

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: P196768

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196768  
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  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II  
ROADWAY OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 24726.5 lumens  
Efficiency: N/A  
Efficacy: 109.9 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

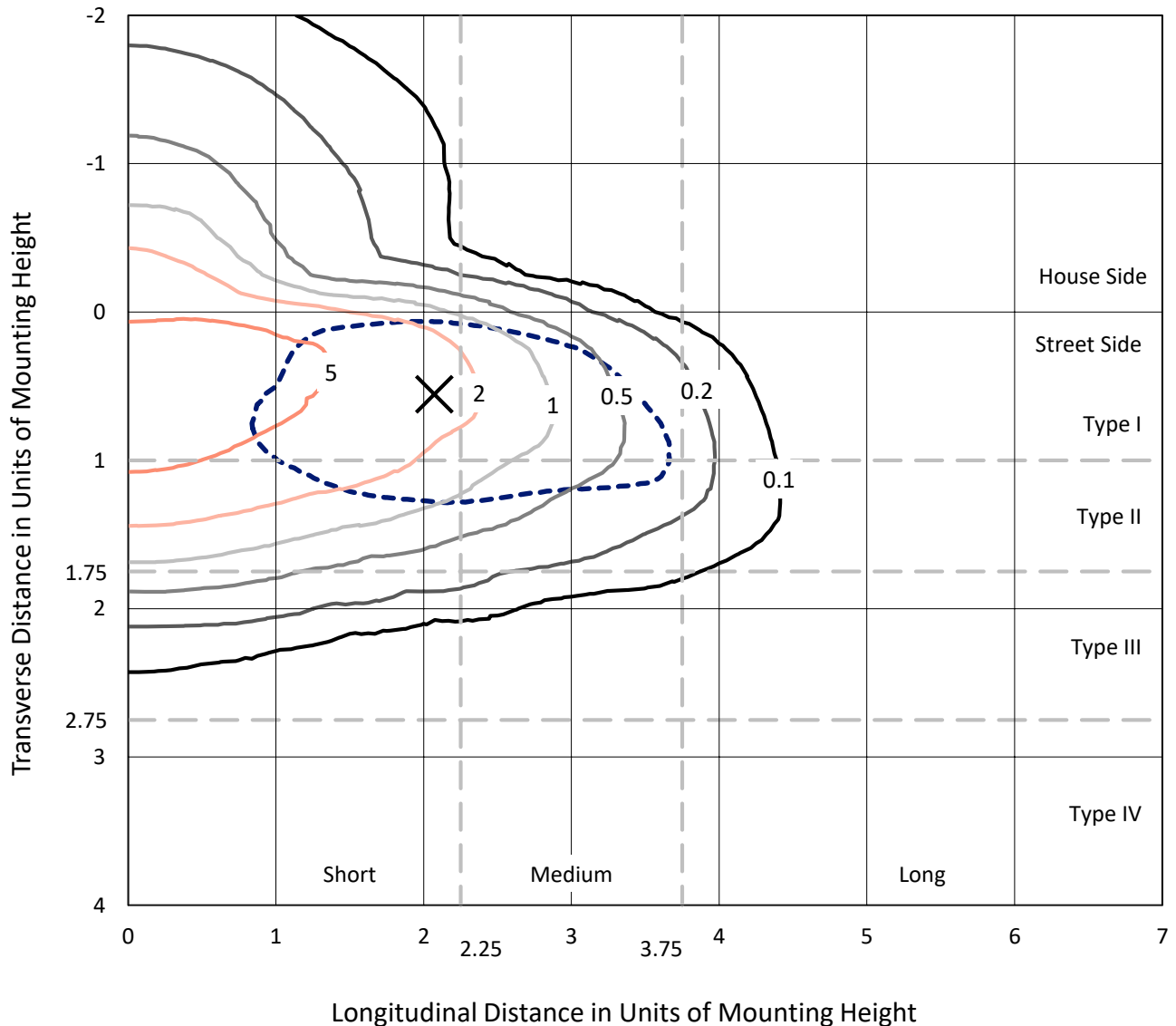
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

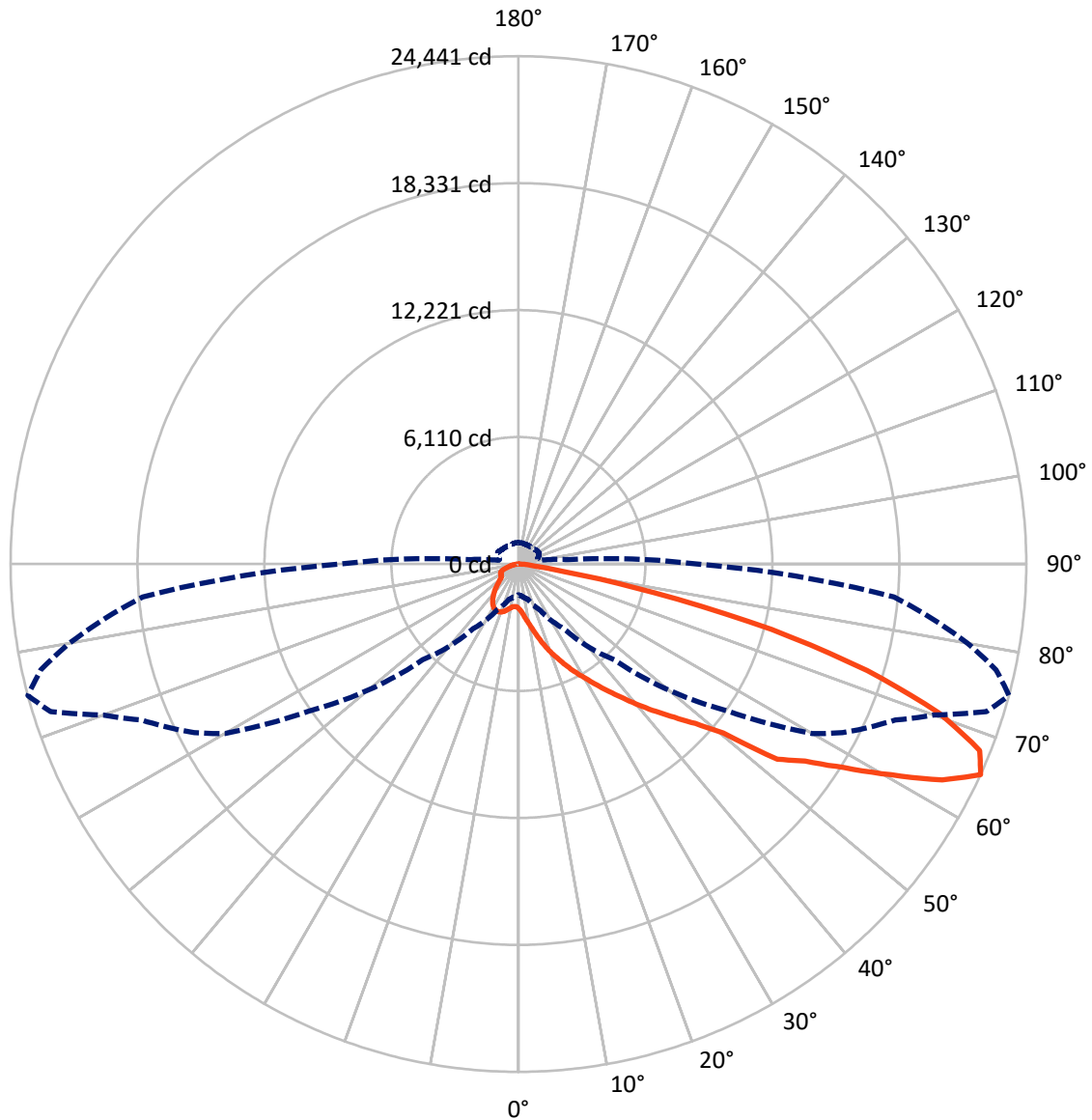
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.8 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	3715.5	0.0	3715.5
	% Fixture	15.0	0.0	15.0
<b>Street Side</b>	Lumens	21010.9	0.0	21010.9
	% Fixture	85.0	0.0	85.0
<b>Total</b>	Lumens	24726.5	0.0	24726.5
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	252.9	1.0
10°-20°	966.1	3.9
20°-30°	1949.6	7.9
30°-40°	3310.9	13.4
40°-50°	4617.9	18.7
50°-60°	5659.9	22.9
60°-70°	5325.2	21.5
70°-80°	2335.0	9.4
80°-90°	309.0	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°	24726.5	100.0
0°-180°	24726.5	100.0



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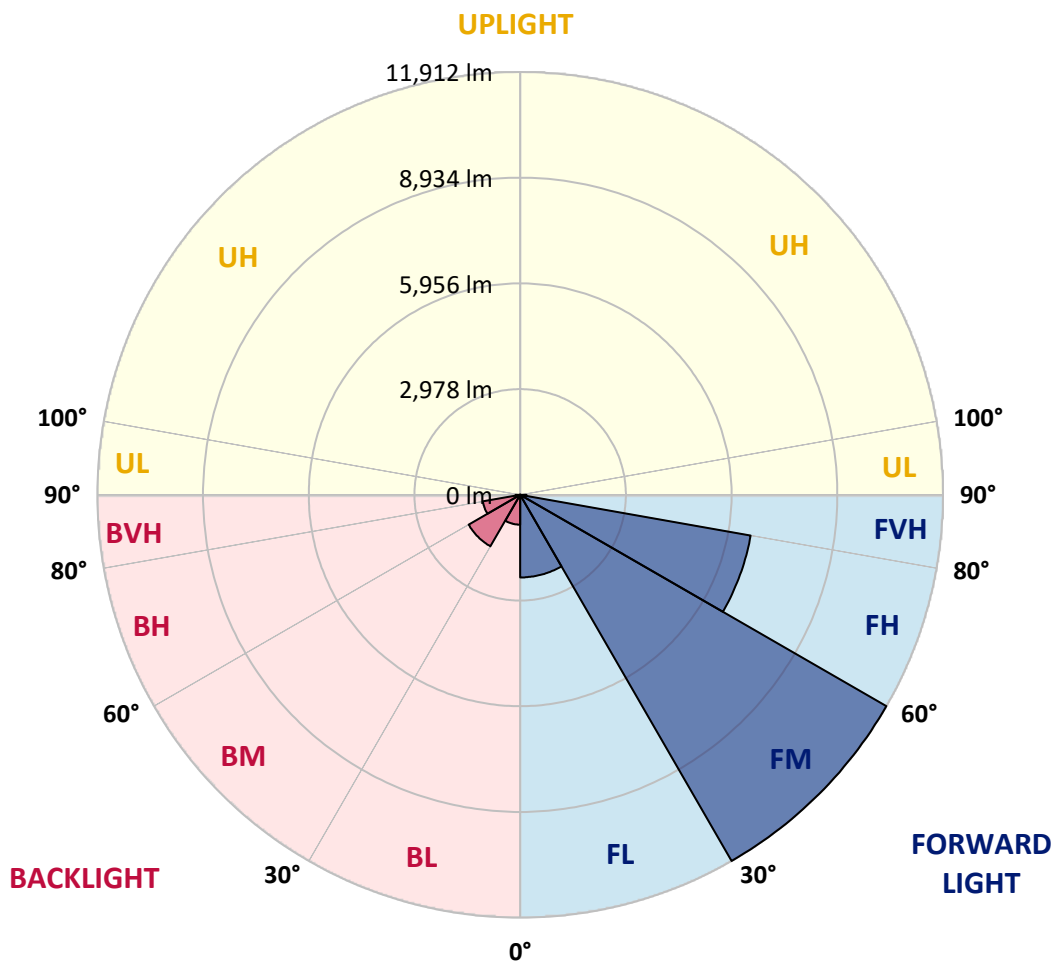
CATALOG NUMBER: NAV-AF-04-D-UNV-T2R-7030

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

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2327.4	9.4			
FM (30°-60°)	11912.1	48.2			
FH (60°-80°)	6592.3	26.7			G3/7500
FVH (80°-90°)	179.1	0.7			G2/225
BL (0°-30°)	841.1	3.4	B2/1000		
BM (30°-60°)	1676.6	6.8	B2/2500		
BH (60°-80°)	1067.9	4.3	B3/2500		G3/2500
BVH (80°-90°)	129.9	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°	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3
2.5°	2697.6	2666.2	2669.3	2625.3	2560.8	2490.0	2431.8	2400.3	2373.6	2365.8	2321.8
5°	3528.2	3488.8	3474.7	3374.0	3223.0	3043.8	2866.0	2796.7	2740.1	2705.5	2620.6
7.5°	4207.7	4187.3	4168.3	4075.6	3926.1	3696.5	3410.2	3308.0	3213.7	3109.7	3007.6
10°	4670.2	4662.3	4654.5	4590.0	4465.7	4265.9	3957.6	3845.9	3727.9	3595.8	3462.1
12.5°	5019.4	5019.4	5025.7	4972.2	4896.7	4742.5	4462.5	4358.7	4239.2	4100.7	3948.2
15°	5253.7	5260.1	5293.1	5308.8	5269.5	5170.3	4925.0	4833.7	4720.5	4583.7	4432.6
17.5°	5409.4	5422.1	5470.8	5522.7	5573.1	5538.5	5356.0	5271.1	5168.8	5043.0	4901.4
20°	5771.3	5755.6	5757.1	5741.3	5815.4	5842.1	5741.3	5670.5	5588.8	5474.0	5345.0
22.5°	6531.0	6501.2	6424.0	6227.4	6137.7	6128.4	6068.6	6030.8	5967.8	5895.5	5766.4
25°	7522.0	7487.4	7334.8	7010.7	6743.4	6496.4	6386.3	6362.7	6321.8	6273.0	6180.2
27.5°	8546.0	8508.2	8311.6	7902.6	7553.4	7054.8	6711.9	6680.4	6642.6	6622.2	6578.2
30°	9447.3	9406.4	9213.0	8797.7	8376.2	7781.6	7150.8	7040.6	6976.2	6982.4	6957.3
32.5°	10238.4	10202.3	9985.3	9562.2	9134.3	8556.9	7720.2	7548.7	7404.1	7350.5	7369.4
35°	10902.3	10869.3	10631.8	10205.5	9774.5	9294.6	8453.2	8195.2	7959.3	7811.4	7794.1
37.5°	11292.4	11273.6	11106.8	10745.0	10317.2	9964.8	9274.3	8988.0	8640.3	8424.9	8330.5
40°	11270.4	11290.9	11262.6	11098.9	10767.1	10510.6	10130.0	9846.9	9507.0	9186.2	8994.3
42.5°	10949.5	10977.9	11105.2	11190.2	11100.5	10944.8	10877.2	10666.3	10361.2	10021.5	9755.6
45°	10509.1	10534.2	10699.4	11006.1	11262.6	11306.5	11531.6	11426.2	11168.2	10878.7	10586.1
47.5°	9834.2	9883.0	10074.9	10562.5	11172.9	11597.6	12080.5	12129.2	11979.8	11740.7	11467.0
50°	8857.4	8921.9	9190.9	9884.5	10833.0	11896.4	12896.9	13082.4	13022.7	12780.5	12503.6
52.5°	7857.1	7921.6	8280.2	9017.9	10285.6	12019.2	13700.7	14175.8	14518.6	14768.7	14817.4
55°	6815.7	6888.0	7281.4	8130.7	9555.9	11863.4	14274.8	14814.4	15161.9	15423.0	15528.5
57.5°	5640.7	5722.5	6103.1	6962.0	8524.0	11237.4	14913.5	15677.8	16195.4	16598.1	16824.7
60°	4292.7	4395.0	4789.7	5654.8	7168.1	10038.7	15198.1	16329.2	17151.7	17755.8	18114.4
62.5°	2721.2	2825.1	3235.6	4133.9	5625.0	8401.3	14392.7	16042.7	17445.9	18339.3	18996.9
65°	1485.0	1530.5	1758.6	2435.0	3792.5	6518.4	12351.0	14296.8	16318.1	17584.3	18594.2
67.5°	1113.7	1119.9	1143.5	1308.7	2019.6	4401.2	9656.6	11438.7	13683.3	15312.9	16519.5
70°	975.2	975.2	978.4	979.9	1096.4	2384.6	6542.0	8182.7	10240.1	11888.6	13387.6
72.5°	874.6	865.2	861.9	843.2	858.9	1222.2	3561.2	5035.1	6770.1	8619.9	10018.3
75°	755.0	753.5	753.5	734.6	744.0	860.4	1544.7	2416.0	3761.0	5483.4	6859.8
77.5°	652.9	641.8	643.3	632.3	662.2	659.1	733.0	995.7	1637.5	2880.1	4022.1
80°	538.0	530.1	534.9	528.5	575.7	487.7	494.0	608.8	813.2	1263.1	1780.6
82.5°	397.9	401.1	431.0	427.9	484.4	328.8	361.7	454.6	547.4	629.3	684.3
85°	232.8	237.5	309.9	325.6	355.5	173.0	221.8	270.5	305.2	338.1	352.4
87.5°	25.1	33.0	173.0	177.8	158.9	51.9	89.7	113.3	121.2	129.0	113.3
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):**

	67.5°	70°	72.5°	75°	77.5°	80°	85°	90°	95°	100°	102.5°
0°	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3
2.5°	2307.5	2287.2	2265.1	2252.5	2230.5	2211.6	2177.0	2148.7	2117.2	2095.1	2085.8
5°	2578.1	2529.4	2477.5	2439.6	2392.4	2351.6	2272.9	2178.6	2148.7	2085.8	2070.0
7.5°	2930.5	2842.4	2754.3	2681.9	2600.2	2532.5	2400.3	2230.5	2208.4	2107.8	2085.8
10°	3344.1	3215.2	3084.6	2973.0	2853.5	2749.6	2554.5	2315.4	2291.8	2162.9	2140.8
12.5°	3806.6	3649.3	3481.0	3314.3	3172.7	3026.4	2760.6	2447.5	2409.8	2257.2	2227.4
15°	4283.2	4113.4	3918.2	3717.0	3542.3	3348.9	3013.8	2620.6	2551.4	2372.0	2331.1
17.5°	4753.6	4569.6	4365.0	4140.1	3935.6	3704.3	3287.5	2814.1	2694.6	2485.3	2433.4
20°	5208.2	5020.9	4805.4	4585.3	4330.4	4066.2	3567.6	3004.4	2821.9	2579.7	2512.1
22.5°	5621.8	5461.5	5245.9	4992.6	4734.6	4437.3	3852.3	3194.7	2933.6	2652.0	2565.5
25°	6057.6	5911.3	5697.4	5453.5	5153.1	4822.7	4146.4	3375.6	3023.3	2691.4	2584.4
27.5°	6497.9	6372.1	6170.8	5914.4	5591.9	5225.5	4445.2	3542.3	3095.7	2703.9	2574.9
30°	6968.3	6870.8	6685.1	6398.9	6073.2	5667.4	4770.8	3706.0	3141.2	2686.6	2532.5
32.5°	7413.5	7410.3	7245.1	6947.8	6597.1	6150.3	5113.8	3871.0	3164.8	2637.8	2458.6
35°	7876.0	7940.4	7816.1	7533.0	7163.4	6667.9	5492.8	4047.3	3166.5	2551.4	2362.6
37.5°	8401.3	8516.1	8461.0	8192.0	7803.6	7257.8	5938.0	4245.5	3156.9	2431.8	2222.7
40°	8999.0	9156.3	9154.8	8928.2	8512.9	7918.3	6455.5	4467.3	3134.9	2282.4	2057.5
42.5°	9683.2	9870.5	9922.4	9699.0	9279.0	8640.3	7048.6	4711.0	3100.3	2134.5	1882.9
45°	10466.6	10631.8	10729.3	10521.6	10100.2	9426.9	7729.6	4987.9	3057.8	1944.2	1683.1
47.5°	11304.9	11497.0	11643.2	11465.4	11015.5	10323.5	8536.5	5345.0	3042.1	1727.2	1467.6
50°	12344.7	12543.0	12859.0	12778.9	12531.9	11975.1	10243.3	6188.1	3048.5	1521.1	1286.7
52.5°	14924.4	15379.0	15778.5	15600.8	15014.1	14059.3	11630.6	6656.8	2916.3	1352.7	1160.9
55°	15703.1	16219.0	16808.9	16734.9	16171.8	15209.1	12726.9	7048.6	2788.9	1230.0	1079.1
57.5°	17065.2	17674.0	18498.2	18482.6	17792.0	16708.2	14137.9	7517.2	2733.8	1159.2	1038.2
60°	18507.7	19283.1	20421.9	20599.7	19849.4	18721.6	15805.3	8093.0	2741.8	1119.9	1014.6
62.5°	19561.6	20698.8	22355.2	22886.9	22002.8	20760.2	17535.6	8668.7	2694.6	1074.3	986.3
65°	19626.0	21263.5	23613.5	24441.0	23545.9	21949.3	18145.9	8555.4	2411.4	1013.1	940.6
67.5°	18053.1	20186.0	23041.0	23948.6	23033.2	21216.3	17076.2	7479.6	1959.9	906.1	861.9
70°	15036.1	17512.0	20475.5	21486.9	20730.3	18891.5	14861.6	5974.2	1464.4	764.5	744.0
72.5°	11619.6	13928.7	16620.1	17556.0	16977.1	15360.1	11721.9	4354.0	1046.0	619.7	603.9
75°	8306.9	10273.1	12226.7	12583.8	12012.8	10527.9	7605.3	2719.7	733.0	508.0	486.1
77.5°	5143.6	6422.5	7124.0	6664.7	5936.4	4934.4	3095.7	1343.4	487.7	413.6	391.7
80°	2282.4	2678.8	2501.1	2228.9	1760.1	1447.1	945.3	596.1	314.5	319.4	306.7
82.5°	767.6	811.7	789.6	784.9	707.9	619.7	401.1	258.0	176.1	204.6	199.7
85°	374.3	391.7	393.3	407.4	353.9	275.3	108.5	102.2	75.5	110.2	114.8
87.5°	113.3	114.8	103.8	113.3	91.2	63.0	20.4	28.3	14.2	26.8	26.8
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):**

	105°	107.5°	110°	112.5°	115°	117.5°	120°	122.5°	125°	127.5°	130°
0°	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3
2.5°	2068.5	2062.2	2051.2	2038.6	2035.4	2019.6	2015.0	2007.1	2002.4	1994.5	1988.2
5°	2049.6	2038.6	2026.0	2011.8	2011.8	1989.8	1980.5	1970.9	1970.9	1956.9	1950.5
7.5°	2068.5	2054.3	2040.2	2027.6	2032.3	2007.1	1997.7	1988.2	1986.7	1972.5	1966.2
10°	2122.0	2107.8	2090.4	2077.9	2073.2	2052.8	2041.7	2027.6	2018.1	2008.7	1999.2
12.5°	2203.8	2184.8	2162.9	2136.1	2125.1	2107.8	2090.4	2071.7	2049.6	2040.2	2026.0
15°	2301.2	2269.9	2240.0	2206.9	2177.0	2159.7	2136.1	2106.2	2076.4	2063.8	2044.9
17.5°	2381.6	2348.4	2306.0	2266.7	2213.1	2199.1	2165.9	2129.8	2081.1	2076.4	2048.1
20°	2449.1	2398.8	2346.9	2299.7	2217.9	2210.0	2169.2	2126.6	2057.5	2057.5	2022.8
22.5°	2486.8	2417.7	2356.2	2293.4	2191.2	2184.8	2137.6	2087.3	2002.4	2005.6	1963.1
25°	2493.2	2409.8	2332.6	2257.2	2139.3	2128.3	2068.5	2013.4	1920.6	1914.3	1870.3
27.5°	2468.0	2370.5	2280.8	2189.5	2062.2	2038.6	1972.5	1906.5	1815.3	1799.5	1752.3
30°	2409.8	2295.0	2194.3	2088.9	1955.2	1917.5	1848.2	1780.6	1687.8	1667.4	1623.3
32.5°	2317.0	2186.4	2074.8	1969.4	1821.5	1774.4	1705.1	1637.5	1547.7	1532.1	1491.2
35°	2194.3	2048.1	1930.1	1818.4	1670.5	1621.7	1555.7	1495.9	1414.2	1407.8	1379.5
37.5°	2040.2	1887.6	1761.7	1654.7	1514.8	1489.6	1422.0	1378.0	1310.2	1316.6	1302.5
40°	1865.6	1709.8	1590.3	1495.9	1374.8	1352.7	1311.8	1278.9	1220.7	1237.9	1239.5
42.5°	1689.3	1533.7	1425.1	1340.2	1236.4	1222.2	1193.8	1175.0	1131.0	1165.6	1179.8
45°	1489.6	1344.9	1252.1	1187.6	1110.5	1110.5	1096.4	1094.8	1065.0	1113.7	1127.8
47.5°	1296.2	1182.8	1118.4	1079.1	1025.6	1050.7	1046.0	1058.6	1036.6	1086.9	1099.4
50°	1149.9	1071.2	1031.9	1013.1	975.2	1014.6	1024.0	1041.4	1022.4	1066.5	1075.8
52.5°	1057.1	1005.1	983.2	978.4	951.6	1000.4	1016.1	1031.9	1009.9	1050.7	1049.2
55°	1005.1	970.6	962.7	972.1	951.6	998.8	1014.6	1025.6	1006.8	1035.0	1033.5
57.5°	986.3	967.4	972.1	986.3	972.1	1011.4	1019.3	1031.9	1013.1	1025.6	1031.9
60°	984.7	984.7	1003.5	1022.4	1013.1	1041.4	1046.0	1044.4	1027.1	1028.6	1031.9
62.5°	975.2	998.8	1030.4	1060.2	1057.1	1091.6	1094.8	1074.3	1060.2	1044.4	1039.7
65°	945.3	984.7	1030.4	1071.2	1077.6	1131.0	1137.3	1116.8	1107.4	1080.7	1060.2
67.5°	879.3	929.6	983.2	1033.5	1044.4	1116.8	1131.0	1138.8	1143.5	1126.3	1099.4
70°	767.6	819.6	874.6	932.7	948.5	1028.6	1058.6	1094.8	1123.0	1148.4	1138.8
72.5°	624.5	671.6	718.8	772.4	796.0	879.3	918.7	981.5	1025.6	1090.1	1116.8
75°	495.5	523.8	552.1	585.2	603.9	685.8	734.6	810.0	869.8	959.6	1019.3
77.5°	390.0	404.3	418.5	432.5	440.5	486.1	525.4	600.9	670.1	783.4	871.5
80°	300.5	308.3	309.9	314.5	311.5	333.5	347.7	393.3	453.0	564.7	668.5
82.5°	193.5	199.7	202.9	210.8	195.0	223.3	232.8	237.5	269.0	350.7	424.7
85°	108.5	110.2	111.7	114.8	92.8	121.2	122.7	114.8	111.7	144.8	163.6
87.5°	26.8	25.1	26.8	26.8	11.0	25.1	25.1	17.3	12.6	23.6	18.9
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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	135°	145°	155°	165°	175°	180°
0°	2142.3	2142.3	2142.3	2142.3	2142.3	2142.3
2.5°	1974.1	1970.9	1972.5	1964.7	1961.5	1963.1
5°	1942.6	1936.3	1936.3	1931.6	1925.3	1925.3
7.5°	1956.9	1944.2	1939.5	1930.1	1920.6	1922.2
10°	1978.8	1956.9	1941.1	1926.9	1915.9	1915.9
12.5°	1993.0	1953.7	1930.1	1911.2	1898.6	1898.6
15°	1996.0	1936.3	1901.7	1881.3	1868.7	1868.7
17.5°	1977.3	1901.7	1857.7	1830.9	1816.8	1819.9
20°	1930.1	1837.2	1785.3	1757.0	1742.9	1744.5
22.5°	1856.1	1749.1	1689.3	1656.4	1642.1	1642.1
25°	1755.5	1639.0	1574.5	1547.7	1535.2	1535.2
27.5°	1640.6	1521.1	1464.4	1444.0	1436.1	1436.1
30°	1511.6	1412.5	1371.6	1357.4	1344.9	1344.9
32.5°	1403.1	1332.3	1318.1	1299.3	1266.2	1264.6
35°	1316.6	1308.7	1297.7	1241.0	1193.8	1187.6
37.5°	1269.4	1316.6	1247.4	1149.9	1112.1	1110.5
40°	1244.3	1288.2	1168.7	1121.5	1116.8	1116.8
42.5°	1184.5	1215.9	1164.0	1137.3	1137.3	1138.8
45°	1121.5	1148.4	1175.0	1151.4	1159.2	1160.9
47.5°	1077.6	1131.0	1175.0	1154.6	1170.2	1179.8
50°	1036.6	1115.2	1151.4	1151.4	1168.7	1170.2
52.5°	1027.1	1093.2	1129.4	1146.6	1148.4	1140.4
55°	1028.6	1075.8	1112.1	1134.1	1124.8	1124.8
57.5°	1027.1	1066.5	1097.9	1105.8	1110.5	1110.5
60°	1028.6	1054.0	1079.1	1075.8	1091.6	1091.6
62.5°	1033.5	1036.6	1049.2	1046.0	1069.6	1069.6
65°	1044.4	1014.6	1006.8	1009.9	1038.2	1036.6
67.5°	1065.0	984.7	959.6	961.1	1002.0	995.7
70°	1094.8	943.8	906.1	896.6	965.9	954.8
72.5°	1104.3	896.6	836.8	827.4	868.3	836.8
75°	1060.2	858.9	762.8	731.4	714.1	704.7
77.5°	945.3	835.3	685.8	619.7	593.1	586.7
80°	783.4	786.4	585.2	506.5	588.3	586.7
82.5°	591.4	679.5	468.7	438.9	426.3	355.5
85°	286.3	511.3	360.2	302.0	181.0	171.4
87.5°	25.1	213.9	207.6	135.3	61.3	58.2
90°	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)