

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: LUMARK

Report Number: P196774

Luminaire Tested: **NAV-AF-04-D-UNV-T2R-7030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196774  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24459)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-04-D-UNV-T2R-7030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II  
ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 27124.7 lumens  
Efficiency: N/A  
Efficacy: 105.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G3

Input Watts (W): 258  
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

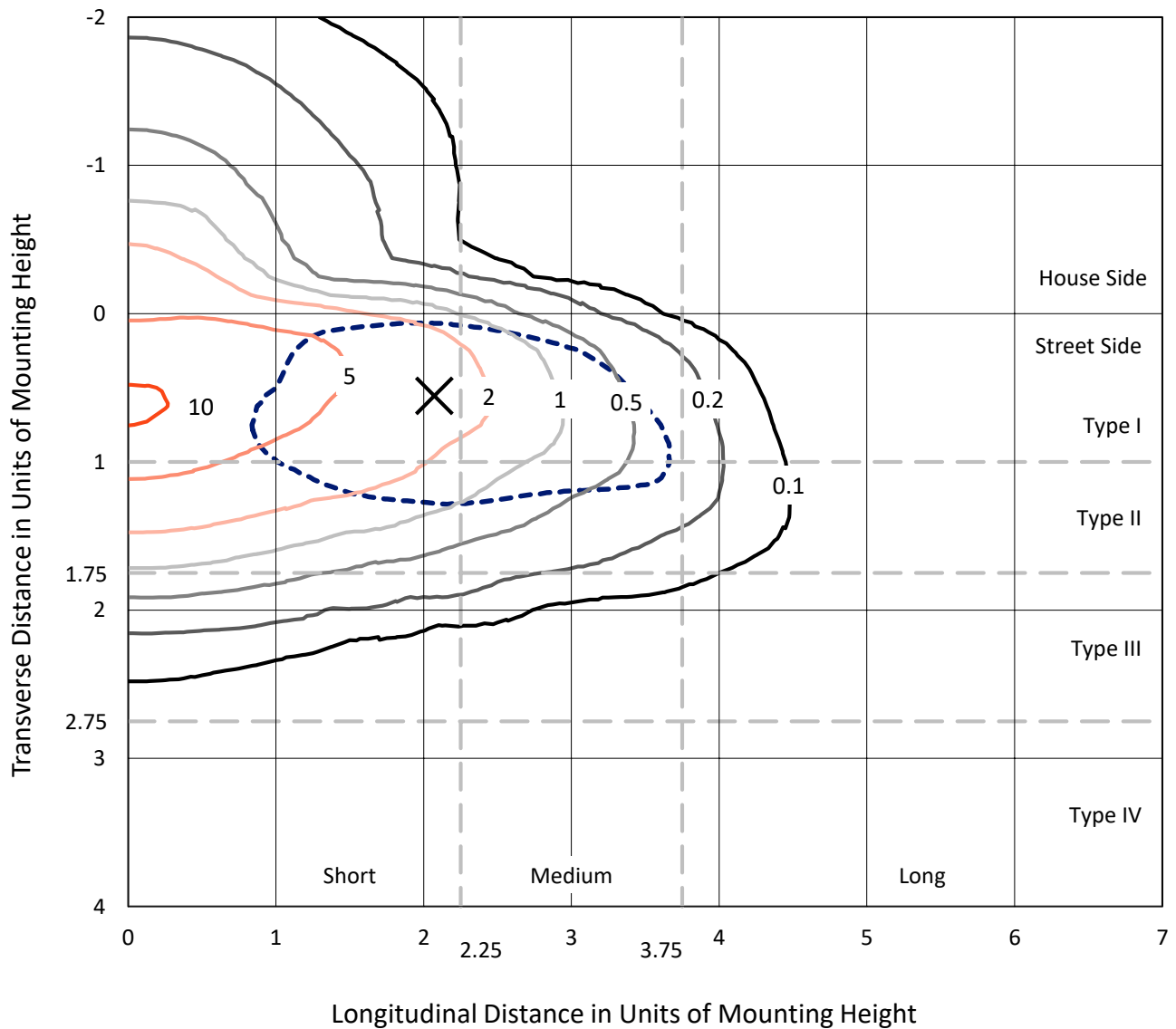


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### Iso-Footcandle Lines of Horizontal Illumination

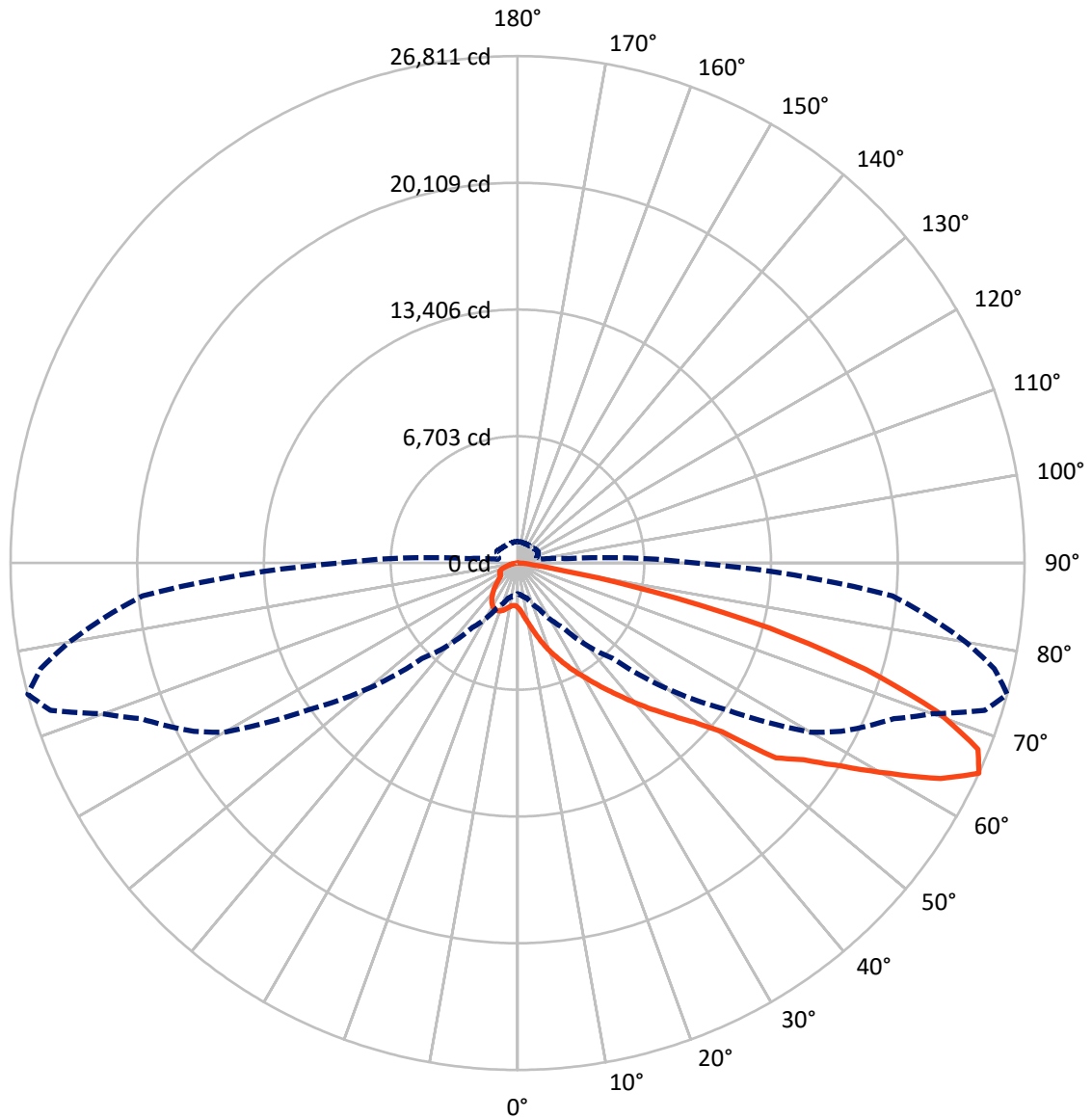
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 10.8 fc  
 Type II - Short - Semi-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	4075.9	0.0	4075.9
	% Fixture	15.0	0.0	15.0
<b>Street Side</b>	Lumens	23048.8	0.0	23048.8
	% Fixture	85.0	0.0	85.0
<b>Total</b>	Lumens	27124.7	0.0	27124.7
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	277.4	1.0
10°-20°	1059.7	3.9
20°-30°	2138.7	7.9
30°-40°	3632.1	13.4
40°-50°	5065.8	18.7
50°-60°	6208.8	22.9
60°-70°	5841.6	21.5
70°-80°	2561.5	9.4
80°-90°	338.9	1.2
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°	27124.7	100.0
0°-180°	27124.7	100.0

**Coefficient of Utilization**



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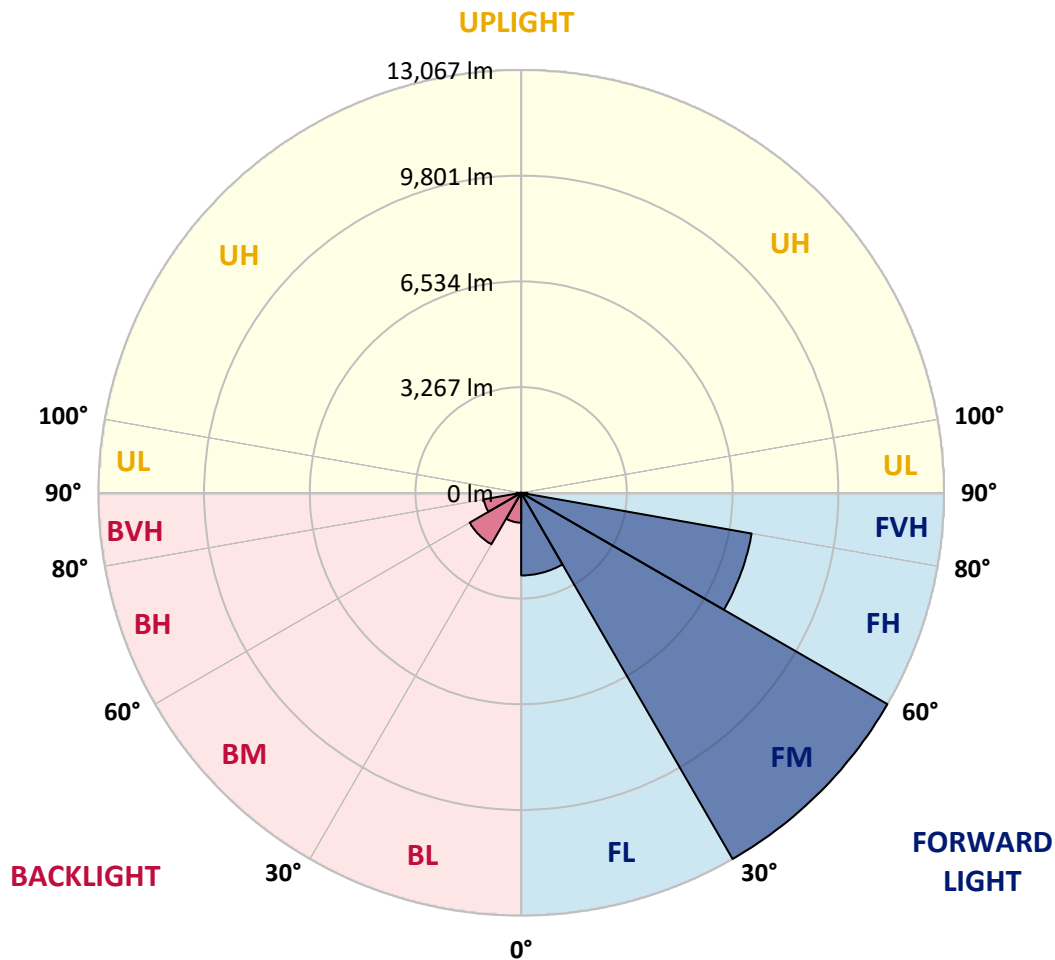
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2553.2	9.4			
FM (30°-60°)	13067.5	48.2			
FH (60°-80°)	7231.7	26.7			G3/7500
FVH (80°-90°)	196.5	0.7			G2/225
BL (0°-30°)	922.7	3.4	B2/1000		
BM (30°-60°)	1839.3	6.8	B2/2500		
BH (60°-80°)	1171.5	4.3	B3/2500		G3/2500
BVH (80°-90°)	142.5	0.5			G2/225
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B3-U0-G3**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1
2.5°	2959.3	2924.8	2928.2	2880.0	2809.2	2731.5	2667.7	2633.1	2603.8	2595.2	2547.0
5°	3870.4	3827.3	3811.7	3701.2	3535.6	3339.0	3143.9	3068.0	3005.9	2967.9	2874.7
7.5°	4615.8	4593.4	4572.7	4470.9	4307.0	4055.0	3740.9	3628.8	3525.2	3411.4	3299.2
10°	5123.1	5114.5	5105.9	5035.1	4898.8	4679.7	4341.4	4218.9	4089.6	3944.6	3798.0
12.5°	5506.2	5506.2	5513.1	5454.4	5371.6	5202.5	4895.4	4781.5	4650.3	4498.5	4331.1
15°	5763.3	5770.2	5806.5	5823.7	5780.6	5671.8	5402.7	5302.6	5178.4	5028.2	4862.6
17.5°	5934.1	5948.0	6001.4	6058.4	6113.6	6075.7	5875.5	5782.3	5670.1	5532.2	5376.7
20°	6331.0	6313.8	6315.5	6298.2	6379.3	6408.7	6298.2	6220.5	6130.9	6004.9	5863.4
22.5°	7164.4	7131.7	7047.1	6831.4	6733.1	6722.7	6657.1	6615.7	6546.7	6467.4	6325.9
25°	8251.6	8213.6	8046.2	7690.8	7397.4	7126.6	7005.7	6979.8	6934.9	6881.4	6779.6
27.5°	9374.9	9333.5	9117.8	8669.1	8286.0	7739.1	7362.9	7328.3	7286.9	7264.5	7216.2
30°	10363.6	10318.8	10106.5	9651.0	9188.4	8536.2	7844.3	7723.5	7652.7	7659.7	7632.1
32.5°	11231.6	11191.9	10953.8	10489.6	10020.2	9386.9	8469.0	8280.9	8122.2	8063.5	8084.2
35°	11959.7	11923.5	11663.0	11195.4	10722.4	10196.2	9273.1	8990.1	8731.2	8569.1	8550.1
37.5°	12387.7	12366.9	12184.0	11787.2	11317.8	10931.3	10173.7	9859.8	9478.5	9242.0	9138.5
40°	12363.6	12385.9	12354.9	12175.5	11811.4	11530.1	11112.5	10801.9	10429.3	10077.2	9866.6
42.5°	12011.5	12042.5	12182.3	12275.5	12177.2	12006.3	11932.1	11700.9	11366.1	10993.4	10701.8
45°	11528.4	11556.0	11737.1	12073.5	12354.9	12403.2	12649.9	12534.3	12251.4	11933.9	11612.9
47.5°	10788.0	10841.6	11052.1	11587.1	12256.4	12722.4	13252.2	13305.7	13141.7	12879.5	12579.2
50°	9716.5	9787.2	10082.3	10843.3	11883.8	13050.3	14147.8	14351.3	14285.7	14020.0	13716.3
52.5°	8619.1	8689.8	9083.3	9892.6	11283.3	13184.9	15029.4	15550.6	15926.7	16201.1	16254.6
55°	7476.8	7556.2	7987.5	8919.4	10482.7	13014.1	15659.2	16251.1	16632.5	16918.9	17034.6
57.5°	6187.8	6277.5	6695.1	7637.2	9350.7	12327.2	16359.8	17198.5	17766.2	18207.9	18456.4
60°	4709.0	4821.2	5254.3	6203.3	7863.3	11012.5	16672.2	17912.8	18815.3	19477.9	19871.3
62.5°	2985.2	3099.0	3549.4	4534.7	6170.5	9216.1	15788.7	17598.8	19138.0	20118.1	20839.3
65°	1628.9	1679.0	1929.2	2671.2	4160.3	7150.7	13548.9	15683.5	17900.8	19289.8	20397.6
67.5°	1221.7	1228.6	1254.6	1435.6	2215.6	4828.0	10593.1	12548.1	15010.5	16798.2	18121.6
70°	1069.8	1069.8	1073.3	1075.0	1202.7	2615.8	7176.5	8976.3	11233.3	13041.6	14686.1
72.5°	959.4	949.0	945.6	924.9	942.2	1340.7	3906.7	5523.5	7426.8	9456.0	10990.0
75°	828.3	826.5	826.5	805.8	816.1	943.9	1694.5	2650.4	4125.7	6015.3	7525.1
77.5°	716.0	704.0	705.7	693.7	726.5	723.0	804.1	1092.3	1796.3	3159.4	4412.2
80°	590.1	581.5	586.7	579.7	631.5	535.0	541.8	667.8	892.1	1385.6	1953.3
82.5°	436.6	440.0	472.8	469.4	531.4	360.7	396.8	498.7	600.5	690.2	750.6
85°	255.3	260.6	339.9	357.2	389.9	189.8	243.3	296.7	334.8	371.1	386.6
87.5°	27.7	36.3	189.8	195.0	174.3	57.0	98.4	124.2	132.9	141.5	124.2
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):**

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1
2.5°	2531.3	2508.9	2484.8	2471.0	2446.9	2426.1	2388.2	2357.0	2322.7	2298.4	2288.1
5°	2828.1	2774.6	2717.8	2676.3	2624.5	2579.7	2493.4	2389.8	2357.0	2288.1	2270.9
7.5°	3214.7	3118.0	3021.4	2942.1	2852.3	2778.1	2633.1	2446.9	2422.8	2312.3	2288.1
10°	3668.5	3527.0	3383.8	3261.3	3130.2	3016.2	2802.3	2540.0	2514.2	2372.7	2348.4
12.5°	4175.8	4003.3	3818.6	3635.7	3480.5	3320.0	3028.3	2684.9	2643.5	2476.2	2443.4
15°	4698.7	4512.3	4298.4	4077.4	3886.0	3673.8	3306.1	2874.7	2798.7	2602.1	2557.2
17.5°	5214.6	5012.7	4788.4	4541.6	4317.3	4063.7	3606.4	3087.0	2955.9	2726.3	2669.4
20°	5713.2	5508.0	5271.5	5030.0	4750.4	4460.5	3913.5	3295.8	3095.7	2830.0	2755.7
22.5°	6167.1	5991.1	5754.6	5476.8	5193.8	4867.7	4225.8	3504.6	3218.1	2909.2	2814.4
25°	6645.0	6484.5	6249.9	5982.5	5652.8	5290.6	4548.6	3703.1	3316.4	2952.4	2835.1
27.5°	7128.2	6990.2	6769.2	6488.1	6134.3	5732.3	4876.3	3886.0	3395.9	2966.2	2824.7
30°	7644.1	7537.1	7333.6	7019.5	6662.3	6217.2	5233.5	4065.4	3445.9	2947.3	2778.1
32.5°	8132.5	8129.0	7947.8	7621.7	7236.9	6746.9	5609.7	4246.6	3471.8	2893.7	2697.1
35°	8639.7	8710.5	8574.2	8263.6	7858.2	7314.6	6025.6	4439.9	3473.6	2798.7	2591.7
37.5°	9216.1	9342.1	9281.7	8986.6	8560.5	7961.6	6513.9	4657.2	3463.2	2667.7	2438.2
40°	9871.8	10044.4	10042.7	9794.2	9338.6	8686.3	7081.6	4900.5	3439.1	2503.7	2257.0
42.5°	10622.4	10827.8	10884.7	10639.6	10179.0	9478.5	7732.2	5168.0	3401.0	2341.5	2065.4
45°	11481.7	11663.0	11770.0	11542.1	11079.8	10341.2	8479.3	5471.7	3354.5	2132.7	1846.4
47.5°	12401.5	12612.1	12772.5	12577.5	12084.0	11324.7	9364.5	5863.4	3337.3	1894.7	1609.9
50°	13542.0	13759.4	14106.4	14018.3	13747.4	13136.6	11236.8	6788.3	3344.1	1668.6	1411.5
52.5°	16372.0	16870.6	17309.0	17114.0	16470.3	15422.9	12758.6	7302.5	3199.1	1484.0	1273.4
55°	17226.2	17792.1	18439.1	18358.1	17740.3	16684.3	13961.3	7732.2	3059.4	1349.4	1183.8
57.5°	18720.4	19388.2	20292.4	20275.1	19517.6	18328.7	15509.2	8246.4	2998.9	1271.8	1138.8
60°	20302.8	21153.4	22402.7	22597.8	21774.6	20537.5	17338.3	8878.0	3007.6	1228.6	1113.1
62.5°	21458.8	22706.4	24523.5	25106.6	24136.9	22773.7	19236.4	9509.5	2955.9	1178.6	1081.8
65°	21529.6	23325.9	25903.8	26811.4	25829.7	24078.2	19905.8	9385.3	2645.2	1111.2	1031.9
67.5°	19804.0	22143.9	25275.7	26271.4	25267.1	23274.1	18732.5	8205.0	2150.0	993.9	945.6
70°	16494.5	19210.5	22461.4	23570.9	22740.9	20723.8	16302.9	6553.6	1606.4	838.6	816.1
72.5°	12746.6	15279.7	18232.1	19258.8	18623.8	16850.0	12858.7	4776.3	1147.4	679.8	662.6
75°	9112.6	11269.5	13412.6	13804.4	13178.0	11549.0	8343.0	2983.5	804.1	557.3	533.1
77.5°	5642.4	7045.4	7815.0	7311.1	6512.2	5413.0	3395.9	1473.6	535.0	453.9	429.6
80°	2503.7	2938.6	2743.6	2445.1	1930.8	1587.5	1037.1	654.0	345.2	350.2	336.5
82.5°	842.1	890.4	866.2	861.1	776.5	679.8	440.0	283.0	193.3	224.3	219.2
85°	410.7	429.6	431.3	446.9	388.2	302.0	119.1	112.2	82.8	120.8	125.9
87.5°	124.2	125.9	113.8	124.2	100.1	69.1	22.4	31.0	15.6	29.3	29.3
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):**

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1
2.5°	2269.1	2262.2	2250.0	2236.3	2232.8	2215.6	2210.5	2201.8	2196.6	2188.0	2181.1
5°	2248.3	2236.3	2222.6	2206.9	2206.9	2182.8	2172.5	2162.1	2162.1	2146.6	2139.7
7.5°	2269.1	2253.6	2238.0	2224.2	2229.4	2201.8	2191.4	2181.1	2179.4	2163.9	2156.9
10°	2327.8	2312.3	2293.3	2279.4	2274.2	2251.9	2239.7	2224.2	2213.9	2203.5	2193.2
12.5°	2417.5	2396.8	2372.7	2343.3	2331.1	2312.3	2293.3	2272.6	2248.3	2238.0	2222.6
15°	2524.4	2489.9	2457.1	2420.9	2388.2	2369.2	2343.3	2310.5	2277.7	2264.0	2243.2
17.5°	2612.5	2576.3	2529.7	2486.5	2427.8	2412.3	2376.1	2336.4	2282.9	2277.7	2246.7
20°	2686.6	2631.4	2574.4	2522.8	2432.9	2424.4	2379.5	2332.9	2257.0	2257.0	2219.0
22.5°	2728.1	2652.2	2584.8	2515.8	2403.7	2396.8	2345.0	2289.7	2196.6	2200.1	2153.5
25°	2735.0	2643.5	2559.0	2476.2	2346.8	2334.7	2269.1	2208.6	2106.8	2100.0	2051.7
27.5°	2707.3	2600.4	2502.0	2401.9	2262.2	2236.3	2163.9	2091.3	1991.2	1974.0	1922.3
30°	2643.5	2517.6	2407.1	2291.5	2144.9	2103.5	2027.6	1953.3	1851.5	1829.1	1780.7
32.5°	2541.7	2398.5	2276.0	2160.4	1998.2	1946.5	1870.5	1796.3	1697.9	1680.6	1635.8
35°	2407.1	2246.7	2117.2	1994.7	1832.5	1779.1	1706.5	1641.0	1551.3	1544.4	1513.4
37.5°	2238.0	2070.7	1932.6	1815.3	1661.8	1634.1	1559.9	1511.6	1437.5	1444.3	1428.8
40°	2046.5	1875.7	1744.6	1641.0	1508.1	1484.0	1439.1	1402.9	1339.0	1358.0	1359.7
42.5°	1853.2	1682.4	1563.4	1470.2	1356.2	1340.7	1309.7	1288.9	1240.6	1278.7	1294.1
45°	1634.1	1475.3	1373.5	1302.8	1218.2	1218.2	1202.7	1201.0	1168.2	1221.7	1237.3
47.5°	1421.9	1297.6	1226.9	1183.8	1125.1	1152.6	1147.4	1161.3	1137.2	1192.3	1206.1
50°	1261.4	1175.1	1131.9	1111.2	1069.8	1113.1	1123.3	1142.3	1121.6	1169.9	1180.2
52.5°	1159.6	1102.7	1078.5	1073.3	1044.0	1097.4	1114.7	1131.9	1107.8	1152.6	1150.9
55°	1102.7	1064.6	1056.0	1066.4	1044.0	1095.8	1113.1	1125.1	1104.4	1135.4	1133.7
57.5°	1081.8	1061.2	1066.4	1081.8	1066.4	1109.5	1118.2	1131.9	1111.2	1125.1	1131.9
60°	1080.1	1080.1	1100.9	1121.6	1111.2	1142.3	1147.4	1145.8	1126.8	1128.5	1131.9
62.5°	1069.8	1095.8	1130.2	1163.1	1159.6	1197.5	1201.0	1178.6	1163.1	1145.8	1140.5
65°	1037.1	1080.1	1130.2	1175.1	1181.9	1240.6	1247.5	1225.2	1214.8	1185.5	1163.1
67.5°	964.5	1019.8	1078.5	1133.7	1145.8	1225.2	1240.6	1249.3	1254.6	1235.5	1206.1
70°	842.1	898.9	959.4	1023.2	1040.4	1128.5	1161.3	1201.0	1232.0	1259.6	1249.3
72.5°	685.0	736.9	788.6	847.2	873.1	964.5	1007.7	1076.8	1125.1	1195.9	1225.2
75°	543.6	574.6	605.7	641.9	662.6	752.4	805.8	888.6	954.3	1052.6	1118.2
77.5°	428.0	443.5	459.0	474.5	483.2	533.1	576.4	659.2	735.1	859.4	955.9
80°	329.5	338.1	339.9	345.2	341.7	365.8	381.4	431.3	496.9	619.5	733.3
82.5°	212.3	219.2	222.6	231.2	213.9	245.1	255.3	260.6	295.1	384.8	465.9
85°	119.1	120.8	122.5	125.9	101.8	132.9	134.6	125.9	122.5	158.8	179.4
87.5°	29.3	27.7	29.3	29.3	12.1	27.7	27.7	19.0	13.7	25.9	20.8
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):**

	135°	145°	155°	165°	175°	180°
0°	2350.1	2350.1	2350.1	2350.1	2350.1	2350.1
2.5°	2165.5	2162.1	2163.9	2155.2	2151.8	2153.5
5°	2131.0	2124.1	2124.1	2119.0	2112.1	2112.1
7.5°	2146.6	2132.7	2127.6	2117.2	2106.8	2108.6
10°	2170.8	2146.6	2129.4	2113.8	2101.7	2101.7
12.5°	2186.3	2143.1	2117.2	2096.5	2082.7	2082.7
15°	2189.7	2124.1	2086.2	2063.8	2049.9	2049.9
17.5°	2169.1	2086.2	2037.9	2008.5	1993.0	1996.5
20°	2117.2	2015.4	1958.5	1927.5	1911.9	1913.6
22.5°	2036.1	1918.8	1853.2	1817.0	1801.4	1801.4
25°	1925.7	1798.0	1727.3	1697.9	1684.1	1684.1
27.5°	1799.7	1668.6	1606.4	1584.0	1575.4	1575.4
30°	1658.2	1549.6	1504.7	1489.1	1475.3	1475.3
32.5°	1539.1	1461.6	1446.0	1425.3	1389.0	1387.4
35°	1444.3	1435.6	1423.5	1361.5	1309.7	1302.8
37.5°	1392.5	1444.3	1368.4	1261.4	1220.0	1218.2
40°	1364.8	1413.3	1282.0	1230.3	1225.2	1225.2
42.5°	1299.3	1333.8	1276.9	1247.5	1247.5	1249.3
45°	1230.3	1259.6	1288.9	1263.1	1271.8	1273.4
47.5°	1181.9	1240.6	1288.9	1266.6	1283.8	1294.1
50°	1137.2	1223.3	1263.1	1263.1	1282.0	1283.8
52.5°	1126.8	1199.2	1238.9	1257.9	1259.6	1251.0
55°	1128.5	1180.2	1220.0	1244.1	1233.7	1233.7
57.5°	1126.8	1169.9	1204.5	1213.1	1218.2	1218.2
60°	1128.5	1156.1	1183.8	1180.2	1197.5	1197.5
62.5°	1133.7	1137.2	1150.9	1147.4	1173.3	1173.3
65°	1145.8	1113.1	1104.4	1107.8	1138.8	1137.2
67.5°	1168.2	1080.1	1052.6	1054.4	1099.1	1092.3
70°	1201.0	1035.3	993.9	983.6	1059.5	1047.4
72.5°	1211.3	983.6	918.0	907.6	952.5	918.0
75°	1163.1	942.2	836.9	802.4	783.4	773.0
77.5°	1037.1	916.2	752.4	679.8	650.5	643.6
80°	859.4	862.8	641.9	555.6	645.4	643.6
82.5°	648.8	745.4	514.2	481.4	467.6	389.9
85°	314.0	560.8	395.2	331.3	198.5	188.0
87.5°	27.7	234.7	227.8	148.4	67.3	63.8
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)