

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: P196643

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7030-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196643
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-SL4-7030-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 3000K, 800mA 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: 19141.1 lumens
Efficiency: N/A
Efficacy: 91.1 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): 210
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

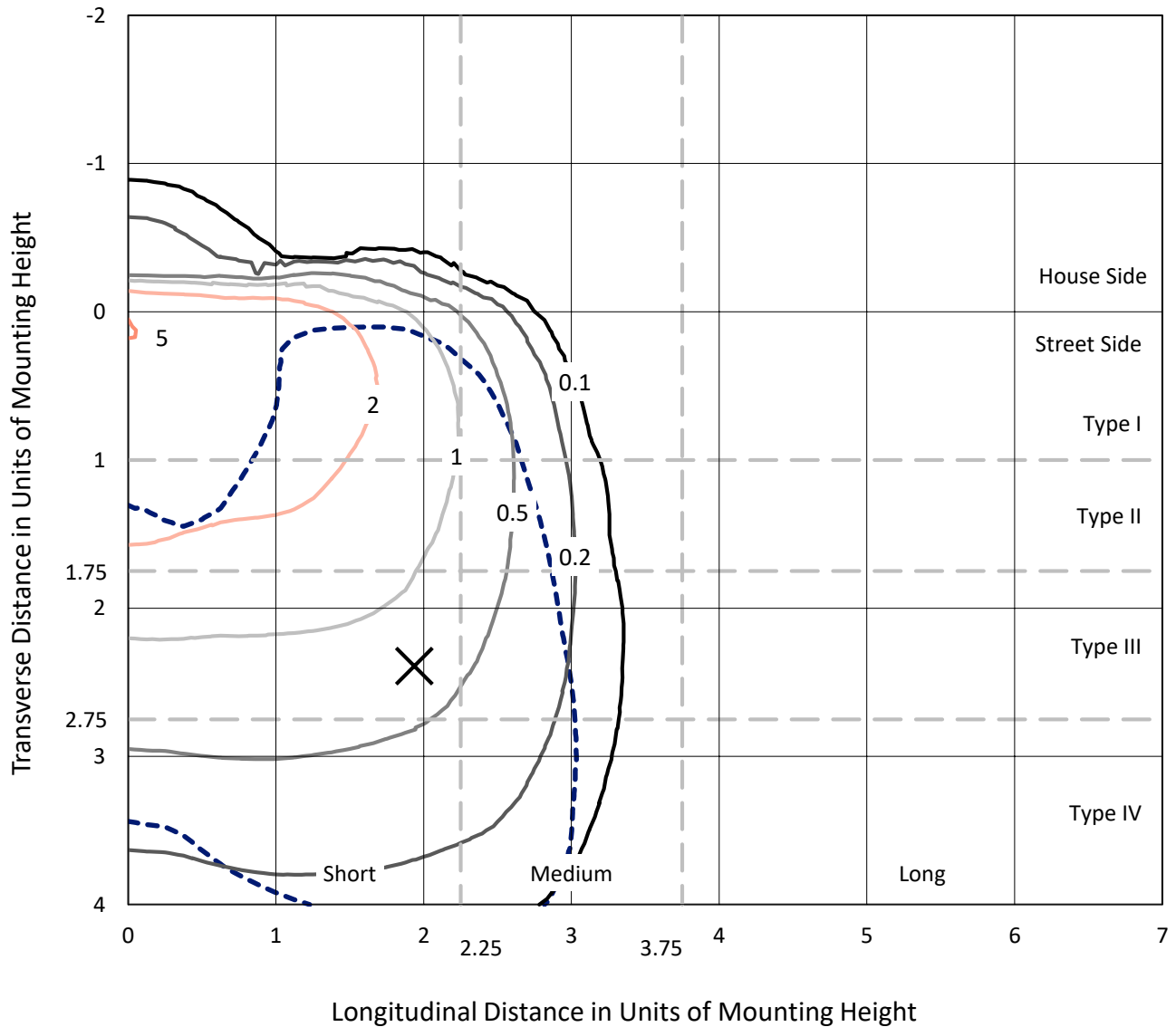


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

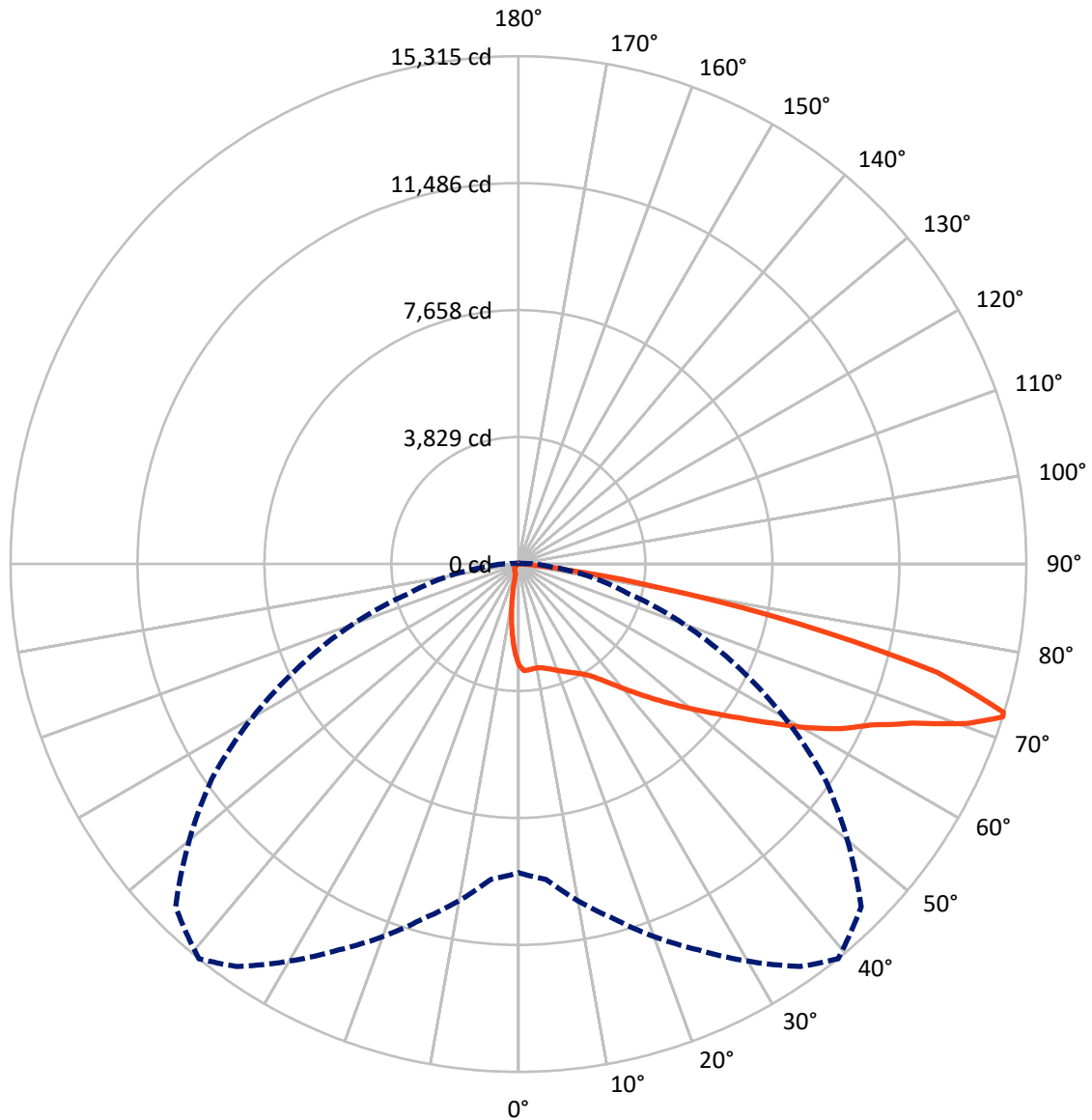


Based on 25 foot mounting height. Maximum calculated value = 5.1 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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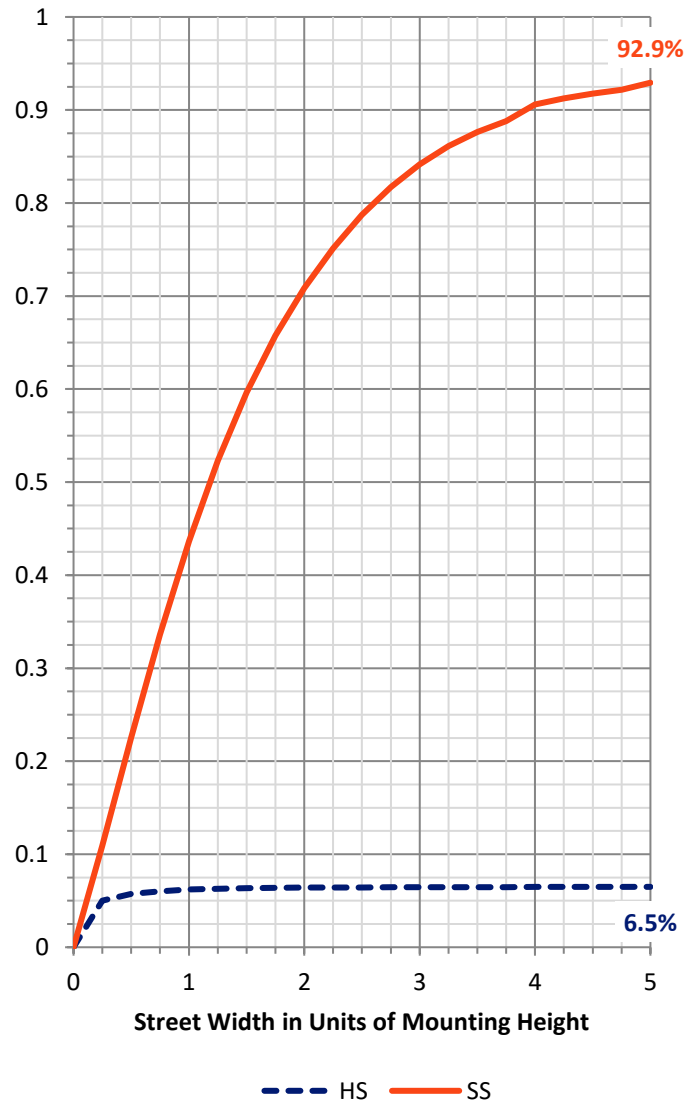
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1254.5	0.0	1254.5
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	17886.7	0.0	17886.7
	% Fixture	93.4	0.0	93.4
Total	Lumens	19141.1	0.0	19141.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	249.2	1.3
10°-20°	603.3	3.2
20°-30°	1002.0	5.2
30°-40°	1596.9	8.3
40°-50°	2635.9	13.8
50°-60°	3980.7	20.8
60°-70°	5185.5	27.1
70°-80°	3503.9	18.3
80°-90°	383.7	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°	19141.1	100.0
0°-180°	19141.1	100.0

Coefficient of Utilization



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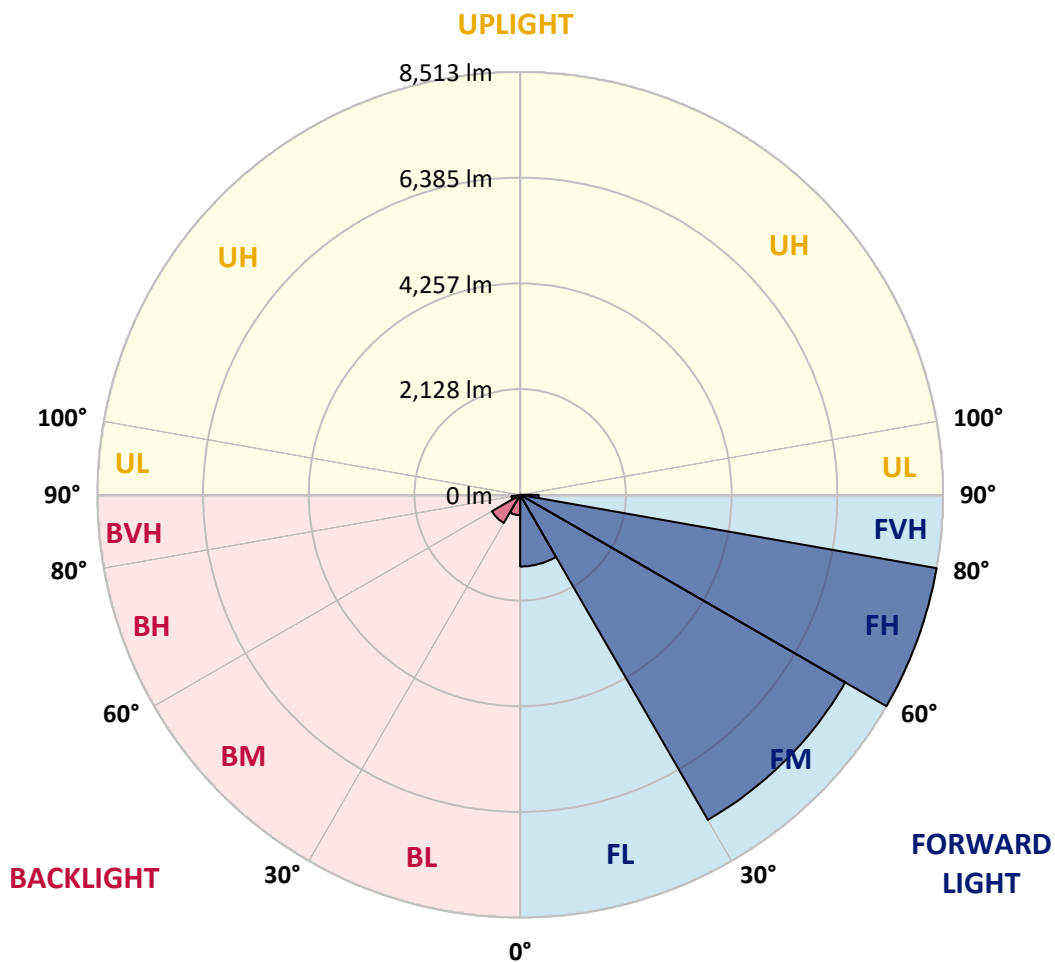
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1443.7	7.5			
FM	(30°-60°)	7557.1	39.5			
FH	(60°-80°)	8513.1	44.5			G4/12000
FVH	(80°-90°)	372.7	1.9			G3/500
BL	(0°-30°)	410.8	2.1	B1/500		
BM	(30°-60°)	656.3	3.4	B1/1000		
BH	(60°-80°)	176.3	0.9	B1/500		G1/500
BVH	(80°-90°)	11.0	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°	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6
2.5°	3262.3	3268.3	3260.8	3247.3	3227.6	3215.6	3199.1	3162.9	3117.8	3078.7	3033.6
5°	3287.8	3290.9	3281.8	3256.3	3226.2	3209.6	3188.5	3149.4	3102.8	3048.7	2967.4
7.5°	3295.4	3293.8	3283.3	3251.8	3205.1	3184.1	3148.0	3099.8	3051.6	3002.0	2910.2
10°	3292.4	3292.4	3284.9	3254.8	3202.1	3182.5	3141.9	3090.7	3030.6	2980.9	2883.2
12.5°	3281.8	3287.8	3283.3	3266.9	3227.6	3212.7	3176.5	3125.4	3068.2	3016.9	2913.2
15°	3295.4	3304.4	3313.4	3307.4	3284.9	3271.3	3238.2	3185.6	3138.9	3084.7	2973.4
17.5°	3349.6	3369.1	3390.2	3391.7	3367.6	3343.6	3305.9	3251.8	3206.6	3156.9	3036.6
20°	3451.9	3466.9	3506.0	3513.6	3465.3	3430.8	3378.2	3314.9	3269.8	3227.6	3095.4
22.5°	3603.9	3620.5	3652.0	3641.5	3560.2	3519.6	3453.3	3381.1	3334.5	3310.4	3162.9
25°	3834.1	3838.6	3846.2	3799.5	3665.5	3620.5	3539.1	3457.9	3420.3	3417.3	3259.3
27.5°	4105.0	4111.0	4077.9	3974.1	3782.9	3724.2	3632.5	3558.7	3540.6	3563.3	3381.1
30°	4414.9	4416.5	4324.6	4156.1	3918.4	3853.7	3758.8	3677.5	3694.2	3749.8	3537.7
32.5°	4732.4	4717.4	4591.0	4371.3	4103.4	4025.2	3943.9	3862.7	3910.8	4023.7	3766.3
35°	5022.8	5016.8	4867.8	4612.1	4344.1	4275.0	4216.4	4130.5	4208.7	4392.3	4077.9
37.5°	5313.3	5308.7	5138.7	4872.4	4640.7	4591.0	4547.4	4481.2	4609.0	4878.4	4494.7
40°	5633.7	5626.2	5417.1	5161.3	4985.2	4958.1	4932.5	4904.0	5122.2	5496.9	5013.8
42.5°	6029.5	5996.3	5712.0	5475.7	5364.4	5371.9	5373.5	5402.0	5743.6	6232.7	5626.2
45°	6484.0	6410.2	6008.5	5812.8	5781.2	5826.4	5871.5	5990.3	6467.4	7079.8	6303.3
47.5°	6924.9	6806.0	6350.0	6175.5	6240.3	6333.4	6441.8	6673.5	7280.0	7966.1	6917.3
50°	7304.0	7182.1	6688.7	6544.1	6750.2	6888.7	7081.3	7432.0	8137.6	8715.5	7304.0
52.5°	7601.9	7505.7	7046.6	6950.4	7316.1	7505.7	7808.1	8268.5	8947.2	9209.0	7574.8
55°	7821.7	7773.5	7389.7	7403.3	7945.0	8218.9	8595.1	9115.7	9630.3	9592.8	7778.0
57.5°	8070.0	8032.3	7749.4	7937.5	8702.0	9055.5	9490.5	9908.7	10126.9	9901.2	7976.7
60°	8324.3	8336.3	8185.8	8584.6	9637.9	10029.1	10408.4	10512.2	10552.8	10214.2	8185.8
62.5°	8516.9	8568.0	8581.6	9282.7	10597.9	10931.9	11096.1	11022.3	11013.3	10633.9	8169.4
65°	8738.0	8872.0	9094.6	10048.7	11470.7	11690.4	11807.7	11914.6	11688.9	10759.0	7365.7
67.5°	9120.3	9331.0	9832.0	10987.6	12478.8	12803.9	13136.5	13023.6	11789.7	9490.5	5611.2
70°	9634.9	9892.3	10777.0	12214.0	13846.7	14391.4	14669.8	12934.7	10009.6	6557.6	2959.9
72°	9309.9	9543.1	11068.9	12840.0	14815.8	15315.3	14618.6	11282.5	7255.9	3399.3	991.6
72.5°	8993.9	9234.6	10975.6	12832.5	14912.0	15294.2	14286.0	10631.0	6420.7	2645.3	683.2
75°	6240.3	6544.1	9409.2	11535.4	13465.9	13046.1	10930.6	6437.3	2326.3	454.4	225.7
77.5°	3226.2	3460.9	5707.4	8151.2	9385.1	8595.1	6459.9	2792.7	644.1	240.8	148.9
80°	1999.8	2115.7	2669.4	4016.2	4875.3	4264.5	2850.0	1128.5	412.4	142.9	118.9
82.5°	1035.2	1124.1	1680.9	1620.7	1801.1	1497.2	1051.8	945.0	254.3	88.8	122.0
85°	340.2	361.1	1032.3	1077.4	770.4	517.7	466.4	901.4	73.8	57.2	103.8
87.5°	45.2	52.7	362.6	617.0	379.2	234.7	279.9	317.5	25.5	31.5	28.6
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°	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6	3063.6
2.5°	3003.4	2983.9	2922.2	2860.5	2789.8	2725.2	2673.9	2640.8	2655.9	2606.3	2613.7
5°	2917.7	2868.0	2732.6	2586.6	2428.7	2281.3	2163.8	2076.6	2060.0	1984.8	1987.8
7.5°	2835.0	2753.7	2533.9	2293.3	2031.4	1819.2	1626.7	1458.1	1397.9	1336.2	1300.0
10°	2789.8	2678.5	2367.0	2016.4	1647.7	1336.2	1065.4	853.2	764.4	699.7	668.1
12.5°	2803.4	2655.9	2242.1	1765.1	1280.5	884.8	601.9	446.9	392.8	362.6	352.2
15°	2848.5	2660.4	2129.3	1519.8	931.4	535.7	353.6	302.4	297.9	296.4	294.9
17.5°	2890.6	2665.0	2010.4	1264.0	623.0	341.6	284.4	279.9	279.9	279.9	279.9
20°	2934.2	2666.4	1879.5	996.1	409.2	279.9	267.8	264.9	267.8	267.8	267.8
22.5°	2985.4	2677.0	1753.1	735.9	302.4	263.4	255.7	254.3	255.7	255.7	254.3
25°	3048.7	2699.5	1616.1	526.6	273.9	252.8	245.3	243.7	245.3	243.7	243.7
27.5°	3132.9	2729.7	1456.7	377.7	261.7	242.2	234.7	234.7	234.7	233.3	233.3
30°	3241.1	2765.7	1243.0	297.9	249.7	231.7	225.7	225.7	224.2	222.7	222.7
32.5°	3396.3	2824.5	1009.7	269.4	236.2	218.2	212.2	213.7	212.2	210.7	209.1
35°	3615.9	2916.2	779.4	254.3	222.7	204.7	198.7	198.7	198.7	195.6	195.6
37.5°	3927.5	3056.1	583.9	239.3	209.1	191.1	183.5	183.5	182.0	179.0	180.6
40°	4312.6	3232.2	422.9	225.7	195.6	176.0	170.0	167.0	164.0	161.0	161.0
42.5°	4776.0	3403.8	317.5	212.2	182.0	164.0	156.5	153.5	147.5	144.4	142.9
45°	5295.2	3585.8	263.4	195.6	167.0	150.4	144.4	138.4	130.9	126.4	124.9
47.5°	5733.1	3697.2	234.7	179.0	152.0	136.9	130.9	122.0	112.9	109.8	109.8
50°	5996.3	3650.5	210.7	162.5	136.9	123.4	115.9	103.8	97.8	94.8	93.3
52.5°	6143.8	3512.0	191.1	148.9	123.4	108.3	97.8	87.3	84.2	81.3	81.3
55°	6244.7	3311.9	170.0	135.5	111.3	94.8	82.7	75.3	72.2	70.7	69.3
57.5°	6341.0	3068.2	150.4	123.4	99.3	84.2	70.7	67.7	61.7	60.2	60.2
60°	6369.6	2732.6	132.4	109.8	88.8	73.8	61.7	57.2	51.2	49.6	49.6
62.5°	6005.4	2174.4	117.4	93.3	78.2	63.2	54.2	48.2	42.2	42.2	42.2
65°	5018.3	1476.2	100.8	81.3	69.3	54.2	46.7	39.2	36.2	36.2	36.2
67.5°	3495.5	823.0	85.8	69.3	58.7	45.2	39.2	33.1	31.5	33.1	33.1
70°	1575.5	326.5	72.2	57.2	48.2	37.5	33.1	28.6	31.5	31.5	31.5
72°	472.4	174.6	60.2	46.7	39.2	33.1	28.6	27.1	30.0	31.5	31.5
72.5°	350.6	156.5	57.2	45.2	39.2	31.5	27.1	27.1	30.0	31.5	31.5
75°	180.6	106.8	43.6	33.1	28.6	25.5	22.6	25.5	30.0	30.0	30.0
77.5°	141.5	87.3	36.2	25.5	24.0	22.6	21.1	24.0	27.1	27.1	27.1
80°	132.4	57.2	28.6	24.0	21.1	19.5	19.5	21.1	24.0	25.5	25.5
82.5°	134.0	46.7	25.5	22.6	19.5	18.0	18.0	19.5	22.6	24.0	24.0
85°	85.8	31.5	22.6	19.5	18.0	16.5	16.5	18.0	21.1	22.6	22.6
87.5°	28.6	24.0	19.5	18.0	15.1	15.1	15.1	15.1	18.0	19.5	21.1
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)