

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: P195202

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195202
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-04-D-UNV-SL4-7060-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 800mA 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: 16058 lumens
Efficiency: N/A
Efficacy: 93.9 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

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

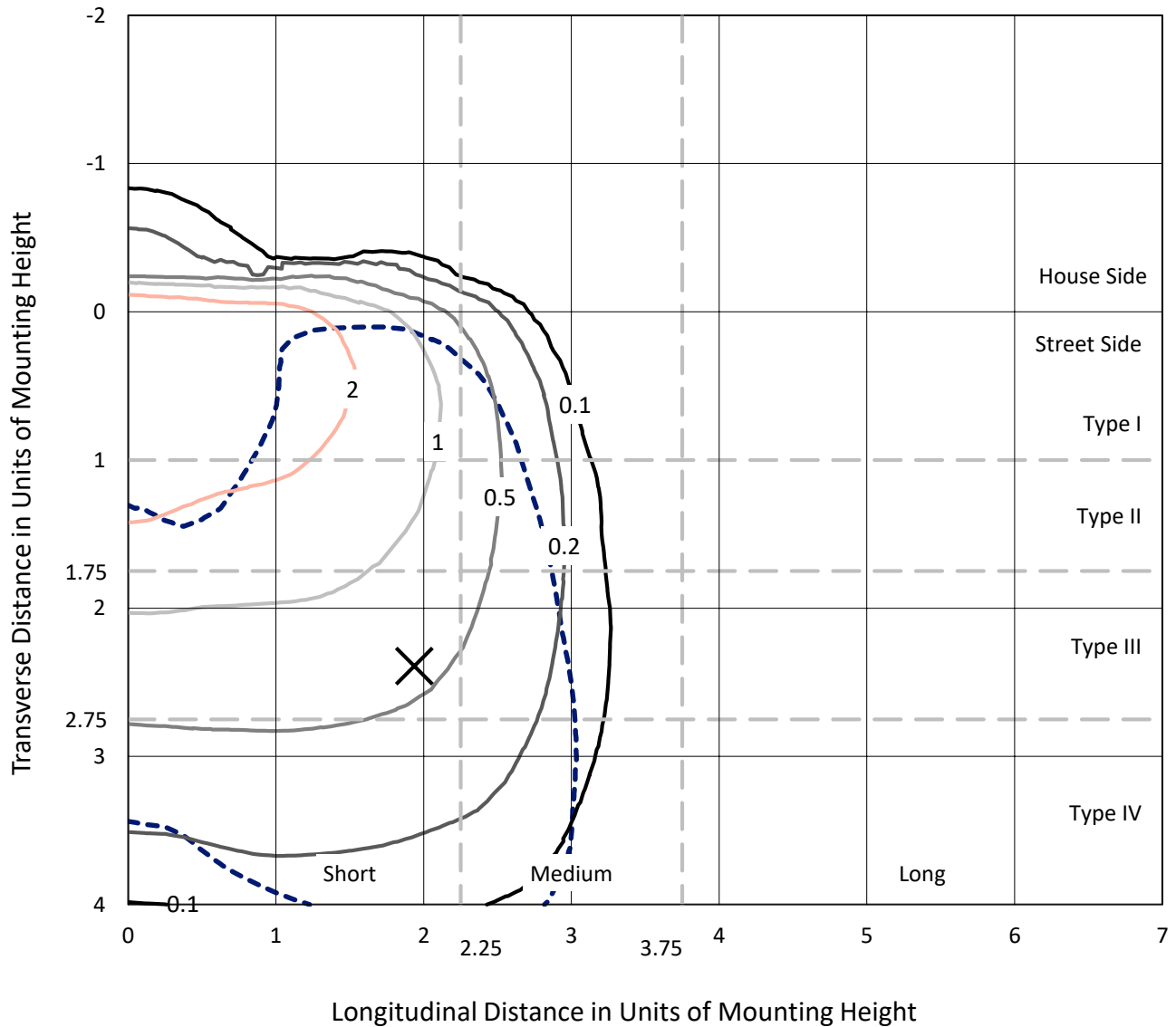


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

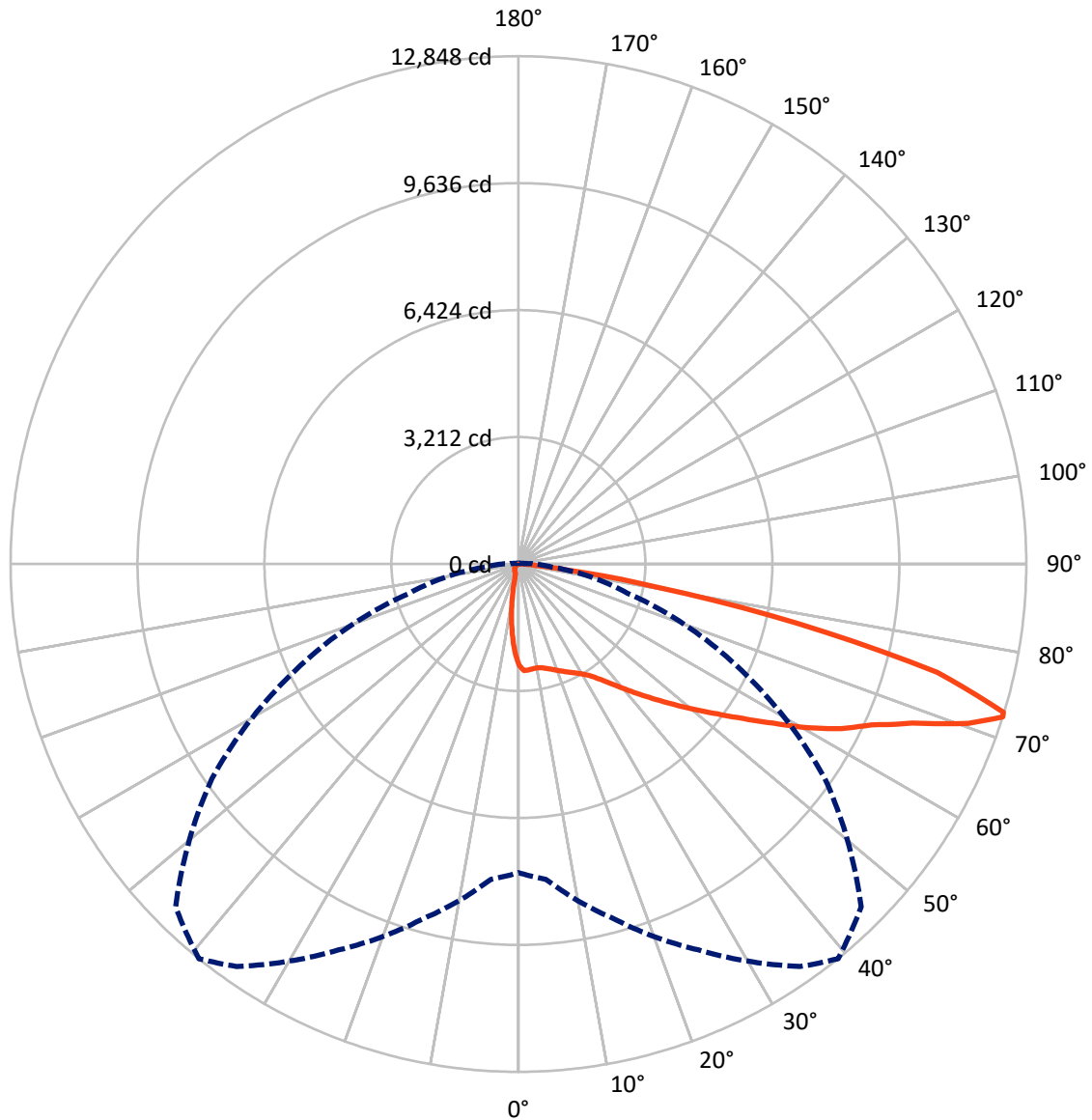


Based on 25 foot mounting height. Maximum calculated value = 4.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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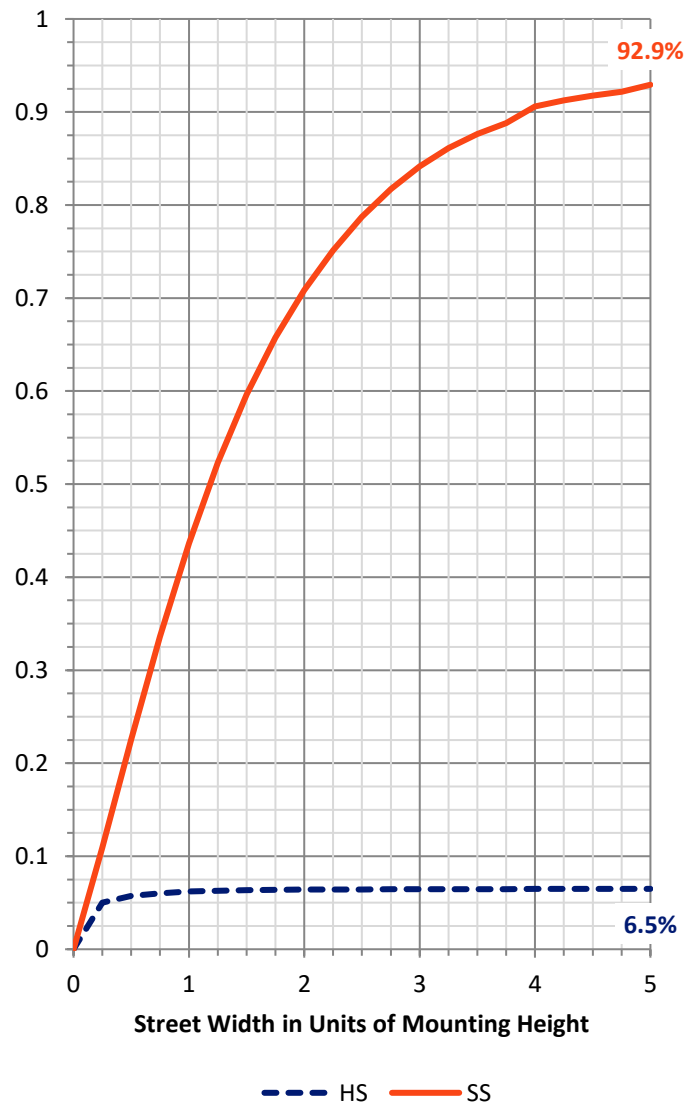
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1052.4	0.0	1052.4
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	15005.6	0.0	15005.6
	% Fixture	93.4	0.0	93.4
Total	Lumens	16058.0	0.0	16058.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	209.1	1.3
10°-20°	506.1	3.2
20°-30°	840.6	5.2
30°-40°	1339.7	8.3
40°-50°	2211.3	13.8
50°-60°	3339.5	20.8
60°-70°	4350.3	27.1
70°-80°	2939.5	18.3
80°-90°	321.9	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°	16058.0	100.0
0°-180°	16058.0	100.0



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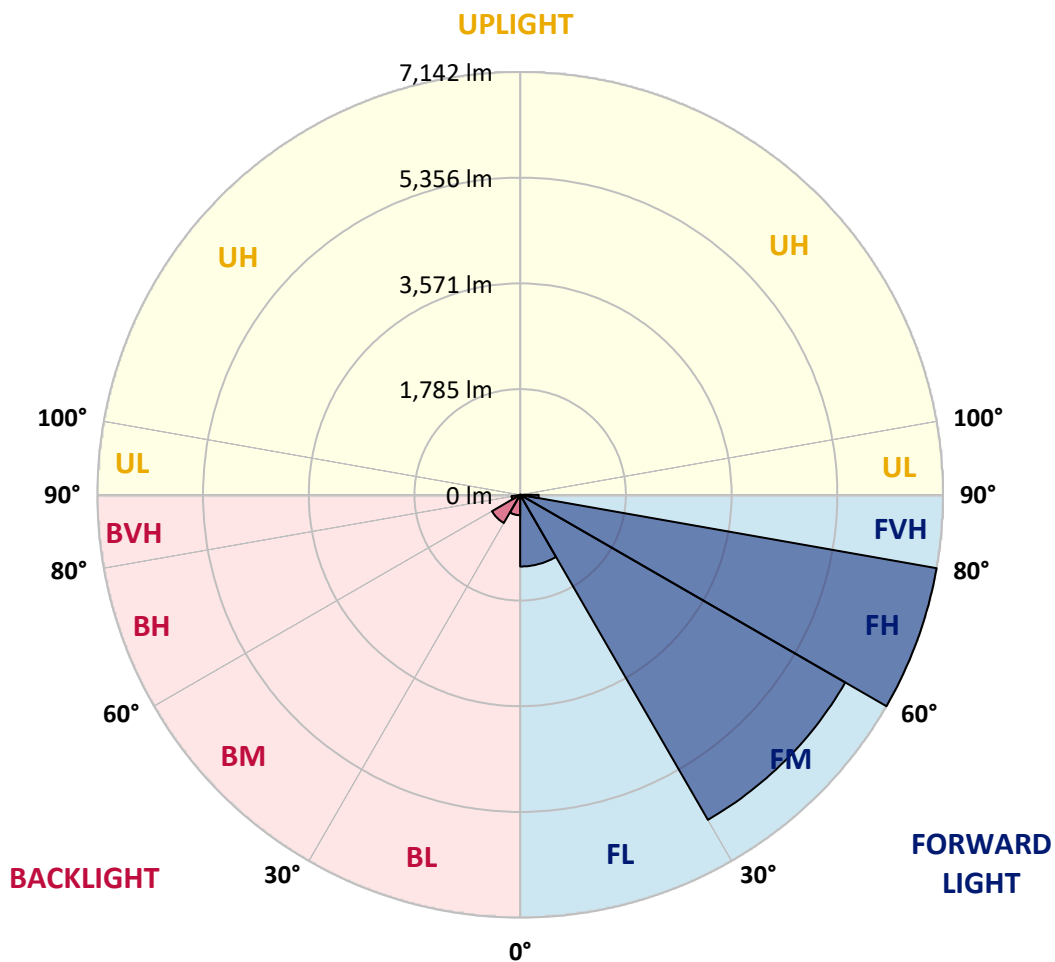
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1211.1	7.5			
FM	(30°-60°)	6339.9	39.5			
FH	(60°-80°)	7141.9	44.5			G3/7500
FVH	(80°-90°)	312.7	1.9			G3/500
BL	(0°-30°)	344.6	2.1	B1/500		
BM	(30°-60°)	550.6	3.4	B1/1000		
BH	(60°-80°)	147.9	0.9	B1/500		G1/500
BVH	(80°-90°)	9.3	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°	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2
2.5°	2736.8	2741.9	2735.6	2724.2	2707.8	2697.7	2683.8	2653.5	2615.6	2582.8	2544.9
5°	2758.3	2760.8	2753.2	2731.8	2706.5	2692.6	2675.0	2642.1	2603.0	2557.6	2489.4
7.5°	2764.6	2763.3	2754.5	2728.0	2688.8	2671.2	2640.9	2600.5	2560.1	2518.4	2441.4
10°	2762.1	2762.1	2755.8	2730.5	2686.3	2669.9	2635.8	2592.9	2542.4	2500.8	2418.7
12.5°	2753.2	2758.3	2754.5	2740.6	2707.8	2695.2	2664.9	2621.9	2574.0	2531.1	2443.9
15°	2764.6	2772.2	2779.7	2774.7	2755.8	2744.4	2716.6	2672.4	2633.3	2587.9	2494.4
17.5°	2810.0	2826.4	2844.1	2845.4	2825.2	2805.0	2773.4	2728.0	2690.1	2648.5	2547.5
20°	2895.9	2908.5	2941.3	2947.6	2907.2	2878.2	2834.0	2781.0	2743.1	2707.8	2596.7
22.5°	3023.4	3037.3	3063.8	3054.9	2986.8	2952.7	2897.1	2836.5	2797.4	2777.2	2653.5
25°	3216.5	3220.3	3226.6	3187.5	3075.1	3037.3	2969.1	2900.9	2869.4	2866.8	2734.3
27.5°	3443.7	3448.8	3421.0	3333.9	3173.6	3124.4	3047.4	2985.5	2970.4	2989.3	2836.5
30°	3703.8	3705.1	3628.1	3486.7	3287.2	3232.9	3153.4	3085.2	3099.1	3145.8	2967.8
32.5°	3970.2	3957.5	3851.5	3667.2	3442.5	3376.8	3308.7	3240.5	3280.9	3375.6	3159.7
35°	4213.8	4208.7	4083.8	3869.2	3644.5	3586.4	3537.2	3465.2	3530.9	3684.9	3421.0
37.5°	4457.4	4453.6	4311.0	4087.6	3893.2	3851.5	3814.9	3759.3	3866.6	4092.6	3770.7
40°	4726.3	4720.0	4544.5	4329.9	4182.2	4159.5	4138.1	4114.1	4297.1	4611.4	4206.2
42.5°	5058.3	5030.5	4792.0	4593.8	4500.4	4506.7	4507.9	4531.9	4818.5	5228.7	4720.0
45°	5439.6	5377.7	5040.6	4876.5	4850.0	4887.9	4925.8	5025.5	5425.7	5939.5	5288.1
47.5°	5809.4	5709.7	5327.2	5180.8	5235.1	5313.3	5404.2	5598.6	6107.3	6683.0	5803.1
50°	6127.5	6025.3	5611.2	5490.1	5663.0	5779.1	5940.7	6234.8	6826.9	7311.7	6127.5
52.5°	6377.5	6296.7	5911.7	5830.9	6137.6	6296.7	6550.4	6936.7	7506.1	7725.7	6354.8
55°	6561.8	6521.4	6199.5	6210.9	6665.3	6895.1	7210.7	7647.4	8079.2	8047.6	6525.2
57.5°	6770.1	6738.5	6501.2	6659.0	7300.3	7596.9	7961.8	8312.7	8495.8	8306.4	6691.8
60°	6983.4	6993.5	6867.3	7201.8	8085.5	8413.7	8731.8	8818.9	8853.0	8569.0	6867.3
62.5°	7145.0	7187.9	7199.3	7787.6	8890.9	9171.1	9308.7	9246.9	9239.3	8921.2	6853.4
65°	7330.6	7442.9	7629.8	8430.1	9623.1	9807.4	9905.8	9995.5	9806.1	9026.0	6179.3
67.5°	7651.2	7828.0	8248.3	9217.8	10468.8	10741.5	11020.5	10925.8	9890.7	7961.8	4707.4
70°	8083.0	8298.8	9041.1	10246.7	11616.3	12073.3	12306.9	10851.3	8397.3	5501.4	2483.1
72°	7810.3	8006.0	9286.0	10771.8	12429.3	12848.4	12263.9	9465.3	6087.2	2851.7	831.9
72.5°	7545.2	7747.2	9207.7	10765.5	12510.1	12830.7	11984.9	8918.6	5386.5	2219.2	573.1
75°	5235.1	5490.1	7893.6	9677.3	11297.0	10944.8	9169.9	5400.4	1951.6	381.2	189.4
77.5°	2706.5	2903.5	4788.2	6838.3	7873.4	7210.7	5419.4	2343.0	540.3	202.0	125.0
80°	1677.7	1774.9	2239.4	3369.3	4090.1	3577.6	2390.9	946.8	345.9	119.9	99.7
82.5°	868.5	943.0	1410.1	1359.6	1511.1	1256.1	882.4	792.8	213.3	74.5	102.3
85°	285.3	303.0	866.0	903.9	646.3	434.3	391.3	756.2	61.9	48.0	87.1
87.5°	37.9	44.2	304.2	517.6	318.1	196.9	234.8	266.4	21.5	26.5	24.0
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2	2570.2
2.5°	2519.7	2503.3	2451.5	2399.8	2340.4	2286.2	2243.2	2215.5	2228.1	2186.4	2192.7
5°	2447.7	2406.1	2292.5	2170.0	2037.5	1913.8	1815.3	1742.1	1728.2	1665.1	1667.6
7.5°	2378.3	2310.1	2125.8	1923.9	1704.2	1526.2	1364.6	1223.2	1172.7	1121.0	1090.7
10°	2340.4	2247.0	1985.7	1691.6	1382.3	1121.0	893.8	715.8	641.3	587.0	560.5
12.5°	2351.8	2228.1	1880.9	1480.8	1074.3	742.3	504.9	374.9	329.5	304.2	295.4
15°	2389.7	2231.9	1786.3	1275.0	781.4	449.4	296.7	253.7	249.9	248.7	247.4
17.5°	2425.0	2235.7	1686.5	1060.4	522.6	286.6	238.6	234.8	234.8	234.8	234.8
20°	2461.6	2236.9	1576.7	835.7	343.4	234.8	224.7	222.2	224.7	224.7	224.7
22.5°	2504.5	2245.8	1470.7	617.3	253.7	220.9	214.6	213.3	214.6	214.6	213.3
25°	2557.6	2264.7	1355.8	441.8	229.8	212.1	205.8	204.5	205.8	204.5	204.5
27.5°	2628.3	2289.9	1222.0	316.9	219.7	203.2	196.9	196.9	196.9	195.7	195.7
30°	2719.1	2320.2	1042.7	249.9	209.6	194.4	189.4	189.4	188.1	186.8	186.8
32.5°	2849.2	2369.5	847.1	226.0	198.2	183.0	178.0	179.3	178.0	176.7	175.5
35°	3033.5	2446.5	653.9	213.3	186.8	171.7	166.6	166.6	166.6	164.1	164.1
37.5°	3294.8	2563.9	489.8	200.7	175.5	160.3	154.0	154.0	152.7	150.2	151.5
40°	3618.0	2711.6	354.7	189.4	164.1	147.7	142.6	140.1	137.6	135.1	135.1
42.5°	4006.8	2855.5	266.4	178.0	152.7	137.6	131.3	128.8	123.7	121.2	119.9
45°	4442.3	3008.2	220.9	164.1	140.1	126.2	121.2	116.1	109.8	106.0	104.8
47.5°	4809.6	3101.6	196.9	150.2	127.5	114.9	109.8	102.3	94.7	92.2	92.2
50°	5030.5	3062.5	176.7	136.3	114.9	103.5	97.2	87.1	82.1	79.5	78.3
52.5°	5154.3	2946.4	160.3	125.0	103.5	90.9	82.1	73.2	70.7	68.2	68.2
55°	5238.8	2778.5	142.6	113.6	93.4	79.5	69.4	63.1	60.6	59.3	58.1
57.5°	5319.6	2574.0	126.2	103.5	83.3	70.7	59.3	56.8	51.8	50.5	50.5
60°	5343.6	2292.5	111.1	92.2	74.5	61.9	51.8	48.0	42.9	41.7	41.7
62.5°	5038.1	1824.1	98.5	78.3	65.6	53.0	45.4	40.4	35.3	35.3	35.3
65°	4210.0	1238.4	84.6	68.2	58.1	45.4	39.1	32.8	30.3	30.3	30.3
67.5°	2932.5	690.5	72.0	58.1	49.2	37.9	32.8	27.8	26.5	27.8	27.8
70°	1321.7	273.9	60.6	48.0	40.4	31.6	27.8	24.0	26.5	26.5	26.5
72°	396.4	146.4	50.5	39.1	32.8	27.8	24.0	22.7	25.2	26.5	26.5
72.5°	294.1	131.3	48.0	37.9	32.8	26.5	22.7	22.7	25.2	26.5	26.5
75°	151.5	89.6	36.6	27.8	24.0	21.5	18.9	21.5	25.2	25.2	25.2
77.5°	118.7	73.2	30.3	21.5	20.2	18.9	17.7	20.2	22.7	22.7	22.7
80°	111.1	48.0	24.0	20.2	17.7	16.4	16.4	17.7	20.2	21.5	21.5
82.5°	112.4	39.1	21.5	18.9	16.4	15.1	15.1	16.4	18.9	20.2	20.2
85°	72.0	26.5	18.9	16.4	15.1	13.9	13.9	15.1	17.7	18.9	18.9
87.5°	24.0	20.2	16.4	15.1	12.6	12.6	12.6	12.6	15.1	16.4	17.7
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)