

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: P195208

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7060-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195208
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-SL4-7060-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5700K, 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: 19875 lumens
Efficiency: N/A
Efficacy: 88.3 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

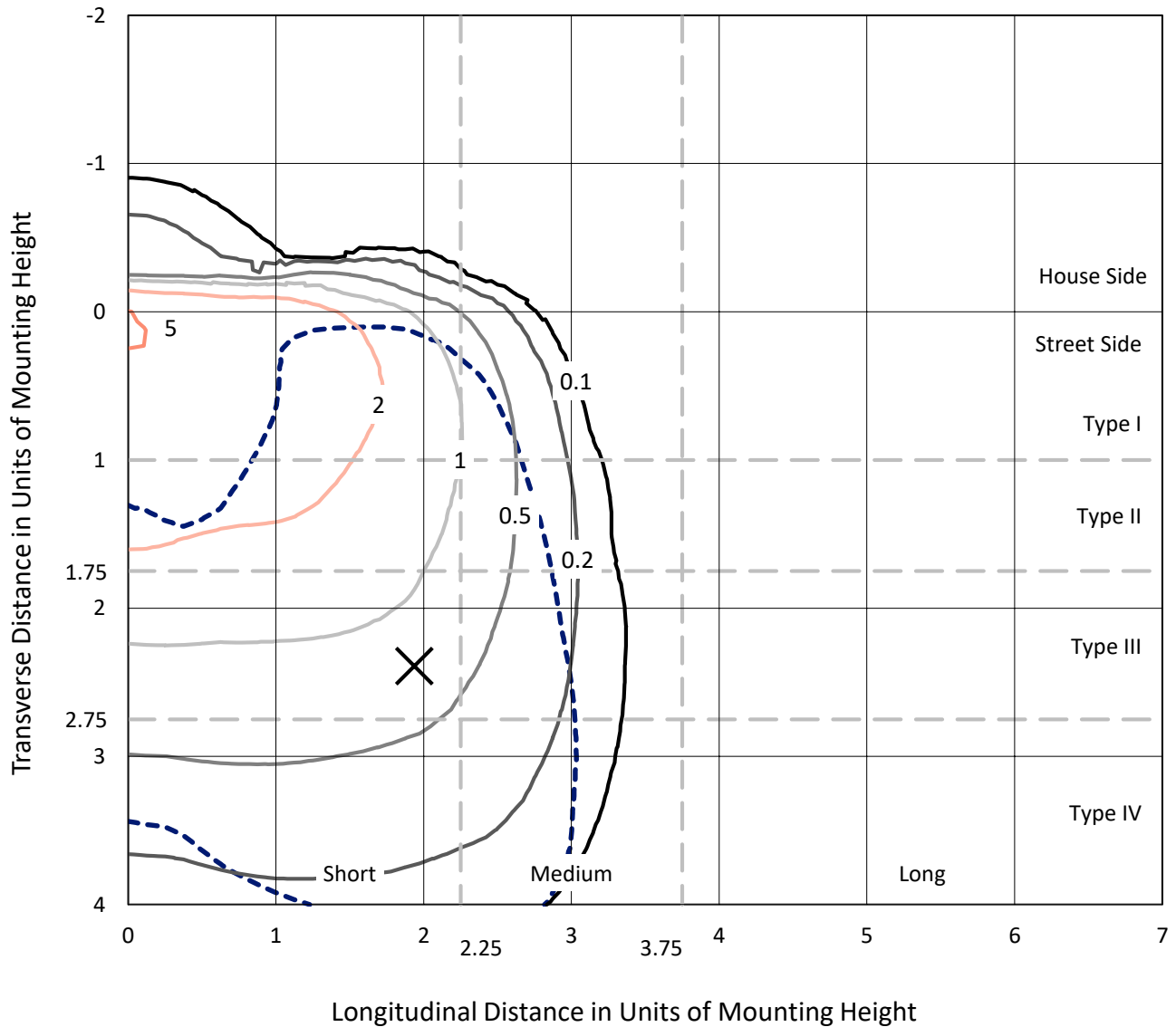


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

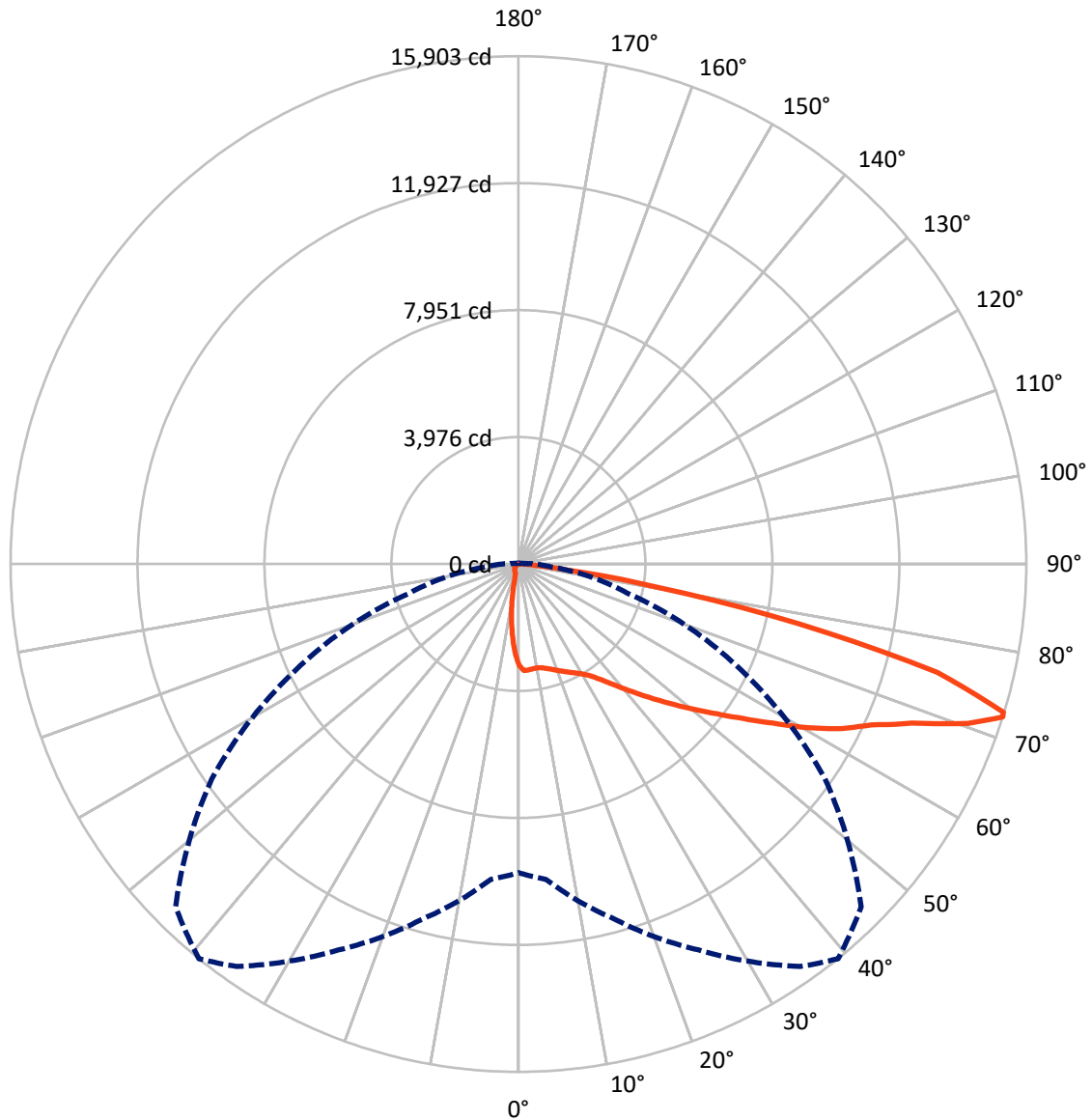


Based on 25 foot mounting height. Maximum calculated value = 5.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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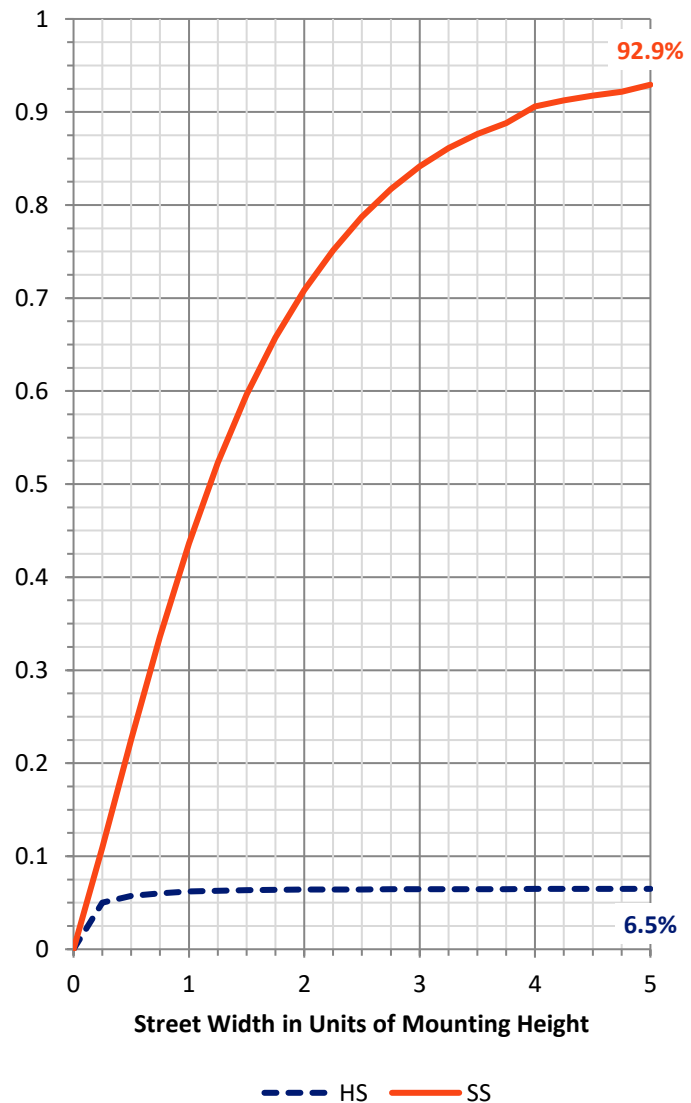
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1302.6	0.0	1302.6
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	18572.4	0.0	18572.4
	% Fixture	93.4	0.0	93.4
Total	Lumens	19875.0	0.0	19875.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	258.7	1.3
10°-20°	626.4	3.2
20°-30°	1040.4	5.2
30°-40°	1658.1	8.3
40°-50°	2737.0	13.8
50°-60°	4133.3	20.8
60°-70°	5384.3	27.1
70°-80°	3638.2	18.3
80°-90°	398.5	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°	19875.0	100.0
0°-180°	19875.0	100.0



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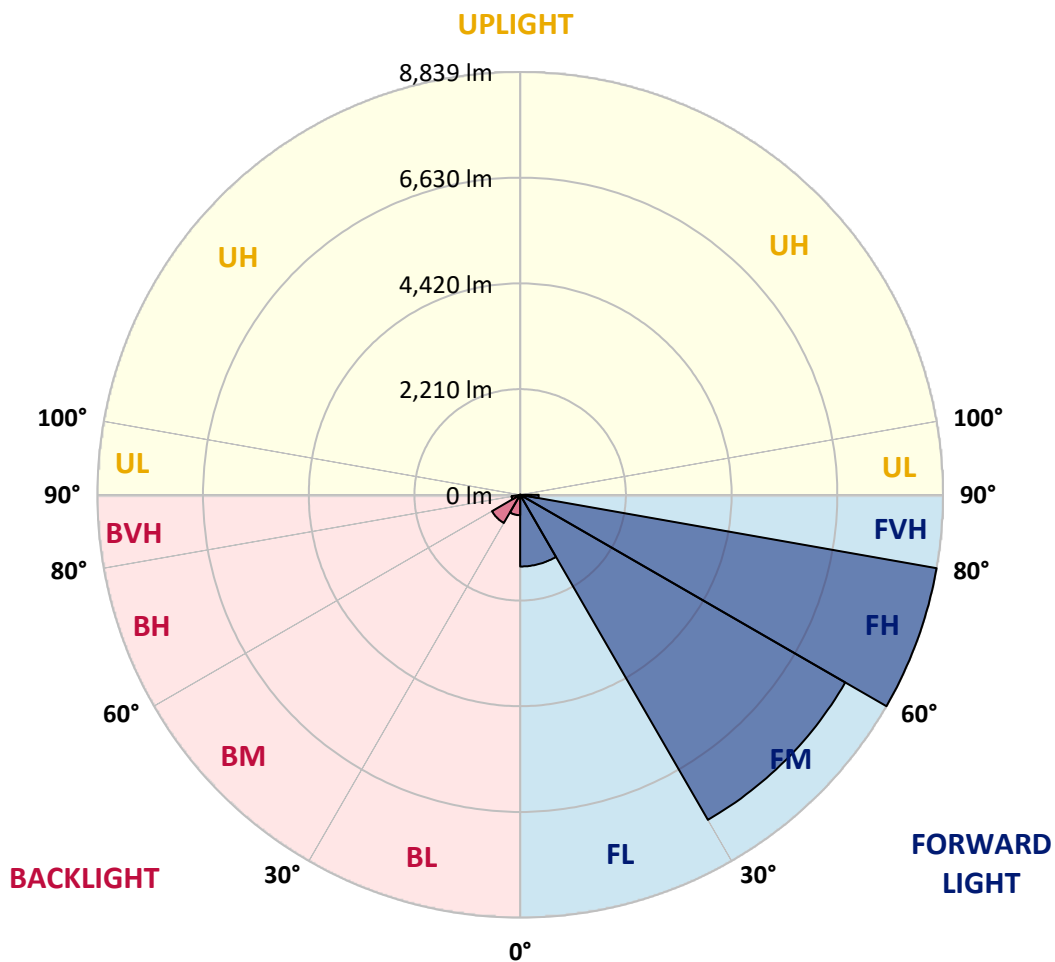
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1499.0	7.5			
FM	(30°-60°)	7846.9	39.5			
FH	(60°-80°)	8839.5	44.5			G4/12000
FVH	(80°-90°)	387.0	1.9			G3/500
BL	(0°-30°)	426.5	2.1	B1/500		
BM	(30°-60°)	681.5	3.4	B1/1000		
BH	(60°-80°)	183.1	0.9	B1/500		G1/500
BVH	(80°-90°)	11.5	0.1			G1/100
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°	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1
2.5°	3387.4	3393.6	3385.8	3371.7	3351.4	3338.9	3321.7	3284.2	3237.4	3196.7	3149.9
5°	3413.9	3417.1	3407.7	3381.1	3349.9	3332.7	3310.8	3270.2	3221.7	3165.5	3081.1
7.5°	3421.7	3420.2	3409.2	3376.4	3328.0	3306.1	3268.6	3218.6	3168.6	3117.1	3021.8
10°	3418.6	3418.6	3410.8	3379.6	3324.9	3304.6	3262.4	3209.2	3146.7	3095.2	2993.6
12.5°	3407.7	3413.9	3409.2	3392.1	3351.4	3335.8	3298.3	3245.2	3185.8	3132.7	3024.9
15°	3421.7	3431.1	3440.5	3434.2	3410.8	3396.7	3362.4	3307.7	3259.2	3203.0	3087.4
17.5°	3478.0	3498.3	3520.2	3521.7	3496.7	3471.7	3432.7	3376.4	3329.6	3278.0	3153.0
20°	3584.2	3599.9	3640.5	3648.3	3598.3	3562.4	3507.7	3442.0	3395.2	3351.4	3213.9
22.5°	3742.0	3759.2	3792.0	3781.1	3696.7	3654.5	3585.8	3510.8	3462.4	3437.4	3284.2
25°	3981.1	3985.8	3993.6	3945.2	3806.1	3759.2	3674.9	3590.5	3551.4	3548.3	3384.2
27.5°	4262.3	4268.6	4234.2	4126.4	3928.0	3867.0	3771.7	3695.2	3676.4	3699.9	3510.8
30°	4584.2	4585.8	4490.4	4315.5	4068.6	4001.4	3903.0	3818.6	3835.8	3893.6	3673.3
32.5°	4913.9	4898.2	4767.0	4538.9	4260.8	4179.5	4095.1	4010.8	4060.8	4178.0	3910.8
35°	5215.4	5209.2	5054.5	4788.9	4510.8	4438.9	4377.9	4288.9	4370.1	4560.8	4234.2
37.5°	5517.0	5512.3	5335.7	5059.2	4818.6	4767.0	4721.7	4652.9	4785.7	5065.4	4667.0
40°	5849.8	5842.0	5624.8	5359.2	5176.4	5148.2	5121.7	5092.0	5318.5	5707.6	5206.0
42.5°	6260.7	6226.3	5931.0	5685.7	5570.1	5577.9	5579.5	5609.1	5963.8	6471.6	5842.0
45°	6732.5	6656.0	6238.8	6035.7	6002.9	6049.8	6096.6	6220.1	6715.4	7351.3	6545.0
47.5°	7190.3	7066.9	6593.5	6412.2	6479.4	6576.3	6688.8	6929.4	7559.1	8271.5	7182.5
50°	7584.1	7457.5	6945.0	6795.0	7009.1	7152.8	7352.8	7716.9	8449.7	9049.6	7584.1
52.5°	7893.4	7793.4	7316.9	7216.9	7596.6	7793.4	8107.5	8585.6	9290.3	9562.1	7865.3
55°	8121.5	8071.6	7673.1	7687.2	8249.7	8534.0	8924.6	9465.2	9999.6	9960.5	8076.2
57.5°	8379.4	8340.3	8046.6	8241.9	9035.6	9402.7	9854.3	10288.6	10515.2	10280.8	8282.5
60°	8643.4	8655.9	8499.7	8913.7	10007.4	10413.6	10807.4	10915.2	10957.4	10605.8	8499.7
62.5°	8843.4	8896.5	8910.6	9638.7	11004.2	11351.1	11521.4	11444.9	11435.5	11041.7	8482.5
65°	9073.1	9212.1	9443.4	10434.0	11910.5	12138.6	12260.4	12371.4	12137.0	11171.4	7648.1
67.5°	9469.9	9688.7	10209.0	11408.9	12957.3	13294.8	13640.1	13522.9	12241.7	9854.3	5826.3
70°	10004.3	10271.5	11190.2	12682.3	14377.5	14943.2	15232.2	13430.7	10393.3	6809.1	3073.3
72°	9666.8	9909.0	11493.3	13332.3	15383.8	15902.5	15179.1	11715.2	7534.1	3529.5	1029.6
72.5°	9338.7	9588.7	11396.4	13324.5	15483.8	15880.6	14833.8	11038.6	6666.9	2746.8	709.3
75°	6479.4	6795.0	9769.9	11977.6	13982.3	13546.3	11349.5	6684.1	2415.5	471.9	234.4
77.5°	3349.9	3593.6	5926.3	8463.7	9744.9	8924.6	6707.5	2899.9	668.7	250.0	154.7
80°	2076.5	2196.8	2771.8	4170.1	5062.3	4427.9	2959.3	1171.8	428.1	148.4	123.4
82.5°	1075.0	1167.1	1745.2	1682.7	1870.2	1554.6	1092.1	981.2	264.1	92.2	126.6
85°	353.1	375.0	1071.8	1118.7	800.0	537.5	484.4	935.9	76.6	59.4	107.8
87.5°	46.9	54.7	376.5	640.6	393.7	243.7	290.6	329.7	26.6	32.8	29.7
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°	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1	3181.1
2.5°	3118.6	3098.3	3034.3	2970.2	2896.8	2829.6	2776.5	2742.1	2757.7	2706.1	2714.0
5°	3029.6	2978.0	2837.4	2685.8	2521.8	2368.7	2246.8	2156.2	2139.0	2060.9	2064.0
7.5°	2943.6	2859.3	2631.1	2381.2	2109.3	1889.0	1689.0	1514.0	1451.5	1387.4	1349.9
10°	2896.8	2781.1	2457.7	2093.7	1710.9	1387.4	1106.2	885.9	793.7	726.5	693.7
12.5°	2910.8	2757.7	2328.0	1832.7	1329.6	918.7	625.0	464.0	407.8	376.5	365.6
15°	2957.7	2762.4	2210.8	1578.1	967.1	556.2	367.2	314.0	309.4	307.8	306.2
17.5°	3001.4	2767.1	2087.4	1312.4	646.8	354.7	295.3	290.6	290.6	290.6	290.6
20°	3046.8	2768.6	1951.5	1034.3	425.0	290.6	278.1	275.0	278.1	278.1	278.1
22.5°	3099.9	2779.6	1820.2	764.0	314.0	273.4	265.6	264.1	265.6	265.6	264.1
25°	3165.5	2803.0	1678.1	546.9	284.4	262.5	254.7	253.1	254.7	253.1	253.1
27.5°	3253.0	2834.3	1512.4	392.2	271.9	251.6	243.7	243.7	243.7	242.2	242.2
30°	3365.5	2871.8	1290.6	309.4	259.4	240.6	234.4	234.4	232.8	231.2	231.2
32.5°	3526.4	2932.7	1048.4	279.7	245.3	226.6	220.3	221.9	220.3	218.7	217.2
35°	3754.5	3028.0	809.3	264.1	231.2	212.5	206.2	206.2	206.2	203.1	203.1
37.5°	4078.0	3173.3	606.2	248.4	217.2	198.4	190.6	190.6	189.1	185.9	187.5
40°	4477.9	3356.1	439.0	234.4	203.1	182.8	176.6	173.4	170.3	167.2	167.2
42.5°	4959.2	3534.2	329.7	220.3	189.1	170.3	162.5	159.4	153.1	150.0	148.4
45°	5498.2	3723.3	273.4	203.1	173.4	156.2	150.0	143.7	135.9	131.2	129.7
47.5°	5952.9	3838.9	243.7	185.9	157.8	142.2	135.9	126.6	117.2	114.1	114.1
50°	6226.3	3790.5	218.7	168.7	142.2	128.1	120.3	107.8	101.6	98.4	96.9
52.5°	6379.4	3646.7	198.4	154.7	128.1	112.5	101.6	90.6	87.5	84.4	84.4
55°	6484.1	3438.9	176.6	140.6	115.6	98.4	85.9	78.1	75.0	73.4	71.9
57.5°	6584.1	3185.8	156.2	128.1	103.1	87.5	73.4	70.3	64.1	62.5	62.5
60°	6613.8	2837.4	137.5	114.1	92.2	76.6	64.1	59.4	53.1	51.6	51.6
62.5°	6235.7	2257.7	121.9	96.9	81.2	65.6	56.2	50.0	43.7	43.7	43.7
65°	5210.7	1532.8	104.7	84.4	71.9	56.2	48.4	40.6	37.5	37.5	37.5
67.5°	3629.5	854.7	89.1	71.9	60.9	46.9	40.6	34.4	32.8	34.4	34.4
70°	1635.9	339.0	75.0	59.4	50.0	39.1	34.4	29.7	32.8	32.8	32.8
72°	490.6	181.2	62.5	48.4	40.6	34.4	29.7	28.1	31.2	32.8	32.8
72.5°	364.0	162.5	59.4	46.9	40.6	32.8	28.1	28.1	31.2	32.8	32.8
75°	187.5	110.9	45.3	34.4	29.7	26.6	23.4	26.6	31.2	31.2	31.2
77.5°	146.9	90.6	37.5	26.6	25.0	23.4	21.9	25.0	28.1	28.1	28.1
80°	137.5	59.4	29.7	25.0	21.9	20.3	20.3	21.9	25.0	26.6	26.6
82.5°	139.1	48.4	26.6	23.4	20.3	18.7	18.7	20.3	23.4	25.0	25.0
85°	89.1	32.8	23.4	20.3	18.7	17.2	17.2	18.7	21.9	23.4	23.4
87.5°	29.7	25.0	20.3	18.7	15.6	15.6	15.6	15.6	18.7	20.3	21.9
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)