8	233,000
105	214.4	88.5	193.9	66.9	219,700	105	213.3	86.8	194.6	67.4	219,900
110	211.8	93.0	191.8	65.5	208,000	110	210.8	91.4	192.5	66.0	208,100
115	209.1	97.5	189.5	64.1	197,300	115	208.1	95.9	190.3	64.6	197,500
120	206.3	102.1	187.1	62.6	187,700	120	205.2	100.5	187.9	63.1	187,900
125	203.3	106.6	184.5	61.1	179,000	125	202.2	105.0	185.4	61.6	179,100
130	200.1	111.1	181.8	59.7	171,000	130	198.9	109.6	182.7	60.1	171,100
135	196.7	115.6	178.9	58.1	163,700	135	195.5	114.2	179.9	58.6	163,700
140	193.1	120.1	175.9	56.6	156,900	140	191.9	118.8	176.8	57.1	157,000
145	189.3	124.7	172.6	55.0	150,600	145	188.1	123.4	173.6	55.5	150,700
150	185.3	129.2	169.2	53.4	144,900	150	184.0	128.0	170.2	53.8	144,900
155	181.0	133.7	165.6	51.7	139,500	155	179.7	132.6	166.5	52.2	139,500
160	176.5	138.3	161.7	50.0	133,300	160	175.2	137.2	162.6	50.4	133,800
165	171.7	142.9	157.5	48.3	127,000	165	170.3	141.8	158.5	48.7	127,400
170	166.6	147.4	153.1	46.5	121,000	170	165.2	146.4	154.1	46.9	121,400
175	161.1	152.0	148.4	44.6	115,400	175	159.7	151.1	149.4	45.0	115,800
180	155.3	156.6	143.4	42.7	110,100	180	153.8	155.8	144.3	43.0	110,500
185	149.0	161.2	137.9	40.7	105,100	185	147.5	160.4	138.8	41.0	105,400
190	142.3	165.8	132.1	38.5	100,400	190	140.7	165.1	132.9	38.8	100,700
195	135.0	170.4	125.7	36.3	95,900	195	133.3	169.9	126.5	36.6	96,100
200	127.0	175.1	118.8	33.9	91,700						
205	118.3	179.7	111.1	31.4	87,600						
210	108.4	184.4	102.5	28.6	83,700						

MLC650 S-2

ASME B30.5



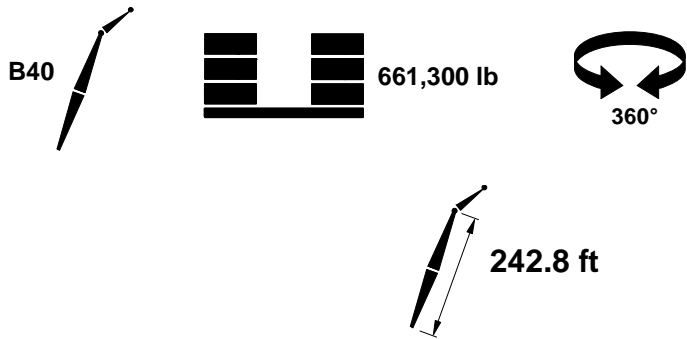
661,300 lb



28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
39	254.8	29.7	230.3	84.9	292,800						
40	254.7	30.5	230.2	84.6	292,800						
41	254.6	31.4	230.1	84.4	292,800	41	253.6	29.3	230.3	85.0	292,800
42	254.4	32.3	230.0	84.2	292,800	42	253.4	30.2	230.2	84.7	292,800
43	254.3	33.2	229.9	83.9	292,800	43	253.3	31.1	230.1	84.5	292,800
44	254.1	34.1	229.7	83.7	292,800	44	253.1	32.0	230.0	84.2	292,800
45	253.9	35.0	229.6	83.5	292,800	45	253.0	32.9	229.9	84.0	292,800
50	253.1	39.5	229.0	82.3	292,800	50	252.1	37.4	229.3	82.8	292,800
55	252.1	44.0	228.2	81.1	292,800	55	251.1	41.9	228.6	81.6	292,800
60	251.0	48.6	227.3	79.9	292,800	60	250.0	46.5	227.8	80.5	292,800
65	249.8	53.1	226.4	78.7	292,800	65	248.8	51.0	226.8	79.3	292,800
70	248.5	57.6	225.3	77.5	292,800	70	247.5	55.6	225.8	78.0	292,800
75	247.1	62.1	224.2	76.3	292,800	75	246.1	60.1	224.7	76.8	292,800
80	245.5	66.6	222.9	75.1	292,800	80	244.5	64.7	223.5	75.6	292,800
85	243.9	71.1	221.6	73.9	287,000	85	242.9	69.2	222.2	74.4	287,200
90	242.1	75.6	220.1	72.6	267,700	90	241.1	73.8	220.7	73.2	267,900
95	240.2	80.2	218.5	71.4	250,800	95	239.2	78.3	219.2	71.9	251,000
100	238.2	84.7	216.8	70.1	235,900	100	237.1	82.9	217.5	70.7	236,100
105	236.0	89.3	215.0	68.9	222,600	105	235.0	87.5	215.7	69.4	222,700
110	233.8	93.8	213.1	67.6	210,700	110	232.7	92.0	213.8	68.1	210,800
115	231.3	98.3	211.0	66.3	199,900	115	230.3	96.6	211.8	66.8	200,100
120	228.8	102.9	208.9	65.0	190,200	120	227.7	101.2	209.7	65.5	190,300
125	226.1	107.4	206.6	63.7	181,300	125	225.0	105.8	207.4	64.2	181,400
130	223.2	112.0	204.1	62.4	173,200	130	222.1	110.4	205.0	62.8	173,300
135	220.2	116.5	201.5	61.0	165,800	135	219.1	115.0	202.4	61.5	165,900
140	217.0	121.1	198.8	59.6	158,900	140	215.9	119.6	199.7	60.1	159,000
145	213.7	125.6	195.9	58.2	151,100	145	212.5	124.2	196.8	58.7	151,800
150	210.1	130.2	192.9	56.8	143,200	150	209.0	128.8	193.8	57.3	143,900
155	206.4	134.8	189.6	55.4	135,900	155	205.2	133.5	190.6	55.8	136,600
160	202.5	139.4	186.2	53.9	129,100	160	201.3	138.1	187.2	54.3	129,800
165	198.4	143.9	182.7	52.4	122,800	165	197.1	142.7	183.6	52.8	123,400
170	194.0	148.5	178.9	50.9	116,800	170	192.7	147.4	179.8	51.2	117,400
175	189.4	153.1	174.8	49.3	111,200	175	188.0	152.0	175.8	49.7	111,700
180	184.5	157.7	170.6	47.7	105,900	180	183.1	156.7	171.6	48.0	106,400
185	179.3	162.3	166.1	46.0	101,000	185	177.9	161.3	167.0	46.3	101,400
190	173.8	166.9	161.3	44.3	96,300	190	172.4	166.0	162.2	44.6	96,600
195	168.0	171.6	156.1	42.5	91,800	195	166.5	170.7	157.1	42.8	92,100
200	161.8	176.2	150.7	40.6	87,600	200	160.2	175.4	151.6	40.9	87,900
205	155.1	180.8	144.8	38.7	83,500	205	153.5	180.2	145.7	39.0	83,800
210	148.0	185.5	138.5	36.7	79,700	210	146.2	184.9	139.4	36.9	79,900
220	131.8	194.8	124.2	32.3	72,500						

MLC650 S-2

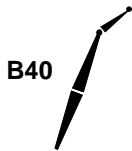
ASME B30.5



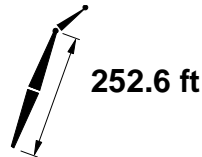
28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
40	274.5	30.7	250.0	85.0	292,800						
41	274.4	31.6	249.9	84.8	292,800						
42	274.3	32.5	249.8	84.6	292,800						
43	274.1	33.4	249.7	84.4	292,800	43	273.1	31.3	249.9	84.9	292,800
44	274.0	34.3	249.6	84.2	292,800	44	273.0	32.2	249.8	84.7	292,800
45	273.8	35.3	249.5	83.9	292,800	45	272.9	33.1	249.7	84.5	292,800
46	273.7	36.1	249.4	83.7	292,800	46	272.7	34.0	249.6	84.2	292,800
47	273.5	37.1	249.2	83.5	292,800	47	272.5	34.9	249.5	84.0	292,800
50	273.0	39.8	248.9	82.9	292,800	50	272.0	37.6	249.2	83.4	292,800
55	272.1	44.3	248.1	81.8	292,800	55	271.1	42.2	248.5	82.3	292,800
60	271.1	48.9	247.3	80.7	292,800	60	270.1	46.8	247.7	81.2	292,800
65	270.0	53.4	246.5	79.6	292,800	65	269.0	51.3	246.9	80.1	292,800
70	268.8	58.0	245.5	78.5	292,800	70	267.8	55.9	245.9	79.0	292,800
75	267.5	62.5	244.4	77.3	292,800	75	266.5	60.5	244.9	77.8	292,800
80	266.1	67.1	243.2	76.2	292,800	80	265.1	65.1	243.8	76.7	292,800
85	264.6	71.6	242.0	75.1	288,900	85	263.5	69.7	242.5	75.6	289,100
90	262.9	76.2	240.6	74.0	269,500	90	261.9	74.2	241.2	74.5	269,700
95	261.2	80.7	239.2	72.8	252,600	95	260.2	78.8	239.8	73.3	252,700
100	259.4	85.3	237.6	71.7	237,500	100	258.3	83.4	238.2	72.2	237,700
105	257.4	89.9	235.9	70.5	224,100	105	256.3	88.0	236.6	71.0	224,300
110	255.3	94.5	234.2	69.4	212,200	110	254.3	92.6	234.9	69.8	212,300
115	253.1	99.0	232.3	68.2	201,300	115	252.0	97.2	233.0	68.7	201,500
120	250.8	103.6	230.3	67.0	191,500	120	249.7	101.9	231.1	67.5	191,700
125	248.3	108.1	228.2	65.8	182,600	125	247.2	106.5	229.0	66.3	182,700
130	245.7	112.7	226.0	64.6	174,500	130	244.6	111.1	226.8	65.1	174,600
135	243.0	117.3	223.6	63.4	167,000	135	241.9	115.7	224.5	63.8	167,100
140	240.2	121.9	221.1	62.1	158,000	140	239.0	120.3	222.0	62.6	158,900
145	237.1	126.5	218.5	60.9	149,600	145	236.0	125.0	219.4	61.3	150,400
150	234.0	131.1	215.8	59.6	141,800	150	232.8	129.6	216.7	60.0	142,500
155	230.7	135.7	212.9	58.3	134,500	155	229.5	134.2	213.8	58.7	135,200
160	227.2	140.3	209.8	57.0	127,700	160	226.0	138.9	210.8	57.4	128,300
165	223.5	144.9	206.6	55.7	121,300	165	222.3	143.5	207.6	56.1	121,900
170	219.7	149.5	203.3	54.3	115,400	170	218.4	148.2	204.2	54.7	115,900
175	215.6	154.1	199.7	53.0	109,800	175	214.4	152.9	200.7	53.3	110,300
180	211.4	158.7	196.0	51.5	104,500	180	210.1	157.5	197.0	51.9	105,000
185	206.9	163.4	192.1	50.1	99,500	185	205.6	162.2	193.1	50.5	100,000
190	202.2	168.0	188.0	48.6	94,800	190	200.9	166.9	188.9	49.0	95,300
195	197.3	172.6	183.6	47.1	90,400	195	195.9	171.6	184.6	47.5	90,800
200	192.1	177.3	179.0	45.6	86,200	200	190.6	176.3	180.0	45.9	86,500
205	186.6	181.9	174.1	44.0	82,100	205	185.1	181.0	175.1	44.3	82,500
210	180.7	186.6	168.9	42.3	78,300	210	179.2	185.7	169.9	42.6	78,600
220	167.9	195.9	157.6	38.8	71,200	220	166.3	195.2	158.5	39.1	71,500
230	153.3	205.3	144.6	35.0	64,700	230	151.5	204.7	145.4	35.2	64,900
240	136.2	214.7	129.3	30.8	58,700						

MLC650 S-2

ASME B30.5



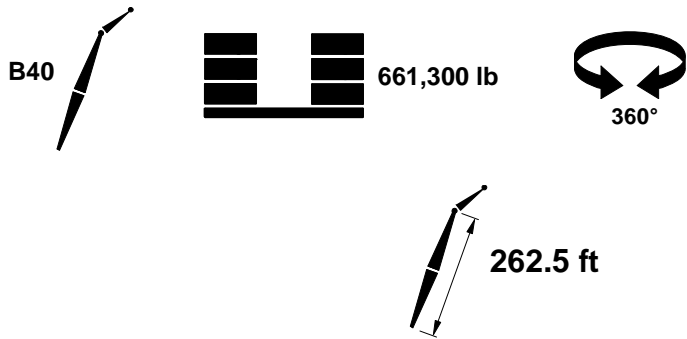
661,300 lb



28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
41	284.3	31.7	259.7	85.0	292,800						
42	284.2	32.6	259.6	84.8	292,800						
43	284.1	33.5	259.5	84.6	292,800						
44	283.9	34.4	259.4	84.4	292,800	44	282.9	32.2	259.7	84.9	292,800
45	283.8	35.3	259.3	84.2	292,800	45	282.8	33.1	259.6	84.7	292,800
46	283.6	36.3	259.2	83.9	292,800	46	282.6	34.1	259.5	84.4	292,800
47	283.5	37.2	259.1	83.7	292,800	47	282.5	35.0	259.4	84.2	292,800
48	283.3	38.1	259.0	83.5	292,800	48	282.3	35.9	259.3	84.0	292,800
50	283.0	39.9	258.7	83.1	292,800	50	282.0	37.7	259.0	83.6	292,800
55	282.1	44.5	258.0	82.1	292,800	55	281.1	42.3	258.4	82.6	292,800
60	281.2	49.0	257.3	81.0	292,800	60	280.2	46.9	257.6	81.5	292,800
65	280.1	53.6	256.4	79.9	292,800	65	279.1	51.5	256.8	80.4	292,800
70	278.9	58.1	255.5	78.9	292,800	70	277.9	56.0	255.9	79.4	292,800
75	277.7	62.7	254.4	77.8	292,800	75	276.7	60.7	254.9	78.3	292,800
80	276.3	67.3	253.3	76.7	292,800	80	275.3	65.2	253.8	77.2	292,800
85	274.9	71.8	252.1	75.7	289,200	85	273.8	69.9	252.6	76.1	289,400
90	273.3	76.4	250.8	74.6	269,700	90	272.3	74.5	251.4	75.0	269,900
95	271.6	81.0	249.4	73.5	252,700	95	270.6	79.0	250.0	73.9	252,900
100	269.9	85.6	247.9	72.4	237,600	100	268.8	83.7	248.5	72.8	237,800
105	268.0	90.1	246.3	71.3	224,100	105	266.9	88.3	246.9	71.7	224,300
110	266.0	94.7	244.6	70.2	212,100	110	264.9	92.9	245.3	70.6	212,300
115	263.9	99.3	242.8	69.0	201,200	115	262.8	97.5	243.5	69.5	201,400
120	261.6	103.9	240.9	67.9	191,400	120	260.6	102.1	241.6	68.3	191,500
125	259.3	108.5	238.8	66.8	182,400	125	258.2	106.7	239.6	67.2	182,600
130	256.8	113.1	236.7	65.6	174,200	130	255.7	111.4	237.5	66.0	174,400
135	254.2	117.7	234.4	64.4	165,900	135	253.1	116.0	235.3	64.9	166,900
140	251.5	122.3	232.1	63.2	156,700	140	250.4	120.6	232.9	63.7	157,700
145	248.6	126.9	229.6	62.1	148,300	145	247.5	125.3	230.5	62.5	149,200
150	245.6	131.5	227.0	60.8	140,400	150	244.5	129.9	227.9	61.3	141,300
155	242.5	136.1	224.2	59.6	133,100	155	241.3	134.6	225.1	60.0	133,900
160	239.2	140.7	221.3	58.4	126,300	160	238.0	139.2	222.3	58.8	127,100
165	235.7	145.3	218.3	57.1	120,000	165	234.5	143.9	219.2	57.5	120,600
170	232.1	149.9	215.1	55.8	114,000	170	230.8	148.5	216.0	56.2	114,600
175	228.2	154.5	211.7	54.5	108,400	175	227.0	153.2	212.7	54.9	109,000
180	224.3	159.2	208.2	53.2	103,100	180	223.0	157.9	209.2	53.6	103,700
185	220.1	163.8	204.5	51.9	98,200	185	218.8	162.6	205.5	52.2	98,700
190	215.7	168.4	200.7	50.5	93,500	190	214.4	167.3	201.6	50.8	93,900
195	211.1	173.1	196.6	49.1	89,000	195	209.7	171.9	197.6	49.4	89,500
200	206.2	177.7	192.3	47.6	84,800	200	204.8	176.6	193.3	48.0	85,200
205	201.1	182.4	187.7	46.1	80,800	205	199.7	181.4	188.7	46.5	81,200
210	195.7	187.0	183.0	44.6	77,000	210	194.3	186.1	183.9	44.9	77,300
220	184.0	196.3	172.6	41.4	69,900	220	182.5	195.5	173.5	41.7	70,200
230	170.9	205.7	160.9	38.0	63,400	230	169.2	205.0	161.7	38.3	63,600
240	155.9	215.1	147.4	34.3	57,500						
250	138.3	224.5	131.8	30.1	52,000						

MLC650 S-2

ASME B30.5



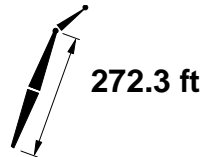
28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
42	294.1	32.7	269.6	85.0	292,800						
43	294.0	33.6	269.5	84.8	292,800						
44	293.9	34.5	269.4	84.6	292,800						
45	293.7	35.5	269.3	84.4	292,800	45	292.7	33.2	269.5	84.8	292,800
46	293.6	36.4	269.2	84.2	292,800	46	292.6	34.1	269.4	84.6	292,800
47	293.4	37.3	269.1	84.0	292,800	47	292.4	35.0	269.3	84.4	292,800
48	293.3	38.2	269.0	83.8	292,800	48	292.3	36.0	269.2	84.2	292,800
49	293.1	39.1	268.8	83.6	292,800	49	292.1	36.9	269.1	84.0	292,800
50	293.0	40.0	268.7	83.3	292,800	50	292.0	37.8	269.0	83.8	292,800
55	292.1	44.6	268.0	82.3	292,800	55	291.1	42.4	268.4	82.8	292,800
60	291.2	49.1	267.3	81.3	292,800	60	290.2	47.0	267.7	81.8	292,800
65	290.2	53.7	266.5	80.3	292,800	65	289.2	51.6	266.9	80.8	292,800
70	289.0	58.3	265.6	79.3	292,800	70	288.0	56.2	266.0	79.7	292,800
75	287.8	62.9	264.6	78.2	292,800	75	286.8	60.8	265.0	78.7	292,800
80	286.5	67.5	263.5	77.2	292,800	80	285.5	65.4	264.0	77.7	292,800
85	285.1	72.1	262.3	76.2	290,300	85	284.1	70.0	262.8	76.6	290,600
90	283.6	76.7	261.0	75.1	270,800	90	282.6	74.6	261.6	75.6	271,000
95	282.0	81.2	259.7	74.1	253,700	95	281.0	79.3	260.3	74.5	253,900
100	280.3	85.8	258.2	73.0	238,500	100	279.3	83.9	258.8	73.5	238,700
105	278.5	90.4	256.7	71.9	225,100	105	277.4	88.5	257.3	72.4	225,200
110	276.6	95.0	255.0	70.9	213,000	110	275.5	93.1	255.7	71.3	213,100
115	274.5	99.6	253.3	69.8	202,100	115	273.5	97.8	254.0	70.2	202,200
120	272.4	104.2	251.5	68.7	192,200	120	271.3	102.4	252.2	69.1	192,300
125	270.2	108.8	249.5	67.6	183,200	125	269.1	107.0	250.3	68.0	183,300
130	267.8	113.4	247.5	66.5	174,600	130	266.7	111.7	248.3	66.9	175,100
135	265.3	118.0	245.3	65.4	164,700	135	264.2	116.3	246.1	65.8	165,700
140	262.7	122.6	243.0	64.3	155,500	140	261.6	121.0	243.9	64.7	156,500
145	260.0	127.3	240.6	63.1	147,000	145	258.8	125.6	241.5	63.5	147,900
150	257.1	131.9	238.1	62.0	139,200	150	255.9	130.3	239.0	62.4	140,000
155	254.1	136.5	235.5	60.8	131,900	155	252.9	134.9	236.4	61.2	132,700
160	250.9	141.1	232.7	59.6	125,100	160	249.8	139.6	233.6	60.0	125,800
165	247.6	145.7	229.8	58.4	118,700	165	246.5	144.3	230.8	58.8	119,400
170	244.2	150.4	226.8	57.2	112,700	170	243.0	148.9	227.8	57.6	113,400
175	240.6	155.0	223.6	56.0	107,100	175	239.4	153.6	224.6	56.3	107,700
180	236.8	159.6	220.3	54.7	101,800	180	235.6	158.3	221.3	55.1	102,400
185	232.9	164.3	216.8	53.4	96,900	185	231.6	163.0	217.8	53.8	97,400
190	228.7	168.9	213.1	52.1	92,200	190	227.4	167.7	214.1	52.5	92,700
195	224.4	173.5	209.3	50.8	87,700	195	223.1	172.4	210.3	51.2	88,200
200	219.9	178.2	205.3	49.5	83,500	200	218.5	177.1	206.3	49.8	84,000
205	215.1	182.9	201.0	48.1	79,500	205	213.7	181.8	202.0	48.4	79,900
210	210.1	187.5	196.6	46.7	75,700	210	208.7	186.5	197.6	47.0	76,100
220	199.3	196.9	186.9	43.7	68,600	220	197.8	196.0	187.9	44.0	69,000
230	187.3	206.2	176.2	40.6	62,200	230	185.7	205.4	177.1	40.9	62,400
240	173.8	215.6	164.1	37.2	56,200	240	172.0	215.0	164.9	37.5	56,400
250	158.4	225.0	150.3	33.6	50,800						
260	140.4	234.5	134.1	29.4	45,700						

MLC650 S-2

ASME B30.5



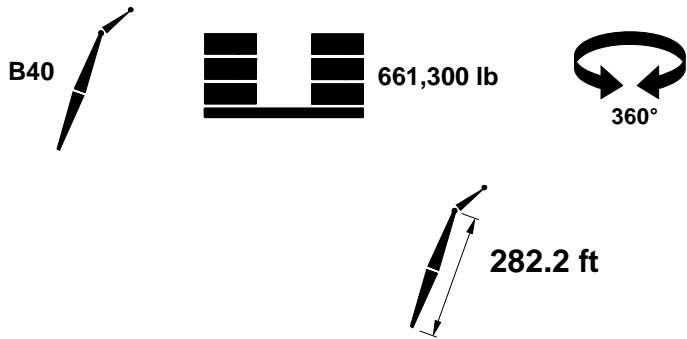
661,300 lb



28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
43	303.9	33.7	279.3	84.9	292,800						
44	303.8	34.6	279.2	84.7	292,800						
45	303.6	35.5	279.1	84.5	292,800	45	302.6	33.3	279.4	85.0	292,800
46	303.5	36.4	279.0	84.4	292,800	46	302.5	34.2	279.3	84.8	292,800
47	303.4	37.4	278.9	84.2	292,800	47	302.4	35.1	279.2	84.6	292,800
48	303.2	38.2	278.8	84.0	292,800	48	302.2	36.0	279.1	84.4	292,800
49	303.1	39.2	278.7	83.8	292,800	49	302.1	37.0	279.0	84.2	292,800
50	302.9	40.1	278.6	83.6	292,800	50	301.9	37.9	278.9	84.0	292,800
55	302.1	44.7	277.9	82.6	292,800	55	301.1	42.5	278.3	83.1	292,800
60	301.2	49.3	277.2	81.6	292,800	60	300.2	47.1	277.6	82.1	292,800
65	300.2	53.8	276.4	80.6	292,800	65	299.2	51.7	276.8	81.1	292,800
70	299.1	58.4	275.5	79.6	292,800	70	298.1	56.3	275.9	80.1	292,800
75	298.0	63.1	274.6	78.6	292,800	75	296.9	61.0	275.0	79.1	292,800
80	296.7	67.6	273.5	77.6	292,800	80	295.7	65.6	274.0	78.1	292,800
85	295.3	72.2	272.4	76.6	292,400	85	294.3	70.2	272.9	77.1	292,600
90	293.9	76.8	271.2	75.6	272,800	90	292.9	74.8	271.7	76.1	273,000
95	292.4	81.4	269.8	74.6	255,600	95	291.3	79.5	270.4	75.1	255,800
100	290.7	86.0	268.4	73.6	240,400	100	289.7	84.1	269.1	74.0	240,600
105	289.0	90.6	267.0	72.6	226,900	105	287.9	88.7	267.6	73.0	227,100
110	287.1	95.2	265.4	71.5	214,800	110	286.1	93.4	266.0	72.0	214,900
115	285.2	99.9	263.7	70.5	203,800	115	284.1	98.0	264.4	70.9	204,000
120	283.1	104.4	261.9	69.5	193,900	120	282.0	102.6	262.6	69.9	194,100
125	281.0	109.1	260.0	68.4	184,900	125	279.9	107.3	260.8	68.8	185,000
130	278.7	113.7	258.1	67.3	174,500	130	277.6	111.9	258.8	67.8	175,600
135	276.3	118.3	256.0	66.3	164,600	135	275.2	116.6	256.8	66.7	165,600
140	273.8	122.9	253.8	65.2	155,400	140	272.7	121.3	254.6	65.6	156,400
145	271.2	127.6	251.5	64.1	146,900	145	270.1	125.9	252.4	64.5	147,900
150	268.4	132.2	249.1	63.0	139,100	150	267.3	130.6	250.0	63.4	139,900
155	265.6	136.8	246.6	61.9	131,800	155	264.4	135.2	247.5	62.3	132,600
160	262.6	141.4	244.0	60.8	124,900	160	261.4	139.9	244.8	61.1	125,700
165	259.4	146.1	241.2	59.6	118,600	165	258.2	144.6	242.1	60.0	119,300
170	256.1	150.7	238.3	58.5	112,600	170	254.9	149.3	239.2	58.8	113,300
175	252.7	155.4	235.2	57.3	107,000	175	251.5	153.9	236.2	57.6	107,600
180	249.1	160.0	232.1	56.1	101,700	180	247.9	158.6	233.0	56.4	102,300
185	245.4	164.7	228.7	54.9	96,700	185	244.1	163.3	229.7	55.2	97,300
190	241.5	169.3	225.3	53.7	92,000	190	240.2	168.0	226.3	54.0	92,600
195	237.4	173.9	221.7	52.4	87,600	195	236.1	172.7	222.6	52.7	88,100
200	233.1	178.6	217.8	51.1	83,400	200	231.8	177.4	218.8	51.5	83,900
205	228.6	183.3	213.8	49.8	79,400	205	227.3	182.1	214.9	50.2	79,800
210	223.9	187.9	209.7	48.5	75,600	210	222.6	186.8	210.7	48.8	76,000
220	213.9	197.3	200.7	45.8	68,500	220	212.4	196.3	201.7	46.1	68,900
230	202.8	206.6	190.7	42.9	62,100	230	201.2	205.8	191.7	43.1	62,400
240	190.4	216.0	179.7	39.8	56,200	240	188.8	215.3	180.5	40.0	56,400
250	176.6	225.5	167.2	36.5	50,700	250	174.8	224.9	168.0	36.7	50,900
260	160.8	234.9	153.0	32.9	45,700						
270	142.4	244.4	136.4	28.8	41,000						

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ASME B30.5



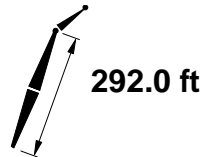
28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
44	313.7	34.7	289.2	84.9	292,800						
45	313.6	35.6	289.1	84.7	292,800						
46	313.4	36.5	289.0	84.5	292,800	46	312.4	34.3	289.2	85.0	292,800
47	313.3	37.4	288.9	84.3	292,800	47	312.3	35.2	289.1	84.8	292,800
48	313.2	38.4	288.8	84.2	292,800	48	312.2	36.1	289.0	84.6	292,800
49	313.0	39.3	288.7	84.0	292,800	49	312.0	37.0	288.9	84.4	292,800
50	312.9	40.2	288.5	83.8	292,800	50	311.9	38.0	288.8	84.2	292,800
55	312.1	44.8	287.9	82.8	292,800	55	311.1	42.6	288.2	83.3	292,800
60	311.2	49.4	287.2	81.9	292,800	60	310.2	47.2	287.6	82.3	292,800
65	310.3	54.0	286.4	80.9	292,800	65	309.2	51.8	286.8	81.4	292,800
70	309.2	58.6	285.6	80.0	292,800	70	308.2	56.5	286.0	80.4	292,800
75	308.1	63.2	284.7	79.0	292,800	75	307.1	61.1	285.1	79.4	292,800
80	306.9	67.8	283.6	78.0	292,800	80	305.8	65.7	284.1	78.5	292,800
85	305.5	72.4	282.5	77.1	292,800	85	304.5	70.4	283.0	77.5	292,800
90	304.1	77.0	281.3	76.1	273,900	90	303.1	75.0	281.9	76.5	274,100
95	302.7	81.6	280.1	75.1	256,600	95	301.6	79.6	280.6	75.6	256,800
100	301.1	86.3	278.7	74.1	241,400	100	300.0	84.3	279.3	74.6	241,500
105	299.4	90.9	277.3	73.2	227,800	105	298.3	88.9	277.9	73.6	227,900
110	297.6	95.5	275.8	72.2	215,600	110	296.6	93.6	276.4	72.6	215,800
115	295.7	100.1	274.1	71.2	204,600	115	294.7	98.2	274.8	71.6	204,800
120	293.8	104.7	272.4	70.2	194,700	120	292.7	102.9	273.1	70.6	194,800
125	291.7	109.4	270.6	69.1	184,000	125	290.6	107.6	271.3	69.5	185,300
130	289.5	114.0	268.7	68.1	173,200	130	288.4	112.2	269.5	68.5	174,300
135	287.2	118.6	266.7	67.1	163,200	135	286.1	116.9	267.5	67.5	164,300
140	284.8	123.3	264.6	66.1	154,100	140	283.7	121.5	265.4	66.4	155,100
145	282.3	127.9	262.4	65.0	145,600	145	281.2	126.2	263.2	65.4	146,500
150	279.7	132.6	260.1	63.9	137,700	150	278.5	130.9	260.9	64.3	138,600
155	276.9	137.2	257.7	62.9	130,400	155	275.8	135.6	258.5	63.3	131,200
160	274.0	141.8	255.1	61.8	123,600	160	272.9	140.2	256.0	62.2	124,400
165	271.0	146.5	252.5	60.7	117,200	165	269.9	144.9	253.4	61.1	118,000
170	267.9	151.1	249.7	59.6	111,200	170	266.7	149.6	250.6	60.0	111,900
175	264.6	155.8	246.8	58.5	105,600	175	263.4	154.3	247.7	58.8	106,300
180	261.2	160.4	243.8	57.4	100,300	180	260.0	159.0	244.7	57.7	101,000
185	257.6	165.0	240.6	56.2	95,300	185	256.4	163.7	241.6	56.5	96,000
190	253.9	169.7	237.3	55.0	90,600	190	252.7	168.4	238.3	55.4	91,200
195	250.1	174.4	233.9	53.9	86,200	195	248.8	173.1	234.8	54.2	86,700
200	246.0	179.0	230.2	52.6	82,000	200	244.7	177.8	231.2	53.0	82,500
205	241.8	183.7	226.4	51.4	78,000	205	240.5	182.5	227.4	51.7	78,500
210	237.4	188.4	222.5	50.2	74,200	210	236.0	187.2	223.5	50.5	74,600
220	227.9	197.7	214.1	47.6	67,100	220	226.5	196.7	215.1	47.9	67,500
230	217.6	207.1	204.7	44.9	60,700	230	216.1	206.2	205.7	45.2	61,000
240	206.2	216.5	194.5	42.1	54,800	240	204.6	215.7	195.4	42.3	55,100
250	193.5	225.9	183.1	39.0	49,400	250	191.8	225.2	184.0	39.3	49,600
260	179.3	235.4	170.3	35.8	44,300	260	177.5	234.8	171.1	36.0	44,500
270	163.2	244.9	155.7	32.2	39,700						
280	144.4	254.4	138.7	28.2	35,300						

MLC650 S-2

ASME B30.5



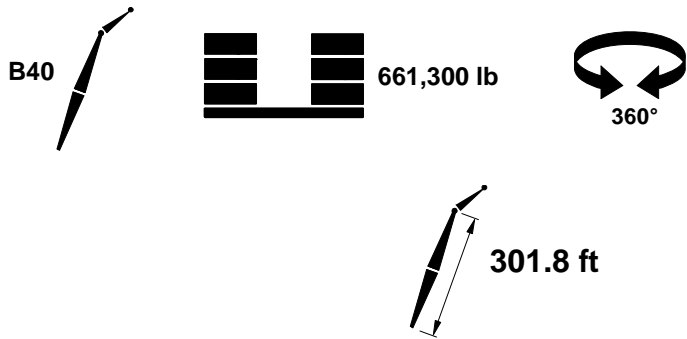
661,300 lb



28°						35°					
ft	ft	ft	ft	ft	lb	ft	ft	ft	ft	ft	lb
45	323.5	35.6	298.9	84.9	292,800						
46	323.4	36.6	298.8	84.7	292,800						
47	323.2	37.5	298.7	84.5	292,800	47	322.2	35.3	299.0	85.0	292,800
48	323.1	38.4	298.6	84.3	292,800	48	322.1	36.2	298.9	84.8	292,800
49	322.9	39.4	298.5	84.2	292,800	49	321.9	37.1	298.8	84.6	292,800
50	322.8	40.3	298.4	84.0	292,800	50	321.8	38.1	298.7	84.4	292,800
51	322.7	41.2	298.3	83.8	292,800	51	321.7	39.0	298.6	84.2	292,800
55	322.0	44.9	297.8	83.1	292,800	55	321.0	42.7	298.1	83.5	292,800
60	321.2	49.5	297.1	82.1	292,800	60	320.2	47.3	297.5	82.6	292,800
65	320.3	54.1	296.4	81.2	292,800	65	319.3	52.0	296.7	81.6	292,800
70	319.3	58.7	295.5	80.3	292,800	70	318.2	56.6	295.9	80.7	292,800
75	318.2	63.3	294.6	79.4	292,800	75	317.2	61.2	295.1	79.8	292,800
80	317.0	68.0	293.6	78.4	292,800	80	316.0	65.9	294.1	78.9	292,800
85	315.7	72.6	292.6	77.5	292,800	85	314.7	70.5	293.1	77.9	292,800
90	314.4	77.2	291.4	76.6	276,200	90	313.3	75.2	291.9	77.0	276,300
95	312.9	81.8	290.2	75.6	258,800	95	311.9	79.8	290.8	76.0	259,000
100	311.4	86.4	288.9	74.7	243,400	100	310.4	84.5	289.5	75.1	243,600
105	309.8	91.1	287.5	73.7	229,900	105	308.7	89.1	288.1	74.1	229,900
110	308.1	95.7	286.0	72.7	217,500	110	307.0	93.8	286.6	73.1	217,700
115	306.3	100.3	284.5	71.8	206,500	115	305.2	98.4	285.1	72.2	206,600
120	304.3	105.0	282.8	70.8	194,000	120	303.3	103.1	283.5	71.2	195,400
125	302.3	109.6	281.1	69.8	182,100	125	301.3	107.8	281.8	70.2	183,400
130	300.2	114.2	279.2	68.9	171,300	130	299.2	112.4	279.9	69.2	172,500
135	298.0	118.9	277.3	67.9	161,300	135	296.9	117.1	278.0	68.2	162,400
140	295.7	123.6	275.2	66.9	152,100	140	294.6	121.8	276.0	67.2	153,100
145	293.3	128.2	273.1	65.9	143,600	145	292.2	126.5	273.9	66.2	144,600
150	290.8	132.8	270.9	64.8	135,700	150	289.7	131.1	271.7	65.2	136,600
155	288.1	137.5	268.6	63.8	128,300	155	287.0	135.8	269.4	64.2	129,200
160	285.4	142.1	266.1	62.8	121,500	160	284.2	140.5	267.0	63.1	122,400
165	282.5	146.8	263.6	61.7	115,100	165	281.3	145.2	264.5	62.1	115,900
170	279.5	151.4	260.9	60.7	109,100	170	278.3	149.9	261.8	61.0	109,900
175	276.4	156.1	258.1	59.6	103,500	175	275.2	154.6	259.1	59.9	104,200
180	273.1	160.7	255.2	58.5	98,200	180	271.9	159.2	256.2	58.9	98,900
185	269.7	165.4	252.2	57.4	93,200	185	268.5	164.0	253.2	57.8	93,900
190	266.2	170.1	249.0	56.3	88,500	190	264.9	168.7	250.0	56.6	89,100
195	262.5	174.7	245.8	55.2	84,100	195	261.2	173.4	246.7	55.5	84,600
200	258.6	179.4	242.3	54.0	79,800	200	257.4	178.1	243.3	54.4	80,400
205	254.6	184.1	238.7	52.9	75,800	205	253.3	182.8	239.7	53.2	76,400
210	250.4	188.7	235.0	51.7	72,000	210	249.1	187.5	236.0	52.0	72,500
220	241.5	198.1	227.0	49.3	64,900	220	240.2	197.0	228.0	49.6	65,400
230	231.8	207.5	218.3	46.7	58,500	230	230.4	206.5	219.3	47.0	58,900
240	221.2	216.9	208.7	44.1	52,600	240	219.7	216.0	209.6	44.3	52,900
250	209.5	226.3	198.1	41.3	47,200	250	207.9	225.5	199.1	41.5	47,500
260	196.5	235.8	186.4	38.3	42,200	260	194.8	235.1	187.3	38.5	42,400
270	182.0	245.2	173.3	35.1	37,500	270	180.2	244.7	174.0	35.3	37,700
280	165.5	254.8	158.2	31.6	33,200						

MLC650 S-2

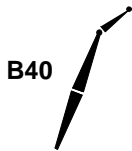
ASME B30.5



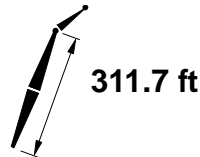
28°						35°					
ft	ft	ft	ft	ft	lb	ft	ft	ft	ft	ft	lb
46	333.3	36.7	308.7	84.9	292,800						
47	333.1	37.5	308.6	84.7	292,800						
48	333.0	38.5	308.5	84.5	292,800	48	332.0	36.2	308.7	84.9	292,800
49	332.9	39.4	308.4	84.3	292,800	49	331.9	37.2	308.6	84.8	292,800
50	332.7	40.4	308.3	84.2	292,800	50	331.7	38.1	308.5	84.6	292,800
51	332.6	41.2	308.2	84.0	292,800	51	331.6	39.1	308.4	84.4	292,800
52	332.5	42.2	308.0	83.8	292,800	52	331.4	40.0	308.3	84.2	292,800
55	332.0	45.0	307.7	83.3	292,800	55	331.0	42.8	308.0	83.7	292,800
60	331.2	49.6	307.0	82.4	292,800	60	330.2	47.4	307.3	82.8	292,800
65	330.3	54.2	306.3	81.5	292,800	65	329.3	52.0	306.7	81.9	292,800
70	329.3	58.9	305.5	80.6	292,800	70	328.3	56.7	305.9	81.0	292,800
75	328.3	63.5	304.6	79.7	292,800	75	327.2	61.3	305.0	80.1	292,800
80	327.1	68.1	303.6	78.8	292,800	80	326.1	66.0	304.1	79.2	292,800
85	325.9	72.7	302.6	77.9	292,800	85	324.9	70.7	303.1	78.3	292,800
90	324.6	77.3	301.5	77.0	277,200	90	323.5	75.3	302.0	77.4	277,400
95	323.2	82.0	300.3	76.1	259,800	95	322.1	80.0	300.8	76.5	259,900
100	321.7	86.6	299.0	75.1	244,300	100	320.7	84.6	299.6	75.5	244,500
105	320.1	91.3	297.7	74.2	230,600	105	319.1	89.3	298.3	74.6	230,800
110	318.5	95.9	296.3	73.3	218,300	110	317.4	93.9	296.9	73.7	218,500
115	316.7	100.6	294.7	72.4	205,800	115	315.7	98.6	295.4	72.7	207,300
120	314.9	105.2	293.1	71.4	192,700	120	313.8	103.3	293.8	71.8	194,100
125	312.9	109.9	291.4	70.5	180,800	125	311.9	108.0	292.1	70.9	182,100
130	310.9	114.5	289.7	69.5	169,900	130	309.8	112.7	290.4	69.9	171,200
135	308.8	119.1	287.8	68.6	159,900	135	307.7	117.3	288.5	68.9	161,100
140	306.6	123.8	285.8	67.6	150,700	140	305.5	122.0	286.6	68.0	151,800
145	304.2	128.5	283.8	66.6	142,200	145	303.1	126.7	284.6	67.0	143,300
150	301.8	133.1	281.7	65.7	134,300	150	300.7	131.4	282.5	66.0	135,300
155	299.3	137.7	279.4	64.7	127,000	155	298.1	136.1	280.2	65.0	127,900
160	296.6	142.4	277.0	63.7	120,100	160	295.5	140.7	277.9	64.0	121,000
165	293.8	147.1	274.6	62.7	113,700	165	292.7	145.4	275.5	63.0	114,600
170	291.0	151.7	272.0	61.7	107,700	170	289.8	150.1	272.9	62.0	108,500
175	288.0	156.4	269.4	60.6	102,100	175	286.8	154.8	270.3	61.0	102,900
180	284.8	161.1	266.6	59.6	96,800	180	283.7	159.5	267.5	59.9	97,500
185	281.6	165.7	263.7	58.5	91,800	185	280.4	164.2	264.6	58.9	92,500
190	278.2	170.4	260.7	57.5	87,100	190	277.0	169.0	261.6	57.8	87,800
195	274.7	175.1	257.5	56.4	82,600	195	273.5	173.7	258.5	56.7	83,300
200	271.0	179.8	254.2	55.3	78,400	200	269.8	178.4	255.2	55.6	79,000
205	267.2	184.4	250.8	54.2	74,400	205	265.9	183.1	251.8	54.5	75,000
210	263.2	189.1	247.2	53.1	70,600	210	262.0	187.8	248.2	53.4	71,100
220	254.8	198.5	239.6	50.8	63,500	220	253.5	197.3	240.7	51.1	64,000
230	245.6	207.9	231.4	48.4	57,100	230	244.2	206.8	232.4	48.7	57,500
240	235.7	217.3	222.4	45.9	51,200	240	234.2	216.3	223.4	46.2	51,600
250	224.7	226.7	212.5	43.3	45,800	250	223.2	225.8	213.5	43.6	46,100
260	212.8	236.1	201.7	40.6	40,800	260	211.1	235.4	202.6	40.8	41,100
270	199.5	245.6	189.6	37.6	36,200	270	197.8	245.0	190.4	37.8	36,400
280	184.6	255.1	176.1	34.5	31,800						
290	167.8	264.7	160.8	31.0	27,800						

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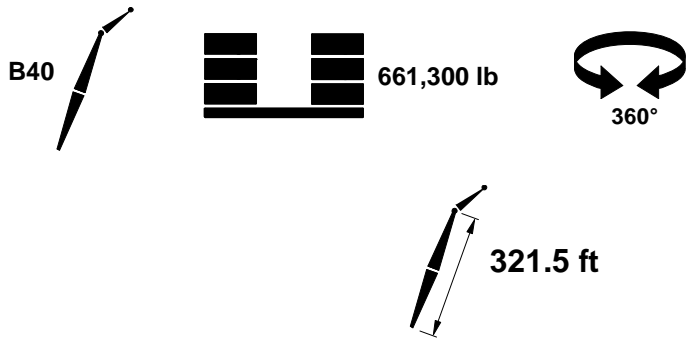
661,300 lb



28°						35°					
ft	ft	ft	ft	ft	lb	ft	ft	ft	ft	ft	lb
46	343.2	36.7	318.6	85.0	292,800						
47	343.1	37.7	318.5	84.8	292,800						
48	342.9	38.6	318.4	84.7	292,800						
49	342.8	39.5	318.3	84.5	292,800	49	341.8	37.3	318.6	84.9	292,800
50	342.7	40.4	318.2	84.3	292,800	50	341.7	38.2	318.5	84.7	292,800
51	342.5	41.4	318.1	84.2	292,800	51	341.5	39.1	318.4	84.6	292,800
52	342.4	42.3	318.0	84.0	292,800	52	341.4	40.0	318.3	84.4	292,800
53	342.2	43.2	317.9	83.8	292,800	53	341.2	41.0	318.2	84.2	292,800
55	342.0	45.1	317.7	83.5	292,800	55	340.9	42.8	317.9	83.9	292,800
60	341.2	49.7	317.0	82.6	292,800	60	340.1	47.5	317.3	83.0	292,800
65	340.3	54.3	316.3	81.7	292,800	65	339.3	52.1	316.7	82.1	292,800
70	339.3	59.0	315.5	80.9	292,800	70	338.3	56.8	315.9	81.3	292,800
75	338.3	63.6	314.7	80.0	292,800	75	337.3	61.5	315.1	80.4	292,800
80	337.2	68.2	313.7	79.1	292,800	80	336.2	66.1	314.2	79.5	292,800
85	336.0	72.9	312.7	78.2	292,800	85	335.0	70.8	313.2	78.6	292,800
90	334.8	77.5	311.7	77.4	277,900	90	333.7	75.5	312.1	77.8	278,100
95	333.4	82.2	310.5	76.5	260,400	95	332.4	80.2	311.0	76.9	260,600
100	332.0	86.8	309.3	75.6	245,000	100	330.9	84.8	309.8	76.0	245,100
105	330.4	91.5	307.9	74.7	231,200	105	329.4	89.5	308.5	75.1	231,300
110	328.8	96.1	306.6	73.8	218,900	110	327.8	94.1	307.2	74.2	219,000
115	327.2	100.8	305.1	72.9	205,500	115	326.1	98.8	305.7	73.3	207,000
120	325.4	105.4	303.5	72.0	192,400	120	324.3	103.5	304.2	72.4	193,800
125	323.5	110.1	301.9	71.1	180,500	125	322.4	108.2	302.6	71.5	181,800
130	321.5	114.7	300.2	70.2	169,600	130	320.5	112.9	300.9	70.5	170,900
135	319.5	119.4	298.4	69.2	159,600	135	318.4	117.6	299.1	69.6	160,800
140	317.3	124.0	296.5	68.3	150,400	140	316.2	122.2	297.2	68.7	151,500
145	315.1	128.7	294.5	67.4	141,900	145	314.0	126.9	295.3	67.7	142,900
150	312.7	133.4	292.4	66.4	134,000	150	311.6	131.6	293.2	66.8	135,000
155	310.3	138.0	290.3	65.5	126,600	155	309.2	136.3	291.1	65.8	127,600
160	307.7	142.7	288.0	64.5	119,800	160	306.6	141.0	288.8	64.9	120,700
165	305.1	147.4	285.6	63.6	113,400	165	303.9	145.8	286.5	63.9	114,200
170	302.3	152.1	283.1	62.6	107,400	170	301.2	150.5	284.0	62.9	108,200
175	299.4	156.7	280.6	61.6	101,700	175	298.3	155.1	281.5	61.9	102,500
180	296.4	161.4	277.9	60.6	96,500	180	295.3	159.8	278.8	60.9	97,200
185	293.3	166.1	275.1	59.6	91,500	185	292.1	164.6	276.0	59.9	92,200
190	290.1	170.8	272.2	58.6	86,800	190	288.9	169.3	273.1	58.9	87,400
195	286.7	175.4	269.2	57.5	82,300	195	285.5	174.0	270.1	57.9	82,900
200	283.2	180.1	266.1	56.5	78,100	200	282.0	178.7	267.0	56.8	78,700
205	279.6	184.8	262.8	55.4	74,100	205	278.3	183.5	263.7	55.8	74,700
210	275.8	189.5	259.4	54.4	70,300	210	274.5	188.2	260.3	54.7	70,800
220	267.8	198.9	252.1	52.2	63,200	220	266.4	197.7	253.1	52.5	63,700
230	259.1	208.3	244.3	49.9	56,800	230	257.7	207.1	245.3	50.2	57,200
240	249.6	217.7	235.8	47.6	50,900	240	248.2	216.7	236.8	47.8	51,300
250	239.4	227.2	226.5	45.1	45,500	250	237.9	226.2	227.5	45.4	45,800
260	228.2	236.6	216.3	42.6	40,500	260	226.7	235.7	217.3	42.8	40,800
270	215.9	246.1	205.2	39.9	35,900	270	214.3	245.3	206.1	40.1	36,100
280	202.4	255.6	192.8	37.0	31,600	280	200.6	254.9	193.6	37.2	31,800
290	187.2	265.1	179.0	33.9	27,600						
300	170.0	274.6	163.2	30.5	23,800						

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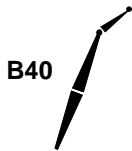
ASME B30.5



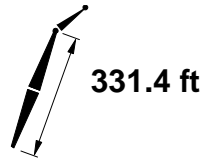
28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
47	353.0	37.7	328.4	85.0	292,800						
48	352.8	38.7	328.3	84.8	292,800						
49	352.7	39.5	328.2	84.7	292,800						
50	352.6	40.5	328.1	84.5	292,800	50	351.6	38.3	328.3	84.9	292,800
51	352.5	41.4	328.0	84.3	292,800	51	351.4	39.2	328.2	84.7	292,800
52	352.3	42.4	327.9	84.2	292,800	52	351.3	40.1	328.1	84.6	292,800
53	352.2	43.3	327.8	84.0	292,800	53	351.2	41.0	328.0	84.4	292,800
54	352.0	44.2	327.6	83.8	292,800	54	351.0	42.0	327.9	84.2	292,800
55	351.9	45.1	327.5	83.7	292,800	55	350.9	42.9	327.8	84.1	292,800
60	351.1	49.8	326.9	82.8	292,800	60	350.1	47.6	327.2	83.2	289,900
65	350.3	54.4	326.2	82.0	292,800	65	349.3	52.2	326.6	82.4	283,600
70	349.4	59.1	325.5	81.1	292,800	70	348.3	56.9	325.8	81.5	277,500
75	348.4	63.7	324.6	80.3	286,200	75	347.3	61.6	325.0	80.7	271,700
80	347.3	68.4	323.7	79.4	280,000	80	346.3	66.2	324.1	79.8	266,200
85	346.1	73.0	322.7	78.6	274,100	85	345.1	70.9	323.2	79.0	261,000
90	344.9	77.7	321.7	77.7	268,400	90	343.9	75.6	322.2	78.1	255,900
95	343.6	82.3	320.6	76.9	261,300	95	342.6	80.3	321.1	77.3	251,100
100	342.2	87.0	319.4	76.0	245,800	100	341.2	84.9	319.9	76.4	246,000
105	340.7	91.7	318.1	75.1	232,000	105	339.7	89.6	318.7	75.5	232,200
110	339.2	96.3	316.7	74.3	218,500	110	338.1	94.3	317.3	74.7	219,800
115	337.5	101.0	315.3	73.4	204,000	115	336.5	99.0	315.9	73.8	205,600
120	335.8	105.6	313.8	72.5	190,900	120	334.8	103.7	314.4	72.9	192,400
125	334.0	110.3	312.2	71.6	179,000	125	332.9	108.3	312.9	72.0	180,400
130	332.1	115.0	310.5	70.8	168,100	130	331.0	113.1	311.2	71.1	169,400
135	330.1	119.6	308.8	69.9	158,100	135	329.0	117.8	309.5	70.2	159,300
140	328.1	124.3	307.0	69.0	148,900	140	327.0	122.4	307.7	69.3	150,100
145	325.9	129.0	305.1	68.1	140,400	145	324.8	127.1	305.8	68.4	141,500
150	323.6	133.6	303.0	67.2	132,500	150	322.5	131.8	303.8	67.5	133,500
155	321.3	138.3	300.9	66.2	125,100	155	320.1	136.5	301.8	66.6	126,100
160	318.8	143.0	298.8	65.3	118,300	160	317.7	141.2	299.6	65.7	119,200
165	316.2	147.7	296.5	64.4	111,900	165	315.1	146.0	297.3	64.7	112,800
170	313.6	152.4	294.1	63.4	105,900	170	312.4	150.7	295.0	63.8	106,700
175	310.8	157.0	291.6	62.5	100,200	175	309.6	155.4	292.5	62.8	101,000
180	307.9	161.7	289.0	61.5	94,900	180	306.7	160.1	289.9	61.9	95,700
185	304.9	166.4	286.3	60.6	89,900	185	303.7	164.8	287.2	60.9	90,700
190	301.8	171.1	283.5	59.6	85,200	190	300.6	169.6	284.5	59.9	85,900
195	298.6	175.8	280.6	58.6	80,800	195	297.4	174.3	281.6	58.9	81,400
200	295.2	180.4	277.6	57.6	76,500	200	294.0	179.0	278.6	57.9	77,200
205	291.7	185.2	274.5	56.6	72,500	205	290.5	183.7	275.4	56.9	73,200
210	288.1	189.8	271.2	55.6	68,700	210	286.9	188.5	272.2	55.9	69,300
220	280.4	199.2	264.3	53.5	61,700	220	279.2	197.9	265.3	53.8	62,200
230	272.2	208.6	256.8	51.3	55,200	230	270.8	207.4	257.8	51.6	55,700
240	263.2	218.1	248.7	49.1	49,400	240	261.9	217.0	249.7	49.4	49,800
250	253.6	227.5	239.9	46.8	44,000	250	252.1	226.5	241.0	47.0	44,300
260	243.1	236.9	230.4	44.4	39,000	260	241.6	236.0	231.4	44.6	39,300
270	231.6	246.4	220.0	41.9	34,400	270	230.1	245.6	220.9	42.1	34,700
280	219.1	255.9	208.5	39.2	30,100	280	217.4	255.2	209.5	39.4	30,300
290	205.2	265.4	195.9	36.4	26,100	290	203.4	264.8	196.7	36.5	26,300
300	189.7	275.0	181.7	33.3	22,300						
310	172.1	284.5	165.6	29.9	18,800						

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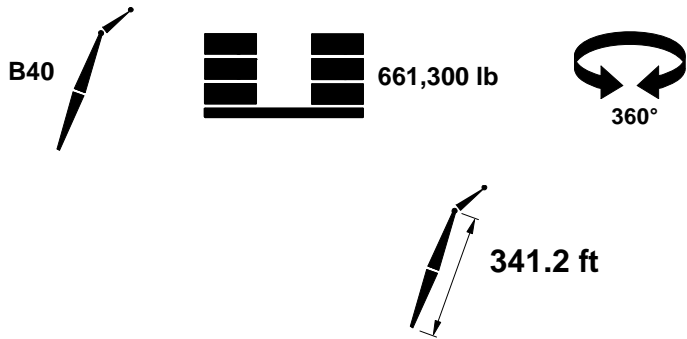
661,300 lb



28°						35°					
ft	ft	ft	ft	ft	lb	ft	ft	ft	ft	ft	lb
48	362.8	38.7	338.2	85.0	292,800						
49	362.6	39.6	338.1	84.8	292,800						
50	362.5	40.6	338.0	84.6	292,800						
51	362.4	41.5	337.9	84.5	292,800	51	361.4	39.3	338.2	84.9	289,400
52	362.2	42.4	337.8	84.3	292,800	52	361.2	40.2	338.1	84.7	287,900
53	362.1	43.4	337.7	84.2	292,800	53	361.1	41.1	338.0	84.6	286,500
54	362.0	44.3	337.6	84.0	292,800	54	361.0	42.1	337.9	84.4	285,000
55	361.8	45.2	337.5	83.8	292,800	55	360.8	43.0	337.8	84.2	283,600
60	361.1	49.9	336.9	83.0	291,800	60	360.1	47.7	337.2	83.4	276,700
65	360.3	54.5	336.2	82.2	284,400	65	359.2	52.3	336.5	82.6	270,200
70	359.4	59.2	335.5	81.4	277,500	70	358.3	57.0	335.8	81.8	264,000
75	358.4	63.9	334.7	80.6	270,900	75	357.4	61.7	335.1	80.9	258,100
80	357.4	68.5	333.8	79.7	264,600	80	356.3	66.4	334.2	80.1	252,500
85	356.2	73.2	332.8	78.9	258,700	85	355.2	71.0	333.3	79.3	247,100
90	355.1	77.9	331.8	78.1	253,100	90	354.0	75.7	332.3	78.5	242,100
95	353.8	82.5	330.7	77.2	247,700	95	352.7	80.4	331.2	77.6	237,300
100	352.4	87.1	329.6	76.4	242,500	100	351.4	85.1	330.1	76.8	232,600
105	351.0	91.8	328.3	75.6	232,200	105	350.0	89.8	328.9	75.9	228,200
110	349.5	96.5	327.0	74.7	219,400	110	348.4	94.5	327.6	75.1	220,000
115	347.9	101.2	325.6	73.9	205,000	115	346.8	99.2	326.2	74.2	206,500
120	346.2	105.8	324.2	73.0	191,900	120	345.2	103.9	324.8	73.4	193,400
125	344.5	110.5	322.6	72.2	180,000	125	343.4	108.6	323.3	72.5	181,400
130	342.6	115.2	321.0	71.3	169,100	130	341.6	113.3	321.7	71.7	170,400
135	340.7	119.9	319.3	70.5	159,100	135	339.6	118.0	320.0	70.8	160,300
140	338.7	124.5	317.5	69.6	149,900	140	337.6	122.7	318.2	69.9	151,000
145	336.6	129.2	315.7	68.7	141,300	145	335.5	127.4	316.4	69.1	142,400
150	334.4	133.9	313.7	67.8	133,400	150	333.3	132.1	314.5	68.2	134,500
155	332.1	138.6	311.7	66.9	126,100	155	331.0	136.8	312.5	67.3	127,100
160	329.8	143.2	309.6	66.1	119,200	160	328.6	141.5	310.4	66.4	120,200
165	327.3	147.9	307.4	65.2	112,800	165	326.2	146.2	308.2	65.5	113,700
170	324.7	152.6	305.1	64.2	106,800	170	323.6	150.9	305.9	64.6	107,700
175	322.0	157.3	302.6	63.3	101,200	175	320.9	155.7	303.5	63.7	102,000
180	319.3	162.0	300.2	62.4	95,900	180	318.1	160.4	301.0	62.7	96,700
185	316.4	166.7	297.6	61.5	90,900	185	315.2	165.1	298.5	61.8	91,700
190	313.4	171.4	294.9	60.5	86,200	190	312.2	169.9	295.8	60.8	86,900
195	310.3	176.1	292.1	59.6	81,800	195	309.1	174.6	293.0	59.9	82,500
200	307.1	180.8	289.2	58.6	77,600	200	305.8	179.3	290.1	58.9	78,200
205	303.7	185.5	286.2	57.7	73,600	205	302.5	184.0	287.1	58.0	74,200
210	300.2	190.2	283.0	56.7	69,800	210	299.0	188.8	284.0	57.0	70,300
220	292.9	199.6	276.4	54.7	62,700	220	291.6	198.2	277.4	55.0	63,200
230	285.0	209.0	269.2	52.6	56,300	230	283.7	207.8	270.2	52.9	56,800
240	276.5	218.5	261.5	50.5	50,400	240	275.2	217.3	262.5	50.8	50,800
250	267.3	227.9	253.2	48.3	45,000	250	265.9	226.8	254.2	48.6	45,400
260	257.4	237.4	244.1	46.0	40,100	260	256.0	236.4	245.1	46.3	40,400
270	246.7	246.9	234.3	43.7	35,500	270	245.2	246.0	235.3	43.9	35,800
280	235.0	256.3	223.6	41.2	31,200	280	233.4	255.5	224.6	41.4	31,500
290	222.1	265.8	211.9	38.6	27,200	290	220.4	265.2	212.8	38.8	27,400
300	208.0	275.4	199.0	35.8	23,500	300	206.2	274.8	199.8	35.9	23,700
310	192.2	284.9	184.4	32.7	20,000						
320	174.3	294.5	168.0	29.4	16,700						

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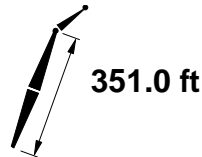
28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
49	372.5	39.7	348.0	85.0	292,800						
50	372.4	40.6	347.9	84.8	292,800						
51	372.3	41.5	347.8	84.6	291,100	51	371.3	39.3	348.0	85.0	276,300
52	372.2	42.5	347.7	84.5	289,400	52	371.2	40.3	347.9	84.9	274,800
53	372.0	43.4	347.6	84.3	287,700	53	371.0	41.2	347.8	84.7	273,300
54	371.9	44.4	347.5	84.2	286,100	54	370.9	42.1	347.7	84.5	271,800
55	371.8	45.3	347.4	84.0	284,600	55	370.7	43.0	347.6	84.4	270,400
60	371.0	50.0	346.8	83.2	276,800	60	370.0	47.7	347.1	83.6	263,400
65	370.2	54.6	346.1	82.4	269,500	65	369.2	52.4	346.4	82.8	256,800
70	369.4	59.3	345.4	81.6	262,500	70	368.3	57.1	345.7	82.0	250,500
75	368.4	64.0	344.6	80.8	255,900	75	367.4	61.8	345.0	81.2	244,600
80	367.4	68.6	343.7	80.0	249,700	80	366.4	66.5	344.1	80.4	239,000
85	366.3	73.3	342.8	79.2	243,800	85	365.3	71.1	343.3	79.6	233,600
90	365.2	78.0	341.8	78.4	238,200	90	364.1	75.8	342.3	78.8	228,500
95	363.9	82.7	340.8	77.6	232,800	95	362.9	80.5	341.2	78.0	223,700
100	362.6	87.3	339.6	76.8	227,700	100	361.6	85.2	340.1	77.1	219,100
105	361.2	92.0	338.4	76.0	222,900	105	360.2	89.9	339.0	76.3	214,600
110	359.8	96.7	337.1	75.2	218,000	110	358.7	94.6	337.7	75.5	210,400
115	358.2	101.3	335.8	74.3	203,600	115	357.2	99.3	336.4	74.7	205,200
120	356.6	106.0	334.4	73.5	190,500	120	355.6	104.1	335.0	73.9	192,000
125	354.9	110.7	332.9	72.7	178,500	125	353.8	108.7	333.5	73.0	179,900
130	353.1	115.4	331.3	71.8	167,600	130	352.1	113.4	332.0	72.2	169,000
135	351.3	120.1	329.7	71.0	157,600	135	350.2	118.1	330.4	71.4	158,900
140	349.3	124.7	327.9	70.2	148,400	140	348.2	122.9	328.6	70.5	149,600
145	347.3	129.5	326.1	69.3	139,800	145	346.2	127.6	326.9	69.7	141,000
150	345.2	134.1	324.2	68.5	131,900	150	344.1	132.3	325.0	68.8	133,000
155	343.0	138.8	322.3	67.6	124,600	155	341.9	137.0	323.0	67.9	125,600
160	340.7	143.5	320.2	66.7	117,700	160	339.5	141.7	321.0	67.1	118,700
165	338.3	148.2	318.1	65.9	111,300	165	337.1	146.5	318.9	66.2	112,200
170	335.8	152.9	315.8	65.0	105,300	170	334.7	151.2	316.7	65.3	106,200
175	333.2	157.6	313.5	64.1	99,700	175	332.1	155.9	314.4	64.4	100,500
180	330.5	162.3	311.1	63.2	94,400	180	329.4	160.6	312.0	63.5	95,200
185	327.7	167.0	308.6	62.3	89,400	185	326.6	165.4	309.5	62.6	90,200
190	324.9	171.6	306.0	61.4	84,700	190	323.7	170.1	306.9	61.7	85,400
195	321.9	176.4	303.3	60.5	80,200	195	320.7	174.8	304.2	60.8	80,900
200	318.8	181.1	300.5	59.6	76,000	200	317.6	179.5	301.5	59.9	76,700
205	315.5	185.8	297.6	58.6	72,000	205	314.3	184.3	298.5	58.9	72,600
210	312.2	190.5	294.6	57.7	68,200	210	311.0	189.0	295.5	58.0	68,800
220	305.2	199.9	288.2	55.8	61,100	220	303.9	198.5	289.2	56.1	61,700
230	297.6	209.4	281.4	53.8	54,700	230	296.3	208.0	282.4	54.1	55,200
240	289.5	218.8	274.0	51.8	48,800	240	288.2	217.5	275.0	52.1	49,300
250	280.8	228.2	266.0	49.7	43,400	250	279.4	227.1	267.0	50.0	43,900
260	271.4	237.7	257.5	47.6	38,500	260	269.9	236.6	258.5	47.8	38,800
270	261.2	247.2	248.2	45.3	33,900	270	259.7	246.2	249.2	45.6	34,200
280	250.2	256.7	238.1	43.0	29,600	280	248.7	255.8	239.1	43.2	29,900
290	238.2	266.2	227.2	40.5	25,700	290	236.6	265.4	228.1	40.7	25,900
300	225.1	275.7	215.2	38.0	21,900	300	223.4	275.0	216.0	38.1	22,100
310	210.7	285.2	201.9	35.2	18,500	310	208.9	284.7	202.7	35.4	18,600
320	194.6	294.8	187.1	32.2	15,200						

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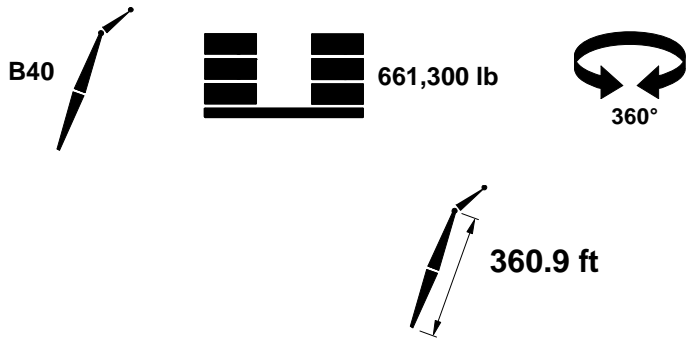
661,300 lb



28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
50	382.3	40.6	357.7	84.9	278,700						
51	382.2	41.6	357.6	84.8	277,400						
52	382.1	42.5	357.5	84.6	275,700	52	381.1	40.3	357.8	85.0	262,700
53	382.0	43.5	357.4	84.5	274,100	53	380.9	41.3	357.7	84.8	261,200
54	381.8	44.4	357.3	84.3	272,400	54	380.8	42.2	357.6	84.7	259,700
55	381.7	45.3	357.2	84.2	270,800	55	380.7	43.1	357.5	84.5	258,300
56	381.6	46.3	357.1	84.0	269,300	56	380.5	44.0	357.4	84.4	256,800
60	381.0	50.0	356.6	83.4	263,200	60	380.0	47.8	356.9	83.8	251,300
65	380.2	54.7	356.0	82.6	255,900	65	379.2	52.5	356.3	83.0	244,700
70	379.4	59.4	355.3	81.8	249,000	70	378.3	57.2	355.6	82.2	238,400
75	378.5	64.0	354.5	81.1	242,500	75	377.4	61.9	354.9	81.4	232,500
80	377.5	68.7	353.7	80.3	236,300	80	376.4	66.5	354.1	80.6	226,800
85	376.4	73.4	352.8	79.5	230,400	85	375.4	71.3	353.2	79.9	221,500
90	375.3	78.1	351.8	78.7	224,900	90	374.2	75.9	352.3	79.1	216,400
95	374.1	82.7	350.8	77.9	219,600	95	373.0	80.7	351.3	78.3	211,500
100	372.8	87.4	349.7	77.1	214,600	100	371.8	85.4	350.2	77.5	206,900
105	371.5	92.1	348.5	76.4	209,800	105	370.4	90.0	349.0	76.7	202,500
110	370.0	96.8	347.3	75.6	205,300	110	369.0	94.8	347.8	75.9	198,400
115	368.5	101.5	346.0	74.8	200,900	115	367.5	99.5	346.5	75.1	194,400
120	367.0	106.2	344.6	74.0	190,000	120	365.9	104.1	345.2	74.3	190,500
125	365.3	110.9	343.1	73.2	178,100	125	364.3	108.9	343.7	73.5	179,500
130	363.6	115.5	341.6	72.3	167,200	130	362.5	113.6	342.2	72.7	168,500
135	361.8	120.2	340.0	71.5	157,200	135	360.7	118.3	340.7	71.9	158,400
140	359.9	124.9	338.3	70.7	147,900	140	358.8	123.0	339.0	71.0	149,100
145	357.9	129.6	336.6	69.9	139,400	145	356.8	127.7	337.3	70.2	140,500
150	355.9	134.3	334.7	69.1	131,500	150	354.8	132.5	335.5	69.4	132,600
155	353.7	139.0	332.8	68.2	124,100	155	352.6	137.2	333.6	68.6	125,200
160	351.5	143.7	330.8	67.4	117,200	160	350.4	141.9	331.6	67.7	118,200
165	349.2	148.4	328.7	66.6	110,800	165	348.1	146.6	329.5	66.9	111,800
170	346.8	153.1	326.6	65.7	104,800	170	345.6	151.4	327.4	66.0	105,700
175	344.3	157.8	324.4	64.9	99,200	175	343.1	156.1	325.2	65.2	100,100
180	341.7	162.5	322.0	64.0	93,900	180	340.5	160.8	322.9	64.3	94,700
185	339.0	167.2	319.6	63.1	88,900	185	337.8	165.5	320.5	63.4	89,700
190	336.2	171.9	317.1	62.3	84,200	190	335.0	170.3	318.0	62.6	84,900
195	333.3	176.7	314.5	61.4	79,700	195	332.1	175.1	315.4	61.7	80,500
200	330.3	181.4	311.8	60.5	75,500	200	329.1	179.8	312.7	60.8	76,200
205	327.2	186.1	309.0	59.6	71,500	205	326.0	184.5	309.9	59.9	72,200
210	324.0	190.7	306.1	58.7	67,700	210	322.8	189.3	307.0	59.0	68,300
220	317.3	200.2	299.9	56.8	60,600	220	316.0	198.8	300.9	57.1	61,200
230	310.0	209.6	293.3	54.9	54,200	230	308.7	208.3	294.3	55.2	54,700
240	302.2	219.1	286.3	53.0	48,400	240	300.9	217.8	287.2	53.3	48,800
250	293.9	228.6	278.6	51.0	43,000	250	292.6	227.4	279.6	51.3	43,400
260	284.9	238.0	270.5	49.0	38,000	260	283.6	236.9	271.5	49.2	38,400
270	275.3	247.5	261.7	46.8	33,400	270	273.9	246.4	262.7	47.1	33,800
280	264.9	257.0	252.2	44.6	29,200	280	263.4	256.0	253.1	44.9	29,500
290	253.7	266.5	241.8	42.3	25,200	290	252.1	265.6	242.8	42.5	25,500
300	241.5	276.0	230.6	39.9	21,500	300	239.8	275.3	231.5	40.1	21,700
310	228.1	285.6	218.3	37.4	18,000	310	226.4	285.0	219.2	37.5	18,200

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28°						35°					
ft	ft	ft	ft	°	lb	ft	ft	ft	ft	°	lb
51	392.1	41.6	367.6	84.9	258,500						
52	392.0	42.6	367.5	84.8	257,900						
53	391.9	43.5	367.4	84.6	257,000	53	390.9	41.3	367.6	85.0	249,400
54	391.8	44.5	367.3	84.5	256,200	54	390.7	42.2	367.5	84.8	247,900
55	391.6	45.4	367.2	84.3	255,300	55	390.6	43.1	367.4	84.7	246,500
56	391.5	46.3	367.1	84.2	254,500	56	390.5	44.1	367.3	84.5	245,100
57	391.4	47.3	367.0	84.0	253,600	57	390.3	45.0	367.2	84.4	243,600
60	390.9	50.1	366.6	83.6	250,000	60	389.9	47.9	366.9	83.9	239,500
65	390.2	54.8	366.0	82.8	242,900	65	389.1	52.5	366.3	83.2	232,900
70	389.4	59.4	365.3	82.1	236,000	70	388.3	57.3	365.6	82.4	226,600
75	388.5	64.1	364.6	81.3	229,600	75	387.4	62.0	364.9	81.6	220,700
80	387.5	68.8	363.7	80.5	223,500	80	386.5	66.7	364.1	80.9	215,100
85	386.5	73.5	362.9	79.8	217,700	85	385.4	71.4	363.3	80.1	209,800
90	385.4	78.2	361.9	79.0	212,200	90	384.3	76.1	362.3	79.4	204,700
95	384.2	82.9	360.9	78.2	207,100	95	383.2	80.8	361.4	78.6	199,900
100	383.0	87.6	359.8	77.5	202,100	100	381.9	85.5	360.3	77.8	195,300
105	381.7	92.2	358.7	76.7	197,400	105	380.6	90.2	359.2	77.1	191,000
110	380.3	97.0	357.5	75.9	193,000	110	379.2	94.9	358.0	76.3	186,800
115	378.8	101.6	356.2	75.2	188,700	115	377.8	99.7	356.8	75.5	182,900
120	377.3	106.3	354.9	74.4	184,600	120	376.2	104.4	355.4	74.7	179,100
125	375.7	111.0	353.4	73.6	176,600	125	374.6	109.1	354.1	73.9	175,500
130	374.0	115.8	351.9	72.8	165,700	130	372.9	113.8	352.6	73.1	167,100
135	372.3	120.5	350.4	72.0	155,600	135	371.2	118.5	351.0	72.4	157,000
140	370.4	125.1	348.8	71.2	146,400	140	369.3	123.2	349.4	71.6	147,600
145	368.5	129.8	347.1	70.4	137,800	145	367.4	128.0	347.7	70.8	139,000
150	366.5	134.5	345.3	69.6	129,900	150	365.4	132.7	346.0	70.0	131,100
155	364.4	139.3	343.4	68.8	122,500	155	363.3	137.4	344.2	69.1	123,600
160	362.3	144.0	341.5	68.0	115,700	160	361.2	142.1	342.3	68.3	116,700
165	360.0	148.6	339.5	67.2	109,300	165	358.9	146.8	340.3	67.5	110,200
170	357.7	153.4	337.4	66.4	103,200	170	356.6	151.6	338.2	66.7	104,200
175	355.3	158.1	335.2	65.6	97,600	175	354.1	156.4	336.0	65.9	98,500
180	352.8	162.8	332.9	64.7	92,300	180	351.6	161.1	333.8	65.0	93,200
185	350.2	167.5	330.6	63.9	87,300	185	349.0	165.8	331.4	64.2	88,100
190	347.5	172.2	328.2	63.0	82,600	190	346.3	170.5	329.0	63.3	83,400
195	344.7	177.0	325.6	62.2	78,100	195	343.5	175.3	326.5	62.5	78,900
200	341.8	181.7	323.0	61.3	73,900	200	340.6	180.0	323.9	61.6	74,600
205	338.8	186.3	320.3	60.5	69,900	205	337.6	184.8	321.2	60.7	70,600
210	335.7	191.1	317.5	59.6	66,100	210	334.5	189.5	318.4	59.9	66,700
220	329.2	200.5	311.6	57.8	59,000	220	328.0	199.1	312.5	58.1	59,600
230	322.2	210.0	305.2	56.0	52,600	230	321.0	208.6	306.2	56.3	53,100
240	314.8	219.4	298.4	54.1	46,700	240	313.5	218.1	299.4	54.4	47,200
250	306.8	228.9	291.1	52.2	41,300	250	305.5	227.6	292.1	52.5	41,800
260	298.2	238.4	283.3	50.3	36,400	260	296.9	237.2	284.3	50.5	36,800
270	289.0	247.9	274.9	48.2	31,800	270	287.6	246.8	275.9	48.5	32,200
280	279.2	257.4	265.9	46.1	27,500	280	277.7	256.4	266.8	46.4	27,900
290	268.6	266.9	256.1	44.0	23,600	290	267.1	266.0	257.1	44.2	23,900
300	257.1	276.4	245.5	41.7	19,900	300	255.5	275.6	246.5	41.9	20,100
310	244.6	285.9	234.1	39.3	16,400	310	243.0	285.2	235.0	39.5	16,600