

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: P237517

Luminaire Tested: **CTN-10-9-D-E1-T4-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P237517
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G2-1707-171-27)
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-T4-HSS
Description: CELESTEON HIGH MAST LUMINAIRE
(10) 70 CRI, 4000K LEDS AND TYPE IV OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 81224 lumens
Efficiency: N/A
Efficacy: 106.9 lumens/watt
Luminous Opening: Circular (Dia: 2.08' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B4 - U0 - G5

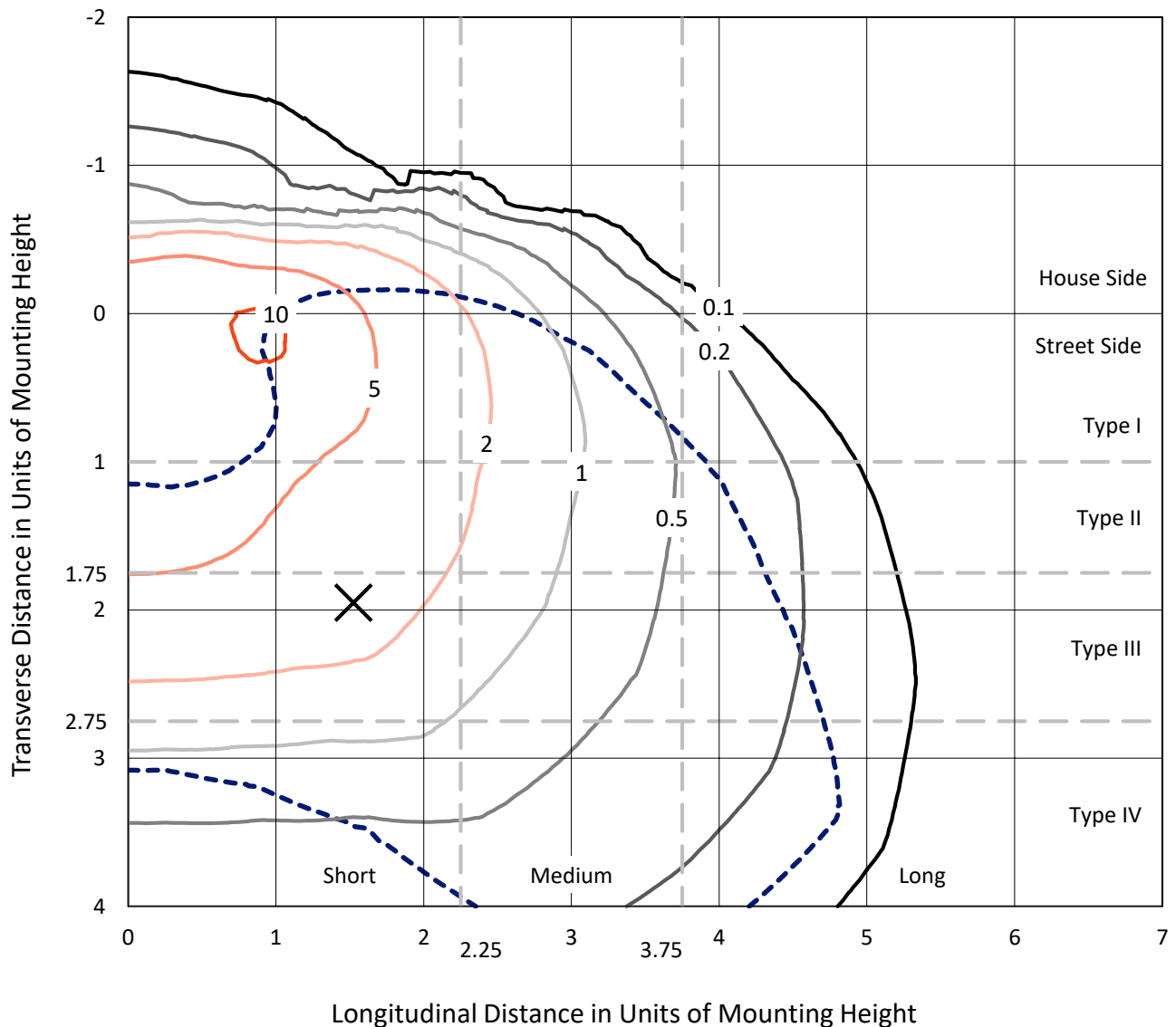
Input Watts (W): 760
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

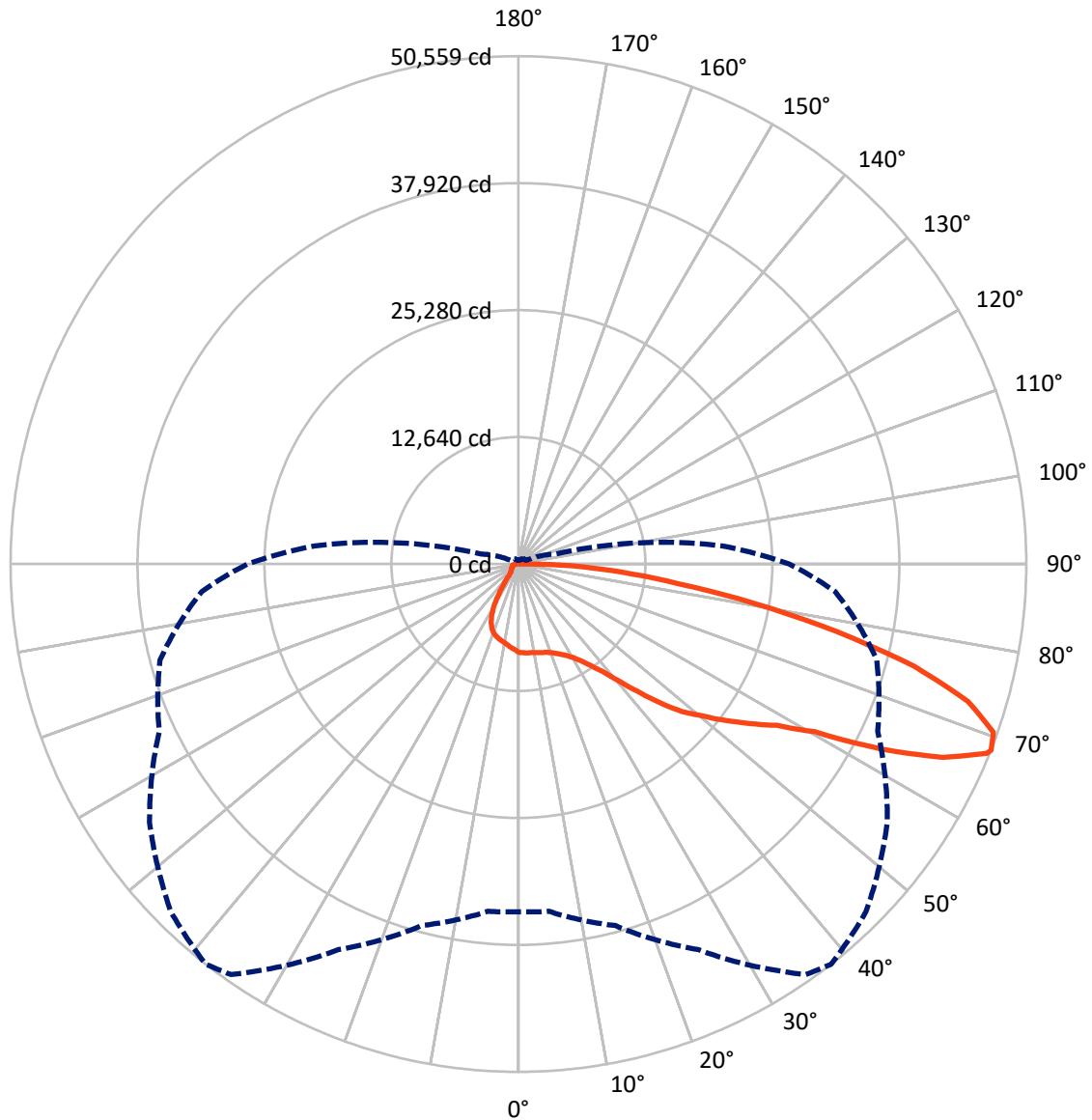


Based on 30 foot mounting height. Maximum calculated value = 11.1 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 38-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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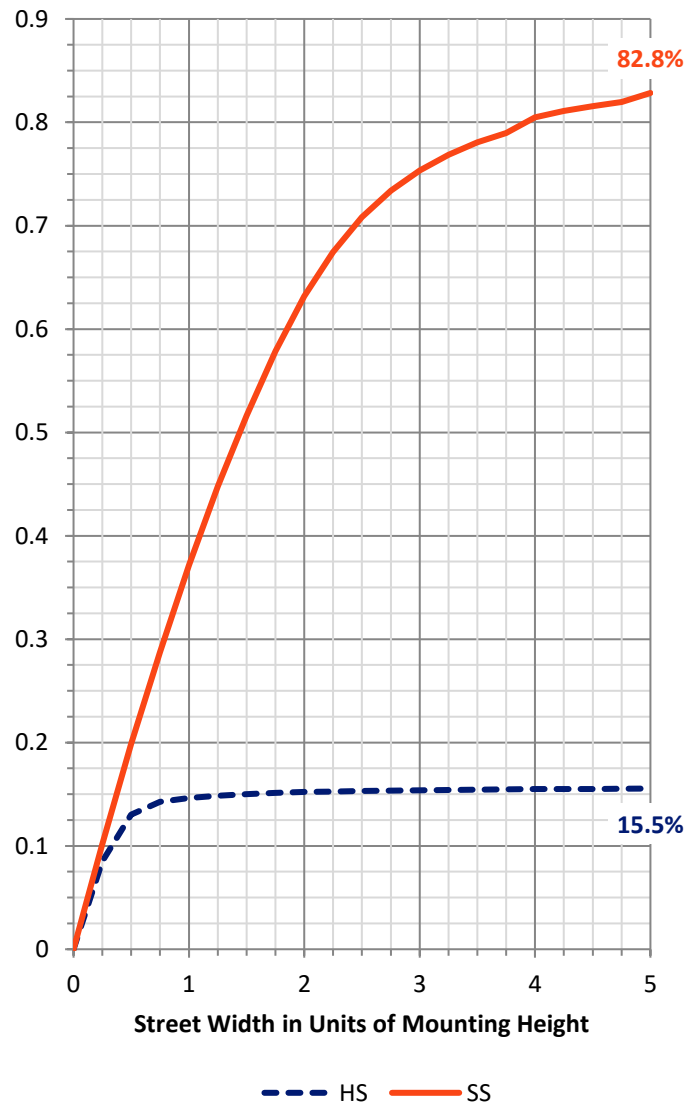
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	12811.4	0.0	12811.4
	% Fixture	15.8	0.0	15.8
Street Side	Lumens	68412.6	0.0	68412.6
	% Fixture	84.2	0.0	84.2
Total	Lumens	81224.0	0.0	81224.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	831.6	1.0
10°-20°	2469.9	3.0
20°-30°	4122.0	5.1
30°-40°	6322.5	7.8
40°-50°	10885.1	13.4
50°-60°	16176.7	19.9
60°-70°	21400.4	26.3
70°-80°	15716.7	19.3
80°-90°	3299.1	4.1
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°	81224.0	100.0
0°-180°	81224.0	100.0



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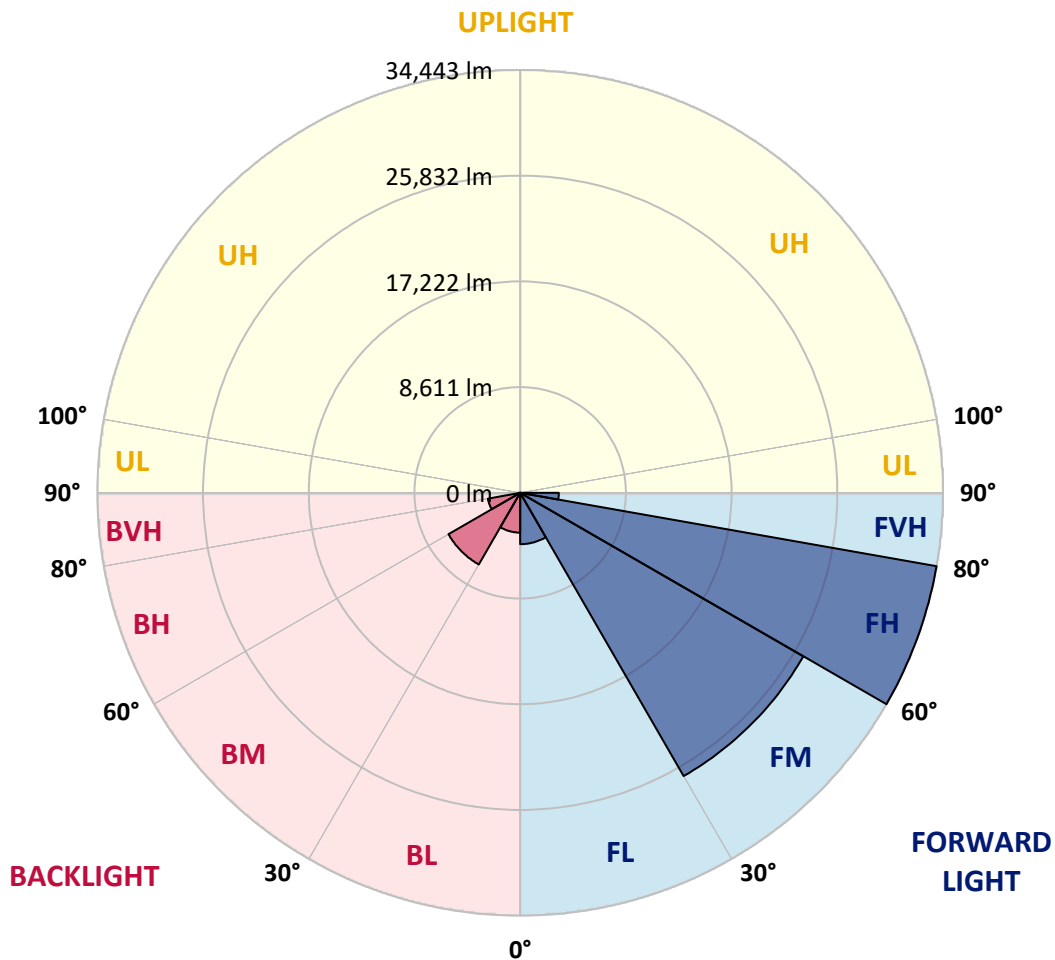
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	4182.0	5.1			
FM	(30°-60°)	26640.2	32.8			
FH	(60°-80°)	34443.1	42.4			G5
FVH	(80°-90°)	3147.3	3.9			G5
BL	(0°-30°)	3241.5	4.0	B4/5000		
BM	(30°-60°)	6744.2	8.3	B4/8500		
BH	(60°-80°)	2674.0	3.3	B4/5000		G4/5000
BVH	(80°-90°)	151.7	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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	38°	45°	55°	65°	75°	85°
0°	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0
2.5°	9008.0	8945.7	8957.5	8996.1	8838.8	8826.9	8877.4	8821.0	8895.2	8859.6	8862.5
5°	9031.8	8972.4	8996.1	9055.5	8907.1	8904.1	8960.5	8889.2	8945.7	8901.1	8889.2
7.5°	9011.0	8957.5	8975.3	9031.8	8904.1	8913.0	8987.2	8963.5	9046.6	9002.1	8969.4
10°	9002.1	8966.4	8969.4	9046.6	8945.7	8969.4	9064.4	9079.3	9212.9	9174.3	9159.4
12.5°	8921.9	8895.2	8921.9	9043.6	9011.0	9058.5	9186.1	9263.3	9420.7	9405.9	9435.5
15°	8874.4	8862.5	8883.3	9025.8	9064.4	9141.6	9310.8	9462.3	9652.3	9679.0	9747.3
17.5°	8930.8	8948.6	8987.2	9103.0	9156.5	9236.6	9426.6	9634.5	9904.6	10020.4	10100.6
20°	9168.3	9189.1	9224.7	9299.0	9358.3	9426.6	9595.9	9833.4	10192.6	10373.8	10501.4
22.5°	9512.7	9477.1	9527.6	9589.9	9607.7	9667.1	9839.3	10076.8	10483.6	10756.8	10934.9
25°	9779.9	9756.2	9806.7	9913.6	9910.6	9964.0	10133.3	10376.7	10816.1	11208.0	11522.8
27.5°	10059.0	10044.2	10065.0	10207.5	10263.9	10329.2	10477.7	10750.8	11246.6	11739.5	12235.3
30°	10462.8	10495.5	10459.9	10623.1	10744.9	10819.1	10970.5	11306.0	11837.5	12511.4	13137.9
32.5°	11089.3	11104.1	11044.7	11225.9	11401.0	11513.9	11659.3	12098.8	12680.7	13503.1	14310.7
35°	12425.3	12428.3	12184.9	12158.1	12256.1	12419.4	12633.2	13286.4	14153.3	15421.1	16335.5
37.5°	14450.2	14352.2	14120.7	13669.4	13523.9	13553.6	13859.4	14767.9	16083.2	18422.8	19298.6
40°	16772.0	16659.2	16252.4	15655.6	15228.1	15201.4	15305.3	16394.9	18318.8	21798.5	22240.9
42.5°	19277.8	19200.6	18541.5	17924.0	17377.7	17291.6	17057.0	18149.6	20783.1	24812.1	24809.1
45°	21590.7	21575.9	20771.3	20465.4	19886.5	19660.8	19381.8	20230.9	23315.7	27187.3	26902.3
47.5°	23761.1	23716.5	22861.4	22511.1	22068.7	21947.0	21617.4	22211.2	25480.1	29405.2	28695.6
50°	26065.0	25928.4	24657.7	24304.4	23867.9	23772.9	23600.7	24283.6	27837.5	31343.9	30168.2
52.5°	28743.1	28535.2	26801.3	26145.2	25833.4	25895.8	25785.9	26397.5	30474.0	32965.0	31373.6
55°	31911.0	31287.5	29630.8	28440.2	27748.4	28036.4	27822.7	28585.7	33003.6	34226.8	32252.5
57.5°	34235.8	34232.8	33558.8	31866.5	30298.8	30313.7	29883.2	30753.1	35049.3	35482.7	32766.1
60°	36896.0	37053.4	37284.9	36533.8	34684.1	33909.2	32395.0	32899.7	36694.1	36394.2	32994.7
62.5°	39208.9	39300.9	40325.2	40613.2	40755.7	40565.7	37198.8	35372.9	38039.1	36901.9	33060.0
65°	39125.7	39116.8	41331.7	43261.6	46260.3	46429.5	45458.6	39045.6	39081.2	36967.3	32721.6
67.5°	35307.6	35488.7	38451.8	42587.6	49740.0	50274.4	48935.4	44377.9	39467.2	36937.6	31914.0
68°	34624.7	34701.9	37264.2	42350.1	49888.4	50559.4	48941.3	44823.3	39455.3	36940.5	31664.6
70°	30275.1	30390.9	33377.7	39473.1	49930.0	50161.6	48208.0	45066.7	39063.4	36664.4	29865.4
72.5°	23900.6	24034.2	26756.8	33306.5	46818.5	46809.5	44921.3	43027.0	37736.2	34645.5	25334.6
75°	17315.3	17751.8	20132.9	26160.0	40078.8	40690.4	40446.9	40069.9	33959.6	29277.5	17879.4
77.5°	12140.3	12363.0	14604.6	19675.7	31495.4	32430.6	34072.5	34559.4	28309.6	21742.1	8052.0
80°	7657.1	8075.7	9931.4	13972.2	22944.6	23808.6	25797.8	26617.3	20896.0	10664.7	1410.3
82.5°	4462.4	4711.8	6077.6	9049.6	15427.0	16029.7	17333.1	16326.6	8470.6	1419.2	783.8
85°	2161.4	2390.1	3263.0	5148.3	9631.5	10240.1	10943.8	7119.7	1401.4	558.2	528.5
87.5°	875.9	899.6	1336.1	2286.1	4800.9	5323.5	5151.2	2336.6	365.2	201.9	166.3
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°	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0	8821.0
2.5°	8877.4	8832.8	8779.4	8761.6	8636.9	8630.9	8527.0	8678.4	8633.9	8636.9	8672.5
5°	8883.3	8832.8	8728.9	8681.4	8547.8	8512.2	8340.0	8435.0	8334.0	8325.1	8384.5
7.5°	8945.7	8889.2	8740.8	8666.6	8417.2	8298.4	8135.1	8218.2	8063.9	8031.2	8043.1
10°	9111.9	9040.7	8859.6	8684.4	8375.6	8203.4	7882.7	7909.5	7772.9	7728.4	7767.0
12.5°	9364.3	9278.2	9061.4	8803.1	8411.2	8108.4	7716.5	7559.1	7351.3	7283.0	7303.8
15°	9708.7	9607.7	9322.7	9022.8	8488.4	8063.9	7529.4	7202.8	6799.1	6686.2	6644.7
17.5°	10085.8	9978.9	9649.3	9272.2	8625.0	8013.4	7315.7	6796.1	6214.2	5958.8	5944.0
20°	10528.1	10412.3	10067.9	9563.2	8734.9	7951.0	7048.5	6303.2	5546.1	5118.6	5088.9
22.5°	11035.8	10934.9	10546.0	9821.5	8791.3	7787.7	6644.7	5673.8	4726.7	4192.3	4165.5
25°	11632.6	11537.6	10991.3	10002.6	8728.9	7499.7	6092.4	4901.8	3761.7	3227.3	3203.6
27.5°	12345.2	12196.7	11341.7	10056.1	8544.8	7027.7	5400.6	3910.2	2779.0	2372.2	2351.5
30°	13155.7	12891.5	11671.2	10041.2	8218.2	6425.0	4447.6	2882.9	1974.4	1701.2	1692.3
32.5°	14177.1	13713.9	11985.9	9922.5	7752.1	5635.2	3384.7	2001.1	1419.2	1285.6	1282.6
35°	15881.3	14889.6	12330.3	9708.7	7119.7	4599.0	2345.5	1362.8	1154.9	1128.2	1128.2
37.5°	18422.8	16828.4	12820.2	9367.3	6300.3	3506.4	1543.9	1083.7	1086.7	1101.5	1104.5
40°	21032.5	19058.1	13529.8	8859.6	5344.2	2464.3	1122.3	1006.5	1042.1	1065.9	1083.7
42.5°	23428.5	21077.1	14319.6	8164.8	4263.5	1627.0	1003.5	967.9	985.7	1003.5	1021.3
45°	25438.6	22846.6	15064.8	7372.1	3159.0	1157.9	994.6	923.4	914.5	926.3	938.2
47.5°	27133.9	24286.6	15587.3	6478.4	2149.6	991.7	970.9	875.9	846.2	849.1	855.1
50°	28428.4	25304.9	15818.9	5495.7	1425.1	964.9	926.3	825.4	777.9	777.9	783.8
52.5°	29301.2	25943.3	15682.4	4388.2	1024.3	950.1	890.7	771.9	715.5	724.4	730.4
55°	29948.5	26284.7	15145.0	3224.4	902.6	905.6	849.1	709.6	662.1	685.8	694.8
57.5°	30200.9	26275.8	14242.4	2226.8	896.6	837.3	789.8	656.2	617.6	650.2	665.1
60°	30108.8	25842.3	12930.1	1517.2	878.8	783.8	727.4	605.7	576.0	576.0	579.0
62.5°	29924.7	25233.7	11026.9	1125.3	837.3	745.2	679.9	564.1	528.5	510.7	504.7
65°	29093.4	23758.1	8096.5	970.9	795.7	724.4	635.4	525.5	478.0	448.3	442.4
67.5°	27448.6	21219.6	4524.8	896.6	766.0	712.6	605.7	489.9	436.4	400.8	397.8
68°	26943.8	20426.8	3836.0	890.7	771.9	712.6	602.7	481.0	430.5	391.9	388.9
70°	23957.0	16478.1	1585.5	837.3	813.5	715.5	587.9	454.3	406.8	368.2	365.2
72.5°	18119.9	9545.4	837.3	727.4	792.7	703.7	593.8	433.5	386.0	341.4	335.5
75°	9984.8	2734.5	745.2	590.8	733.3	742.3	605.7	430.5	374.1	317.7	305.8
77.5°	2217.9	890.7	694.8	516.6	632.4	682.9	561.1	409.7	380.0	291.0	279.1
80°	849.1	724.4	659.1	397.8	501.8	579.0	466.1	365.2	388.9	273.1	258.3
82.5°	709.6	635.4	605.7	308.8	347.4	424.6	374.1	311.7	359.3	252.4	240.5
85°	522.5	614.6	427.5	243.5	255.3	261.3	261.3	243.5	308.8	222.7	210.8
87.5°	210.8	296.9	181.1	112.8	130.6	121.7	106.9	130.6	178.1	157.4	157.4
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)