

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: P197255

Luminaire Tested: **NAV-AF-05-D-UNV-T2R-8030-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197255  
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-05-D-UNV-T2R-8030-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 80 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: 28206 lumens  
Efficiency: N/A  
Efficacy: 88.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type II - Short - Semi-Cutoff  
BUG Rating: B3 - U0 - G4

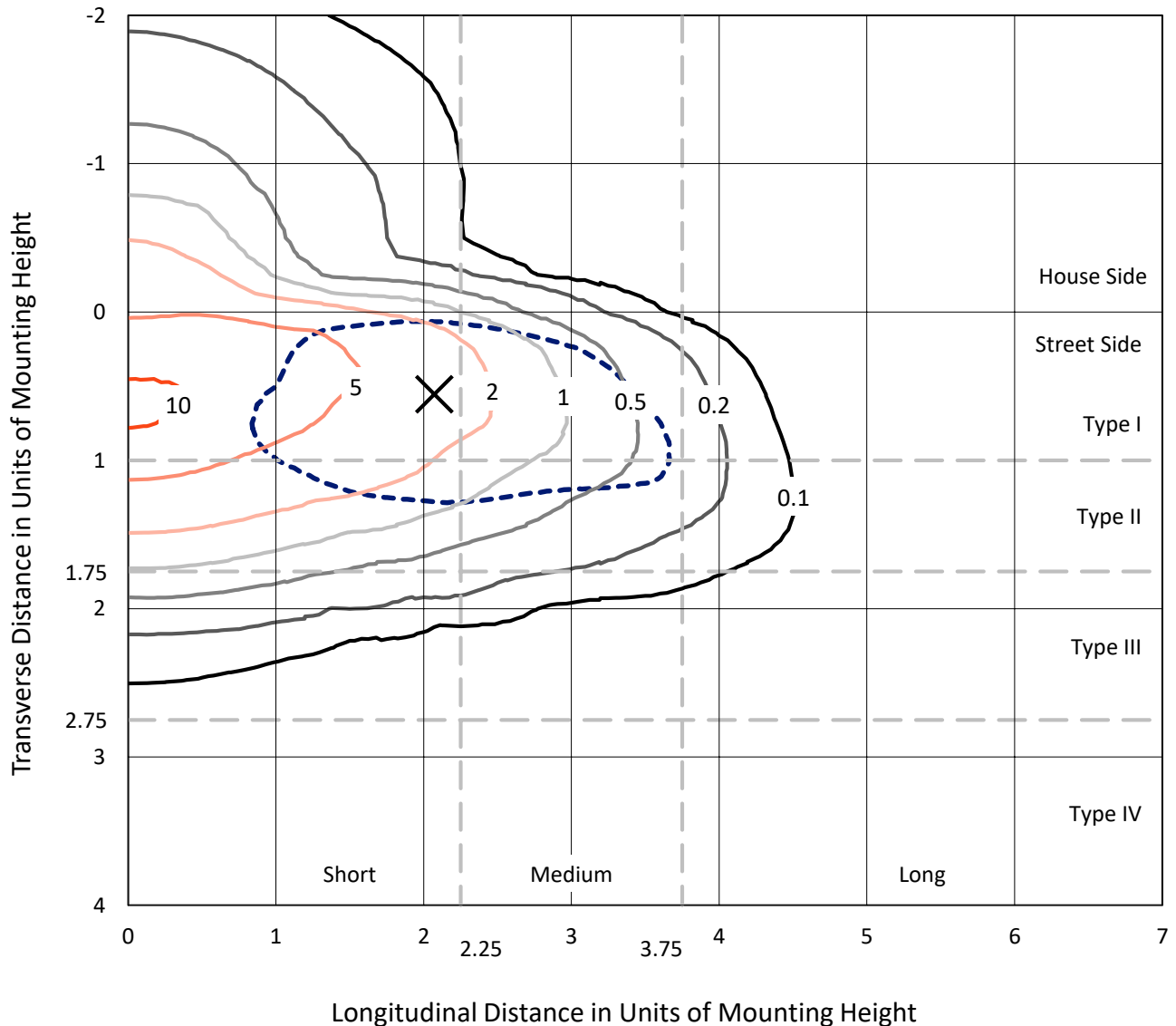
Input Watts (W): 320  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

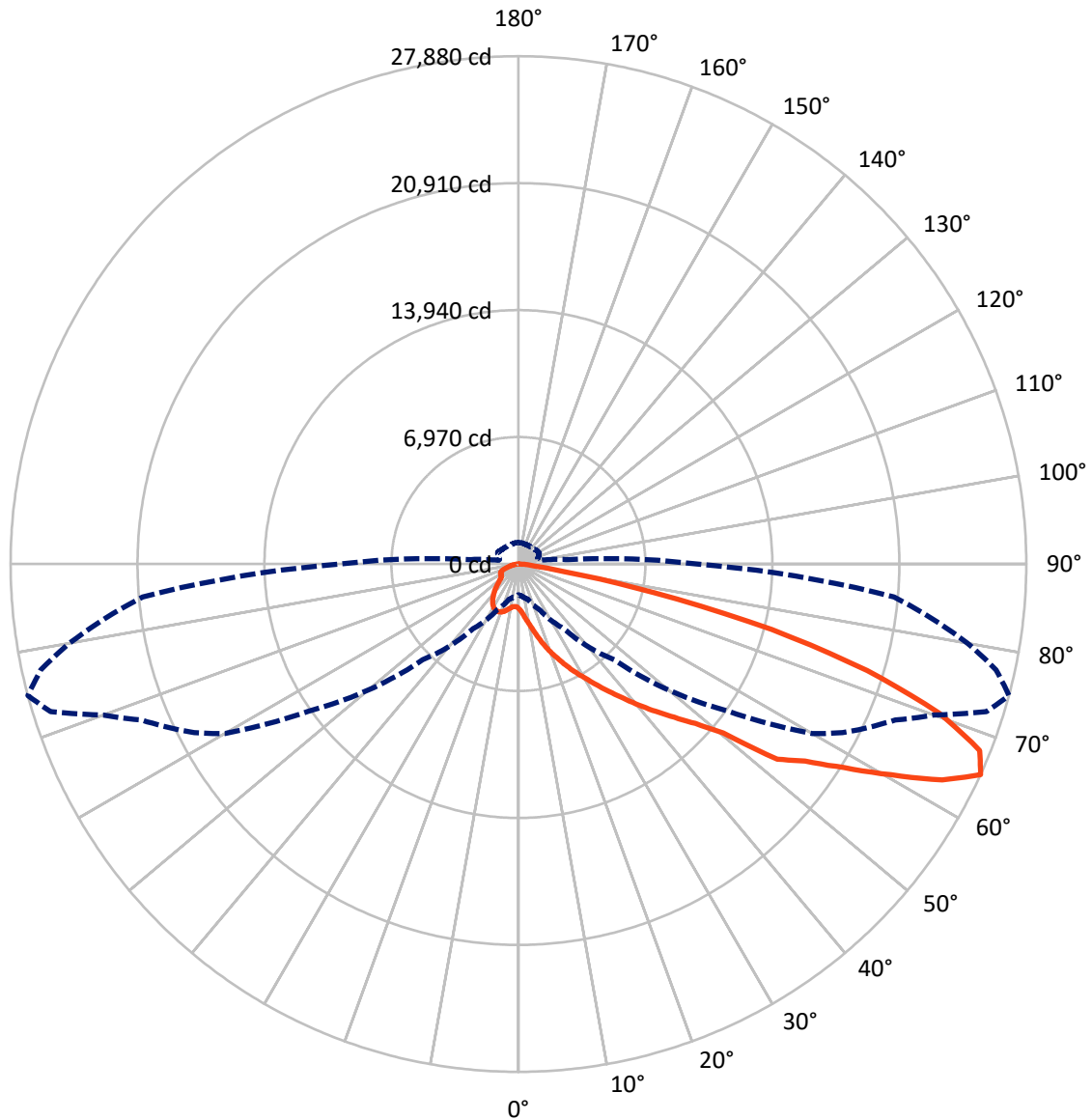
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.2 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	4238.4	0.0	4238.4
	% Fixture	15.0	0.0	15.0
<b>Street Side</b>	Lumens	23967.6	0.0	23967.6
	% Fixture	85.0	0.0	85.0
<b>Total</b>	Lumens	28206.0	0.0	28206.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	288.5	1.0
10°-20°	1102.0	3.9
20°-30°	2223.9	7.9
30°-40°	3776.8	13.4
40°-50°	5267.8	18.7
50°-60°	6456.3	22.9
60°-70°	6074.5	21.5
70°-80°	2663.6	9.4
80°-90°	352.5	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°	28206.0	100.0
0°-180°	28206.0	100.0



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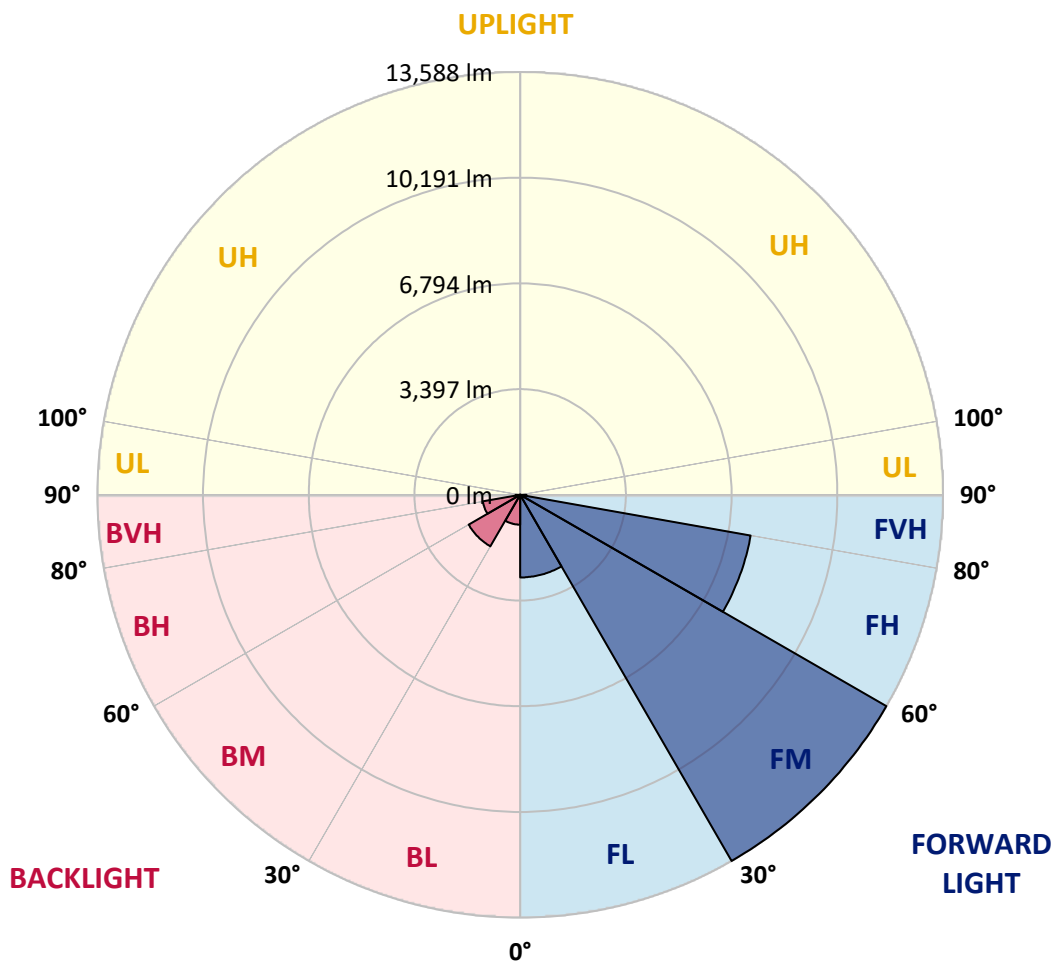
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2655.0	9.4			
FM	(30°-60°)	13588.4	48.2			
FH	(60°-80°)	7520.0	26.7			G4/12000
FVH	(80°-90°)	204.3	0.7			G2/225
BL	(0°-30°)	959.5	3.4	B2/1000		
BM	(30°-60°)	1912.6	6.8	B2/2500		
BH	(60°-80°)	1218.2	4.3	B3/2500		G3/2500
BVH	(80°-90°)	148.1	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-G4**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	57.5°	60°	62.5°	65°
0°	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9
2.5°	3077.3	3041.4	3045.0	2994.7	2921.2	2840.4	2774.0	2738.1	2707.6	2698.7	2648.4
5°	4024.7	3979.8	3963.7	3848.8	3676.6	3472.0	3269.3	3190.3	3125.7	3086.2	2989.4
7.5°	4799.8	4776.5	4755.0	4649.1	4478.6	4216.7	3890.1	3773.5	3665.8	3547.4	3430.8
10°	5327.4	5318.4	5309.4	5235.9	5094.1	4866.2	4514.5	4387.1	4252.6	4101.8	3949.3
12.5°	5725.7	5725.7	5732.9	5671.9	5585.7	5409.9	5090.5	4972.1	4835.7	4677.8	4503.8
15°	5993.1	6000.2	6037.9	6055.9	6011.0	5898.0	5618.0	5514.0	5384.8	5228.7	5056.4
17.5°	6170.7	6185.1	6240.7	6299.9	6357.3	6317.8	6109.7	6012.8	5896.2	5752.6	5591.1
20°	6583.4	6565.5	6567.2	6549.3	6633.6	6664.1	6549.3	6468.6	6375.3	6244.3	6097.1
22.5°	7450.1	7416.0	7328.0	7103.8	7001.5	6990.7	6922.5	6879.5	6807.7	6725.1	6578.0
25°	8580.5	8541.0	8367.0	7997.3	7692.3	7410.6	7285.0	7258.1	7211.4	7155.8	7049.9
27.5°	9748.6	9705.5	9481.2	9014.7	8616.4	8047.6	7656.4	7620.5	7577.5	7554.1	7503.9
30°	10776.7	10730.1	10509.4	10035.7	9554.8	8876.6	8157.0	8031.4	7957.9	7965.0	7936.3
32.5°	11679.3	11638.0	11390.4	10907.7	10419.7	9761.2	8806.6	8611.0	8445.9	8384.9	8406.4
35°	12436.5	12398.8	12127.9	11641.6	11150.0	10602.7	9642.7	9348.5	9079.3	8910.6	8890.9
37.5°	12881.5	12860.0	12669.8	12257.1	11769.0	11367.1	10579.4	10252.8	9856.3	9610.4	9502.8
40°	12856.4	12879.7	12847.4	12660.8	12282.2	11989.7	11555.5	11232.5	10844.9	10478.9	10260.0
42.5°	12490.3	12522.6	12668.0	12764.9	12662.6	12484.9	12407.8	12167.4	11819.3	11431.7	11128.4
45°	11987.9	12016.6	12205.0	12554.9	12847.4	12897.6	13154.2	13034.0	12739.7	12409.6	12075.8
47.5°	11218.2	11273.8	11492.7	12048.9	12745.1	13229.6	13780.5	13836.1	13665.6	13392.9	13080.7
50°	10103.9	10177.4	10484.3	11275.6	12357.6	13570.5	14711.7	14923.4	14855.3	14578.9	14263.1
52.5°	8962.7	9036.2	9445.4	10286.9	11733.1	13710.5	15628.6	16170.5	16561.7	16847.0	16902.6
55°	7774.8	7857.4	8306.0	9274.9	10900.6	13532.8	16283.5	16899.0	17295.5	17593.4	17713.6
57.5°	6434.5	6527.8	6962.0	7941.7	9723.5	12818.7	17012.0	17884.1	18474.4	18933.8	19192.2
60°	4896.7	5013.4	5463.7	6450.6	8176.8	11451.4	17336.8	18626.9	19565.4	20254.4	20663.5
62.5°	3104.2	3222.6	3690.9	4715.5	6416.5	9583.5	16418.1	18300.4	19900.9	20920.1	21670.1
65°	1693.8	1745.9	2006.1	2777.6	4326.1	7435.7	14089.1	16308.7	18614.4	20058.8	21210.8
67.5°	1270.4	1277.6	1304.5	1492.9	2303.9	5020.5	11015.4	13048.4	15608.9	17467.8	18844.1
70°	1112.5	1112.5	1116.1	1117.9	1250.6	2720.2	7462.6	9334.1	11681.1	13561.5	15271.5
72.5°	997.6	986.9	983.3	961.8	979.7	1394.2	4062.4	5743.7	7722.8	9832.9	11428.1
75°	861.3	859.5	859.5	838.0	848.7	981.5	1762.0	2756.1	4290.2	6255.0	7825.1
77.5°	744.6	732.1	733.9	721.3	755.4	751.8	836.2	1135.8	1867.9	3285.4	4588.1
80°	613.7	604.7	610.1	602.9	656.7	556.2	563.4	694.4	927.7	1440.8	2031.2
82.5°	454.0	457.6	491.6	488.1	552.7	375.0	412.7	518.6	624.4	717.7	780.5
85°	265.6	270.9	353.5	371.4	405.5	197.4	253.0	308.6	348.1	385.8	401.9
87.5°	28.7	37.7	197.4	202.8	181.2	59.2	102.3	129.2	138.2	147.1	129.2
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°	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9
2.5°	2632.3	2609.0	2583.8	2569.5	2544.4	2522.8	2483.4	2451.1	2415.2	2390.0	2379.3
5°	2940.9	2885.3	2826.1	2783.0	2729.2	2682.5	2592.8	2485.1	2451.1	2379.3	2361.3
7.5°	3342.8	3242.4	3141.9	3059.3	2966.0	2888.9	2738.1	2544.4	2519.2	2404.4	2379.3
10°	3814.7	3667.6	3518.7	3391.3	3254.9	3136.5	2914.0	2641.3	2614.3	2467.2	2442.1
12.5°	4342.3	4162.8	3970.9	3780.7	3619.2	3452.3	3149.0	2792.0	2748.9	2574.9	2540.8
15°	4886.0	4692.2	4469.7	4240.0	4040.8	3820.1	3437.9	2989.4	2910.4	2705.8	2659.2
17.5°	5422.5	5212.5	4979.3	4722.7	4489.4	4225.6	3750.1	3210.1	3073.7	2835.0	2775.8
20°	5941.0	5727.5	5481.7	5230.5	4939.8	4638.3	4069.5	3427.2	3219.0	2942.7	2865.5
22.5°	6412.9	6229.9	5984.1	5695.2	5400.9	5061.8	4394.3	3644.3	3346.4	3025.2	2926.6
25°	6910.0	6743.1	6499.1	6220.9	5878.2	5501.4	4729.9	3850.6	3448.7	3070.1	2948.1
27.5°	7412.4	7268.8	7039.2	6746.7	6378.8	5960.8	5070.8	4040.8	3531.2	3084.5	2937.3
30°	7948.9	7837.6	7625.9	7299.3	6927.9	6465.0	5442.2	4227.4	3583.3	3064.7	2888.9
32.5°	8456.7	8453.1	8264.7	7925.6	7525.4	7015.8	5833.4	4415.8	3610.2	3009.1	2804.5
35°	8984.2	9057.8	8916.0	8593.0	8171.4	7606.2	6265.8	4616.8	3612.0	2910.4	2695.1
37.5°	9583.5	9714.5	9651.7	9344.9	8901.7	8279.0	6773.6	4842.9	3601.2	2774.0	2535.4
40°	10265.4	10444.8	10443.0	10184.6	9710.9	9032.7	7363.9	5095.9	3576.1	2603.6	2347.0
42.5°	11045.9	11259.4	11318.6	11063.8	10584.8	9856.3	8040.4	5374.0	3536.6	2434.9	2147.8
45°	11939.5	12127.9	12239.1	12002.3	11521.4	10753.4	8817.3	5689.8	3488.2	2217.8	1919.9
47.5°	12895.8	13114.8	13281.6	13078.9	12565.7	11776.2	9737.8	6097.1	3470.2	1970.2	1674.1
50°	14081.9	14308.0	14668.6	14577.1	14295.4	13660.2	11684.7	7058.9	3477.4	1735.1	1467.8
52.5°	17024.6	17543.2	17998.9	17796.2	17126.9	16037.7	13267.3	7593.6	3326.7	1543.1	1324.2
55°	17912.8	18501.3	19174.2	19089.9	18447.5	17349.4	14517.9	8040.4	3181.3	1403.2	1230.9
57.5°	19466.7	20161.1	21101.3	21083.4	20295.7	19059.4	16127.4	8575.1	3118.5	1322.4	1184.3
60°	21112.1	21996.7	23295.8	23498.5	22642.6	21356.1	18029.4	9231.8	3127.5	1277.6	1157.3
62.5°	22314.3	23611.6	25501.0	26107.5	25099.1	23681.6	20003.2	9888.6	3073.7	1225.5	1125.0
65°	22387.9	24255.8	26936.5	27880.3	26859.3	25038.1	20699.4	9759.4	2750.7	1155.5	1073.0
67.5°	20593.5	23026.6	26283.3	27318.7	26274.4	24201.9	19479.2	8532.0	2235.7	1033.5	983.3
70°	17152.0	19976.3	23356.8	24510.5	23647.5	21549.9	16952.8	6814.9	1670.5	872.0	848.7
72.5°	13254.7	15888.8	18958.9	20026.5	19366.2	17521.6	13371.3	4966.7	1193.2	707.0	689.0
75°	9475.9	11718.8	13947.3	14354.6	13703.3	12009.5	8675.6	3102.4	836.2	579.6	554.4
77.5°	5867.5	7326.2	8126.5	7602.6	6771.8	5628.8	3531.2	1532.4	556.2	471.9	446.8
80°	2603.6	3055.7	2853.0	2542.6	2007.9	1650.8	1078.4	680.1	358.9	364.2	349.9
82.5°	875.6	925.9	900.8	895.4	807.4	707.0	457.6	294.3	201.0	233.3	227.9
85°	427.1	446.8	448.6	464.7	403.7	314.0	123.8	116.6	86.1	125.6	131.0
87.5°	129.2	131.0	118.4	129.2	104.1	71.8	23.3	32.3	16.1	30.5	30.5
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):**

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9
2.5°	2359.5	2352.4	2339.8	2325.5	2321.9	2303.9	2298.5	2289.6	2284.2	2275.2	2268.0
5°	2338.0	2325.5	2311.1	2294.9	2294.9	2269.8	2259.1	2248.3	2248.3	2232.1	2225.0
7.5°	2359.5	2343.4	2327.2	2312.9	2318.3	2289.6	2278.8	2268.0	2266.2	2250.1	2242.9
10°	2420.6	2404.4	2384.7	2370.3	2364.9	2341.6	2329.0	2312.9	2302.1	2291.4	2280.6
12.5°	2513.9	2492.3	2467.2	2436.7	2424.1	2404.4	2384.7	2363.1	2338.0	2327.2	2311.1
15°	2625.1	2589.2	2555.1	2517.4	2483.4	2463.6	2436.7	2402.6	2368.5	2354.2	2332.6
17.5°	2716.6	2678.9	2630.5	2585.6	2524.6	2508.5	2470.8	2429.5	2373.9	2368.5	2336.2
20°	2793.8	2736.4	2677.1	2623.3	2530.0	2521.0	2474.4	2425.9	2347.0	2347.0	2307.5
22.5°	2836.8	2757.9	2687.9	2616.1	2499.5	2492.3	2438.5	2381.1	2284.2	2287.8	2239.3
25°	2844.0	2748.9	2661.0	2574.9	2440.3	2427.7	2359.5	2296.7	2190.9	2183.7	2133.5
27.5°	2815.3	2704.1	2601.8	2497.7	2352.4	2325.5	2250.1	2174.7	2070.7	2052.7	1998.9
30°	2748.9	2617.9	2503.1	2382.9	2230.4	2187.3	2108.3	2031.2	1925.3	1902.0	1851.7
32.5°	2643.0	2494.1	2366.7	2246.5	2077.8	2024.0	1945.1	1867.9	1765.6	1747.7	1701.0
35°	2503.1	2336.2	2201.6	2074.2	1905.6	1850.0	1774.6	1706.4	1613.1	1605.9	1573.6
37.5°	2327.2	2153.2	2009.6	1887.6	1727.9	1699.2	1622.1	1571.8	1494.7	1501.9	1485.7
40°	2128.1	1950.4	1814.1	1706.4	1568.2	1543.1	1496.5	1458.8	1392.4	1412.1	1413.9
42.5°	1927.1	1749.5	1625.7	1528.8	1410.3	1394.2	1361.9	1340.4	1290.1	1329.6	1345.7
45°	1699.2	1534.2	1428.3	1354.7	1266.8	1266.8	1250.6	1248.9	1214.8	1270.4	1286.5
47.5°	1478.5	1349.3	1275.8	1230.9	1169.9	1198.6	1193.2	1207.6	1182.5	1239.9	1254.2
50°	1311.7	1221.9	1177.1	1155.5	1112.5	1157.3	1168.1	1187.8	1166.3	1216.6	1227.3
52.5°	1205.8	1146.6	1121.5	1116.1	1085.6	1141.2	1159.1	1177.1	1152.0	1198.6	1196.8
55°	1146.6	1107.1	1098.1	1108.9	1085.6	1139.4	1157.3	1169.9	1148.4	1180.7	1178.9
57.5°	1125.0	1103.5	1108.9	1125.0	1108.9	1153.8	1162.7	1177.1	1155.5	1169.9	1177.1
60°	1123.3	1123.3	1144.8	1166.3	1155.5	1187.8	1193.2	1191.4	1171.7	1173.5	1177.1
62.5°	1112.5	1139.4	1175.3	1209.4	1205.8	1245.3	1248.9	1225.5	1209.4	1191.4	1186.1
65°	1078.4	1123.3	1175.3	1221.9	1229.1	1290.1	1297.3	1274.0	1263.2	1232.7	1209.4
67.5°	1003.0	1060.4	1121.5	1178.9	1191.4	1274.0	1290.1	1299.1	1304.5	1284.7	1254.2
70°	875.6	934.8	997.6	1064.0	1082.0	1173.5	1207.6	1248.9	1281.2	1309.9	1299.1
72.5°	712.3	766.2	820.0	881.0	907.9	1003.0	1047.9	1119.7	1169.9	1243.5	1274.0
75°	565.2	597.5	629.8	667.5	689.0	782.3	838.0	924.1	992.3	1094.5	1162.7
77.5°	445.0	461.1	477.3	493.4	502.4	554.4	599.3	685.4	764.4	893.6	994.1
80°	342.7	351.7	353.5	358.9	355.3	380.4	396.5	448.6	516.8	644.2	762.6
82.5°	220.7	227.9	231.5	240.4	222.5	254.8	265.6	270.9	306.8	400.1	484.5
85°	123.8	125.6	127.4	131.0	105.9	138.2	140.0	131.0	127.4	165.1	186.6
87.5°	30.5	28.7	30.5	30.5	12.6	28.7	28.7	19.7	14.4	26.9	21.5
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):**

	135°	145°	155°	165°	175°	180°
0°	2443.9	2443.9	2443.9	2443.9	2443.9	2443.9
2.5°	2251.9	2248.3	2250.1	2241.1	2237.5	2239.3
5°	2216.0	2208.8	2208.8	2203.4	2196.3	2196.3
7.5°	2232.1	2217.8	2212.4	2201.6	2190.9	2192.7
10°	2257.3	2232.1	2214.2	2198.1	2185.5	2185.5
12.5°	2273.4	2228.6	2201.6	2180.1	2165.8	2165.8
15°	2277.0	2208.8	2169.3	2146.0	2131.7	2131.7
17.5°	2255.5	2169.3	2119.1	2088.6	2072.5	2076.0
20°	2201.6	2095.8	2036.6	2004.3	1988.1	1989.9
22.5°	2117.3	1995.3	1927.1	1889.4	1873.3	1873.3
25°	2002.5	1869.7	1796.1	1765.6	1751.3	1751.3
27.5°	1871.5	1735.1	1670.5	1647.2	1638.2	1638.2
30°	1724.4	1611.3	1564.7	1548.5	1534.2	1534.2
32.5°	1600.5	1519.8	1503.6	1482.1	1444.4	1442.6
35°	1501.9	1492.9	1480.3	1415.7	1361.9	1354.7
37.5°	1448.0	1501.9	1422.9	1311.7	1268.6	1266.8
40°	1419.3	1469.6	1333.2	1279.4	1274.0	1274.0
42.5°	1351.1	1387.0	1327.8	1297.3	1297.3	1299.1
45°	1279.4	1309.9	1340.4	1313.4	1322.4	1324.2
47.5°	1229.1	1290.1	1340.4	1317.0	1335.0	1345.7
50°	1182.5	1272.2	1313.4	1313.4	1333.2	1335.0
52.5°	1171.7	1247.1	1288.3	1308.1	1309.9	1300.9
55°	1173.5	1227.3	1268.6	1293.7	1282.9	1282.9
57.5°	1171.7	1216.6	1252.4	1261.4	1266.8	1266.8
60°	1173.5	1202.2	1230.9	1227.3	1245.3	1245.3
62.5°	1178.9	1182.5	1196.8	1193.2	1220.1	1220.1
65°	1191.4	1157.3	1148.4	1152.0	1184.3	1182.5
67.5°	1214.8	1123.3	1094.5	1096.3	1143.0	1135.8
70°	1248.9	1076.6	1033.5	1022.8	1101.7	1089.2
72.5°	1259.6	1022.8	954.6	943.8	990.5	954.6
75°	1209.4	979.7	870.3	834.4	814.6	803.9
77.5°	1078.4	952.8	782.3	707.0	676.5	669.3
80°	893.6	897.2	667.5	577.8	671.1	669.3
82.5°	674.7	775.2	534.7	500.6	486.3	405.5
85°	326.6	583.2	410.9	344.5	206.3	195.6
87.5°	28.7	244.0	236.9	154.3	70.0	66.4
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)