

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: P270528

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7027-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270528
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-SL4-7027-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 2700K, 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: 17267.2 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G4

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

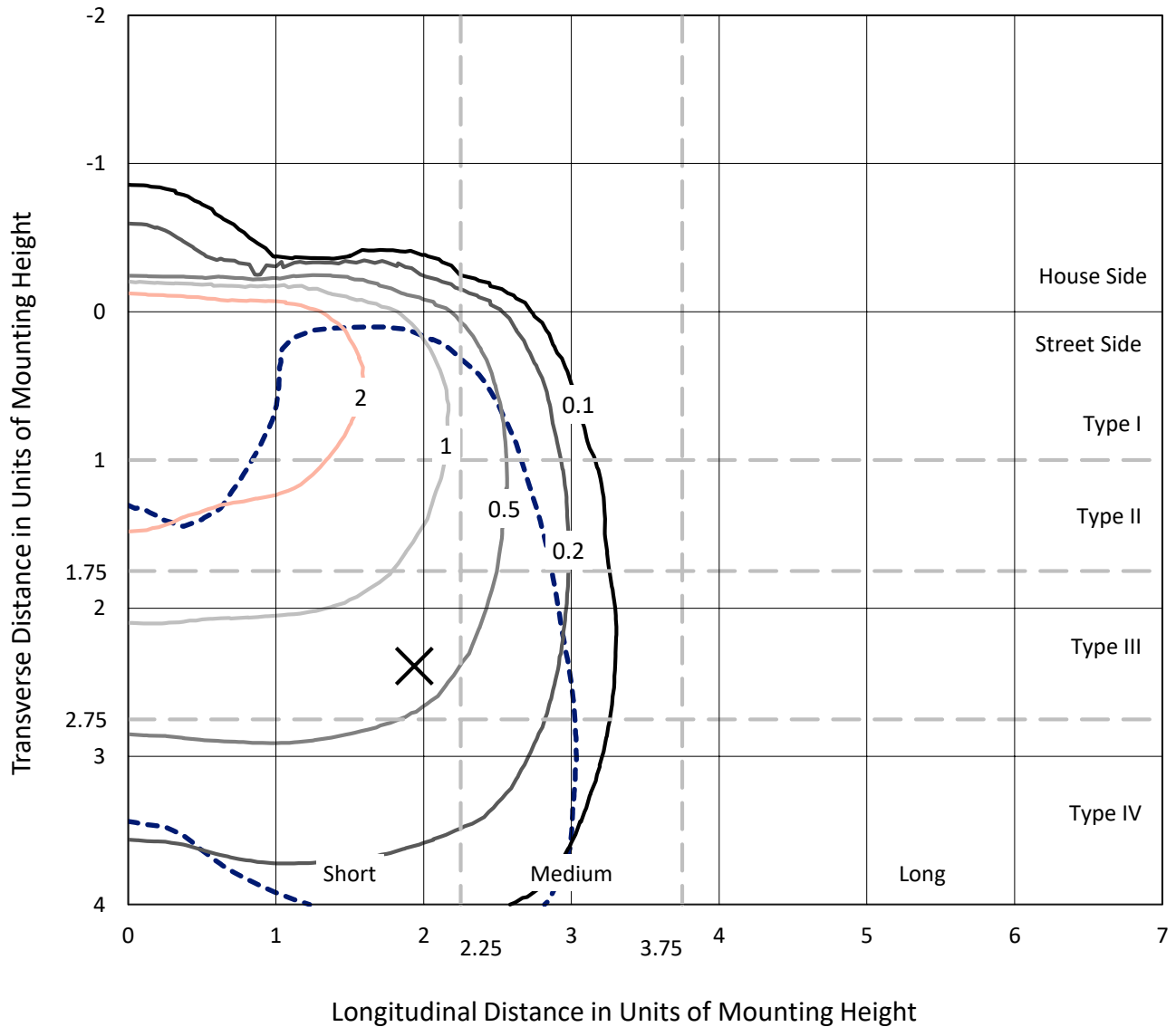


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

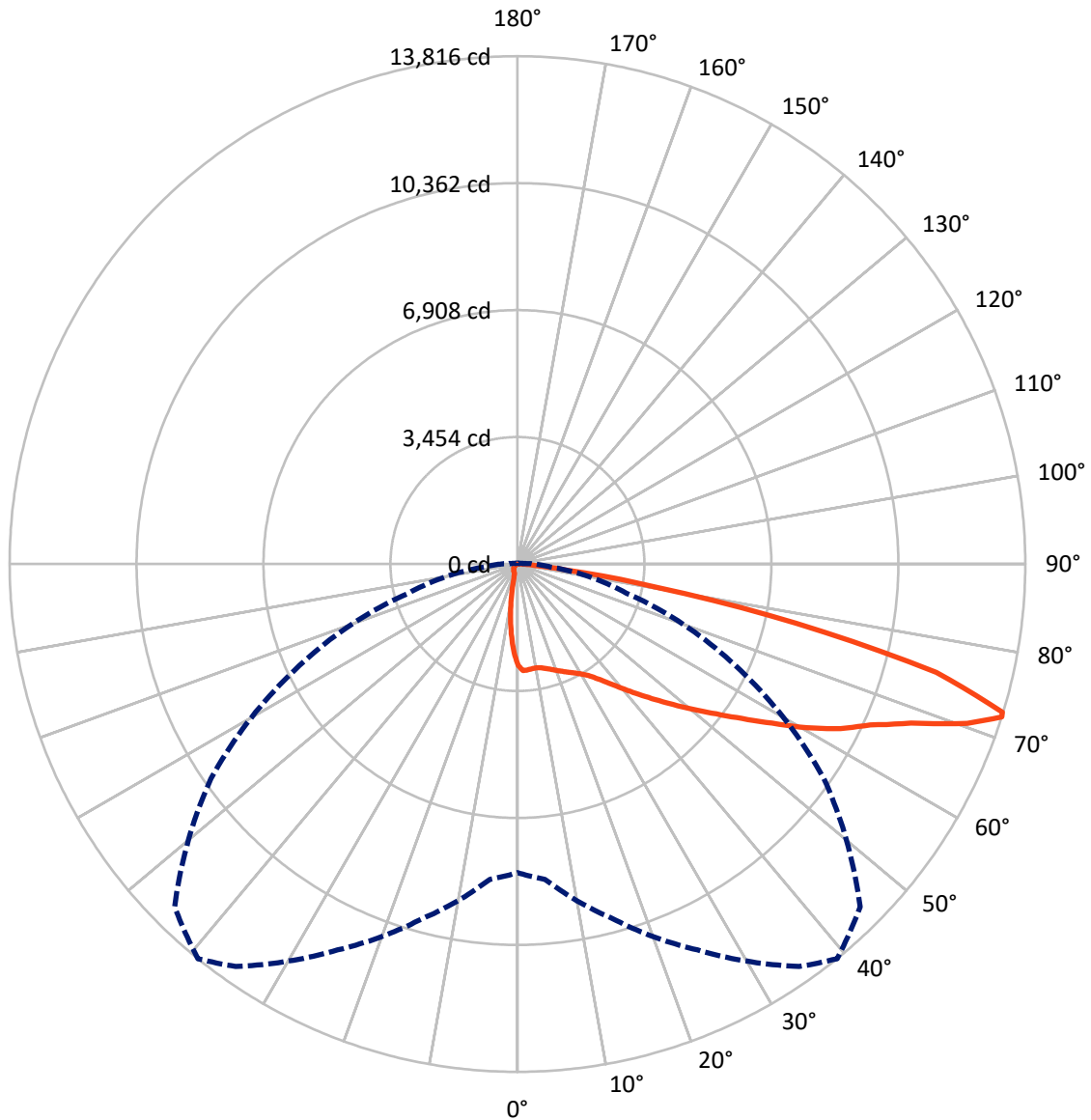


Based on 25 foot mounting height. Maximum calculated value = 4.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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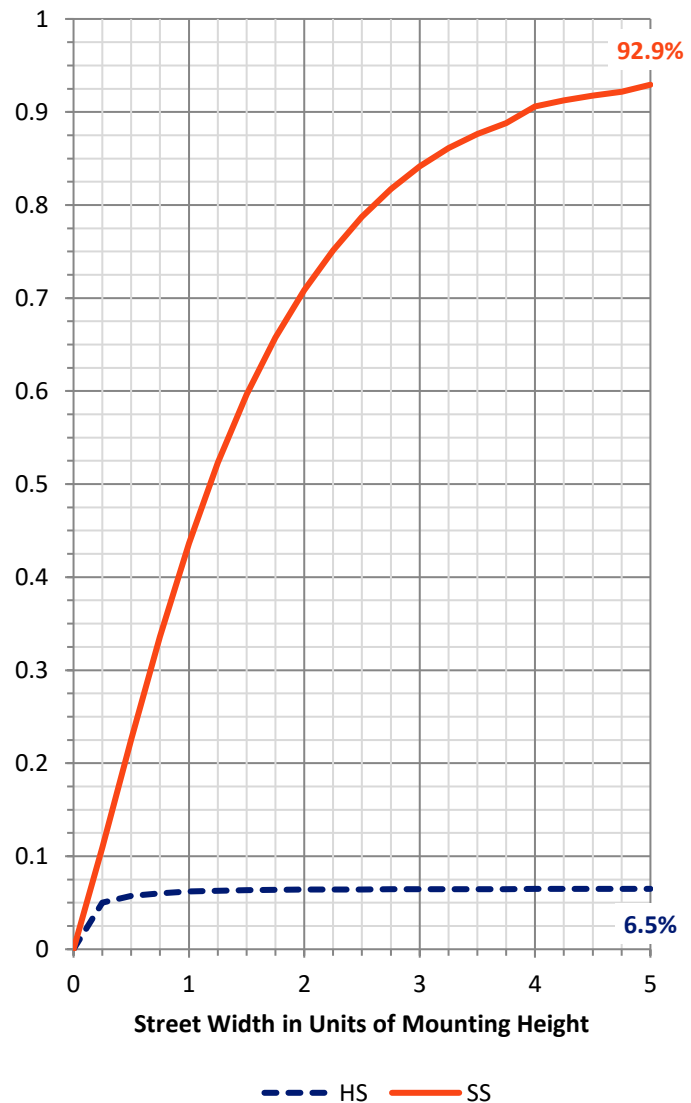
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1131.6	0.0	1131.6
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	16135.5	0.0	16135.5
	% Fixture	93.4	0.0	93.4
Total	Lumens	17267.2	0.0	17267.2
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	224.8	1.3
10°-20°	544.2	3.2
20°-30°	903.9	5.2
30°-40°	1440.6	8.3
40°-50°	2377.8	13.8
50°-60°	3591.0	20.8
60°-70°	4677.9	27.1
70°-80°	3160.9	18.3
80°-90°	346.2	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°	17267.2	100.0
0°-180°	17267.2	100.0

Coefficient of Utilization



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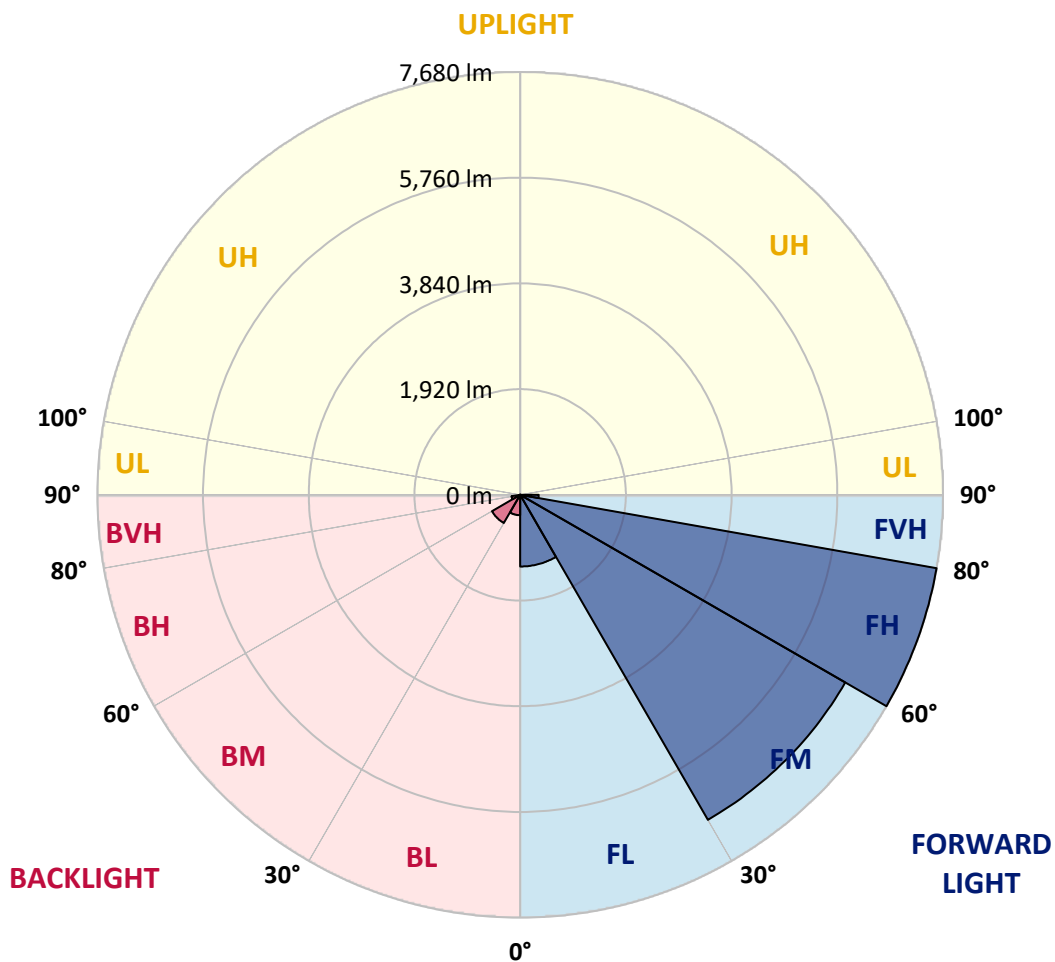
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1302.3	7.5			
FM	(30°-60°)	6817.3	39.5			
FH	(60°-80°)	7679.7	44.5			G4/12000
FVH	(80°-90°)	336.2	1.9			G3/500
BL	(0°-30°)	370.6	2.1	B1/500		
BM	(30°-60°)	592.1	3.4	B1/1000		
BH	(60°-80°)	159.1	0.9	B1/500		G1/500
BVH	(80°-90°)	9.9	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-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7
2.5°	2942.8	2948.3	2941.6	2929.4	2911.6	2900.8	2885.8	2853.3	2812.7	2777.3	2736.5
5°	2965.9	2968.7	2960.5	2937.5	2910.2	2895.3	2876.5	2841.1	2798.9	2750.2	2676.9
7.5°	2972.9	2971.5	2961.9	2933.4	2891.4	2872.3	2839.7	2796.3	2752.9	2708.1	2625.2
10°	2970.1	2970.1	2963.2	2936.1	2888.6	2871.0	2834.3	2788.2	2733.8	2689.0	2600.9
12.5°	2960.5	2965.9	2961.9	2947.0	2911.6	2898.1	2865.6	2819.4	2767.8	2721.7	2628.0
15°	2972.9	2980.9	2989.1	2983.6	2963.2	2951.0	2921.2	2873.7	2831.5	2782.7	2682.2
17.5°	3021.7	3039.2	3058.3	3059.6	3037.9	3016.1	2982.3	2933.4	2892.7	2847.8	2739.3
20°	3114.0	3127.4	3162.8	3169.6	3126.1	3094.9	3047.4	2990.4	2949.8	2911.6	2792.2
22.5°	3251.1	3266.0	3294.4	3285.0	3211.7	3175.0	3115.3	3050.1	3008.1	2986.3	2853.3
25°	3458.7	3462.7	3469.7	3427.6	3306.8	3266.0	3192.7	3119.4	3085.5	3082.8	2940.2
27.5°	3703.1	3708.6	3678.6	3585.0	3412.7	3359.7	3276.8	3210.4	3194.1	3214.3	3050.1
30°	3982.6	3984.1	3901.2	3749.3	3534.7	3476.4	3390.8	3317.6	3332.5	3382.7	3191.3
32.5°	4269.1	4255.5	4141.5	3943.3	3701.7	3631.0	3557.8	3484.5	3528.0	3629.8	3397.7
35°	4531.1	4525.8	4391.3	4160.5	3918.9	3856.5	3803.6	3726.2	3796.7	3962.3	3678.6
37.5°	4793.0	4789.0	4635.7	4395.3	4186.3	4141.5	4102.2	4042.5	4157.9	4400.7	4054.6
40°	5082.3	5075.5	4886.8	4655.9	4497.2	4472.8	4449.7	4423.9	4620.7	4958.7	4523.0
42.5°	5439.1	5409.4	5152.8	4939.7	4839.2	4846.0	4847.3	4873.1	5181.3	5622.5	5075.5
45°	5849.1	5782.7	5420.3	5243.8	5215.2	5256.0	5296.6	5403.9	5834.2	6386.7	5686.4
47.5°	6247.0	6139.6	5728.3	5570.8	5629.3	5713.4	5811.1	6020.3	6567.2	7186.3	6240.0
50°	6589.0	6479.0	6033.7	5903.4	6089.4	6214.4	6388.0	6704.3	7340.9	7862.2	6589.0
52.5°	6857.8	6770.9	6356.9	6270.0	6599.8	6770.9	7043.7	7459.0	8071.4	8307.4	6833.2
55°	7055.9	7012.4	6666.3	6678.5	7167.2	7414.3	7753.6	8223.4	8687.6	8653.6	7016.5
57.5°	7280.0	7246.0	6990.8	7160.4	7850.0	8168.9	8561.2	8938.7	9135.6	8931.8	7195.8
60°	7509.3	7520.3	7384.3	7744.2	8694.3	9047.3	9389.4	9483.0	9519.7	9214.3	7384.3
62.5°	7683.1	7729.1	7741.5	8374.0	9560.4	9861.8	10009.8	9943.2	9935.1	9593.0	7369.4
65°	7882.5	8003.4	8204.3	9064.9	10347.7	10545.9	10651.7	10748.1	10544.6	9705.6	6644.7
67.5°	8227.3	8417.4	8869.4	9912.0	11257.2	11550.3	11850.4	11748.6	10635.5	8561.2	5061.9
70°	8691.6	8923.8	9721.8	11018.3	12491.1	12982.5	13233.7	11668.4	9029.7	5915.7	2670.0
72°	8398.4	8608.8	9985.3	11582.9	13365.3	13815.9	13187.5	10177.9	6545.5	3066.5	894.5
72.5°	8113.3	8330.5	9901.1	11576.2	13452.1	13796.9	12887.4	9590.2	5792.1	2386.3	616.2
75°	5629.3	5903.4	8488.1	10406.1	12147.6	11769.0	9860.3	5807.2	2098.6	409.9	203.6
77.5°	2910.2	3122.1	5148.7	7353.2	8466.3	7753.6	5827.5	2519.3	580.9	217.2	134.3
80°	1804.1	1908.5	2408.0	3623.0	4398.1	3846.9	2570.9	1018.0	372.0	128.9	107.3
82.5°	933.9	1013.9	1516.2	1461.9	1624.9	1350.6	948.8	852.5	229.3	80.0	110.0
85°	306.9	325.7	931.3	972.0	695.0	466.9	420.8	813.1	66.6	51.7	93.7
87.5°	40.8	47.5	327.2	556.5	342.1	211.8	252.5	286.4	23.0	28.4	25.8
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°	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7	2763.7
2.5°	2709.5	2691.9	2636.2	2580.6	2516.7	2458.3	2412.2	2382.2	2395.9	2351.0	2357.8
5°	2632.0	2587.3	2465.0	2333.3	2190.8	2057.8	1951.9	1873.2	1858.4	1790.4	1793.1
7.5°	2557.5	2484.2	2285.8	2068.7	1832.5	1641.2	1467.4	1315.4	1261.0	1205.3	1172.7
10°	2516.7	2416.3	2135.2	1819.0	1486.3	1205.3	961.0	769.7	689.5	631.1	602.8
12.5°	2528.9	2395.9	2022.5	1592.2	1155.2	798.1	542.9	403.2	354.3	327.2	317.6
15°	2569.6	2399.9	1920.8	1371.1	840.3	483.3	319.0	272.8	268.8	267.4	266.1
17.5°	2607.6	2404.0	1813.5	1140.3	562.0	308.2	256.6	252.5	252.5	252.5	252.5
20°	2646.9	2405.4	1695.5	898.7	369.3	252.5	241.6	238.9	241.6	241.6	241.6
22.5°	2693.2	2414.9	1581.3	663.8	272.8	237.5	230.8	229.3	230.8	230.8	229.3
25°	2750.2	2435.2	1457.9	475.2	247.0	228.1	221.3	219.9	221.3	219.9	219.9
27.5°	2826.2	2462.3	1314.0	340.6	236.2	218.6	211.8	211.8	211.8	210.5	210.5
30°	2924.0	2495.0	1121.3	268.8	225.4	209.0	203.6	203.6	202.3	201.0	201.0
32.5°	3063.7	2548.0	910.8	243.0	213.1	196.8	191.3	192.7	191.3	190.0	188.6
35°	3261.8	2630.6	703.2	229.3	201.0	184.6	179.2	179.2	179.2	176.4	176.4
37.5°	3542.8	2757.0	526.6	215.9	188.6	172.4	165.6	165.6	164.2	161.5	163.0
40°	3890.4	2915.8	381.4	203.6	176.4	158.8	153.4	150.6	148.0	145.3	145.3
42.5°	4308.5	3070.4	286.4	191.3	164.2	148.0	141.2	138.5	132.9	130.3	128.9
45°	4776.7	3234.7	237.5	176.4	150.6	135.7	130.3	124.9	118.0	114.1	112.6
47.5°	5171.8	3335.1	211.8	161.5	137.1	123.5	118.0	110.0	101.8	99.2	99.2
50°	5409.4	3293.1	190.0	146.7	123.5	111.3	104.6	93.7	88.3	85.5	84.1
52.5°	5542.5	3168.2	172.4	134.3	111.3	97.7	88.3	78.7	76.0	73.3	73.3
55°	5633.4	2987.8	153.4	122.2	100.4	85.5	74.6	67.9	65.1	63.8	62.4
57.5°	5720.1	2767.8	135.7	111.3	89.7	76.0	63.8	61.1	55.7	54.3	54.3
60°	5746.0	2465.0	119.5	99.2	80.0	66.6	55.7	51.7	46.2	44.7	44.7
62.5°	5417.5	1961.4	105.9	84.1	70.5	57.0	48.9	43.5	38.0	38.0	38.0
65°	4527.0	1331.6	91.0	73.3	62.4	48.9	42.1	35.4	32.6	32.6	32.6
67.5°	3153.3	742.4	77.3	62.4	52.9	40.8	35.4	29.9	28.4	29.9	29.9
70°	1421.2	294.6	65.1	51.7	43.5	34.0	29.9	25.8	28.4	28.4	28.4
72°	426.2	157.5	54.3	42.1	35.4	29.9	25.8	24.4	27.2	28.4	28.4
72.5°	316.3	141.2	51.7	40.8	35.4	28.4	24.4	24.4	27.2	28.4	28.4
75°	163.0	96.4	39.3	29.9	25.8	23.0	20.3	23.0	27.2	27.2	27.2
77.5°	127.6	78.7	32.6	23.0	21.6	20.3	19.0	21.6	24.4	24.4	24.4
80°	119.5	51.7	25.8	21.6	19.0	17.6	17.6	19.0	21.6	23.0	23.0
82.5°	120.8	42.1	23.0	20.3	17.6	16.3	16.3	17.6	20.3	21.6	21.6
85°	77.3	28.4	20.3	17.6	16.3	14.9	14.9	16.3	19.0	20.3	20.3
87.5°	25.8	21.6	17.6	16.3	13.6	13.6	13.6	13.6	16.3	17.6	19.0
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)