

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: P301698

Luminaire Tested: **GLNA-AF-04-LED-E1-T2R-7027-600**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P301698
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-04-LED-E1-T2R-7027-600
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE
(4) 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: 14266.6 lumens
Efficiency: N/A
Efficacy: 110.6 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Short - Full Cutoff
BUG Rating: B2 - U0 - G2

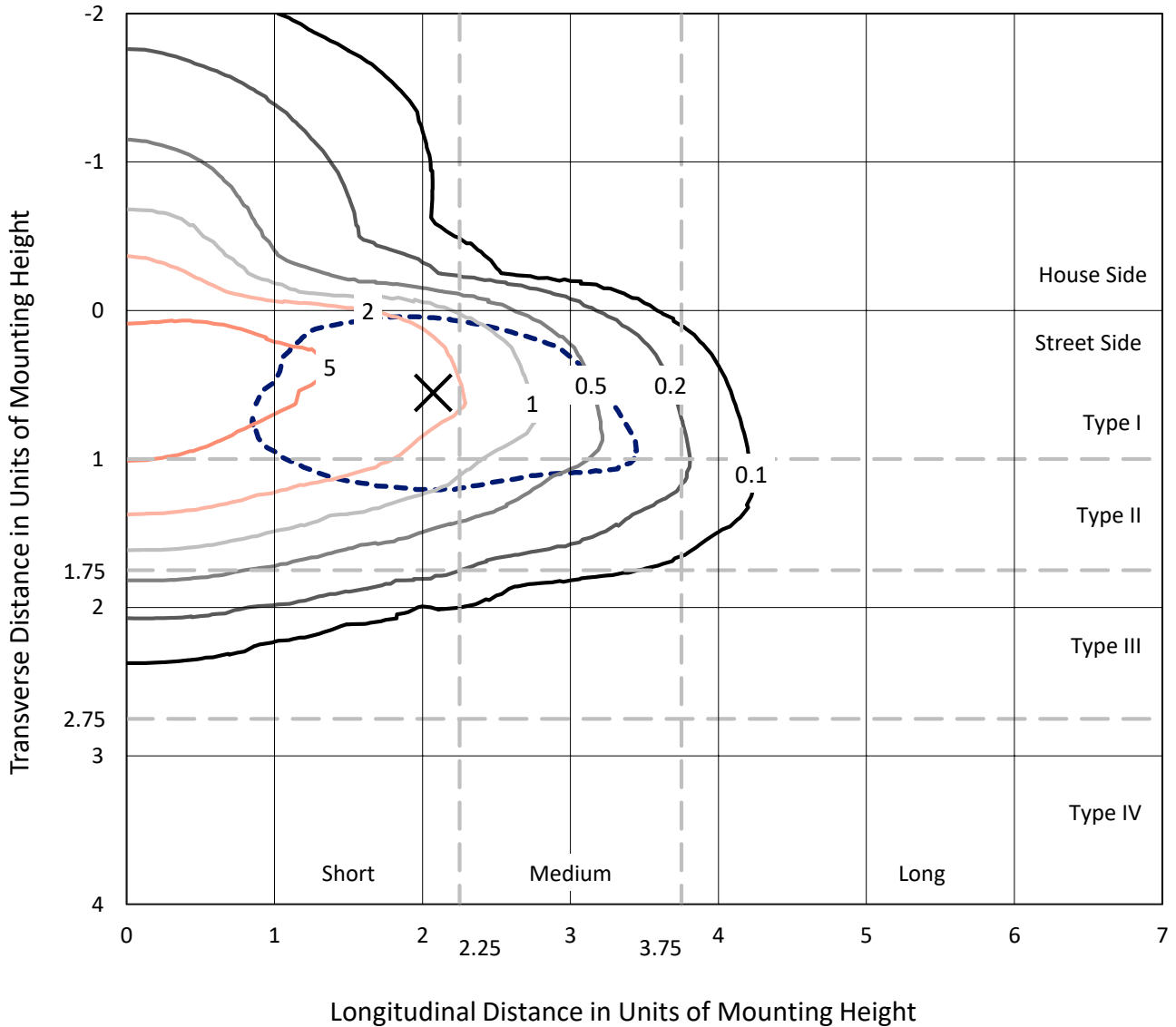
Input Watts (W): 129
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

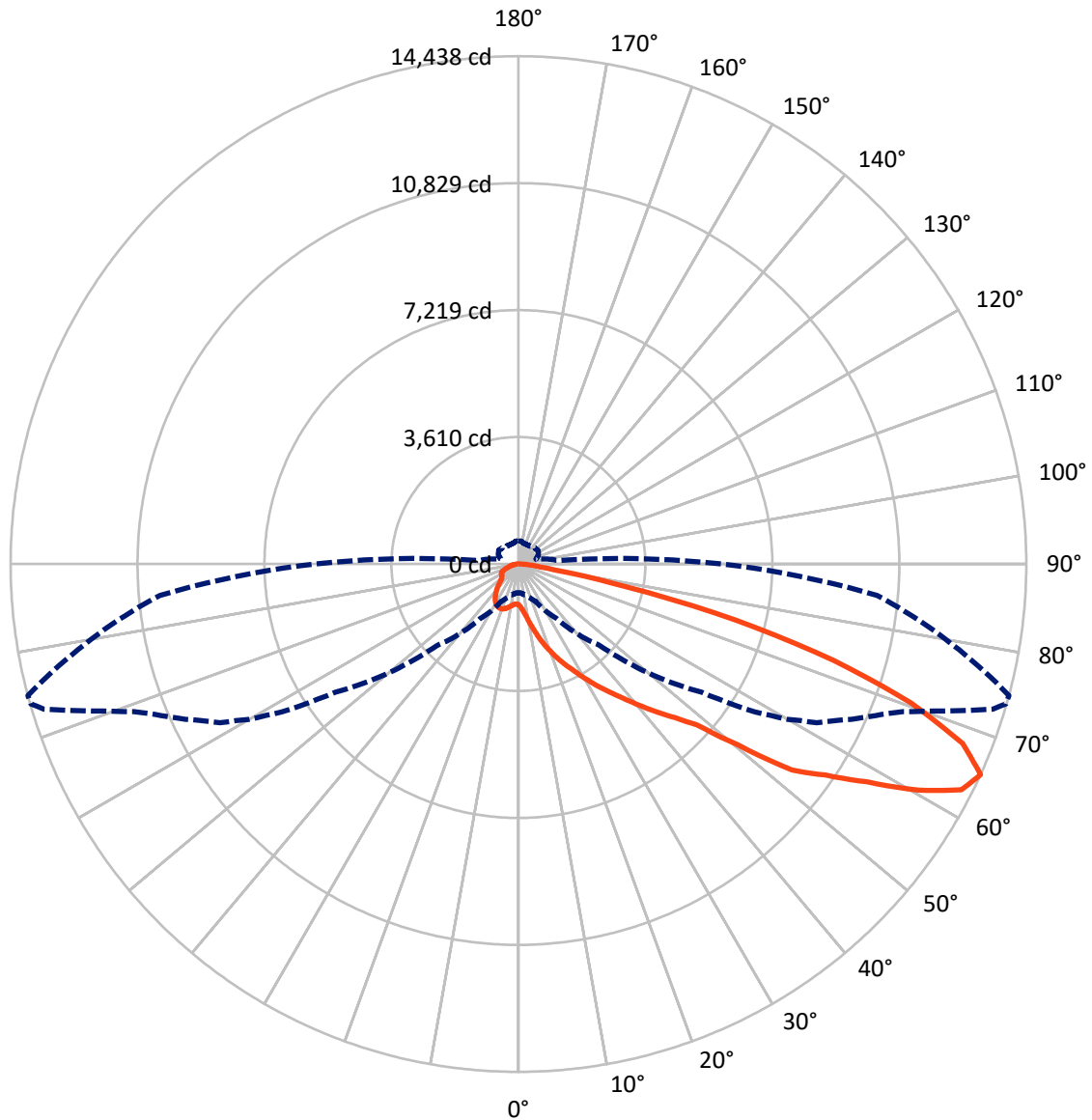
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 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
House Side	Lumens	2199.6	0.0	2199.6
	% Fixture	15.4	0.0	15.4
Street Side	Lumens	12067.0	0.0	12067.0
	% Fixture	84.6	0.0	84.6
Total	Lumens	14266.6	0.0	14266.6
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.3	1.0
10°-20°	559.9	3.9
20°-30°	1148.8	8.1
30°-40°	1932.8	13.5
40°-50°	2670.6	18.7
50°-60°	3333.7	23.4
60°-70°	3000.0	21.0
70°-80°	1257.6	8.8
80°-90°	219.7	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°	14266.6	100.0
0°-180°	14266.6	100.0

Coefficient of Utilization



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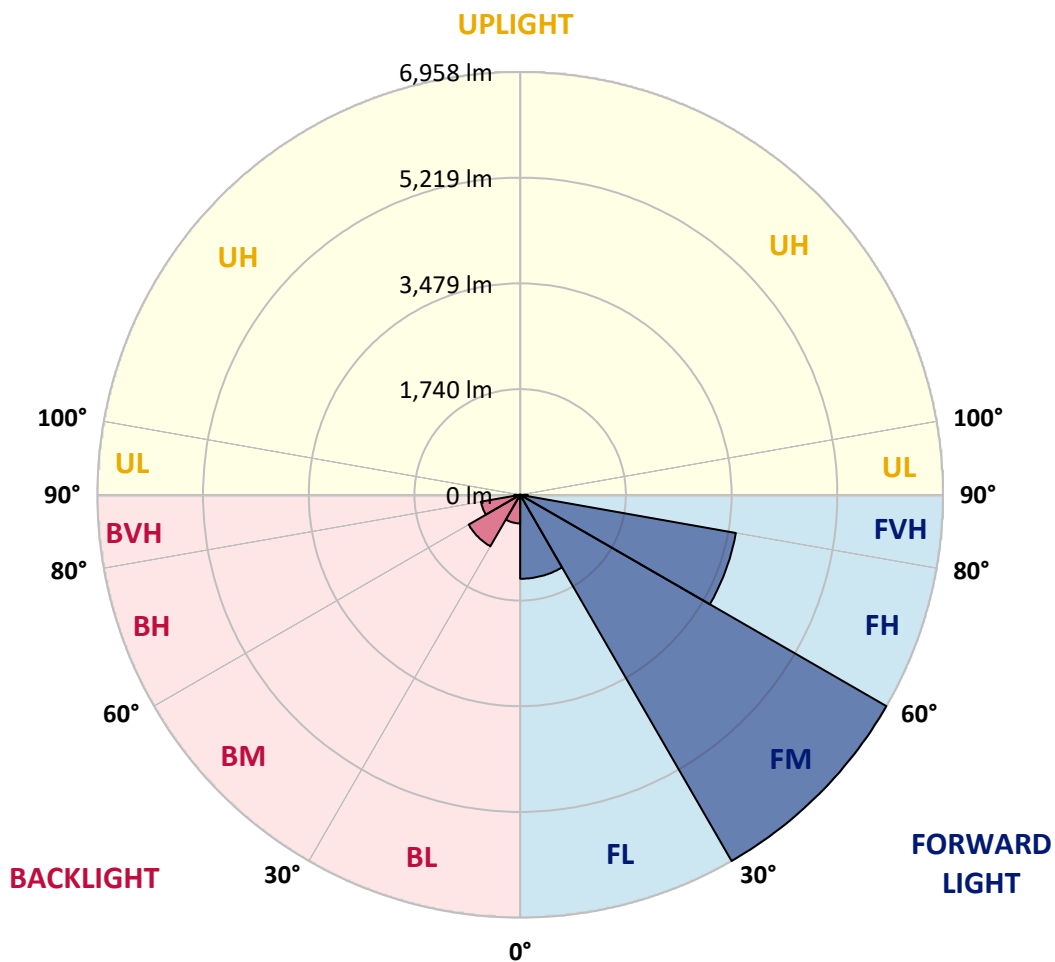
CATALOG NUMBER: GLNA-AF-04-LED-E1-T2R-7027-600

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1381.7	9.7			
FM (30°-60°)	6958.1	48.8			
FH (60°-80°)	3603.7	25.3			G2/5000
FVH (80°-90°)	123.5	0.9			G2/225
BL (0°-30°)	470.4	3.3	B1/500		
BM (30°-60°)	979.1	6.9	B1/1000		
BH (60°-80°)	653.9	4.6	B2/1000		G2/1000
BVH (80°-90°)	96.2	0.7			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G2

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	56°	57°	58°	59°
0°	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4
2.5°	1472.1	1455.9	1459.9	1432.9	1399.8	1356.5	1308.7	1308.1	1308.7	1303.9	1286.4
5°	2041.2	2021.8	2014.4	1953.5	1864.3	1737.5	1599.7	1584.9	1578.7	1563.3	1527.4
7.5°	2456.7	2445.9	2434.2	2388.4	2307.4	2165.6	1980.5	1948.9	1918.4	1911.0	1870.6
10°	2724.7	2721.9	2697.7	2685.4	2635.0	2512.0	2331.7	2301.2	2268.2	2256.8	2214.1
12.5°	2936.6	2936.0	2924.6	2928.0	2884.0	2795.0	2639.6	2611.9	2587.7	2552.4	2522.2
15°	3083.3	3083.9	3100.9	3119.7	3112.9	3052.8	2907.0	2894.8	2873.9	2849.7	2813.8
17.5°	3203.5	3206.9	3224.3	3258.8	3296.0	3291.2	3175.8	3165.6	3147.4	3114.3	3095.5
20°	3474.9	3487.7	3454.1	3454.1	3458.1	3476.3	3420.8	3412.8	3387.2	3369.5	3354.7
22.5°	3933.4	3948.2	3871.9	3794.4	3718.1	3662.6	3607.3	3617.3	3599.9	3587.7	3578.9
25°	4529.0	4540.6	4417.0	4286.0	4130.5	3928.0	3791.0	3784.8	3775.4	3768.0	3764.0
27.5°	5089.4	5094.3	4977.5	4785.6	4605.3	4314.2	3977.3	3969.9	3958.5	3944.2	3932.0
30°	5569.0	5567.6	5447.4	5264.3	5071.2	4749.1	4260.3	4237.3	4203.4	4165.0	4135.3
32.5°	5984.3	5982.3	5850.4	5660.7	5458.2	5180.0	4647.9	4600.7	4548.0	4472.9	4427.8
35°	6311.0	6309.8	6185.4	5987.7	5755.3	5585.8	5092.3	5034.2	4967.3	4866.7	4797.2
37.5°	6434.6	6434.6	6365.1	6230.0	6024.7	5908.5	5585.8	5515.5	5444.0	5329.8	5251.5
40°	6362.3	6363.7	6378.5	6353.6	6253.7	6164.5	6046.4	6004.5	5943.0	5840.4	5758.7
42.5°	6119.9	6127.3	6226.0	6346.8	6396.7	6382.7	6454.8	6436.0	6392.7	6313.8	6248.9
45°	5812.6	5835.6	5943.6	6172.0	6436.6	6571.0	6797.1	6799.1	6791.1	6748.7	6698.6
47.5°	5390.7	5423.0	5565.6	5874.1	6343.4	6754.1	7144.9	7163.1	7180.2	7152.5	7129.5
50°	4830.2	4868.7	5082.0	5491.3	6153.7	6943.8	7801.9	7884.5	7961.4	7952.0	7967.4
52.5°	4229.9	4275.2	4536.4	4992.3	5827.6	6987.6	8222.0	8356.4	8490.8	8600.8	8717.6
55°	3688.2	3664.0	3925.4	4405.4	5291.4	6789.7	8599.6	8761.7	8911.5	9046.5	9185.7
57.5°	2954.3	2994.1	3256.1	3730.9	4581.6	6231.3	8859.4	9096.6	9311.9	9535.5	9732.6
60°	2159.4	2199.3	2483.5	2965.7	3811.2	5384.5	8660.9	9020.3	9365.2	9707.5	9975.0
62.5°	1303.9	1333.7	1584.1	2043.4	2938.8	4380.5	7776.3	8247.6	8755.4	9164.7	9574.5
65°	811.7	828.5	921.1	1173.7	1887.4	3270.4	6353.6	6867.5	7414.3	7933.7	8359.8
67.5°	664.5	670.5	687.5	741.4	1036.4	2132.6	4728.9	5184.0	5677.6	6180.0	6654.1
70°	597.5	593.5	593.5	596.9	664.5	1146.6	3096.1	3392.6	3803.8	4240.7	4674.2
72.5°	539.5	535.4	528.0	518.0	542.3	699.5	1600.3	1823.9	2120.4	2508.6	2923.8
75°	484.8	479.4	470.7	457.9	474.8	528.0	768.4	862.4	1006.8	1213.5	1445.1
77.5°	428.1	421.3	413.3	403.8	425.5	410.6	450.3	484.2	539.5	605.8	692.9
80°	364.0	358.0	355.2	350.6	376.2	312.7	318.1	338.9	371.4	407.2	447.7
82.5°	285.1	285.1	295.7	297.9	326.1	225.0	237.8	256.0	272.8	291.7	310.7
85°	187.7	189.1	225.6	239.8	257.2	151.2	178.3	184.3	197.9	208.7	216.7
87.5°	58.7	63.5	137.8	152.6	147.8	85.7	109.4	112.2	121.6	129.0	135.8
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°	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4
2.5°	1286.4	1278.2	1270.8	1270.2	1264.8	1257.4	1260.0	1248.6	1249.2	1243.2	1236.4
5°	1512.6	1507.2	1480.1	1472.7	1452.5	1439.7	1437.7	1410.6	1407.2	1391.8	1374.8
7.5°	1838.1	1820.5	1782.6	1764.4	1729.9	1704.3	1692.3	1656.4	1638.8	1598.3	1580.1
10°	2179.0	2156.8	2110.1	2084.5	2051.4	2010.2	1987.9	1936.1	1915.6	1878.6	1834.1
12.5°	2495.1	2472.9	2424.8	2405.2	2361.3	2317.5	2293.2	2234.5	2208.1	2148.6	2113.5
15°	2787.4	2765.2	2723.3	2703.1	2659.2	2623.3	2590.9	2533.0	2502.0	2446.5	2400.6
17.5°	3071.1	3047.4	3011.0	2992.7	2950.3	2913.8	2878.8	2823.9	2792.2	2736.9	2695.7
20°	3334.5	3316.8	3290.6	3266.2	3223.7	3190.6	3148.8	3101.5	3055.6	3015.0	2975.9
22.5°	3564.0	3557.2	3529.0	3518.2	3481.7	3453.3	3416.8	3370.3	3337.1	3285.8	3249.3
25°	3761.9	3759.9	3746.3	3742.9	3717.3	3690.2	3682.2	3643.8	3613.3	3568.0	3530.4
27.5°	3932.0	3934.0	3930.8	3940.2	3933.4	3921.2	3922.0	3909.2	3891.6	3853.7	3820.6
30°	4121.1	4110.3	4116.5	4129.9	4133.9	4135.3	4157.6	4165.0	4163.8	4138.7	4122.5
32.5°	4388.5	4362.9	4339.3	4337.3	4350.7	4356.1	4393.9	4413.6	4430.4	4436.4	4439.2
35°	4729.5	4678.2	4628.9	4602.7	4579.6	4585.6	4612.7	4644.5	4681.6	4707.2	4737.7
37.5°	5159.0	5096.3	5009.1	4947.0	4931.4	4897.7	4915.2	4940.2	4976.7	5016.5	5069.2
40°	5679.6	5584.4	5486.5	5404.1	5359.7	5297.4	5296.8	5292.0	5314.4	5351.5	5425.8
42.5°	6180.8	6096.2	5992.3	5905.9	5847.8	5764.7	5747.9	5704.0	5714.0	5746.5	5818.8
45°	6649.9	6580.4	6516.9	6417.1	6367.7	6277.9	6249.5	6197.6	6168.6	6183.4	6255.7
47.5°	7104.4	7060.0	6993.7	6929.0	6891.1	6810.8	6774.3	6737.1	6700.0	6698.6	6774.3
50°	7990.4	7966.8	7888.5	7821.0	7839.2	7740.6	7746.6	7646.7	7692.0	7697.4	7856.0
52.5°	8822.9	8905.5	8963.6	9034.3	9080.4	9089.2	9119.4	9164.7	9219.4	9327.3	9474.6
55°	9299.7	9403.1	9463.2	9517.2	9606.4	9625.2	9675.9	9736.0	9783.9	9905.5	10030.5
57.5°	9866.4	10058.1	10151.2	10237.0	10357.2	10403.0	10487.6	10553.1	10615.2	10759.0	10910.2
60°	10215.3	10449.1	10638.8	10774.4	10925.1	11033.2	11160.8	11263.4	11409.2	11581.5	11807.1
62.5°	9937.9	10280.9	10532.9	10765.8	10970.3	11177.1	11360.0	11551.9	11773.2	12033.8	12383.8
65°	8832.6	9181.5	9613.0	9854.8	10125.6	10444.3	10722.6	11033.2	11334.9	11714.5	12231.7
67.5°	7110.6	7516.3	8001.2	8245.0	8556.3	8912.1	9224.2	9603.6	9956.1	10415.9	11055.5
70°	5125.3	5649.9	6057.8	6312.4	6675.8	7042.3	7343.6	7785.1	8076.8	8548.1	9209.4
72.5°	3245.3	3659.2	4159.0	4479.7	4802.4	5174.0	5481.9	5862.7	6134.7	6564.2	7163.1
75°	1745.0	2050.0	2488.9	2793.6	3139.4	3456.7	3817.2	4072.4	4273.8	4613.5	5099.7
77.5°	817.7	1003.4	1225.5	1459.9	1694.3	1938.7	2176.4	2383.0	2469.5	2664.0	2950.9
80°	496.4	556.5	621.2	693.5	791.5	870.4	975.1	1050.7	1056.1	1117.6	1205.3
82.5°	331.5	353.8	373.4	391.6	416.7	436.3	458.5	484.8	495.6	509.8	538.3
85°	226.2	237.0	241.0	252.6	249.8	256.6	265.4	274.2	278.8	278.2	291.1
87.5°	139.0	144.4	147.2	149.8	147.8	145.2	149.2	154.0	155.2	151.2	152.6
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°	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4
2.5°	1237.8	1231.7	1225.5	1221.5	1220.1	1184.5	1168.8	1158.8	1137.2	1119.6	1105.3
5°	1365.4	1352.5	1342.5	1330.3	1323.5	1232.9	1199.9	1177.1	1139.2	1117.0	1096.5
7.5°	1570.7	1534.8	1514.0	1490.4	1470.1	1306.7	1252.0	1216.1	1163.4	1133.8	1110.8
10°	1803.7	1766.6	1733.3	1696.9	1665.2	1404.6	1324.9	1269.4	1199.9	1161.4	1131.0
12.5°	2063.7	2027.2	1985.3	1938.7	1898.2	1528.8	1418.0	1339.1	1243.8	1192.5	1150.0
15°	2370.9	2306.6	2256.0	2202.1	2154.8	1677.5	1526.8	1417.4	1290.4	1220.9	1164.2
17.5°	2656.4	2588.9	2520.2	2472.9	2418.2	1844.1	1636.2	1497.0	1328.9	1239.2	1166.8
20°	2935.4	2861.7	2802.4	2738.9	2681.4	2017.0	1753.0	1567.3	1353.9	1239.8	1150.0
22.5°	3181.2	3135.2	3069.1	3000.1	2942.1	2189.9	1862.3	1626.8	1363.4	1224.3	1120.2
25°	3460.7	3412.2	3331.1	3273.0	3208.3	2366.1	1969.7	1672.6	1357.9	1195.3	1074.3
27.5°	3759.1	3705.3	3622.1	3561.4	3483.1	2549.0	2068.3	1705.7	1337.7	1148.0	1012.8
30°	4070.4	4021.2	3939.4	3878.1	3799.0	2742.9	2178.4	1727.9	1297.3	1082.5	941.3
32.5°	4404.8	4363.5	4282.6	4218.5	4133.9	2952.9	2281.0	1734.7	1235.8	1004.8	865.8
35°	4722.1	4693.8	4625.5	4565.4	4477.7	3151.4	2389.8	1731.3	1162.8	919.7	796.9
37.5°	5079.4	5062.4	5028.7	4952.4	4845.1	3420.8	2520.2	1717.1	1073.7	835.3	744.2
40°	5460.2	5461.6	5425.2	5373.1	5273.1	3747.7	2675.4	1689.5	976.3	761.0	696.1
42.5°	5863.3	5884.3	5866.7	5829.6	5733.7	4077.2	2861.1	1655.8	882.0	688.7	649.0
45°	6325.2	6350.8	6377.9	6323.2	6230.0	4512.1	3105.5	1611.9	779.8	628.6	616.6
47.5°	6858.0	6898.5	6922.7	6923.5	6830.4	5051.0	3502.5	1585.5	689.5	588.1	601.0
50°	7982.2	7995.2	8052.5	8152.5	8081.0	6298.2	4196.0	1569.3	628.0	563.1	589.5
52.5°	9602.2	9743.4	9842.8	9835.9	9738.6	7090.2	4578.2	1485.5	591.5	553.7	584.1
55°	10262.0	10438.3	10622.0	10670.5	10594.9	7766.3	4939.6	1401.8	573.9	560.5	586.1
57.5°	11141.2	11438.3	11690.3	11796.2	11686.9	8631.2	5415.0	1357.9	568.5	578.7	598.9
60°	12168.2	12535.6	12866.5	13056.8	13056.8	9625.2	5907.9	1339.7	561.1	605.8	620.6
62.5°	12828.1	13367.5	13867.3	14146.2	14138.0	10317.3	6126.7	1277.6	544.3	624.6	650.2
65°	12830.7	13472.3	14108.9	14422.4	14438.4	10232.4	5765.5	1128.4	513.2	627.4	680.1
67.5°	11761.2	12445.1	13187.2	13537.8	13618.7	9419.3	4990.9	927.9	462.5	600.3	690.9
70°	9933.1	10601.0	11358.6	11703.1	11846.9	8029.5	4019.8	715.1	397.8	540.9	668.5
72.5°	7825.6	8480.6	9008.0	9259.8	9372.0	6137.5	2927.2	540.3	326.1	455.7	608.4
75°	5540.6	6032.1	6312.4	6368.5	6385.9	3699.8	1778.6	401.8	268.8	354.6	513.8
77.5°	3127.1	3337.9	3314.8	3339.9	3132.0	1428.3	774.6	287.7	221.6	269.4	398.4
80°	1220.9	1258.8	1182.5	1158.8	1062.9	531.4	341.7	200.5	176.9	203.9	278.8
82.5°	538.3	555.7	539.5	543.7	520.0	274.2	204.5	145.2	135.0	149.2	185.1
85°	296.5	301.9	300.5	309.3	296.5	109.4	97.2	89.1	94.5	101.4	118.8
87.5°	144.4	145.8	141.2	148.6	143.8	55.3	47.9	50.7	55.3	56.7	56.7
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°	1159.4	1159.4	1159.4	1159.4	1159.4	1159.4
2.5°	1095.3	1089.9	1090.5	1089.1	1086.5	1086.5
5°	1085.9	1080.5	1080.5	1079.1	1075.7	1076.3
7.5°	1095.3	1086.5	1083.1	1078.3	1073.7	1073.7
10°	1106.1	1090.5	1081.1	1073.1	1066.9	1066.9
12.5°	1114.2	1089.9	1074.3	1063.5	1057.5	1057.5
15°	1117.0	1085.1	1063.5	1050.7	1045.3	1044.7
17.5°	1108.2	1066.9	1040.6	1025.8	1019.0	1017.0
20°	1081.1	1033.8	1002.2	985.2	975.7	972.3
22.5°	1040.6	986.6	949.5	931.9	919.7	917.7
25°	984.0	925.9	889.4	872.4	865.8	863.6
27.5°	917.7	863.6	832.5	821.7	815.7	815.1
30°	855.0	808.9	786.0	777.8	770.4	769.2
32.5°	796.1	767.0	758.4	746.8	729.4	727.3
35°	754.2	751.6	745.6	719.7	698.3	692.1
37.5°	728.6	753.6	722.5	671.9	656.4	655.0
40°	713.7	732.8	679.3	661.8	663.0	661.8
42.5°	680.1	699.5	680.7	672.7	677.9	679.3
45°	646.2	667.9	690.9	685.5	698.3	698.3
47.5°	627.4	659.6	690.1	690.1	709.1	715.7
50°	605.8	653.0	679.3	688.7	703.7	698.3
52.5°	604.4	641.4	663.8	680.7	687.5	681.3
55°	606.4	632.0	648.2	667.3	675.3	675.9
57.5°	609.2	626.6	637.4	646.2	670.5	670.5
60°	615.8	622.0	628.0	632.8	664.5	665.1
62.5°	626.6	617.2	615.8	620.6	661.0	658.4
65°	643.6	610.4	600.3	605.0	657.6	649.6
67.5°	666.5	600.3	580.7	584.1	655.0	637.4
70°	687.5	584.1	556.5	553.1	629.4	598.3
72.5°	689.5	565.3	522.6	512.6	547.1	517.2
75°	655.6	552.3	485.6	455.7	451.7	447.7
77.5°	590.9	544.9	442.3	395.6	387.6	390.2
80°	494.4	517.2	390.2	334.9	378.8	374.2
82.5°	369.4	456.5	331.5	296.5	295.7	261.4
85°	205.3	356.0	270.0	222.2	154.6	149.8
87.5°	57.5	197.9	189.1	125.6	85.7	89.1
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)