

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: P197128

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-8030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197128
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-SL4-8030-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 80 CRI, 3000K, 1050mA 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: 16218 lumens
Efficiency: N/A
Efficacy: 72.1 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): 225
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

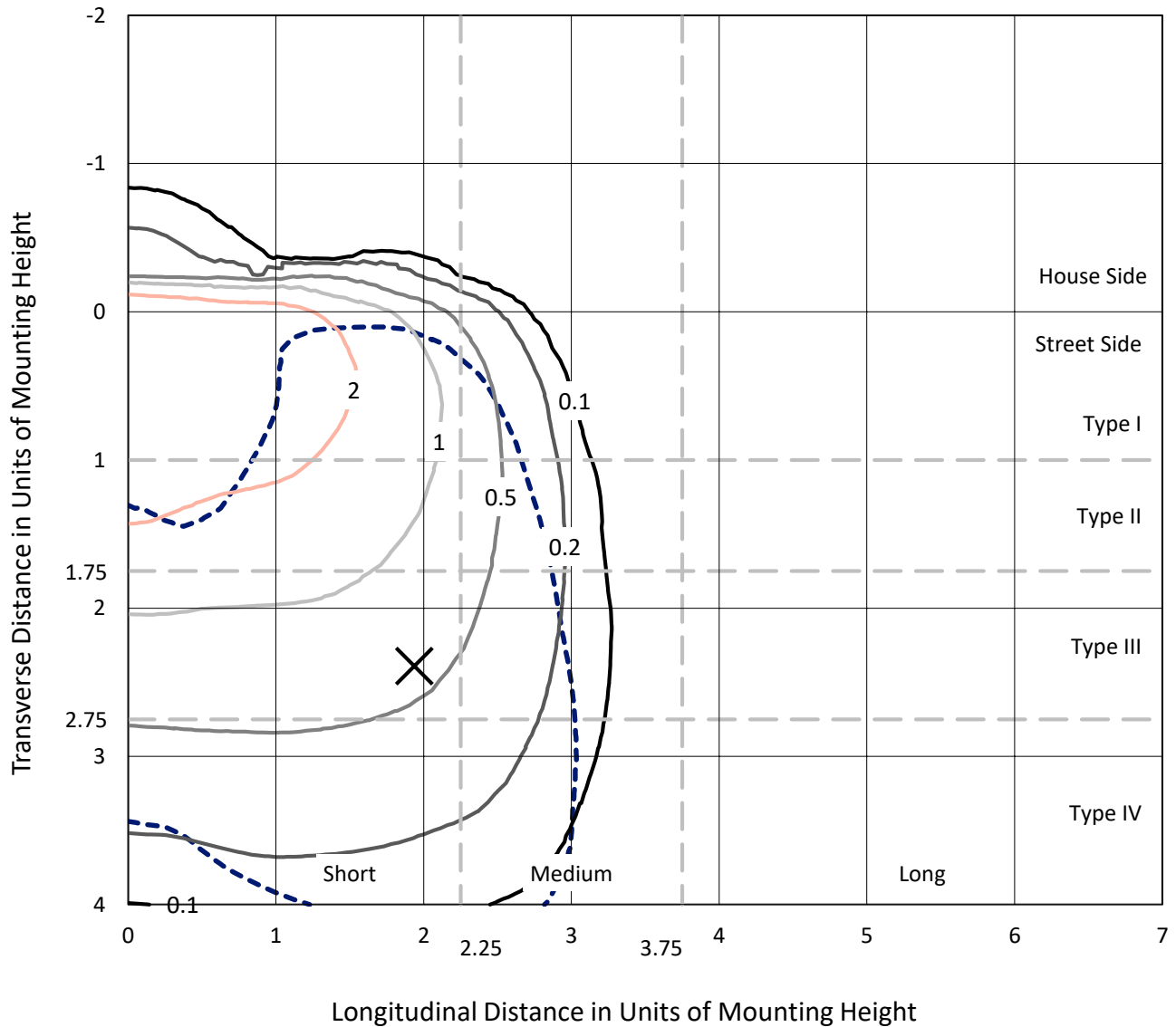


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Iso-Footcandle Lines of Horizontal Illumination

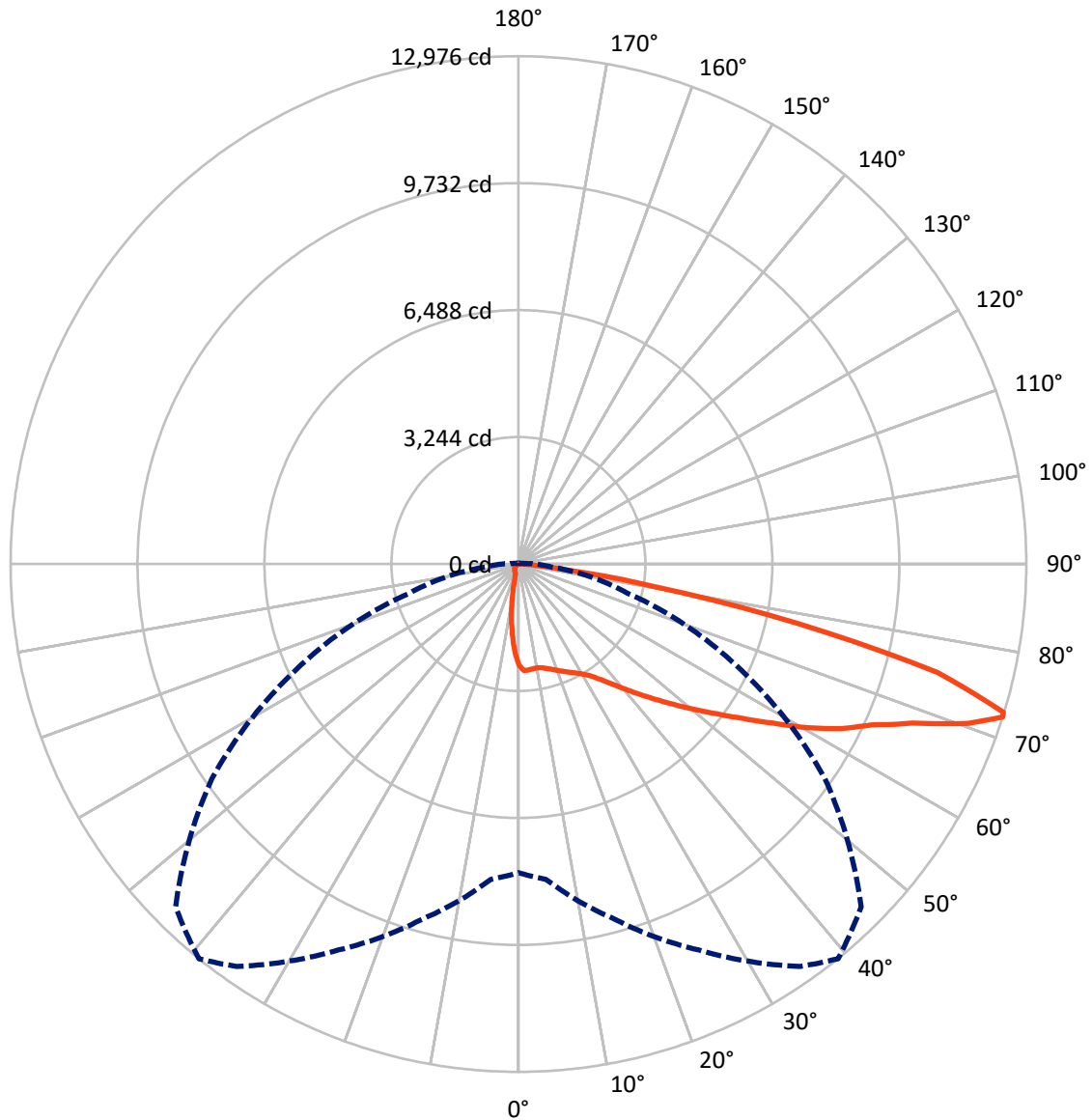
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 4.4 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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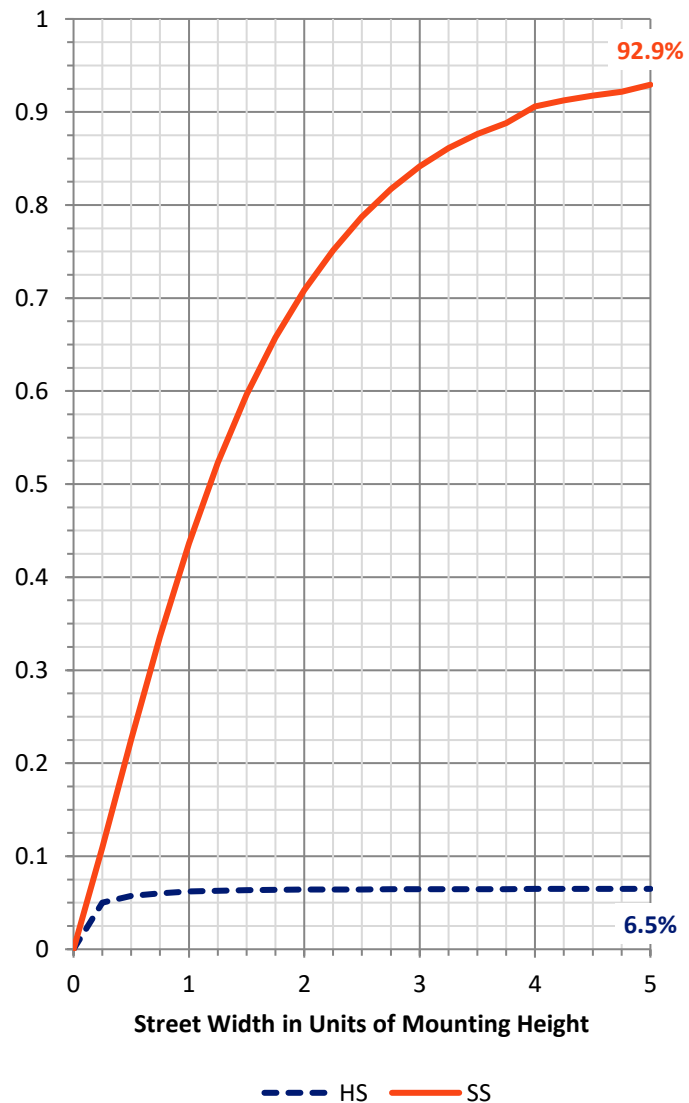
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1062.9	0.0	1062.9
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	15155.1	0.0	15155.1
	% Fixture	93.4	0.0	93.4
Total	Lumens	16218.0	0.0	16218.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	211.1	1.3
10°-20°	511.2	3.2
20°-30°	848.9	5.2
30°-40°	1353.0	8.3
40°-50°	2233.4	13.8
50°-60°	3372.8	20.8
60°-70°	4393.6	27.1
70°-80°	2968.8	18.3
80°-90°	325.1	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°	16218.0	100.0
0°-180°	16218.0	100.0



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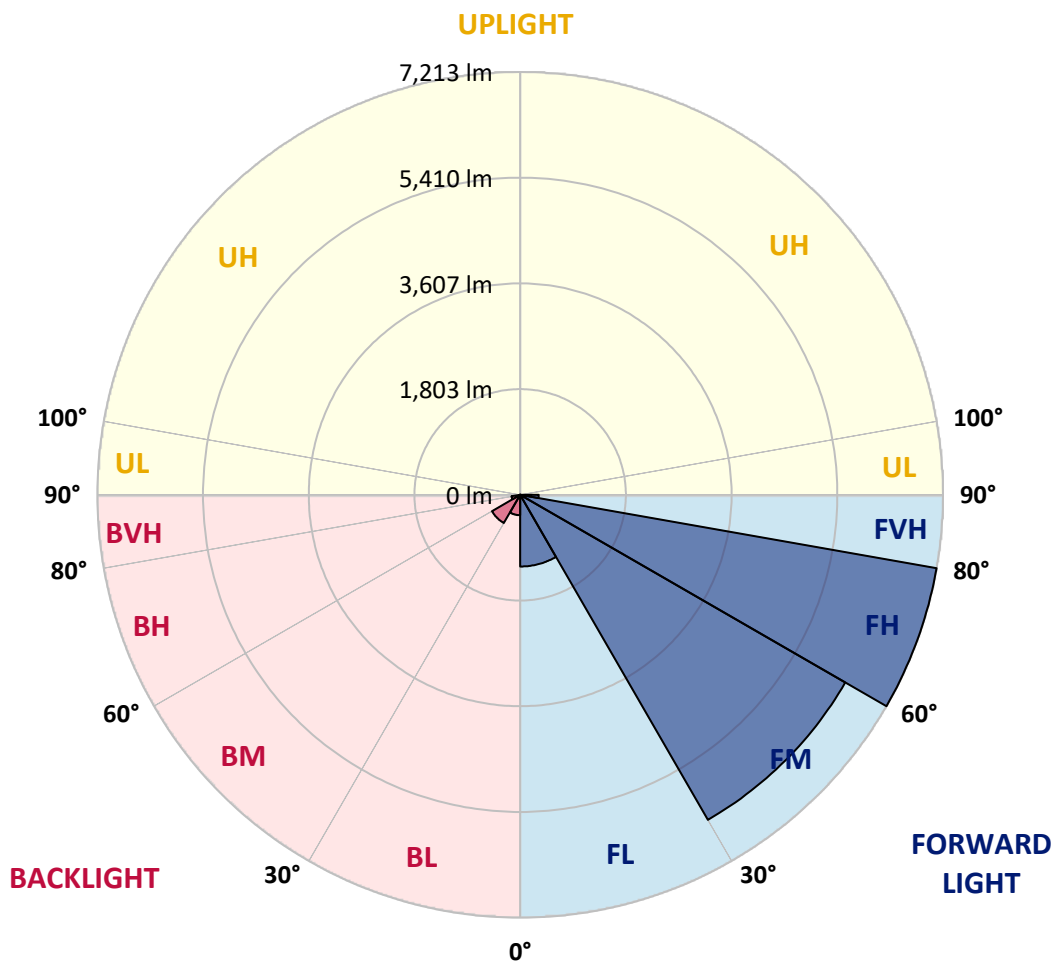
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1223.2	7.5			
FM	(30°-60°)	6403.1	39.5			
FH	(60°-80°)	7213.0	44.5			G3/7500
FVH	(80°-90°)	315.8	1.9			G3/500
BL	(0°-30°)	348.0	2.1	B1/500		
BM	(30°-60°)	556.1	3.4	B1/1000		
BH	(60°-80°)	149.4	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°	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8
2.5°	2764.1	2769.2	2762.8	2751.3	2734.8	2724.6	2710.5	2679.9	2641.7	2608.5	2570.3
5°	2785.8	2788.3	2780.7	2759.0	2733.5	2719.5	2701.6	2668.5	2628.9	2583.0	2514.2
7.5°	2792.1	2790.9	2781.9	2755.2	2715.6	2697.8	2667.2	2626.4	2585.6	2543.5	2465.8
10°	2789.6	2789.6	2783.2	2757.7	2713.1	2696.5	2662.1	2618.7	2567.7	2525.7	2442.8
12.5°	2780.7	2785.8	2781.9	2767.9	2734.8	2722.0	2691.4	2648.1	2599.6	2556.3	2468.3
15°	2792.1	2799.8	2807.4	2802.3	2783.2	2771.7	2743.7	2699.1	2659.5	2613.6	2519.3
17.5°	2838.0	2854.6	2872.5	2873.7	2853.3	2832.9	2801.1	2755.2	2716.9	2674.8	2572.8
20°	2924.7	2937.5	2970.6	2977.0	2936.2	2906.9	2862.3	2808.7	2770.5	2734.8	2622.6
22.5°	3053.5	3067.5	3094.3	3085.4	3016.5	2982.1	2926.0	2864.8	2825.3	2804.9	2679.9
25°	3248.6	3252.4	3258.8	3219.2	3105.8	3067.5	2998.7	2929.8	2898.0	2895.4	2761.5
27.5°	3478.1	3483.2	3455.1	3367.1	3205.2	3155.5	3077.7	3015.3	3000.0	3019.1	2864.8
30°	3740.7	3742.0	3664.2	3521.4	3320.0	3265.1	3184.8	3116.0	3130.0	3177.2	2997.4
32.5°	4009.7	3997.0	3889.9	3703.7	3476.8	3410.5	3341.6	3272.8	3313.6	3409.2	3191.2
35°	4255.8	4250.7	4124.5	3907.7	3680.8	3622.1	3572.4	3499.7	3566.0	3721.6	3455.1
37.5°	4501.8	4498.0	4354.0	4128.3	3931.9	3889.9	3852.9	3796.8	3905.2	4133.4	3808.3
40°	4773.4	4767.0	4589.8	4373.1	4223.9	4201.0	4179.3	4155.1	4339.9	4657.4	4248.1
42.5°	5108.7	5080.7	4839.7	4639.5	4545.2	4551.6	4552.8	4577.1	4866.5	5280.8	4767.0
45°	5493.8	5431.3	5090.9	4925.1	4898.4	4936.6	4974.9	5075.6	5479.7	5998.6	5340.8
47.5°	5867.3	5766.6	5380.3	5232.4	5287.2	5366.3	5458.1	5654.4	6168.2	6749.6	5860.9
50°	6188.6	6085.3	5667.1	5544.8	5719.4	5836.7	5999.9	6297.0	6894.9	7384.5	6188.6
52.5°	6441.0	6359.4	5970.6	5889.0	6198.8	6359.4	6615.7	7005.8	7580.8	7802.7	6418.1
55°	6627.2	6586.4	6261.3	6272.7	6731.7	6963.8	7282.5	7723.6	8159.7	8127.8	6590.2
57.5°	6837.6	6805.7	6566.0	6725.4	7373.0	7672.6	8041.1	8395.5	8580.4	8389.2	6758.5
60°	7053.0	7063.2	6935.7	7273.6	8166.0	8497.5	8818.8	8906.8	8941.2	8654.4	6935.7
62.5°	7216.2	7259.6	7271.0	7865.2	8979.5	9262.5	9401.5	9339.0	9331.4	9010.1	6921.7
65°	7403.6	7517.1	7705.8	8514.1	9718.9	9905.1	10004.5	10095.0	9903.8	9115.9	6240.9
67.5°	7727.5	7906.0	8330.5	9309.7	10573.2	10848.5	11130.3	11034.7	9989.2	8041.1	4754.3
70°	8163.5	8381.5	9131.2	10348.8	11732.1	12193.6	12429.5	10959.5	8481.0	5556.2	2507.8
72°	7888.1	8085.7	9378.5	10879.1	12553.1	12976.4	12386.1	9559.6	6147.8	2880.1	840.2
72.5°	7620.4	7824.4	9299.5	10872.8	12634.7	12958.6	12104.4	9007.5	5440.2	2241.4	578.8
75°	5287.2	5544.8	7972.3	9773.8	11409.5	11053.8	9261.2	5454.2	1971.1	385.0	191.2
77.5°	2733.5	2932.4	4835.9	6906.4	7951.9	7282.5	5473.4	2366.3	545.7	204.0	126.2
80°	1694.4	1792.6	2261.8	3402.8	4130.8	3613.2	2414.8	956.2	349.3	121.1	100.7
82.5°	877.2	952.4	1424.1	1373.1	1526.1	1268.6	891.2	800.7	215.5	75.2	103.3
85°	288.1	306.0	874.6	912.9	652.8	438.6	395.2	763.7	62.5	48.4	88.0
87.5°	38.2	44.6	307.3	522.7	321.3	198.9	237.1	269.0	21.7	26.8	24.2
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°	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8	2595.8
2.5°	2544.8	2528.2	2476.0	2423.7	2363.8	2308.9	2265.6	2237.5	2250.3	2208.2	2214.6
5°	2472.1	2430.1	2315.3	2191.6	2057.8	1932.8	1833.4	1759.4	1745.4	1681.7	1684.2
7.5°	2402.0	2333.2	2147.0	1943.0	1721.2	1541.4	1378.2	1235.4	1184.4	1132.2	1101.6
10°	2363.8	2269.4	2005.5	1708.4	1396.1	1132.2	902.7	722.9	647.7	592.9	566.1
12.5°	2375.2	2250.3	1899.7	1495.5	1085.0	749.7	510.0	378.7	332.8	307.3	298.3
15°	2413.5	2254.1	1804.1	1287.7	789.2	453.9	299.6	256.3	252.4	251.2	249.9
17.5°	2449.2	2257.9	1703.3	1071.0	527.8	289.4	241.0	237.1	237.1	237.1	237.1
20°	2486.2	2259.2	1592.4	844.0	346.8	237.1	226.9	224.4	226.9	226.9	226.9
22.5°	2529.5	2268.1	1485.3	623.4	256.3	223.1	216.7	215.5	216.7	216.7	215.5
25°	2583.0	2287.3	1369.3	446.2	232.0	214.2	207.8	206.5	207.8	206.5	206.5
27.5°	2654.4	2312.8	1234.2	320.0	221.8	205.3	198.9	198.9	198.9	197.6	197.6
30°	2746.2	2343.4	1053.1	252.4	211.6	196.3	191.2	191.2	190.0	188.7	188.7
32.5°	2877.6	2393.1	855.5	228.2	200.2	184.9	179.8	181.0	179.8	178.5	177.2
35°	3063.7	2470.9	660.4	215.5	188.7	173.4	168.3	168.3	168.3	165.7	165.7
37.5°	3327.6	2589.4	494.7	202.7	177.2	161.9	155.5	155.5	154.3	151.7	153.0
40°	3654.0	2738.6	358.3	191.2	165.7	149.2	144.1	141.5	139.0	136.4	136.4
42.5°	4046.7	2883.9	269.0	179.8	154.3	139.0	132.6	130.0	124.9	122.4	121.1
45°	4486.5	3038.2	223.1	165.7	141.5	127.5	122.4	117.3	110.9	107.1	105.8
47.5°	4857.6	3132.5	198.9	151.7	128.8	116.0	110.9	103.3	95.6	93.1	93.1
50°	5080.7	3093.0	178.5	137.7	116.0	104.5	98.2	88.0	82.9	80.3	79.0
52.5°	5205.6	2975.7	161.9	126.2	104.5	91.8	82.9	73.9	71.4	68.8	68.8
55°	5291.0	2806.2	144.1	114.7	94.3	80.3	70.1	63.7	61.2	59.9	58.6
57.5°	5372.6	2599.6	127.5	104.5	84.1	71.4	59.9	57.4	52.3	51.0	51.0
60°	5396.9	2315.3	112.2	93.1	75.2	62.5	52.3	48.4	43.3	42.1	42.1
62.5°	5088.3	1842.3	99.4	79.0	66.3	53.5	45.9	40.8	35.7	35.7	35.7
65°	4252.0	1250.7	85.4	68.8	58.6	45.9	39.5	33.1	30.6	30.6	30.6
67.5°	2961.7	697.4	72.7	58.6	49.7	38.2	33.1	28.0	26.8	28.0	28.0
70°	1334.9	276.7	61.2	48.4	40.8	31.9	28.0	24.2	26.8	26.8	26.8
72°	400.3	147.9	51.0	39.5	33.1	28.0	24.2	22.9	25.5	26.8	26.8
72.5°	297.1	132.6	48.4	38.2	33.1	26.8	22.9	22.9	25.5	26.8	26.8
75°	153.0	90.5	37.0	28.0	24.2	21.7	19.1	21.7	25.5	25.5	25.5
77.5°	119.8	73.9	30.6	21.7	20.4	19.1	17.8	20.4	22.9	22.9	22.9
80°	112.2	48.4	24.2	20.4	17.8	16.6	16.6	17.8	20.4	21.7	21.7
82.5°	113.5	39.5	21.7	19.1	16.6	15.3	15.3	16.6	19.1	20.4	20.4
85°	72.7	26.8	19.1	16.6	15.3	14.0	14.0	15.3	17.8	19.1	19.1
87.5°	24.2	20.4	16.6	15.3	12.7	12.7	12.7	12.7	15.3	16.6	17.8
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)