

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: P301728

Luminaire Tested: **GLNA-AF-09-LED-E1-T2R-7027-600**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P301728  
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-09-LED-E1-T2R-7027-600  
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE  
(9) 70 CRI, 2700K CCT 600mA LIGHTSQUARE WITH 16 LEDS EACH AND Type II  
Roadway OPTICS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 31618 lumens  
Efficiency: N/A  
Efficacy: 109.0 lumens/watt  
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B3 - U0 - G4

Input Watts (W): 290  
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

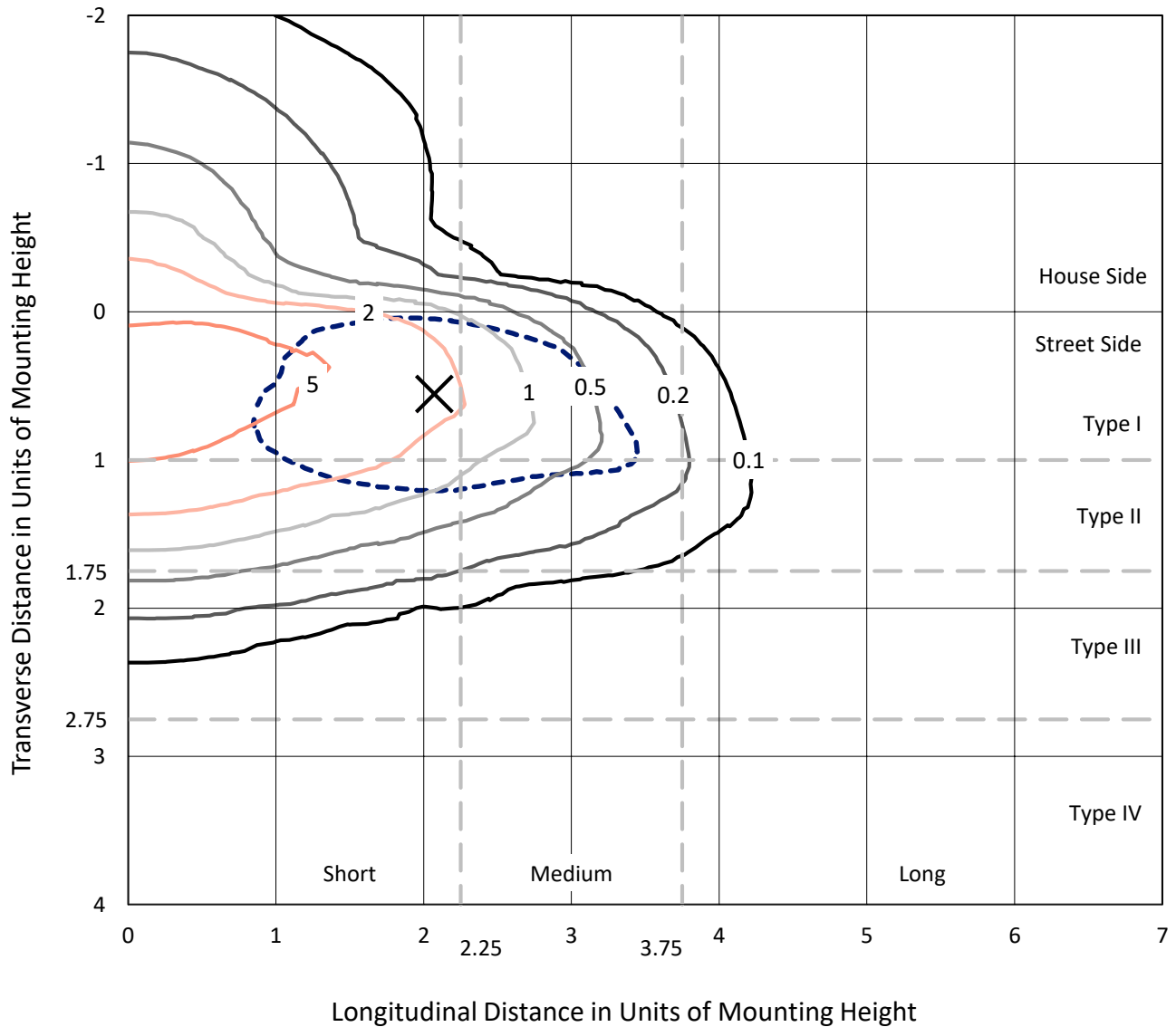


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### Iso-Footcandle Lines of Horizontal Illumination

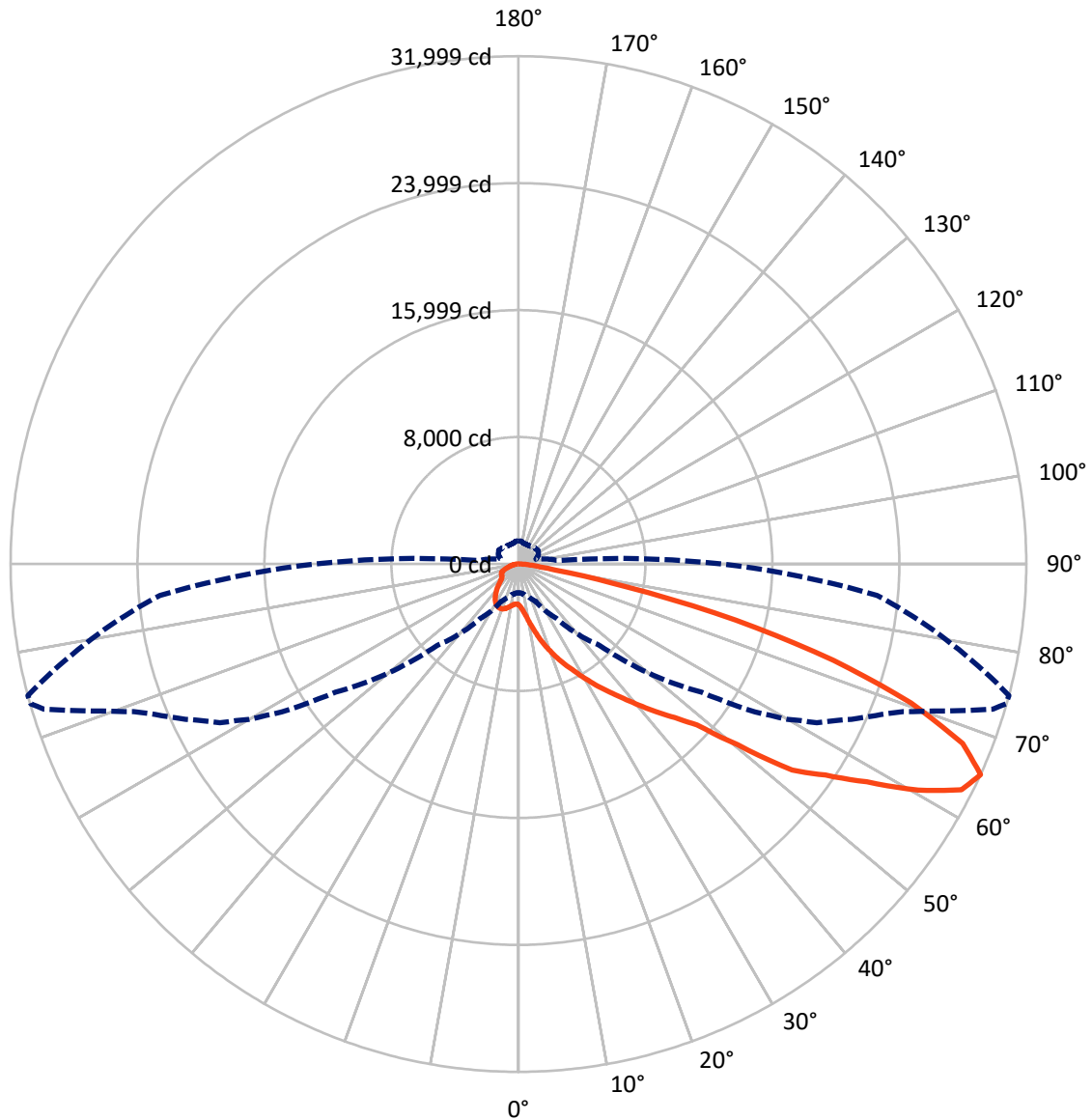
× Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 8.9 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
<b>House Side</b>	Lumens	4874.7	0.0	4874.7
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	26743.2	0.0	26743.2
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	31618.0	0.0	31618.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	317.6	1.0
10°-20°	1241.0	3.9
20°-30°	2546.0	8.1
30°-40°	4283.6	13.5
40°-50°	5918.7	18.7
50°-60°	7388.3	23.4
60°-70°	6648.7	21.0
70°-80°	2787.1	8.8
80°-90°	486.9	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°	31618.0	100.0
0°-180°	31618.0	100.0

**Coefficient of Utilization**



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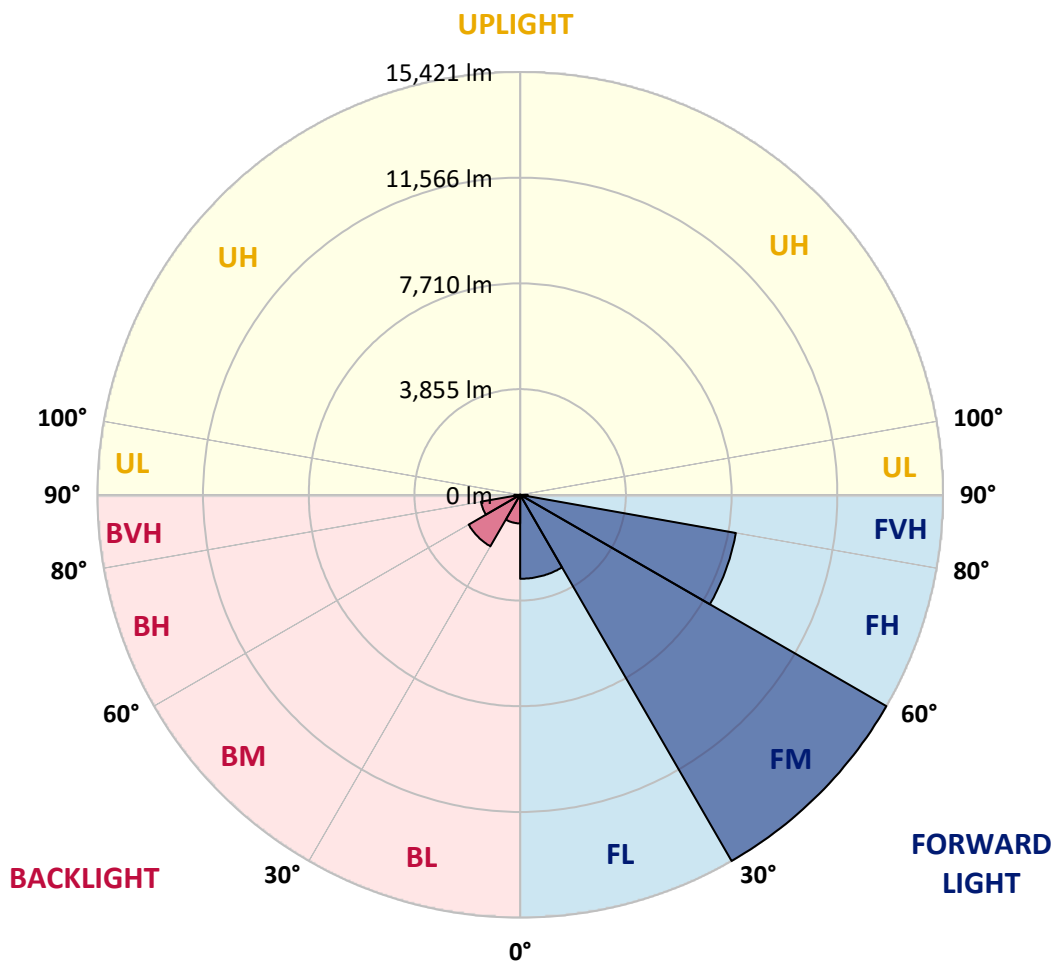
CATALOG NUMBER: GLNA-AF-09-LED-E1-T2R-7027-600

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3062.1	9.7			
FM	(30°-60°)	15420.8	48.8			
FH	(60°-80°)	7986.6	25.3			G4/12000
FVH	(80°-90°)	273.7	0.9			G3/500
BL	(0°-30°)	1042.5	3.3	B3/2500		
BM	(30°-60°)	2169.8	6.9	B2/2500		
BH	(60°-80°)	1449.2	4.6	B3/2500		G3/2500
BVH	(80°-90°)	213.2	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°	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6
2.5°	3262.6	3226.6	3235.5	3175.6	3102.3	3006.4	2900.3	2899.0	2900.3	2889.7	2851.0
5°	4523.8	4480.8	4464.3	4329.4	4131.8	3850.8	3545.4	3512.5	3498.8	3464.6	3385.1
7.5°	5444.6	5420.6	5394.9	5293.2	5113.8	4799.5	4389.3	4319.2	4251.7	4235.3	4145.6
10°	6038.6	6032.4	5978.6	5951.6	5839.7	5567.1	5167.5	5100.1	5026.8	5001.5	4907.0
12.5°	6508.3	6506.9	6481.6	6489.2	6391.5	6194.4	5849.9	5788.6	5734.9	5656.8	5589.7
15°	6833.2	6834.6	6872.3	6914.0	6898.9	6765.8	6442.6	6415.5	6369.3	6315.6	6236.1
17.5°	7099.6	7107.2	7145.8	7222.1	7304.7	7294.1	7038.3	7015.7	6975.3	6902.1	6860.3
20°	7701.2	7729.6	7655.0	7655.0	7663.9	7704.3	7581.3	7563.5	7506.7	7467.6	7434.8
22.5°	8717.4	8750.2	8581.1	8409.3	8240.1	8117.1	7994.6	8016.8	7978.2	7951.1	7931.6
25°	10037.2	10063.0	9789.0	9498.7	9154.2	8705.4	8401.7	8387.9	8367.1	8350.7	8341.8
27.5°	11279.4	11290.0	11031.2	10605.9	10206.4	9561.3	8814.6	8798.2	8772.8	8741.3	8714.2
30°	12342.2	12339.1	12072.7	11666.9	11239.0	10525.1	9441.9	9390.8	9315.8	9230.6	9164.9
32.5°	13262.5	13258.1	12965.9	12545.5	12096.7	11480.0	10300.9	10196.1	10079.4	9912.9	9813.0
35°	13986.6	13983.9	13708.2	13270.0	12755.1	12379.5	11285.6	11156.8	11008.6	10785.7	10631.7
37.5°	14260.5	14260.5	14106.4	13807.2	13352.2	13094.7	12379.5	12223.7	12065.2	11812.1	11638.5
40°	14100.2	14103.3	14136.2	14081.1	13859.6	13662.0	13400.1	13307.3	13171.0	12943.7	12762.6
42.5°	13563.0	13579.5	13798.3	14066.0	14176.6	14145.5	14305.3	14263.6	14167.7	13992.8	13848.9
45°	12882.0	12933.1	13172.4	13678.5	14264.9	14562.8	15064.0	15068.5	15050.7	14956.6	14845.6
47.5°	11947.1	12018.5	12334.6	13018.3	14058.5	14968.6	15834.7	15875.1	15912.9	15851.6	15800.5
50°	10704.9	10790.1	11263.0	12169.9	13638.1	15389.0	17290.9	17473.8	17644.3	17623.4	17657.6
52.5°	9374.4	9474.7	10053.6	11064.1	12915.3	15486.2	18221.8	18519.7	18817.6	19061.3	19320.2
55°	8174.0	8120.2	8699.6	9763.3	11726.9	15047.6	19058.7	19417.8	19749.9	20049.1	20357.7
57.5°	6547.3	6635.7	7216.4	8268.5	10154.0	13809.9	19634.5	20160.1	20637.3	21132.8	21569.6
60°	4785.8	4874.1	5504.1	6572.6	8446.5	11933.3	19194.5	19991.0	20755.4	21514.1	22106.8
62.5°	2889.7	2955.8	3510.7	4528.7	6513.2	9708.2	17234.0	18278.7	19404.1	20311.0	21219.4
65°	1798.9	1836.2	2041.3	2601.1	4182.9	7247.9	14081.1	15219.9	16431.8	17583.0	18527.3
67.5°	1472.6	1485.9	1523.6	1643.1	2297.0	4726.3	10480.3	11488.9	12582.8	13696.2	14747.1
70°	1324.3	1315.4	1315.4	1323.0	1472.6	2541.2	6861.7	7518.7	8430.1	9398.4	10359.1
72.5°	1195.6	1186.7	1170.2	1148.0	1201.8	1550.3	3546.7	4042.1	4699.2	5559.6	6479.9
75°	1074.4	1062.4	1043.3	1014.9	1052.2	1170.2	1703.0	1911.2	2231.3	2689.4	3202.6
77.5°	948.7	933.6	915.9	895.0	942.9	910.1	998.0	1073.0	1195.6	1342.5	1535.6
80°	806.7	793.3	787.1	776.9	833.7	693.0	705.0	751.2	823.1	902.5	992.2
82.5°	631.7	631.7	655.3	660.2	722.7	498.6	527.0	567.4	604.7	646.4	688.6
85°	416.0	419.1	499.9	531.4	570.0	335.2	395.1	408.4	438.6	462.6	480.4
87.5°	130.1	140.7	305.4	338.3	327.6	190.0	242.4	248.6	269.5	285.9	301.0
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°	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6
2.5°	2851.0	2832.8	2816.4	2815.1	2803.1	2786.7	2792.4	2767.1	2768.5	2755.1	2740.0
5°	3352.2	3340.3	3280.3	3263.9	3219.1	3190.7	3186.2	3126.3	3118.7	3084.5	3046.8
7.5°	4073.7	4034.6	3950.7	3910.3	3833.9	3777.1	3750.5	3671.0	3631.9	3542.3	3501.9
10°	4829.3	4780.0	4676.5	4619.7	4546.5	4455.0	4405.7	4290.8	4245.5	4163.3	4064.8
12.5°	5529.8	5480.5	5374.0	5330.5	5233.3	5136.0	5082.3	4952.2	4893.6	4761.8	4684.1
15°	6177.5	6128.3	6035.5	5990.6	5893.4	5813.9	5742.0	5613.7	5544.9	5421.9	5320.3
17.5°	6806.2	6753.8	6673.0	6632.6	6538.5	6457.7	6380.0	6258.3	6188.2	6065.7	5974.2
20°	7390.0	7350.9	7292.7	7238.6	7144.4	7071.2	6978.4	6873.6	6772.0	6681.9	6595.3
22.5°	7898.7	7883.6	7821.0	7797.1	7716.3	7653.2	7572.4	7469.4	7395.7	7282.1	7201.3
25°	8337.3	8332.9	8302.7	8295.2	8238.3	8178.4	8160.6	8075.4	8007.9	7907.6	7824.1
27.5°	8714.2	8718.7	8711.6	8732.4	8717.4	8690.3	8692.0	8663.6	8624.6	8540.7	8467.4
30°	9133.3	9109.4	9123.1	9152.9	9161.7	9164.9	9214.1	9230.6	9227.9	9172.4	9136.4
32.5°	9726.0	9669.2	9616.8	9612.4	9642.1	9654.1	9738.0	9781.5	9818.8	9832.1	9838.3
35°	10481.6	10368.0	10258.7	10200.6	10149.5	10162.8	10222.8	10293.4	10375.5	10432.3	10499.8
37.5°	11433.4	11294.5	11101.4	10963.7	10929.1	10854.5	10893.1	10948.6	11029.4	11117.8	11234.5
40°	12587.2	12376.4	12159.3	11976.8	11878.3	11740.2	11738.9	11728.2	11777.9	11860.1	12024.8
42.5°	13698.0	13510.7	13280.2	13088.9	12960.2	12775.9	12738.6	12641.4	12663.6	12735.5	12895.8
45°	14737.7	14583.7	14442.9	14221.9	14112.2	13913.3	13850.3	13735.3	13670.9	13703.8	13864.0
47.5°	15745.0	15646.5	15499.5	15356.1	15272.2	15094.2	15013.4	14930.8	14848.7	14845.6	15013.4
50°	17708.6	17656.2	17482.7	17333.0	17373.4	17155.0	17168.3	16946.8	17047.1	17059.1	17410.7
52.5°	19553.7	19736.6	19865.3	20022.0	20124.1	20143.7	20210.7	20311.0	20432.2	20671.5	20997.8
55°	20610.3	20839.3	20972.5	21092.4	21290.0	21331.7	21444.0	21577.2	21683.3	21952.8	22229.8
57.5°	21866.2	22291.1	22497.5	22687.5	22953.9	23055.5	23242.9	23388.0	23525.7	23844.4	24179.6
60°	22639.6	23157.6	23578.1	23878.6	24212.5	24452.2	24735.0	24962.3	25285.5	25667.3	26167.2
62.5°	22024.7	22784.7	23343.2	23859.5	24312.8	24770.9	25176.3	25601.6	26092.1	26669.7	27445.3
65°	19575.0	20348.3	21304.6	21840.4	22440.7	23147.0	23763.6	24452.2	25120.8	25962.1	27108.3
67.5°	15758.8	16657.8	17732.6	18272.9	18962.8	19751.2	20442.9	21283.7	22065.1	23083.9	24501.5
70°	11358.8	12521.5	13425.4	13989.7	14795.0	15607.4	16275.1	17253.6	17900.0	18944.6	20410.0
72.5°	7192.4	8109.6	9217.2	9928.0	10643.2	11466.7	12149.1	12993.0	13595.9	14547.7	15875.1
75°	3867.2	4543.4	5516.0	6191.3	6957.5	7660.8	8459.9	9025.5	9471.6	10224.6	11302.0
77.5°	1812.2	2223.7	2716.1	3235.5	3754.9	4296.5	4823.5	5281.2	5473.0	5904.1	6539.8
80°	1100.1	1233.3	1376.7	1536.9	1754.0	1929.0	2161.1	2328.5	2340.5	2476.8	2671.2
82.5°	734.7	784.0	827.5	867.9	923.4	966.9	1016.2	1074.4	1098.3	1129.8	1192.9
85°	501.2	525.2	534.1	559.8	553.6	568.7	588.2	607.8	618.0	616.6	645.1
87.5°	308.1	320.1	326.3	332.1	327.6	321.9	330.7	341.4	344.1	335.2	338.3
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):**

	71°	72°	73°	74°	75°	85°	90°	95°	105°	115°	125°
0°	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6
2.5°	2743.2	2729.8	2716.1	2707.2	2704.1	2625.1	2590.4	2568.2	2520.3	2481.2	2449.7
5°	3025.9	2997.5	2975.3	2948.3	2933.2	2732.5	2659.2	2608.6	2524.7	2475.5	2430.2
7.5°	3481.0	3401.5	3355.4	3303.0	3258.1	2895.9	2774.7	2695.2	2578.4	2512.7	2461.7
10°	3997.3	3915.2	3841.5	3760.7	3690.5	3113.0	2936.3	2813.3	2659.2	2574.0	2506.5
12.5°	4573.5	4492.7	4400.0	4296.5	4206.8	3388.2	3142.7	2967.8	2756.5	2642.8	2548.7
15°	5254.6	5112.1	4999.7	4880.3	4775.5	3717.6	3383.8	3141.4	2859.9	2705.9	2580.2
17.5°	5887.2	5737.6	5585.3	5480.5	5359.3	4087.0	3626.2	3317.6	2945.1	2746.3	2586.0
20°	6505.6	6342.2	6210.8	6070.1	5942.7	4470.1	3885.0	3473.4	3000.6	2747.6	2548.7
22.5°	7050.3	6948.2	6801.7	6649.0	6520.3	4853.2	4127.4	3605.3	3021.5	2713.4	2482.6
25°	7669.6	7562.2	7382.4	7253.7	7110.3	5243.9	4365.3	3707.0	3009.5	2649.0	2380.9
27.5°	8331.1	8211.7	8027.5	7892.9	7719.4	5649.2	4583.8	3780.2	2964.7	2544.3	2244.6
30°	9021.0	8911.8	8730.7	8594.8	8419.5	6079.0	4827.9	3829.5	2875.0	2399.1	2086.1
32.5°	9762.0	9670.5	9491.2	9349.1	9161.7	6544.2	5055.2	3844.6	2738.7	2226.8	1918.7
35°	10465.2	10402.6	10251.2	10118.0	9923.6	6984.2	5296.3	3837.0	2577.1	2038.2	1766.0
37.5°	11257.2	11219.4	11144.9	10975.7	10737.8	7581.3	5585.3	3805.5	2379.6	1851.3	1649.3
40°	12101.1	12104.2	12023.4	11908.0	11686.5	8305.8	5929.4	3744.3	2163.8	1686.6	1542.7
42.5°	12994.3	13041.0	13001.9	12919.8	12707.1	9036.1	6340.9	3669.7	1954.7	1526.3	1438.4
45°	14018.1	14074.9	14134.8	14013.6	13807.2	9999.9	6882.5	3572.4	1728.3	1393.1	1366.5
47.5°	15199.0	15288.7	15342.4	15344.2	15137.7	11194.1	7762.4	3513.8	1528.1	1303.4	1331.8
50°	17690.4	17719.3	17846.2	18067.8	17909.3	13958.2	9299.4	3477.9	1391.8	1247.9	1306.5
52.5°	21280.6	21593.6	21813.8	21798.7	21583.0	15713.5	10146.4	3292.3	1311.0	1227.1	1294.6
55°	22743.0	23133.7	23540.8	23648.2	23480.8	17211.8	10947.3	3106.7	1271.9	1242.2	1299.0
57.5°	24691.5	25349.9	25908.3	26143.2	25900.8	19128.8	12000.8	3009.5	1259.9	1282.6	1327.4
60°	26967.6	27781.8	28515.2	28936.9	28936.9	21331.7	13093.3	2969.1	1243.5	1342.5	1375.3
62.5°	28430.0	29625.5	30733.2	31351.1	31332.9	22865.5	13578.1	2831.5	1206.2	1384.2	1441.1
65°	28435.7	29857.7	31268.6	31963.3	31998.9	22677.3	12777.7	2500.8	1137.4	1390.4	1507.2
67.5°	26065.5	27581.1	29226.0	30002.9	30182.2	20875.3	11061.0	2056.4	1025.1	1330.5	1531.2
70°	22014.0	23494.2	25173.2	25936.7	26255.5	17795.2	8908.7	1584.9	881.7	1198.7	1481.5
72.5°	17343.3	18795.0	19963.9	20521.9	20770.5	13602.1	6487.4	1197.3	722.7	1010.0	1348.3
75°	12279.1	13368.6	13989.7	14114.0	14152.6	8199.7	3941.8	890.6	595.8	785.8	1138.7
77.5°	6930.5	7397.5	7346.4	7401.9	6941.1	3165.3	1716.7	637.5	491.0	597.1	883.0
80°	2705.9	2789.8	2620.6	2568.2	2355.6	1177.8	757.4	444.4	392.0	451.9	618.0
82.5°	1192.9	1231.5	1195.6	1204.9	1152.5	607.8	453.3	321.9	299.2	330.7	410.2
85°	657.0	669.0	665.9	685.5	657.0	242.4	215.3	197.6	209.5	224.6	263.3
87.5°	320.1	323.2	313.0	329.4	318.8	122.5	106.1	112.3	122.5	125.6	125.6
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°	2569.6	2569.6	2569.6	2569.6	2569.6	2569.6
2.5°	2427.5	2415.5	2416.9	2413.7	2408.0	2408.0
5°	2406.6	2394.7	2394.7	2391.5	2384.0	2385.3
7.5°	2427.5	2408.0	2400.4	2389.8	2379.6	2379.6
10°	2451.5	2416.9	2396.0	2378.2	2364.5	2364.5
12.5°	2469.2	2415.5	2380.9	2356.9	2343.6	2343.6
15°	2475.5	2404.9	2356.9	2328.5	2316.5	2315.2
17.5°	2455.9	2364.5	2306.3	2273.5	2258.4	2253.9
20°	2396.0	2291.2	2221.1	2183.3	2162.5	2154.9
22.5°	2306.3	2186.4	2104.3	2065.2	2038.2	2033.7
25°	2180.7	2051.9	1971.1	1933.4	1918.7	1913.9
27.5°	2033.7	1913.9	1845.0	1821.1	1807.8	1806.4
30°	1894.8	1792.7	1742.1	1723.8	1707.4	1704.8
32.5°	1764.2	1699.9	1680.8	1655.0	1616.4	1612.0
35°	1671.5	1665.7	1652.4	1595.1	1547.6	1533.8
37.5°	1614.6	1670.1	1601.3	1489.0	1454.8	1451.7
40°	1581.8	1624.0	1505.4	1466.8	1469.5	1466.8
42.5°	1507.2	1550.3	1508.5	1490.8	1502.3	1505.4
45°	1432.2	1480.1	1531.2	1519.2	1547.6	1547.6
47.5°	1390.4	1461.9	1529.4	1529.4	1571.6	1586.2
50°	1342.5	1447.3	1505.4	1526.3	1559.6	1547.6
52.5°	1339.4	1421.5	1471.2	1508.5	1523.6	1509.9
55°	1343.8	1400.7	1436.6	1478.8	1496.5	1497.9
57.5°	1350.0	1388.7	1412.6	1432.2	1485.9	1485.9
60°	1364.7	1378.5	1391.8	1402.4	1472.6	1473.9
62.5°	1388.7	1367.8	1364.7	1375.3	1465.0	1459.3
65°	1426.4	1352.7	1330.5	1340.7	1457.5	1439.7
67.5°	1477.0	1330.5	1287.0	1294.6	1451.7	1412.6
70°	1523.6	1294.6	1233.3	1225.7	1394.9	1326.1
72.5°	1528.1	1252.8	1158.3	1136.1	1212.4	1146.3
75°	1453.0	1224.0	1076.1	1010.0	1001.1	992.2
77.5°	1309.6	1207.5	980.2	876.8	859.0	864.8
80°	1095.7	1146.3	864.8	742.3	839.5	829.3
82.5°	818.6	1011.8	734.7	657.0	655.3	579.4
85°	455.0	788.9	598.4	492.3	342.7	332.1
87.5°	127.4	438.6	419.1	278.4	190.0	197.6
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)