

Scaled data based on original data using
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions
(formerly Eaton)

Brand: McGRAW-EDISON

Report Number: P237541

Luminaire Tested: **CTN-10-9-D-E1-T3-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P237541
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1707-171-26)
Test Lab: INNOVATION CENTER(G2)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: CTN-10-9-D-E1-T3-HSS
Description: CELESTEON HIGH MAST LUMINAIRE
(10) 70 CRI, 4000K LEDS AND TYPE III OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 85689 lumens
Efficiency: N/A
Efficacy: 112.7 lumens/watt
Luminous Opening: Circular (Dia: 2.08' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B4 - U0 - G5

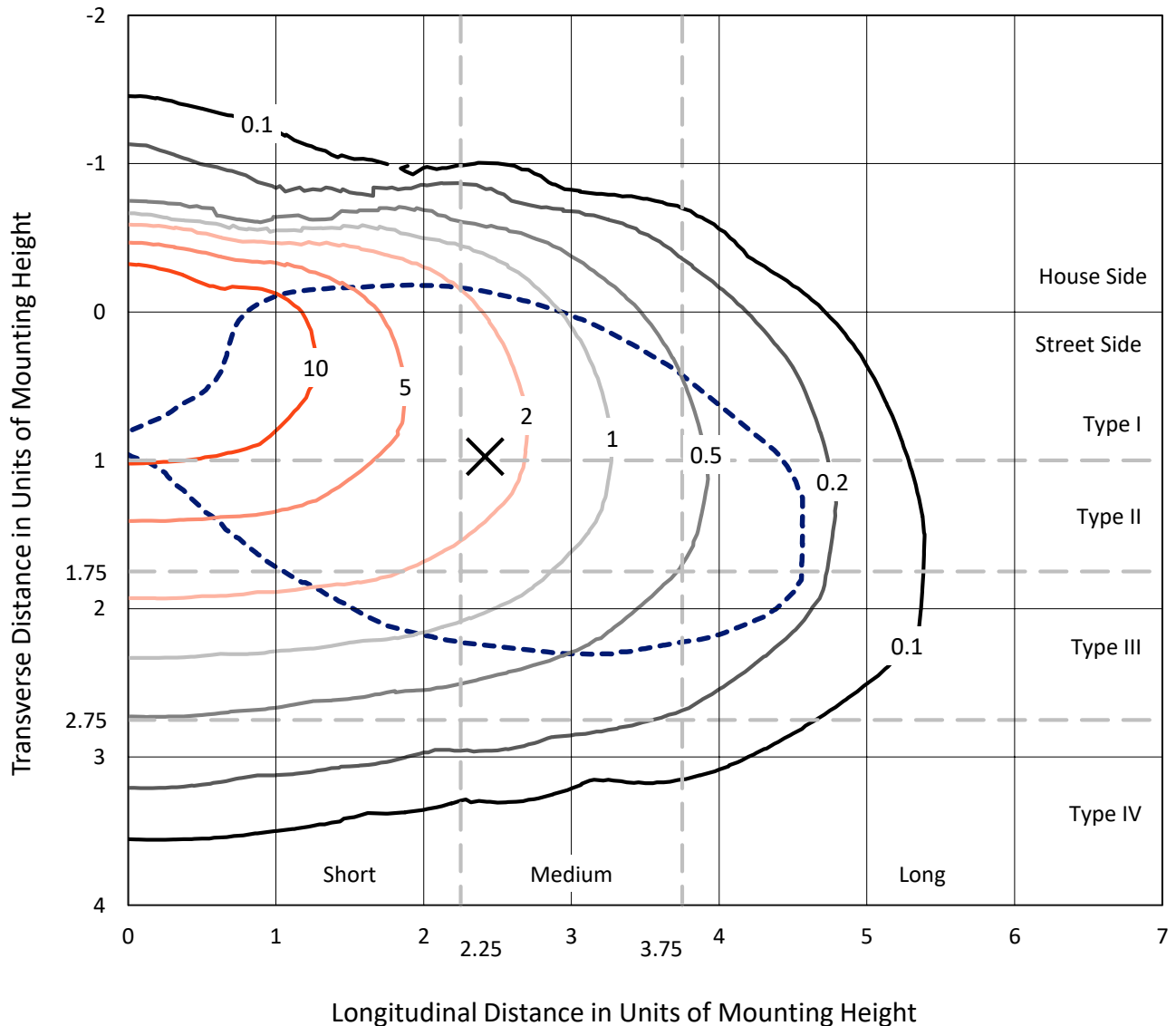
Input Watts (W): 760
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

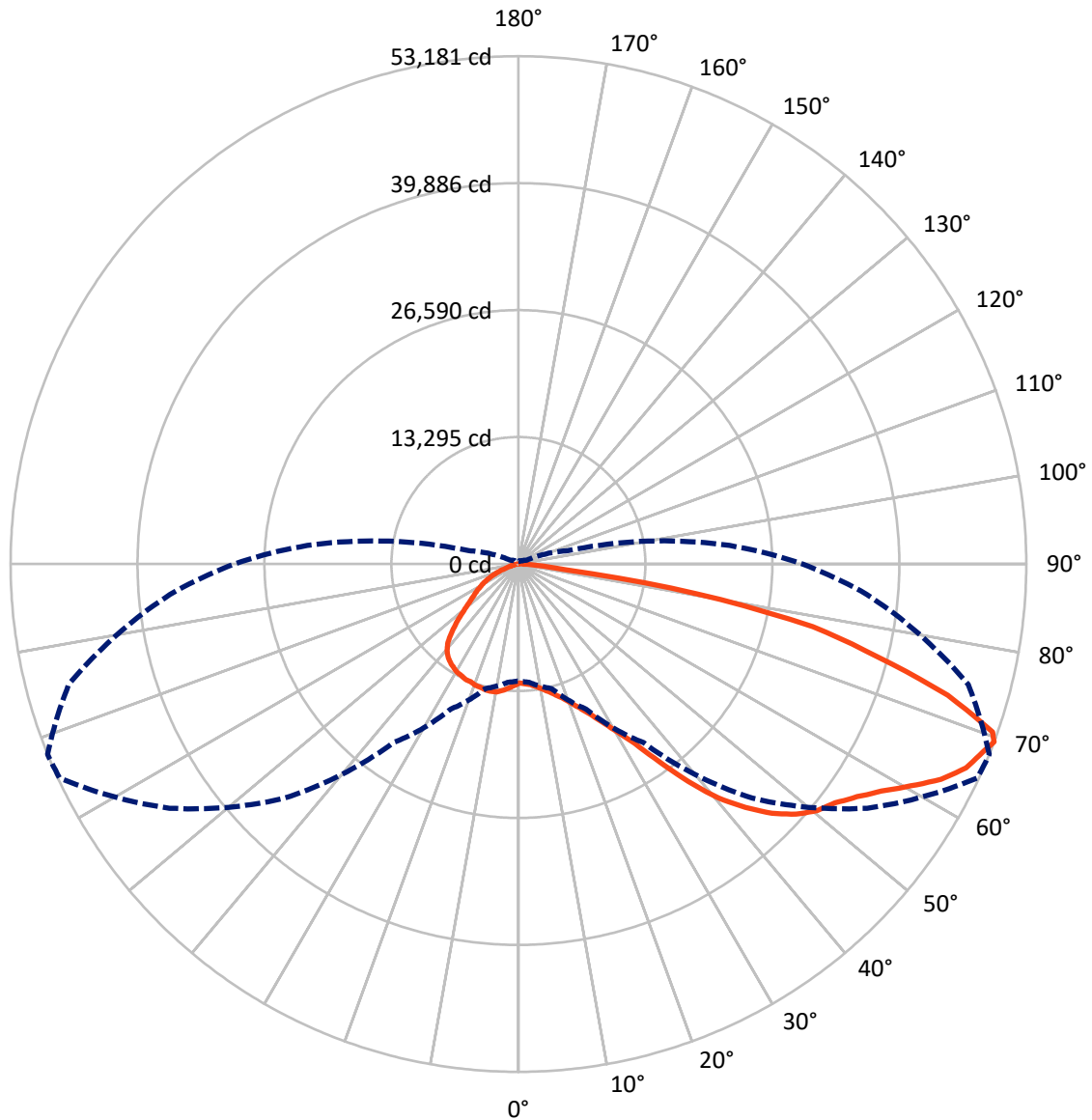
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 16.9 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 68-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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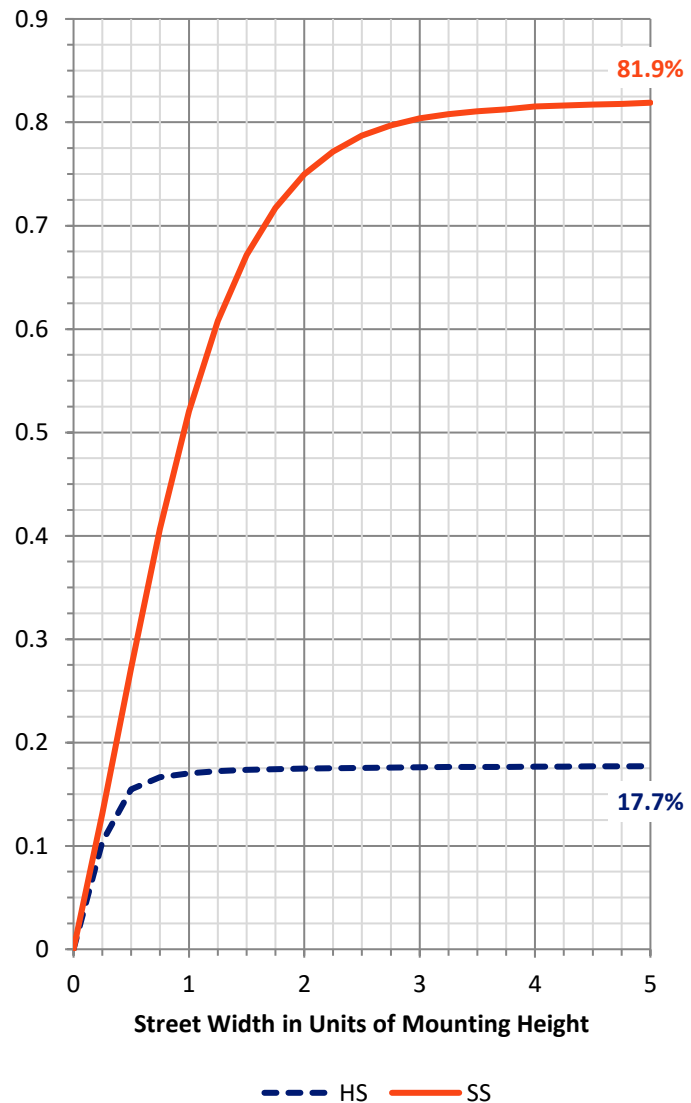
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	15378.1	0.0	15378.1
	% Fixture	17.9	0.0	17.9
Street Side	Lumens	70310.9	0.0	70310.9
	% Fixture	82.1	0.0	82.1
Total	Lumens	85689.0	0.0	85689.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1251.7	1.5
10°-20°	3927.9	4.6
20°-30°	6714.3	7.8
30°-40°	10346.0	12.1
40°-50°	14847.0	17.3
50°-60°	17869.0	20.9
60°-70°	18751.9	21.9
70°-80°	10863.6	12.7
80°-90°	1117.8	1.3
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	85689.0	100.0
0°-180°	85689.0	100.0



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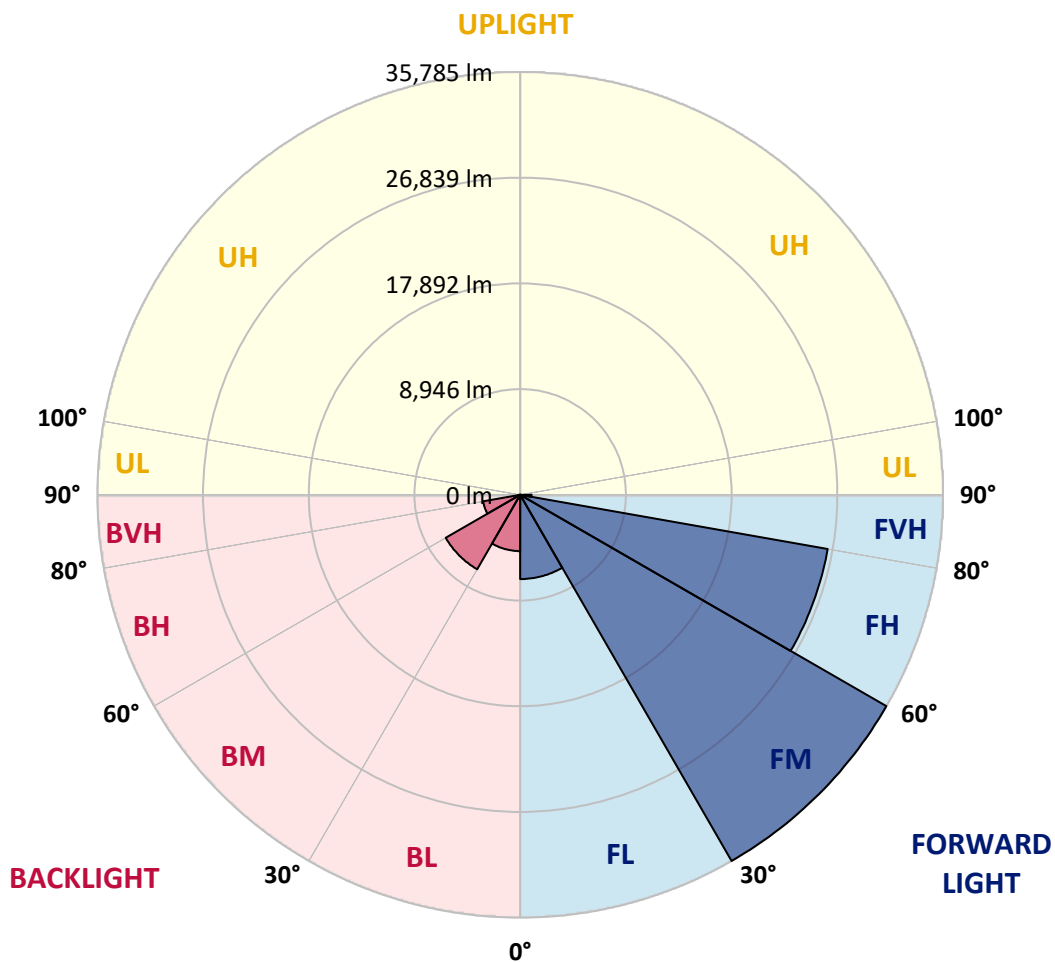
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	7128.9	8.3			
FM	(30°-60°)	35784.9	41.8			
FH	(60°-80°)	26425.6	30.8			G5
FVH	(80°-90°)	971.5	1.1			G5
BL	(0°-30°)	4765.0	5.6	B4/5000		
BM	(30°-60°)	7276.9	8.5	B4/8500		
BH	(60°-80°)	3189.9	3.7	B4/5000		G4/5000
BVH	(80°-90°)	146.3	0.2			G2/225
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G5

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	68°	75°	85°
0°	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9
2.5°	12603.5	12502.5	12514.4	12594.5	12357.0	12458.0	12395.6	12526.3	12547.0	12484.7	12541.1
5°	12852.8	12766.7	12763.8	12843.9	12579.7	12656.9	12558.9	12648.0	12674.7	12609.4	12707.4
7.5°	13336.8	13244.8	13226.9	13307.1	12971.6	12995.4	12861.8	12906.3	12930.0	12841.0	12939.0
10°	14031.5	13930.6	13865.3	13909.8	13532.8	13473.4	13244.8	13238.8	13274.4	13152.7	13310.1
12.5°	14809.4	14690.7	14595.7	14604.6	14174.1	14073.1	13770.3	13663.4	13687.1	13523.8	13713.9
15°	15655.6	15483.4	15394.3	15397.3	14913.3	14744.1	14355.2	14180.0	14165.2	14007.8	14117.6
17.5°	16674.0	16534.4	16421.6	16362.2	15848.6	15513.1	15049.9	14821.3	14738.2	14634.3	14577.8
20°	17870.5	17695.3	17576.5	17555.8	16926.3	16481.0	15866.4	15563.6	15465.6	15379.5	15127.1
22.5°	19203.6	19025.4	18862.1	18835.4	18167.4	17630.0	16804.6	16430.5	16344.4	16246.4	15741.7
25°	20432.7	20412.0	20230.8	20201.2	19556.9	18859.2	17891.3	17413.3	17413.3	17297.5	16522.5
27.5°	21804.4	21834.1	21670.8	21635.2	21029.5	20257.6	19105.6	18648.4	18743.4	18535.5	17505.3
30°	23250.3	23188.0	23143.4	23182.0	22620.9	21804.4	20604.9	20219.0	20367.4	20129.9	18823.5
32.5°	24544.8	24497.3	24527.0	24675.5	24271.7	23517.5	22487.3	22246.8	22389.3	22537.8	21186.9
35°	25569.1	25468.2	25842.3	26168.9	26053.1	25337.5	24509.2	25016.9	25408.8	26085.7	24669.5
37.5°	26471.7	26397.5	26851.7	27519.8	27665.2	27267.4	27012.1	28428.3	28876.6	29788.1	27724.6
40°	26923.0	26908.1	27466.3	28336.2	28927.1	29185.4	29633.7	31563.6	32216.7	32466.1	30049.4
42.5°	26777.5	26825.0	27810.7	29152.7	30108.7	31216.2	32118.8	34241.6	34841.3	34636.5	32086.1
45°	26370.8	26394.5	27395.1	29488.2	31133.1	33303.4	34508.8	36723.7	37255.2	36533.7	33707.2
47.5°	25806.6	25815.6	26872.5	29256.6	31970.3	35191.7	36569.3	38707.0	39137.5	38119.1	34874.0
50°	25043.6	25058.5	26320.3	28965.7	32691.8	36738.5	38181.5	40244.9	40577.5	39244.4	35883.5
52.5°	24078.7	24209.3	25589.9	28499.5	33143.1	37837.1	39401.7	41373.2	41536.5	40589.4	36777.1
55°	22965.3	23101.9	24660.6	27867.1	33318.2	38460.6	40256.8	42762.7	43023.9	42091.7	37504.5
57.5°	21647.1	21834.1	23476.0	26839.9	32908.5	38721.8	41126.7	44478.8	44832.1	43662.3	38252.7
60°	20118.0	20349.6	22077.6	25557.2	31961.4	38998.0	42753.8	46779.7	47189.5	45351.6	38905.9
62.5°	18520.7	18669.1	20230.8	23808.5	30444.2	39211.7	44505.5	49615.1	49650.8	46833.2	39268.1
65°	16383.0	16540.4	17938.8	21599.6	28167.0	38531.8	45390.2	51604.4	51497.5	47994.1	39146.4
67.5°	13936.5	14085.0	15228.1	18853.2	25040.6	36625.7	45087.4	52397.1	52468.4	48837.3	37979.6
69°	12238.3	12434.2	13512.0	16766.0	22831.7	34675.1	44579.7	53014.7	53180.9	48760.1	36628.7
70°	10786.4	11038.8	12063.1	14922.3	20961.2	32902.6	43599.9	52664.3	52676.2	47979.2	35384.7
72.5°	7045.5	7199.9	7378.0	9681.9	15079.6	26073.9	38582.3	46705.5	47014.3	42813.1	30937.1
75°	3485.6	3622.2	4287.3	5121.5	7755.1	17466.7	30589.7	38264.6	38849.5	36358.5	25346.4
77.5°	1923.9	1950.6	2185.2	3355.0	4020.0	7897.6	20907.8	30503.6	31527.9	29630.7	18203.0
80°	1199.5	1193.5	1247.0	1561.7	2253.5	3743.9	8829.8	17119.3	18960.1	15471.5	7193.9
82.5°	935.2	917.4	920.4	1009.5	953.1	1763.6	3675.6	4985.0	5029.5	4465.4	2799.8
85°	478.0	540.4	641.3	671.0	564.1	959.0	1692.3	1968.5	2016.0	1766.6	1457.8
87.5°	160.3	163.3	172.2	169.2	151.4	329.6	626.5	730.4	650.2	368.2	498.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9	12463.9
2.5°	12627.2	12600.5	12653.9	12775.7	12674.7	12766.7	12674.7	12983.5	12947.9	12927.1	12986.5
5°	12802.4	12799.4	12885.5	13081.5	13072.6	13235.9	13146.8	13452.6	13408.1	13402.1	13455.6
7.5°	13039.9	13096.3	13188.3	13390.2	13393.2	13526.8	13425.9	13666.4	13568.4	13544.6	13618.9
10°	13402.1	13417.0	13488.2	13627.8	13431.8	13491.2	13324.9	13514.9	13378.4	13363.5	13473.4
12.5°	13749.5	13770.3	13663.4	13618.9	13366.5	13289.3	12998.3	13099.3	12941.9	12927.1	12980.5
15°	14120.6	13981.1	13725.7	13580.3	13143.8	12864.7	12538.1	12339.2	12069.0	11944.3	11991.8
17.5°	14506.6	14236.4	13758.4	13405.1	12820.2	12413.4	11763.2	11424.8	11023.9	10819.1	10780.5
20°	14928.2	14548.2	13838.6	13316.0	12493.6	11692.0	10899.2	10124.3	9667.1	9456.3	9399.9
22.5°	15403.2	14940.1	13951.4	13019.1	11982.9	11009.1	9670.1	8693.3	8028.2	7823.3	7766.9
25°	15997.0	15379.5	14105.8	12944.9	11493.0	9892.7	8227.1	7119.7	6344.8	6033.0	5967.7
27.5°	16718.5	15985.2	14358.1	12591.6	10632.0	8648.7	6793.1	5519.4	4714.8	4346.6	4266.5
30°	17769.5	16760.1	14527.4	12383.7	9866.0	7357.2	5278.9	3856.7	3093.7	2823.5	2752.3
32.5°	19841.9	18090.2	14871.8	11905.7	8734.8	5854.9	3634.1	2366.3	1831.9	1677.5	1618.1
35°	22920.8	20596.0	15367.6	11338.7	7464.1	4165.5	2158.5	1371.7	1101.5	1045.1	1027.3
37.5°	25726.5	23069.2	16326.6	10465.8	5795.5	2562.3	1250.0	878.8	810.5	819.4	819.4
40°	27843.4	24907.0	17445.9	9313.8	3931.0	1437.0	858.0	730.4	745.2	748.2	745.2
42.5°	29826.7	26590.5	17986.3	8043.1	2277.2	953.1	745.2	679.9	691.8	682.9	676.9
45°	31385.4	27795.9	18146.6	6332.9	1247.0	852.1	700.7	632.4	626.5	632.4	638.3
47.5°	32397.9	28532.2	17781.4	4848.4	941.2	792.7	674.0	599.7	584.9	626.5	623.5
50°	33149.0	29036.9	16365.2	3687.5	917.4	742.3	641.3	561.1	567.1	617.6	611.6
52.5°	33695.3	29167.6	14812.4	2957.1	875.9	706.6	611.6	543.3	537.4	576.0	579.0
55°	34128.8	28817.2	13844.5	2327.7	840.2	671.0	587.9	525.5	495.8	507.7	504.7
57.5°	34399.0	28416.4	12740.0	1941.7	807.6	632.4	555.2	478.0	433.5	436.4	433.5
60°	34339.6	28149.2	11472.3	1591.4	766.0	596.8	510.7	427.5	383.0	371.1	371.1
62.5°	34220.8	27599.9	10162.9	1386.5	730.4	584.9	457.2	388.9	356.3	344.4	344.4
65°	33413.3	26290.6	8411.2	1187.6	694.7	552.2	427.5	374.1	335.5	323.6	323.6
67.5°	31409.2	24126.2	6514.0	1033.2	668.0	498.8	418.6	365.2	323.6	308.8	308.8
69°	29716.8	22202.3	5350.2	950.1	641.3	475.0	418.6	368.2	317.7	299.9	299.9
70°	28395.6	20691.0	4426.8	899.6	614.6	460.2	418.6	371.1	314.7	293.9	291.0
72.5°	24366.7	16154.4	2458.3	763.0	510.7	418.6	409.7	374.1	299.9	270.2	267.2
75°	18695.9	11356.5	1463.7	644.3	430.5	383.0	388.9	359.3	276.1	243.5	243.5
77.5°	11683.1	5216.6	1089.6	504.7	350.3	332.5	338.5	317.7	249.4	222.7	222.7
80°	3990.4	2354.4	822.4	388.9	252.4	258.3	279.1	267.2	222.7	201.9	198.9
82.5°	2185.2	1532.0	581.9	270.2	175.2	213.8	213.8	216.7	193.0	178.1	175.2
85°	1187.6	798.7	359.3	163.3	124.7	157.4	151.4	163.3	157.4	145.5	142.5
87.5°	412.7	273.1	118.8	59.4	50.5	53.4	62.3	83.1	80.2	83.1	86.1
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)