

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: P195678

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-7050-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195678
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-06-D-UNV-SL4-7050-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 5000K, 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: 19334 lumens
Efficiency: N/A
Efficacy: 100.2 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 - G4

Input Watts (W): 193
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

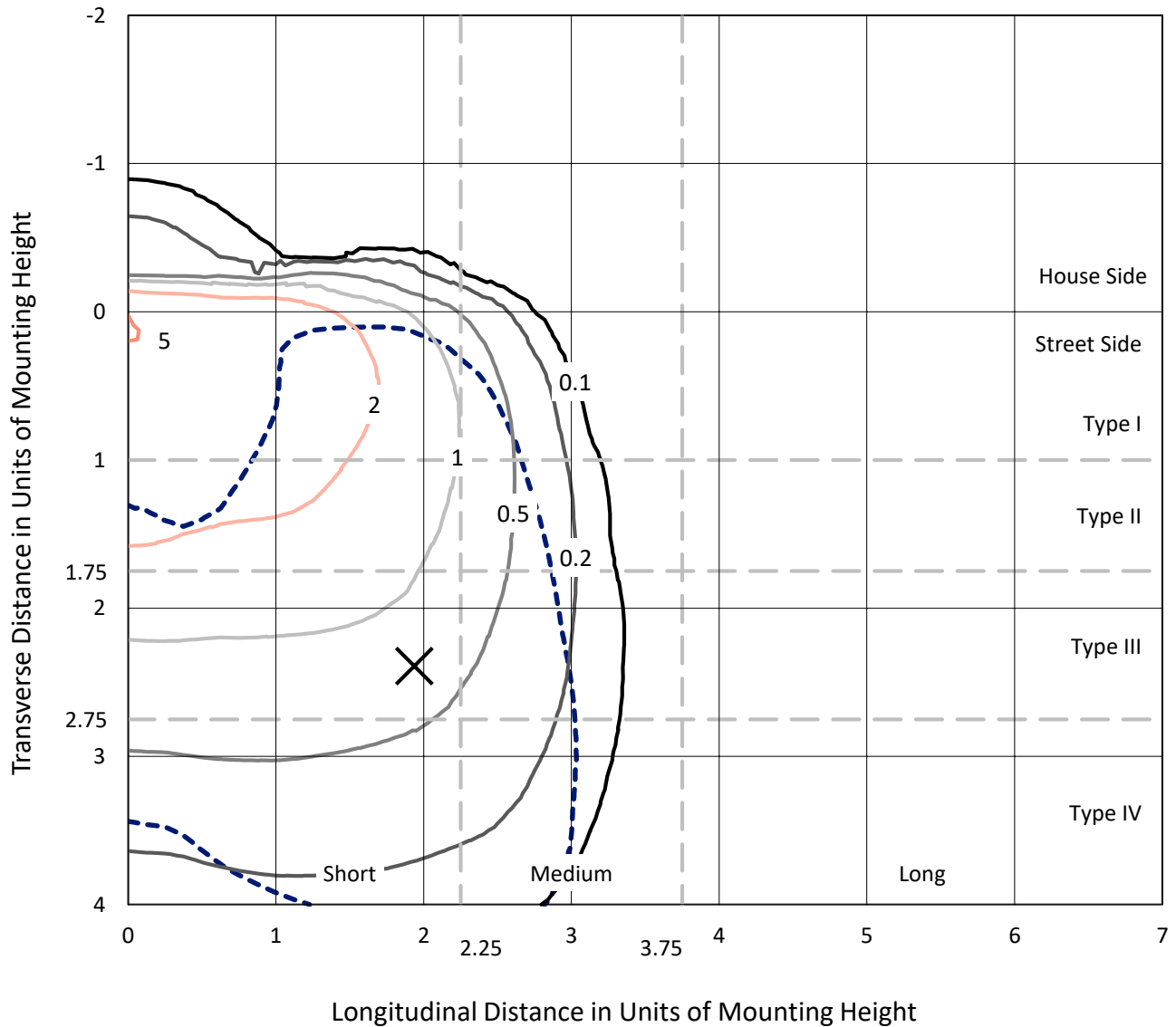


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

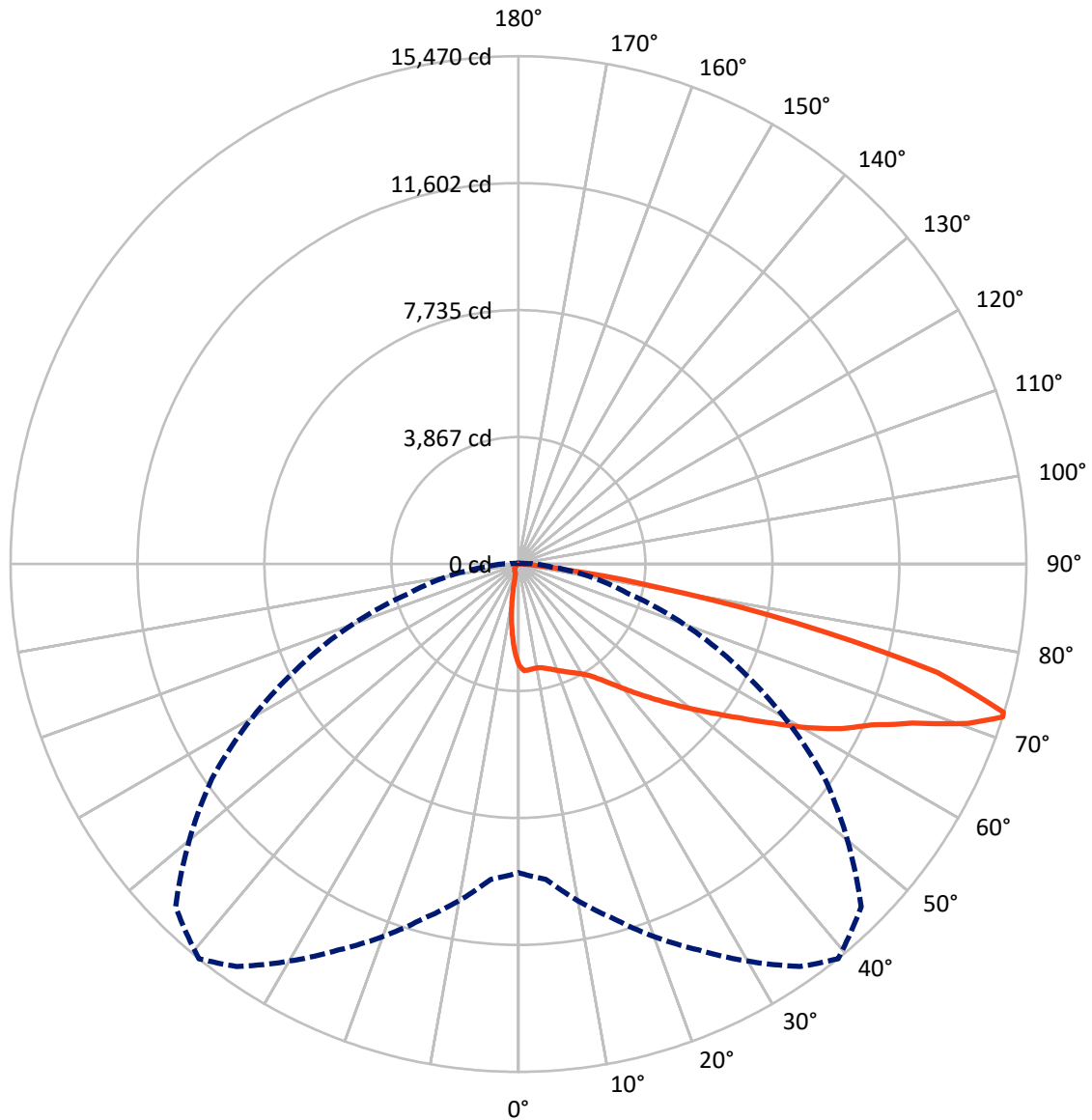


Based on 25 foot mounting height. Maximum calculated value = 5.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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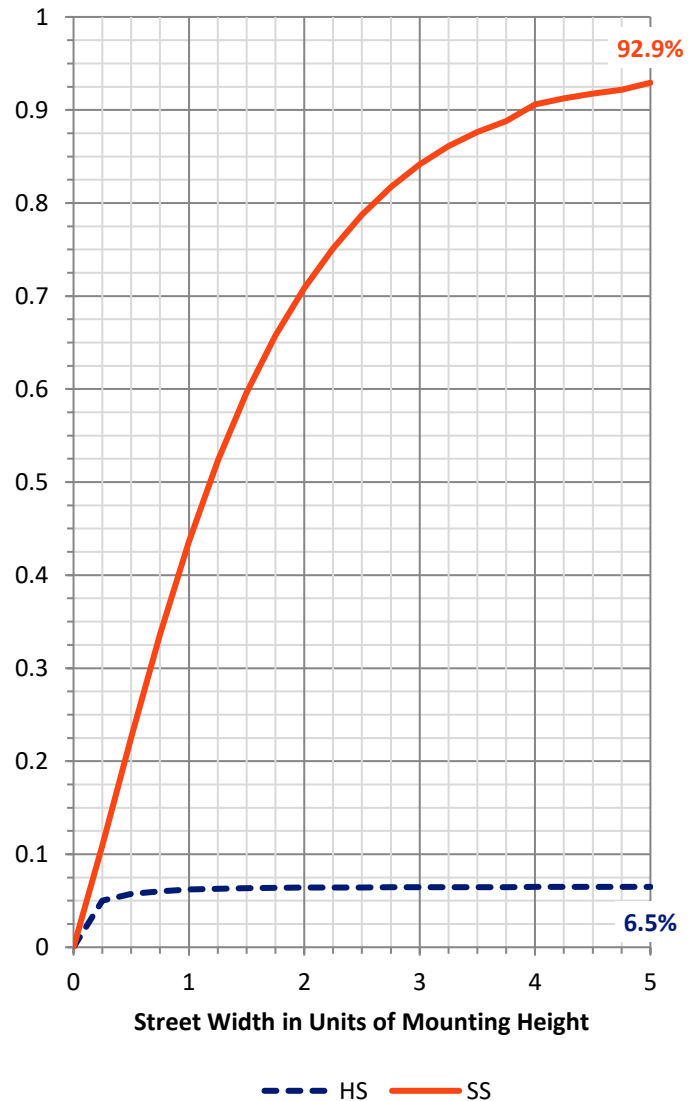
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1267.1	0.0	1267.1
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	18066.9	0.0	18066.9
	% Fixture	93.4	0.0	93.4
Total	Lumens	19334.0	0.0	19334.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	251.7	1.3
10°-20°	609.4	3.2
20°-30°	1012.1	5.2
30°-40°	1613.0	8.3
40°-50°	2662.5	13.8
50°-60°	4020.8	20.8
60°-70°	5237.8	27.1
70°-80°	3539.2	18.3
80°-90°	387.6	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°	19334.0	100.0
0°-180°	19334.0	100.0



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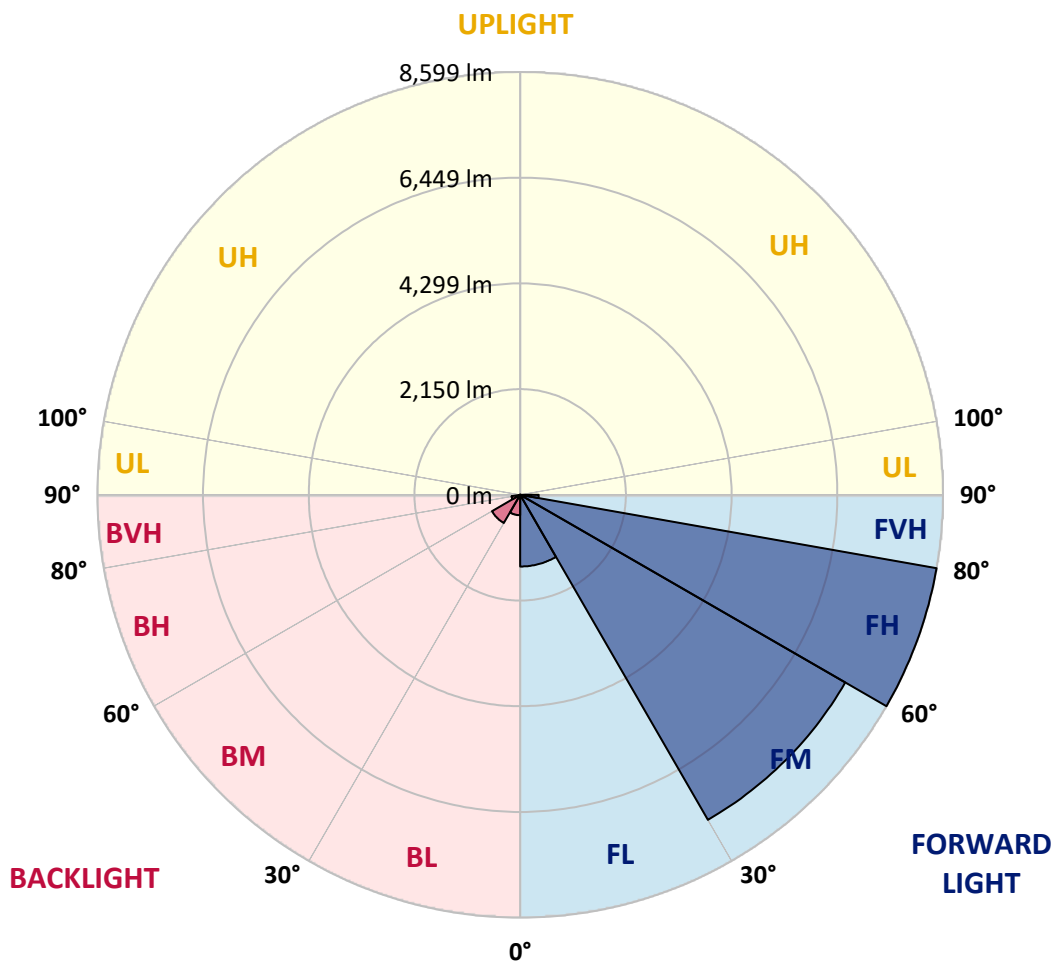
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1458.2	7.5			
FM	(30°-60°)	7633.3	39.5			
FH	(60°-80°)	8598.9	44.5			G4/12000
FVH	(80°-90°)	376.5	1.9			G3/500
BL	(0°-30°)	414.9	2.1	B1/500		
BM	(30°-60°)	663.0	3.4	B1/1000		
BH	(60°-80°)	178.1	0.9	B1/500		G1/500
BVH	(80°-90°)	11.1	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°	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5
2.5°	3295.2	3301.2	3293.6	3280.0	3260.2	3248.0	3231.3	3194.8	3149.2	3109.7	3064.1
5°	3321.0	3324.0	3314.9	3289.1	3258.7	3242.0	3220.7	3181.2	3134.0	3079.3	2997.3
7.5°	3328.6	3327.1	3316.4	3284.5	3237.4	3216.1	3179.6	3131.0	3082.4	3032.2	2939.5
10°	3325.6	3325.6	3318.0	3287.6	3234.4	3214.6	3173.6	3121.9	3061.1	3010.9	2912.1
12.5°	3314.9	3321.0	3316.4	3299.7	3260.2	3245.0	3208.5	3156.8	3099.1	3047.4	2942.5
15°	3328.6	3337.7	3346.8	3340.8	3318.0	3304.3	3270.8	3217.6	3170.5	3115.8	3003.3
17.5°	3383.3	3403.1	3424.4	3425.9	3401.6	3377.2	3339.2	3284.5	3238.9	3188.8	3067.2
20°	3486.7	3501.9	3541.4	3549.0	3500.3	3465.4	3412.2	3348.4	3302.8	3260.2	3126.4
22.5°	3640.2	3656.9	3688.8	3678.2	3596.1	3555.1	3488.2	3415.2	3368.1	3343.8	3194.8
25°	3872.7	3877.3	3884.9	3837.8	3702.5	3656.9	3574.8	3492.7	3454.7	3451.7	3292.1
27.5°	4146.3	4152.4	4118.9	4014.1	3821.0	3761.8	3669.1	3594.6	3576.3	3599.1	3415.2
30°	4459.4	4460.9	4368.2	4198.0	3957.8	3892.5	3796.7	3714.7	3731.4	3787.6	3573.3
32.5°	4780.1	4764.9	4637.2	4415.3	4144.8	4065.8	3983.7	3901.6	3950.2	4064.2	3804.3
35°	5073.5	5067.4	4916.9	4658.5	4388.0	4318.1	4258.8	4172.1	4251.2	4436.6	4118.9
37.5°	5366.8	5362.2	5190.5	4921.5	4687.4	4637.2	4593.2	4526.3	4655.5	4927.5	4540.0
40°	5690.5	5682.9	5471.7	5213.3	5035.5	5008.1	4982.3	4953.4	5173.8	5552.2	5064.3
42.5°	6090.3	6056.8	5769.6	5530.9	5418.5	5426.1	5427.6	5456.5	5801.5	6295.5	5682.9
45°	6549.3	6474.8	6069.0	5871.4	5839.5	5885.1	5930.7	6050.8	6532.6	7151.2	6366.9
47.5°	6994.6	6874.5	6414.0	6237.7	6303.1	6397.3	6506.7	6740.8	7353.3	8046.4	6987.0
50°	7377.6	7254.5	6756.0	6610.1	6818.3	6958.1	7152.7	7506.8	8219.7	8803.3	7377.6
52.5°	7678.6	7581.3	7117.7	7020.5	7389.8	7581.3	7886.8	8351.9	9037.4	9301.8	7651.2
55°	7900.5	7851.8	7464.3	7477.9	8025.1	8301.7	8681.7	9207.6	9727.4	9689.4	7856.4
57.5°	8151.3	8113.3	7827.5	8017.5	8789.6	9146.8	9586.1	10008.6	10229.0	10001.0	8057.0
60°	8408.1	8420.3	8268.3	8671.1	9735.0	10130.2	10513.2	10618.1	10659.1	10317.1	8268.3
62.5°	8602.7	8654.4	8668.0	9376.3	10704.7	11042.1	11207.8	11133.3	11124.2	10741.2	8251.6
65°	8826.1	8961.4	9186.3	10149.9	11586.3	11808.2	11926.7	12034.6	11806.6	10867.3	7439.9
67.5°	9212.2	9424.9	9931.1	11098.4	12604.6	12932.9	13268.8	13154.8	11908.5	9586.1	5667.7
70°	9732.0	9991.9	10885.6	12337.1	13986.2	14536.4	14817.6	13065.1	10110.4	6623.8	2989.7
72°	9403.7	9639.3	11180.4	12969.4	14965.0	15469.6	14765.9	11396.3	7329.0	3433.5	1001.6
72.5°	9084.5	9327.7	11086.2	12961.8	15062.3	15448.3	14430.0	10738.1	6485.4	2672.0	690.0
75°	6303.1	6610.1	9504.0	11651.6	13601.7	13177.6	11040.6	6502.2	2349.8	459.0	228.0
77.5°	3258.7	3495.8	5765.0	8233.3	9479.7	8681.7	6525.0	2820.9	650.5	243.2	150.5
80°	2020.0	2137.0	2696.3	4056.6	4924.5	4307.4	2878.7	1139.9	416.5	144.4	120.1
82.5°	1045.7	1135.4	1697.7	1636.9	1819.3	1512.3	1062.4	954.5	256.9	89.7	123.1
85°	343.5	364.8	1042.7	1088.3	778.2	522.8	471.2	910.4	74.5	57.8	104.9
87.5°	45.6	53.2	366.3	623.2	383.0	237.1	282.7	320.7	25.8	31.9	28.9
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°	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5	3094.5
2.5°	3033.7	3014.0	2951.7	2889.3	2817.9	2752.6	2700.9	2667.4	2682.6	2632.5	2640.1
5°	2947.1	2896.9	2760.2	2612.7	2453.1	2304.2	2185.6	2097.5	2080.8	2004.8	2007.8
7.5°	2863.5	2781.4	2559.5	2316.3	2051.9	1837.6	1643.0	1472.8	1412.0	1349.7	1313.2
10°	2817.9	2705.4	2390.8	2036.7	1664.3	1349.7	1076.1	861.8	772.1	706.8	674.8
12.5°	2831.6	2682.6	2264.7	1782.9	1293.4	893.7	608.0	451.4	396.7	366.3	355.7
15°	2877.2	2687.2	2150.7	1535.1	940.8	541.1	357.2	305.5	300.9	299.4	297.9
17.5°	2919.7	2691.8	2030.6	1276.7	629.2	345.0	287.3	282.7	282.7	282.7	282.7
20°	2963.8	2693.3	1898.4	1006.2	413.4	282.7	270.5	267.5	270.5	270.5	270.5
22.5°	3015.5	2703.9	1770.7	743.2	305.5	266.0	258.4	256.9	258.4	258.4	256.9
25°	3079.3	2726.7	1632.4	532.0	276.6	255.3	247.7	246.2	247.7	246.2	246.2
27.5°	3164.4	2757.1	1471.3	381.5	264.5	244.7	237.1	237.1	237.1	235.6	235.6
30°	3273.9	2793.6	1255.4	300.9	252.3	234.1	228.0	228.0	226.5	224.9	224.9
32.5°	3430.4	2852.9	1019.9	272.1	238.6	220.4	214.3	215.8	214.3	212.8	211.3
35°	3652.3	2945.6	787.3	256.9	224.9	206.7	200.6	200.6	200.6	197.6	197.6
37.5°	3967.0	3086.9	589.7	241.7	211.3	193.0	185.4	185.4	183.9	180.9	182.4
40°	4356.1	3264.8	427.1	228.0	197.6	177.8	171.7	168.7	165.7	162.6	162.6
42.5°	4824.2	3438.0	320.7	214.3	183.9	165.7	158.1	155.0	149.0	145.9	144.4
45°	5348.6	3621.9	266.0	197.6	168.7	152.0	145.9	139.8	132.2	127.7	126.2
47.5°	5790.8	3734.4	237.1	180.9	153.5	138.3	132.2	123.1	114.0	111.0	111.0
50°	6056.8	3687.3	212.8	164.2	138.3	124.6	117.0	104.9	98.8	95.8	94.2
52.5°	6205.8	3547.5	193.0	150.5	124.6	109.4	98.8	88.2	85.1	82.1	82.1
55°	6307.6	3345.3	171.7	136.8	112.5	95.8	83.6	76.0	73.0	71.4	69.9
57.5°	6404.9	3099.1	152.0	124.6	100.3	85.1	71.4	68.4	62.3	60.8	60.8
60°	6433.8	2760.2	133.8	111.0	89.7	74.5	62.3	57.8	51.7	50.2	50.2
62.5°	6066.0	2196.3	118.6	94.2	79.0	63.8	54.7	48.6	42.6	42.6	42.6
65°	5068.9	1491.0	101.8	82.1	69.9	54.7	47.1	39.5	36.5	36.5	36.5
67.5°	3530.7	831.4	86.6	69.9	59.3	45.6	39.5	33.4	31.9	33.4	33.4
70°	1591.3	329.8	73.0	57.8	48.6	38.0	33.4	28.9	31.9	31.9	31.9
72°	477.3	176.3	60.8	47.1	39.5	33.4	28.9	27.4	30.4	31.9	31.9
72.5°	354.1	158.1	57.8	45.6	39.5	31.9	27.4	27.4	30.4	31.9	31.9
75°	182.4	107.9	44.1	33.4	28.9	25.8	22.8	25.8	30.4	30.4	30.4
77.5°	142.9	88.2	36.5	25.8	24.3	22.8	21.3	24.3	27.4	27.4	27.4
80°	133.8	57.8	28.9	24.3	21.3	19.8	19.8	21.3	24.3	25.8	25.8
82.5°	135.3	47.1	25.8	22.8	19.8	18.2	18.2	19.8	22.8	24.3	24.3
85°	86.6	31.9	22.8	19.8	18.2	16.7	16.7	18.2	21.3	22.8	22.8
87.5°	28.9	24.3	19.8	18.2	15.2	15.2	15.2	15.2	18.2	19.8	21.3
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)