

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: P301671

Luminaire Tested: **GLNA-AF-09-LED-E1-T2R-800**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P301671
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-800
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(9) 70 CRI, 4000K CCT 800mA LIGHTSQUARE WITH 16 LEDS EACH AND Type II
Roadway OPTICS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 44628.5 lumens
Efficiency: N/A
Efficacy: 119.3 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

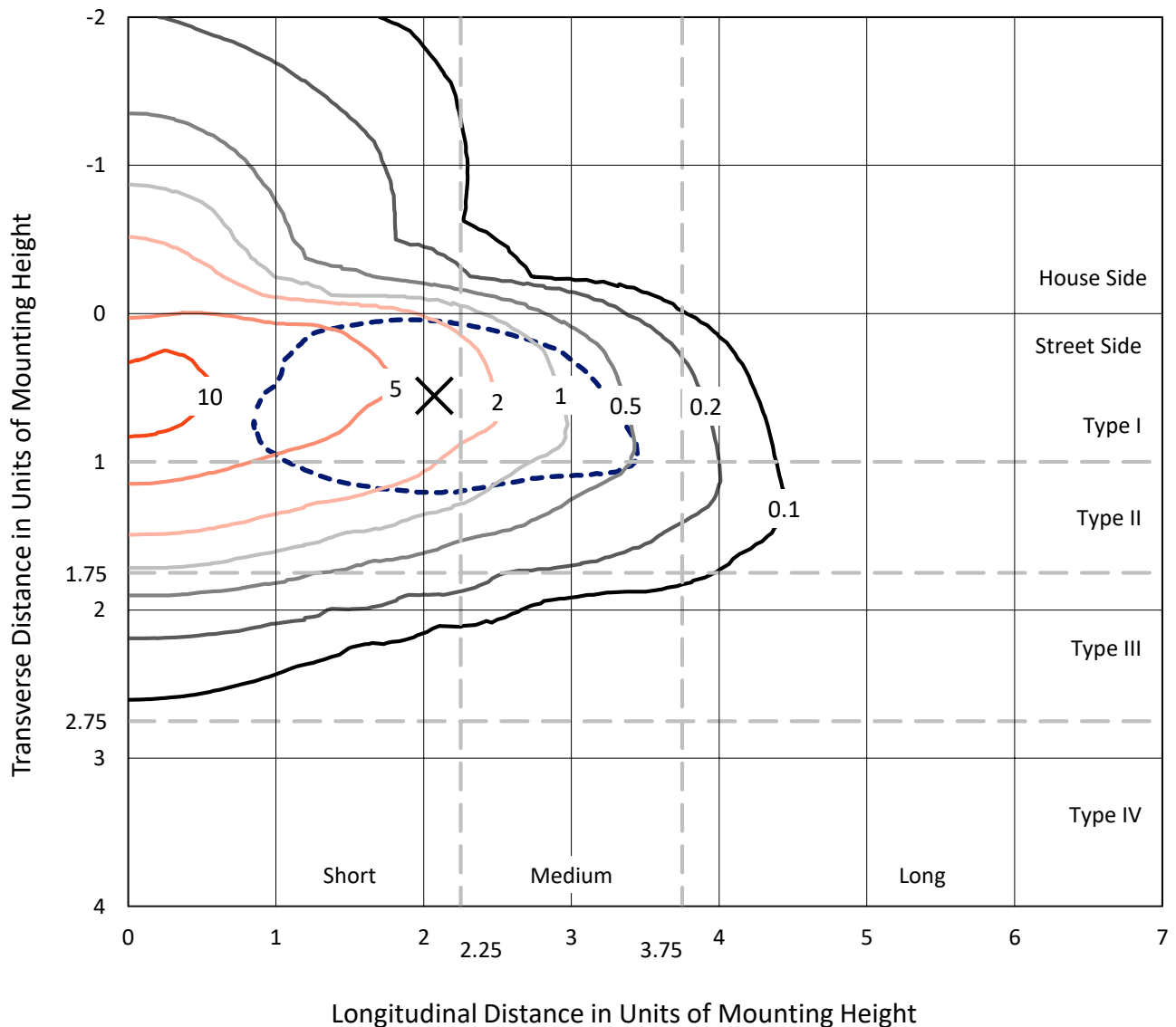
Input Watts (W): 374
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

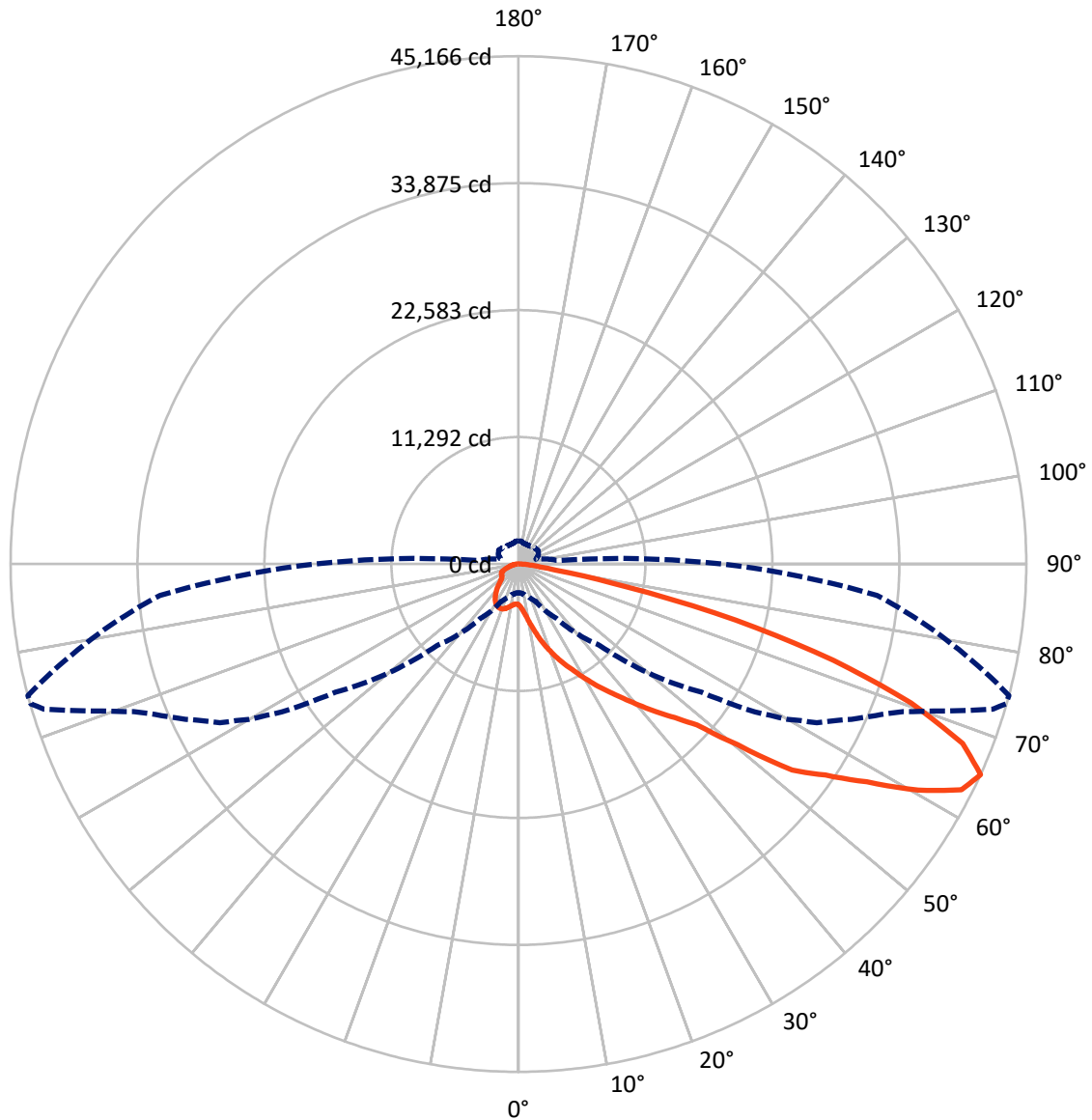
✕ Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 12.5 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	6880.7	0.0	6880.7
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	37747.8	0.0	37747.8
	% Fixture	84.6	0.0	84.6
Total	Lumens	44628.5	0.0	44628.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	448.3	1.0
10°-20°	1751.6	3.9
20°-30°	3593.7	8.1
30°-40°	6046.3	13.5
40°-50°	8354.2	18.7
50°-60°	10428.6	23.4
60°-70°	9384.6	21.0
70°-80°	3933.9	8.8
80°-90°	687.3	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°	44628.5	100.0
0°-180°	44628.5	100.0

Coefficient of Utilization



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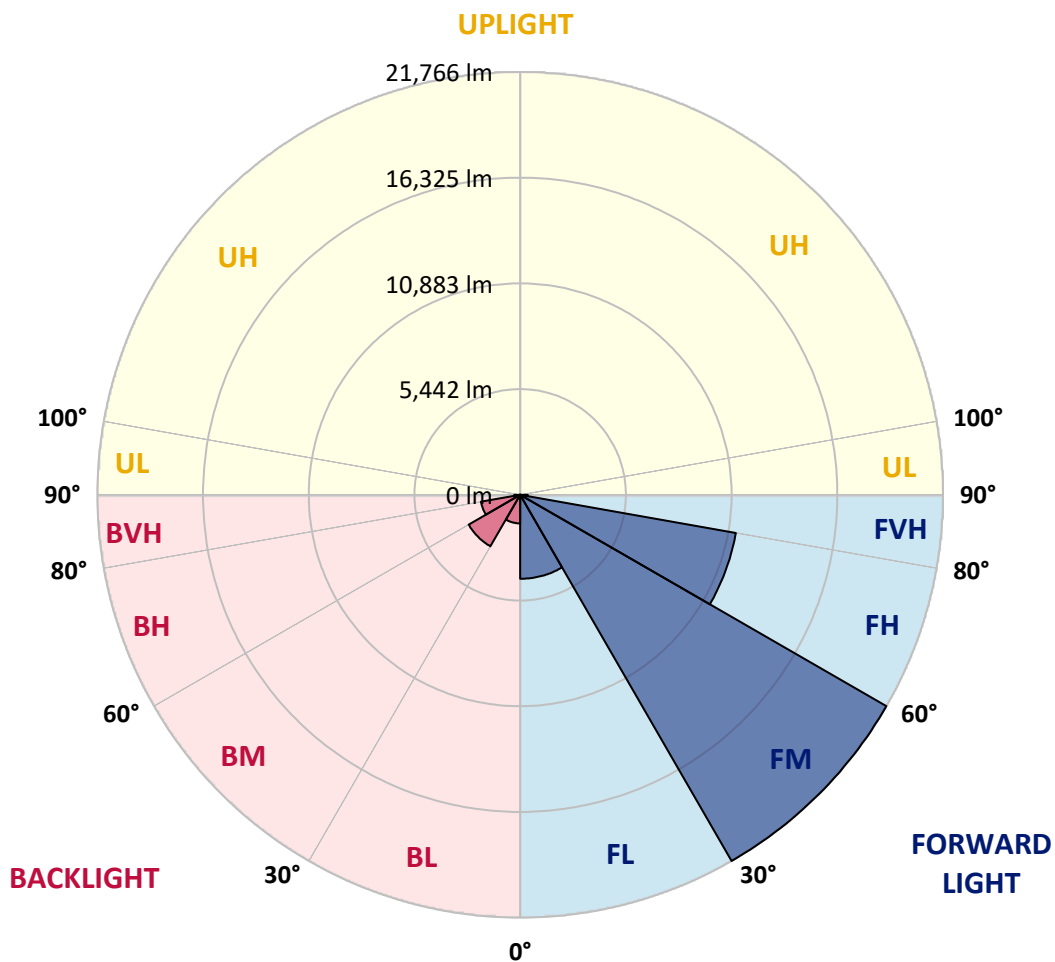
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	4322.1	9.7			
FM	(30°-60°)	21766.4	48.8			
FH	(60°-80°)	11273.0	25.3			G4/12000
FVH	(80°-90°)	386.3	0.9			G3/500
BL	(0°-30°)	1471.5	3.3	B3/2500		
BM	(30°-60°)	3062.7	6.9	B3/5000		
BH	(60°-80°)	2045.5	4.6	B3/2500		G3/2500
BVH	(80°-90°)	301.0	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°	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9
2.5°	4605.1	4554.3	4566.9	4482.3	4378.9	4243.5	4093.8	4091.9	4093.8	4078.7	4024.2
5°	6385.3	6324.6	6301.4	6110.9	5832.0	5435.4	5004.3	4957.9	4938.5	4890.2	4778.0
7.5°	7685.0	7651.1	7614.8	7471.3	7218.1	6774.5	6195.5	6096.5	6001.2	5978.0	5851.5
10°	8523.4	8514.6	8438.8	8400.6	8242.7	7857.9	7294.0	7198.7	7095.3	7059.6	6926.1
12.5°	9186.4	9184.5	9148.8	9159.4	9021.6	8743.3	8257.1	8170.6	8094.8	7984.5	7889.9
15°	9645.1	9646.9	9700.2	9759.1	9737.8	9549.8	9093.6	9055.4	8990.2	8914.4	8802.2
17.5°	10021.0	10031.7	10086.2	10194.0	10310.5	10295.5	9934.6	9902.6	9845.6	9742.2	9683.3
20°	10870.1	10910.2	10805.0	10805.0	10817.5	10874.5	10700.9	10675.9	10595.7	10540.5	10494.1
22.5°	12304.5	12350.8	12112.1	11869.6	11630.9	11457.3	11284.3	11315.7	11261.1	11222.9	11195.3
25°	14167.4	14203.8	13817.2	13407.3	12921.1	12287.6	11858.9	11839.5	11810.1	11786.9	11774.3
27.5°	15920.7	15935.8	15570.5	14970.2	14406.2	13495.7	12441.7	12418.5	12382.8	12338.3	12300.1
30°	17420.9	17416.5	17040.5	16467.8	15863.7	14856.1	13327.1	13255.1	13149.2	13028.9	12936.1
32.5°	18719.9	18713.6	18301.3	17707.9	17074.4	16204.0	14539.7	14391.8	14227.0	13992.0	13851.0
35°	19741.9	19738.2	19349.0	18730.6	18003.7	17473.5	15929.5	15747.8	15538.5	15223.9	15006.5
37.5°	20128.6	20128.6	19911.1	19488.8	18846.5	18483.0	17473.5	17253.6	17029.9	16672.7	16427.7
40°	19902.3	19906.7	19953.1	19875.4	19562.7	19283.9	18914.2	18783.2	18590.8	18270.0	18014.3
42.5°	19144.1	19167.3	19476.2	19854.1	20010.1	19966.3	20191.8	20132.9	19997.6	19750.7	19547.7
45°	18182.9	18254.9	18592.7	19307.0	20134.8	20555.3	21262.8	21269.0	21244.0	21111.1	20954.5
47.5°	16863.2	16964.1	17410.2	18375.3	19843.4	21128.0	22350.6	22407.6	22460.9	22374.4	22302.3
50°	15109.9	15230.2	15897.6	17177.8	19250.0	21721.4	24405.9	24664.1	24904.7	24875.3	24923.5
52.5°	13231.9	13373.5	14190.6	15616.8	18229.9	21858.7	25720.0	26140.4	26560.9	26904.9	27270.2
55°	11537.5	11461.7	12279.4	13780.8	16552.4	21239.6	26901.2	27408.1	27876.8	28299.2	28734.7
57.5°	9241.5	9366.2	10185.8	11671.0	14332.2	19492.5	27713.9	28455.8	29129.4	29828.8	30445.4
60°	6755.1	6879.8	7768.9	9277.2	11922.2	16843.8	27092.9	28217.1	29296.1	30367.0	31203.6
62.5°	4078.7	4172.1	4955.4	6392.2	9193.3	13703.1	24325.7	25800.2	27388.7	28668.9	29951.0
65°	2539.1	2591.7	2881.2	3671.4	5904.1	10230.3	19875.4	21482.7	23193.4	24818.2	26151.1
67.5°	2078.5	2097.3	2150.6	2319.2	3242.2	6671.1	14792.8	16216.5	17760.5	19332.1	20815.3
70°	1869.2	1856.7	1856.7	1867.4	2078.5	3586.8	9685.2	10612.6	11899.0	13265.7	14621.7
72.5°	1687.5	1675.0	1651.8	1620.5	1696.3	2188.2	5006.1	5705.5	6632.9	7847.3	9146.3
75°	1516.4	1499.5	1472.6	1432.5	1485.1	1651.8	2403.7	2697.6	3149.4	3796.1	4520.5
77.5°	1339.1	1317.8	1292.7	1263.3	1331.0	1284.6	1408.7	1514.6	1687.5	1894.9	2167.5
80°	1138.6	1119.8	1111.0	1096.6	1176.8	978.2	995.1	1060.3	1161.8	1273.9	1400.5
82.5°	891.7	891.7	924.9	931.8	1020.2	703.7	743.8	800.8	853.5	912.4	971.9
85°	587.2	591.5	705.6	750.1	804.6	473.1	557.7	576.5	619.1	652.9	678.0
87.5°	183.6	198.6	431.1	477.5	462.5	268.2	342.1	350.9	380.4	403.5	424.9
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°	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9
2.5°	4024.2	3998.5	3975.3	3973.5	3956.5	3933.3	3941.5	3905.8	3907.7	3888.9	3867.6
5°	4731.7	4714.8	4630.2	4607.0	4543.7	4503.6	4497.3	4412.7	4402.1	4353.8	4300.6
7.5°	5749.9	5694.8	5576.4	5519.3	5411.6	5331.4	5293.8	5181.6	5126.4	4999.9	4942.8
10°	6816.5	6746.9	6600.9	6520.7	6417.3	6288.2	6218.7	6056.4	5992.4	5876.5	5737.4
12.5°	7805.3	7735.7	7585.3	7523.9	7386.7	7249.5	7173.6	6990.0	6907.3	6721.2	6611.6
15°	8719.5	8650.0	8519.0	8455.7	8318.5	8206.3	8104.8	7923.7	7826.6	7653.0	7509.5
17.5°	9606.8	9532.9	9418.9	9361.8	9229.0	9114.9	9005.3	8833.6	8734.6	8561.6	8432.5
20°	10430.9	10375.7	10293.6	10217.2	10084.3	9980.9	9850.0	9702.1	9558.6	9431.4	9309.2
22.5°	11149.0	11127.7	11039.3	11005.5	10891.4	10802.4	10688.4	10543.0	10439.0	10278.6	10164.5
25°	11768.1	11761.8	11719.2	11708.6	11628.3	11543.7	11518.7	11398.4	11303.1	11161.5	11043.7
27.5°	12300.1	12306.4	12296.3	12325.8	12304.5	12266.3	12268.8	12228.7	12173.5	12055.1	11951.7
30°	12891.6	12857.8	12877.2	12919.2	12931.7	12936.1	13005.7	13028.9	13025.1	12946.8	12896.0
32.5°	13728.2	13648.0	13574.0	13567.8	13609.7	13626.7	13745.1	13806.5	13859.1	13877.9	13886.7
35°	14794.7	14634.3	14480.1	14398.0	14326.0	14344.8	14429.4	14529.0	14644.9	14725.1	14820.4
37.5°	16138.2	15942.1	15669.5	15475.2	15426.3	15321.1	15375.6	15453.9	15568.0	15692.7	15857.5
40°	17766.8	17469.1	17162.7	16905.2	16766.1	16571.2	16569.3	16554.3	16624.5	16740.4	16972.9
42.5°	19334.6	19070.2	18745.0	18474.9	18293.2	18033.1	17980.5	17843.2	17874.6	17976.1	18202.3
45°	20802.2	20584.7	20386.1	20074.0	19919.3	19638.5	19549.6	19387.3	19296.4	19342.8	19569.0
47.5°	22224.0	22084.9	21877.5	21675.1	21556.6	21305.4	21191.3	21074.8	20958.8	20954.5	21191.3
50°	24995.6	24921.6	24676.6	24465.5	24522.5	24214.2	24233.0	23920.3	24061.9	24078.8	24575.1
52.5°	27599.8	27858.0	28039.7	28260.9	28405.1	28432.6	28527.3	28668.9	28839.9	29177.7	29638.3
55°	29091.2	29414.6	29602.6	29771.7	30050.6	30109.5	30268.0	30456.0	30605.8	30986.1	31377.2
57.5°	30864.0	31463.6	31755.0	32023.2	32399.2	32542.7	32807.1	33012.0	33206.3	33656.2	34129.3
60°	31955.5	32686.8	33280.2	33704.5	34175.7	34514.1	34913.2	35234.1	35690.2	36229.1	36934.7
62.5°	31087.7	32160.5	32948.7	33677.5	34317.3	34964.0	35536.1	36136.4	36828.8	37644.1	38738.8
65°	27629.9	28721.5	30071.3	30827.6	31674.8	32671.8	33542.2	34514.1	35457.8	36645.2	38263.2
67.5°	22243.4	23512.4	25029.4	25792.0	26765.8	27878.7	28855.0	30041.8	31144.7	32582.8	34583.6
70°	16032.9	17674.1	18949.9	19746.3	20883.0	22029.7	22972.2	24353.3	25265.7	26740.1	28808.6
72.5°	10152.0	11446.6	13010.1	14013.3	15022.8	16185.2	17148.3	18339.5	19190.5	20534.0	22407.6
75°	5458.6	6412.9	7785.9	8739.0	9820.5	10813.1	11941.0	12739.4	13369.1	14431.9	15952.7
77.5°	2557.9	3138.8	3833.7	4566.9	5300.0	6064.5	6808.3	7454.4	7725.1	8333.5	9230.9
80°	1552.8	1740.8	1943.2	2169.4	2475.8	2722.7	3050.4	3286.7	3303.6	3496.0	3770.4
82.5°	1037.1	1106.6	1168.0	1225.1	1303.4	1364.8	1434.4	1516.4	1550.3	1594.8	1683.8
85°	707.5	741.3	753.8	790.2	781.4	802.7	830.3	857.9	872.3	870.4	910.5
87.5°	434.9	451.8	460.6	468.7	462.5	454.3	466.8	481.9	485.6	473.1	477.5
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°	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9
2.5°	3871.9	3853.1	3833.7	3821.2	3816.8	3705.3	3656.4	3625.0	3557.4	3502.2	3457.7
5°	4271.1	4231.0	4199.7	4161.4	4140.1	3856.9	3753.5	3682.1	3563.6	3494.1	3430.2
7.5°	4913.4	4801.2	4736.1	4662.1	4598.8	4087.5	3916.4	3804.3	3639.5	3546.7	3474.7
10°	5642.2	5526.2	5422.2	5308.2	5209.2	4393.9	4144.5	3970.9	3753.5	3633.2	3537.9
12.5°	6455.5	6341.5	6210.5	6064.5	5937.9	4782.4	4435.9	4189.0	3890.7	3730.3	3597.5
15°	7416.8	7215.6	7057.1	6888.5	6740.6	5247.4	4776.2	4434.0	4036.7	3819.3	3642.0
17.5°	8309.7	8098.5	7883.6	7735.7	7564.7	5768.7	5118.3	4682.8	4157.1	3876.3	3650.1
20°	9182.6	8952.0	8766.5	8567.9	8388.0	6309.5	5483.6	4902.7	4235.4	3878.2	3597.5
22.5°	9951.5	9807.4	9600.6	9385.0	9203.3	6850.3	5825.8	5088.8	4264.8	3830.0	3504.1
25°	10825.6	10674.0	10420.2	10238.5	10036.1	7401.7	6161.6	5232.3	4247.9	3739.1	3360.6
27.5°	11759.3	11590.7	11330.7	11140.8	10895.8	7973.8	6469.9	5335.7	4184.6	3591.2	3168.2
30°	12733.1	12578.9	12323.3	12131.5	11884.0	8580.4	6814.6	5405.3	4058.0	3386.3	2944.5
32.5°	13778.9	13649.8	13396.7	13196.2	12931.7	9237.1	7135.4	5426.6	3865.7	3143.2	2708.3
35°	14771.5	14683.2	14469.5	14281.5	14007.0	9858.1	7475.7	5415.9	3637.6	2876.9	2492.7
37.5°	15889.4	15836.2	15730.9	15492.1	15156.3	10700.9	7883.6	5371.5	3358.7	2613.0	2327.9
40°	17080.6	17085.0	16971.0	16808.1	16495.4	11723.6	8369.2	5285.0	3054.2	2380.6	2177.5
42.5°	18341.4	18407.2	18352.1	18236.1	17936.0	12754.4	8950.1	5179.7	2759.0	2154.3	2030.3
45°	19786.4	19866.6	19951.2	19780.2	19488.8	14114.8	9714.6	5042.5	2439.5	1966.4	1928.8
47.5°	21453.3	21579.8	21655.7	21658.2	21366.8	15800.4	10956.6	4959.8	2156.9	1839.8	1879.9
50°	24969.9	25010.6	25189.8	25502.5	25278.8	19701.8	13126.0	4909.0	1964.5	1761.5	1844.2
52.5°	30037.4	30479.2	30790.0	30768.7	30464.2	22179.5	14321.6	4647.1	1850.4	1732.0	1827.2
55°	32101.5	32653.0	33227.6	33379.2	33143.0	24294.4	15452.0	4385.1	1795.3	1753.3	1833.5
57.5°	34851.8	35781.1	36569.4	36900.9	36558.8	27000.2	16939.0	4247.9	1778.4	1810.3	1873.6
60°	38064.5	39213.8	40249.0	40844.3	40844.3	30109.5	18481.2	4190.9	1755.2	1894.9	1941.3
62.5°	40128.7	41816.2	43379.6	44251.9	44226.2	32274.5	19165.4	3996.6	1702.5	1953.8	2034.0
65°	40136.8	42143.9	44135.3	45116.0	45166.1	32008.8	18035.6	3529.8	1605.4	1962.6	2127.4
67.5°	36791.2	38930.5	41252.2	42348.8	42602.0	29465.3	15612.4	2902.5	1446.9	1878.0	2161.2
70°	31072.6	33161.8	35531.7	36609.5	37059.4	25117.8	12574.6	2237.1	1244.5	1691.9	2091.1
72.5°	24479.9	26528.9	28178.9	28966.5	29317.4	19199.3	9156.9	1690.0	1020.2	1425.6	1903.1
75°	17331.9	18869.7	19746.3	19921.8	19976.3	11573.8	5563.8	1257.0	840.9	1109.1	1607.3
77.5°	9782.3	10441.5	10369.4	10447.8	9797.3	4467.9	2423.2	899.8	693.1	842.8	1246.4
80°	3819.3	3937.7	3699.0	3625.0	3324.9	1662.4	1069.0	627.3	553.3	637.9	872.3
82.5°	1683.8	1738.3	1687.5	1700.7	1626.7	857.9	639.8	454.3	422.3	466.8	579.0
85°	927.4	944.3	939.9	967.5	927.4	342.1	303.9	278.8	295.8	317.1	371.6
87.5°	451.8	456.2	441.8	465.0	449.9	172.9	149.8	158.5	172.9	177.3	177.3
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):

	135°	145°	155°	165°	175°	180°
0°	3626.9	3626.9	3626.9	3626.9	3626.9	3626.9
2.5°	3426.4	3409.5	3411.4	3407.0	3398.8	3398.8
5°	3397.0	3380.0	3380.0	3375.6	3365.0	3366.9
7.5°	3426.4	3398.8	3388.2	3373.1	3358.7	3358.7
10°	3460.2	3411.4	3381.9	3356.8	3337.4	3337.4
12.5°	3485.3	3409.5	3360.6	3326.8	3308.0	3308.0
15°	3494.1	3394.4	3326.8	3286.7	3269.7	3267.9
17.5°	3466.5	3337.4	3255.3	3209.0	3187.7	3181.4
20°	3381.9	3234.0	3135.0	3081.8	3052.3	3041.7
22.5°	3255.3	3086.1	2970.2	2915.1	2876.9	2870.6
25°	3078.0	2896.3	2782.2	2729.0	2708.3	2701.4
27.5°	2870.6	2701.4	2604.3	2570.4	2551.6	2549.8
30°	2674.5	2530.3	2458.9	2433.2	2410.0	2406.3
32.5°	2490.2	2399.4	2372.4	2336.1	2281.6	2275.3
35°	2359.3	2351.1	2332.3	2251.5	2184.4	2165.0
37.5°	2279.0	2357.4	2260.2	2101.7	2053.5	2049.1
40°	2232.7	2292.2	2124.9	2070.4	2074.1	2070.4
42.5°	2127.4	2188.2	2129.3	2104.2	2120.5	2124.9
45°	2021.5	2089.2	2161.2	2144.3	2184.4	2184.4
47.5°	1962.6	2063.5	2158.7	2158.7	2218.3	2238.9
50°	1894.9	2042.8	2124.9	2154.3	2201.3	2184.4
52.5°	1890.5	2006.5	2076.6	2129.3	2150.6	2131.2
55°	1896.8	1977.0	2027.8	2087.3	2112.4	2114.2
57.5°	1905.6	1960.1	1993.9	2021.5	2097.3	2097.3
60°	1926.3	1945.7	1964.5	1979.5	2078.5	2080.4
62.5°	1960.1	1930.6	1926.3	1941.3	2067.9	2059.7
65°	2013.4	1909.3	1878.0	1892.4	2057.2	2032.2
67.5°	2084.8	1878.0	1816.6	1827.2	2049.1	1993.9
70°	2150.6	1827.2	1740.8	1730.1	1968.9	1871.7
72.5°	2156.9	1768.3	1634.9	1603.5	1711.3	1618.0
75°	2051.0	1727.6	1518.9	1425.6	1413.0	1400.5
77.5°	1848.6	1704.4	1383.6	1237.6	1212.5	1220.7
80°	1546.5	1618.0	1220.7	1047.7	1185.0	1170.5
82.5°	1155.5	1428.1	1037.1	927.4	924.9	817.8
85°	642.3	1113.5	844.7	694.9	483.8	468.7
87.5°	179.8	619.1	591.5	392.9	268.2	278.8
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)