

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: P301608

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P301608
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
Description: GALLEONAIRE AREA AND ROADWAY LUMINAIRE
(9) 70 CRI, 2700K CCT 1050mA LIGHTSQUARE WITH 16 LEDS EACH AND Type II
Roadway OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 47995.9 lumens
Efficiency: N/A
Efficacy: 95.8 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 - 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

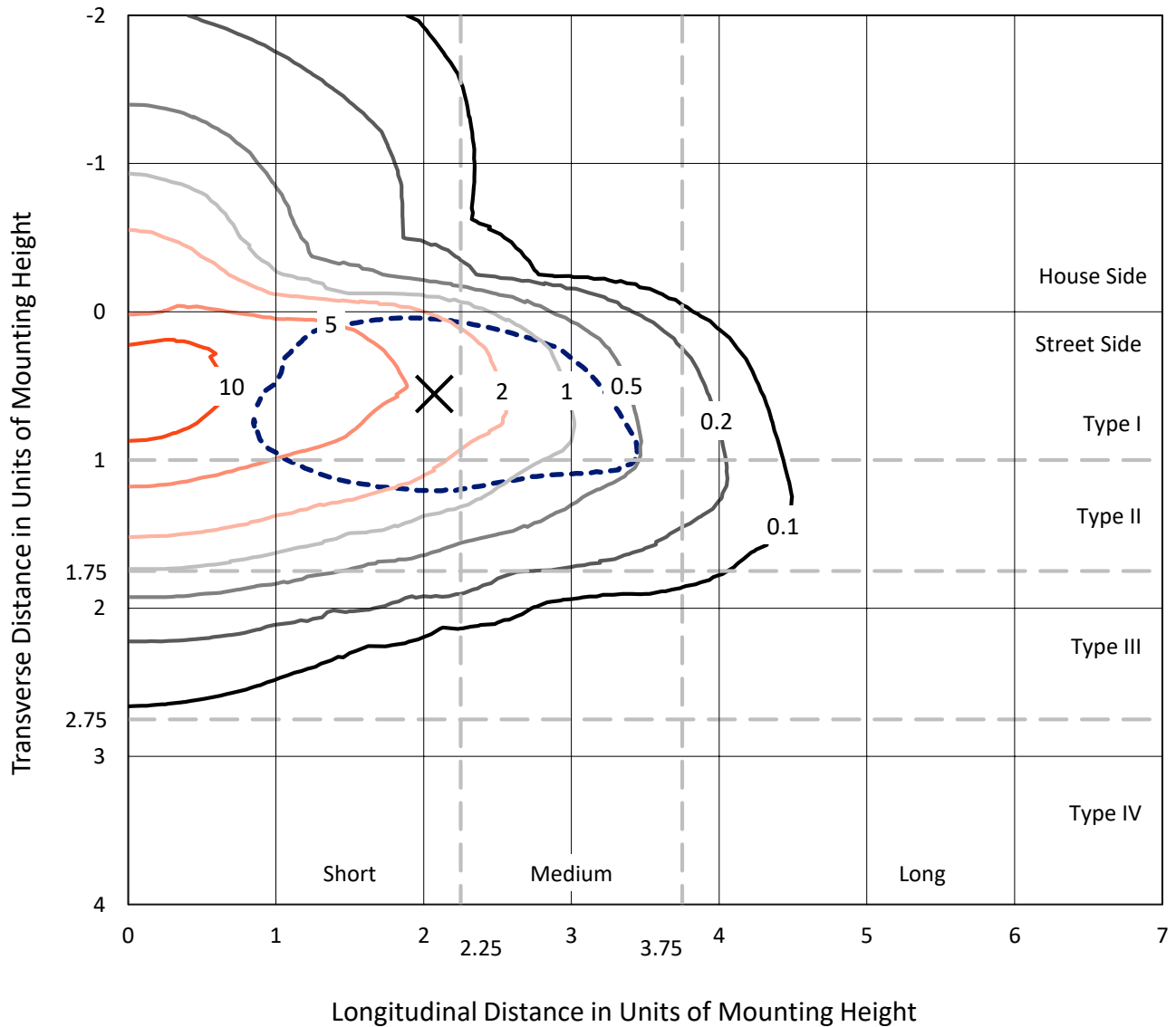


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Iso-Footcandle Lines of Horizontal Illumination

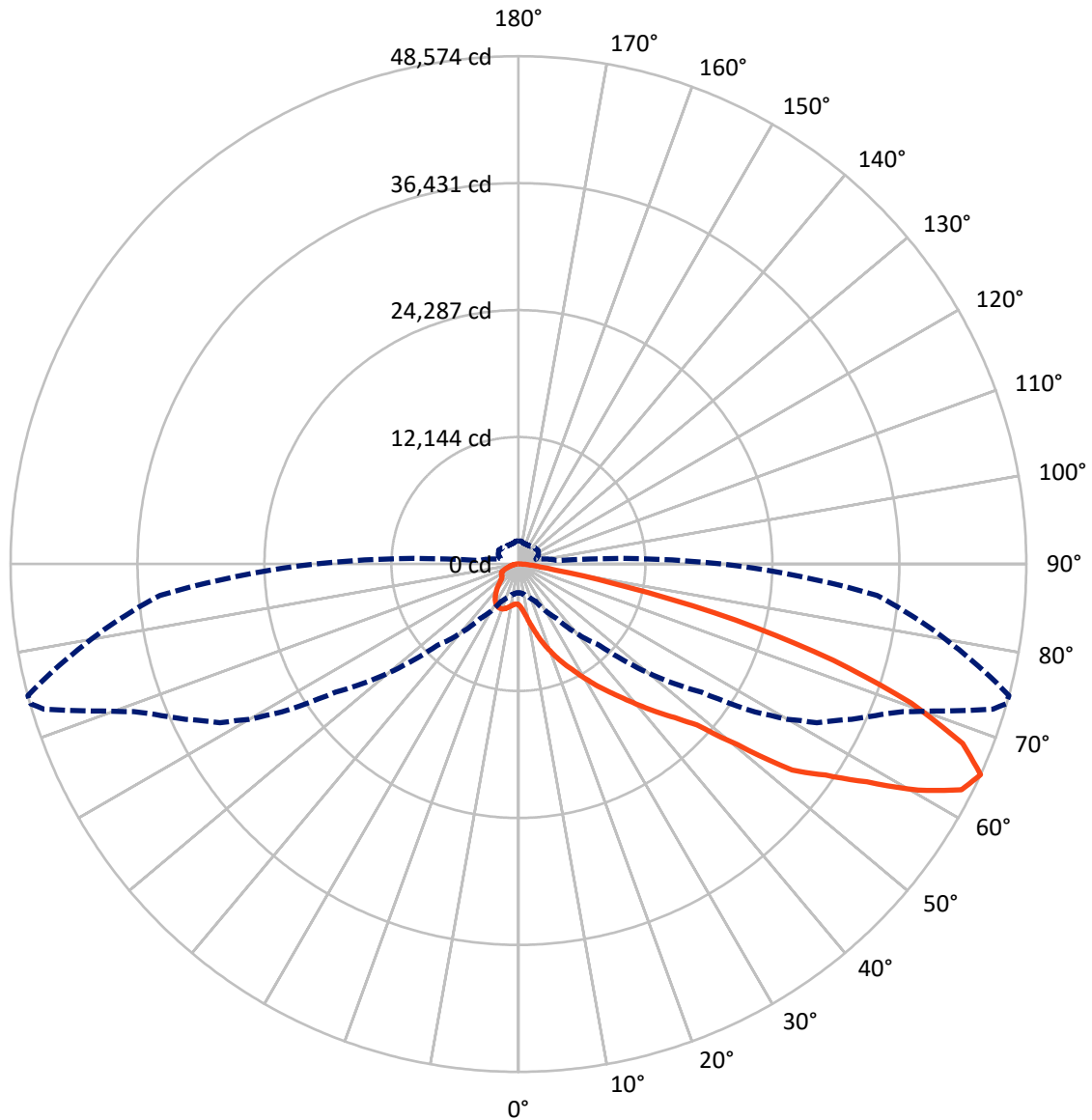
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 13.5 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	7399.8	0.0	7399.8
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	40596.1	0.0	40596.1
	% Fixture	84.6	0.0	84.6
Total	Lumens	47995.9	0.0	47995.9
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	482.1	1.0
10°-20°	1883.8	3.9
20°-30°	3864.9	8.1
30°-40°	6502.5	13.5
40°-50°	8984.6	18.7
50°-60°	11215.4	23.4
60°-70°	10092.7	21.0
70°-80°	4230.8	8.8
80°-90°	739.1	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°	47995.9	100.0
0°-180°	47995.9	100.0



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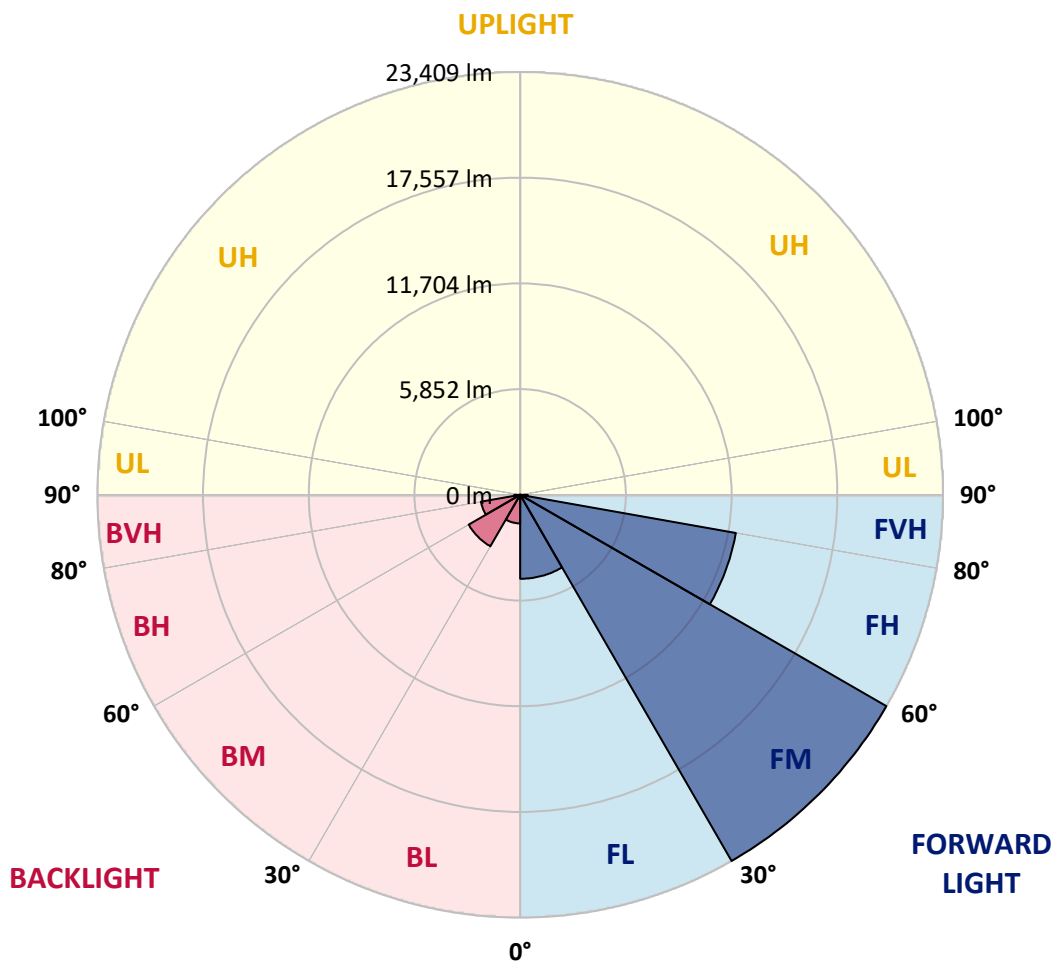
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	4648.3	9.7			
FM	(30°-60°)	23408.7	48.8			
FH	(60°-80°)	12123.6	25.3			G5
FVH	(80°-90°)	415.5	0.9			G3/500
BL	(0°-30°)	1582.5	3.3	B3/2500		
BM	(30°-60°)	3293.7	6.9	B3/5000		
BH	(60°-80°)	2199.9	4.6	B3/2500		G3/2500
BVH	(80°-90°)	323.7	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-G5

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6
2.5°	4952.6	4898.0	4911.5	4820.5	4709.3	4563.7	4402.7	4400.6	4402.7	4386.5	4327.9
5°	6867.1	6801.8	6776.8	6572.0	6272.1	5845.5	5381.8	5332.0	5311.1	5259.2	5138.6
7.5°	8264.8	8228.4	8189.4	8035.0	7762.8	7285.6	6662.9	6556.5	6454.0	6429.1	6293.0
10°	9166.5	9157.1	9075.5	9034.4	8864.6	8450.8	7844.3	7741.9	7630.7	7592.3	7448.7
12.5°	9879.5	9877.5	9839.1	9850.5	9702.3	9403.1	8880.1	8787.1	8705.6	8587.0	8485.2
15°	10372.8	10374.8	10432.1	10495.5	10472.6	10270.4	9779.8	9738.7	9668.6	9587.0	9466.4
17.5°	10777.2	10788.6	10847.3	10963.2	11088.5	11072.3	10684.2	10649.8	10588.5	10477.3	10413.9
20°	11690.3	11733.4	11620.2	11620.2	11633.7	11695.0	11508.4	11481.4	11395.1	11335.8	11286.0
22.5°	13232.9	13282.8	13026.0	12765.2	12508.4	12321.8	12135.8	12169.5	12110.8	12069.7	12040.1
25°	15236.4	15275.5	14859.7	14419.0	13896.0	13214.7	12753.7	12732.9	12701.2	12676.2	12662.8
27.5°	17122.0	17138.2	16745.3	16099.7	15493.2	14514.0	13380.5	13355.5	13317.1	13269.3	13228.2
30°	18735.4	18730.7	18326.3	17710.4	17060.7	15977.1	14332.7	14255.2	14141.3	14011.9	13912.2
32.5°	20132.4	20125.6	19682.2	19044.0	18362.7	17426.6	15636.7	15477.7	15300.5	15047.7	14896.1
35°	21231.5	21227.5	20809.0	20143.8	19362.1	18792.0	17131.5	16936.0	16710.9	16372.6	16138.8
37.5°	21647.3	21647.3	21413.5	20959.3	20268.5	19877.6	18792.0	18555.4	18314.9	17930.7	17667.2
40°	21404.1	21408.8	21458.6	21375.1	21038.8	20738.9	20341.3	20200.5	19993.6	19648.5	19373.6
42.5°	20588.6	20613.6	20945.8	21352.2	21520.0	21472.8	21715.4	21652.1	21506.5	21241.0	21022.6
45°	19554.8	19632.3	19995.6	20763.8	21654.1	22106.3	22867.1	22873.9	22846.9	22704.0	22535.6
47.5°	18135.6	18244.1	18723.9	19761.7	21340.7	22722.2	24037.0	24098.3	24155.6	24062.6	23985.1
50°	16250.0	16379.4	17097.1	18473.9	20702.5	23360.4	26247.4	26525.1	26783.9	26752.2	26804.1
52.5°	14230.3	14382.6	15261.4	16795.2	19605.4	23508.0	27660.6	28112.8	28565.0	28935.0	29327.9
55°	12408.0	12326.5	13205.9	14820.6	17801.3	22842.2	28931.0	29476.2	29980.2	30434.5	30902.8
57.5°	9938.8	10072.9	10954.4	12551.6	15413.7	20963.3	29805.0	30602.9	31327.4	32079.5	32742.6
60°	7264.7	7398.9	8355.1	9977.2	12821.8	18114.7	29137.2	30346.2	31506.6	32658.4	33558.0
62.5°	4386.5	4486.9	5329.3	6874.6	9886.9	14737.1	26161.2	27746.9	29455.3	30832.1	32210.9
65°	2730.7	2787.3	3098.6	3948.4	6349.6	11002.3	21375.1	23103.7	24943.4	26690.9	28124.3
67.5°	2235.4	2255.6	2312.9	2494.1	3486.8	7174.4	15909.0	17440.1	19100.6	20790.8	22385.9
70°	2010.3	1996.8	1996.8	2008.3	2235.4	3857.5	10416.0	11413.3	12796.9	14266.7	15725.0
72.5°	1814.8	1801.4	1776.4	1742.7	1824.3	2353.3	5383.9	6136.0	7133.3	8439.4	9836.4
75°	1630.9	1612.7	1583.7	1540.6	1597.2	1776.4	2585.1	2901.2	3387.1	4082.5	4861.6
77.5°	1440.1	1417.2	1390.3	1358.6	1431.4	1381.5	1514.9	1628.8	1814.8	2037.9	2331.1
80°	1224.5	1204.3	1194.8	1179.3	1265.6	1052.0	1070.2	1140.3	1249.4	1370.1	1506.2
82.5°	959.0	959.0	994.7	1002.1	1097.1	756.8	799.9	861.3	917.9	981.2	1045.2
85°	631.5	636.2	758.8	806.7	865.3	508.8	599.8	620.0	665.8	702.2	729.2
87.5°	197.5	213.6	463.7	513.5	497.3	288.4	368.0	377.4	409.1	434.0	456.9
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°	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6
2.5°	4327.9	4300.2	4275.3	4273.3	4255.1	4230.1	4238.9	4200.5	4202.5	4182.3	4159.4
5°	5088.7	5070.5	4979.5	4954.6	4886.5	4843.4	4836.7	4745.7	4734.2	4682.3	4625.0
7.5°	6183.8	6124.5	5997.1	5935.8	5819.9	5733.6	5693.2	5572.6	5513.3	5377.1	5315.8
10°	7330.8	7256.0	7099.0	7012.7	6901.5	6762.7	6687.9	6513.3	6444.6	6319.9	6170.3
12.5°	8394.2	8319.4	8157.7	8091.6	7944.1	7796.5	7714.9	7517.5	7428.5	7228.4	7110.4
15°	9377.5	9302.7	9161.8	9093.7	8946.2	8825.5	8716.4	8521.6	8417.1	8230.5	8076.1
17.5°	10331.7	10252.2	10129.5	10068.2	9925.3	9802.7	9684.8	9500.1	9393.6	9207.6	9068.8
20°	11217.9	11158.6	11070.3	10988.1	10845.2	10734.0	10593.2	10434.1	10279.8	10143.0	10011.6
22.5°	11990.2	11967.3	11872.3	11835.9	11713.2	11617.5	11494.9	11338.5	11226.7	11054.1	10931.5
25°	12656.0	12649.3	12603.5	12592.0	12505.7	12414.8	12387.8	12258.4	12156.0	12003.7	11877.0
27.5°	13228.2	13234.9	13224.1	13255.8	13232.9	13191.8	13194.5	13151.4	13092.0	12964.7	12853.5
30°	13864.4	13828.0	13848.9	13894.0	13907.5	13912.2	13987.0	14011.9	14007.9	13923.7	13869.1
32.5°	14764.0	14677.8	14598.2	14591.5	14636.7	14654.8	14782.2	14848.3	14904.9	14925.1	14934.5
35°	15911.0	15738.5	15572.7	15484.4	15406.9	15427.1	15518.1	15625.3	15750.0	15836.2	15938.6
37.5°	17355.9	17144.9	16851.8	16642.9	16590.3	16477.1	16535.7	16620.0	16742.6	16876.7	17054.0
40°	19107.4	18787.3	18457.7	18180.7	18031.1	17821.6	17819.5	17803.4	17878.8	18003.5	18253.5
42.5°	20793.5	20509.1	20159.3	19868.9	19673.5	19393.8	19337.2	19189.6	19223.3	19332.5	19575.7
45°	22371.8	22137.9	21924.3	21588.7	21422.3	21120.3	21024.6	20850.1	20752.4	20802.3	21045.5
47.5°	23900.9	23751.3	23528.2	23310.5	23183.2	22912.9	22790.3	22664.9	22540.3	22535.6	22790.3
50°	26881.6	26802.1	26538.6	26311.5	26372.8	26041.2	26061.4	25725.2	25877.5	25895.7	26429.4
52.5°	29682.4	29960.0	30155.5	30393.3	30548.3	30578.0	30679.8	30832.1	31016.0	31379.3	31874.6
55°	31286.3	31634.0	31836.2	32018.1	32318.0	32381.4	32551.9	32754.0	32915.1	33324.2	33744.7
57.5°	33192.8	33837.7	34151.1	34439.5	34843.8	34998.2	35282.6	35502.9	35711.8	36195.7	36704.5
60°	34366.7	35153.2	35791.4	36247.6	36754.4	37118.3	37547.6	37892.6	38383.2	38962.8	39721.6
62.5°	33433.3	34587.1	35434.9	36218.6	36906.7	37602.2	38217.4	38863.0	39607.7	40484.5	41661.8
65°	29714.7	30888.7	32340.3	33153.7	34064.8	35137.0	36073.1	37118.3	38133.2	39410.3	41150.3
67.5°	23921.8	25286.5	26918.0	27738.1	28785.4	29982.3	31032.2	32308.6	33494.7	35041.3	37193.1
70°	17242.7	19007.6	20379.7	21236.3	22458.7	23692.0	24705.5	26190.8	27172.1	28757.8	30982.3
72.5°	10918.0	12310.3	13991.7	15070.6	16156.3	17406.4	18442.2	19723.3	20638.5	22083.4	24098.3
75°	5870.4	6896.8	8373.3	9398.3	10561.5	11629.0	12842.0	13700.6	14377.9	15520.8	17156.4
77.5°	2750.9	3375.6	4123.0	4911.5	5699.9	6522.1	7322.0	8016.8	8308.0	8962.3	9927.4
80°	1669.9	1872.1	2089.8	2333.1	2662.6	2928.1	3280.6	3534.7	3552.9	3759.7	4054.9
82.5°	1115.3	1190.1	1256.2	1317.5	1401.7	1467.8	1542.6	1630.9	1667.3	1715.1	1810.8
85°	760.8	797.2	810.7	849.8	840.4	863.3	892.9	922.6	938.1	936.1	979.2
87.5°	467.7	485.9	495.3	504.1	497.3	488.6	502.1	518.2	522.3	508.8	513.5
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):

	71°	72°	73°	74°	75°	85°	90°	95°	105°	115°	125°
0°	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6
2.5°	4164.1	4143.9	4123.0	4109.5	4104.8	3984.8	3932.3	3898.6	3825.8	3766.5	3718.6
5°	4593.4	4550.2	4516.5	4475.4	4452.5	4147.9	4036.7	3959.9	3832.5	3757.7	3689.0
7.5°	5284.1	5163.5	5093.4	5013.9	4945.8	4395.9	4211.9	4091.3	3914.1	3814.3	3736.8
10°	6067.9	5943.2	5831.3	5708.7	5602.2	4725.5	4457.2	4270.6	4036.7	3907.3	3804.9
12.5°	6942.6	6820.0	6679.1	6522.1	6386.0	5143.3	4770.6	4505.1	4184.3	4011.8	3868.9
15°	7976.4	7760.1	7589.6	7408.3	7249.3	5643.3	5136.5	4768.6	4341.3	4107.5	3916.8
17.5°	8936.7	8709.6	8478.5	8319.4	8135.4	6204.0	5504.5	5036.1	4470.7	4168.8	3925.5
20°	9875.5	9627.5	9428.0	9214.4	9021.0	6785.6	5897.4	5272.7	4555.0	4170.8	3868.9
22.5°	10702.4	10547.4	10325.0	10093.2	9897.7	7367.2	6265.3	5472.8	4586.6	4118.9	3768.5
25°	11642.5	11479.4	11206.4	11011.0	10793.3	7960.2	6626.6	5627.1	4568.4	4021.2	3614.2
27.5°	12646.6	12465.3	12185.6	11981.4	11717.9	8575.5	6958.1	5738.3	4500.4	3862.2	3407.3
30°	13693.9	13528.1	13253.1	13046.9	12780.7	9227.8	7328.8	5813.1	4364.2	3641.8	3166.7
32.5°	14818.6	14679.8	14407.5	14191.9	13907.5	9934.1	7673.8	5836.1	4157.4	3380.3	2912.6
35°	15886.1	15791.1	15561.3	15359.1	15063.9	10602.0	8039.7	5824.6	3912.0	3093.9	2680.8
37.5°	17088.3	17031.1	16917.8	16661.1	16299.9	11508.4	8478.5	5776.8	3612.2	2810.2	2503.6
40°	18369.4	18374.2	18251.5	18076.3	17740.0	12608.2	9000.7	5683.8	3284.6	2560.2	2341.8
42.5°	19725.3	19796.1	19736.8	19612.1	19289.3	13716.8	9625.5	5570.5	2967.2	2316.9	2183.5
45°	21279.4	21365.6	21456.6	21272.6	20959.3	15179.8	10447.6	5423.0	2623.5	2114.7	2074.3
47.5°	23072.0	23208.1	23289.7	23292.4	22979.0	16992.6	11783.3	5334.0	2319.6	1978.6	2021.7
50°	26854.0	26897.8	27090.5	27426.8	27186.2	21188.4	14116.4	5279.4	2112.7	1894.4	1983.3
52.5°	32303.9	32779.0	33113.2	33090.3	32762.8	23853.0	15402.2	4997.7	1990.1	1862.7	1965.1
55°	34523.7	35116.8	35734.8	35897.8	35643.8	26127.5	16617.9	4716.0	1930.8	1885.6	1971.9
57.5°	37481.5	38480.9	39328.7	39685.2	39317.3	29037.4	18217.1	4568.4	1912.6	1946.9	2015.0
60°	40936.7	42172.6	43285.9	43926.1	43926.1	32381.4	19875.6	4507.1	1887.6	2037.9	2087.8
62.5°	43156.5	44971.4	46652.8	47590.9	47563.2	34709.7	20611.5	4298.2	1831.0	2101.3	2187.5
65°	43165.3	45323.8	47465.5	48520.2	48574.1	34424.0	19396.5	3796.1	1726.6	2110.7	2287.9
67.5°	39567.3	41868.0	44364.8	45544.2	45816.4	31688.6	16790.5	3121.6	1556.1	2019.7	2324.3
70°	33417.2	35664.0	38212.7	39371.8	39855.7	27013.0	13523.4	2405.9	1338.4	1819.6	2248.8
72.5°	26327.0	28530.7	30305.1	31152.2	31529.6	20647.9	9847.8	1817.5	1097.1	1533.1	2046.7
75°	18639.7	20293.5	21236.3	21424.9	21483.6	12447.1	5983.6	1351.9	904.4	1192.8	1728.6
77.5°	10520.4	11229.4	11151.9	11236.1	10536.6	4805.0	2606.0	967.7	745.3	906.4	1340.4
80°	4107.5	4234.9	3978.1	3898.6	3575.8	1787.9	1149.7	674.6	595.1	686.0	938.1
82.5°	1810.8	1869.4	1814.8	1829.0	1749.5	922.6	688.1	488.6	454.2	502.1	622.7
85°	997.4	1015.6	1010.9	1040.5	997.4	368.0	326.8	299.9	318.1	341.0	399.6
87.5°	485.9	490.6	475.1	500.0	483.9	186.0	161.1	170.5	186.0	190.7	190.7
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°	3900.6	3900.6	3900.6	3900.6	3900.6	3900.6
2.5°	3684.9	3666.7	3668.8	3664.0	3655.3	3655.3
5°	3653.3	3635.1	3635.1	3630.4	3618.9	3620.9
7.5°	3684.9	3655.3	3643.8	3627.7	3612.2	3612.2
10°	3721.3	3668.8	3637.1	3610.1	3589.2	3589.2
12.5°	3748.3	3666.7	3614.2	3577.8	3557.6	3557.6
15°	3757.7	3650.6	3577.8	3534.7	3516.5	3514.4
17.5°	3728.1	3589.2	3501.0	3451.1	3428.2	3421.4
20°	3637.1	3478.0	3371.6	3314.3	3282.6	3271.2
22.5°	3501.0	3319.0	3194.3	3135.0	3093.9	3087.2
25°	3310.2	3114.8	2992.2	2934.9	2912.6	2905.2
27.5°	3087.2	2905.2	2800.8	2764.4	2744.2	2742.1
30°	2876.2	2721.2	2644.4	2616.8	2591.9	2587.8
32.5°	2678.1	2580.4	2551.4	2512.3	2453.7	2447.0
35°	2537.3	2528.5	2508.3	2421.4	2349.3	2328.4
37.5°	2451.0	2535.2	2430.8	2260.3	2208.4	2203.7
40°	2401.1	2465.2	2285.2	2226.6	2230.6	2226.6
42.5°	2287.9	2353.3	2289.9	2263.0	2280.5	2285.2
45°	2174.0	2246.8	2324.3	2306.1	2349.3	2349.3
47.5°	2110.7	2219.2	2321.6	2321.6	2385.6	2407.9
50°	2037.9	2196.9	2285.2	2316.9	2367.4	2349.3
52.5°	2033.2	2157.9	2233.3	2289.9	2312.9	2292.0
55°	2039.9	2126.2	2180.8	2244.8	2271.8	2273.8
57.5°	2049.4	2108.0	2144.4	2174.0	2255.6	2255.6
60°	2071.6	2092.5	2112.7	2128.9	2235.4	2237.4
62.5°	2108.0	2076.3	2071.6	2087.8	2223.9	2215.1
65°	2165.3	2053.4	2019.7	2035.2	2212.4	2185.5
67.5°	2242.1	2019.7	1953.7	1965.1	2203.7	2144.4
70°	2312.9	1965.1	1872.1	1860.7	2117.4	2013.0
72.5°	2319.6	1901.8	1758.2	1724.5	1840.4	1740.0
75°	2205.7	1858.0	1633.6	1533.1	1519.7	1506.2
77.5°	1988.0	1833.0	1488.0	1331.0	1304.0	1312.8
80°	1663.2	1740.0	1312.8	1126.8	1274.4	1258.9
82.5°	1242.7	1535.8	1115.3	997.4	994.7	879.5
85°	690.8	1197.5	908.4	747.4	520.3	504.1
87.5°	193.4	665.8	636.2	422.5	288.4	299.9
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)