



LOAD CHARTS

for Use With

WRITTEN EXAMINATIONS



Grove TM1500

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These pages are reproduced for illustration only and not as a substitute for reviewing the entire manual for a particular crane.

Make sure that you are fully trained on, and review the entire manual for, every crane you operate.

This load chart has been adapted from the original manufacturer's load chart for use in the NCCER Mobile Crane Certification Examination. It is not to be used for calculating loads, planning lifts, or for any other purpose.



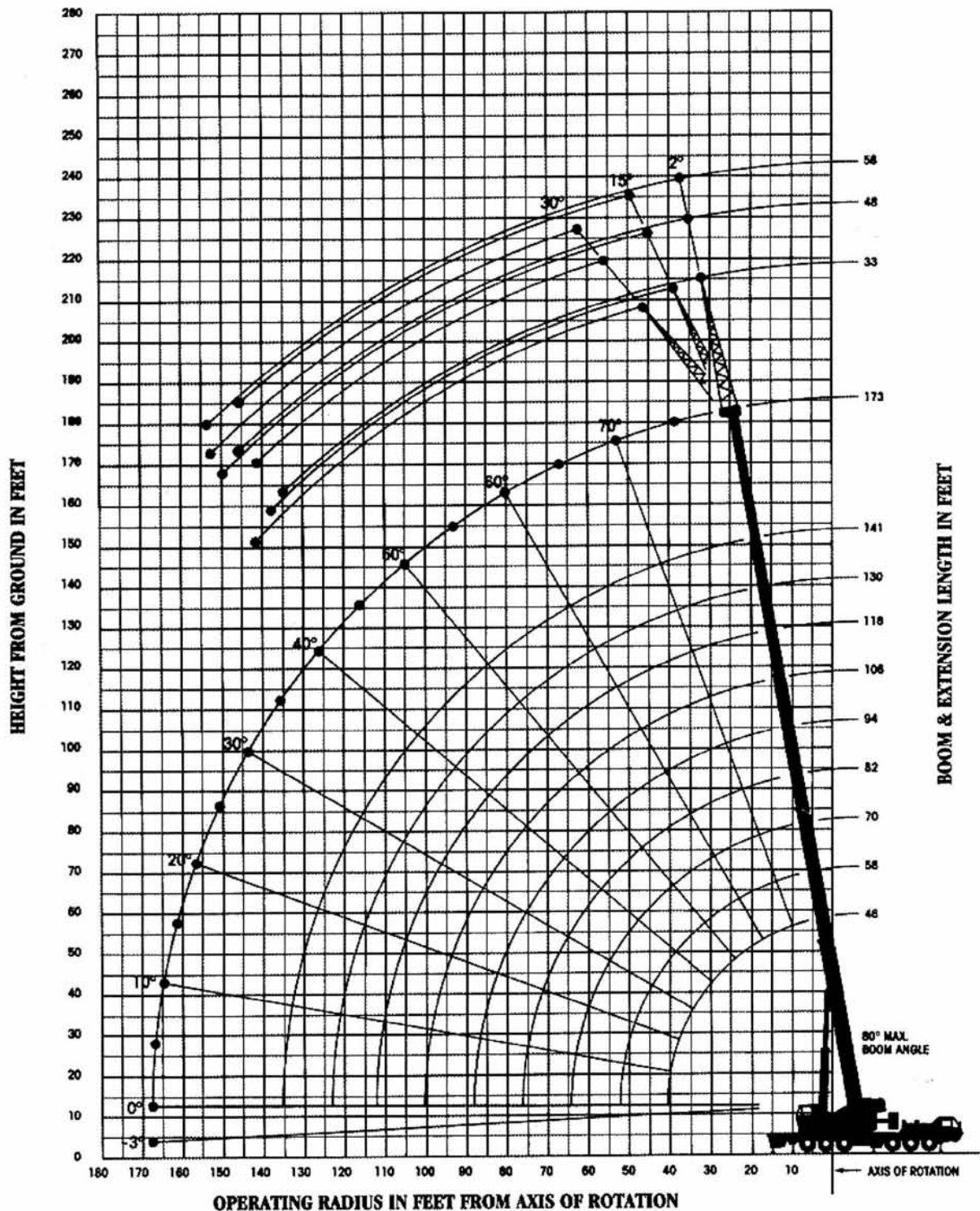
**GROVE®
CRANE**

A GROVE WORLDWIDE COMPANY

TM1500

Carrier-mounted hydraulic crane / 85% Domestic
46 ft. - 173 ft. aerial power pinned boom

**WORKING RANGE DIAGRAM
(BOOM DEFLECTION NOT SHOWN)**



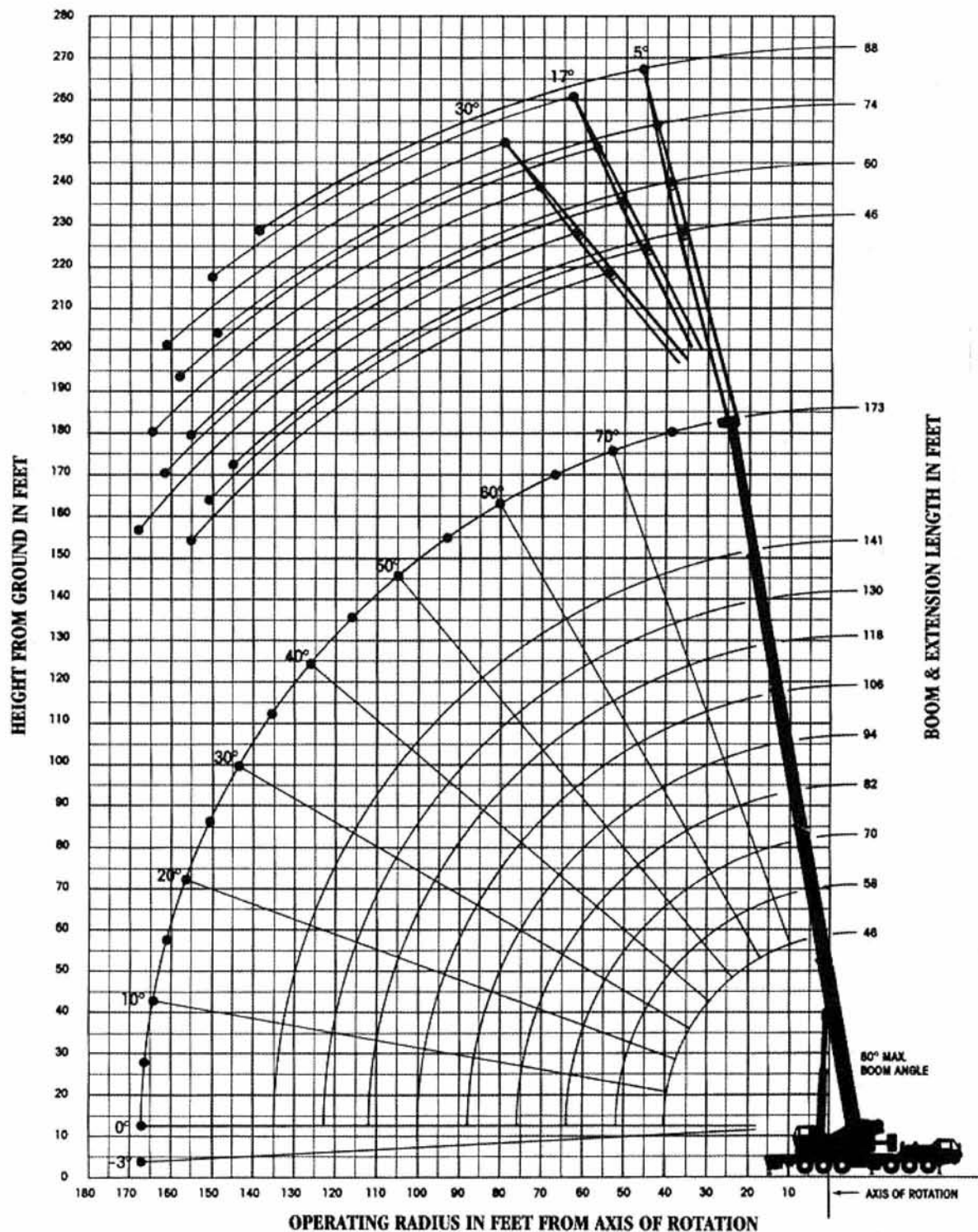
46 FT. - 88 FT. FIXED JIBS ON OUTRIGGERS - 360°

Main Boom Angle (Deg.)	46 FT. JIB						60 FT. JIB					
	#0071		#0072		#0073		#0074		#0075		#0076	
	5° OFFSET		17° OFFSET		30° OFFSET		5° OFFSET		17° OFFSET		30° OFFSET	
	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**
80	44.4	14,900	52.4	12,600	59.8	8,120	47.1	12,500	58.6	8,530	68.7	5,350
77.5	53.7	14,450	61.6	11,650	68.8	7,750	57.1	11,650	68.2	7,850	78.1	5,070
75	62.9	14,000	70.6	10,850	77.6	7,410	67.0	10,800	77.9	7,260	87.3	4,830
72.5	72.0	13,600	79.5	10,150	86.2	7,120	76.8	10,000	87.2	6,760	96.5	4,610
70	81.0	12,470	88.3	9,550	94.8	6,860	86.5	9,230	96.5	6,330	105.3	4,420
67.5	89.8	11,250	96.9	8,980	103.2	6,630	96.0	8,500	105.6	5,950	114.2	4,250
65	98.4	8,850	105.3	7,940	113.2	6,430	105.2	7,850	114.5	5,620	122.7	4,100
62.5	106.9	6,900	113.5	6,550	119.2	6,210	114.3	6,430	123.2	5,270	130.9	3,970
60	115.1	5,370	121.5	5,080	126.9	4,800	123.2	5,010	131.6	4,500	138.9	3,850
55	131.0	3,050	136.8	2,870	141.6	2,700	140.2	2,980	147.7	2,670	154.1	2,370
50	145.9	1,550	151.1	1,460	155.2	1,370	156.2	1,430	162.7	1,260	168.2	1,100

Main Boom Angle (Deg.)	74 FT. JIB						88 FT. JIB					
	#0077		#0078		#0079		#0080		#0081		#0082	
	5° OFFSET		17° OFFSET		30° OFFSET		5° OFFSET		17° OFFSET		30° OFFSET	
	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**	Rad. Ref. (ft.)*	Cap. lbs.**
80	50.8	9,470	64.3	6,000	78.0	3,530	52.9	7,300	70.1	3,970	86.0	2,330
77.5	61.2	8,790	74.6	5,470	87.8	3,310	64.1	6,580	80.9	3,590	96.2	2,060
75	71.6	7,980	84.7	5,020	97.3	3,120	75.2	5,950	91.5	3,260	106.3	1,820
72.5	81.9	7,280	94.7	4,630	106.8	2,950	86.1	5,380	102.0	2,980	116.2	1,610
70	92.0	6,610	104.3	4,290	116.0	2,800	96.9	4,800	112.2	2,740	126.0	1,450
67.5	101.9	6,030	114.0	4,000	124.9	2,660	107.5	4,300	122.2	2,530	135.3	1,330
65	111.6	5,500	123.3	3,740	133.7	2,540	117.9	3,870	132.1	2,340	144.6	1,220
62.5	121.1	5,040	132.5	3,510	142.1	2,440	128.0	3,510	141.7	2,180	153.5	1,150
60	130.2	4,050	141.2	3,260	150.2	2,350	138.0	2,870	150.9	1,970	162.1	1,080
55	148.1	2,020	158.2	1,810	165.8	1,600						

A-829-007220

**WORKING RANGE DIAGRAM
(BOOM DEFLECTION NOT SHOWN)**



NOTES FOR LIFTING CAPACITIES

WARNING: THIS CHART IS ONLY A GUIDE. The Notes below are for illustration only and should not be relied upon to operate the crane. The individual crane's load chart, operating instructions and other instruction plates must be read and understood prior to operating the crane.

1. All rated loads have been tested to and meet minimum requirements of SAE J1063 OCT80 - Cantilevered Boom Crane Structures - Method of Test, and do not exceed 85% of the tipping load on outriggers (75% of the tipping load on rubber) as determined by SAE J765 OCT 80 Crane Stability Test Code.
2. Capacities given do not include the weight of hookblocks, slings, auxiliary lifting equipment and load handling devices. Their weights **MUST** be added to the load to be lifted. When more than minimum required reeving is used, the additional rope weight shall be considered part of the load.
3. Capacities appearing above the bold line are based on structural strength and tipping should not be relied upon as a capacity limitation.
4. All capacities are for crane on firm, level surface. It may be necessary to have structural supports under the outrigger floats or tires to spread the load to a larger bearing surface.
5. When either boom length or radius or both are between values listed, the smallest load shown at either the next larger radius or boom length shall be used.
6. Tires shall be inflated to the recommended pressure before lifting on rubber.
7. For outrigger operation, ALL outriggers shall be fully extended with tires raised free of ground before raising the boom or lifting loads.
8. Unless otherwise stated, capacities are with powered boom sections equally extended.
9. With tele boom extension in working position and main boom length greater than 133 ft. boom angle must not be less than 46.5°, since loss of stability will occur causing a tipping condition.

Constant improvement and engineering progress make it necessary that we reserve the right to make specification, equipment, and price changes without notice. Illustrations shown may include optional equipment and accessories and may not include all standard equipment.



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RATED LIFTING CAPACITIES IN POUNDS **46 FT. - 173 FT. BOOM ON OUTRIGGERS - OVER REAR**

Radius in Feet	#0001									#0002
	Main Boom Length in Feet (Power Pinned Fly Retracted)									Power P n. Fly Ext. to 141 ft.
	46	58	70	82	94	106	118	130	141	172
10	300,000 (74.5)									
12	280,000 (72)	143,500 (76)	142,000 (79)							
15	235,000 (67.5)	143,500 (72.5)	141,500 (76.6)	130,000 (78.5)						
20	173,500 (60.5)	143,500 (67.5)	123,500 (72)	112,000 (75)	102,000 (77.5)	90,300 (79.5)				
25	138,800 (52)	131,500 (61.5)	110,500 (87.5)	98,850 (71)	88,250 (74)	78,550 (76.5)	73,700 (78.5)	68,300 (80)		
30	106,000 (43)	106,000 (55.5)	98,000 (63)	88,350 (67.5)	78,750 (71)	69,250 (73.5)	65,100 (76)	61,000 (77.5)	60,000 (79.5)	
35	84,700 (30.5)	84,700 (49)	84,700 (58)	80,150 (83.6)	69,000 (67.5)	60,750 (70.5)	57,150 (73)	54,000 (75.5)	52,150 (77.5)	
40		70,500 (41)	70,500 (52.5)	70,500 (59.5)	61,300 (64)	54,000 (67.5)	50,600 (70.5)	48,300 (73)	45,850 (75)	38,000 (79)
46		58,850 (32)	58,850 (47)	58,850 (55)	55,000 (60.5)	48,500 (64.5)	45,200 (68)	43,050 (71)	40,400 (73)	36,750 (77)
50		49,600 (17.5)	49,600 (40.5)	49,600 (50.5)	48,750 (57)	43,050 (61.5)	40,700 (65)	38,250 (68.5)	35,750 (71)	32,100 (75.5)
60			36,200 (22.5)	36,200 (38.5)	36,200 (48.5)	34,300 (55)	33,600 (59.5)	30,750 (63.5)	28,500 (68.5)	26,350 (72)
70				26,050 (25)	26,050 (39.5)	26,050 (47.5)	26,050 (53)	24,750 (56)	23,100 (61.5)	22,000 (68.5)
80					18,850 (27)	18,850 (39)	18,850 (46.5)	18,850 (52.5)	18,700 (56.5)	18,500 (64.5)
90						13,500 (28)	13,500 (38.5)	13,500 (46.5)	13,500 (51.5)	15,250 (60.5)
100							9,390 (29)	9,390 (39)	9,390 (45.5)	17,600 (56.5)
110							6,080 (12.5)	6,040 (30.5)	6,080 (39)	10,100 (52)
120								3,390 (17.5)	3,390 (31)	7,530 (47.6)
130									1,150 (19.5)	5,390 (42.5)
140										3,610 (36.5)
150										2,100 (30)
Minimum boom angle (deg.) for indicated length (no load)									10	19
Maximum boom length (ft.) at 0 deg. boom angle (no load)									140	167

NOTE: () Boom angles are in degrees.

#LMI operating code. Refer to LMI manual for instructions.

A6-829-007130 & -007143

WEIGHT REDUCTIONS FOR LOAD HANDLING DEVICES

33 ft. Extension	
*Stowed -	892 lbs.
*Erected -	5,704 lbs.

33 ft. - 58 ft. Extension	
*Stowed -	1,246 lbs.
*Erected (Ret.) -	8,412 lbs.
*Erected (Ext.) -	11,406 lbs.

46 ft. - 173 ft. Boom with	
*46 ft. Jib Erected -	9,613 lbs.
*60 ft. Jib Erected -	14,571 lbs.
*74 ft. Jib Erected -	20,443 lbs.
*88 ft. Jib Erected -	27,199 lbs.
*Fixed Jib Accessories -	327 lbs.

*Reduction of main boom capacities

HOOKBLOCKS:	
30 Ton, 1 Sheave	1,022 lbs.
150 Ton, 8 Sheave	5,254 lbs.
Auxiliary Boom Head	261 lbs.
10 Ton Headache Ball	560 lbs.
15 Ton Headache Ball	803 lbs.

RATED LIFTING CAPACITIES IN POUNDS
46 FT. - 173 FT. BOOM ON OUTRIGGERS - 360°

		#0002 Power P. n. Fly Ext. & 141 ft
133	141	173
3,300 (80)		
1,000 (77.5)	60,000 (79.5)	
1,000 (75.5)	52,150 (77.5)	
1,300 (73)	45,850 (75)	38,000 (79)
1,050 (71)	40,400 (73)	35,750 (77)
1,250 (68.5)	35,750 (71)	32,100 (75.5)
1,750 (63.5)	28,500 (66.5)	26,350 (72)
1,750 (58)	23,100 (61.5)	22,000 (68.5)
1,850 (52.5)	18,700 (56.5)	18,500 (64.5)
1,500 (46.5)	13,500 (51.5)	16,250 (60.5)
1,390 (38)	9,390 (45.5)	12,800 (56.5)
1,080 (30.5)	6,080 (38)	10,100 (52)
1,390 (7.5)	3,380 (31)	7,530 (47.6)
	1,150 (19.5)	5,390 (42.5)
		3,810 (38.5)
		2,100 (30)
	10	19
	140	167

A6-829-007130 & -007143

[illegible]

NOTE: () Boom angles are in degrees.
#LMI operating code. Refer to LMI manual for instructions.

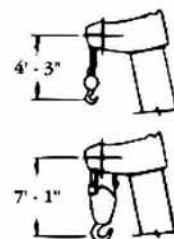
A6-829-007136 & -007143

**33 FT. FIXED LENGTH EXTENSION
ON OUTRIGGERS - 360°**

Main Boom Angle (Deg.)	#0051		#0052		#0053	
	2' OFFSET		15' OFFSET		30' OFFSET	
	Rad. (ft.)	Cap. lbs.	Rad. (ft.)	Cap. lbs.	Rad. (ft.)	Cap. lbs.
80	39.1	22,850	45.9	20,200	52.0	14,750
75	56.8	17,400	63.0	16,100	68.7	12,750
70	73.7	14,000	79.6	12,950	84.8	10,700
65	90.2	11,850	95.5	10,750	100.3	9,210
60	106.0	10,750	110.8	9,140	115.0	8,050
55	121.1	7,240	125.2	6,180	128.8	5,320
50	135.2	4,330	138.6	3,700	141.8	3,150

A6-829-008157

DIMENSIONS ARE
FOR LARGEST
GROVE FURNISHED
HOOK BLOCK AND
HEADACHE BALL,
WITH ANTI-TWO
BLOCK ACTIVATED.



33 FT. - 58 FT. TELE EXTENSION ON OUTRIGGERS - 360°

Main Boon Angle (Deg.)	33 ft. EXTENSION						48 ft. EXTENSION						58 ft. EXTENSION					
	#0021		#0022		#0023		#0031		#0032		#0033		#0041		#0042		#0043	
	2' OFFSET		15' OFFSET		30' OFFSET		2' OFFSET		15' OFFSET		30' OFFSET		2' OFFSET		15' OFFSET		30' OFFSET	
	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.	Rad. Ref. ft.	Cap. lbs.
80	39.1	22,300	45.9	19,850	52.0	14,200	43.8	14,800	55.8	12,700	65.0	9,040	45.1	8,600	59.1	8,300	89.6	7,000
75	56.6	16,850	63.0	15,550	68.7	12,200	62.5	13,700	73.4	10,900	81.8	8,320	65.0	9,150	77.9	7,950	87.8	6,440
70	73.7	13,450	78.8	12,400	84.8	10,150	80.7	11,800	90.3	8,840	97.9	7,110	84.4	8,580	98.2	7,200	108.5	5,760
65	90.2	11,300	95.5	10,200	100.3	8,870	98.2	9,230	106.7	7,330	113.3	6,120	103.2	7,630	113.8	6,000	122.3	4,970
60	106.0	10,200	110.8	8,600	116.0	7,450	116.1	7,550	122.1	6,210	127.9	5,340	121.2	6,260	130.5	5,100	138.2	4,360
55	121.1	6,440	125.2	5,370	128.8	4,640	131.1	5,200	136.7	3,860	141.5	2,950	138.2	4,650	146.2	3,265	153.1	2,380
50	135.2	3,520	138.6	2,810	141.8	2,360	146.1	2,580	150.2	1,790			154.3	2,235				

#LMI operating code. Refer to LMI manual for instructions.

A6-829-007158