

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: P270446

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7027-1200**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270446  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-03-D-UNV-SL4-7027-1200  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 2700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV  
SPILL LIGHT ELIMINATOR OPTICS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 16470.2 lumens  
Efficiency: N/A  
Efficacy: 86.2 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G3

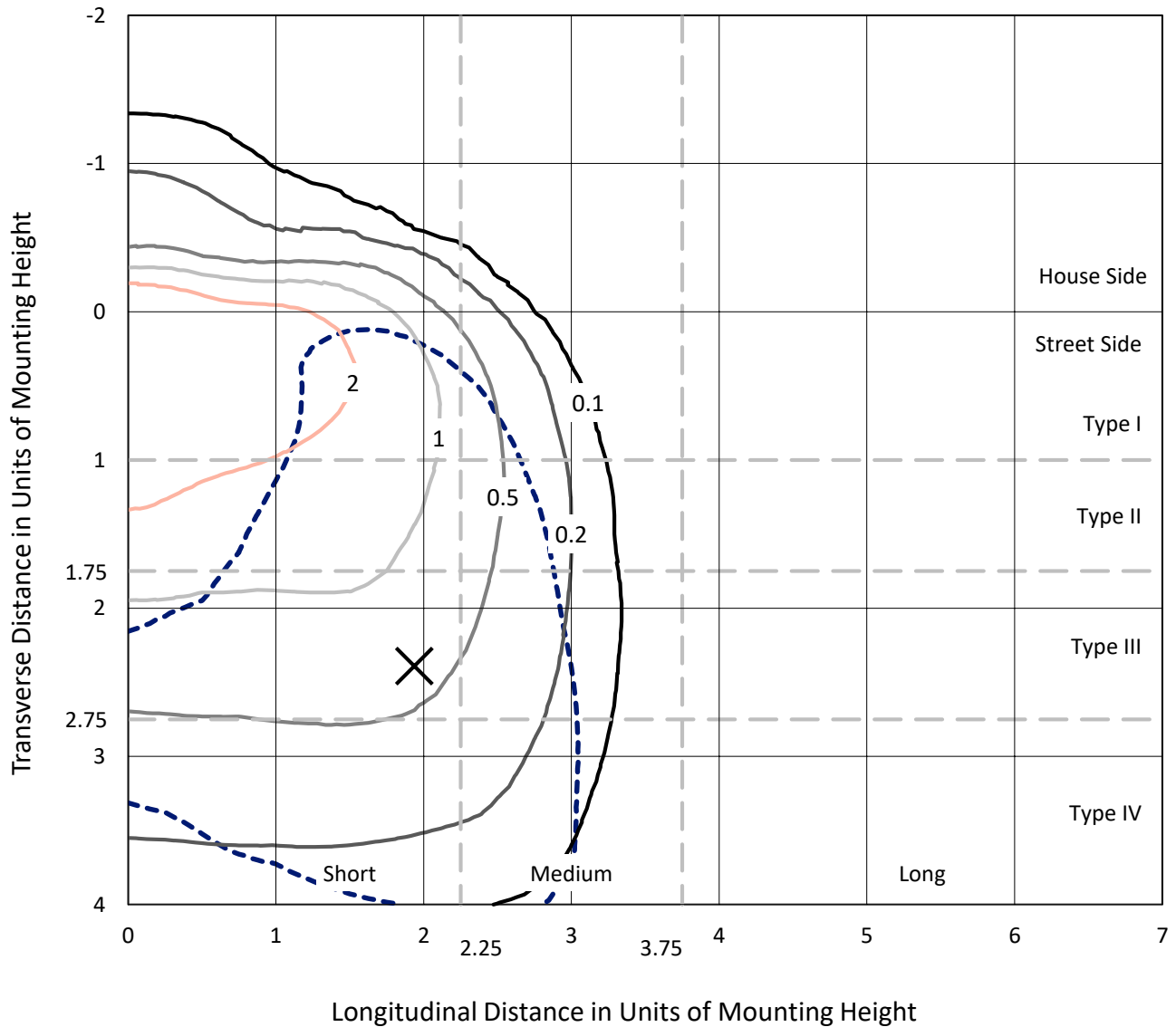
Input Watts (W): 191  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

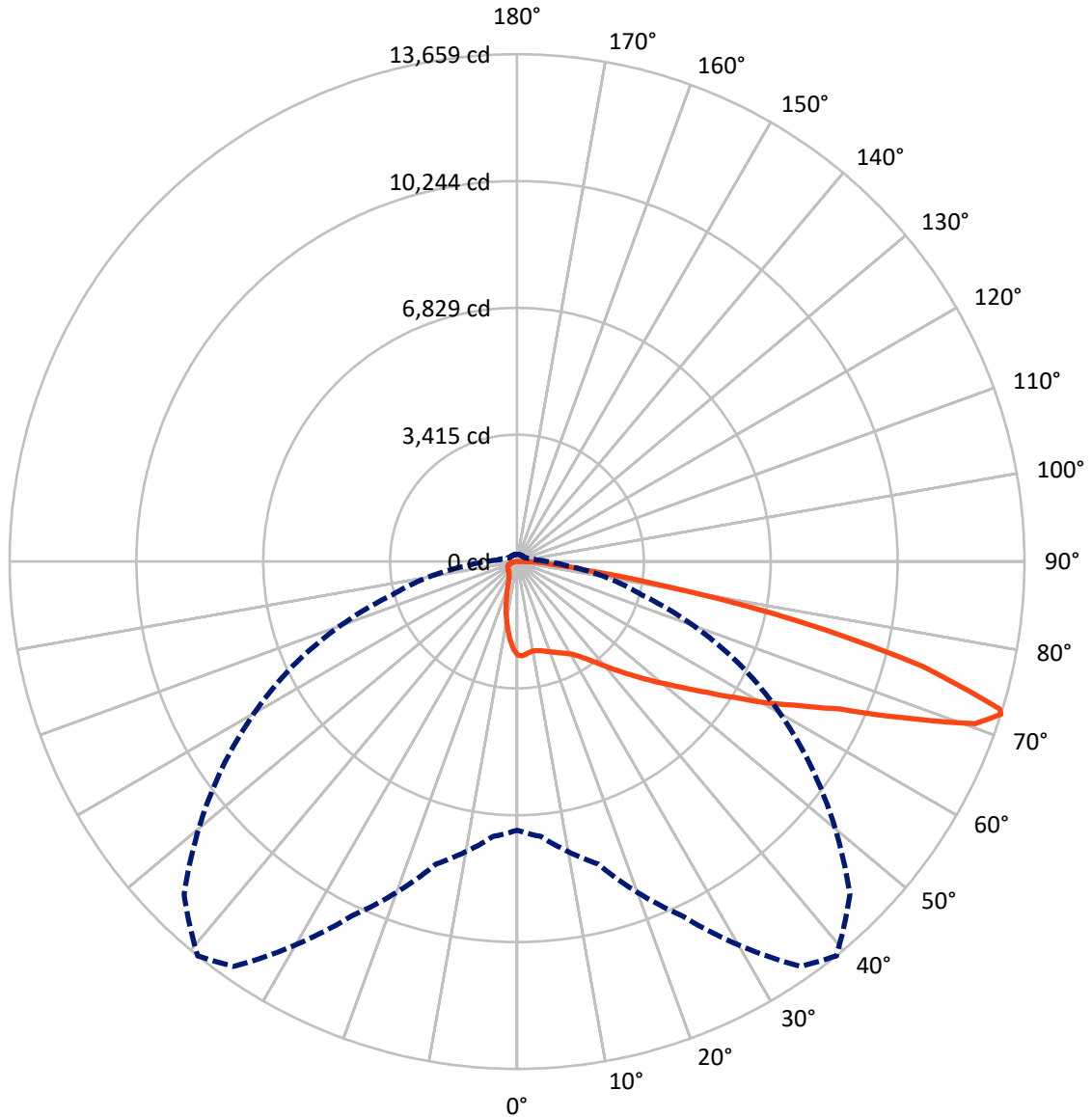


Based on 25 foot mounting height. Maximum calculated value = 4 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral      - - - Horizontal Cone Through 72-Deg Vertical

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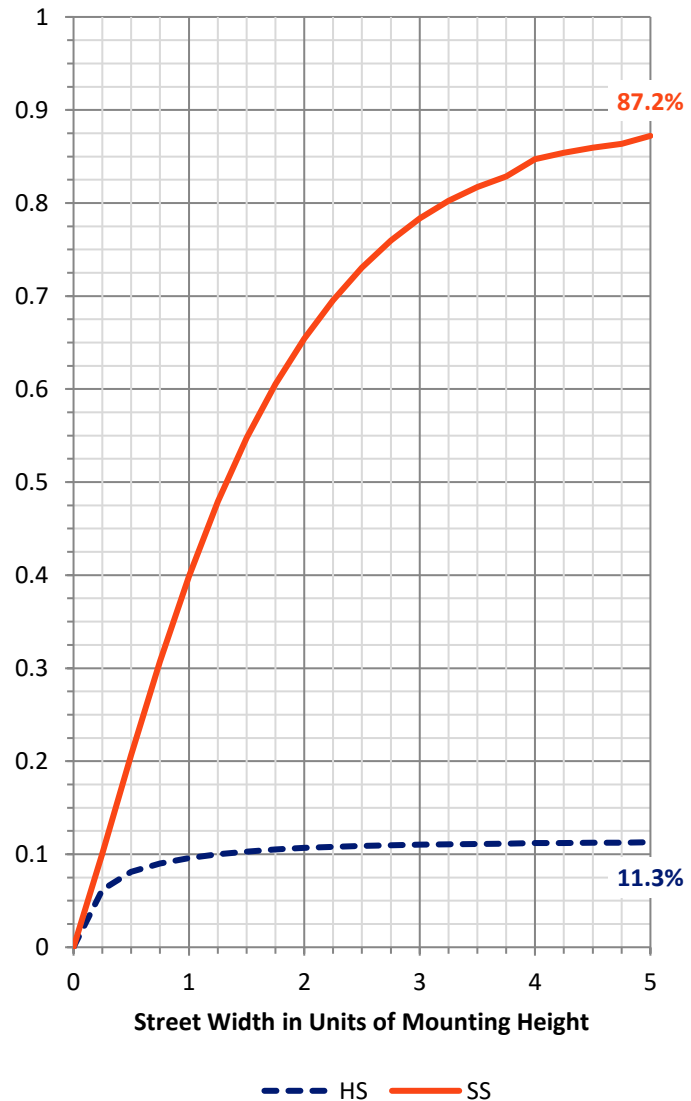
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1888.5	0.0	1888.5
	% Fixture	11.5	0.0	11.5
<b>Street Side</b>	Lumens	14581.7	0.0	14581.7
	% Fixture	88.5	0.0	88.5
<b>Total</b>	Lumens	16470.2	0.0	16470.2
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	216.2	1.3
10°-20°	543.2	3.3
20°-30°	846.4	5.1
30°-40°	1303.3	7.9
40°-50°	2124.6	12.9
50°-60°	3301.4	20.0
60°-70°	4418.8	26.8
70°-80°	3177.8	19.3
80°-90°	538.7	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°	16470.2	100.0
0°-180°	16470.2	100.0

**Coefficient of Utilization**



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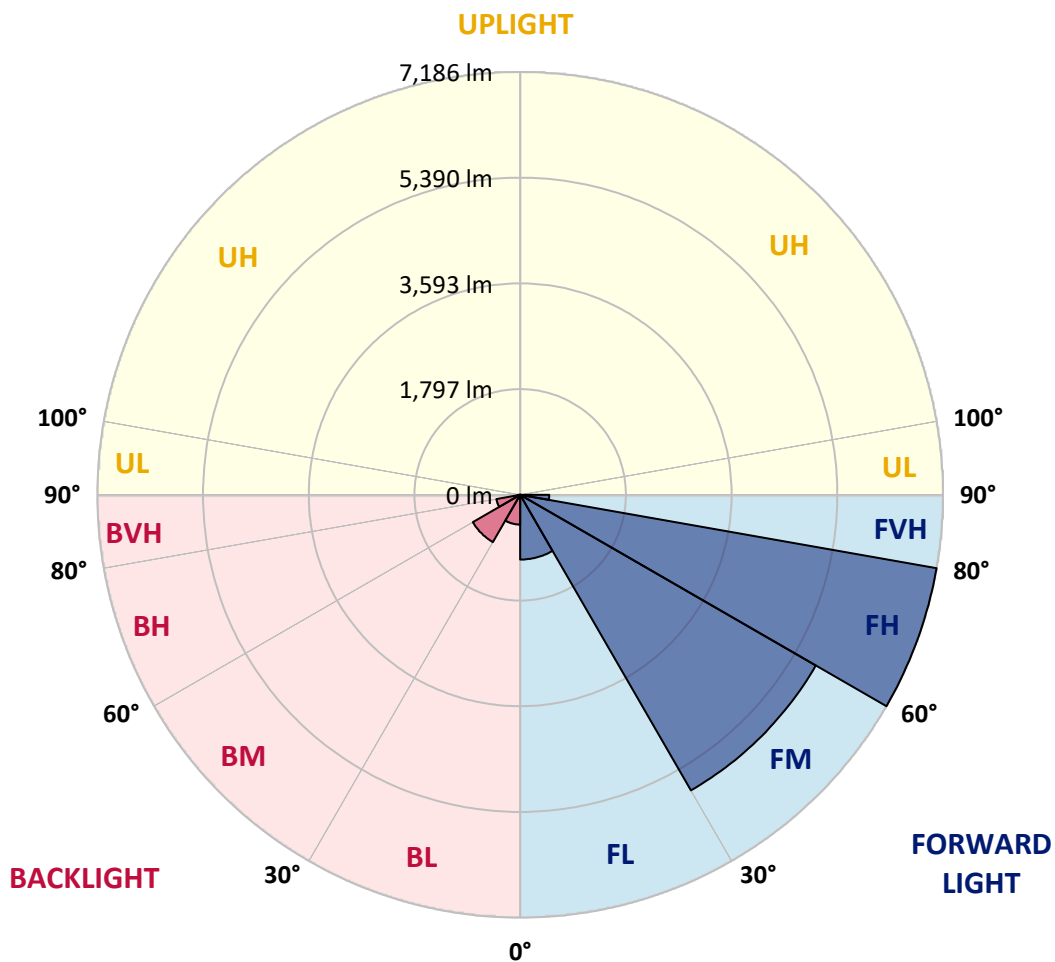
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1100.2	6.7			
FM (30°-60°)	5801.1	35.2			
FH (60°-80°)	7186.2	43.6			G3/7500
FVH (80°-90°)	494.2	3.0			G3/500
BL (0°-30°)	505.6	3.1	B2/1000		
BM (30°-60°)	928.1	5.6	B1/1000		
BH (60°-80°)	410.3	2.5	B1/500		G1/500
BVH (80°-90°)	44.5	0.3			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3
2.5°	2569.5	2570.6	2567.3	2557.4	2548.5	2544.0	2536.4	2523.0	2505.4	2493.2	2483.3
5°	2545.2	2548.5	2546.2	2529.6	2514.1	2505.4	2493.2	2474.4	2451.1	2441.2	2418.0
7.5°	2526.4	2528.5	2521.9	2503.1	2473.4	2462.3	2440.2	2415.8	2394.8	2380.4	2352.8
10°	2513.1	2515.3	2509.8	2491.0	2457.9	2444.6	2418.0	2391.5	2363.8	2346.2	2315.2
12.5°	2494.4	2498.7	2498.7	2489.9	2467.7	2458.9	2432.4	2403.7	2378.3	2359.4	2320.7
15°	2491.0	2496.5	2506.5	2505.4	2498.7	2492.1	2471.1	2442.3	2420.3	2398.1	2350.5
17.5°	2518.6	2530.7	2550.6	2557.4	2553.0	2538.5	2514.1	2487.6	2463.3	2442.3	2383.7
20°	2588.2	2594.9	2624.8	2638.1	2616.0	2594.9	2562.9	2528.5	2506.5	2489.9	2414.6
22.5°	2693.3	2702.1	2726.4	2727.6	2681.1	2655.7	2614.7	2572.7	2551.7	2545.2	2456.8
25°	2861.5	2859.1	2865.9	2838.1	2754.2	2724.3	2674.6	2625.8	2611.6	2624.8	2518.6
27.5°	3062.6	3057.0	3036.0	2964.1	2837.0	2798.3	2738.7	2695.5	2695.5	2726.4	2602.7
30°	3294.8	3289.2	3220.8	3100.2	2935.4	2891.3	2828.3	2782.9	2806.0	2865.9	2716.6
32.5°	3540.2	3520.3	3424.1	3262.7	3075.8	3027.2	2966.5	2920.0	2964.1	3065.9	2880.1
35°	3771.4	3760.2	3642.0	3450.7	3257.2	3216.3	3174.3	3116.8	3187.5	3345.6	3111.2
37.5°	4010.2	4001.3	3856.5	3653.0	3478.2	3450.7	3415.3	3375.6	3489.3	3697.2	3424.1
40°	4276.7	4258.9	4076.5	3873.0	3736.0	3722.7	3703.8	3692.8	3876.4	4185.9	3820.0
42.5°	4578.4	4544.2	4308.6	4115.1	4016.7	4027.8	4017.8	4062.0	4342.9	4749.8	4290.9
45°	4923.4	4854.8	4539.8	4372.8	4327.4	4371.6	4392.6	4505.4	4894.7	5401.0	4817.3
47.5°	5246.2	5157.8	4792.8	4652.5	4678.0	4754.2	4813.8	5012.9	5499.5	6044.4	5354.5
50°	5543.6	5444.1	5063.7	4942.1	5066.0	5174.3	5298.2	5579.1	6142.9	6706.7	5847.6
52.5°	5763.6	5691.8	5334.7	5258.4	5511.6	5655.3	5853.1	6208.0	6793.0	7338.1	6287.6
55°	5933.9	5895.1	5598.9	5621.1	6015.7	6221.3	6461.2	6869.2	7480.6	7904.1	6641.4
57.5°	6130.8	6101.9	5900.7	6058.9	6641.4	6900.2	7183.2	7636.6	8135.2	8402.7	6919.0
60°	6338.6	6338.6	6236.8	6586.3	7424.3	7720.7	8002.6	8355.2	8787.5	8851.7	7031.8
62.5°	6495.6	6536.4	6573.0	7147.9	8167.3	8535.4	8845.0	9183.4	9463.0	9072.8	6766.5
65°	6723.4	6810.7	7016.3	7796.8	9087.2	9569.3	9987.1	10271.3	10010.4	8897.0	5900.7
67.5°	7114.7	7244.0	7681.9	8763.1	10495.6	11217.7	11623.4	11132.5	9903.2	7790.2	4519.8
70°	7467.4	7649.8	8398.3	9989.3	12326.6	13076.3	12889.4	10932.5	8624.9	5710.5	2780.7
72°	7233.1	7432.0	8431.5	10523.4	13305.2	13658.9	12673.7	9688.6	6664.7	3485.0	1371.0
72.5°	7079.4	7286.2	8324.2	10510.1	13331.7	13584.9	12374.2	9194.4	6049.9	3049.3	1109.0
75°	5914.0	6090.9	7157.9	9315.0	11748.5	11284.0	9656.5	5950.6	2780.7	985.1	570.6
77.5°	3862.0	3996.9	4935.5	6453.6	8229.2	7782.5	5877.5	2786.2	1042.7	598.1	429.0
80°	1940.3	2036.5	2641.3	3393.2	4441.3	4086.4	2713.2	1347.7	697.7	432.4	337.3
82.5°	1350.0	1438.5	1818.8	1732.6	1856.3	1796.6	1276.0	1124.4	521.8	273.1	176.8
85°	1132.1	1223.9	1504.8	1235.0	1010.6	921.0	914.4	1062.5	344.9	134.8	149.3
87.5°	987.3	1126.7	1241.5	902.2	693.2	611.3	673.3	974.0	109.5	74.1	45.4
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3	2515.3
2.5°	2466.7	2463.3	2446.8	2421.3	2402.5	2390.4	2367.2	2366.0	2368.2	2348.3	2356.1
5°	2396.9	2383.7	2340.7	2282.1	2234.4	2189.1	2139.5	2122.9	2108.4	2078.6	2081.9
7.5°	2324.1	2300.7	2225.6	2129.4	2037.6	1953.6	1870.7	1829.8	1798.9	1760.1	1760.1
10°	2280.8	2244.4	2129.4	1989.0	1843.1	1720.3	1596.5	1522.4	1468.3	1418.6	1415.2
12.5°	2278.7	2223.5	2063.0	1869.6	1669.5	1497.0	1327.9	1214.0	1133.3	1074.6	1069.2
15°	2296.3	2219.1	2007.8	1758.0	1505.9	1281.4	1072.4	927.6	824.9	759.5	752.9
17.5°	2311.9	2213.5	1948.2	1640.8	1346.6	1073.6	841.4	691.1	593.7	540.7	535.1
20°	2326.3	2201.2	1871.8	1516.9	1170.9	879.0	657.9	536.2	472.1	442.2	438.9
22.5°	2347.2	2190.2	1792.2	1377.6	998.3	715.3	542.8	455.5	421.2	406.8	404.6
25°	2381.5	2191.3	1714.9	1235.0	840.3	595.9	470.0	415.7	397.0	387.0	387.0
27.5°	2431.3	2204.6	1638.6	1090.2	706.4	514.1	426.8	394.7	382.6	374.9	372.5
30°	2504.3	2229.0	1557.8	953.0	600.3	457.7	401.4	381.4	371.4	364.8	363.8
32.5°	2610.4	2272.1	1472.7	828.1	519.6	417.9	382.6	370.5	362.6	357.2	356.0
35°	2768.4	2348.3	1389.8	722.0	462.2	389.1	367.0	357.2	352.7	350.5	349.4
37.5°	3000.7	2471.1	1311.3	639.1	424.5	370.5	351.5	346.0	343.8	343.8	343.8
40°	3292.6	2632.6	1240.5	580.5	403.6	356.0	340.5	336.1	336.1	337.3	337.3
42.5°	3647.5	2834.8	1179.7	540.7	391.4	346.0	332.8	330.5	329.5	329.5	330.5
45°	4059.9	3073.6	1142.1	509.7	382.6	340.5	327.3	326.2	321.8	319.5	319.5
47.5°	4474.5	3329.1	1139.9	492.0	371.4	333.9	321.8	321.8	312.9	308.5	309.6
50°	4861.4	3557.8	1164.3	487.6	364.8	324.0	316.3	317.3	305.2	299.7	298.5
52.5°	5173.2	3732.5	1194.0	493.1	364.8	315.0	306.2	311.8	298.5	291.9	290.8
55°	5414.3	3854.2	1205.2	505.2	369.3	307.4	297.3	306.2	296.4	287.5	287.5
57.5°	5586.6	3893.0	1157.6	510.7	375.9	306.2	288.5	305.2	299.7	288.5	288.5
60°	5523.7	3668.5	980.7	489.8	374.9	304.0	282.0	307.4	310.6	298.5	298.5
62.5°	5031.6	3069.1	787.3	442.2	356.0	296.4	274.3	305.2	318.4	314.0	311.8
65°	4096.4	2251.1	610.3	385.8	324.0	279.7	257.6	285.2	300.8	305.2	306.2
67.5°	2886.9	1425.2	474.3	328.4	284.1	255.4	238.8	252.1	257.6	259.8	264.2
70°	1578.9	771.7	377.0	276.4	243.3	231.0	218.8	220.1	217.7	215.7	217.7
72°	792.8	504.2	318.4	239.8	215.7	207.9	202.3	199.1	199.1	195.7	196.8
72.5°	682.2	468.7	307.4	231.0	208.9	202.3	197.8	194.7	193.4	191.2	192.3
75°	454.5	371.4	256.5	193.4	178.0	173.6	175.8	172.5	173.6	171.3	172.5
77.5°	367.0	319.5	217.7	163.6	152.6	146.0	150.3	151.5	153.7	151.5	150.3
80°	307.4	271.9	182.4	134.8	127.1	121.6	123.8	131.6	132.7	126.0	125.0
82.5°	199.1	218.8	143.6	105.0	97.2	95.1	100.6	108.3	110.5	101.7	99.5
85°	166.9	175.8	103.9	71.9	64.0	62.0	72.9	80.7	86.2	77.4	75.2
87.5°	46.4	86.2	50.8	34.2	28.7	28.7	35.4	42.0	49.8	50.8	50.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)