

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: P196653

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7030-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196653
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
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-SL4-7030-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 15656.8 lumens
Efficiency: N/A
Efficacy: 82.0 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - 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

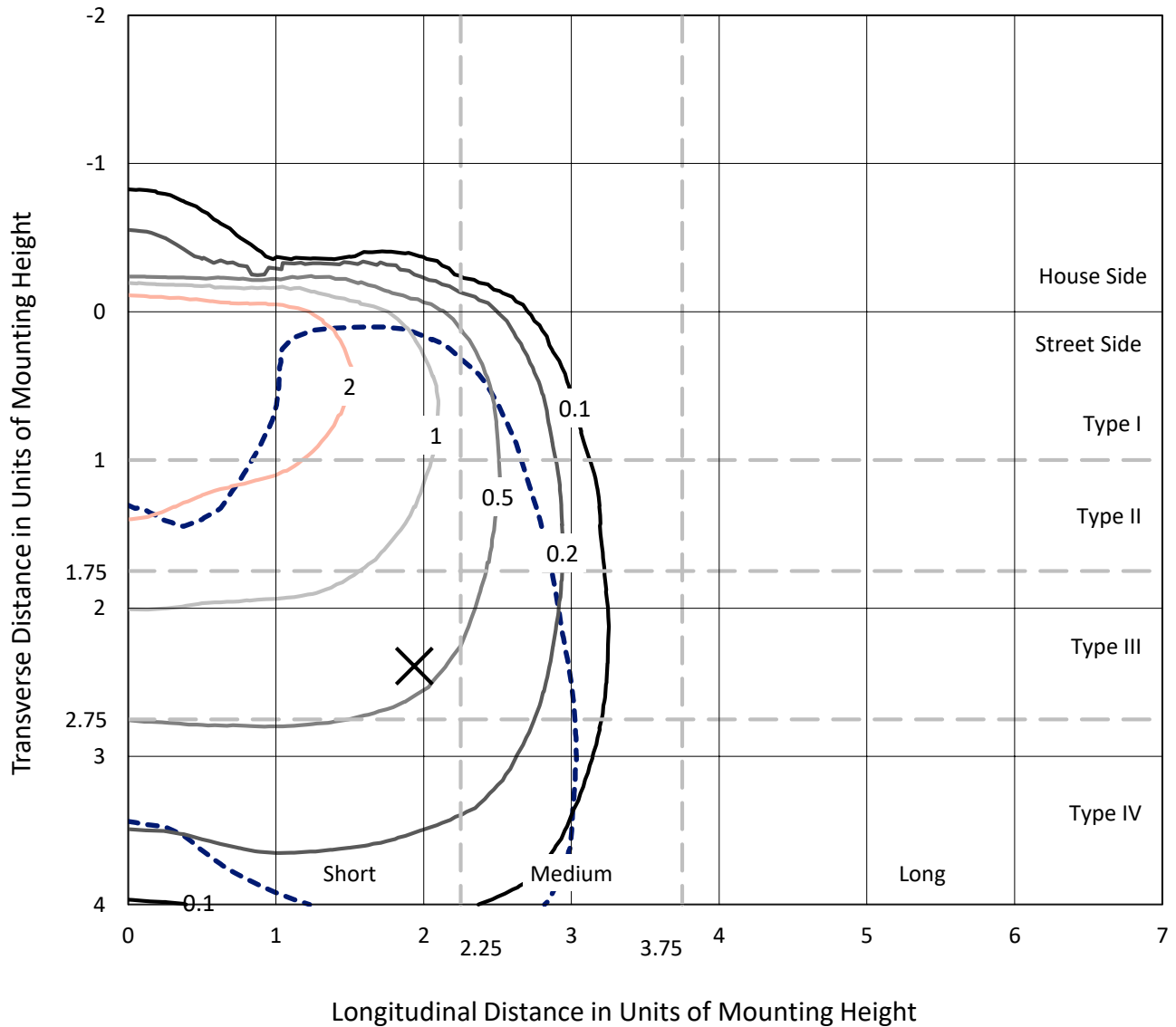


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

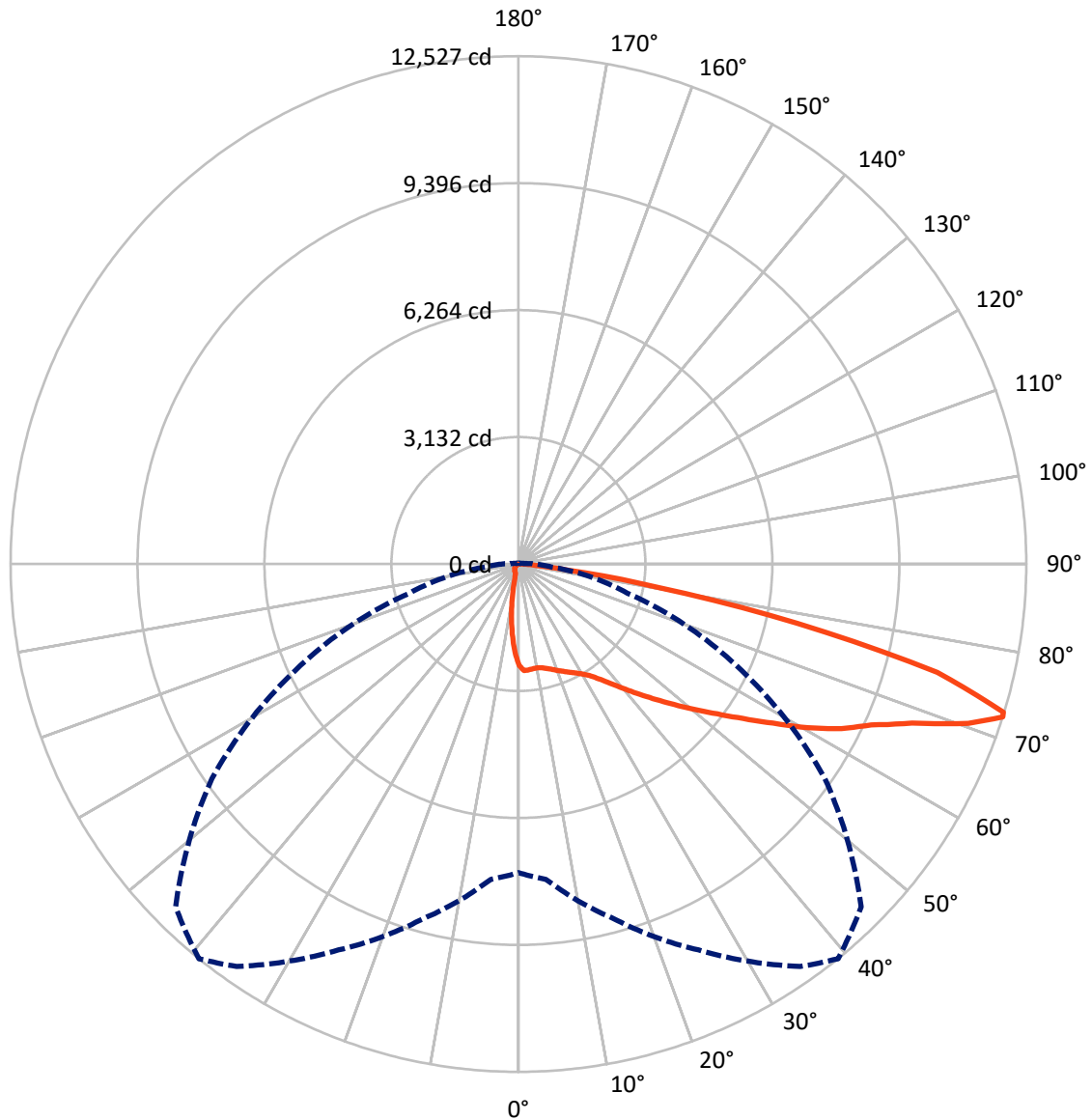


Based on 25 foot mounting height. Maximum calculated value = 4.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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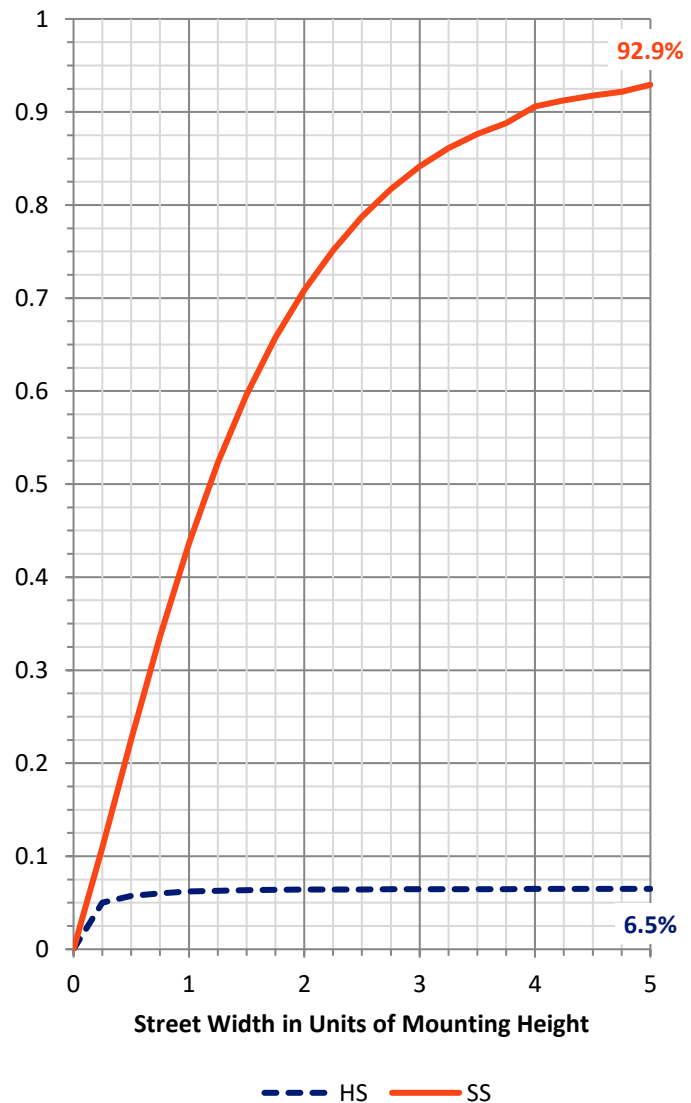
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1026.1	0.0	1026.1
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	14630.7	0.0	14630.7
	% Fixture	93.4	0.0	93.4
Total	Lumens	15656.8	0.0	15656.8
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.8	1.3
10°-20°	493.5	3.2
20°-30°	819.6	5.2
30°-40°	1306.2	8.3
40°-50°	2156.1	13.8
50°-60°	3256.1	20.8
60°-70°	4241.6	27.1
70°-80°	2866.1	18.3
80°-90°	313.9	2.0
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°	15656.8	100.0
0°-180°	15656.8	100.0



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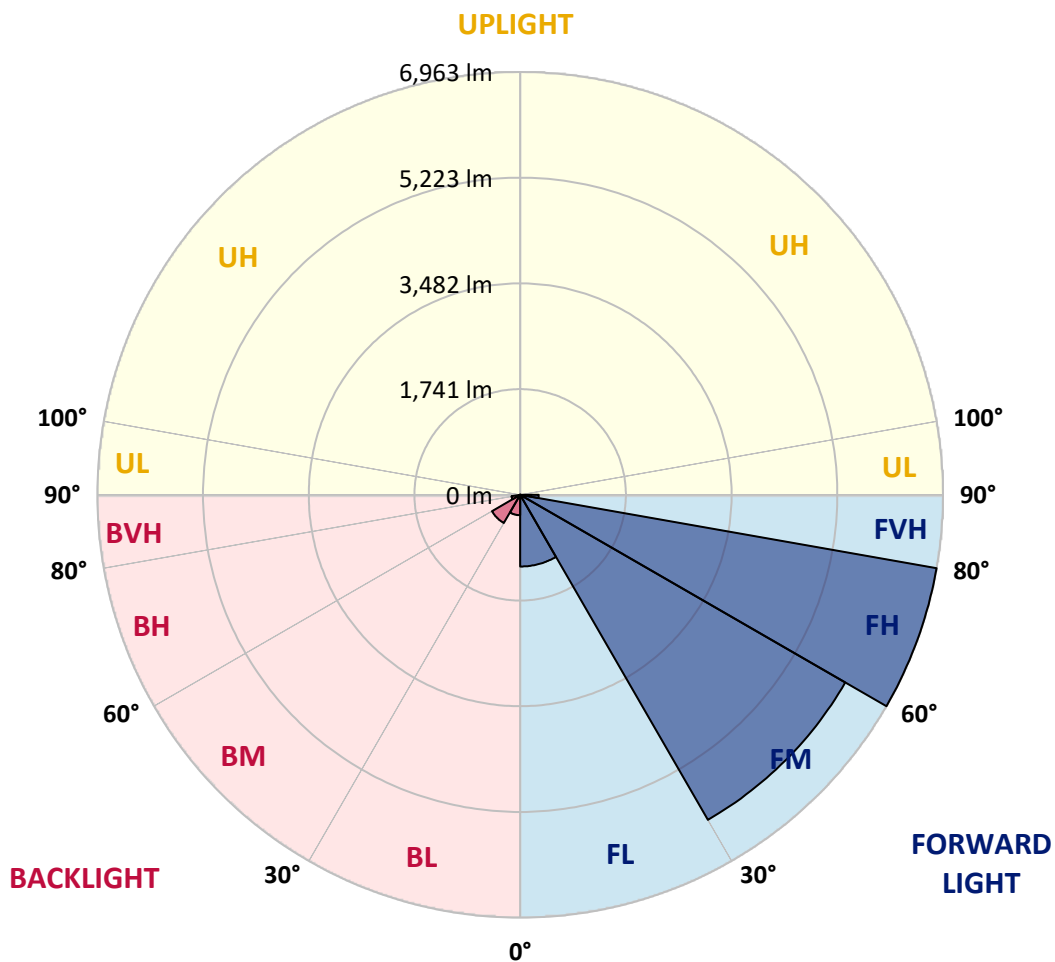
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1180.9	7.5			
FM	(30°-60°)	6181.5	39.5			
FH	(60°-80°)	6963.4	44.5			G3/7500
FVH	(80°-90°)	304.9	1.9			G3/500
BL	(0°-30°)	336.0	2.1	B1/500		
BM	(30°-60°)	536.9	3.4	B1/1000		
BH	(60°-80°)	144.2	0.9	B1/500		G1/500
BVH	(80°-90°)	9.0	0.1			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G3

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0
2.5°	2668.4	2673.3	2667.2	2656.1	2640.1	2630.3	2616.8	2587.3	2550.3	2518.3	2481.4
5°	2689.4	2691.8	2684.5	2663.5	2638.9	2625.4	2608.1	2576.2	2538.0	2493.7	2427.2
7.5°	2695.5	2694.4	2685.7	2659.8	2621.6	2604.4	2574.9	2535.5	2496.1	2455.5	2380.4
10°	2693.0	2693.0	2686.9	2662.3	2619.2	2603.2	2570.0	2528.2	2478.9	2438.3	2358.3
12.5°	2684.5	2689.4	2685.7	2672.2	2640.1	2627.8	2598.3	2556.4	2509.6	2467.8	2383.0
15°	2695.5	2703.0	2710.2	2705.4	2686.9	2675.9	2648.8	2605.8	2567.5	2523.3	2432.1
17.5°	2739.7	2755.8	2773.1	2774.3	2754.7	2734.9	2704.1	2659.8	2622.9	2582.4	2483.8
20°	2823.6	2835.9	2867.8	2873.9	2834.6	2806.4	2763.2	2711.5	2674.5	2640.1	2531.9
22.5°	2947.9	2961.4	2987.2	2978.6	2912.2	2878.9	2824.8	2765.7	2727.5	2707.9	2587.3
25°	3136.2	3139.9	3146.0	3107.9	2998.3	2961.4	2895.0	2828.5	2797.7	2795.2	2666.0
27.5°	3357.7	3362.7	3335.5	3250.7	3094.3	3046.3	2971.2	2910.8	2896.1	2914.6	2765.7
30°	3611.2	3612.5	3537.4	3399.6	3205.1	3152.1	3074.7	3008.1	3021.7	3067.2	2893.7
32.5°	3870.9	3858.7	3755.2	3575.6	3356.5	3292.5	3226.0	3159.6	3198.9	3291.2	3080.8
35°	4108.4	4103.6	3981.7	3772.5	3553.4	3496.9	3448.8	3378.7	3442.6	3592.8	3335.5
37.5°	4346.2	4342.4	4203.3	3985.4	3795.8	3755.2	3719.6	3665.4	3770.1	3990.3	3676.5
40°	4608.2	4602.1	4431.0	4221.8	4077.8	4055.6	4034.7	4011.4	4189.8	4496.2	4101.1
42.5°	4932.0	4904.8	4672.3	4479.0	4388.0	4394.1	4395.3	4418.7	4698.1	5098.1	4602.1
45°	5303.7	5243.4	4914.7	4754.8	4728.8	4765.8	4802.7	4899.9	5290.2	5791.1	5156.0
47.5°	5664.3	5567.1	5194.0	5051.4	5104.3	5180.6	5269.2	5458.7	5954.7	6516.0	5658.1
50°	5974.6	5874.8	5471.0	5352.9	5521.5	5634.7	5792.3	6079.0	6656.4	7128.9	5974.6
52.5°	6218.2	6139.4	5764.0	5685.2	5984.3	6139.4	6386.7	6763.4	7318.5	7532.7	6196.0
55°	6397.9	6358.5	6044.7	6055.7	6498.8	6722.8	7030.5	7456.4	7877.4	7846.6	6362.1
57.5°	6601.0	6570.2	6338.7	6492.6	7117.9	7407.1	7762.9	8105.1	8283.5	8098.9	6524.6
60°	6808.9	6818.9	6695.7	7021.9	7883.5	8203.5	8513.7	8598.6	8631.8	8354.9	6695.7
62.5°	6966.5	7008.3	7019.5	7593.0	8668.7	8942.0	9076.1	9015.8	9008.5	8698.3	6682.2
65°	7147.4	7257.0	7439.1	8219.5	9382.6	9562.4	9658.4	9745.7	9561.2	8800.5	6025.0
67.5°	7460.1	7632.5	8042.2	8987.5	10207.3	10473.1	10745.2	10652.9	9643.6	7762.9	4589.8
70°	7881.1	8091.5	8815.2	9990.6	11326.2	11771.7	11999.4	10580.2	8187.6	5364.0	2421.0
72°	7615.2	7805.9	9054.0	10502.8	12118.8	12527.4	11957.6	9228.8	5935.1	2780.4	811.1
72.5°	7356.8	7553.6	8977.8	10496.5	12197.6	12510.1	11685.5	8695.8	5252.0	2163.8	558.8
75°	5104.3	5352.9	7696.4	9435.6	11014.8	10671.4	8940.8	5265.5	1902.9	371.7	184.6
77.5°	2638.9	2830.9	4668.5	6667.4	7676.7	7030.5	5284.0	2284.4	526.8	196.8	121.9
80°	1635.8	1730.5	2183.5	3285.1	3987.9	3488.2	2331.1	923.1	337.3	116.9	97.2
82.5°	846.9	919.4	1374.8	1325.7	1473.4	1224.7	860.3	773.0	208.0	72.6	99.7
85°	278.2	295.4	844.3	881.2	630.2	423.4	381.6	737.3	60.3	46.8	84.9
87.5°	36.9	43.0	296.6	504.7	310.2	192.0	228.9	259.7	21.0	25.9	23.4
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°	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0	2506.0
2.5°	2456.7	2440.8	2390.3	2339.8	2282.0	2229.0	2187.2	2160.2	2172.4	2131.7	2137.9
5°	2386.5	2346.1	2235.2	2115.8	1986.6	1865.9	1769.9	1698.6	1685.0	1623.5	1625.9
7.5°	2318.9	2252.4	2072.7	1875.8	1661.7	1488.1	1330.6	1192.7	1143.4	1093.0	1063.4
10°	2282.0	2190.8	1936.1	1649.3	1347.7	1093.0	871.5	697.8	625.3	572.3	546.6
12.5°	2293.1	2172.4	1833.9	1443.8	1047.5	723.8	492.3	365.6	321.2	296.6	288.0
15°	2330.0	2176.1	1741.6	1243.2	761.9	438.1	289.2	247.4	243.7	242.4	241.3
17.5°	2364.5	2179.8	1644.4	1033.9	509.5	279.3	232.6	228.9	228.9	228.9	228.9
20°	2400.1	2181.1	1537.3	814.8	334.8	228.9	219.1	216.7	219.1	219.1	219.1
22.5°	2442.0	2189.7	1433.9	601.9	247.4	215.3	209.2	208.0	209.2	209.2	208.0
25°	2493.7	2208.1	1321.9	430.8	224.0	206.8	200.6	199.4	200.6	199.4	199.4
27.5°	2562.5	2232.7	1191.5	308.9	214.1	198.2	192.0	192.0	192.0	190.7	190.7
30°	2651.1	2262.3	1016.6	243.7	204.4	189.6	184.6	184.6	183.4	182.1	182.1
32.5°	2778.0	2310.3	825.9	220.2	193.3	178.4	173.5	174.9	173.5	172.3	171.1
35°	2957.6	2385.3	637.5	208.0	182.1	167.3	162.5	162.5	162.5	159.9	159.9
37.5°	3212.4	2499.9	477.6	195.7	171.1	156.3	150.1	150.1	148.9	146.5	147.7
40°	3527.6	2643.8	346.0	184.6	159.9	144.0	139.1	136.6	134.2	131.6	131.6
42.5°	3906.7	2784.2	259.7	173.5	148.9	134.2	128.1	125.5	120.6	118.1	116.9
45°	4331.2	2933.1	215.3	159.9	136.6	123.1	118.1	113.2	107.1	103.4	102.1
47.5°	4689.5	3024.2	192.0	146.5	124.3	112.0	107.1	99.7	92.4	89.8	89.8
50°	4904.8	2986.0	172.3	133.0	112.0	100.9	94.7	84.9	80.0	77.6	76.3
52.5°	5025.5	2872.8	156.3	121.9	100.9	88.6	80.0	71.3	69.0	66.4	66.4
55°	5108.0	2709.1	139.1	110.8	91.1	77.6	67.7	61.5	59.1	57.8	56.6
57.5°	5186.7	2509.6	123.1	100.9	81.3	69.0	57.8	55.4	50.5	49.2	49.2
60°	5210.1	2235.2	108.2	89.8	72.6	60.3	50.5	46.8	41.8	40.7	40.7
62.5°	4912.3	1778.5	96.0	76.3	64.0	51.7	44.4	39.4	34.4	34.4	34.4
65°	4104.9	1207.5	82.5	66.4	56.6	44.4	38.1	32.0	29.5	29.5	29.5
67.5°	2859.2	673.2	70.2	56.6	48.0	36.9	32.0	27.1	25.9	27.1	27.1
70°	1288.7	267.1	59.1	46.8	39.4	30.8	27.1	23.4	25.9	25.9	25.9
72°	386.4	142.8	49.2	38.1	32.0	27.1	23.4	22.2	24.6	25.9	25.9
72.5°	286.8	128.1	46.8	36.9	32.0	25.9	22.2	22.2	24.6	25.9	25.9
75°	147.7	87.4	35.7	27.1	23.4	21.0	18.5	21.0	24.6	24.6	24.6
77.5°	115.7	71.3	29.5	21.0	19.6	18.5	17.3	19.6	22.2	22.2	22.2
80°	108.2	46.8	23.4	19.6	17.3	16.0	16.0	17.3	19.6	21.0	21.0
82.5°	109.6	38.1	21.0	18.5	16.0	14.7	14.7	16.0	18.5	19.6	19.6
85°	70.2	25.9	18.5	16.0	14.7	13.5	13.5	14.7	17.3	18.5	18.5
87.5°	23.4	19.6	16.0	14.7	12.3	12.3	12.3	12.3	14.7	16.0	17.3
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)