

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: P195693

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7050-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195693
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-03-D-UNV-SL4-7050-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1200mA 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: 16188 lumens
Efficiency: N/A
Efficacy: 84.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 191
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

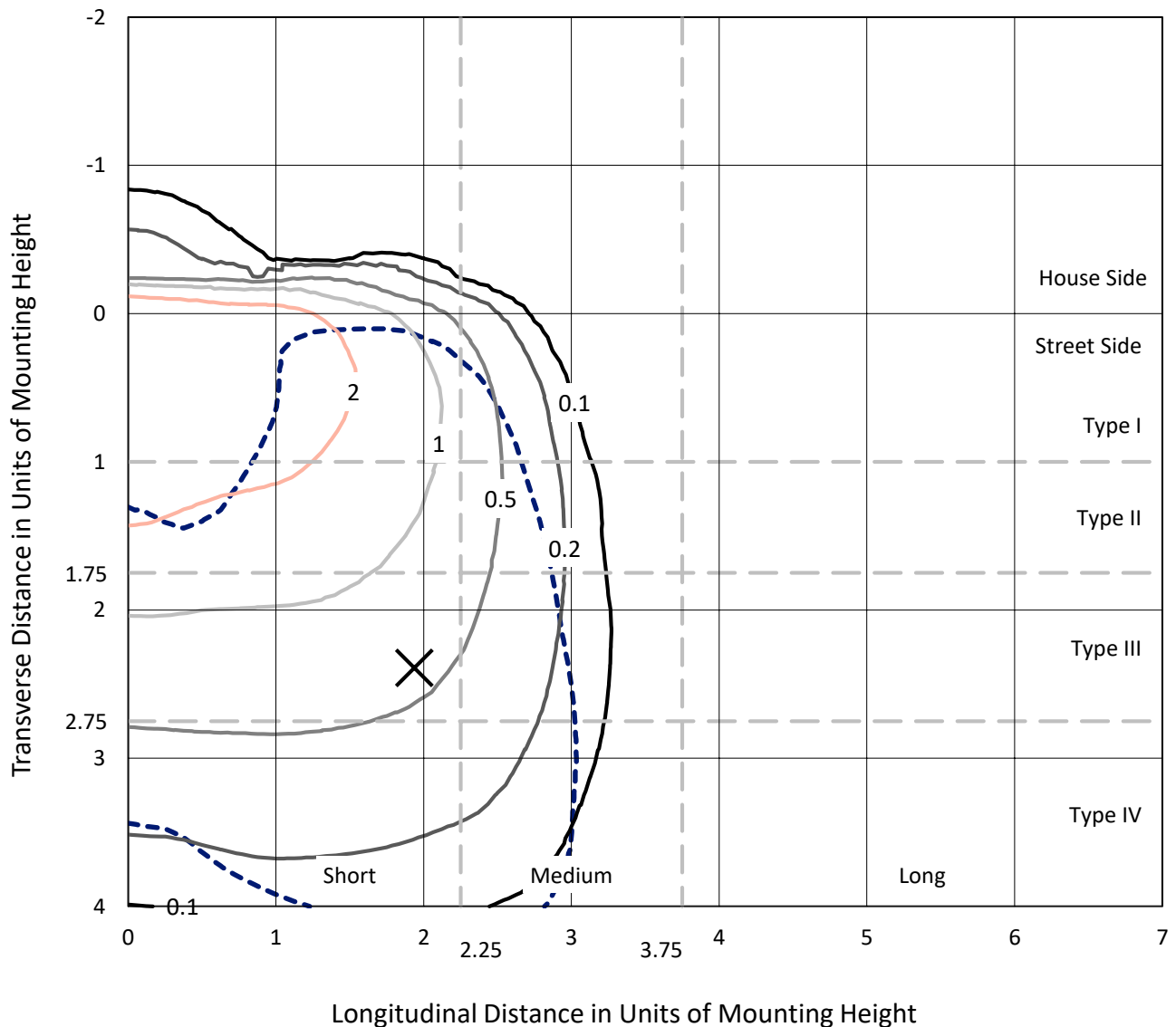


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

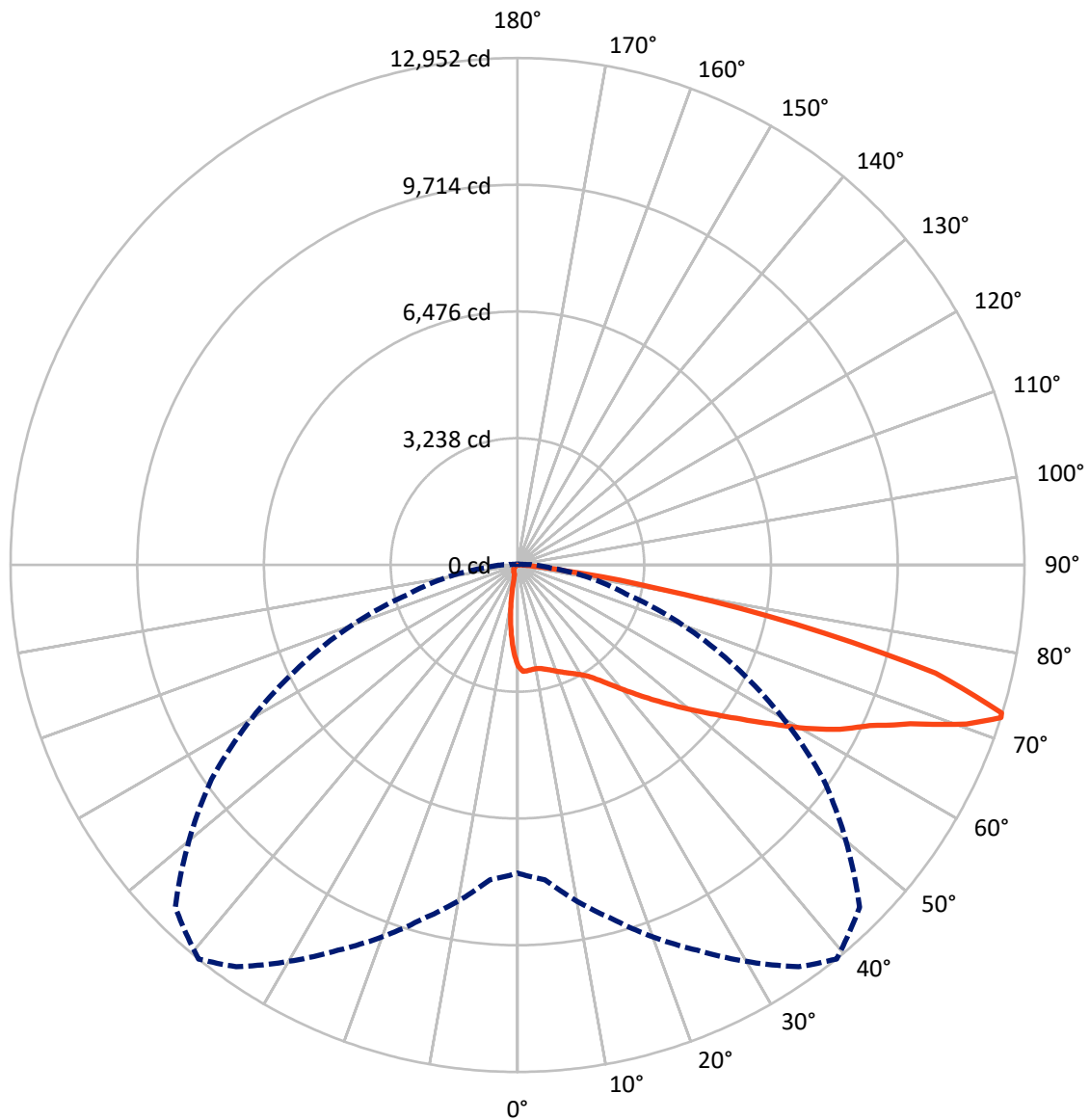


Based on 25 foot mounting height. Maximum calculated value = 4.4 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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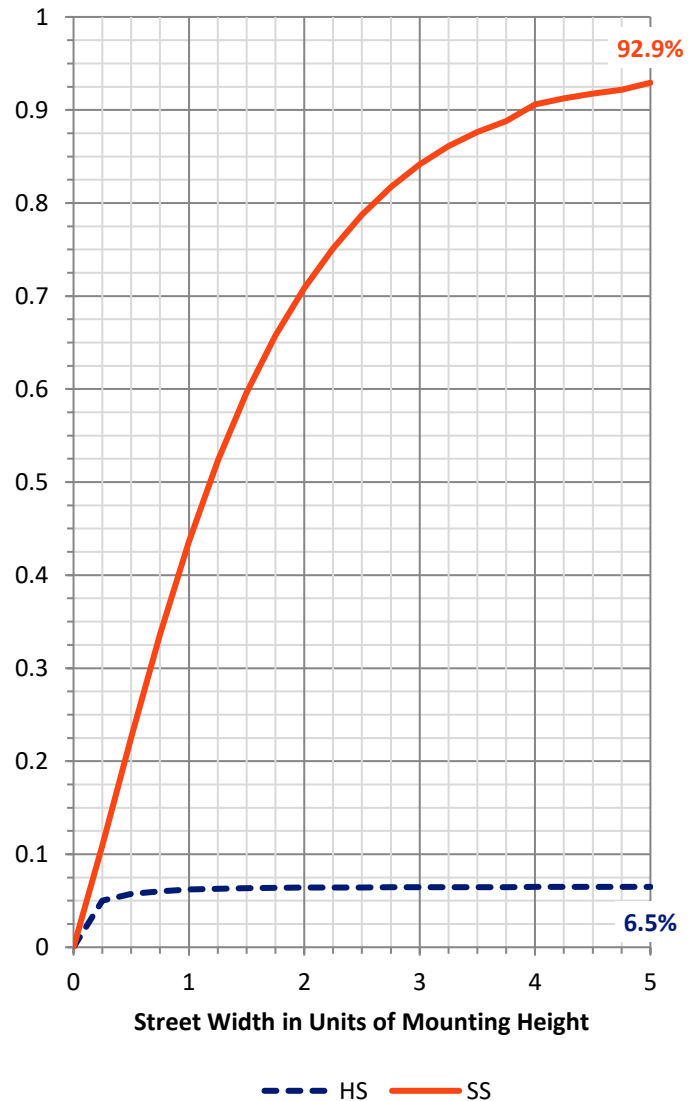
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1060.9	0.0	1060.9
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	15127.1	0.0	15127.1
	% Fixture	93.4	0.0	93.4
Total	Lumens	16188.0	0.0	16188.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	210.7	1.3
10°-20°	510.2	3.2
20°-30°	847.4	5.2
30°-40°	1350.5	8.3
40°-50°	2229.2	13.8
50°-60°	3366.6	20.8
60°-70°	4385.5	27.1
70°-80°	2963.3	18.3
80°-90°	324.5	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°	16188.0	100.0
0°-180°	16188.0	100.0

Coefficient of Utilization



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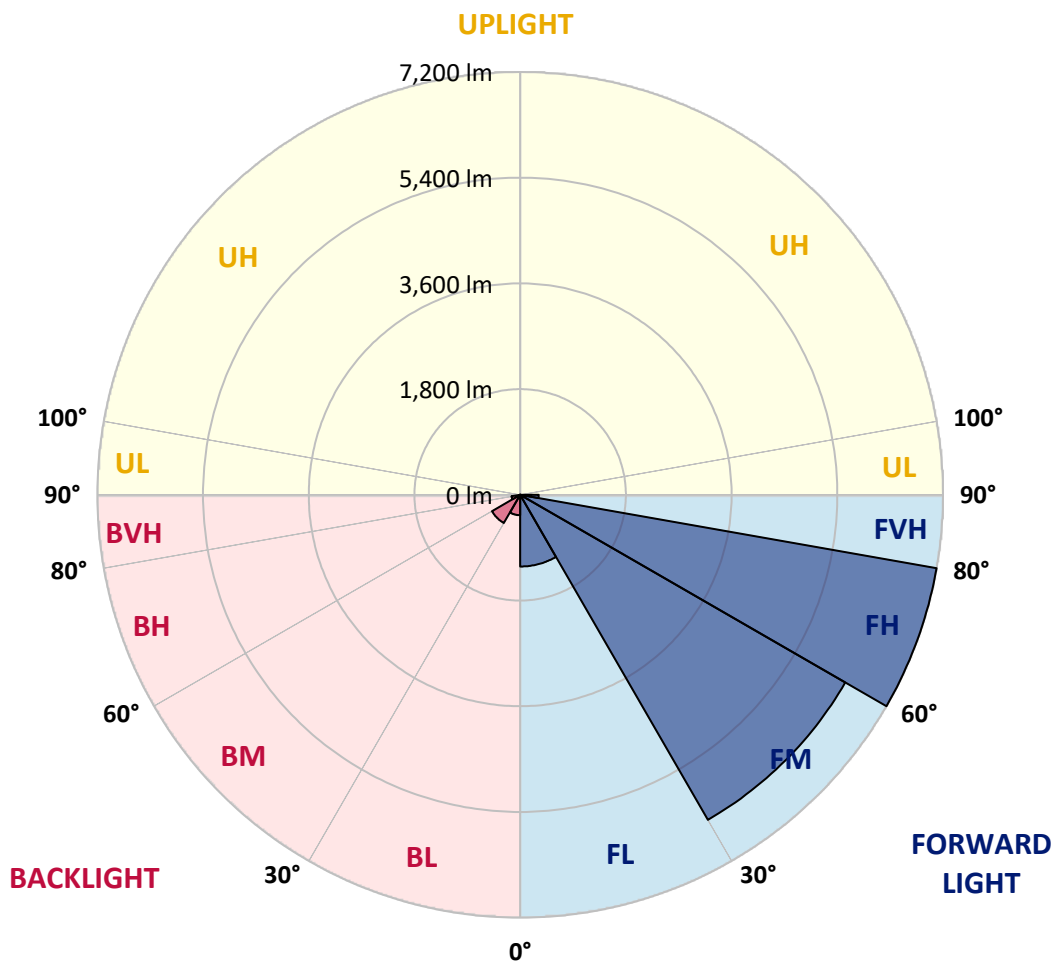
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1221.0	7.5			
FM	(30°-60°)	6391.2	39.5			
FH	(60°-80°)	7199.7	44.5			G3/7500
FVH	(80°-90°)	315.2	1.9			G3/500
BL	(0°-30°)	347.4	2.1	B1/500		
BM	(30°-60°)	555.1	3.4	B1/1000		
BH	(60°-80°)	149.1	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°	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0
2.5°	2759.0	2764.1	2757.7	2746.3	2729.7	2719.5	2705.5	2675.0	2636.8	2603.7	2565.5
5°	2780.6	2783.2	2775.5	2753.9	2728.4	2714.4	2696.6	2663.5	2624.1	2578.3	2509.5
7.5°	2787.0	2785.7	2776.8	2750.1	2710.6	2692.8	2662.3	2621.5	2580.8	2538.8	2461.2
10°	2784.4	2784.4	2778.1	2752.6	2708.1	2691.5	2657.2	2613.9	2563.0	2521.0	2438.3
12.5°	2775.5	2780.6	2776.8	2762.8	2729.7	2717.0	2686.4	2643.2	2594.8	2551.5	2463.7
15°	2787.0	2794.6	2802.2	2797.2	2778.1	2766.6	2738.6	2694.1	2654.6	2608.8	2514.6
17.5°	2832.8	2849.3	2867.1	2868.4	2848.1	2827.7	2795.9	2750.1	2711.9	2669.9	2568.1
20°	2919.3	2932.0	2965.1	2971.5	2930.8	2901.5	2857.0	2803.5	2765.3	2729.7	2617.7
22.5°	3047.9	3061.9	3088.6	3079.7	3010.9	2976.6	2920.6	2859.5	2820.1	2799.7	2675.0
25°	3242.6	3246.4	3252.7	3213.3	3100.0	3061.9	2993.1	2924.4	2892.6	2890.1	2756.4
27.5°	3471.6	3476.7	3448.7	3360.9	3199.3	3149.7	3072.0	3009.7	2994.4	3013.5	2859.5
30°	3733.8	3735.1	3657.4	3514.9	3313.8	3259.1	3178.9	3110.2	3124.2	3171.3	2991.9
32.5°	4002.3	3989.6	3882.7	3696.9	3470.4	3404.2	3335.5	3266.7	3307.5	3402.9	3185.3
35°	4247.9	4242.8	4116.8	3900.5	3674.0	3615.4	3565.8	3493.3	3559.4	3714.7	3448.7
37.5°	4493.5	4489.7	4345.9	4120.6	3924.7	3882.7	3845.8	3789.8	3897.9	4125.7	3801.2
40°	4764.6	4758.2	4581.3	4365.0	4216.1	4193.2	4171.6	4147.4	4331.9	4648.8	4240.3
42.5°	5099.3	5071.3	4830.8	4631.0	4536.8	4543.1	4544.4	4568.6	4857.5	5271.1	4758.2
45°	5483.6	5421.2	5081.5	4916.0	4889.3	4927.5	4965.6	5066.2	5469.6	5987.5	5330.9
47.5°	5856.5	5755.9	5370.3	5222.7	5277.4	5356.3	5448.0	5643.9	6156.8	6737.1	5850.1
50°	6177.2	6074.1	5656.7	5534.5	5708.8	5825.9	5988.8	6285.3	6882.2	7370.8	6177.2
52.5°	6429.1	6347.7	5959.5	5878.1	6187.3	6347.7	6603.5	6992.9	7566.8	7788.3	6406.2
55°	6614.9	6574.2	6249.7	6261.1	6719.3	6950.9	7269.0	7709.4	8144.6	8112.8	6578.0
57.5°	6824.9	6793.1	6553.8	6712.9	7359.4	7658.4	8026.2	8380.0	8564.5	8373.6	6746.0
60°	7040.0	7050.2	6922.9	7260.1	8150.9	8481.8	8802.5	8890.3	8924.7	8638.3	6922.9
62.5°	7202.9	7246.1	7257.6	7850.6	8962.9	9245.4	9384.1	9321.7	9314.1	8993.4	6908.9
65°	7389.9	7503.2	7691.5	8498.4	9701.0	9886.8	9986.0	10076.4	9885.5	9099.0	6229.3
67.5°	7713.2	7891.3	8315.1	9292.5	10553.6	10828.5	11109.7	11014.3	9970.7	8026.2	4745.5
70°	8148.4	8366.0	9114.3	10329.6	11710.4	12171.1	12406.5	10939.2	8465.3	5545.9	2503.2
72°	7873.5	8070.8	9361.2	10859.0	12529.9	12952.4	12363.2	9541.9	6136.4	2874.8	838.6
72.5°	7606.3	7809.9	9282.3	10852.7	12611.4	12934.6	12082.0	8990.9	5430.1	2237.2	577.8
75°	5277.4	5534.5	7957.5	9755.7	11388.4	11033.4	9244.1	5444.1	1967.4	384.3	190.9
77.5°	2728.4	2927.0	4826.9	6893.6	7937.1	7269.0	5463.2	2361.9	544.7	203.6	126.0
80°	1691.3	1789.3	2257.6	3396.5	4123.2	3606.5	2410.3	954.4	348.7	120.9	100.5
82.5°	875.5	950.6	1421.5	1370.6	1523.3	1266.2	889.5	799.2	215.1	75.1	103.1
85°	287.6	305.4	873.0	911.2	651.6	437.8	394.5	762.3	62.4	48.4	87.8
87.5°	38.2	44.5	306.7	521.8	320.7	198.5	236.7	268.5	21.6	26.7	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°	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0	2591.0
2.5°	2540.1	2523.5	2471.4	2419.2	2359.4	2304.7	2261.4	2233.4	2246.1	2204.1	2210.5
5°	2467.6	2425.6	2311.0	2187.6	2054.0	1929.2	1830.0	1756.2	1742.2	1678.5	1681.1
7.5°	2397.6	2328.8	2143.0	1939.4	1718.0	1538.6	1375.7	1233.1	1182.2	1130.1	1099.5
10°	2359.4	2265.2	2001.8	1705.3	1393.5	1130.1	901.0	721.6	646.5	591.8	565.0
12.5°	2370.8	2246.1	1896.2	1492.7	1083.0	748.3	509.0	378.0	332.1	306.7	297.8
15°	2409.0	2249.9	1800.7	1285.3	787.7	453.0	299.1	255.8	252.0	250.7	249.4
17.5°	2444.6	2253.8	1700.2	1069.0	526.9	288.9	240.5	236.7	236.7	236.7	236.7
20°	2481.6	2255.0	1589.5	842.5	346.1	236.7	226.5	224.0	226.5	226.5	226.5
22.5°	2524.8	2263.9	1482.6	622.3	255.8	222.7	216.3	215.1	216.3	216.3	215.1
25°	2578.3	2283.0	1366.8	445.4	231.6	213.8	207.4	206.2	207.4	206.2	206.2
27.5°	2649.5	2308.5	1231.9	319.4	221.4	204.9	198.5	198.5	198.5	197.3	197.3
30°	2741.2	2339.0	1051.2	252.0	211.3	196.0	190.9	190.9	189.6	188.3	188.3
32.5°	2872.2	2388.7	853.9	227.8	199.8	184.5	179.4	180.7	179.4	178.2	176.9
35°	3058.0	2466.3	659.2	215.1	188.3	173.1	168.0	168.0	168.0	165.4	165.4
37.5°	3321.5	2584.6	493.8	202.3	176.9	161.6	155.3	155.3	154.0	151.4	152.7
40°	3647.2	2733.5	357.6	190.9	165.4	148.9	143.8	141.3	138.7	136.2	136.2
42.5°	4039.2	2878.6	268.5	179.4	154.0	138.7	132.3	129.8	124.7	122.2	120.9
45°	4478.2	3032.6	222.7	165.4	141.3	127.3	122.2	117.1	110.7	106.9	105.6
47.5°	4848.6	3126.8	198.5	151.4	128.5	115.8	110.7	103.1	95.4	92.9	92.9
50°	5071.3	3087.3	178.2	137.4	115.8	104.4	98.0	87.8	82.7	80.2	78.9
52.5°	5196.0	2970.2	161.6	126.0	104.4	91.6	82.7	73.8	71.3	68.7	68.7
55°	5281.3	2801.0	143.8	114.5	94.2	80.2	70.0	63.6	61.1	59.8	58.5
57.5°	5362.7	2594.8	127.3	104.4	84.0	71.3	59.8	57.3	52.2	50.9	50.9
60°	5386.9	2311.0	112.0	92.9	75.1	62.4	52.2	48.4	43.3	42.0	42.0
62.5°	5078.9	1838.9	99.3	78.9	66.2	53.4	45.8	40.7	35.6	35.6	35.6
65°	4244.1	1248.4	85.3	68.7	58.5	45.8	39.5	33.1	30.5	30.5	30.5
67.5°	2956.2	696.1	72.5	58.5	49.6	38.2	33.1	28.0	26.7	28.0	28.0
70°	1332.4	276.2	61.1	48.4	40.7	31.8	28.0	24.2	26.7	26.7	26.7
72°	399.6	147.6	50.9	39.5	33.1	28.0	24.2	22.9	25.5	26.7	26.7
72.5°	296.5	132.3	48.4	38.2	33.1	26.7	22.9	22.9	25.5	26.7	26.7
75°	152.7	90.4	36.9	28.0	24.2	21.6	19.1	21.6	25.5	25.5	25.5
77.5°	119.6	73.8	30.5	21.6	20.4	19.1	17.8	20.4	22.9	22.9	22.9
80°	112.0	48.4	24.2	20.4	17.8	16.5	16.5	17.8	20.4	21.6	21.6
82.5°	113.3	39.5	21.6	19.1	16.5	15.3	15.3	16.5	19.1	20.4	20.4
85°	72.5	26.7	19.1	16.5	15.3	14.0	14.0	15.3	17.8	19.1	19.1
87.5°	24.2	20.4	16.5	15.3	12.7	12.7	12.7	12.7	15.3	16.5	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)