

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: P195106

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7060-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195106
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-7060-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 800mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II SPILL
LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 16079 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - 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

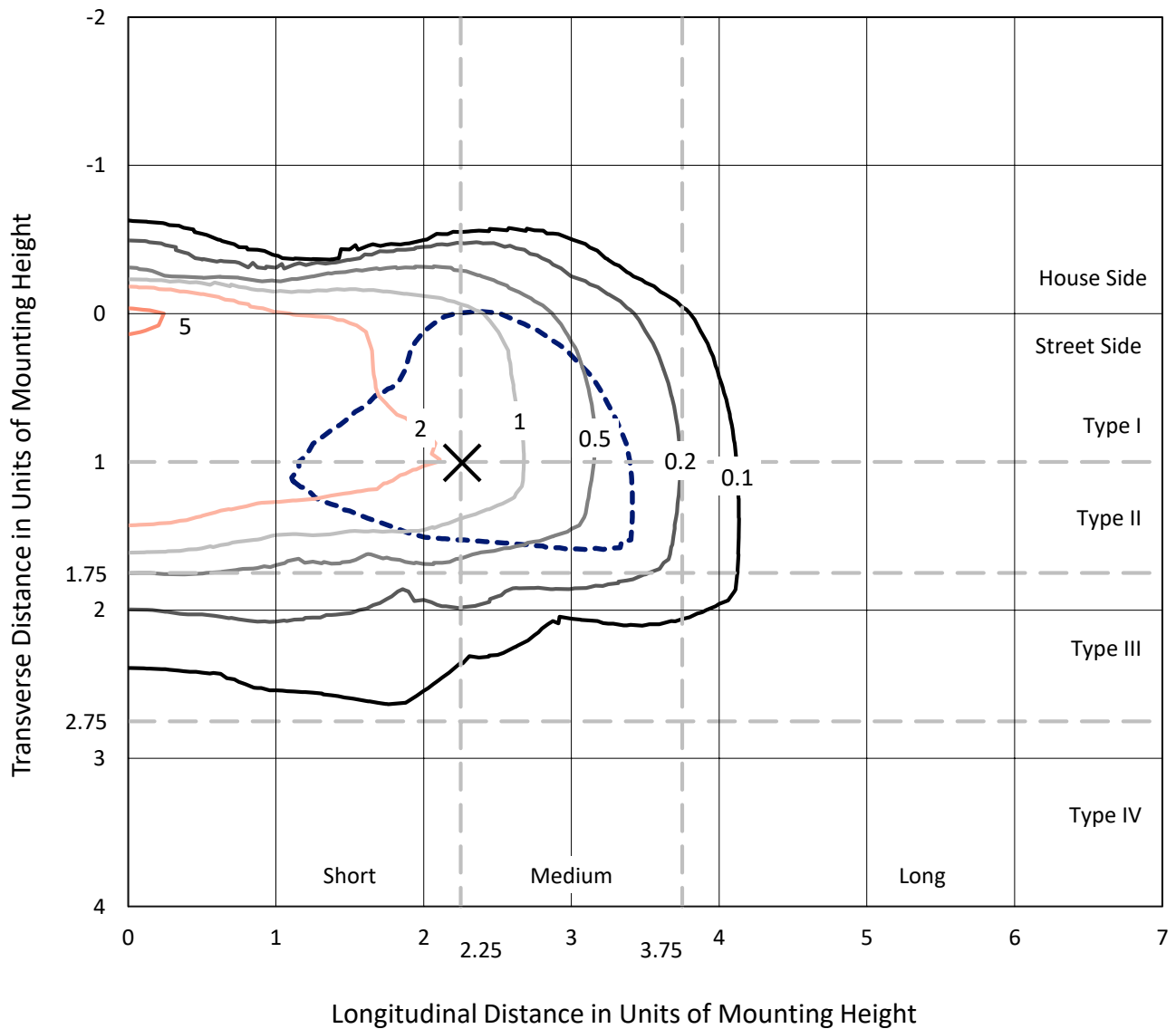


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

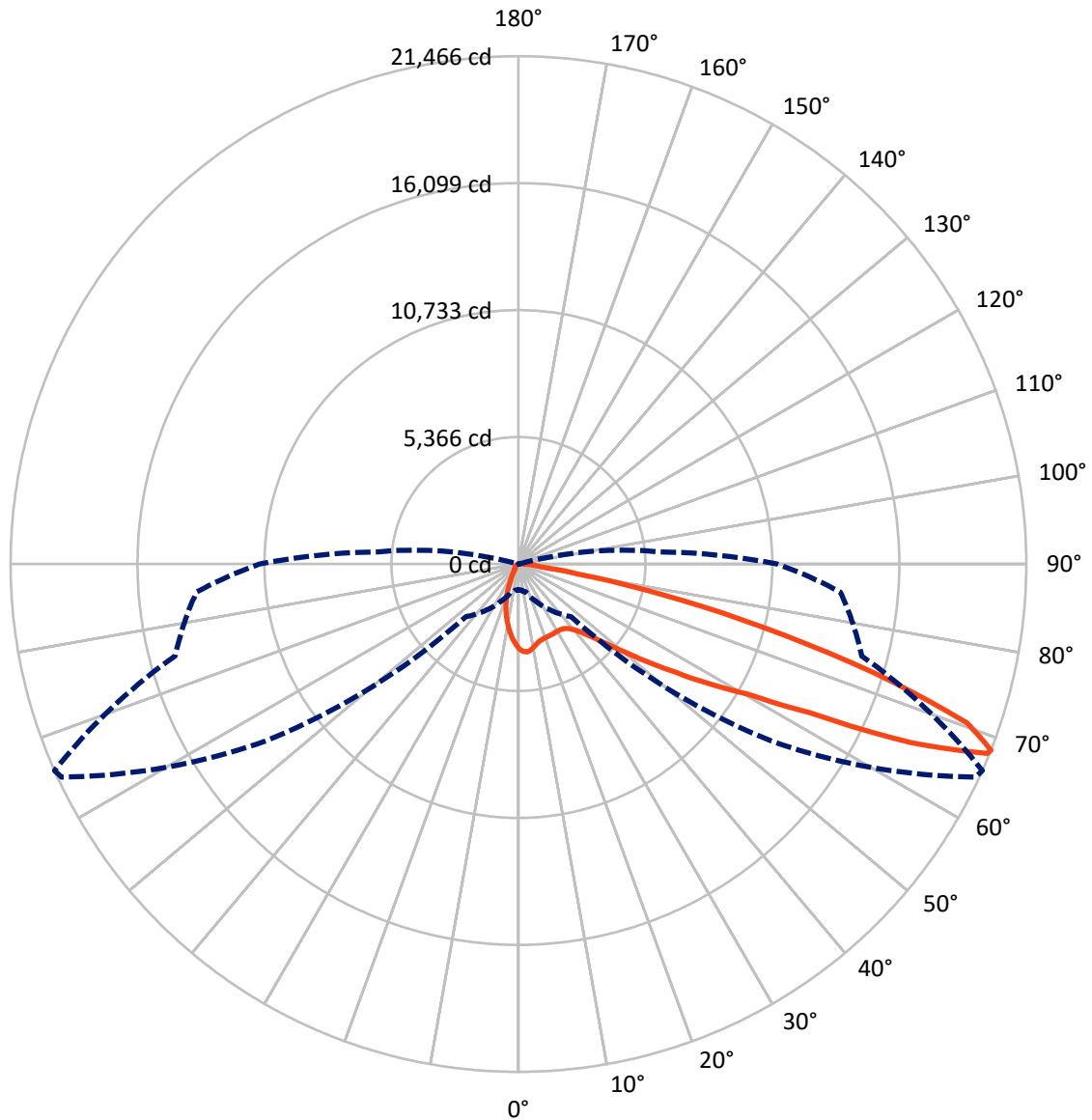


Based on 25 foot mounting height. Maximum calculated value = 5.7 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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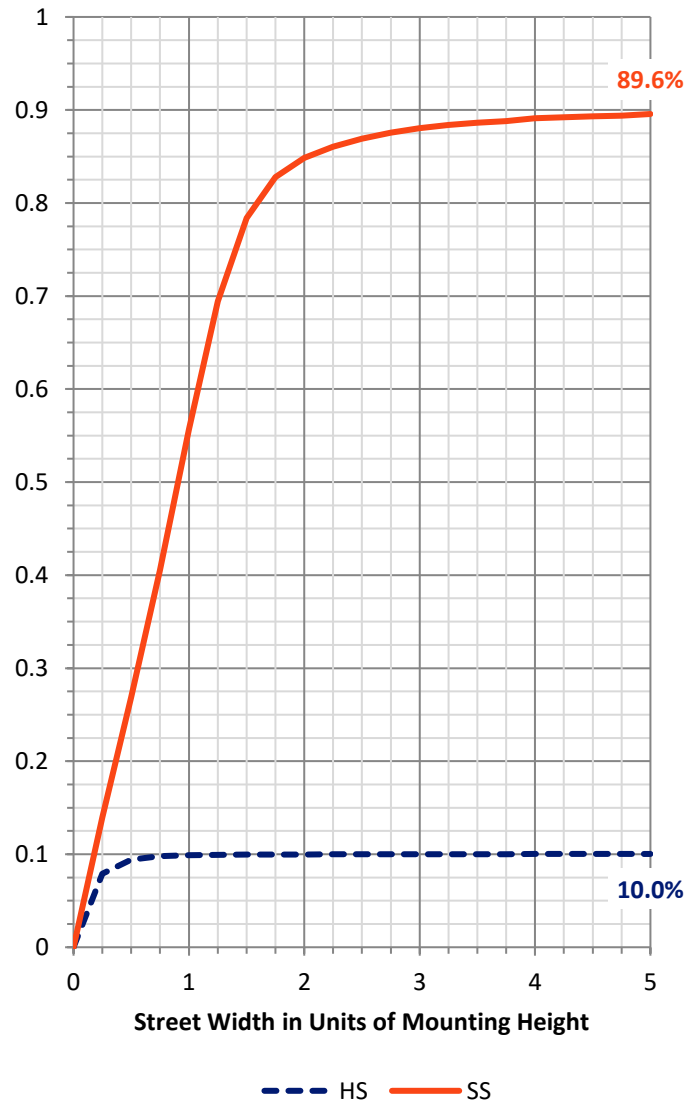
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1628.6	0.0	1628.6
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	14450.4	0.0	14450.4
	% Fixture	89.9	0.0	89.9
Total	Lumens	16079.0	0.0	16079.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	293.7	1.8
10°-20°	631.9	3.9
20°-30°	915.6	5.7
30°-40°	1401.6	8.7
40°-50°	2397.4	14.9
50°-60°	3750.3	23.3
60°-70°	4318.3	26.9
70°-80°	2160.9	13.4
80°-90°	209.3	1.3
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°	16079.0	100.0
0°-180°	16079.0	100.0

Coefficient of Utilization



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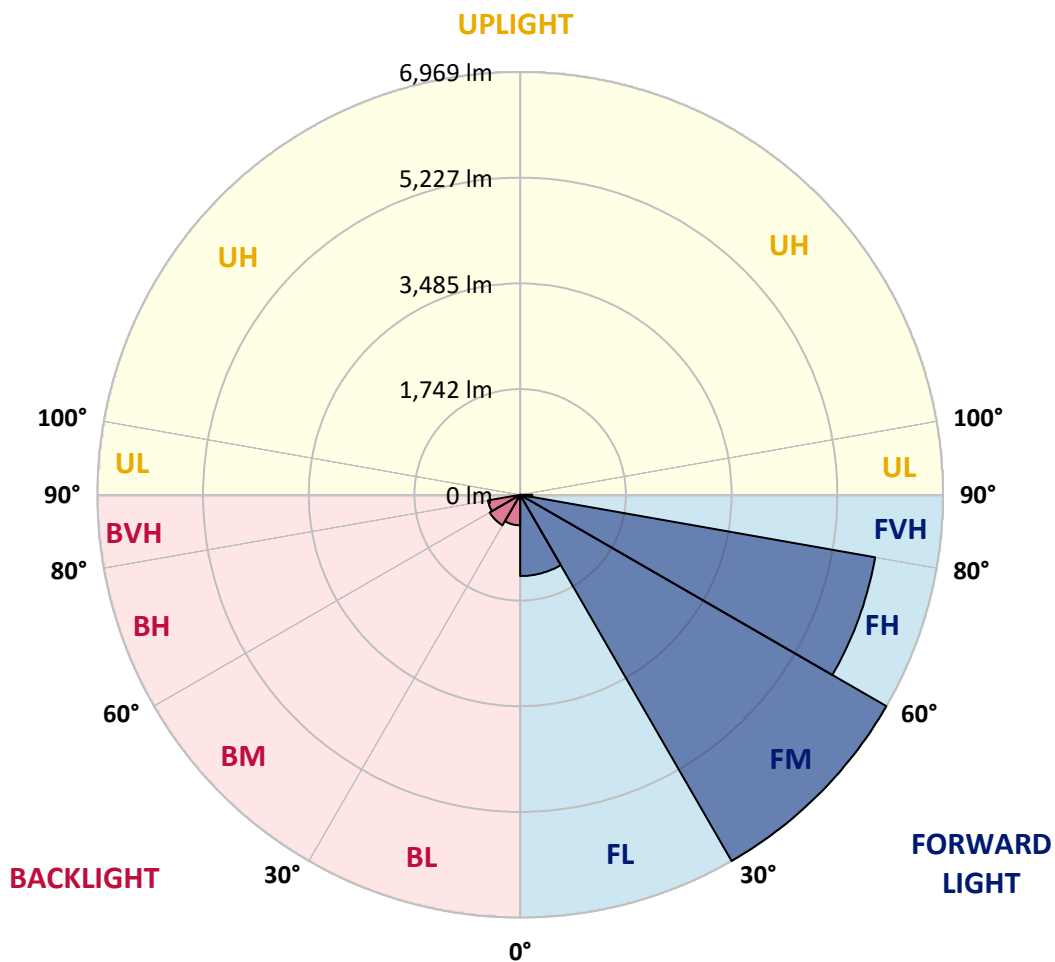
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1338.5	8.3			
FM	(30°-60°)	6969.4	43.3			
FH	(60°-80°)	5941.1	36.9			G3/7500
FVH	(80°-90°)	201.4	1.3			G2/225
BL	(0°-30°)	502.7	3.1	B2/1000		
BM	(30°-60°)	579.9	3.6	B1/1000		
BH	(60°-80°)	538.1	3.3	B2/1000		G2/1000
BVH	(80°-90°)	7.9	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2
2.5°	3767.8	3770.3	3769.1	3772.8	3770.3	3751.4	3731.2	3688.3	3692.1	3636.5	3574.7
5°	3502.7	3524.2	3545.6	3567.1	3618.9	3664.3	3718.6	3731.2	3731.2	3683.2	3592.3
7.5°	3232.6	3233.9	3257.9	3286.9	3356.3	3439.6	3565.8	3679.4	3682.0	3694.6	3594.9
10°	3029.4	3035.7	3052.1	3083.7	3153.1	3235.1	3376.5	3554.5	3568.4	3661.8	3569.6
12.5°	2871.6	2879.2	2896.9	2933.5	2996.6	3081.1	3230.1	3433.3	3452.2	3630.2	3562.1
15°	2750.4	2760.5	2774.4	2811.0	2879.2	2968.8	3131.6	3352.5	3375.2	3617.6	3586.0
17.5°	2699.9	2699.9	2698.7	2723.9	2792.1	2883.0	3053.4	3309.6	3338.6	3627.7	3626.4
20°	2721.4	2717.6	2691.1	2684.8	2726.4	2817.3	2991.5	3281.8	3314.7	3646.6	3675.7
22.5°	2835.0	2827.4	2768.1	2718.9	2706.3	2766.8	2949.9	3262.9	3302.0	3685.8	3741.3
25°	3076.1	3053.4	2971.3	2860.2	2760.5	2754.2	2920.8	3252.8	3294.5	3731.2	3813.2
27.5°	3389.1	3382.8	3251.5	3102.6	2910.7	2795.9	2912.0	3245.2	3286.9	3764.0	3871.3
30°	3777.9	3780.4	3629.0	3434.6	3144.3	2913.3	2939.8	3241.4	3284.4	3766.5	3896.5
32.5°	4179.3	4181.8	4055.6	3847.3	3463.6	3115.2	3018.0	3259.1	3298.2	3756.4	3895.3
35°	4565.5	4569.3	4493.6	4325.7	3890.2	3395.4	3165.7	3319.7	3347.5	3762.8	3892.8
37.5°	5054.0	5069.2	4975.8	4819.2	4425.4	3806.9	3406.8	3442.1	3464.9	3814.5	3911.7
40°	5887.1	5866.9	5599.3	5334.2	5006.1	4308.0	3755.2	3652.9	3660.5	3948.3	3983.6
42.5°	6857.8	6832.5	6374.3	5917.4	5603.1	4912.7	4200.7	3976.1	3974.8	4173.0	4140.2
45°	7693.4	7678.2	7196.1	6586.4	6264.5	5580.4	4749.8	4441.8	4426.7	4561.8	4425.4
47.5°	8286.6	8274.0	7909.2	7298.3	7029.4	6315.0	5435.2	5076.7	5045.2	5070.4	4888.7
50°	8344.7	8330.8	8203.3	7810.8	7923.1	7393.0	6282.2	5908.6	5868.2	5829.0	5589.2
52.5°	7801.9	7800.7	7867.6	7842.3	8549.2	8780.2	7321.0	6937.3	6889.3	6789.6	6551.0
55°	6692.4	6686.1	6939.8	7308.4	8535.3	10211.6	8905.1	8161.7	8098.6	7899.1	7586.1
57.5°	4889.9	4857.1	5387.3	6168.6	7935.7	10837.6	11420.8	9682.7	9577.9	8945.5	8463.3
60°	2699.9	2712.6	3394.2	4319.4	6515.7	10713.9	13735.7	11456.1	11181.0	9848.0	9362.1
62.5°	1513.4	1545.0	2052.4	2807.2	4154.0	9710.4	14977.8	14508.2	13845.6	10900.7	10498.1
65°	1144.9	1163.8	1418.8	2166.0	2619.2	6785.8	15176.0	18775.9	18204.1	12496.2	12306.9
67.5°	1078.0	1093.1	1218.1	1796.2	2385.6	3519.1	13684.0	21300.4	21372.3	14672.3	13708.0
68°	1085.5	1104.5	1229.4	1728.0	2381.9	3148.0	13047.8	21313.0	21465.7	15023.2	13660.0
70°	997.2	1002.2	1300.1	1695.2	2308.6	2480.3	9439.1	19852.6	20126.5	15441.0	12400.3
72.5°	381.2	382.5	583.2	1468.0	2418.5	2494.2	4754.9	15691.0	15704.8	13437.9	9667.5
75°	198.2	166.6	183.0	459.5	2309.9	2431.1	2385.6	10713.9	10647.0	9088.2	5923.7
77.5°	136.3	116.1	122.4	159.0	960.6	2429.8	1723.0	6161.0	6147.1	3866.3	1690.1
80°	77.0	66.9	73.2	133.8	337.0	2280.9	1605.6	2648.2	2495.5	679.1	273.9
82.5°	39.1	32.8	39.1	112.3	209.5	1435.2	1561.4	1038.8	925.2	161.6	178.0
85°	10.1	10.1	18.9	78.3	130.0	470.8	1399.8	749.8	674.0	70.7	126.2
87.5°	2.5	1.3	7.6	29.0	46.7	102.2	776.3	417.8	359.7	36.6	73.2
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°	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2	3582.2
2.5°	3549.4	3514.1	3444.7	3366.4	3310.9	3250.3	3214.9	3172.0	3139.2	3110.2	3131.6
5°	3536.8	3468.6	3314.7	3141.7	2996.6	2857.7	2754.2	2655.8	2581.3	2534.6	2553.5
7.5°	3504.0	3403.0	3153.1	2883.0	2645.7	2422.2	2240.5	2077.7	1951.4	1883.3	1904.7
10°	3448.5	3305.8	2970.1	2595.2	2263.2	1947.6	1677.5	1435.2	1252.1	1166.3	1186.5
12.5°	3408.1	3220.0	2780.7	2317.5	1880.7	1432.6	1074.2	796.5	653.8	568.0	575.6
15°	3390.4	3153.1	2604.0	2024.6	1462.9	920.2	580.6	420.3	371.1	353.4	354.7
17.5°	3392.9	3100.1	2436.1	1720.4	1041.4	528.9	356.0	320.6	313.0	309.2	309.2
20°	3399.2	3047.1	2261.9	1403.6	666.5	340.8	296.6	285.3	281.5	276.4	277.7
22.5°	3418.2	3006.7	2086.5	1085.5	410.2	277.7	262.5	252.4	246.1	238.6	239.8
25°	3447.2	2976.4	1913.6	781.3	289.1	242.4	228.5	214.6	203.2	194.4	195.6
27.5°	3464.9	2933.5	1729.3	532.7	239.8	212.1	193.1	174.2	161.6	154.0	152.7
30°	3452.2	2864.0	1519.7	349.6	212.1	183.0	160.3	138.8	126.2	119.9	119.9
32.5°	3418.2	2774.4	1288.8	255.0	188.1	157.8	130.0	111.1	102.2	98.5	99.7
35°	3379.0	2681.0	1042.6	215.8	169.1	133.8	106.0	90.9	87.1	85.8	85.8
37.5°	3357.6	2600.2	806.6	195.6	151.5	111.1	87.1	78.3	74.5	74.5	74.5
40°	3381.6	2538.4	597.0	180.5	133.8	92.1	73.2	66.9	65.6	65.6	65.6
42.5°	3483.8	2516.9	436.7	167.9	116.1	77.0	63.1	58.1	56.8	58.1	58.1
45°	3683.2	2563.6	330.7	155.3	99.7	63.1	54.3	50.5	50.5	51.8	51.8
47.5°	4021.5	2683.5	271.4	142.6	83.3	53.0	46.7	44.2	44.2	45.4	45.4
50°	4546.6	2905.7	243.6	128.7	69.4	45.4	39.1	37.9	37.9	39.1	40.4
52.5°	5344.3	3328.5	229.7	114.9	56.8	37.9	32.8	31.6	32.8	34.1	34.1
55°	6231.7	3870.0	213.3	101.0	48.0	31.6	26.5	26.5	27.8	30.3	30.3
57.5°	7058.5	4392.6	198.2	83.3	41.7	25.2	21.5	21.5	24.0	26.5	26.5
60°	7931.9	4905.1	178.0	66.9	35.3	20.2	17.7	17.7	21.5	24.0	25.2
62.5°	9011.2	5500.9	151.5	53.0	27.8	15.1	12.6	16.4	20.2	24.0	24.0
65°	10571.3	6241.8	118.7	41.7	21.5	11.4	10.1	15.1	18.9	22.7	24.0
67.5°	11138.0	6147.1	89.6	34.1	16.4	8.8	8.8	13.9	18.9	22.7	22.7
68°	10931.0	5940.1	85.8	32.8	15.1	8.8	8.8	13.9	18.9	22.7	22.7
70°	9524.9	4855.9	70.7	25.2	12.6	7.6	7.6	12.6	18.9	21.5	22.7
72.5°	7131.7	3226.3	60.6	16.4	11.4	7.6	6.3	12.6	17.7	21.5	21.5
75°	4090.9	1339.2	51.8	12.6	10.1	6.3	6.3	11.4	17.7	21.5	21.5
77.5°	1156.2	313.0	41.7	10.1	8.8	6.3	5.0	11.4	16.4	20.2	20.2
80°	212.1	93.4	32.8	8.8	7.6	6.3	5.0	11.4	16.4	20.2	20.2
82.5°	140.1	44.2	24.0	8.8	7.6	6.3	5.0	10.1	15.1	18.9	18.9
85°	104.8	31.6	15.1	8.8	7.6	6.3	5.0	10.1	15.1	18.9	18.9
87.5°	58.1	13.9	11.4	10.1	8.8	6.3	5.0	8.8	13.9	17.7	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)