

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: P301612

Luminaire Tested: **GLNA-AF-09-LED-E1-T2R-7050**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P301612
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-7050
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(9) 70 CRI, 5000K CCT 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND Type II
Roadway OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 55241.5 lumens
Efficiency: N/A
Efficacy: 110.3 lumens/watt
Luminous Opening: Rectangular (W 2.5' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B4 - U0 - G5

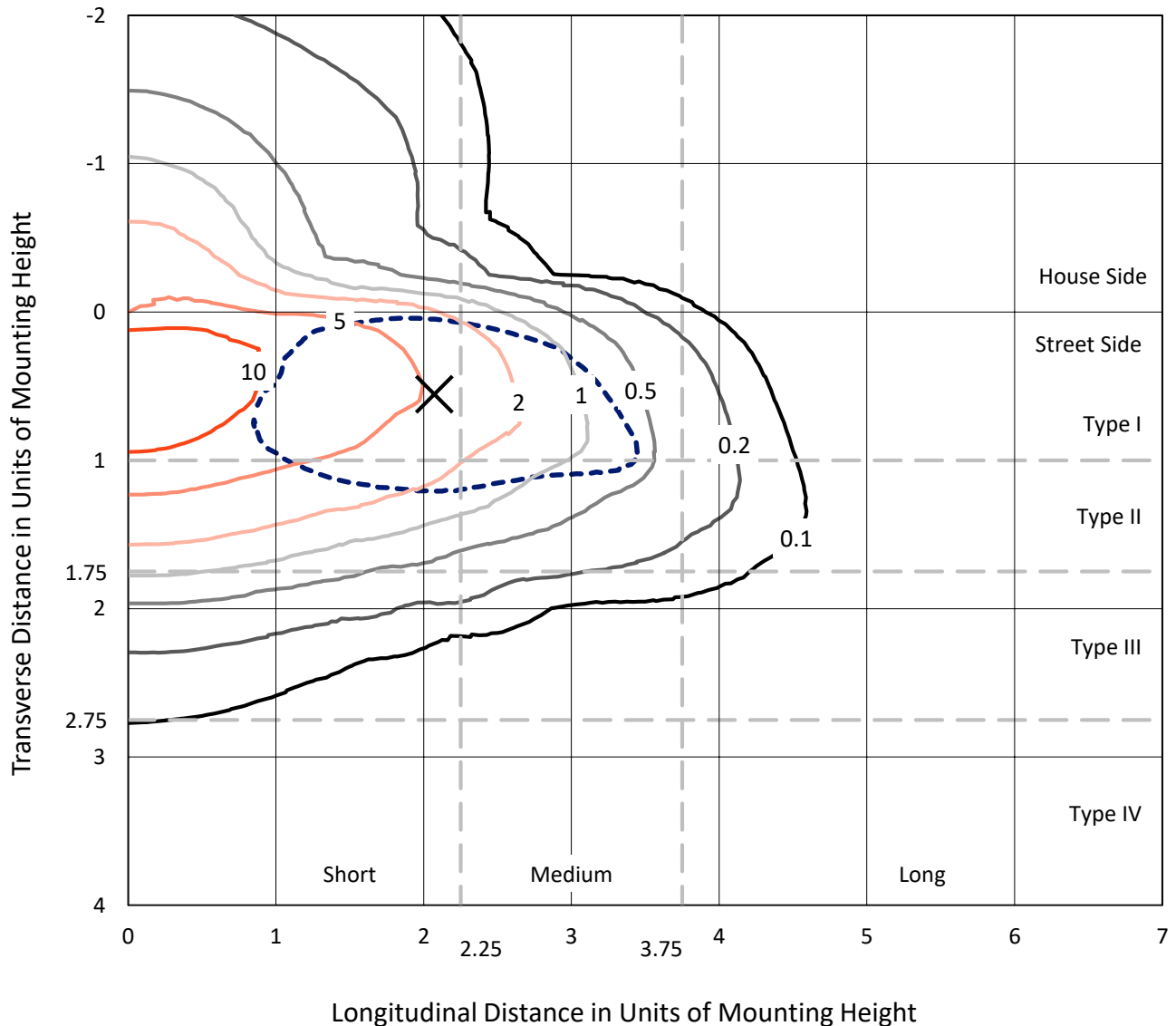
Input Watts (W): 501
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

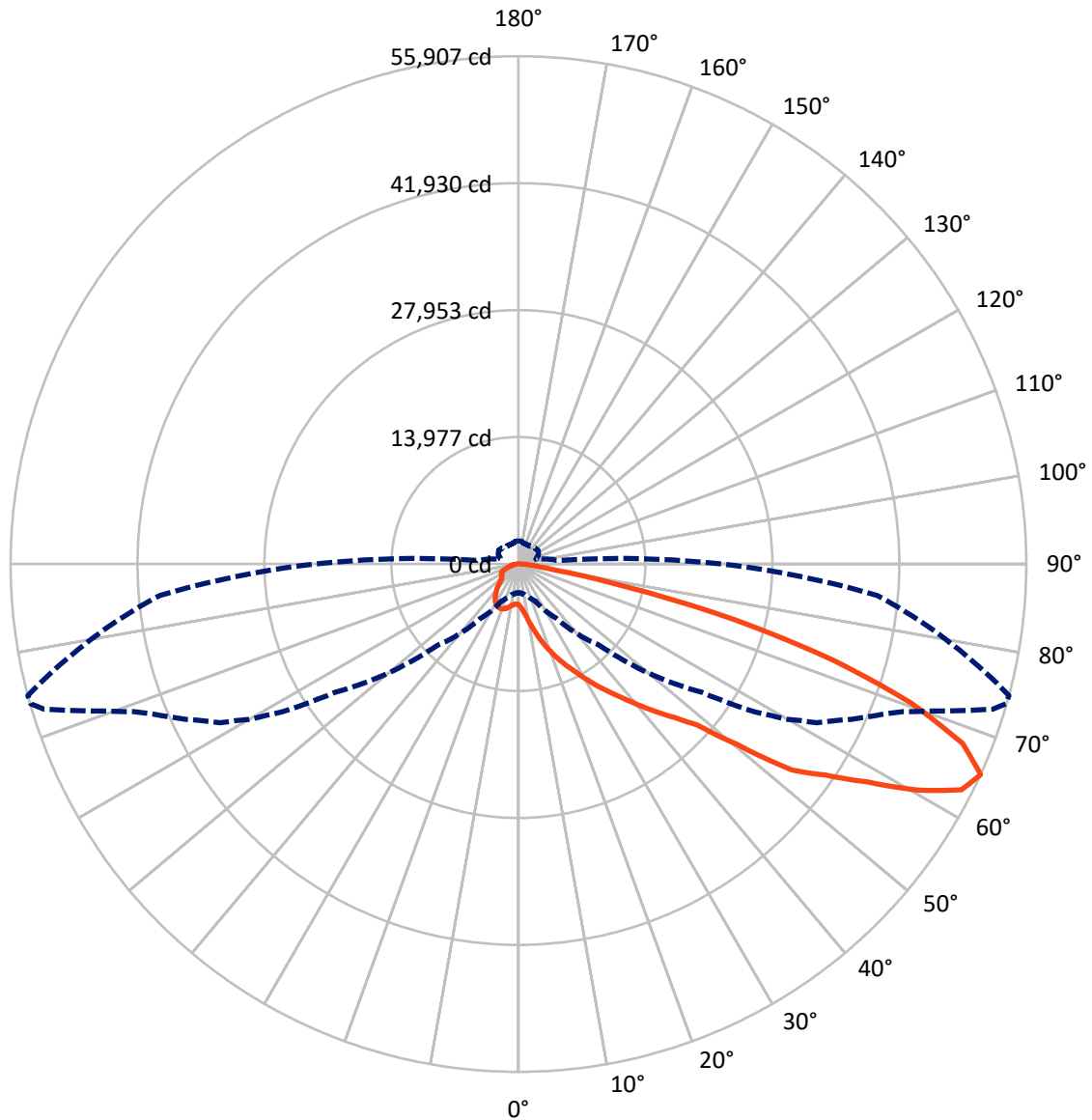
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 15.5 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	8516.9	0.0	8516.9
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	46724.5	0.0	46724.5
	% Fixture	84.6	0.0	84.6
Total	Lumens	55241.5	0.0	55241.5
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	554.9	1.0
10°-20°	2168.2	3.9
20°-30°	4448.3	8.1
30°-40°	7484.1	13.5
40°-50°	10340.9	18.7
50°-60°	12908.5	23.4
60°-70°	11616.3	21.0
70°-80°	4869.5	8.8
80°-90°	850.7	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°	55241.5	100.0
0°-180°	55241.5	100.0



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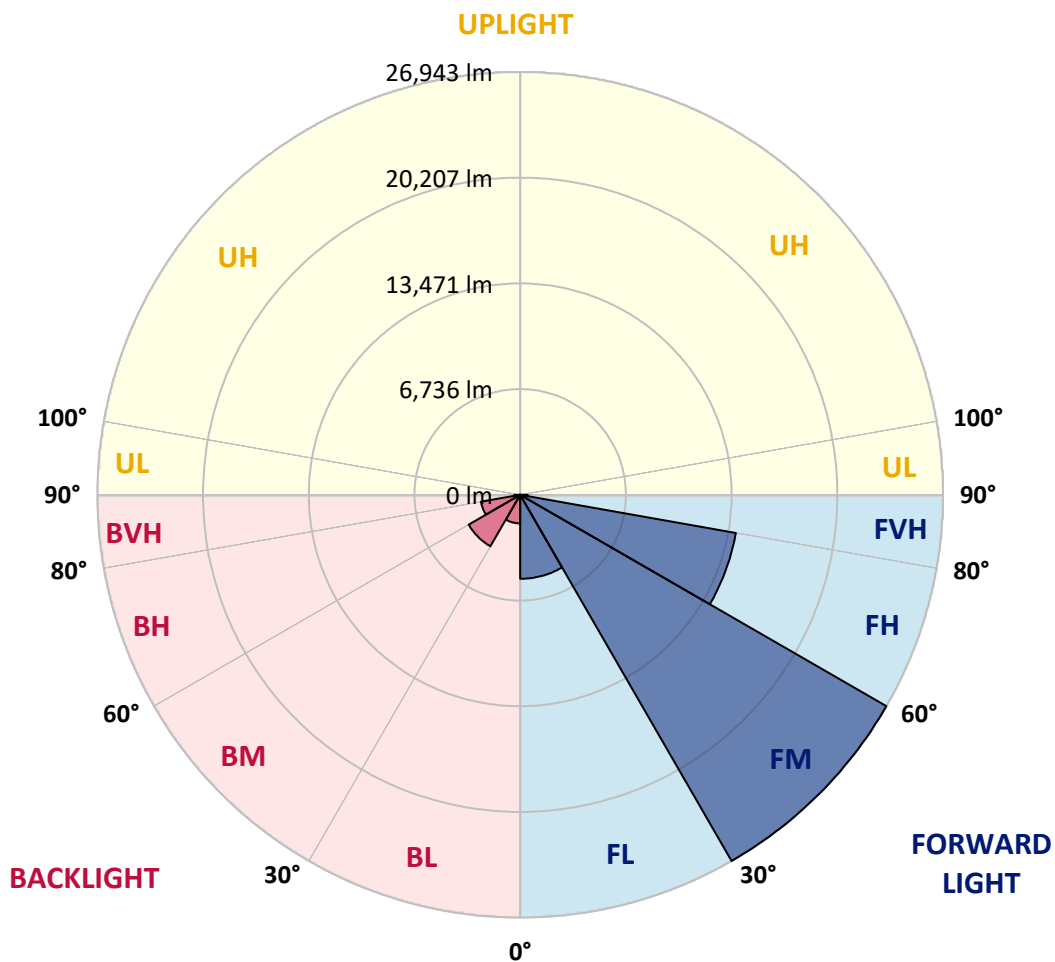
CATALOG NUMBER: GLNA-AF-09-LED-E1-T2R-7050

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	5350.0	9.7			
FM	(30°-60°)	26942.6	48.8			
FH	(60°-80°)	13953.8	25.3			G5
FVH	(80°-90°)	478.2	0.9			G3/500
BL	(0°-30°)	1821.4	3.3	B3/2500		
BM	(30°-60°)	3791.0	6.9	B3/5000		
BH	(60°-80°)	2532.0	4.6	B4/5000		G4/5000
BVH	(80°-90°)	372.5	0.7			G3/500
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B4-U0-G5

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4
2.5°	5700.2	5637.4	5652.9	5548.2	5420.2	5252.7	5067.3	5065.0	5067.3	5048.7	4981.2
5°	7903.8	7828.6	7799.9	7564.1	7218.9	6727.9	6194.3	6136.9	6112.9	6053.1	5914.3
7.5°	9512.5	9470.6	9425.6	9248.0	8934.6	8385.5	7668.8	7546.2	7428.3	7399.6	7243.0
10°	10550.3	10539.5	10445.6	10398.3	10202.8	9726.6	9028.5	8910.6	8782.6	8738.4	8573.2
12.5°	11370.9	11368.6	11324.4	11337.6	11167.0	10822.6	10220.7	10113.6	10019.8	9883.3	9766.1
15°	11938.7	11941.0	12007.0	12079.9	12053.5	11820.8	11256.2	11208.8	11128.2	11034.3	10895.5
17.5°	12404.1	12417.3	12484.8	12618.2	12762.5	12743.8	12297.1	12257.5	12186.9	12058.9	11986.0
20°	13455.1	13504.7	13374.4	13374.4	13390.0	13460.5	13245.7	13214.7	13115.4	13047.1	12989.7
22.5°	15230.6	15288.0	14992.4	14692.3	14396.7	14181.9	13967.8	14006.6	13939.1	13891.8	13857.7
25°	17536.5	17581.5	17103.0	16595.7	15993.8	15209.6	14679.1	14655.0	14618.6	14589.9	14574.4
27.5°	19706.8	19725.4	19273.2	18530.1	17832.1	16705.1	15400.4	15371.7	15327.5	15272.4	15225.1
30°	21563.7	21558.3	21092.9	20383.9	19636.2	18389.0	16496.4	16407.2	16276.1	16127.2	16012.4
32.5°	23171.6	23163.8	22653.5	21918.9	21134.8	20057.4	17997.3	17814.2	17610.2	17319.4	17144.8
35°	24436.7	24432.0	23950.4	23184.8	22285.0	21628.8	19717.7	19492.7	19233.7	18844.3	18575.1
37.5°	24915.3	24915.3	24646.1	24123.3	23328.3	22878.4	21628.8	21356.6	21079.7	20637.6	20334.3
40°	24635.2	24640.7	24698.1	24601.9	24214.8	23869.7	23412.1	23249.9	23011.8	22614.7	22298.2
42.5°	23696.7	23725.4	24107.8	24575.5	24768.7	24714.4	24993.6	24920.7	24753.1	24447.5	24196.2
45°	22506.9	22596.1	23014.1	23898.4	24923.0	25443.5	26319.2	26326.9	26295.9	26131.5	25937.6
47.5°	20873.4	20998.2	21550.5	22745.0	24562.3	26152.4	27665.7	27736.3	27802.2	27695.2	27606.0
50°	18703.1	18852.0	19678.1	21262.7	23827.8	26886.9	30209.8	30529.4	30827.2	30790.8	30850.5
52.5°	16378.5	16553.8	17565.2	19330.6	22565.0	27056.8	31836.3	32356.8	32877.2	33303.1	33755.3
55°	14281.2	14187.3	15199.5	17058.0	20488.6	26290.5	33298.4	33925.9	34506.1	35028.9	35568.0
57.5°	11439.2	11593.6	12608.1	14446.4	17740.5	24128.0	34304.4	35222.8	36056.6	36922.2	37685.5
60°	8361.4	8515.8	9616.4	11483.4	14757.4	20849.3	33535.8	34927.3	36262.9	37588.5	38624.0
62.5°	5048.7	5164.2	6133.8	7912.3	11379.5	16961.8	30110.5	31935.6	33901.9	35486.5	37073.5
65°	3142.9	3208.1	3566.4	4544.5	7308.1	12663.2	24601.9	26591.4	28708.9	30720.2	32370.0
67.5°	2572.8	2596.1	2662.0	2870.7	4013.2	8257.5	18310.6	20072.9	21984.1	23929.4	25765.4
70°	2313.7	2298.2	2298.2	2311.4	2572.8	4439.8	11988.4	13136.3	14728.7	16420.4	18098.9
72.5°	2088.8	2073.3	2044.6	2005.8	2099.7	2708.6	6196.6	7062.2	8210.2	9713.4	11321.3
75°	1877.1	1856.1	1822.8	1773.1	1838.3	2044.6	2975.4	3339.1	3898.4	4698.9	5595.5
77.5°	1657.6	1631.2	1600.2	1563.7	1647.5	1590.1	1743.6	1874.7	2088.8	2345.5	2683.0
80°	1409.3	1386.1	1375.2	1357.4	1456.7	1210.8	1231.7	1312.4	1438.0	1576.9	1733.6
82.5°	1103.7	1103.7	1144.9	1153.4	1262.7	871.0	920.7	991.3	1056.4	1129.3	1203.0
85°	726.8	732.2	873.4	928.4	995.9	585.6	690.3	713.6	766.3	808.2	839.2
87.5°	227.3	245.9	533.6	591.0	572.4	332.0	423.5	434.4	470.8	499.5	525.9
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°	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4
2.5°	4981.2	4949.4	4920.7	4918.4	4897.4	4868.7	4878.8	4834.6	4836.9	4813.6	4787.3
5°	5856.9	5835.9	5731.2	5702.5	5624.2	5574.6	5566.8	5462.1	5448.9	5389.2	5323.2
7.5°	7117.3	7049.1	6902.5	6831.9	6698.5	6599.2	6552.6	6413.8	6345.5	6188.9	6118.3
10°	8437.5	8351.4	8170.6	8071.4	7943.4	7783.6	7697.5	7496.6	7417.5	7274.0	7101.8
12.5°	9661.4	9575.3	9389.2	9313.2	9143.3	8973.4	8879.6	8652.3	8549.9	8319.6	8183.8
15°	10793.1	10707.0	10544.9	10466.5	10296.7	10157.8	10032.2	9808.0	9687.8	9472.9	9295.3
17.5°	11891.4	11799.9	11658.7	11588.1	11423.7	11282.5	11146.8	10934.3	10811.7	10597.6	10437.8
20°	12911.4	12843.1	12741.5	12646.9	12482.4	12354.5	12192.4	12009.3	11831.7	11674.2	11523.0
22.5°	13800.3	13773.9	13664.5	13622.6	13481.5	13371.3	13230.2	13050.2	12921.5	12722.9	12581.7
25°	14566.6	14558.8	14506.1	14492.9	14393.6	14288.9	14257.9	14109.0	13991.1	13815.8	13670.0
27.5°	15225.1	15232.9	15220.5	15256.9	15230.6	15183.2	15186.3	15136.7	15068.4	14921.8	14793.9
30°	15957.3	15915.4	15939.5	15991.5	16007.0	16012.4	16098.5	16127.2	16122.5	16025.6	15962.8
32.5°	16992.8	16893.5	16802.0	16794.3	16846.2	16867.2	17013.8	17089.8	17154.9	17178.2	17189.1
35°	18313.0	18114.4	17923.6	17822.0	17732.8	17756.1	17860.8	17984.1	18127.6	18226.9	18344.8
37.5°	19975.9	19733.2	19395.8	19155.3	19094.8	18964.5	19032.0	19128.9	19270.1	19424.5	19628.5
40°	21991.8	21623.4	21244.1	20925.3	20753.1	20511.9	20509.6	20491.0	20577.8	20721.3	21009.1
42.5°	23932.5	23605.2	23202.6	22868.3	22643.4	22321.5	22256.3	22086.5	22125.3	22250.9	22530.9
45°	25749.1	25479.9	25234.0	24847.8	24656.2	24308.7	24198.6	23997.7	23885.2	23942.6	24222.6
47.5°	27509.0	27336.8	27080.1	26829.5	26682.9	26371.9	26230.7	26086.5	25943.0	25937.6	26230.7
50°	30939.7	30848.2	30544.9	30283.5	30354.1	29972.5	29995.7	29608.7	29784.0	29804.9	30419.2
52.5°	34163.3	34482.8	34707.8	34981.6	35160.0	35194.1	35311.2	35486.5	35698.3	36116.3	36686.4
55°	36009.3	36409.5	36642.2	36851.6	37196.8	37269.7	37466.0	37698.6	37884.0	38354.8	38838.8
57.5°	38203.6	38945.9	39306.6	39638.5	40103.9	40281.5	40608.9	40862.5	41103.0	41659.9	42245.5
60°	39554.8	40459.9	41194.5	41719.6	42302.9	42721.7	43215.8	43612.9	44177.6	44844.7	45718.0
62.5°	38480.5	39808.4	40784.2	41686.2	42478.2	43278.6	43986.8	44729.9	45587.0	46596.1	47951.1
65°	34200.5	35551.7	37222.4	38158.6	39207.3	40441.3	41518.7	42721.7	43889.8	45359.7	47362.4
67.5°	27533.1	29103.7	30981.6	31925.5	33130.9	34508.4	35716.9	37185.9	38551.1	40331.2	42807.8
70°	19845.6	21877.1	23456.3	24442.1	25849.1	27268.6	28435.1	30144.6	31274.0	33099.1	35659.5
72.5°	12566.2	14168.7	16103.9	17345.7	18595.3	20034.1	21226.3	22700.8	23754.1	25417.1	27736.3
75°	6756.6	7937.9	9637.4	10817.1	12155.9	13384.5	14780.7	15768.9	16548.4	17863.9	19746.4
77.5°	3166.2	3885.2	4745.4	5652.9	6560.4	7506.7	8427.4	9227.1	9562.1	10315.3	11426.0
80°	1922.0	2154.7	2405.3	2685.3	3064.6	3370.2	3775.8	4068.3	4089.2	4327.3	4667.1
82.5°	1283.7	1369.8	1445.8	1516.4	1613.3	1689.4	1775.5	1877.1	1918.9	1974.0	2084.2
85°	875.7	917.6	933.1	978.1	967.2	993.6	1027.7	1061.9	1079.7	1077.4	1127.0
87.5°	538.3	559.2	570.1	580.2	572.4	562.3	577.9	596.5	601.1	585.6	591.0
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):

	71°	72°	73°	74°	75°	85°	90°	95°	105°	115°	125°
0°	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4
2.5°	4792.7	4769.4	4745.4	4729.9	4724.5	4586.4	4525.9	4487.1	4403.3	4335.1	4280.0
5°	5286.8	5237.2	5198.4	5151.1	5124.7	4774.1	4646.1	4557.7	4411.1	4325.0	4245.9
7.5°	6081.8	5943.0	5862.3	5770.8	5692.5	5059.5	4847.8	4708.9	4504.9	4390.1	4300.9
10°	6983.9	6840.4	6711.7	6570.5	6447.9	5438.8	5130.1	4915.3	4646.1	4497.2	4379.3
12.5°	7990.7	7849.5	7687.4	7506.7	7350.0	5919.7	5490.8	5185.2	4816.0	4617.4	4453.0
15°	9180.5	8931.5	8735.3	8526.7	8343.6	6495.2	5912.0	5488.5	4996.7	4727.6	4508.0
17.5°	10285.8	10024.4	9758.4	9575.3	9363.6	7140.6	6335.5	5796.4	5145.6	4798.1	4518.1
20°	11366.3	11080.9	10851.3	10605.4	10382.8	7810.0	6787.7	6068.6	5242.6	4800.5	4453.0
22.5°	12318.0	12139.6	11883.6	11616.8	11391.9	8479.3	7211.2	6299.0	5279.0	4740.7	4337.4
25°	13400.0	13212.3	12898.2	12673.3	12422.7	9161.9	7626.9	6476.6	5258.1	4628.3	4159.8
27.5°	14555.7	14347.1	14025.2	13790.2	13486.9	9870.1	8008.5	6604.6	5179.8	4445.2	3921.7
30°	15761.1	15570.3	15253.8	15016.5	14710.1	10620.9	8435.1	6690.7	5023.1	4191.6	3644.8
32.5°	17055.6	16895.9	16582.5	16334.3	16007.0	11433.8	8832.3	6717.1	4785.0	3890.6	3352.3
35°	18284.3	18174.9	17910.4	17677.7	17338.0	12202.4	9253.4	6703.9	4502.6	3561.0	3085.5
37.5°	19668.0	19602.1	19471.8	19176.3	18760.5	13245.7	9758.4	6648.8	4157.5	3234.4	2881.5
40°	21142.5	21147.9	21006.8	20805.1	20418.1	14511.5	10359.5	6541.8	3780.5	2946.7	2695.4
42.5°	22703.1	22784.6	22716.3	22572.8	22201.3	15787.5	11078.5	6411.5	3415.2	2666.7	2513.1
45°	24491.8	24591.0	24695.7	24484.0	24123.3	17471.4	12024.8	6241.6	3019.6	2434.0	2387.4
47.5°	26555.0	26711.6	26805.5	26808.6	26447.9	19557.9	13562.1	6139.2	2669.8	2277.3	2326.9
50°	30907.9	30958.3	31180.1	31567.2	31290.3	24387.0	16247.4	6076.4	2431.6	2180.3	2282.7
52.5°	37180.5	37727.3	38112.1	38085.7	37708.7	27453.9	17727.4	5752.2	2290.5	2143.9	2261.8
55°	39735.5	40418.1	41129.3	41317.0	41024.6	30071.7	19126.6	5428.0	2222.2	2170.3	2269.5
57.5°	43139.8	44290.1	45265.8	45676.2	45252.7	33421.0	20967.2	5258.1	2201.3	2240.8	2319.2
60°	47116.5	48539.1	49820.4	50557.3	50557.3	37269.7	22876.1	5187.5	2172.6	2345.5	2402.9
62.5°	49671.5	51760.3	53695.5	54775.2	54743.4	39949.6	23723.1	4947.1	2107.4	2418.5	2517.7
65°	49681.6	52166.0	54631.0	55844.9	55906.9	39620.7	22324.6	4369.2	1987.2	2429.3	2633.3
67.5°	45540.4	48188.5	51062.2	52419.6	52733.0	36472.4	19325.2	3592.8	1791.0	2324.6	2675.2
70°	38461.9	41047.9	43981.4	45315.5	45872.4	31090.9	15564.9	2769.1	1540.4	2094.2	2588.3
72.5°	30301.3	32837.7	34880.0	35854.9	36289.3	23765.0	11334.5	2091.9	1262.7	1764.6	2355.6
75°	21453.6	23357.0	24442.1	24659.3	24726.8	14326.2	6886.9	1555.9	1040.9	1372.9	1989.5
77.5°	12108.6	12924.6	12835.4	12932.3	12127.2	5530.3	2999.4	1113.8	857.9	1043.2	1542.8
80°	4727.6	4874.2	4578.6	4487.1	4115.6	2057.8	1323.2	776.4	684.9	789.6	1079.7
82.5°	2084.2	2151.6	2088.8	2105.1	2013.6	1061.9	791.9	562.3	522.8	577.9	716.7
85°	1148.0	1168.9	1163.5	1197.6	1148.0	423.5	376.2	345.2	366.1	392.5	460.0
87.5°	559.2	564.7	546.8	575.5	556.9	214.1	185.4	196.2	214.1	219.5	219.5
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°	4489.4	4489.4	4489.4	4489.4	4489.4	4489.4
2.5°	4241.2	4220.3	4222.6	4217.2	4207.1	4207.1
5°	4204.8	4183.8	4183.8	4178.4	4165.2	4167.5
7.5°	4241.2	4207.1	4193.9	4175.3	4157.5	4157.5
10°	4283.1	4222.6	4186.2	4155.1	4131.1	4131.1
12.5°	4314.1	4220.3	4159.8	4117.9	4094.6	4094.6
15°	4325.0	4201.7	4117.9	4068.3	4047.3	4045.0
17.5°	4290.9	4131.1	4029.5	3972.1	3945.7	3937.9
20°	4186.2	4003.1	3880.5	3814.6	3778.2	3765.0
22.5°	4029.5	3820.0	3676.6	3608.3	3561.0	3553.2
25°	3810.0	3585.0	3443.9	3377.9	3352.3	3343.8
27.5°	3553.2	3343.8	3223.6	3181.7	3158.4	3156.1
30°	3310.5	3132.1	3043.6	3011.8	2983.1	2978.5
32.5°	3082.4	2969.9	2936.6	2891.6	2824.1	2816.4
35°	2920.3	2910.2	2886.9	2786.9	2703.9	2679.9
37.5°	2821.0	2918.0	2797.7	2601.5	2541.8	2536.4
40°	2763.6	2837.3	2630.2	2562.7	2567.4	2562.7
42.5°	2633.3	2708.6	2635.6	2604.6	2624.8	2630.2
45°	2502.2	2586.0	2675.2	2654.3	2703.9	2703.9
47.5°	2429.3	2554.2	2672.1	2672.1	2745.8	2771.4
50°	2345.5	2528.6	2630.2	2666.7	2724.8	2703.9
52.5°	2340.1	2483.6	2570.5	2635.6	2662.0	2638.0
55°	2347.9	2447.2	2510.0	2583.7	2614.7	2617.0
57.5°	2358.7	2426.2	2468.1	2502.2	2596.1	2596.1
60°	2384.3	2408.4	2431.6	2450.3	2572.8	2575.1
62.5°	2426.2	2389.8	2384.3	2402.9	2559.6	2549.5
65°	2492.1	2363.4	2324.6	2342.4	2546.4	2515.4
67.5°	2580.6	2324.6	2248.6	2261.8	2536.4	2468.1
70°	2662.0	2261.8	2154.7	2141.6	2437.1	2316.9
72.5°	2669.8	2188.9	2023.7	1984.9	2118.3	2002.7
75°	2538.7	2138.5	1880.2	1764.6	1749.1	1733.6
77.5°	2288.2	2109.8	1712.6	1531.9	1500.9	1511.0
80°	1914.3	2002.7	1511.0	1296.9	1466.7	1448.9
82.5°	1430.3	1767.7	1283.7	1148.0	1144.9	1012.2
85°	795.0	1378.3	1045.6	860.2	598.8	580.2
87.5°	222.6	766.3	732.2	486.3	332.0	345.2
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)