

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: P301600

Luminaire Tested: **GLNA-AF-07-LED-E1-T2R-7050**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P301600  
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-07-LED-E1-T2R-7050  
Description: GALLEONAIRE AREA AND ROADWAY LUMINAIRE  
(7) 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: 43706.8 lumens  
Efficiency: N/A  
Efficacy: 111.8 lumens/watt  
Luminous Opening: Rectangular (W 2' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B3 - U0 - G4

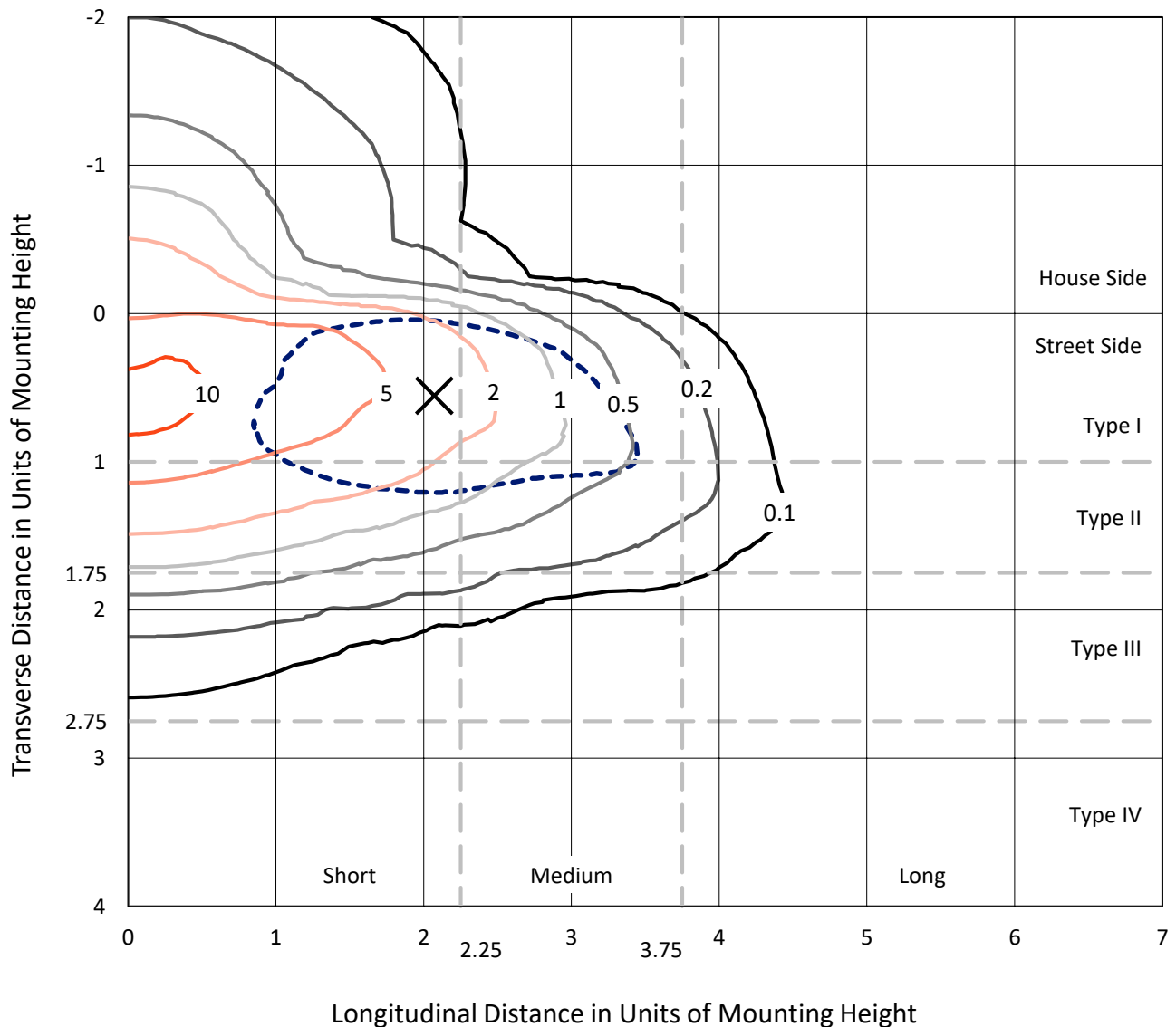
Input Watts (W): 391  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

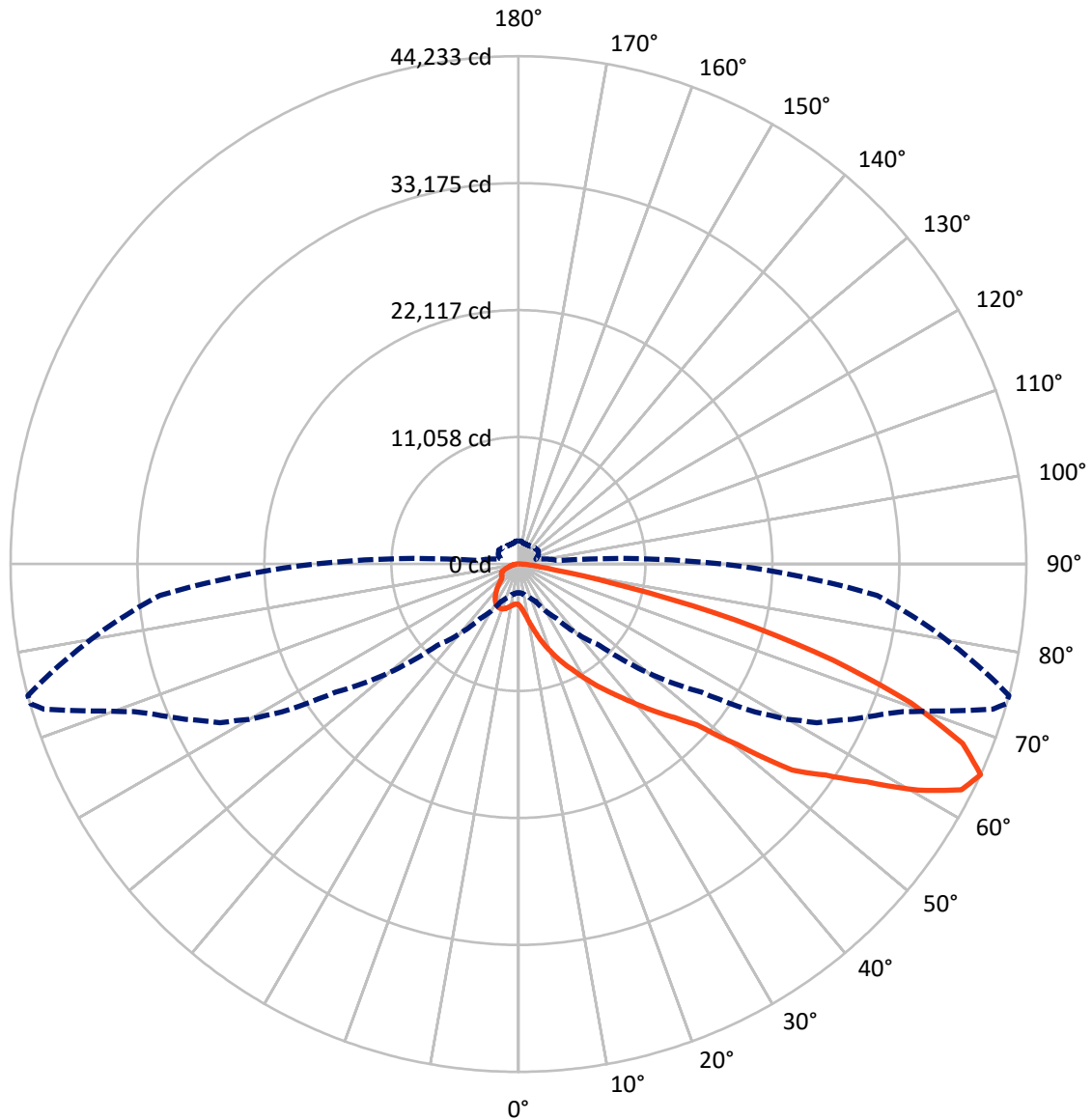
✕ Max cd  
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 12.3 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	6738.6	0.0	6738.6
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	36968.2	0.0	36968.2
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	43706.8	0.0	43706.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	439.0	1.0
10°-20°	1715.4	3.9
20°-30°	3519.5	8.1
30°-40°	5921.4	13.5
40°-50°	8181.7	18.7
50°-60°	10213.2	23.4
60°-70°	9190.8	21.0
70°-80°	3852.7	8.8
80°-90°	673.1	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°	43706.8	100.0
0°-180°	43706.8	100.0



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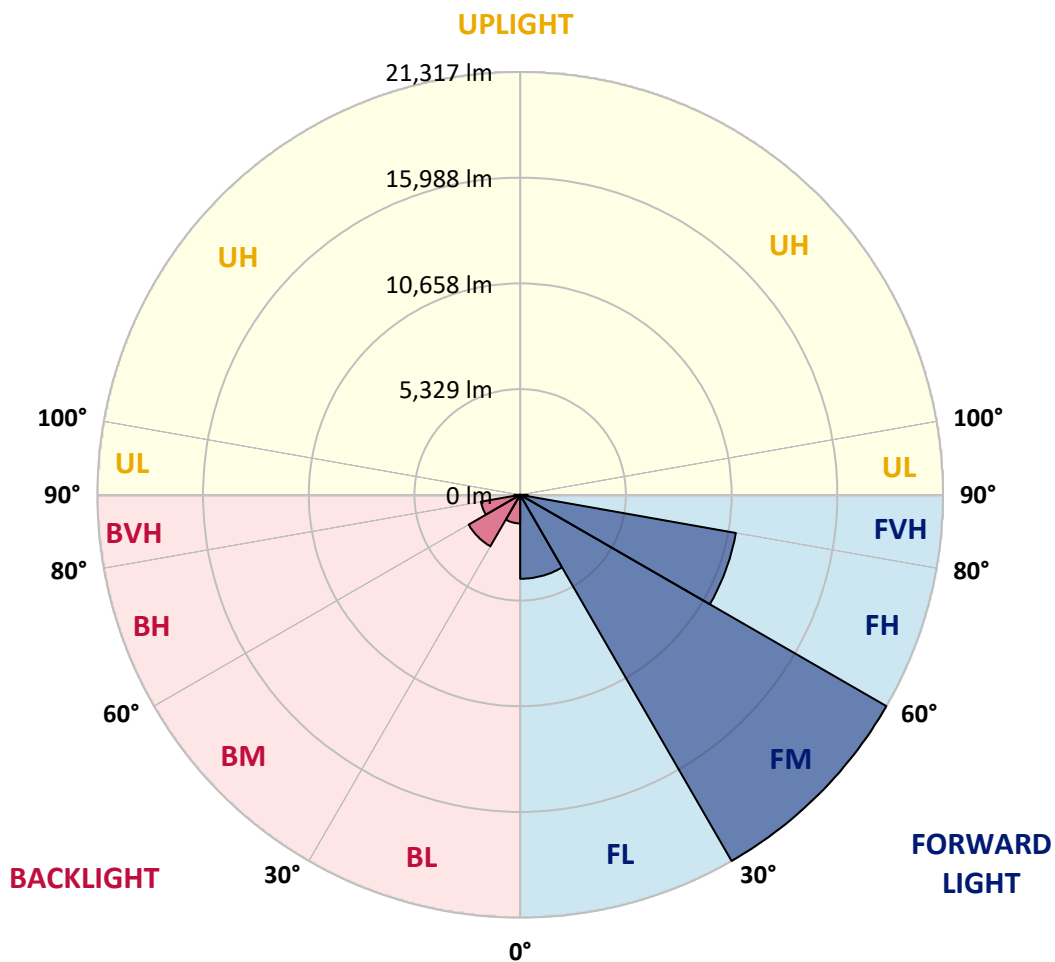
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	4232.9	9.7			
FM	(30°-60°)	21316.8	48.8			
FH	(60°-80°)	11040.2	25.3			G4/12000
FVH	(80°-90°)	378.3	0.9			G3/500
BL	(0°-30°)	1441.1	3.3	B3/2500		
BM	(30°-60°)	2999.4	6.9	B3/5000		
BH	(60°-80°)	2003.3	4.6	B3/2500		G3/2500
BVH	(80°-90°)	294.8	0.7			G3/500
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°	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0
2.5°	4510.0	4460.3	4472.5	4389.7	4288.4	4155.9	4009.2	4007.4	4009.2	3994.5	3941.1
5°	6253.5	6193.9	6171.2	5984.7	5711.6	5323.1	4900.9	4855.5	4836.5	4789.2	4679.4
7.5°	7526.2	7493.1	7457.5	7317.0	7069.1	6634.6	6067.5	5970.6	5877.3	5854.6	5730.6
10°	8347.4	8338.8	8264.5	8227.1	8072.4	7695.6	7143.3	7050.0	6948.8	6913.8	6783.1
12.5°	8996.6	8994.8	8959.8	8970.3	8835.2	8562.8	8086.5	8001.9	7927.6	7819.6	7726.9
15°	9445.9	9447.7	9499.9	9557.5	9536.7	9352.6	8905.8	8868.4	8804.6	8730.3	8620.4
17.5°	9814.1	9824.5	9877.9	9983.4	10097.6	10082.9	9729.4	9698.1	9642.2	9541.0	9483.3
20°	10645.6	10684.9	10581.8	10581.8	10594.1	10649.9	10479.9	10455.4	10376.8	10322.8	10277.4
22.5°	12050.3	12095.8	11861.9	11624.4	11390.6	11220.6	11051.3	11081.9	11028.6	10991.1	10964.1
25°	13874.8	13910.4	13531.8	13130.4	12654.2	12033.8	11614.0	11595.0	11566.1	11543.4	11531.2
27.5°	15591.9	15606.7	15248.9	14661.0	14108.6	13217.0	12184.7	12162.0	12127.1	12083.5	12046.0
30°	17061.1	17056.8	16688.6	16127.7	15536.1	14549.3	13051.9	12981.3	12877.6	12759.8	12668.9
32.5°	18333.3	18327.1	17923.3	17342.2	16721.7	15869.3	14239.4	14094.5	13933.1	13703.0	13564.9
35°	19334.2	19330.5	18949.4	18343.7	17631.8	17112.6	15600.5	15422.5	15217.6	14909.5	14696.6
37.5°	19712.8	19712.8	19499.9	19086.3	18457.2	18101.3	17112.6	16897.2	16678.1	16328.3	16088.4
40°	19491.3	19495.6	19541.0	19464.9	19158.7	18885.6	18523.5	18395.2	18206.8	17892.6	17642.2
42.5°	18748.7	18771.4	19074.0	19444.0	19596.8	19553.9	19774.8	19717.1	19584.6	19342.8	19143.9
45°	17807.3	17877.9	18208.7	18908.3	19719.0	20130.7	20823.6	20829.7	20805.2	20675.1	20521.7
47.5°	16514.9	16613.7	17050.7	17995.7	19433.6	20691.7	21889.0	21944.8	21997.0	21912.3	21841.7
50°	14797.8	14915.6	15569.2	16823.0	18852.4	21272.8	23901.8	24154.7	24390.3	24361.5	24408.8
52.5°	12958.6	13097.3	13897.5	15294.3	17853.4	21407.2	25188.7	25600.5	26012.3	26349.2	26707.0
55°	11299.2	11224.9	12025.8	13496.2	16210.5	20800.9	26345.5	26842.0	27301.1	27714.7	28141.2
57.5°	9050.6	9172.8	9975.5	11429.9	14036.2	19089.9	27141.5	27868.1	28527.8	29212.7	29816.6
60°	6615.5	6737.7	7608.5	9085.6	11676.0	16495.9	26533.3	27634.3	28691.1	29739.8	30559.1
62.5°	3994.5	4085.9	4853.0	6260.2	9003.4	13420.1	23823.3	25267.3	26823.0	28076.8	29332.4
65°	2486.7	2538.2	2821.7	3595.6	5782.2	10019.0	19464.9	21039.0	22714.4	24305.7	25611.0
67.5°	2035.6	2054.0	2106.2	2271.3	3175.2	6533.3	14487.3	15881.6	17393.7	18932.8	20385.4
70°	1830.6	1818.4	1818.4	1828.8	2035.6	3512.7	9485.1	10393.4	11653.3	12991.7	14319.8
72.5°	1652.7	1640.4	1617.7	1587.0	1661.2	2143.0	4902.7	5587.6	6495.9	7685.2	8957.4
75°	1485.1	1468.6	1442.2	1402.9	1454.4	1617.7	2354.1	2641.9	3084.4	3717.7	4427.1
77.5°	1311.4	1290.6	1266.0	1237.2	1303.5	1258.1	1379.6	1483.3	1652.7	1855.8	2122.7
80°	1115.1	1096.7	1088.1	1074.0	1152.5	958.0	974.5	1038.4	1137.8	1247.6	1371.6
82.5°	873.3	873.3	905.8	912.6	999.1	689.2	728.4	784.3	835.8	893.5	951.8
85°	575.0	579.3	691.0	734.6	788.0	463.3	546.2	564.6	606.3	639.5	664.0
87.5°	179.8	194.5	422.2	467.6	452.9	262.7	335.1	343.7	372.5	395.2	416.1
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°	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0
2.5°	3941.1	3915.9	3893.2	3891.4	3874.8	3852.1	3860.1	3825.1	3826.9	3808.5	3787.7
5°	4633.9	4617.4	4534.5	4511.8	4449.8	4410.6	4404.4	4321.6	4311.1	4263.9	4211.7
7.5°	5631.2	5577.2	5461.2	5405.3	5299.8	5221.2	5184.4	5074.6	5020.6	4896.6	4840.8
10°	6675.7	6607.6	6464.6	6386.0	6284.8	6158.3	6090.2	5931.3	5868.7	5755.1	5618.9
12.5°	7644.1	7576.0	7428.7	7368.5	7234.1	7099.7	7025.5	6845.7	6764.7	6582.4	6475.0
15°	8539.4	8471.3	8343.1	8281.1	8146.7	8036.8	7937.4	7760.1	7664.9	7494.9	7354.4
17.5°	9408.4	9336.0	9224.3	9168.5	9038.4	8926.7	8819.3	8651.1	8554.2	8384.8	8258.4
20°	10215.4	10161.4	10081.0	10006.2	9876.1	9774.8	9646.5	9501.7	9361.2	9236.6	9116.9
22.5°	10918.7	10897.8	10811.3	10778.2	10666.5	10579.3	10467.6	10325.3	10223.4	10066.3	9954.6
25°	11525.0	11518.9	11477.2	11466.7	11388.2	11305.3	11280.8	11163.0	11069.7	10931.0	10815.6
27.5°	12046.0	12052.2	12042.4	12071.2	12050.3	12012.9	12015.4	11976.1	11922.1	11806.1	11704.8
30°	12625.4	12592.2	12611.3	12652.4	12664.6	12668.9	12737.1	12759.8	12756.1	12679.4	12629.7
32.5°	13444.6	13366.1	13293.7	13287.5	13328.6	13345.2	13461.2	13521.3	13572.9	13591.3	13599.9
35°	14489.1	14332.0	14181.1	14100.7	14030.1	14048.5	14131.4	14228.9	14342.5	14421.0	14514.3
37.5°	15804.9	15612.8	15345.8	15155.6	15107.7	15004.6	15058.0	15134.7	15246.4	15368.5	15529.9
40°	17399.8	17108.3	16808.2	16556.0	16419.8	16228.9	16227.1	16212.4	16281.1	16394.6	16622.3
42.5°	18935.3	18676.3	18357.8	18093.3	17915.3	17660.7	17609.1	17474.7	17505.4	17604.8	17826.4
45°	20372.5	20159.6	19965.1	19659.4	19507.9	19232.9	19145.8	18986.8	18897.9	18943.3	19164.8
47.5°	21765.0	21628.8	21425.6	21227.4	21111.4	20865.3	20753.6	20639.5	20526.0	20521.7	20753.6
50°	24479.3	24406.9	24167.0	23960.1	24016.0	23714.1	23732.5	23426.2	23564.9	23581.5	24067.5
52.5°	27029.8	27282.6	27460.6	27677.2	27818.4	27845.4	27938.1	28076.8	28244.3	28575.1	29026.1
55°	28490.4	28807.0	28991.1	29156.8	29429.9	29487.6	29642.9	29827.0	29973.7	30346.2	30729.1
57.5°	30226.5	30813.8	31099.2	31361.8	31730.0	31870.6	32129.5	32330.2	32520.5	32961.1	33424.4
60°	31295.5	32011.7	32592.9	33008.3	33469.8	33801.2	34192.1	34506.3	34953.1	35480.9	36171.9
62.5°	30445.6	31496.2	32268.2	32981.9	33608.5	34241.8	34802.1	35390.1	36068.2	36866.6	37938.7
65°	27059.3	28128.3	29450.2	30190.9	31020.6	31997.0	32849.4	33801.2	34725.4	35888.4	37472.9
67.5°	21784.0	23026.7	24512.5	25259.3	26213.0	27302.9	28259.0	29421.3	30501.4	31909.8	33869.3
70°	15701.8	17309.0	18558.5	19338.5	20451.7	21574.8	22497.7	23850.3	24743.8	26187.8	28213.6
72.5°	9942.3	11210.2	12741.4	13723.9	14712.5	15850.9	16794.1	17960.8	18794.1	20109.9	21944.8
75°	5345.8	6280.5	7625.1	8558.5	9617.7	10589.8	11694.4	12476.2	13093.0	14133.8	15623.2
77.5°	2505.1	3074.0	3754.5	4472.5	5190.6	5939.3	6667.7	7300.4	7565.5	8161.4	9040.2
80°	1520.7	1704.8	1903.0	2124.6	2424.7	2666.5	2987.4	3218.8	3235.4	3423.8	3692.5
82.5°	1015.7	1083.8	1143.9	1199.8	1276.5	1336.6	1404.7	1485.1	1518.3	1561.8	1649.0
85°	692.9	726.0	738.3	773.9	765.3	786.1	813.1	840.1	854.3	852.4	891.7
87.5°	425.9	442.5	451.1	459.0	452.9	444.9	457.2	471.9	475.6	463.3	467.6
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):**

	71°	72°	73°	74°	75°	85°	90°	95°	105°	115°	125°
0°	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0
2.5°	3792.0	3773.6	3754.5	3742.3	3738.0	3628.7	3580.9	3550.2	3483.9	3429.9	3386.3
5°	4182.9	4143.6	4112.9	4075.5	4054.6	3777.2	3676.0	3606.0	3490.0	3421.9	3359.3
7.5°	4811.9	4702.1	4638.2	4565.8	4503.8	4003.1	3835.5	3725.7	3564.3	3473.5	3402.9
10°	5525.6	5412.1	5310.2	5198.5	5101.6	4303.2	4058.9	3888.9	3676.0	3558.2	3464.9
12.5°	6322.2	6210.5	6082.2	5939.3	5815.3	4683.7	4344.3	4102.5	3810.4	3653.3	3523.2
15°	7263.6	7066.6	6911.3	6746.3	6601.4	5139.0	4677.5	4342.4	3953.4	3740.4	3566.7
17.5°	8138.1	7931.3	7720.8	7576.0	7408.4	5649.6	5012.6	4586.1	4071.2	3796.3	3574.7
20°	8993.0	8767.1	8585.5	8390.9	8214.8	6179.2	5370.4	4801.5	4147.9	3798.1	3523.2
22.5°	9745.9	9604.8	9402.3	9191.2	9013.2	6708.8	5705.4	4983.7	4176.7	3750.8	3431.7
25°	10602.0	10453.5	10205.0	10027.0	9828.8	7248.9	6034.4	5124.3	4160.2	3661.9	3291.2
27.5°	11516.4	11351.4	11096.7	10910.7	10670.8	7809.2	6336.3	5225.5	4098.2	3517.0	3102.8
30°	12470.1	12319.1	12068.8	11881.0	11638.6	8403.2	6673.8	5293.7	3974.2	3316.4	2883.7
32.5°	13494.3	13367.9	13120.0	12923.6	12664.6	9046.3	6988.0	5314.5	3785.8	3078.2	2652.4
35°	14466.4	14379.9	14170.6	13986.5	13717.7	9654.5	7321.3	5304.1	3562.4	2817.4	2441.2
37.5°	15561.2	15509.1	15406.0	15172.2	14843.2	10479.9	7720.8	5260.5	3289.4	2559.1	2279.8
40°	16727.9	16732.2	16620.5	16460.9	16154.7	11481.5	8196.4	5175.8	2991.1	2331.4	2132.6
42.5°	17962.6	18027.0	17973.0	17859.5	17565.5	12491.0	8765.3	5072.7	2702.1	2109.9	1988.3
45°	19377.8	19456.3	19539.2	19371.6	19086.3	13823.3	9514.0	4938.3	2389.1	1925.7	1888.9
47.5°	21010.2	21134.1	21208.4	21210.8	20925.5	15474.1	10730.3	4857.3	2112.3	1801.8	1841.1
50°	24454.2	24494.1	24669.6	24975.8	24756.7	19294.9	12854.9	4807.6	1923.9	1725.1	1806.1
52.5°	29417.0	29849.7	30154.1	30133.2	29835.0	21721.4	14025.8	4551.1	1812.2	1696.2	1789.5
55°	31438.5	31978.6	32541.3	32689.8	32458.5	23792.6	15132.9	4294.6	1758.2	1717.1	1795.6
57.5°	34132.0	35042.1	35814.1	36138.7	35803.7	26442.5	16589.2	4160.2	1741.6	1772.9	1834.9
60°	37278.4	38403.9	39417.7	40000.7	40000.7	29487.6	18099.4	4104.3	1718.9	1855.8	1901.2
62.5°	39299.8	40952.5	42483.7	43337.9	43312.7	31607.9	18769.6	3914.1	1667.4	1913.5	1992.0
65°	39307.8	41273.5	43223.8	44184.2	44233.3	31347.7	17663.1	3456.9	1572.3	1922.1	2083.5
67.5°	36031.4	38126.5	40400.2	41474.1	41722.1	28856.7	15290.0	2842.6	1417.0	1839.2	2116.6
70°	30430.9	32476.9	34797.8	35853.4	36294.0	24599.0	12314.8	2190.9	1218.8	1657.0	2047.9
72.5°	23974.3	25981.0	27596.9	28368.3	28711.9	18802.7	8967.8	1655.1	999.1	1396.1	1863.8
75°	16973.9	18479.9	19338.5	19510.3	19563.7	11334.8	5448.9	1231.1	823.6	1086.2	1574.1
77.5°	9580.3	10225.9	10155.3	10232.0	9595.0	4375.6	2373.1	881.3	678.7	825.4	1220.6
80°	3740.4	3856.4	3622.6	3550.2	3256.2	1628.1	1046.9	614.3	541.9	624.7	854.3
82.5°	1649.0	1702.4	1652.7	1665.5	1593.1	840.1	626.6	444.9	413.6	457.2	567.0
85°	908.3	924.8	920.5	947.5	908.3	335.1	297.6	273.1	289.7	310.5	363.9
87.5°	442.5	446.8	432.6	455.4	440.6	169.4	146.7	155.3	169.4	173.7	173.7
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°	3552.0	3552.0	3552.0	3552.0	3552.0	3552.0
2.5°	3355.6	3339.1	3340.9	3336.6	3328.6	3328.6
5°	3326.8	3310.2	3310.2	3305.9	3295.5	3297.3
7.5°	3355.6	3328.6	3318.2	3303.5	3289.4	3289.4
10°	3388.8	3340.9	3312.1	3287.5	3268.5	3268.5
12.5°	3413.3	3339.1	3291.2	3258.1	3239.6	3239.6
15°	3421.9	3324.3	3258.1	3218.8	3202.2	3200.4
17.5°	3394.9	3268.5	3188.1	3142.7	3121.8	3115.7
20°	3312.1	3167.2	3070.3	3018.1	2989.3	2978.8
22.5°	3188.1	3022.4	2908.9	2854.9	2817.4	2811.3
25°	3014.4	2836.5	2724.8	2672.6	2652.4	2645.6
27.5°	2811.3	2645.6	2550.5	2517.3	2498.9	2497.1
30°	2619.2	2478.1	2408.1	2382.9	2360.2	2356.6
32.5°	2438.8	2349.8	2323.4	2287.8	2234.4	2228.3
35°	2310.5	2302.6	2284.1	2205.0	2139.3	2120.3
37.5°	2232.0	2308.7	2213.6	2058.3	2011.0	2006.8
40°	2186.6	2244.9	2081.0	2027.6	2031.3	2027.6
42.5°	2083.5	2143.0	2085.3	2060.8	2076.7	2081.0
45°	1979.8	2046.0	2116.6	2100.0	2139.3	2139.3
47.5°	1922.1	2020.9	2114.1	2114.1	2172.4	2192.7
50°	1855.8	2000.6	2081.0	2109.9	2155.9	2139.3
52.5°	1851.5	1965.0	2033.8	2085.3	2106.2	2087.1
55°	1857.6	1936.2	1985.9	2044.2	2068.7	2070.6
57.5°	1866.2	1919.6	1952.7	1979.8	2054.0	2054.0
60°	1886.5	1905.5	1923.9	1938.6	2035.6	2037.4
62.5°	1919.6	1890.8	1886.5	1901.2	2025.2	2017.2
65°	1971.8	1869.9	1839.2	1853.3	2014.7	1990.2
67.5°	2041.7	1839.2	1779.1	1789.5	2006.8	1952.7
70°	2106.2	1789.5	1704.8	1694.4	1928.2	1833.1
72.5°	2112.3	1731.8	1601.1	1570.4	1676.0	1584.5
75°	2008.6	1691.9	1487.6	1396.1	1383.9	1371.6
77.5°	1810.4	1669.2	1355.0	1212.0	1187.5	1195.5
80°	1514.6	1584.5	1195.5	1026.1	1160.5	1146.4
82.5°	1131.6	1398.6	1015.7	908.3	905.8	800.9
85°	629.0	1090.5	827.2	680.6	473.8	459.0
87.5°	176.1	606.3	579.3	384.8	262.7	273.1
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)