

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: P196637

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196637
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-05-D-UNV-SL4-7030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 615mA 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: 15608.8 lumens
Efficiency: N/A
Efficacy: 96.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 162
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

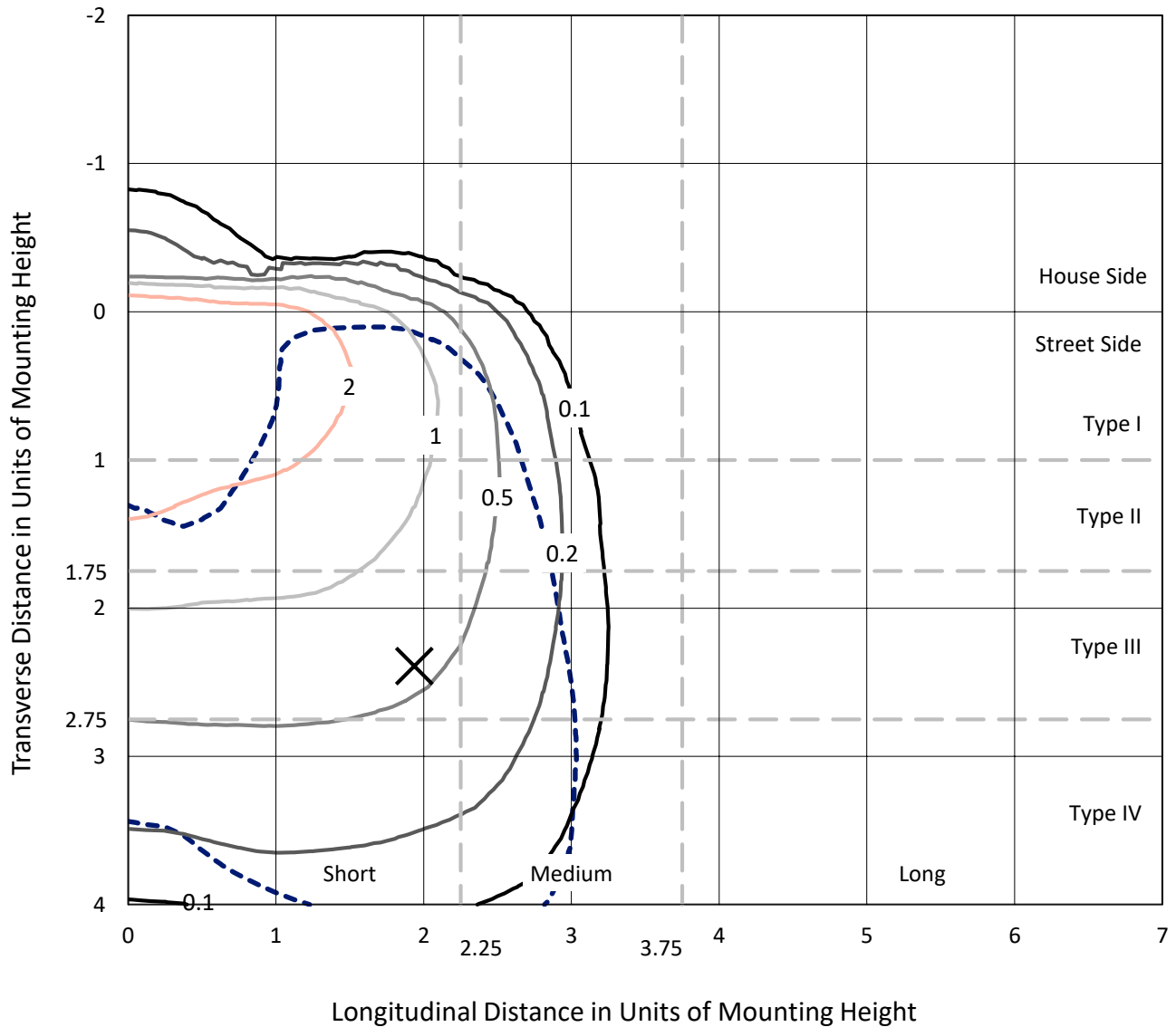


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

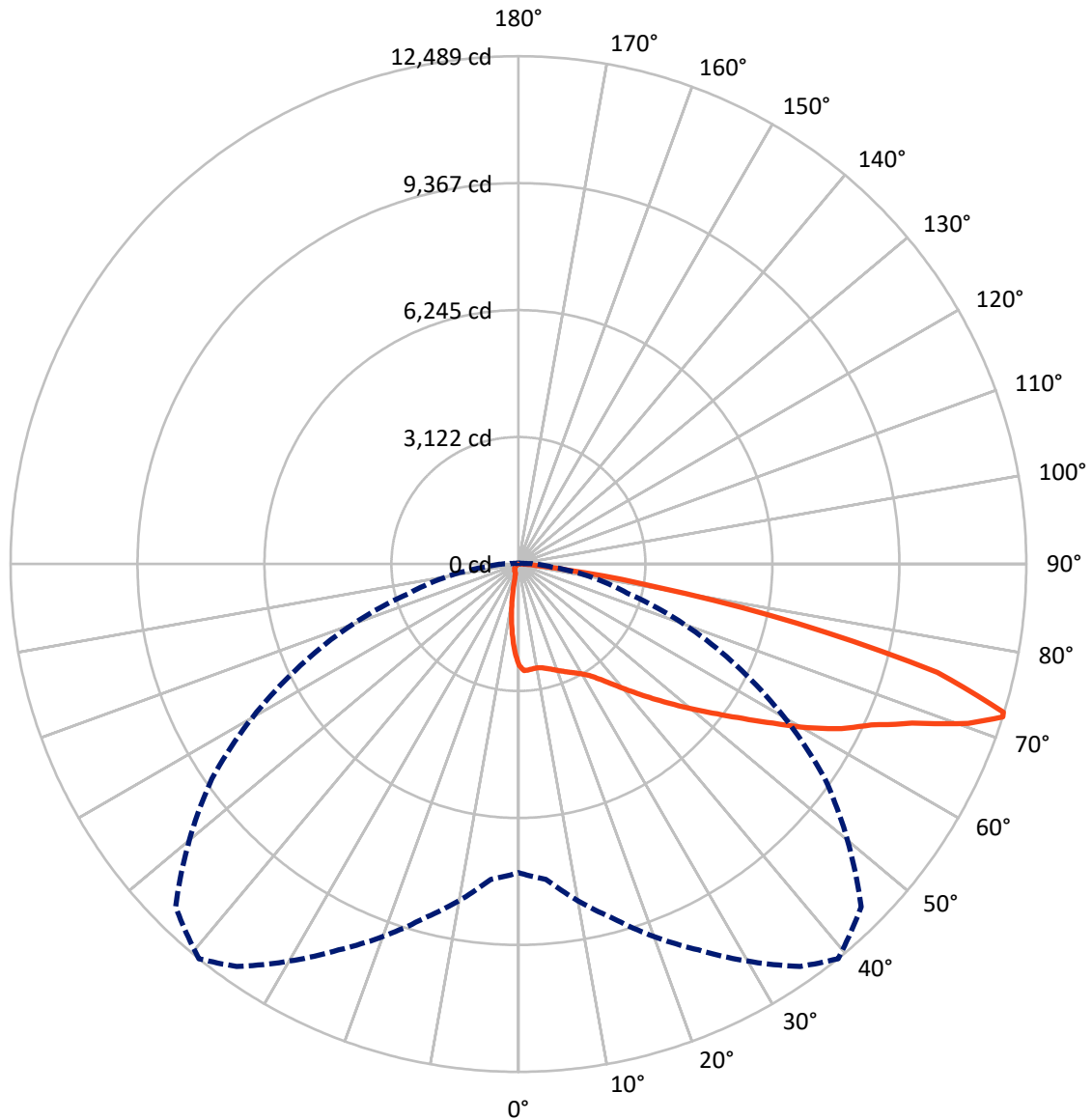


Based on 25 foot mounting height. Maximum calculated value = 4.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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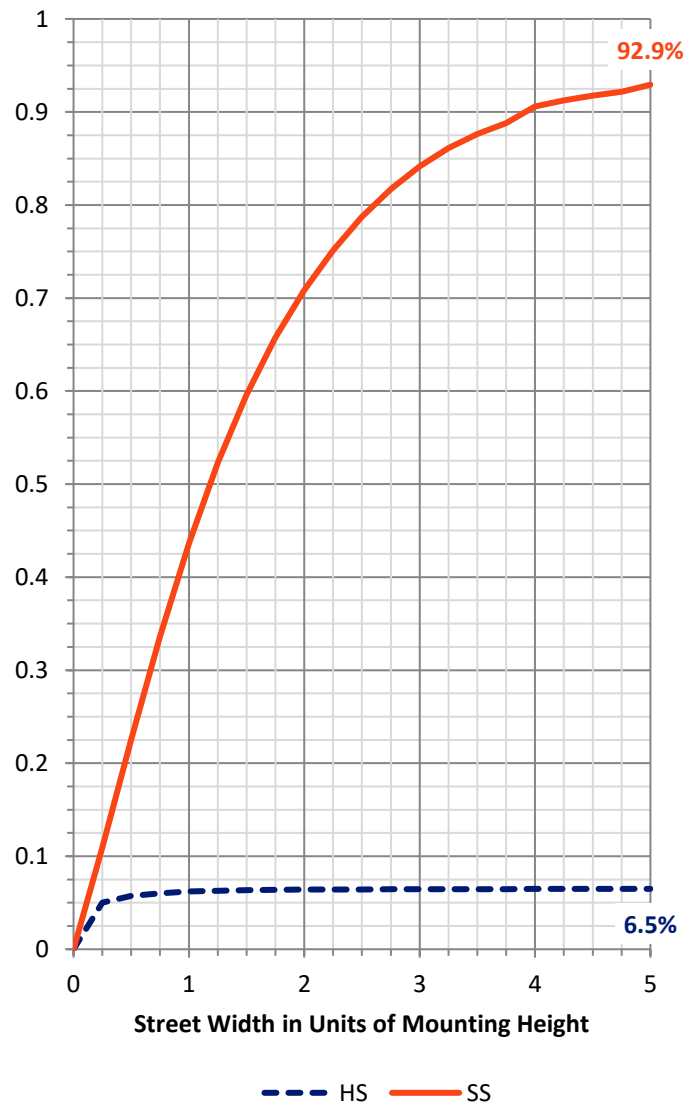
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1023.0	0.0	1023.0
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	14585.8	0.0	14585.8
	% Fixture	93.4	0.0	93.4
Total	Lumens	15608.8	0.0	15608.8
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.2	1.3
10°-20°	492.0	3.2
20°-30°	817.1	5.2
30°-40°	1302.2	8.3
40°-50°	2149.5	13.8
50°-60°	3246.1	20.8
60°-70°	4228.6	27.1
70°-80°	2857.3	18.3
80°-90°	312.9	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°	15608.8	100.0
0°-180°	15608.8	100.0

Coefficient of Utilization



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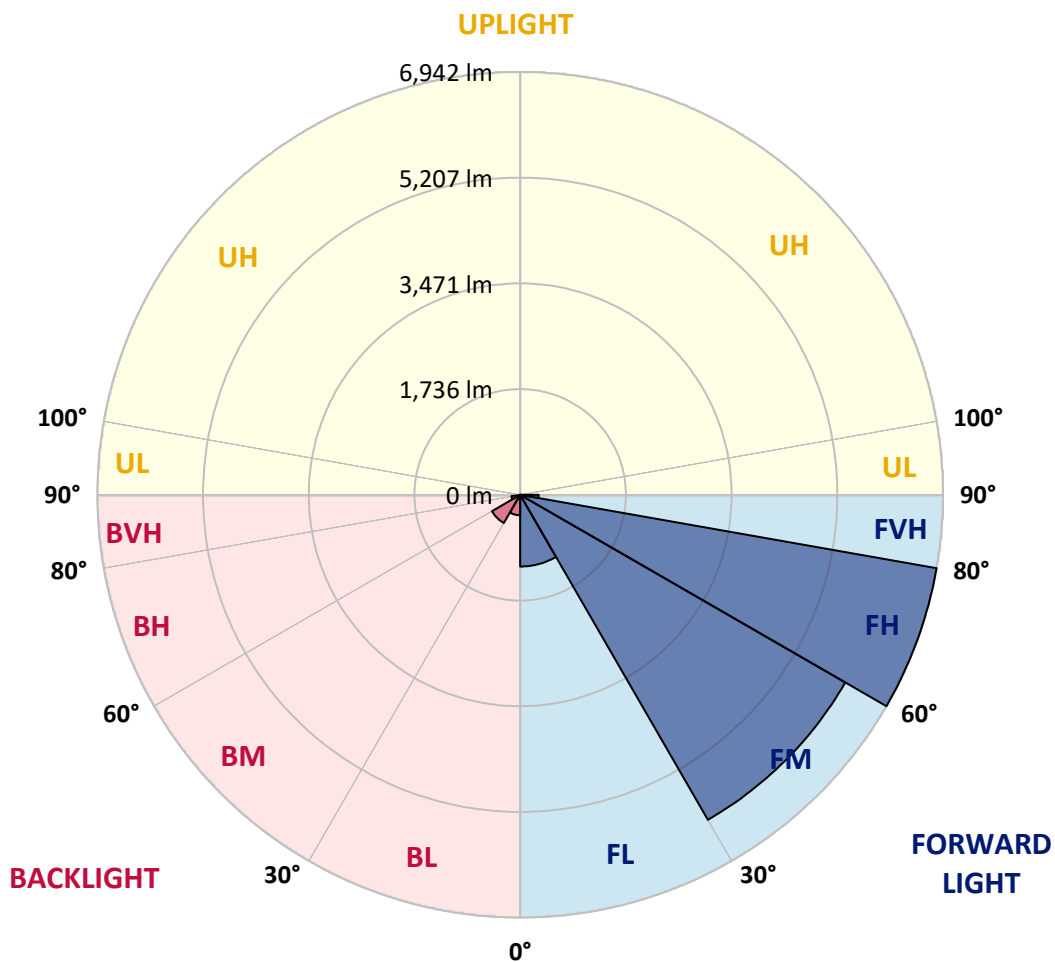
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1177.3	7.5			
FM	(30°-60°)	6162.5	39.5			
FH	(60°-80°)	6942.1	44.5			G3/7500
FVH	(80°-90°)	303.9	1.9			G3/500
BL	(0°-30°)	335.0	2.1	B1/500		
BM	(30°-60°)	535.2	3.4	B1/1000		
BH	(60°-80°)	143.8	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°	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3
2.5°	2660.3	2665.2	2659.1	2648.0	2632.0	2622.2	2608.7	2579.3	2542.5	2510.6	2473.7
5°	2681.1	2683.5	2676.2	2655.3	2630.9	2617.3	2600.2	2568.2	2530.2	2485.9	2419.8
7.5°	2687.2	2686.0	2677.4	2651.7	2613.6	2596.4	2567.0	2527.7	2488.5	2448.0	2373.1
10°	2684.8	2684.8	2678.7	2654.1	2611.2	2595.2	2562.1	2520.4	2471.3	2430.8	2351.0
12.5°	2676.2	2681.1	2677.4	2664.0	2632.0	2619.8	2590.3	2548.6	2501.9	2460.3	2375.7
15°	2687.2	2694.7	2702.0	2697.1	2678.7	2667.7	2640.6	2597.6	2559.6	2515.4	2424.7
17.5°	2731.4	2747.4	2764.6	2765.8	2746.1	2726.6	2695.9	2651.7	2614.9	2574.3	2476.3
20°	2814.8	2827.1	2859.0	2865.3	2825.9	2797.7	2754.8	2703.2	2666.4	2632.0	2524.1
22.5°	2938.7	2952.3	2978.1	2969.4	2903.2	2870.1	2816.0	2757.1	2719.1	2699.5	2579.3
25°	3126.6	3130.2	3136.4	3098.3	2989.2	2952.3	2886.1	2819.8	2789.1	2786.6	2657.8
27.5°	3347.3	3352.3	3325.3	3240.6	3084.8	3037.0	2962.1	2902.0	2887.2	2905.6	2757.1
30°	3600.2	3601.4	3526.6	3389.1	3195.3	3142.6	3065.2	2998.9	3012.4	3057.8	2884.8
32.5°	3859.0	3846.8	3743.8	3564.6	3346.2	3282.3	3216.1	3149.8	3189.2	3281.2	3071.3
35°	4095.9	4091.0	3969.5	3760.9	3542.5	3486.0	3438.2	3368.3	3432.1	3581.7	3325.3
37.5°	4332.7	4329.1	4190.4	3973.2	3784.2	3743.8	3708.2	3654.1	3758.5	3978.1	3665.2
40°	4594.2	4588.1	4417.4	4208.7	4065.2	4043.1	4022.3	3999.0	4176.9	4482.5	4088.6
42.5°	4916.7	4889.8	4657.9	4465.2	4374.4	4380.6	4381.9	4405.2	4683.7	5082.4	4588.1
45°	5287.4	5227.3	4899.6	4740.1	4714.3	4751.1	4788.0	4884.9	5273.8	5773.3	5140.1
47.5°	5646.9	5550.0	5178.2	5035.9	5088.6	5164.6	5253.0	5441.9	5936.5	6496.0	5640.7
50°	5956.2	5856.8	5454.2	5336.4	5504.6	5617.4	5774.6	6060.4	6636.0	7107.1	5956.2
52.5°	6199.1	6120.6	5746.3	5667.9	5966.0	6120.6	6367.2	6742.7	7296.2	7509.6	6177.0
55°	6378.2	6339.0	6026.0	6037.1	6478.8	6702.2	7009.0	7433.5	7853.1	7822.5	6342.6
57.5°	6580.6	6550.0	6319.3	6472.7	7096.1	7384.4	7739.1	8080.2	8258.1	8074.0	6504.6
60°	6788.1	6797.9	6675.2	7000.4	7859.3	8178.3	8487.6	8572.3	8605.4	8329.3	6675.2
62.5°	6945.2	6986.8	6997.9	7569.7	8642.2	8914.6	9048.3	8988.2	8980.8	8671.6	6661.6
65°	7125.6	7234.7	7416.3	8194.2	9353.8	9533.0	9628.7	9715.9	9531.8	8773.4	6006.4
67.5°	7437.2	7609.0	8017.6	8960.0	10176.0	10441.1	10712.3	10620.2	9613.9	7739.1	4575.7
70°	7856.9	8066.6	8788.2	9960.0	11291.4	11735.5	11962.6	10547.8	8162.3	5347.4	2413.6
72°	7591.8	7782.0	9026.2	10470.5	12081.6	12489.0	11920.8	9200.5	5916.8	2771.9	808.6
72.5°	7334.1	7530.4	8950.2	10464.3	12160.1	12471.8	11649.7	8669.1	5235.8	2157.3	557.1
75°	5088.6	5336.4	7672.7	9406.5	10980.9	10638.6	8913.4	5249.4	1897.1	370.6	184.1
77.5°	2630.9	2822.2	4654.2	6647.0	7653.2	7009.0	5267.7	2277.4	525.2	196.3	121.5
80°	1630.8	1725.2	2176.8	3275.0	3975.6	3477.5	2324.1	920.3	336.2	116.6	96.9
82.5°	844.2	916.5	1370.6	1321.5	1468.8	1221.0	857.6	770.6	207.4	72.4	99.4
85°	277.3	294.5	841.8	878.6	628.2	422.1	380.4	735.0	60.1	46.7	84.6
87.5°	36.8	42.9	295.8	503.1	309.2	191.4	228.3	259.0	20.9	25.7	23.3
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°	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3	2498.3
2.5°	2449.1	2433.2	2383.0	2332.6	2275.0	2222.3	2180.5	2153.5	2165.7	2125.3	2131.4
5°	2379.2	2338.8	2228.4	2109.4	1980.5	1860.2	1764.5	1693.3	1679.9	1618.4	1621.0
7.5°	2311.8	2245.5	2066.3	1870.1	1656.5	1483.5	1326.4	1189.1	1139.9	1089.7	1060.2
10°	2275.0	2184.2	1930.2	1644.3	1343.7	1089.7	868.7	695.8	623.4	570.6	544.7
12.5°	2286.0	2165.7	1828.4	1439.4	1044.2	721.5	490.8	364.5	320.2	295.8	287.2
15°	2322.9	2169.5	1736.2	1239.3	759.6	436.8	288.3	246.6	243.0	241.7	240.5
17.5°	2357.2	2173.1	1639.3	1030.8	508.0	278.5	231.9	228.3	228.3	228.3	228.3
20°	2392.8	2174.4	1532.6	812.4	333.8	228.3	218.4	216.0	218.4	218.4	218.4
22.5°	2434.6	2182.9	1429.5	600.1	246.6	214.7	208.5	207.4	208.5	208.5	207.4
25°	2485.9	2201.3	1317.8	429.5	223.3	206.2	200.1	198.8	200.1	198.8	198.8
27.5°	2554.7	2225.8	1187.7	308.0	213.5	197.5	191.4	191.4	191.4	190.2	190.2
30°	2643.1	2255.3	1013.6	243.0	203.7	189.0	184.1	184.1	182.8	181.6	181.6
32.5°	2769.5	2303.1	823.4	219.6	192.7	177.9	173.0	174.3	173.0	171.7	170.6
35°	2948.6	2378.0	635.6	207.4	181.6	166.8	161.9	161.9	161.9	159.5	159.5
37.5°	3202.6	2492.2	476.2	195.1	170.6	155.8	149.6	149.6	148.5	146.0	147.3
40°	3516.7	2635.8	344.8	184.1	159.5	143.5	138.6	136.2	133.8	131.3	131.3
42.5°	3894.6	2775.6	259.0	173.0	148.5	133.8	127.7	125.2	120.3	117.8	116.6
45°	4318.0	2924.1	214.7	159.5	136.2	122.7	117.8	112.9	106.7	103.0	101.8
47.5°	4675.1	3014.9	191.4	146.0	123.9	111.7	106.7	99.4	92.0	89.6	89.6
50°	4889.8	2976.9	171.7	132.5	111.7	100.6	94.5	84.6	79.8	77.3	76.1
52.5°	5010.1	2863.9	155.8	121.5	100.6	88.4	79.8	71.1	68.8	66.2	66.2
55°	5092.2	2700.8	138.6	110.5	90.8	77.3	67.5	61.4	58.9	57.7	56.5
57.5°	5170.8	2501.9	122.7	100.6	81.0	68.8	57.7	55.1	50.3	49.0	49.0
60°	5194.0	2228.4	107.9	89.6	72.4	60.1	50.3	46.7	41.7	40.5	40.5
62.5°	4897.2	1773.1	95.7	76.1	63.8	51.6	44.1	39.3	34.3	34.3	34.3
65°	4092.2	1203.7	82.2	66.2	56.5	44.1	38.0	31.9	29.5	29.5	29.5
67.5°	2850.5	671.2	69.9	56.5	47.8	36.8	31.9	27.0	25.7	27.0	27.0
70°	1284.8	266.3	58.9	46.7	39.3	30.7	27.0	23.3	25.7	25.7	25.7
72°	385.2	142.4	49.0	38.0	31.9	27.0	23.3	22.1	24.6	25.7	25.7
72.5°	285.9	127.7	46.7	36.8	31.9	25.7	22.1	22.1	24.6	25.7	25.7
75°	147.3	87.1	35.6	27.0	23.3	20.9	18.3	20.9	24.6	24.6	24.6
77.5°	115.4	71.1	29.5	20.9	19.6	18.3	17.2	19.6	22.1	22.1	22.1
80°	107.9	46.7	23.3	19.6	17.2	16.0	16.0	17.2	19.6	20.9	20.9
82.5°	109.3	38.0	20.9	18.3	16.0	14.7	14.7	16.0	18.3	19.6	19.6
85°	69.9	25.7	18.3	16.0	14.7	13.5	13.5	14.7	17.2	18.3	18.3
87.5°	23.3	19.6	16.0	14.7	12.2	12.2	12.2	12.2	14.7	16.0	17.2
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)