

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: P197168

Luminaire Tested: **NAV-AF-02-D-UNV-SLL-8030-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P197168  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24264)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-SLL-8030-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 80 CRI, 3000K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND SPILL LIGHT  
ELIMINATOR LEFT OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7093 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G2

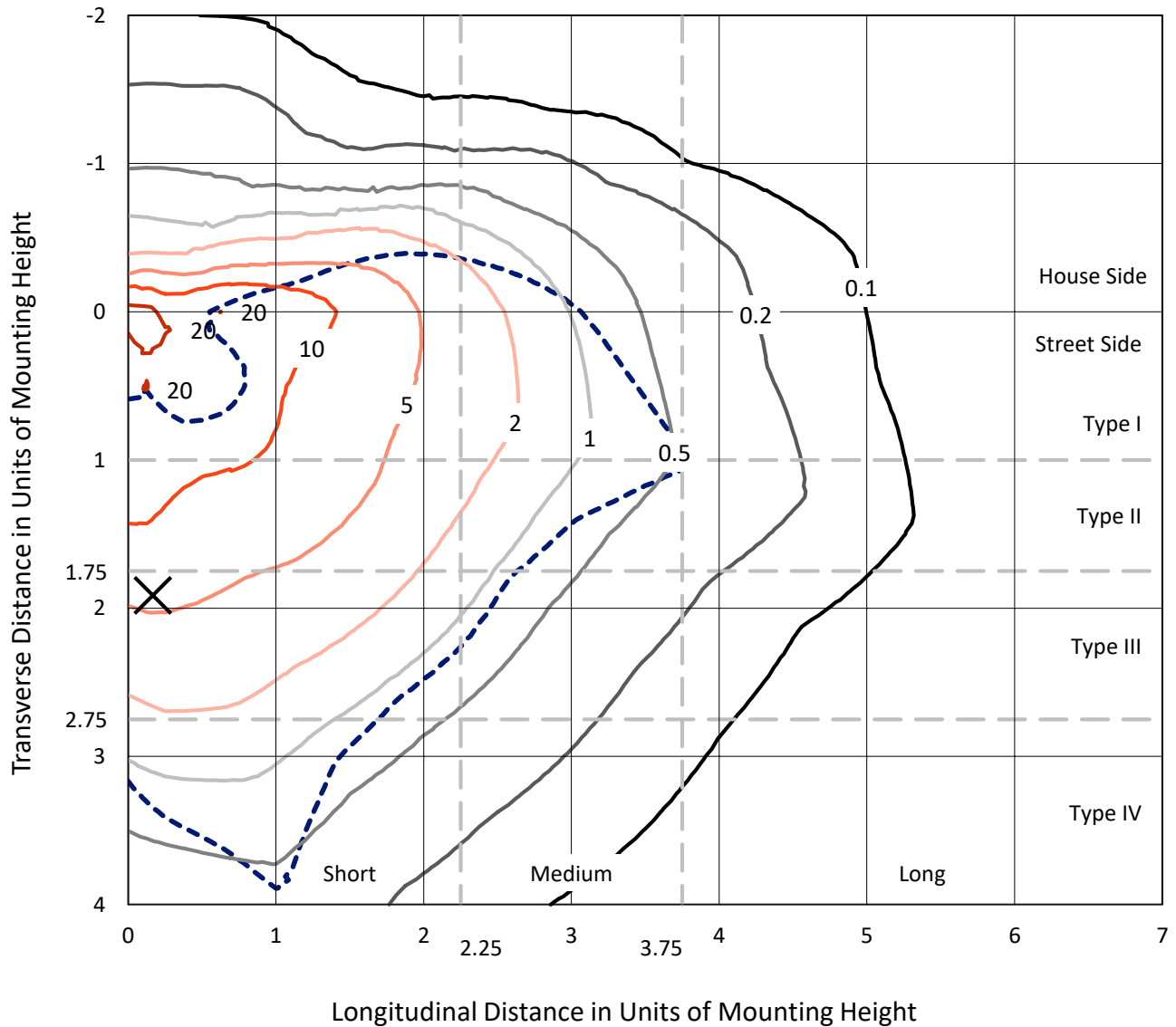
Input Watts (W): 85  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

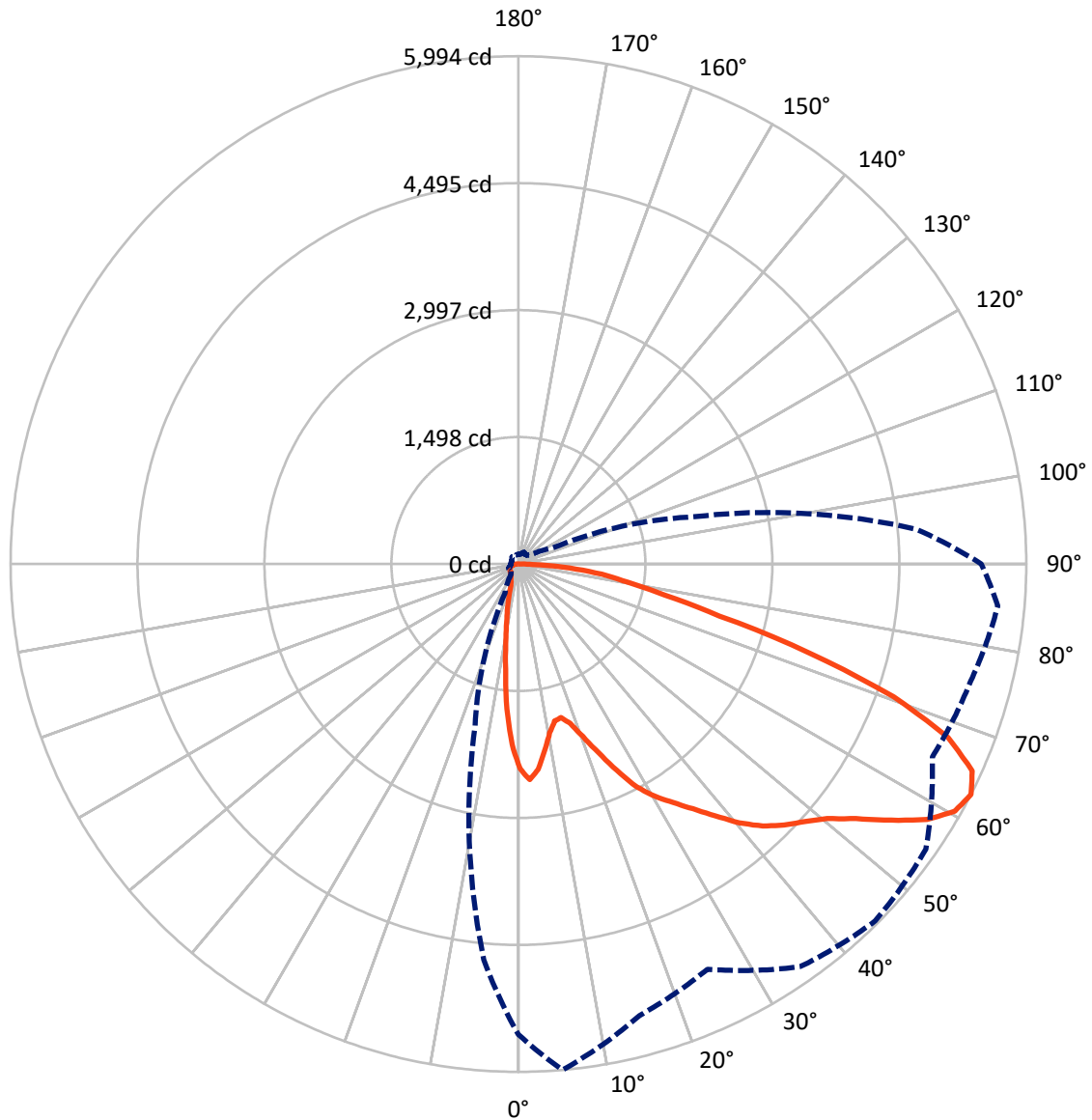
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 27.8 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 5-Deg Lateral      - - - Horizontal Cone Through 62.5-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1256.5	0.0	1256.5
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	5836.5	0.0	5836.5
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	7093.0	0.0	7093.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	175.9	2.5
10°-20°	321.2	4.5
20°-30°	462.0	6.5
30°-40°	707.6	10.0
40°-50°	1034.5	14.6
50°-60°	1505.2	21.2
60°-70°	1744.0	24.6
70°-80°	909.1	12.8
80°-90°	233.7	3.3
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°	7093.0	100.0
0°-180°	7093.0	100.0



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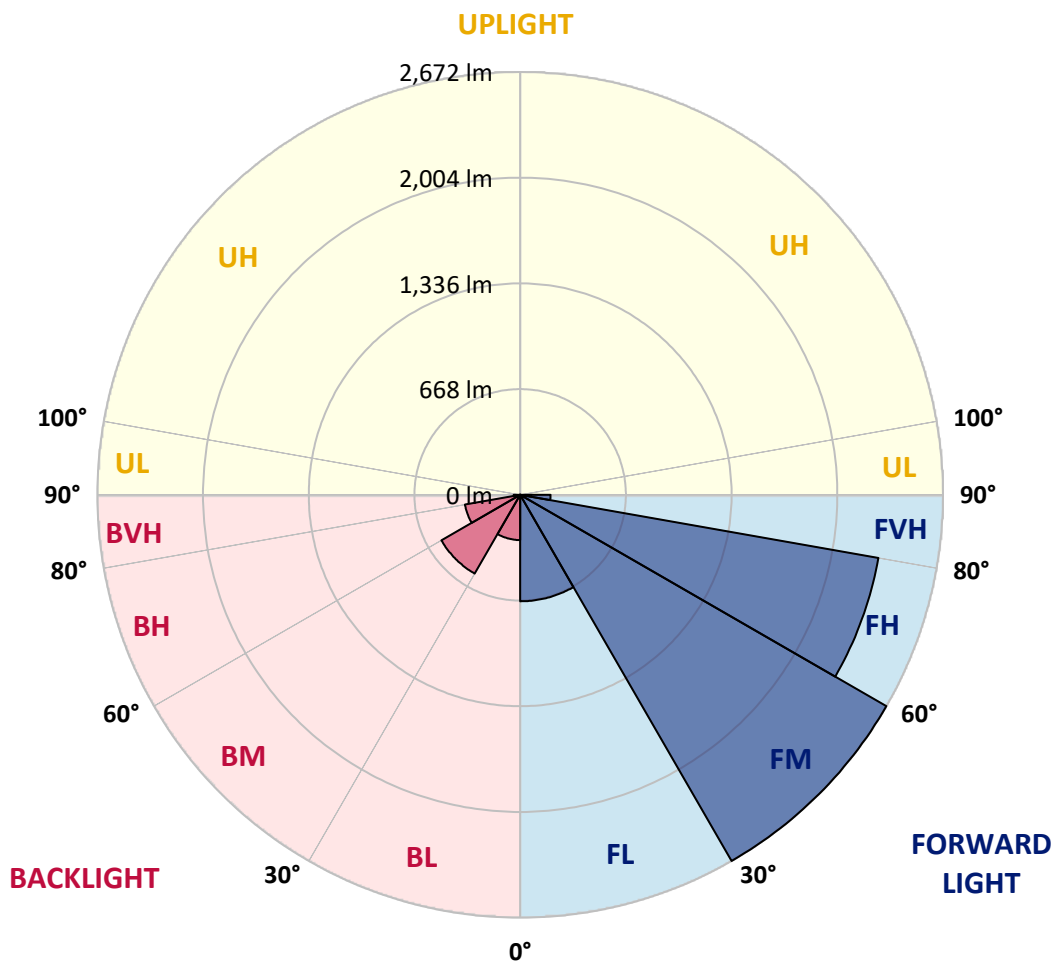
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	673.2	9.5			
FM	(30°-60°)	2672.3	37.7			
FH	(60°-80°)	2298.7	32.4			G2/5000
FVH	(80°-90°)	192.2	2.7			G2/225
BL	(0°-30°)	285.9	4.0	B1/500		
BM	(30°-60°)	574.9	8.1	B1/1000		
BH	(60°-80°)	354.3	5.0	B1/500		G1/500
BVH	(80°-90°)	41.4	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1
2.5°	2496.3	2549.3	2610.0	2689.2	2743.2	2764.8	2782.8	2752.4	2723.1	2668.1	2648.5
5°	2331.7	2433.6	2600.7	2759.6	2899.5	2979.7	3004.4	2948.4	2848.6	2704.6	2628.5
7.5°	2087.5	2221.7	2456.7	2690.7	2891.3	3025.0	3034.8	2923.7	2727.2	2491.2	2367.7
10°	1874.0	2025.7	2297.8	2559.6	2772.0	2908.8	2882.0	2726.2	2489.1	2220.7	2081.3
12.5°	1750.1	1901.8	2179.0	2444.9	2644.9	2696.9	2642.4	2511.2	2286.5	2017.5	1877.1
15°	1723.9	1880.2	2136.8	2361.1	2485.0	2451.6	2397.6	2331.2	2171.3	1951.2	1815.4
17.5°	1803.1	1977.9	2192.9	2315.8	2310.7	2230.4	2185.2	2198.0	2170.8	2023.2	1881.2
20°	1966.1	2172.8	2335.3	2303.5	2171.8	2059.2	2032.9	2133.7	2259.7	2203.7	2047.9
22.5°	2180.5	2416.1	2529.7	2338.9	2099.3	1977.9	1972.8	2130.1	2421.7	2476.8	2287.0
25°	2422.8	2697.4	2725.7	2401.7	2091.6	1970.7	1966.1	2185.7	2616.7	2747.3	2554.9
27.5°	2719.0	2981.3	2889.2	2485.5	2125.5	1991.8	1994.9	2280.3	2819.8	3014.7	2856.8
30°	2942.2	3182.9	2990.0	2567.8	2180.0	2028.8	2036.5	2382.7	2929.3	3200.4	3098.0
32.5°	3151.0	3355.2	3086.7	2649.1	2259.7	2083.9	2110.6	2510.2	3061.0	3359.8	3325.8
35°	3381.9	3548.0	3194.2	2736.0	2373.9	2180.5	2219.1	2631.6	3191.6	3519.2	3551.6
37.5°	3643.7	3768.6	3310.9	2858.9	2538.5	2359.5	2381.1	2755.5	3282.6	3695.6	3793.8
40°	3916.2	4016.0	3438.5	3022.9	2777.6	2601.2	2611.5	2914.4	3354.1	3878.2	4028.9
42.5°	4150.2	4227.9	3566.5	3226.6	3052.3	2847.6	2856.3	3085.7	3422.5	4035.6	4217.1
45°	4337.4	4394.5	3687.4	3441.0	3345.4	3155.1	3153.1	3260.0	3514.1	4168.2	4361.6
47.5°	4511.8	4542.1	3822.1	3649.8	3649.3	3551.1	3477.6	3465.7	3636.0	4279.8	4487.6
50°	4711.3	4722.6	4000.1	3860.7	4020.6	4005.2	3869.4	3727.0	3793.8	4405.3	4619.8
52.5°	4989.0	4989.5	4220.7	4066.4	4430.5	4479.4	4321.5	4022.7	4027.3	4649.6	4848.1
55°	5315.6	5338.2	4508.2	4312.8	4859.4	4942.7	4794.1	4374.0	4362.6	5043.5	5218.4
57.5°	5568.1	5687.9	4843.0	4620.8	5260.1	5368.6	5248.7	4738.1	4774.6	5449.8	5523.9
60°	5639.1	5919.4	5176.7	4966.4	5599.0	5762.0	5640.1	5131.5	5177.8	5713.7	5611.8
62.5°	5554.2	5993.9	5516.7	5276.0	5800.1	5956.4	5869.0	5389.1	5506.4	5679.7	5463.2
65°	5302.7	5885.9	5811.9	5407.7	5684.3	5739.9	5716.7	5402.5	5684.9	5358.8	5052.3
67.5°	4715.4	5469.4	5680.2	5126.3	5143.8	5084.2	5053.8	5035.3	5484.3	4840.9	4404.3
70°	3835.0	4699.5	5052.3	4290.1	4160.5	4102.9	4003.2	4250.0	4929.4	4124.5	3624.6
72.5°	2954.0	3595.3	4144.1	3252.3	2982.8	3002.4	2889.2	3249.7	4083.4	3188.5	2767.3
75°	2097.7	2451.6	3307.8	2336.9	1980.0	1978.9	1970.2	2338.9	3222.0	2288.5	2024.7
77.5°	1512.0	1765.0	2591.5	1563.9	1405.0	1423.0	1394.2	1589.6	2511.7	1646.2	1500.2
80°	1206.0	1306.8	1675.0	1043.0	1046.0	1088.2	1082.0	1087.2	1652.4	1192.1	1121.6
82.5°	866.6	992.0	1280.6	799.2	691.7	736.4	745.2	806.4	1165.9	842.9	739.5
85°	444.3	604.8	1178.2	692.2	432.5	358.5	412.5	636.2	1012.6	505.0	360.5
87.5°	86.4	167.7	863.5	384.7	194.4	98.2	162.0	269.5	588.9	91.5	44.7
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):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°	185°
0°	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1
2.5°	2615.1	2549.3	2487.6	2423.8	2374.4	2314.3	2255.1	2203.7	2153.8	2120.9	2131.2
5°	2551.3	2390.9	2246.9	2113.2	2035.0	1940.9	1857.1	1786.6	1732.1	1697.1	1718.2
7.5°	2260.8	2043.7	1854.0	1677.6	1566.5	1444.6	1346.9	1278.0	1235.8	1212.2	1246.6
10°	1963.5	1719.8	1506.8	1323.2	1213.7	1110.3	1021.9	948.8	892.3	865.5	879.4
12.5°	1750.6	1479.6	1256.4	1133.0	1038.8	946.3	854.7	769.4	697.4	664.4	657.8
15°	1670.9	1350.5	1122.7	984.8	891.2	790.4	691.7	600.2	531.8	503.5	497.3
17.5°	1705.9	1322.7	1043.5	880.4	744.7	622.3	511.2	424.8	374.4	358.5	360.0
20°	1828.8	1333.0	979.7	773.0	605.3	460.3	349.2	289.5	267.9	264.3	268.5
22.5°	1997.5	1375.2	933.4	680.4	482.4	334.8	259.7	231.4	225.8	225.3	229.4
25°	2220.1	1457.5	902.6	598.1	381.1	265.4	226.3	210.3	205.7	206.7	210.9
27.5°	2482.4	1561.9	882.5	527.1	313.2	236.6	211.4	197.5	192.9	193.9	197.0
30°	2722.1	1653.4	852.7	473.7	281.3	226.3	203.1	189.3	183.1	183.1	185.1
32.5°	2936.5	1732.6	817.7	433.5	252.0	203.1	184.1	173.3	168.7	170.2	171.3
35°	3126.8	1774.3	790.4	409.9	228.3	187.2	168.2	156.9	150.7	151.7	153.3
37.5°	3314.0	1790.2	772.4	397.0	211.4	177.4	159.9	150.7	144.0	143.0	142.5
40°	3492.0	1786.6	755.5	393.4	200.1	170.2	154.8	146.6	139.9	138.3	137.8
42.5°	3645.7	1774.8	739.5	383.7	192.3	165.1	150.7	143.5	136.8	134.7	133.7
45°	3786.1	1767.6	722.0	365.7	196.5	163.0	148.6	140.9	134.7	132.2	131.1
47.5°	3942.0	1793.3	702.5	346.1	195.4	163.5	148.6	139.9	133.7	131.1	130.1
50°	4127.6	1880.2	678.3	319.4	186.2	174.9	148.1	138.3	132.7	131.1	129.1
52.5°	4389.9	2021.1	644.9	284.9	179.0	186.7	147.6	135.8	131.1	128.6	126.0
55°	4749.4	2162.0	601.7	248.4	167.7	178.5	148.6	132.7	127.5	125.0	121.9
57.5°	5044.1	2269.0	547.2	218.1	157.4	168.7	147.1	129.1	123.4	120.9	118.3
60°	5025.0	2279.3	495.3	198.5	151.2	151.7	150.7	126.5	119.8	117.8	115.7
62.5°	4713.9	2152.3	446.9	188.7	146.6	138.3	153.8	123.4	116.2	114.2	112.6
65°	4196.0	1856.6	421.2	188.7	142.5	131.1	134.2	119.3	112.6	110.6	109.5
67.5°	3539.3	1491.9	397.0	192.9	136.8	126.0	121.9	115.2	109.0	107.0	105.9
70°	2836.8	1174.1	380.1	190.8	131.7	120.3	115.2	109.5	103.4	102.9	101.8
72.5°	2225.3	943.2	372.3	190.8	123.9	113.7	108.5	104.4	98.2	97.7	96.2
75°	1783.0	708.2	340.5	187.2	116.2	104.9	100.3	96.7	90.5	91.0	90.0
77.5°	1380.8	500.9	284.4	168.7	106.5	95.1	91.5	89.0	81.8	82.3	82.3
80°	1080.0	326.1	220.6	139.9	95.1	83.8	81.3	79.2	71.5	72.5	72.5
82.5°	740.0	193.9	159.9	112.6	81.8	71.5	71.0	67.9	59.7	60.2	61.2
85°	404.2	127.5	106.5	83.3	64.3	58.1	57.1	55.5	47.8	47.8	48.3
87.5°	74.6	68.4	62.7	55.0	43.2	41.7	40.1	41.7	36.0	35.0	35.0
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):**

	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°	285°
0°	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1
2.5°	2107.0	2071.5	2046.8	2025.2	1973.3	1976.9	1984.1	1994.4	1962.0	1978.9	2000.0
5°	1697.1	1667.8	1645.7	1611.2	1538.7	1513.0	1496.6	1489.4	1441.0	1451.3	1473.9
7.5°	1251.2	1250.7	1243.0	1204.4	1117.0	1064.0	1029.1	1018.3	988.4	999.8	1034.2
10°	881.0	890.2	886.6	852.2	774.0	735.9	728.2	749.8	750.3	772.4	831.6
12.5°	636.7	631.5	626.9	598.6	540.0	533.8	551.3	581.1	588.3	612.0	673.7
15°	475.2	462.9	460.3	438.2	399.6	405.3	418.1	433.5	434.1	450.5	501.4
17.5°	356.4	356.4	360.5	346.1	318.3	315.8	309.1	305.0	298.8	305.5	333.3
20°	276.7	289.5	299.8	291.6	266.4	254.1	241.2	233.0	228.3	228.9	237.1
22.5°	237.1	247.4	260.7	256.6	235.5	219.6	211.4	205.7	202.1	202.1	206.7
25°	217.0	223.7	236.1	234.0	216.0	203.1	196.5	190.8	186.7	186.2	190.8
27.5°	201.1	205.2	213.4	212.4	193.9	185.7	181.5	177.9	175.4	174.9	179.5
30°	186.7	188.7	192.9	191.3	177.4	169.2	167.7	166.1	164.6	165.1	171.8
32.5°	173.8	175.4	177.9	175.9	162.5	155.3	152.7	150.7	149.1	150.7	158.4
35°	159.4	164.1	167.1	166.1	151.7	143.0	137.3	132.2	130.1	131.7	140.4
37.5°	147.1	154.8	158.9	157.9	143.0	132.7	125.5	124.5	124.5	126.5	135.3
40°	142.5	148.1	151.7	150.2	135.3	125.0	120.9	119.3	119.8	121.9	131.1
42.5°	138.3	143.5	144.5	141.4	126.5	119.8	117.3	115.2	116.2	118.8	128.1
45°	134.7	138.9	138.3	133.7	119.3	114.7	114.7	113.1	113.7	115.7	125.5
47.5°	132.2	134.2	133.2	128.6	114.2	110.6	112.1	112.1	113.1	114.7	124.5
50°	128.1	129.6	128.6	124.5	110.1	107.0	108.5	110.6	111.6	113.1	121.9
52.5°	123.9	125.0	124.5	120.3	105.9	103.9	103.9	105.9	108.0	110.1	117.8
55°	119.8	120.9	121.4	118.3	102.9	100.8	100.3	100.3	102.3	105.4	113.7
57.5°	116.7	116.7	117.8	115.7	99.8	97.2	94.6	95.1	97.7	100.3	108.5
60°	113.1	113.7	115.2	113.1	95.7	91.5	89.5	92.1	93.1	95.7	104.4
62.5°	110.1	110.1	111.1	109.5	92.1	87.9	86.4	89.0	89.0	91.5	100.3
65°	107.5	107.0	107.0	106.5	88.5	84.3	83.3	84.3	84.9	87.4	96.2
67.5°	105.4	102.9	102.9	103.9	84.9	80.7	80.2	80.2	80.7	83.8	91.5
70°	100.8	98.7	98.2	101.8	81.3	76.1	76.1	75.1	76.1	77.7	85.9
72.5°	95.7	94.1	93.6	98.7	77.7	71.0	69.9	69.4	69.9	71.5	79.2
75°	89.0	87.9	89.0	96.7	74.1	65.3	63.8	63.3	63.3	63.8	72.0
77.5°	81.3	80.2	87.9	90.0	72.0	58.6	57.1	56.1	55.0	55.0	64.3
80°	72.0	71.5	84.9	76.1	68.9	51.4	48.9	47.3	46.3	45.8	55.0
82.5°	62.7	61.7	72.5	59.7	57.1	42.2	38.6	35.5	33.9	33.9	42.2
85°	51.4	50.9	57.1	43.7	39.6	30.9	25.7	23.1	21.1	21.1	27.3
87.5°	37.5	36.5	35.5	26.2	20.1	13.9	9.8	9.3	8.2	7.7	11.3
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):**

	295°	305°	315°	325°	335°	345°	355°	360°
0°	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1	2418.1
2.5°	2031.4	2074.1	2154.8	2221.2	2309.6	2380.6	2461.3	2496.3
5°	1515.6	1583.0	1706.4	1811.8	1957.9	2093.1	2247.4	2331.7
7.5°	1087.2	1187.0	1280.6	1412.2	1594.8	1776.3	1975.9	2087.5
10°	899.5	991.0	1071.2	1164.8	1305.8	1509.9	1748.0	1874.0
12.5°	745.2	843.9	928.8	1029.1	1147.4	1332.0	1603.5	1750.1
15°	571.4	678.8	780.7	901.5	1046.6	1257.4	1560.3	1723.9
17.5°	391.4	506.6	632.1	779.6	954.5	1226.0	1601.5	1803.1
20°	265.9	350.2	486.5	661.4	871.7	1211.1	1692.0	1966.1
22.5°	218.6	256.6	359.0	550.3	803.8	1227.6	1839.1	2180.5
25°	200.6	221.1	279.3	452.6	751.9	1271.3	2038.1	2422.8
27.5°	189.3	206.7	244.8	382.6	704.0	1331.0	2280.3	2719.0
30°	182.6	199.0	230.9	346.6	660.3	1382.4	2488.6	2942.2
32.5°	167.7	180.0	206.2	326.1	629.0	1424.0	2672.2	3151.0
35°	149.7	164.6	186.2	312.7	627.9	1443.6	2845.0	3381.9
37.5°	143.0	157.4	173.3	305.5	634.1	1460.0	3056.4	3643.7
40°	138.9	151.7	164.6	304.5	639.3	1472.9	3263.1	3916.2
42.5°	135.3	148.1	163.0	297.3	637.2	1490.4	3446.2	4150.2
45°	134.2	147.1	166.6	286.5	636.7	1517.6	3591.7	4337.4
47.5°	133.2	152.7	165.6	274.6	634.6	1575.2	3755.8	4511.8
50°	132.2	163.0	158.4	258.2	619.2	1673.5	3976.4	4711.3
52.5°	131.7	164.6	150.7	235.5	591.4	1819.0	4299.4	4989.0
55°	129.6	156.3	137.3	205.7	551.3	1975.9	4645.5	5315.6
57.5°	125.0	139.4	129.6	176.4	493.7	2085.4	4901.1	5568.1
60°	136.3	119.8	124.5	161.5	424.8	2104.9	4912.4	5639.1
62.5°	130.1	109.0	119.3	156.3	376.5	1977.4	4687.7	5554.2
65°	103.9	103.4	114.7	161.5	369.3	1692.0	4308.1	5302.7
67.5°	94.6	99.3	110.1	167.7	373.9	1333.0	3749.6	4715.4
70°	88.5	94.1	103.9	173.3	382.1	1050.2	3018.8	3835.0
72.5°	82.3	86.9	97.7	179.0	376.5	828.5	2416.1	2954.0
75°	74.6	78.7	89.0	164.1	323.0	608.9	1919.8	2097.7
77.5°	65.8	69.4	78.2	129.6	242.7	423.8	1437.9	1512.0
80°	56.6	58.1	64.8	94.6	158.4	253.5	1094.4	1206.0
82.5°	44.7	45.3	49.4	69.4	98.7	162.0	759.1	866.6
85°	28.8	29.8	31.9	48.9	66.3	103.9	387.8	444.3
87.5°	9.8	11.3	11.3	23.7	32.4	57.6	118.8	86.4
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)