

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: P195226

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7060-800**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195226  
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-04-D-UNV-SL4-7060-800  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 5700K, 800mA 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: 18804 lumens  
Efficiency: N/A  
Efficacy: 110.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U0 - G4

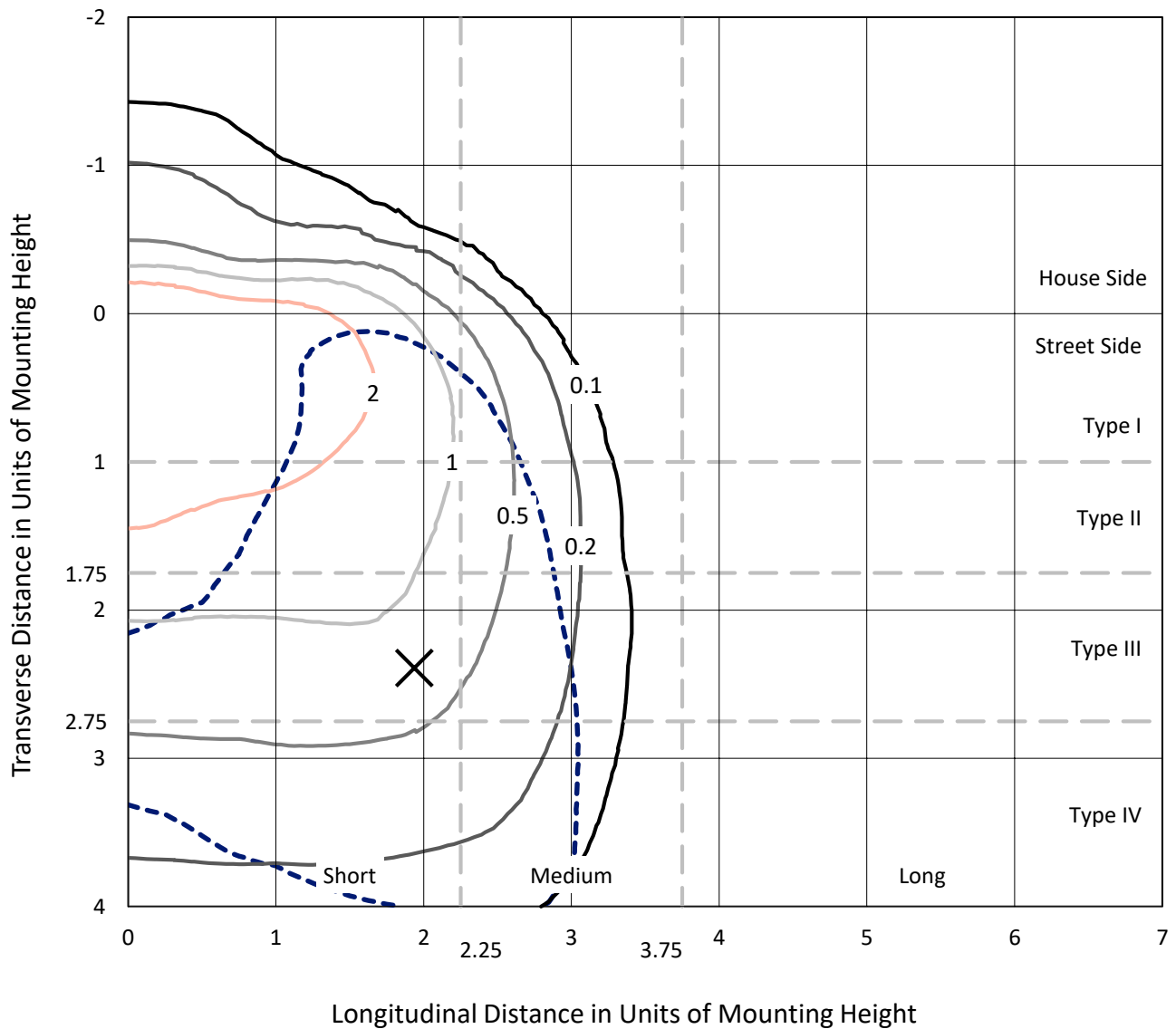
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

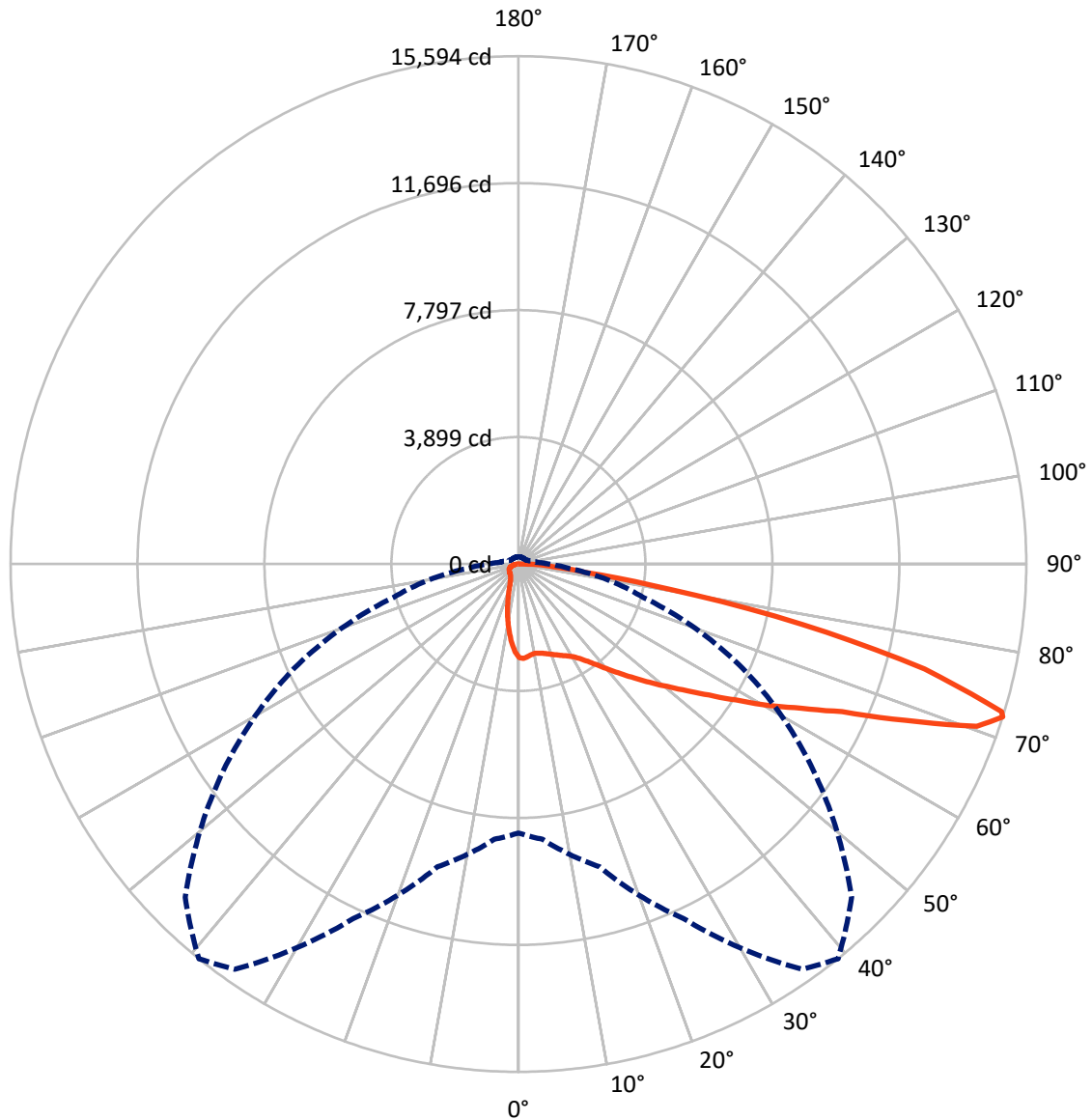
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.6 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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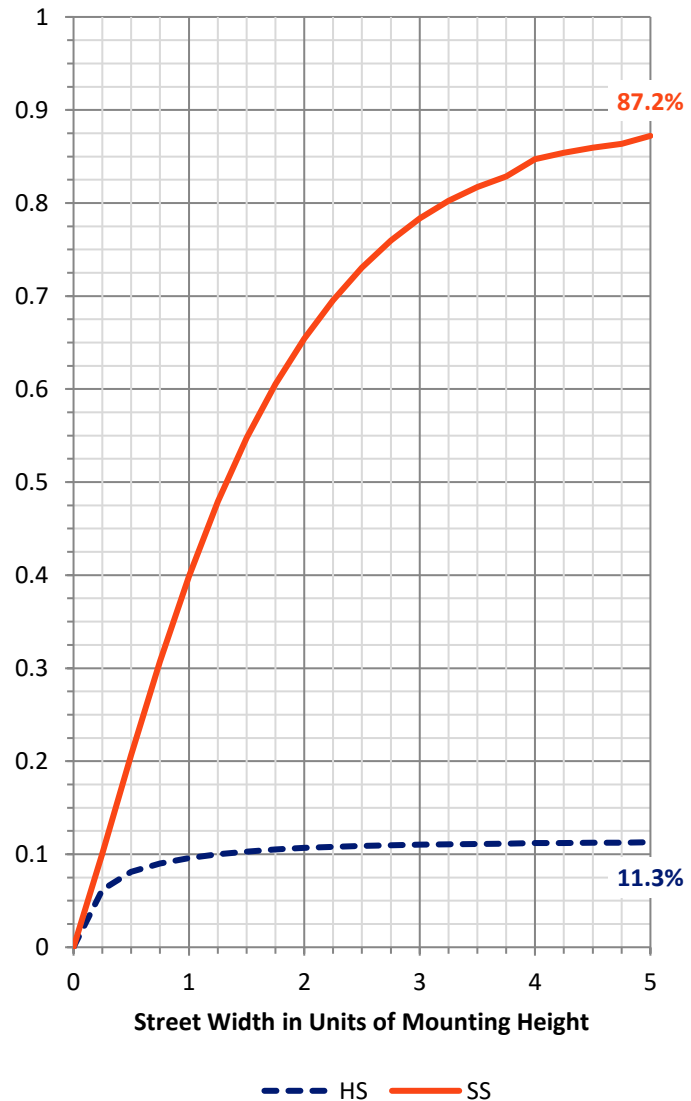
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2156.1	0.0	2156.1
	% Fixture	11.5	0.0	11.5
<b>Street Side</b>	Lumens	16647.9	0.0	16647.9
	% Fixture	88.5	0.0	88.5
<b>Total</b>	Lumens	18804.0	0.0	18804.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	246.8	1.3
10°-20°	620.1	3.3
20°-30°	966.4	5.1
30°-40°	1487.9	7.9
40°-50°	2425.6	12.9
50°-60°	3769.2	20.0
60°-70°	5044.9	26.8
70°-80°	3628.0	19.3
80°-90°	615.0	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°	18804.0	100.0
0°-180°	18804.0	100.0



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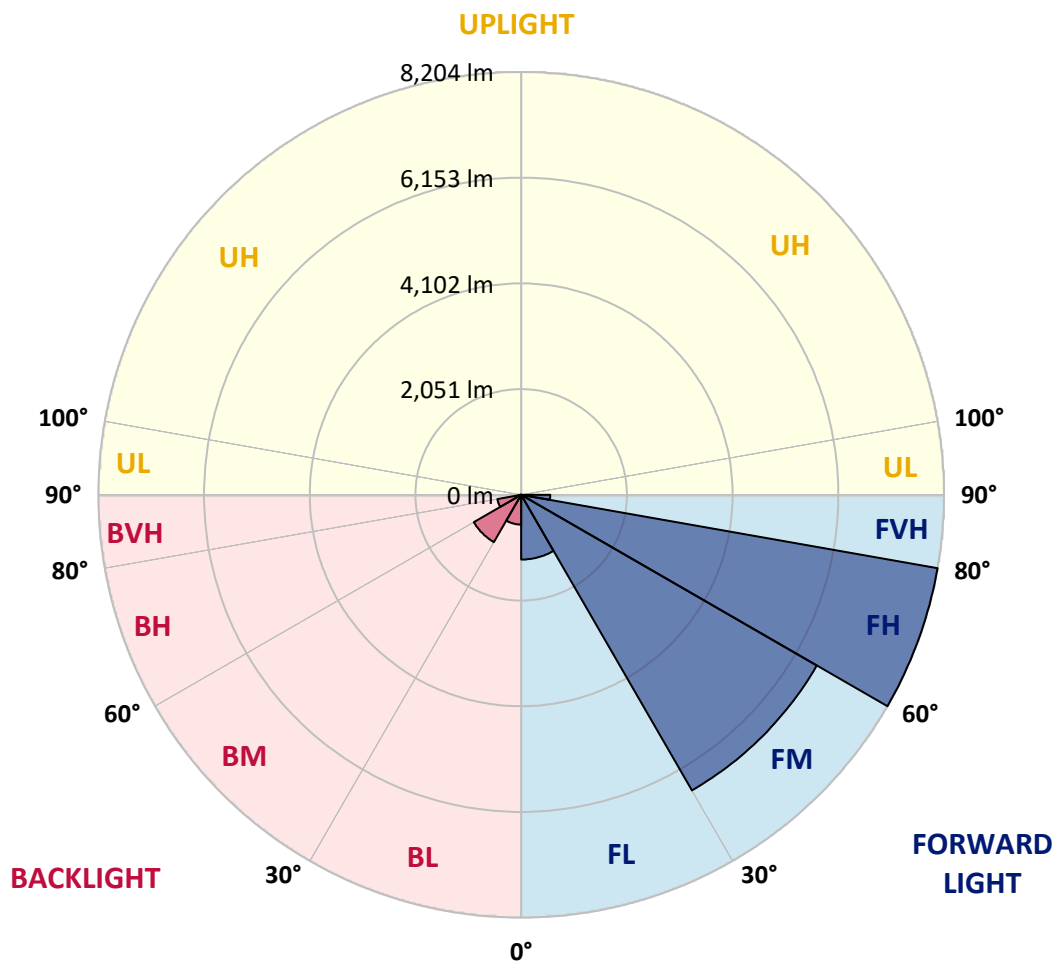
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1256.1	6.7			
FM	(30°-60°)	6623.1	35.2			
FH	(60°-80°)	8204.5	43.6			G4/12000
FVH	(80°-90°)	564.2	3.0			G4/750
BL	(0°-30°)	577.2	3.1	B2/1000		
BM	(30°-60°)	1059.6	5.6	B2/2500		
BH	(60°-80°)	468.5	2.5	B1/500		G1/500
BVH	(80°-90°)	50.8	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-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7
2.5°	2933.6	2934.8	2931.0	2919.7	2909.6	2904.5	2895.7	2880.5	2860.3	2846.5	2835.1
5°	2905.8	2909.6	2907.1	2888.1	2870.4	2860.3	2846.5	2825.0	2798.5	2787.1	2760.6
7.5°	2884.3	2886.9	2879.3	2857.8	2823.7	2811.1	2785.9	2758.1	2734.1	2717.7	2686.2
10°	2869.2	2871.7	2865.4	2843.9	2806.1	2790.9	2760.6	2730.3	2698.8	2678.6	2643.2
12.5°	2847.7	2852.8	2852.8	2842.7	2817.4	2807.3	2777.0	2744.2	2715.2	2693.7	2649.5
15°	2843.9	2850.2	2861.6	2860.3	2852.8	2845.2	2821.2	2788.4	2763.2	2737.9	2683.6
17.5°	2875.5	2889.4	2912.1	2919.7	2914.6	2898.2	2870.4	2840.2	2812.4	2788.4	2721.5
20°	2955.0	2962.6	2996.7	3011.8	2986.6	2962.6	2926.0	2886.9	2861.6	2842.7	2756.8
22.5°	3074.9	3085.0	3112.8	3114.1	3061.1	3032.0	2985.3	2937.3	2913.4	2905.8	2804.8
25°	3266.8	3264.3	3271.9	3240.3	3144.4	3110.3	3053.5	2997.9	2981.5	2996.7	2875.5
27.5°	3496.5	3490.2	3466.2	3384.2	3239.0	3194.9	3126.7	3077.5	3077.5	3112.8	2971.4
30°	3761.6	3755.3	3677.0	3539.5	3351.4	3300.9	3228.9	3177.2	3203.7	3271.9	3101.4
32.5°	4041.9	4019.1	3909.3	3725.0	3511.7	3456.1	3386.7	3333.7	3384.2	3500.3	3288.3
35°	4305.7	4293.0	4158.0	3939.6	3718.7	3672.0	3624.0	3558.4	3639.2	3819.7	3552.1
37.5°	4578.3	4568.2	4402.9	4170.6	3971.2	3939.6	3899.2	3853.8	3983.8	4221.1	3909.3
40°	4882.5	4862.3	4654.1	4421.8	4265.3	4250.1	4228.7	4216.0	4425.6	4779.0	4361.2
42.5°	5227.1	5188.0	4919.1	4698.2	4585.9	4598.5	4587.2	4637.7	4958.3	5422.8	4898.9
45°	5621.0	5542.7	5183.0	4992.4	4940.6	4991.1	5015.1	5143.8	5588.2	6166.3	5499.8
47.5°	5989.6	5888.6	5472.0	5311.7	5340.7	5427.8	5496.0	5723.2	6278.6	6900.9	6113.3
50°	6329.1	6215.5	5781.3	5642.4	5783.8	5907.5	6048.9	6369.5	7013.3	7657.0	6676.2
52.5°	6580.3	6498.3	6090.5	6003.4	6292.5	6456.6	6682.6	7087.8	7755.5	8377.8	7178.6
55°	6774.7	6730.5	6392.2	6417.5	6868.1	7102.9	7376.8	7842.6	8540.7	9024.1	7582.6
57.5°	6999.4	6966.6	6736.8	6917.3	7582.6	7877.9	8201.1	8718.6	9287.9	9593.4	7899.4
60°	7236.7	7236.7	7120.6	7519.5	8476.3	8814.6	9136.5	9539.1	10032.7	10105.9	8028.2
62.5°	7416.0	7462.7	7504.3	8160.7	9324.5	9744.9	10098.3	10484.6	10803.9	10358.3	7725.2
65°	7676.0	7775.7	8010.5	8901.7	10374.8	10925.1	11402.3	11726.7	11428.8	10157.6	6736.8
67.5°	8122.8	8270.5	8770.4	10004.9	11982.9	12807.2	13270.4	12710.0	11306.3	8894.1	5160.2
70°	8525.5	8733.8	9588.4	11404.8	14073.3	14929.1	14715.8	12481.5	9847.1	6519.7	3174.7
72°	8257.9	8485.1	9626.2	12014.5	15190.4	15594.3	14469.6	11061.4	7609.1	3978.7	1565.2
72.5°	8082.4	8318.5	9503.8	11999.3	15220.7	15509.8	14127.5	10497.2	6907.2	3481.4	1266.1
75°	6752.0	6954.0	8172.1	10634.8	13413.1	12882.9	11024.8	6793.6	3174.7	1124.7	651.3
77.5°	4409.2	4563.2	5634.9	7368.0	9395.2	8885.3	6710.3	3181.0	1190.3	682.9	489.8
80°	2215.3	2325.1	3015.6	3874.0	5070.6	4665.4	3097.7	1538.7	796.5	493.6	385.0
82.5°	1541.3	1642.2	2076.5	1978.0	2119.4	2051.2	1456.7	1283.7	595.8	311.8	202.0
85°	1292.6	1397.4	1718.0	1410.0	1153.7	1051.5	1043.9	1213.1	393.8	154.0	170.4
87.5°	1127.2	1286.3	1417.6	1030.0	791.5	698.0	768.7	1112.1	125.0	84.6	51.8
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):**

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7	2871.7
2.5°	2816.2	2812.4	2793.4	2764.4	2743.0	2729.1	2702.6	2701.3	2703.8	2681.1	2689.9
5°	2736.6	2721.5	2672.3	2605.4	2551.1	2499.3	2442.5	2423.6	2407.2	2373.1	2376.9
7.5°	2653.3	2626.8	2541.0	2431.2	2326.4	2230.5	2135.8	2089.1	2053.7	2009.6	2009.6
10°	2604.1	2562.4	2431.2	2270.9	2104.2	1964.1	1822.7	1738.2	1676.3	1619.5	1615.7
12.5°	2601.6	2538.5	2355.4	2134.5	1906.1	1709.1	1516.0	1386.0	1293.8	1226.9	1220.6
15°	2621.8	2533.4	2292.3	2007.0	1719.2	1463.0	1224.4	1059.1	941.7	867.2	859.6
17.5°	2639.4	2527.1	2224.2	1873.2	1537.5	1225.7	960.6	788.9	677.8	617.3	610.9
20°	2655.9	2513.2	2137.1	1731.9	1336.8	1003.5	751.1	612.2	539.0	504.9	501.1
22.5°	2679.8	2500.6	2046.2	1572.8	1139.8	816.7	619.8	520.1	480.9	464.5	462.0
25°	2719.0	2501.9	1957.8	1410.0	959.3	680.4	536.5	474.6	453.2	441.8	441.8
27.5°	2775.8	2517.0	1870.7	1244.6	806.6	587.0	487.2	450.6	436.8	427.9	425.4
30°	2859.1	2544.8	1778.6	1088.1	685.4	522.6	458.2	435.5	424.1	416.6	415.3
32.5°	2980.3	2594.0	1681.4	945.5	593.3	477.1	436.8	422.9	414.0	407.7	406.5
35°	3160.8	2681.1	1586.7	824.3	527.6	444.3	419.1	407.7	402.7	400.1	398.9
37.5°	3425.9	2821.2	1497.1	729.6	484.7	422.9	401.4	395.1	392.6	392.6	392.6
40°	3759.1	3005.5	1416.3	662.7	460.7	406.5	388.8	383.7	383.7	385.0	385.0
42.5°	4164.3	3236.5	1346.9	617.3	446.9	395.1	379.9	377.4	376.2	376.2	377.4
45°	4635.1	3509.2	1303.9	581.9	436.8	388.8	373.6	372.4	367.3	364.8	364.8
47.5°	5108.5	3800.8	1301.4	561.7	424.1	381.2	367.3	367.3	357.2	352.2	353.4
50°	5550.3	4062.0	1329.2	556.7	416.6	369.9	361.0	362.3	348.4	342.1	340.8
52.5°	5906.3	4261.5	1363.3	563.0	416.6	359.8	349.7	356.0	340.8	333.2	332.0
55°	6181.4	4400.3	1375.9	576.9	421.6	350.9	339.6	349.7	338.3	328.2	328.2
57.5°	6378.3	4444.5	1321.6	583.2	429.2	349.7	329.5	348.4	342.1	329.5	329.5
60°	6306.4	4188.3	1119.7	559.2	427.9	347.1	321.9	350.9	354.7	340.8	340.8
62.5°	5744.7	3504.1	898.8	504.9	406.5	338.3	313.0	348.4	363.5	358.5	356.0
65°	4676.8	2570.0	696.8	440.5	369.9	319.4	294.1	325.7	343.3	348.4	349.7
67.5°	3295.8	1627.1	541.5	374.9	324.4	291.6	272.7	287.8	294.1	296.6	301.7
70°	1802.5	881.1	430.4	315.6	277.7	263.8	249.9	251.2	248.7	246.1	248.7
72°	905.1	575.6	363.5	273.9	246.1	237.3	231.0	227.2	227.2	223.4	224.7
72.5°	778.8	535.2	350.9	263.8	238.6	231.0	225.9	222.2	220.9	218.4	219.6
75°	518.8	424.1	292.9	220.9	203.2	198.2	200.7	196.9	198.2	195.7	196.9
77.5°	419.1	364.8	248.7	186.8	174.2	166.6	171.7	172.9	175.5	172.9	171.7
80°	350.9	310.5	208.3	154.0	145.2	138.9	141.4	150.2	151.5	143.9	142.6
82.5°	227.2	249.9	164.1	119.9	111.1	108.6	114.9	123.7	126.2	116.1	113.6
85°	190.6	200.7	118.7	82.0	73.2	70.7	83.3	92.1	98.5	88.4	85.8
87.5°	53.0	98.5	58.1	39.1	32.8	32.8	40.4	48.0	56.8	58.1	58.1
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)