

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: P301587

Luminaire Tested: **GLNA-AF-05-LED-E1-T2R**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P301587
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P194759)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: MCGRAW-EDISON
Catalog Number: GLNA-AF-05-LED-E1-T2R
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(5) 70 CRI, 4000K CCT 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND Type II
Roadway OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 30883.6 lumens
Efficiency: N/A
Efficacy: 110.7 lumens/watt
Luminous Opening: Rectangular (W 1.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B3 - U0 - G4

Input Watts (W): 279
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

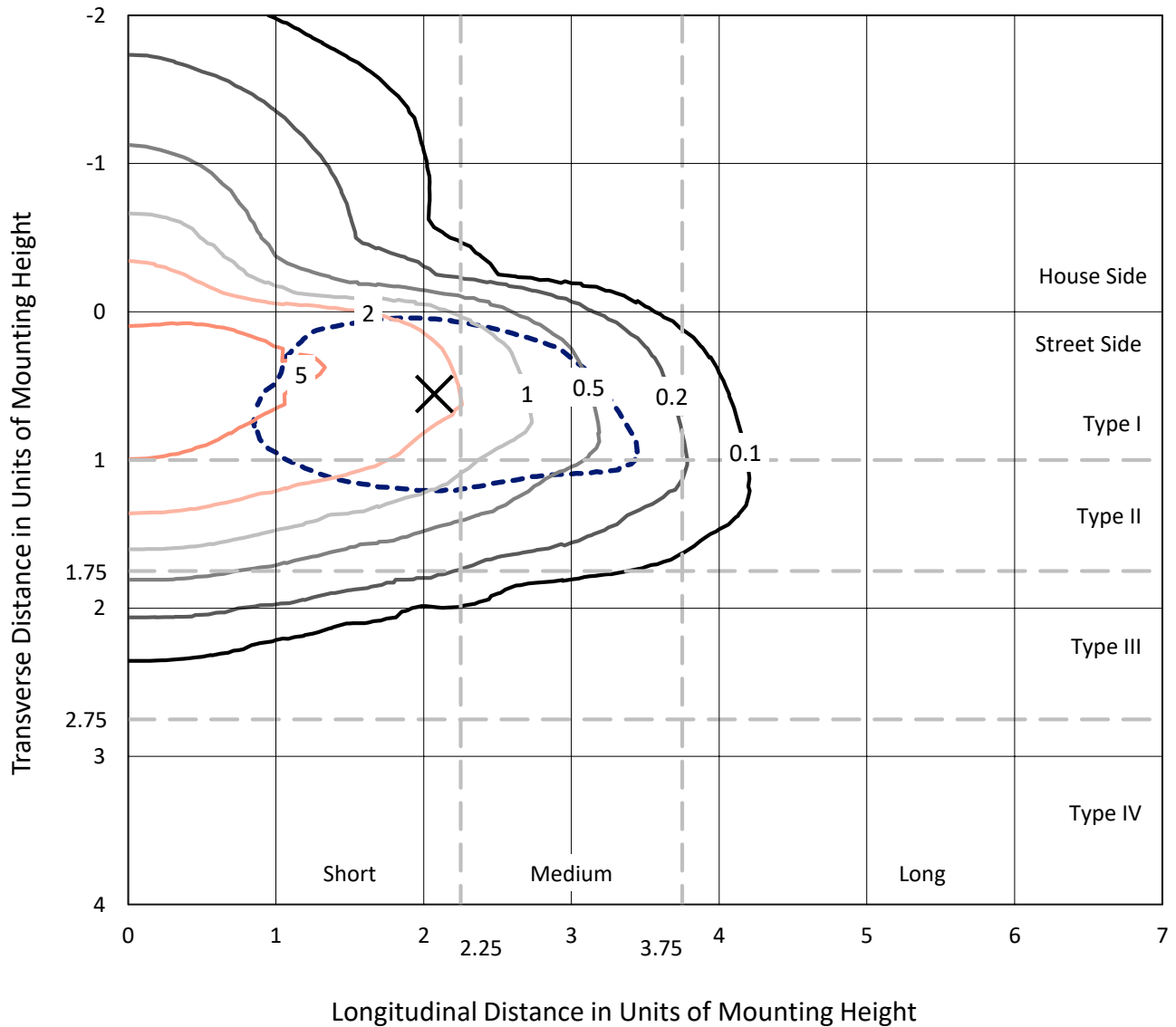


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

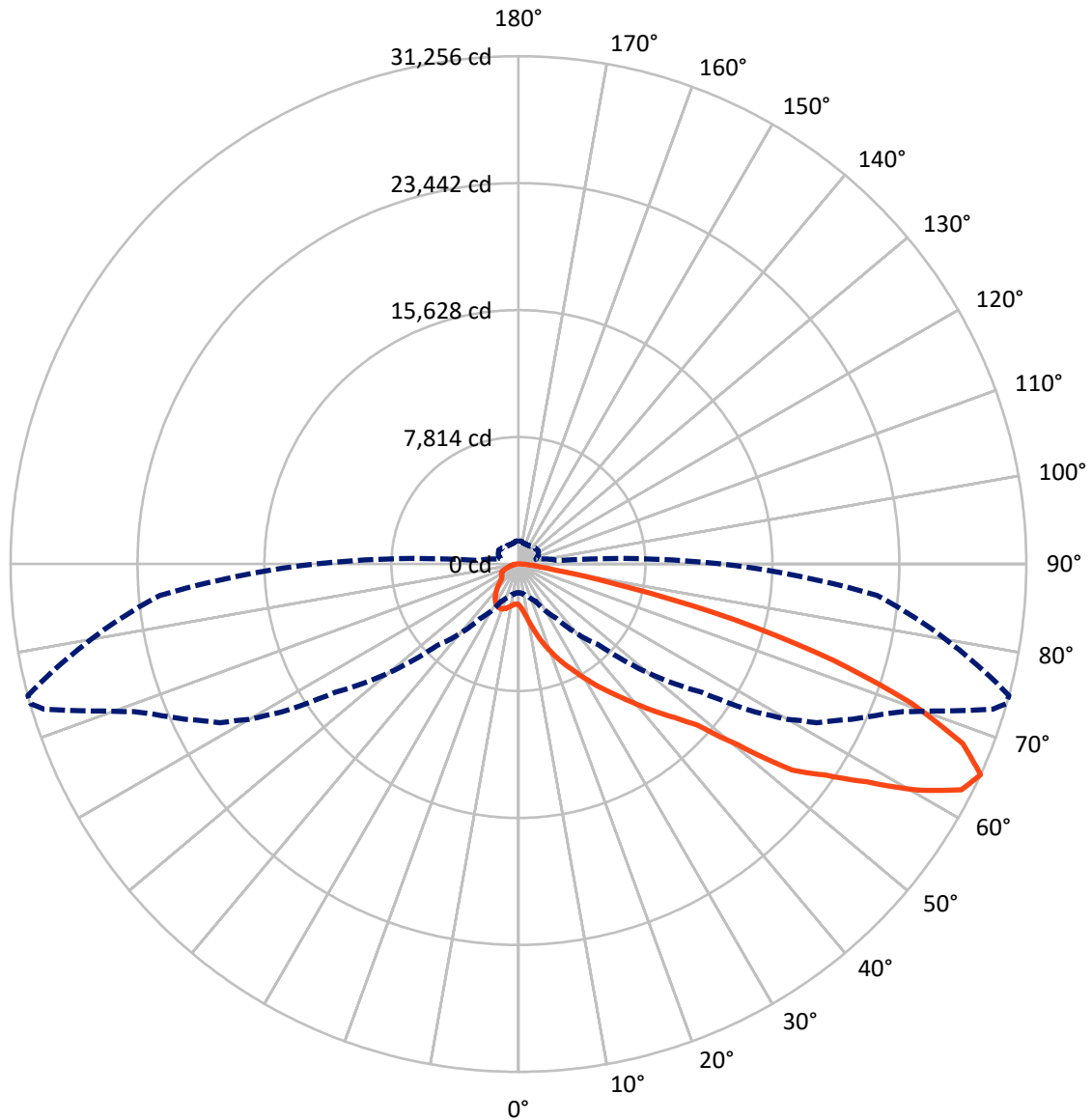


Based on 30 foot mounting height. Maximum calculated value = 8.7 fc
 Type II - Short - Full Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 75-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	4761.5	0.0	4761.5
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	26122.1	0.0	26122.1
	% Fixture	84.6	0.0	84.6
Total	Lumens	30883.6	0.0	30883.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	310.2	1.0
10°-20°	1212.1	3.9
20°-30°	2486.9	8.1
30°-40°	4184.1	13.5
40°-50°	5781.3	18.7
50°-60°	7216.7	23.4
60°-70°	6494.3	21.0
70°-80°	2722.3	8.8
80°-90°	475.6	1.5
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°	30883.6	100.0
0°-180°	30883.6	100.0



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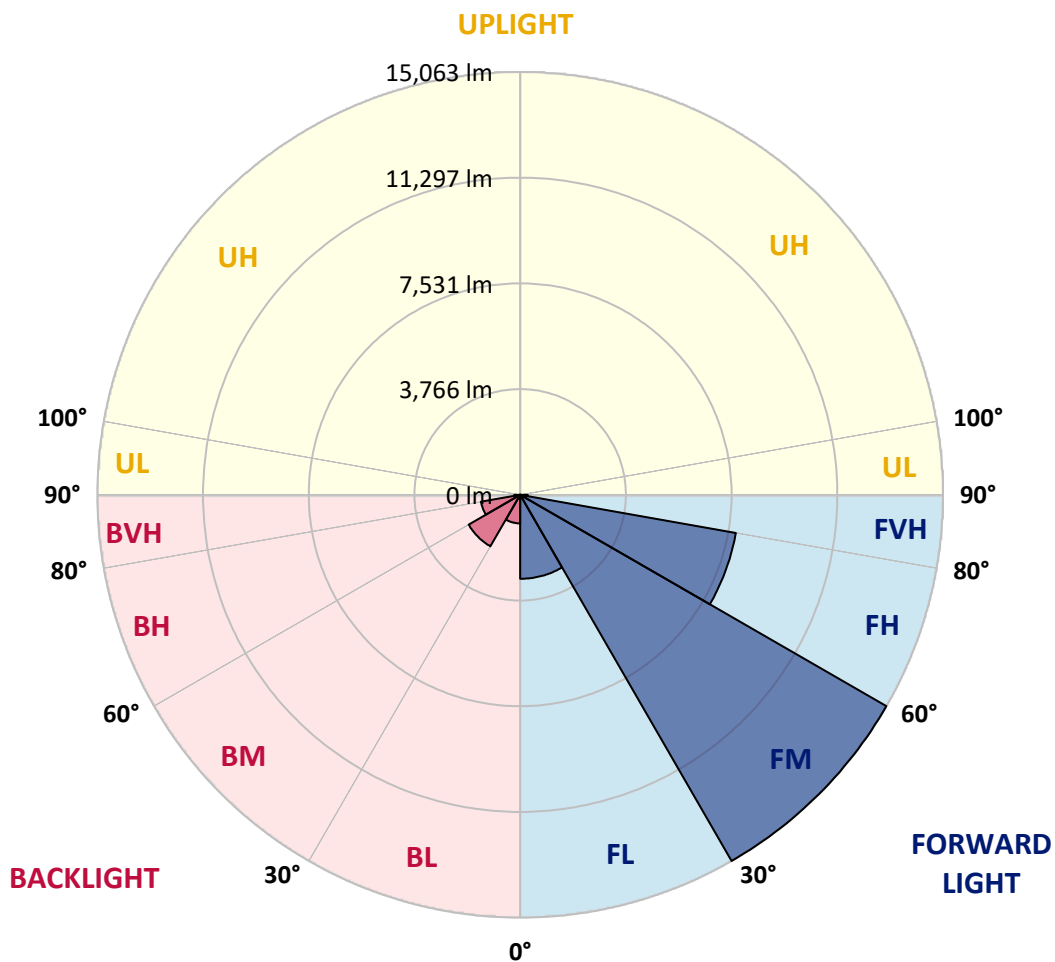
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2991.0	9.7			
FM (30°-60°)	15062.7	48.8			
FH (60°-80°)	7801.1	25.3			G4/12000
FVH (80°-90°)	267.3	0.9			G3/500
BL (0°-30°)	1018.3	3.3	B3/2500		
BM (30°-60°)	2119.4	6.9	B2/2500		
BH (60°-80°)	1415.5	4.6	B3/2500		G3/2500
BVH (80°-90°)	208.3	0.7			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9
2.5°	3186.8	3151.7	3160.3	3101.8	3030.3	2936.6	2832.9	2831.6	2832.9	2822.5	2784.8
5°	4418.8	4376.7	4360.7	4228.8	4035.9	3761.4	3463.0	3430.9	3417.5	3384.1	3306.5
7.5°	5318.1	5294.7	5269.6	5170.3	4995.1	4688.0	4287.4	4218.9	4152.9	4136.9	4049.3
10°	5898.3	5892.3	5839.8	5813.3	5704.1	5437.8	5047.5	4981.6	4910.1	4885.4	4793.0
12.5°	6357.1	6355.8	6331.1	6338.5	6243.1	6050.5	5714.0	5654.2	5601.7	5525.4	5459.9
15°	6674.5	6675.8	6712.7	6753.5	6738.7	6608.6	6292.9	6266.5	6221.4	6168.9	6091.3
17.5°	6934.7	6942.1	6979.8	7054.4	7135.1	7124.7	6874.9	6852.8	6813.3	6741.7	6701.0
20°	7522.3	7550.0	7477.2	7477.2	7485.9	7525.3	7405.2	7387.9	7332.4	7294.2	7262.1
22.5°	8514.9	8547.0	8381.8	8213.9	8048.7	7928.6	7808.9	7830.6	7792.9	7766.4	7747.4
25°	9804.1	9829.2	9561.7	9278.1	8941.6	8503.2	8206.6	8193.1	8172.8	8156.7	8148.0
27.5°	11017.4	11027.8	10775.0	10359.6	9969.3	9339.2	8609.9	8593.8	8569.1	8538.3	8511.9
30°	12055.5	12052.5	11792.3	11396.0	10977.9	10280.7	9222.6	9172.7	9099.4	9016.2	8952.0
32.5°	12954.5	12950.1	12664.8	12254.1	11815.7	11213.4	10061.7	9959.3	9845.3	9682.7	9585.1
35°	13661.7	13659.1	13389.8	12961.8	12458.8	12092.0	11023.5	10897.7	10752.9	10535.2	10384.7
37.5°	13929.3	13929.3	13778.8	13486.5	13042.1	12790.5	12092.0	11939.8	11784.9	11537.8	11368.2
40°	13772.7	13775.8	13807.9	13754.1	13537.7	13344.7	13088.9	12998.3	12865.1	12643.1	12466.2
42.5°	13248.0	13264.1	13477.9	13739.3	13847.3	13817.0	13973.1	13932.3	13838.6	13667.8	13527.3
45°	12582.8	12632.7	12866.4	13360.8	13933.6	14224.6	14714.2	14718.5	14701.2	14609.2	14500.8
47.5°	11669.6	11739.4	12048.2	12716.0	13732.0	14620.9	15467.0	15506.4	15543.3	15483.4	15433.6
50°	10456.3	10539.5	11001.4	11887.3	13321.3	15031.6	16889.3	17067.9	17234.5	17214.1	17247.5
52.5°	9156.7	9254.7	9820.1	10807.1	12615.4	15126.5	17798.6	18089.6	18380.6	18618.6	18871.4
55°	7984.1	7931.6	8497.5	9536.5	11454.5	14698.1	18616.0	18966.8	19291.2	19583.5	19884.8
57.5°	6395.3	6481.6	7048.8	8076.5	9918.1	13489.1	19178.4	19691.9	20158.0	20642.0	21068.7
60°	4674.6	4760.9	5376.2	6420.0	8250.4	11656.2	18748.7	19526.7	20273.4	21014.5	21593.4
62.5°	2822.5	2887.2	3429.2	4423.5	6361.9	9482.8	16833.8	17854.1	18953.4	19839.3	20726.5
65°	1757.1	1793.5	1993.9	2540.7	4085.7	7079.6	13754.1	14866.4	16050.2	17174.6	18097.0
67.5°	1438.4	1451.4	1488.2	1604.9	2243.6	4616.5	10236.9	11222.1	12290.6	13378.1	14404.5
70°	1293.5	1284.9	1284.9	1292.2	1438.4	2482.1	6702.3	7344.1	8234.3	9180.1	10118.5
72.5°	1167.8	1159.1	1143.1	1121.4	1173.9	1514.3	3464.3	3948.3	4590.0	5430.4	6329.4
75°	1049.4	1037.7	1019.0	991.3	1027.7	1143.1	1663.4	1866.8	2179.5	2627.0	3128.3
77.5°	926.7	911.9	894.6	874.2	921.0	889.0	974.8	1048.1	1167.8	1311.3	1499.9
80°	787.9	774.9	768.8	758.9	814.4	676.9	688.6	733.7	804.0	881.6	969.2
82.5°	617.1	617.1	640.0	644.8	706.0	487.0	514.7	554.2	590.6	631.4	672.6
85°	406.3	409.4	488.3	519.1	556.8	327.4	385.9	398.9	428.4	451.8	469.2
87.5°	127.1	137.5	298.3	330.4	320.0	185.6	236.8	242.8	263.2	279.3	294.0
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):

	60°	61°	62°	63°	64°	65°	66°	67°	68°	69°	70°
0°	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9
2.5°	2784.8	2767.0	2751.0	2749.7	2738.0	2721.9	2727.6	2702.9	2704.2	2691.1	2676.4
5°	3274.4	3262.7	3204.1	3188.1	3144.3	3116.5	3112.2	3053.7	3046.3	3012.9	2976.0
7.5°	3979.1	3940.9	3858.9	3819.5	3744.9	3689.4	3663.4	3585.7	3547.6	3460.0	3420.5
10°	4717.1	4669.0	4567.9	4512.4	4440.9	4351.5	4303.4	4191.1	4146.9	4066.6	3970.4
12.5°	5401.4	5353.2	5249.2	5206.7	5111.7	5016.7	4964.3	4837.2	4780.0	4651.2	4575.3
15°	6034.1	5985.9	5895.3	5851.5	5756.5	5678.9	5608.7	5483.3	5416.1	5296.0	5196.7
17.5°	6648.1	6596.9	6518.0	6478.5	6386.6	6307.7	6231.8	6113.0	6044.5	5924.8	5835.4
20°	7218.3	7180.2	7123.3	7070.4	6978.5	6907.0	6816.3	6714.0	6614.7	6526.7	6442.1
22.5°	7715.3	7700.5	7639.4	7616.0	7537.0	7475.5	7396.5	7295.9	7224.0	7112.9	7034.0
25°	8143.7	8139.4	8109.9	8102.5	8047.0	7988.5	7971.1	7887.9	7821.9	7723.9	7642.4
27.5°	8511.9	8516.2	8509.3	8529.6	8514.9	8488.4	8490.2	8462.4	8424.3	8342.3	8270.8
30°	8921.2	8897.8	8911.2	8940.3	8949.0	8952.0	9000.1	9016.2	9013.6	8959.4	8924.2
32.5°	9500.1	9444.6	9393.4	9389.1	9418.2	9429.9	9511.8	9554.3	9590.7	9603.8	9609.8
35°	10238.2	10127.2	10020.5	9963.7	9913.8	9926.8	9985.4	10054.3	10134.5	10190.0	10255.9
37.5°	11167.9	11032.2	10843.5	10709.1	10675.3	10602.4	10640.1	10694.3	10773.3	10859.6	10973.6
40°	12294.9	12088.9	11876.9	11698.7	11602.4	11467.5	11466.2	11455.8	11504.4	11584.6	11745.5
42.5°	13379.9	13196.9	12971.8	12784.9	12659.2	12479.2	12442.8	12347.8	12369.5	12439.7	12596.3
45°	14395.4	14245.0	14107.5	13891.6	13784.4	13590.2	13528.6	13416.3	13353.4	13385.5	13542.0
47.5°	15379.4	15283.1	15139.6	14999.5	14917.5	14743.6	14664.7	14584.1	14503.8	14500.8	14664.7
50°	17297.3	17246.2	17076.6	16930.5	16969.9	16756.6	16769.6	16553.2	16651.2	16662.9	17006.4
52.5°	19099.5	19278.2	19403.9	19557.0	19656.8	19675.8	19741.3	19839.3	19957.7	20191.4	20510.1
55°	20131.6	20355.3	20485.4	20602.5	20795.5	20836.2	20946.0	21076.0	21179.7	21442.9	21713.5
57.5°	21358.3	21773.3	21975.0	22160.6	22420.8	22520.1	22703.0	22844.8	22979.3	23290.6	23618.0
60°	22113.7	22619.8	23030.4	23324.0	23650.1	23884.3	24160.5	24382.5	24698.2	25071.1	25559.4
62.5°	21513.1	22255.5	22801.1	23305.4	23748.1	24195.6	24591.5	25007.0	25486.1	26050.3	26807.9
65°	19120.3	19875.7	20809.8	21333.2	21919.5	22609.4	23211.7	23884.3	24537.3	25359.1	26478.7
67.5°	15392.8	16270.9	17320.8	17848.5	18522.4	19292.5	19968.1	20789.4	21552.6	22547.8	23932.4
70°	11095.0	12230.7	13113.6	13664.8	14451.4	15244.9	15897.1	16852.9	17484.2	18504.6	19936.0
72.5°	7025.3	7921.2	9003.2	9697.4	10396.0	11200.4	11866.9	12691.2	13280.1	14209.8	15506.4
75°	3777.4	4437.8	5387.9	6047.5	6796.0	7482.8	8263.4	8815.8	9251.6	9987.1	11039.5
77.5°	1770.1	2172.1	2653.0	3160.3	3667.7	4196.7	4711.5	5158.5	5345.9	5766.9	6387.9
80°	1074.6	1204.6	1344.7	1501.3	1713.3	1884.2	2110.9	2274.4	2286.1	2419.3	2609.2
82.5°	717.7	765.8	808.3	847.8	902.0	944.5	992.6	1049.4	1072.8	1103.6	1165.2
85°	489.6	513.0	521.7	546.8	540.7	555.5	574.6	593.6	603.6	602.3	630.1
87.5°	300.9	312.7	318.7	324.4	320.0	314.4	323.1	333.5	336.1	327.4	330.4
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):

	71°	72°	73°	74°	75°	85°	90°	95°	105°	115°	125°
0°	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9
2.5°	2679.4	2666.4	2653.0	2644.3	2641.3	2564.1	2530.3	2508.6	2461.8	2423.6	2392.8
5°	2955.7	2927.9	2906.2	2879.8	2865.0	2669.0	2597.5	2548.0	2466.1	2418.0	2373.7
7.5°	3400.1	3322.5	3277.4	3226.3	3182.5	2828.6	2710.2	2632.6	2518.6	2454.4	2404.5
10°	3904.5	3824.2	3752.3	3673.3	3604.8	3040.7	2868.1	2748.0	2597.5	2514.2	2448.3
12.5°	4467.3	4388.4	4297.8	4196.7	4109.1	3309.5	3069.7	2898.9	2692.5	2581.4	2489.5
15°	5132.5	4993.3	4883.6	4767.0	4664.6	3631.3	3305.2	3068.4	2793.5	2643.0	2520.3
17.5°	5750.5	5604.3	5455.6	5353.2	5234.9	3992.1	3541.9	3240.6	2876.7	2682.5	2525.9
20°	6354.5	6194.9	6066.6	5929.1	5804.7	4366.3	3794.8	3392.8	2931.0	2683.8	2489.5
22.5°	6886.6	6786.8	6643.7	6494.6	6368.8	4740.5	4031.5	3521.6	2951.3	2650.4	2424.9
25°	7491.5	7386.6	7210.9	7085.2	6945.1	5122.1	4263.9	3620.9	2939.6	2587.5	2325.6
27.5°	8137.6	8021.0	7841.0	7709.6	7540.1	5518.0	4477.3	3692.4	2895.8	2485.2	2192.5
30°	8811.5	8704.8	8527.9	8395.2	8223.9	5937.8	4715.8	3740.6	2808.2	2343.4	2037.7
32.5°	9535.2	9445.9	9270.7	9132.0	8949.0	6392.2	4937.8	3755.3	2675.1	2175.1	1874.2
35°	10222.1	10161.0	10013.1	9883.0	9693.1	6822.0	5173.3	3747.9	2517.3	1990.8	1725.0
37.5°	10995.7	10958.9	10886.0	10720.8	10488.4	7405.2	5455.6	3717.1	2324.3	1808.3	1611.0
40°	11820.1	11823.1	11744.2	11631.4	11415.1	8112.9	5791.7	3657.3	2113.5	1647.4	1506.9
42.5°	12692.5	12738.1	12699.9	12619.7	12412.0	8826.2	6193.6	3584.4	1909.3	1490.8	1405.0
45°	13692.5	13748.0	13806.6	13688.2	13486.5	9767.7	6722.7	3489.5	1688.1	1360.8	1334.7
47.5°	14846.0	14933.6	14986.1	14987.8	14786.1	10934.1	7582.1	3432.2	1492.6	1273.2	1300.9
50°	17279.6	17307.7	17431.8	17648.1	17493.3	13634.0	9083.4	3397.1	1359.5	1219.0	1276.2
52.5°	20786.4	21092.1	21307.2	21292.4	21081.7	15348.6	9910.8	3215.8	1280.5	1198.6	1264.5
55°	22214.8	22596.4	22994.0	23099.0	22935.5	16812.1	10693.0	3034.6	1242.4	1213.3	1268.8
57.5°	24118.0	24761.1	25306.6	25536.0	25299.2	18684.5	11722.1	2939.6	1230.7	1252.8	1296.6
60°	26341.3	27136.6	27852.9	28264.9	28264.9	20836.2	12789.2	2900.2	1214.6	1311.3	1343.4
62.5°	27769.7	28937.4	30019.4	30623.0	30605.2	22334.5	13262.8	2765.7	1178.2	1352.1	1407.6
65°	27775.3	29164.2	30542.3	31221.0	31255.7	22150.6	12480.9	2442.7	1111.0	1358.2	1472.2
67.5°	25460.1	26940.5	28547.2	29306.0	29481.2	20390.5	10804.1	2008.6	1001.3	1299.6	1495.6
70°	21502.7	22948.5	24588.5	25334.4	25645.7	17381.9	8701.8	1548.1	861.2	1170.8	1447.0
72.5°	16940.5	18358.4	19500.2	20045.3	20288.1	13286.2	6336.7	1169.5	706.0	986.5	1317.0
75°	11994.0	13058.1	13664.8	13786.2	13823.9	8009.3	3850.3	869.9	581.9	767.5	1112.3
77.5°	6769.5	7225.7	7175.8	7230.0	6779.9	3091.8	1676.9	622.7	479.6	583.2	862.5
80°	2643.0	2725.0	2559.8	2508.6	2300.9	1150.4	739.8	434.1	382.9	441.4	603.6
82.5°	1165.2	1202.9	1167.8	1176.9	1125.7	593.6	442.7	314.4	292.3	323.1	400.7
85°	641.8	653.5	650.5	669.5	641.8	236.8	210.3	193.0	204.7	219.4	257.1
87.5°	312.7	315.7	305.7	321.8	311.4	119.7	103.6	109.7	119.7	122.7	122.7
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):

	135°	145°	155°	165°	175°	180°
0°	2509.9	2509.9	2509.9	2509.9	2509.9	2509.9
2.5°	2371.1	2359.4	2360.7	2357.7	2352.0	2352.0
5°	2350.7	2339.0	2339.0	2336.0	2328.6	2329.9
7.5°	2371.1	2352.0	2344.7	2334.3	2324.3	2324.3
10°	2394.5	2360.7	2340.3	2323.0	2309.5	2309.5
12.5°	2411.9	2359.4	2325.6	2302.2	2289.2	2289.2
15°	2418.0	2349.0	2302.2	2274.4	2262.7	2261.4
17.5°	2398.9	2309.5	2252.7	2220.7	2205.9	2201.6
20°	2340.3	2238.0	2169.5	2132.6	2112.2	2104.9
22.5°	2252.7	2135.7	2055.4	2017.3	1990.8	1986.5
25°	2130.0	2004.3	1925.3	1888.5	1874.2	1869.4
27.5°	1986.5	1869.4	1802.2	1778.8	1765.8	1764.5
30°	1850.8	1751.0	1701.6	1683.8	1667.8	1665.2
32.5°	1723.3	1660.4	1641.7	1616.6	1578.9	1574.5
35°	1632.6	1627.0	1614.0	1558.1	1511.7	1498.2
37.5°	1577.1	1631.3	1564.1	1454.4	1421.0	1418.0
40°	1545.0	1586.2	1470.5	1432.7	1435.3	1432.7
42.5°	1472.2	1514.3	1473.5	1456.2	1467.4	1470.5
45°	1398.9	1445.7	1495.6	1483.9	1511.7	1511.7
47.5°	1358.2	1428.0	1493.9	1493.9	1535.1	1549.4
50°	1311.3	1413.7	1470.5	1490.8	1523.4	1511.7
52.5°	1308.3	1388.5	1437.1	1473.5	1488.2	1474.8
55°	1312.6	1368.1	1403.2	1444.4	1461.8	1463.1
57.5°	1318.7	1356.4	1379.8	1398.9	1451.4	1451.4
60°	1333.0	1346.4	1359.5	1369.9	1438.4	1439.7
62.5°	1356.4	1336.0	1333.0	1343.4	1431.0	1425.4
65°	1393.3	1321.3	1299.6	1309.6	1423.6	1406.3
67.5°	1442.7	1299.6	1257.1	1264.5	1418.0	1379.8
70°	1488.2	1264.5	1204.6	1197.3	1362.5	1295.3
72.5°	1492.6	1223.7	1131.4	1109.7	1184.3	1119.6
75°	1419.3	1195.5	1051.1	986.5	977.9	969.2
77.5°	1279.2	1179.5	957.5	856.4	839.1	844.7
80°	1070.2	1119.6	844.7	725.0	820.0	810.0
82.5°	799.6	988.3	717.7	641.8	640.0	565.9
85°	444.5	770.6	584.5	480.9	334.8	324.4
87.5°	124.5	428.4	409.4	271.9	185.6	193.0
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)