

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: P301701

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P301701  
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-600  
Description: GALLEONNAIRE AREA AND ROADWAY LUMINAIRE  
(4) 70 CRI, 4000K CCT 600mA LIGHTSQUARE WITH 16 LEDS EACH AND Type II  
Roadway OPTICS  
Light Source: -  
Ballast/Driver: -

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16420.3 lumens  
Efficiency: N/A  
Efficacy: 127.3 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

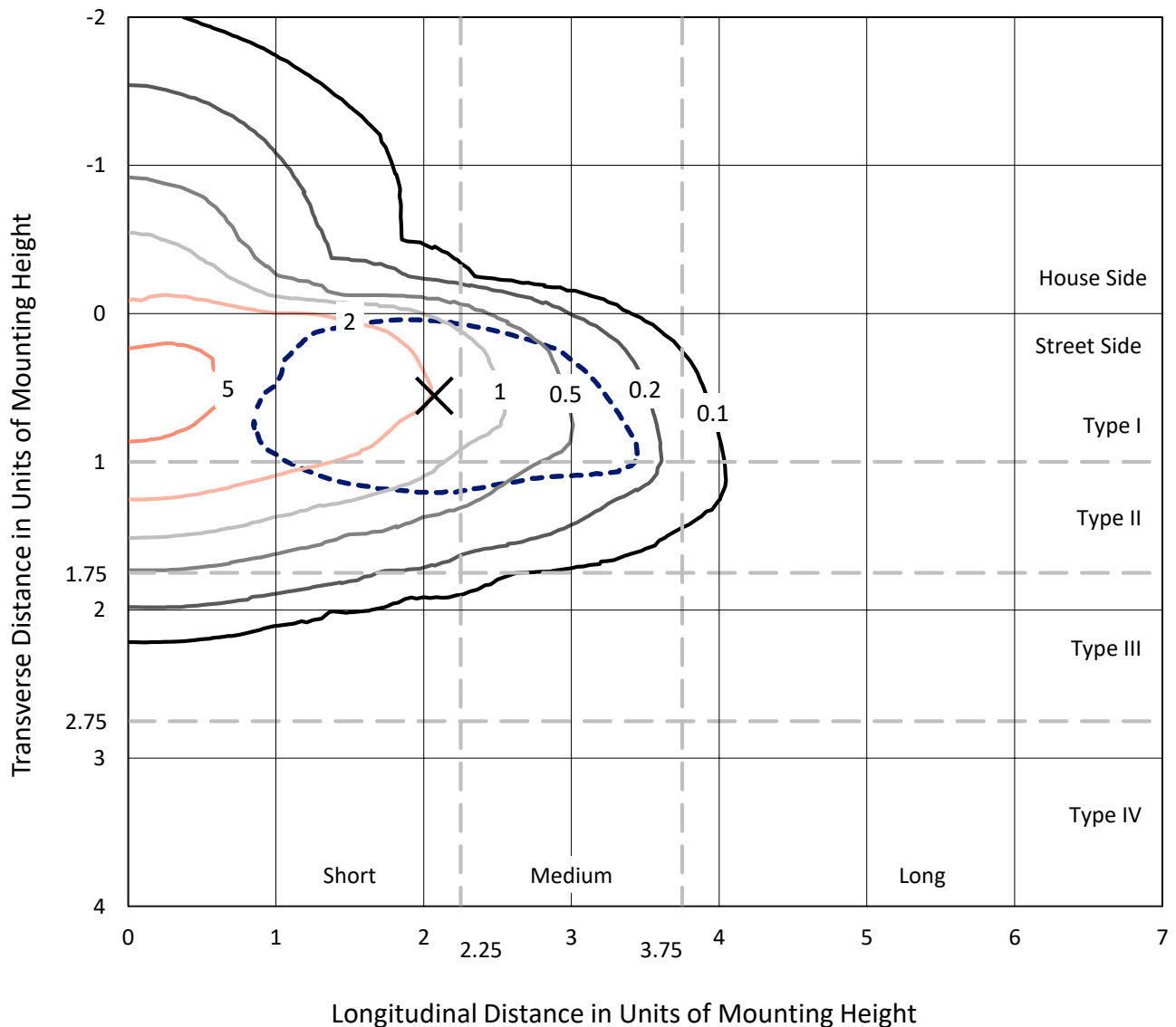
Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

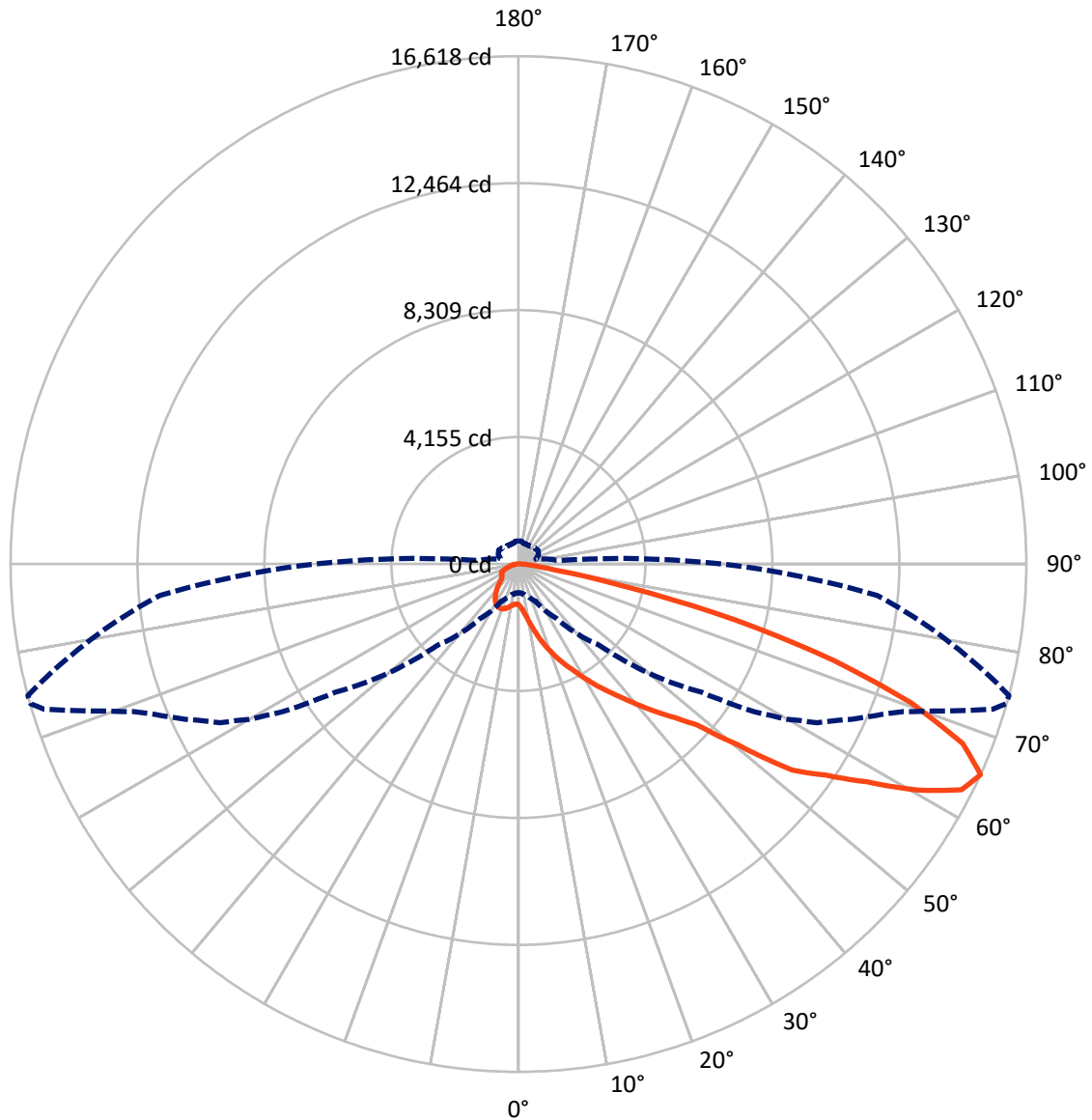
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.6 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	2531.6	0.0	2531.6
	% Fixture	15.4	0.0	15.4
<b>Street Side</b>	Lumens	13888.6	0.0	13888.6
	% Fixture	84.6	0.0	84.6
<b>Total</b>	Lumens	16420.3	0.0	16420.3
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.9	1.0
10°-20°	644.5	3.9
20°-30°	1322.2	8.1
30°-40°	2224.6	13.5
40°-50°	3073.8	18.7
50°-60°	3837.0	23.4
60°-70°	3452.9	21.0
70°-80°	1447.4	8.8
80°-90°	252.9	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°	16420.3	100.0
0°-180°	16420.3	100.0



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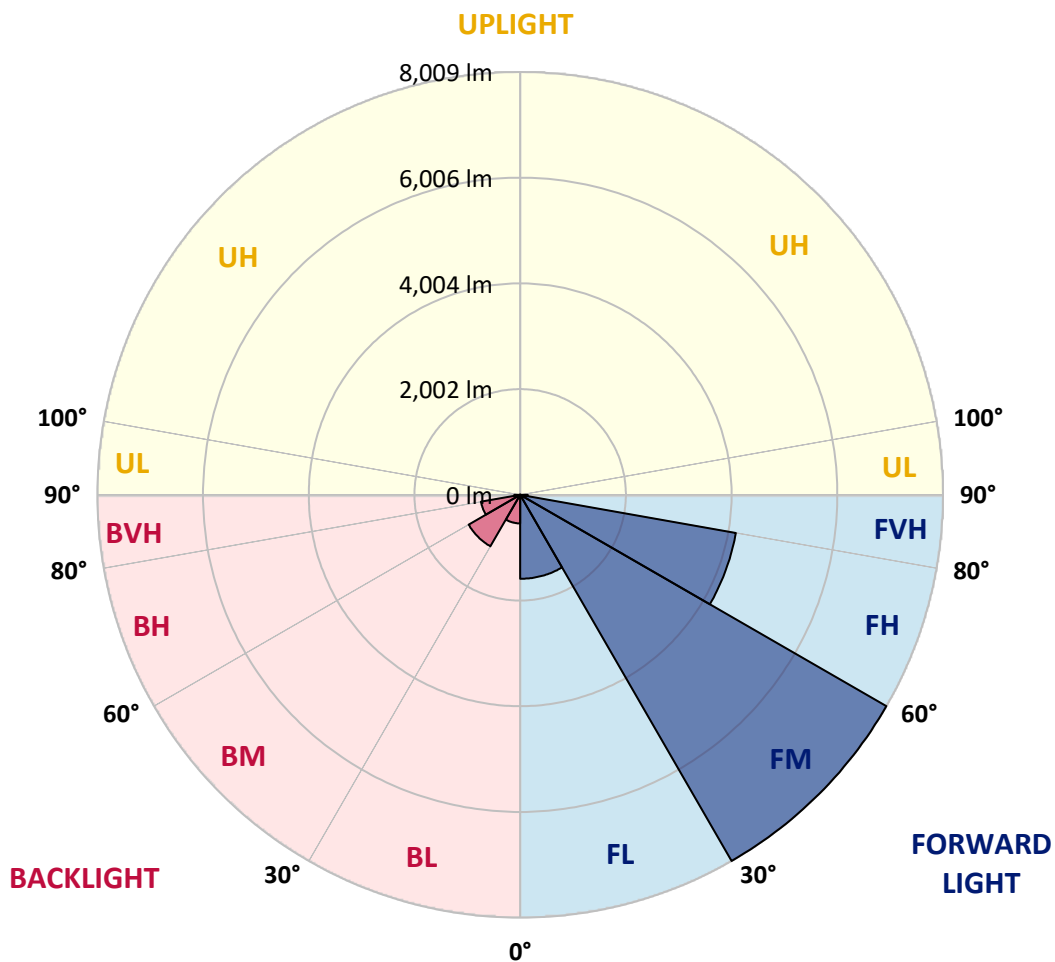
CATALOG NUMBER: GLNA-AF-04-LED-E1-T2R-600

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1590.3	9.7			
FM (30°-60°)	8008.6	48.8			
FH (60°-80°)	4147.7	25.3			G2/5000
FVH (80°-90°)	142.1	0.9			G2/225
BL (0°-30°)	541.4	3.3	B2/1000		
BM (30°-60°)	1126.9	6.9	B2/2500		
BH (60°-80°)	752.6	4.6	B2/1000		G2/1000
BVH (80°-90°)	110.7	0.7			G2/225
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°	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5
2.5°	1694.4	1675.7	1680.3	1649.2	1611.1	1561.3	1506.2	1505.5	1506.2	1500.7	1480.6
5°	2349.4	2327.0	2318.5	2248.4	2145.8	1999.8	1841.2	1824.2	1817.0	1799.3	1758.0
7.5°	2827.5	2815.1	2801.7	2748.9	2655.8	2492.5	2279.5	2243.1	2208.0	2199.5	2152.9
10°	3136.0	3132.8	3104.9	3090.8	3032.7	2891.2	2683.7	2648.6	2610.6	2597.5	2548.3
12.5°	3380.0	3379.3	3366.1	3370.0	3319.3	3217.0	3038.0	3006.2	2978.3	2937.8	2902.9
15°	3548.7	3549.4	3569.0	3590.7	3582.9	3513.7	3345.8	3331.8	3307.8	3279.9	3238.6
17.5°	3687.1	3691.0	3711.0	3750.7	3793.6	3788.0	3655.2	3643.5	3622.5	3584.5	3562.8
20°	3999.5	4014.2	3975.5	3975.5	3980.1	4001.1	3937.2	3928.0	3898.5	3878.2	3861.1
22.5°	4527.2	4544.3	4456.4	4367.2	4279.4	4215.5	4151.9	4163.4	4143.3	4129.3	4119.1
25°	5212.7	5226.0	5083.8	4933.0	4754.1	4521.0	4363.3	4356.1	4345.3	4336.8	4332.2
27.5°	5857.8	5863.3	5728.9	5508.0	5300.5	4965.5	4577.7	4569.2	4556.0	4539.7	4525.6
30°	6409.7	6408.1	6269.8	6059.0	5836.8	5466.0	4903.5	4877.0	4838.0	4793.7	4759.6
32.5°	6887.7	6885.3	6733.6	6515.3	6282.2	5962.0	5349.6	5295.2	5234.6	5148.1	5096.2
35°	7263.7	7262.3	7119.1	6891.6	6624.1	6429.1	5861.0	5794.1	5717.1	5601.4	5521.4
37.5°	7405.9	7405.9	7325.9	7170.5	6934.2	6800.5	6429.1	6348.2	6265.8	6134.4	6044.3
40°	7322.7	7324.3	7341.4	7312.8	7197.8	7095.2	6959.1	6910.9	6840.2	6722.1	6628.0
42.5°	7043.7	7052.3	7165.9	7305.0	7362.4	7346.2	7429.2	7407.6	7357.8	7266.9	7192.2
45°	6690.1	6716.6	6840.9	7103.7	7408.3	7563.0	7823.3	7825.6	7816.3	7767.5	7709.8
47.5°	6204.5	6241.6	6405.8	6760.8	7301.0	7773.7	8223.5	8244.5	8264.1	8232.3	8205.7
50°	5559.4	5603.7	5849.2	6320.3	7082.7	7992.0	8979.7	9074.7	9163.2	9152.4	9170.2
52.5°	4868.4	4920.5	5221.2	5745.9	6707.4	8042.5	9463.2	9617.9	9772.6	9899.2	10033.6
55°	4245.0	4217.1	4518.0	5070.4	6090.2	7814.7	9897.8	10084.3	10256.8	10412.2	10572.4
57.5°	3400.3	3446.1	3747.7	4294.1	5273.3	7171.9	10196.8	10469.8	10717.7	10975.0	11201.8
60°	2485.4	2531.3	2858.4	3413.4	4386.6	6197.4	9968.4	10382.0	10779.0	11173.0	11480.8
62.5°	1500.7	1535.0	1823.2	2351.9	3382.5	5041.8	8950.2	9492.7	10077.2	10548.2	11019.9
65°	934.2	953.6	1060.1	1350.8	2172.3	3764.1	7312.8	7904.2	8533.6	9131.4	9621.8
67.5°	764.8	771.7	791.3	853.3	1192.9	2454.5	5442.8	5966.6	6534.7	7112.9	7658.6
70°	687.8	683.1	683.1	687.1	764.8	1319.7	3563.5	3904.7	4378.0	4880.9	5379.8
72.5°	620.9	616.3	607.7	596.2	624.1	805.1	1841.9	2099.2	2440.4	2887.3	3365.2
75°	557.9	551.7	541.8	527.1	546.4	607.7	884.4	992.5	1158.8	1396.7	1663.2
77.5°	492.7	484.9	475.6	464.8	489.7	472.6	518.3	557.3	620.9	697.2	797.5
80°	418.9	412.0	408.8	403.5	433.0	359.9	366.1	390.1	427.5	468.7	515.3
82.5°	328.1	328.1	340.3	342.8	375.3	258.9	273.7	294.7	314.0	335.7	357.6
85°	216.0	217.6	259.6	276.0	296.0	174.1	205.2	212.1	227.8	240.2	249.5
87.5°	67.6	73.1	158.6	175.7	170.2	98.7	125.9	129.1	139.9	148.5	156.3
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):**

	60°	61°	62°	63°	64°	65°	66°	67°	68°	69°	70°
0°	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5
2.5°	1480.6	1471.2	1462.7	1462.0	1455.7	1447.2	1450.2	1437.1	1437.8	1430.8	1423.0
5°	1740.9	1734.7	1703.6	1695.1	1671.8	1657.0	1654.7	1623.6	1619.7	1601.9	1582.3
7.5°	2115.6	2095.3	2051.7	2030.7	1991.1	1961.6	1947.7	1906.5	1886.2	1839.6	1818.6
10°	2508.0	2482.4	2428.7	2399.2	2361.1	2313.6	2288.0	2228.3	2204.8	2162.2	2111.0
12.5°	2871.8	2846.2	2790.9	2768.3	2717.8	2667.3	2639.4	2571.9	2541.4	2473.0	2432.6
15°	3208.2	3182.6	3134.4	3111.1	3060.6	3019.4	2982.0	2915.4	2879.7	2815.8	2763.0
17.5°	3534.7	3507.5	3465.5	3444.5	3395.6	3353.7	3313.3	3250.2	3213.7	3150.1	3102.6
20°	3837.8	3817.6	3787.4	3759.2	3710.4	3672.3	3624.1	3569.7	3516.9	3470.1	3425.2
22.5°	4102.1	4094.2	4061.7	4049.3	4007.3	3974.6	3932.6	3879.1	3840.8	3781.8	3739.9
25°	4329.9	4327.6	4311.9	4308.0	4278.4	4247.3	4238.1	4193.8	4158.8	4106.7	4063.3
27.5°	4525.6	4527.9	4524.2	4535.1	4527.2	4513.1	4514.1	4499.3	4479.0	4435.5	4397.4
30°	4743.2	4730.8	4737.9	4753.4	4758.0	4759.6	4785.2	4793.7	4792.4	4763.5	4744.9
32.5°	5051.0	5021.5	4994.3	4992.0	5007.5	5013.7	5057.3	5079.9	5099.2	5106.1	5109.4
35°	5443.4	5384.4	5327.7	5297.5	5271.0	5277.9	5309.0	5345.7	5388.3	5417.9	5452.9
37.5°	5937.8	5865.6	5765.3	5693.8	5675.8	5637.1	5657.2	5686.0	5728.0	5773.8	5834.5
40°	6537.0	6427.5	6314.7	6220.0	6168.8	6097.1	6096.4	6090.8	6116.7	6159.3	6244.9
42.5°	7113.8	7016.5	6896.9	6797.5	6730.6	6635.0	6615.6	6565.1	6576.6	6614.0	6697.2
45°	7653.8	7573.8	7500.7	7385.9	7328.9	7225.6	7192.9	7133.2	7099.8	7116.8	7200.1
47.5°	8176.9	8125.7	8049.4	7975.0	7931.4	7838.9	7797.0	7754.1	7711.4	7709.8	7797.0
50°	9196.7	9169.5	9079.3	9001.6	9022.6	8909.2	8916.1	8801.0	8853.2	8859.4	9042.0
52.5°	10154.9	10249.9	10316.7	10398.1	10451.1	10461.3	10496.1	10548.2	10611.1	10735.4	10904.9
55°	10703.6	10822.6	10891.7	10954.0	11056.6	11078.3	11136.6	11205.8	11260.9	11400.8	11544.7
57.5°	11355.8	11576.5	11683.7	11782.4	11920.7	11973.5	12070.8	12146.2	12217.7	12383.2	12557.3
60°	11757.5	12026.5	12244.9	12401.0	12574.3	12698.8	12845.7	12963.7	13131.6	13329.9	13589.5
62.5°	11438.2	11832.9	12122.9	12391.0	12626.4	12864.4	13074.9	13295.7	13550.5	13850.5	14253.3
65°	10165.9	10567.6	11064.2	11342.5	11654.2	12021.0	12341.2	12698.8	13046.1	13483.0	14078.3
67.5°	8184.1	8651.0	9209.1	9489.7	9848.0	10257.5	10616.7	11053.4	11459.1	11988.3	12724.4
70°	5899.0	6502.9	6972.3	7265.3	7683.5	8105.5	8452.2	8960.4	9296.0	9838.5	10599.6
72.5°	3735.3	4211.6	4786.8	5155.9	5527.4	5955.1	6309.4	6747.7	7060.8	7555.1	8244.5
75°	2008.4	2359.5	2864.7	3215.3	3613.3	3978.5	4393.5	4687.2	4918.9	5310.0	5869.5
77.5°	941.1	1154.9	1410.5	1680.3	1950.0	2231.3	2505.0	2742.7	2842.3	3066.2	3396.3
80°	571.3	640.5	715.0	798.2	910.9	1001.8	1122.4	1209.3	1215.5	1286.3	1387.3
82.5°	381.6	407.2	429.8	450.7	479.6	502.2	527.7	557.9	570.4	586.8	619.5
85°	260.3	272.7	277.4	290.7	287.5	295.3	305.5	315.6	320.9	320.2	335.0
87.5°	160.0	166.2	169.5	172.5	170.2	167.2	171.8	177.3	178.7	174.1	175.7
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):**

	71°	72°	73°	74°	75°	85°	90°	95°	105°	115°	125°
0°	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5
2.5°	1424.6	1417.7	1410.5	1405.9	1404.3	1363.3	1345.3	1333.8	1308.9	1288.6	1272.2
5°	1571.5	1556.7	1545.2	1531.1	1523.3	1419.1	1381.0	1354.8	1311.2	1285.6	1262.1
7.5°	1807.8	1766.5	1742.5	1715.3	1692.1	1503.9	1441.0	1399.7	1339.1	1305.0	1278.4
10°	2075.9	2033.3	1995.0	1953.0	1916.6	1616.7	1524.9	1461.0	1381.0	1336.8	1301.7
12.5°	2375.2	2333.2	2285.0	2231.3	2184.8	1759.6	1632.1	1541.3	1431.5	1372.5	1323.6
15°	2728.9	2654.9	2596.5	2534.5	2480.1	1930.7	1757.3	1631.4	1485.2	1405.2	1340.0
17.5°	3057.4	2979.7	2900.6	2846.2	2783.3	2122.5	1883.2	1723.0	1529.5	1426.2	1343.0
20°	3378.6	3293.7	3225.5	3152.4	3086.2	2321.5	2017.6	1803.9	1558.3	1426.9	1323.6
22.5°	3661.5	3608.4	3532.4	3453.0	3386.2	2520.4	2143.5	1872.4	1569.2	1409.2	1289.3
25°	3983.1	3927.3	3833.9	3767.1	3692.6	2723.3	2267.1	1925.1	1562.9	1375.7	1236.5
27.5°	4326.6	4264.6	4168.9	4099.1	4008.9	2933.8	2380.5	1963.2	1539.7	1321.3	1165.7
30°	4684.9	4628.2	4534.1	4463.6	4372.5	3157.0	2507.3	1988.8	1493.1	1245.9	1083.4
32.5°	5069.7	5022.2	4929.1	4855.3	4758.0	3398.6	2625.4	1996.6	1422.3	1156.5	996.5
35°	5434.9	5402.4	5323.8	5254.6	5153.6	3627.1	2750.5	1992.7	1338.4	1058.5	917.2
37.5°	5846.2	5826.6	5787.9	5700.1	5576.5	3937.2	2900.6	1976.3	1235.8	961.4	856.5
40°	6284.5	6286.1	6244.2	6184.2	6069.2	4313.5	3079.3	1944.5	1123.7	875.9	801.2
42.5°	6748.4	6772.6	6752.3	6709.7	6599.2	4692.8	3293.0	1905.8	1015.1	792.7	747.0
45°	7280.1	7309.6	7340.7	7277.8	7170.5	5193.3	3574.3	1855.3	897.6	723.5	709.7
47.5°	7893.3	7939.9	7967.8	7968.7	7861.5	5813.5	4031.3	1824.9	793.6	676.9	691.7
50°	9187.2	9202.2	9268.2	9383.2	9300.9	7248.9	4829.5	1806.2	722.8	648.1	678.5
52.5°	11051.7	11214.3	11328.6	11320.8	11208.7	8160.6	5269.4	1709.8	680.8	637.3	672.3
55°	11811.2	12014.1	12225.5	12281.3	12194.4	8938.7	5685.3	1613.4	660.5	645.1	674.6
57.5°	12823.1	13165.0	13455.1	13577.0	13451.1	9934.2	6232.4	1562.9	654.3	666.1	689.4
60°	14005.2	14428.0	14808.9	15027.9	15027.9	11078.3	6799.8	1542.0	645.8	697.2	714.3
62.5°	14764.6	15385.5	15960.8	16281.7	16272.2	11874.8	7051.6	1470.5	626.4	718.9	748.4
65°	14767.6	15506.1	16238.8	16599.6	16618.1	11777.1	6635.9	1298.7	590.7	722.1	782.7
67.5°	13536.7	14323.8	15178.0	15581.5	15674.6	10841.2	5744.3	1067.9	532.4	691.0	795.2
70°	11432.6	12201.3	13073.3	13469.8	13635.4	9241.6	4626.6	823.1	457.9	622.5	769.4
72.5°	9006.9	9760.9	10367.9	10657.7	10786.8	7064.0	3369.1	621.8	375.3	524.5	700.2
75°	6377.0	6942.8	7265.3	7329.9	7349.9	4258.4	2047.1	462.5	309.4	408.1	591.4
77.5°	3599.2	3841.8	3815.3	3844.1	3604.8	1643.9	891.6	331.1	255.0	310.1	458.6
80°	1405.2	1448.8	1361.0	1333.8	1223.3	611.7	393.3	230.8	203.6	234.7	320.9
82.5°	619.5	639.6	620.9	625.7	598.5	315.6	235.4	167.2	155.4	171.8	213.0
85°	341.2	347.4	345.8	356.0	341.2	125.9	111.8	102.6	108.8	116.7	136.7
87.5°	166.2	167.8	162.5	171.1	165.5	63.6	55.1	58.3	63.6	65.2	65.2
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°	1334.5	1334.5	1334.5	1334.5	1334.5	1334.5
2.5°	1260.7	1254.5	1255.2	1253.5	1250.5	1250.5
5°	1249.8	1243.6	1243.6	1242.0	1238.1	1238.8
7.5°	1260.7	1250.5	1246.6	1241.1	1235.8	1235.8
10°	1273.1	1255.2	1244.3	1235.1	1227.9	1227.9
12.5°	1282.4	1254.5	1236.5	1224.0	1217.1	1217.1
15°	1285.6	1248.9	1224.0	1209.3	1203.0	1202.4
17.5°	1275.4	1227.9	1197.7	1180.7	1172.8	1170.5
20°	1244.3	1189.9	1153.5	1133.9	1123.0	1119.1
22.5°	1197.7	1135.5	1092.8	1072.6	1058.5	1056.2
25°	1132.5	1065.6	1023.7	1004.1	996.5	993.9
27.5°	1056.2	993.9	958.2	945.7	938.8	938.1
30°	984.0	931.0	904.7	895.3	886.7	885.3
32.5°	916.2	882.8	872.9	859.5	839.5	837.2
35°	868.0	865.0	858.1	828.4	803.7	796.6
37.5°	838.5	867.4	831.6	773.3	755.5	753.9
40°	821.5	843.4	781.8	761.8	763.1	761.8
42.5°	782.7	805.1	783.4	774.2	780.2	781.8
45°	743.8	768.7	795.2	789.0	803.7	803.7
47.5°	722.1	759.2	794.3	794.3	816.2	823.8
50°	697.2	751.6	781.8	792.7	809.9	803.7
52.5°	695.6	738.2	764.1	783.4	791.3	784.1
55°	697.9	727.4	746.1	768.0	777.2	777.9
57.5°	701.1	721.2	733.6	743.8	771.7	771.7
60°	708.7	715.9	722.8	728.3	764.8	765.4
62.5°	721.2	710.3	708.7	714.3	760.8	757.8
65°	740.8	702.5	691.0	696.3	756.9	747.7
67.5°	767.1	691.0	668.4	672.3	753.9	733.6
70°	791.3	672.3	640.5	636.6	724.4	688.7
72.5°	793.6	650.6	601.5	590.0	629.7	595.3
75°	754.6	635.6	558.9	524.5	519.9	515.3
77.5°	680.1	627.1	509.1	455.3	446.1	449.1
80°	569.0	595.3	449.1	385.5	436.0	430.7
82.5°	425.1	525.4	381.6	341.2	340.3	300.9
85°	236.3	409.7	310.8	255.7	178.0	172.5
87.5°	66.2	227.8	217.6	144.6	98.7	102.6
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)