

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: P195164

Luminaire Tested: **NAV-AF-02-D-UNV-SL3-7060-1200-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195164  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)  
Test Lab: INNOVATION CENTER P2  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: NAV-AF-02-D-UNV-SL3-7060-1200-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(2) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11343 lumens  
Efficiency: N/A  
Efficacy: 87.9 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B1 - U0 - G2

Input Watts (W): 129  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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

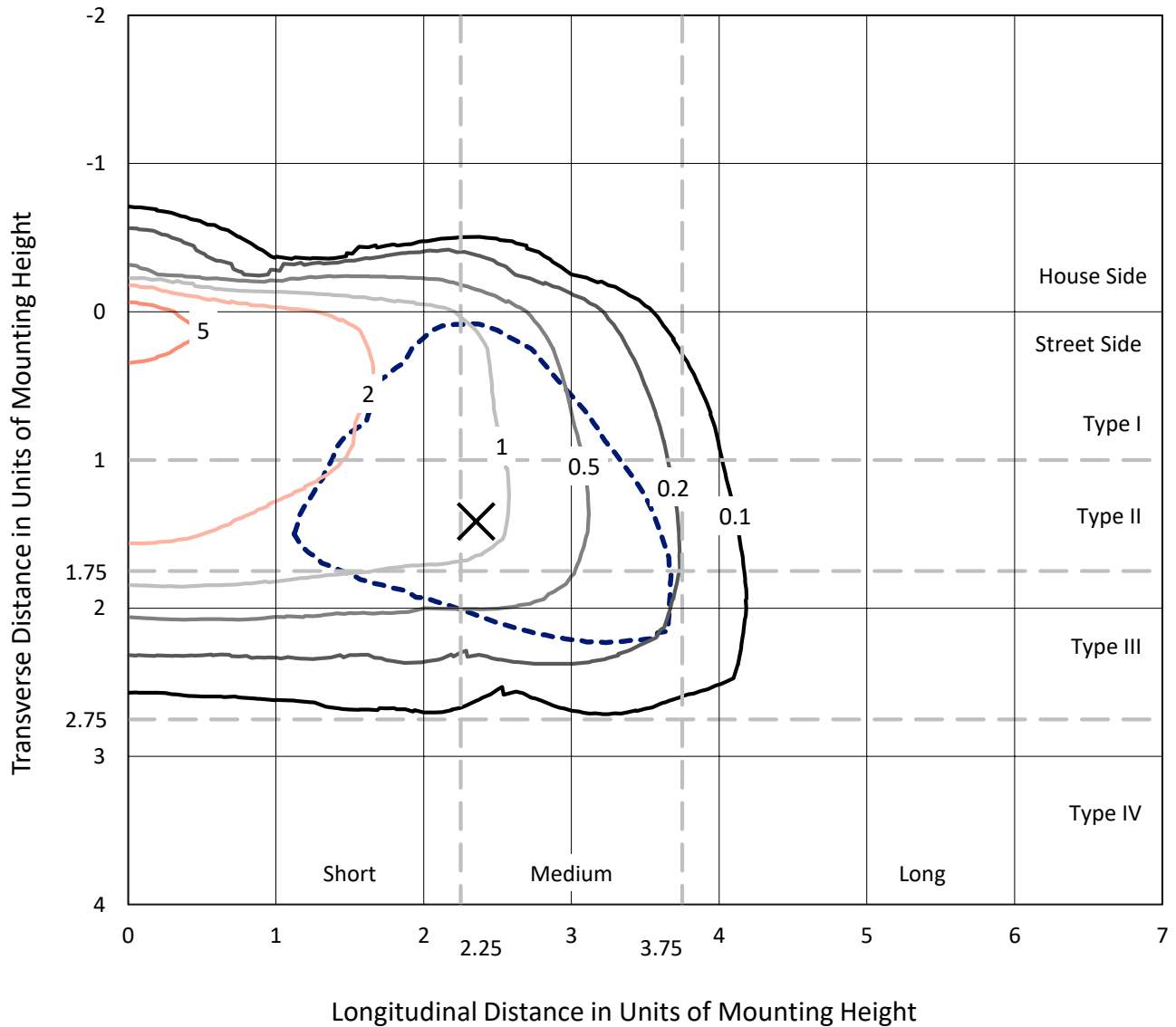


REPORT NUMBER: P195164

CATALOG NUMBER: NAV-AF-02-D-UNV-SL3-7060-1200-HSS

### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

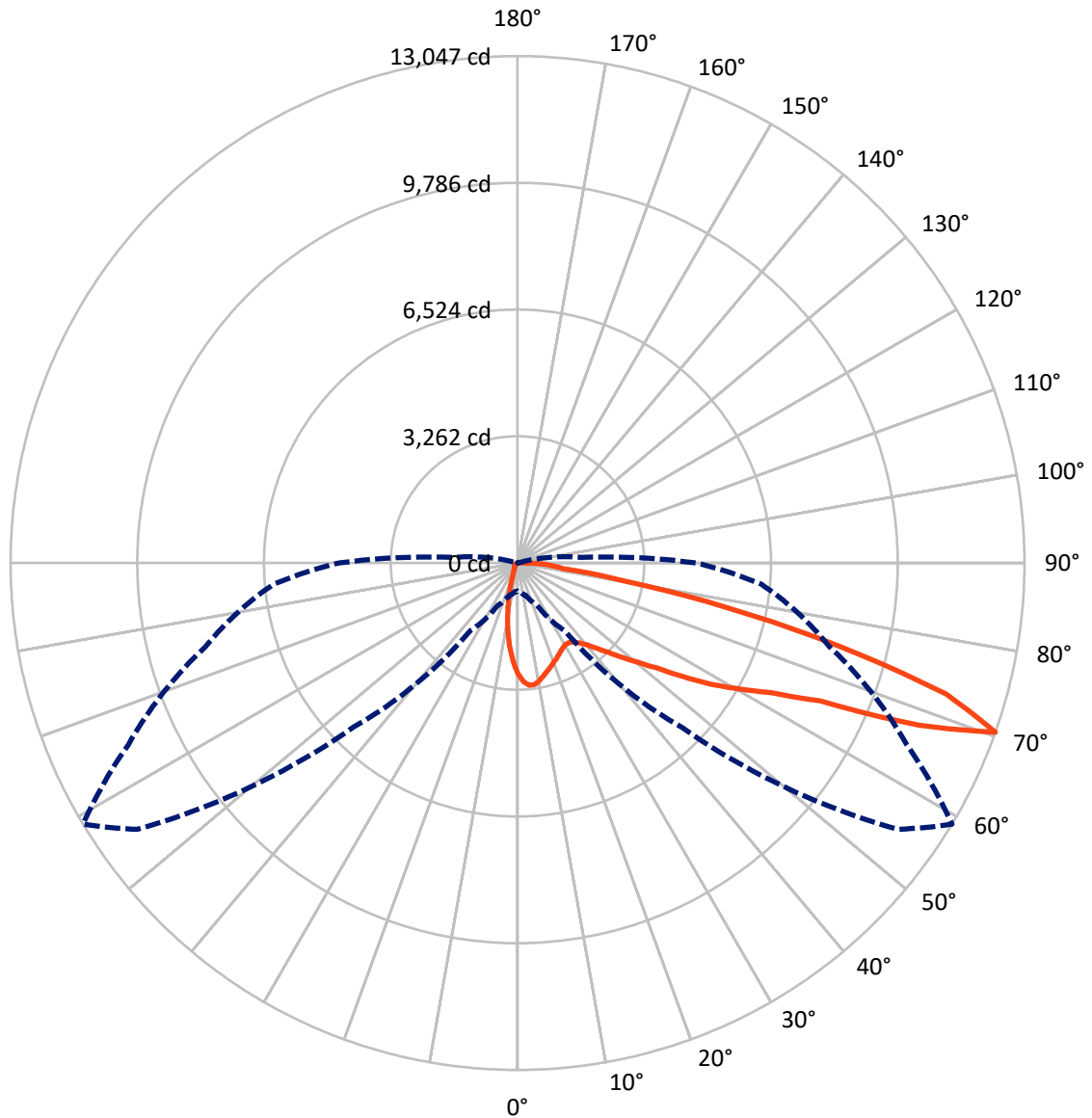


Based on 20 foot mounting height. Maximum calculated value = 7.6 fc  
 Type III - Medium - Non-Cutoff

REPORT NUMBER: P195164

CATALOG NUMBER: NAV-AF-02-D-UNV-SL3-7060-1200-HSS

### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

REPORT NUMBER: P195164

CATALOG NUMBER: NAV-AF-02-D-UNV-SL3-7060-1200-HSS

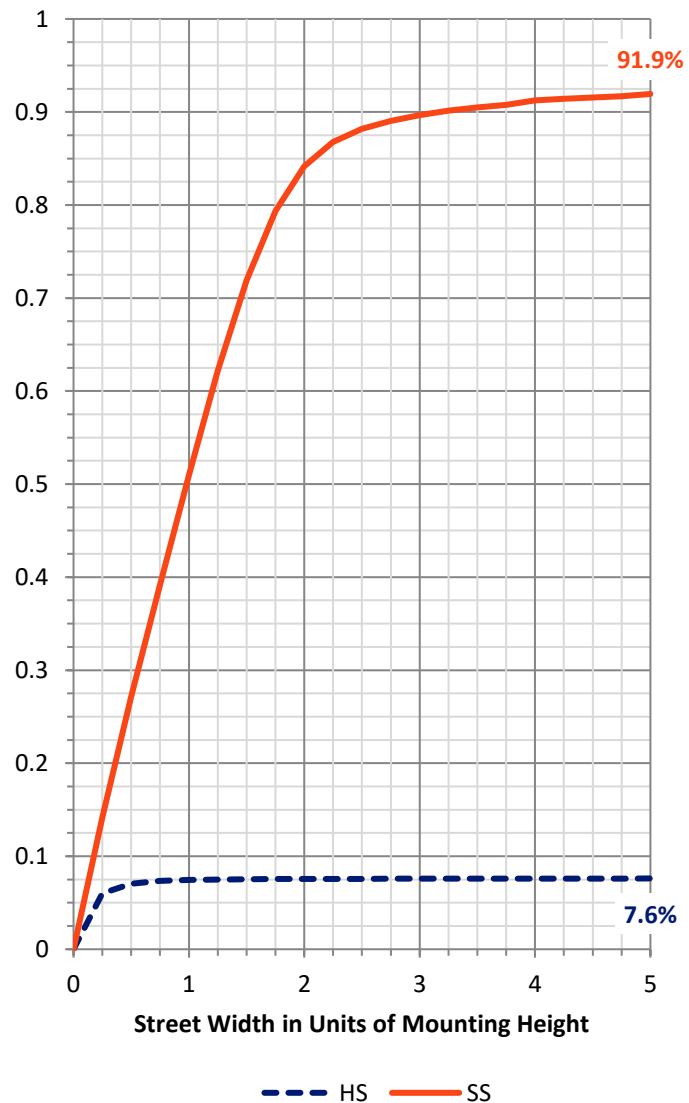
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	872.0	0.0	872.0
	% Fixture	7.7	0.0	7.7
<b>Street Side</b>	Lumens	10471.0	0.0	10471.0
	% Fixture	92.3	0.0	92.3
<b>Total</b>	Lumens	11343.0	0.0	11343.0
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	235.9	2.1
10°-20°	494.7	4.4
20°-30°	669.7	5.9
30°-40°	966.4	8.5
40°-50°	1605.0	14.1
50°-60°	2455.0	21.6
60°-70°	3053.4	26.9
70°-80°	1687.9	14.9
80°-90°	175.0	1.5
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°	11343.0	100.0
0°-180°	11343.0	100.0

**Coefficient of Utilization**



REPORT NUMBER: P195164

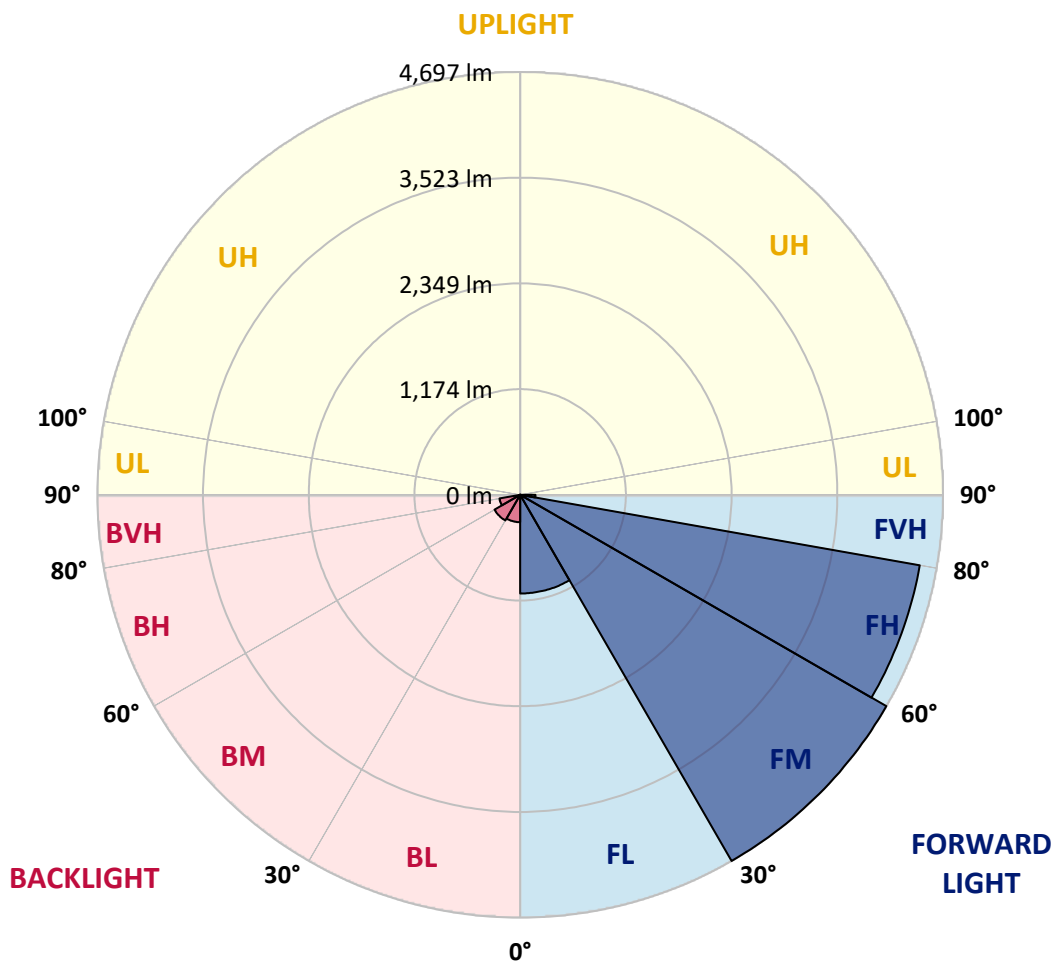
CATALOG NUMBER: NAV-AF-02-D-UNV-SL3-7060-1200-HSS

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1096.3	9.7			
FM	(30°-60°)	4697.3	41.4			
FH	(60°-80°)	4507.5	39.7			G2/5000
FVH	(80°-90°)	170.0	1.5			G2/225
BL	(0°-30°)	303.9	2.7	B1/500		
BM	(30°-60°)	329.1	2.9	B1/1000		
BH	(60°-80°)	233.9	2.1	B1/500		G1/500
BVH	(80°-90°)	5.1	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type III Medium





REPORT NUMBER: P195164

CATALOG NUMBER: NAV-AF-02-D-UNV-SL3-7060-1200-HSS

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2
2.5°	3242.2	3237.0	3215.6	3211.4	3187.4	3139.5	3083.9	3061.6	3016.3	2944.4	2864.8
5°	3296.1	3298.6	3300.4	3290.9	3287.5	3248.2	3186.5	3160.0	3099.3	2981.2	2835.7
7.5°	3094.1	3101.0	3122.4	3131.8	3172.9	3188.3	3175.4	3158.3	3110.4	2970.9	2766.4
10°	2881.1	2893.9	2917.0	2932.4	2982.9	3024.0	3076.2	3080.4	3070.2	2936.7	2688.5
12.5°	2698.0	2709.9	2735.6	2766.4	2817.8	2870.8	2948.7	2976.1	3010.3	2914.4	2632.9
15°	2540.5	2543.9	2568.7	2607.3	2674.9	2747.6	2840.0	2880.2	2947.0	2905.9	2590.1
17.5°	2402.7	2403.6	2419.9	2454.9	2537.1	2632.9	2740.7	2793.8	2878.5	2893.9	2552.5
20°	2312.0	2311.2	2312.0	2330.9	2403.6	2517.4	2648.3	2703.9	2812.6	2879.4	2514.0
22.5°	2281.2	2277.0	2257.3	2250.4	2296.6	2396.8	2553.3	2626.1	2753.6	2875.1	2485.7
25°	2318.9	2316.3	2274.4	2235.0	2239.3	2301.8	2456.7	2545.6	2707.4	2890.5	2478.9
27.5°	2440.4	2435.3	2371.1	2294.1	2245.3	2256.4	2384.8	2478.0	2670.6	2928.1	2488.3
30°	2599.6	2600.4	2532.0	2438.7	2324.0	2260.7	2346.3	2434.4	2645.8	2984.6	2508.9
32.5°	2776.7	2775.8	2727.0	2619.2	2472.9	2339.4	2363.4	2437.8	2649.2	3067.6	2548.2
35°	2959.8	2950.4	2934.1	2839.1	2668.0	2477.2	2441.3	2496.0	2685.1	3177.1	2615.0
37.5°	3171.1	3167.7	3184.0	3083.9	2909.3	2680.0	2578.2	2615.0	2775.8	3338.9	2722.8
40°	3507.4	3488.6	3496.3	3360.3	3181.4	2952.9	2769.8	2779.2	2920.4	3552.8	2893.1
42.5°	4148.3	4072.2	3929.3	3674.3	3480.9	3255.9	3020.5	3004.3	3124.9	3812.1	3117.2
45°	4914.2	4826.9	4466.6	4020.8	3780.4	3581.0	3330.3	3286.7	3376.5	4121.0	3406.5
47.5°	5553.4	5459.2	4981.8	4382.8	4085.0	3916.4	3673.4	3622.1	3677.7	4479.5	3753.9
50°	5771.6	5719.4	5300.1	4684.0	4392.2	4292.9	4103.8	4018.3	4032.0	4866.2	4159.5
52.5°	5671.4	5653.5	5372.8	4890.2	4676.3	4708.8	4575.3	4485.5	4470.1	5289.0	4607.8
55°	5460.1	5451.5	5314.6	5004.9	4927.0	5089.6	5236.8	5158.9	5013.4	5738.2	4978.3
57.5°	5158.0	5190.5	5289.0	5225.6	5235.0	5491.7	5851.1	5891.4	5674.0	6095.9	5253.0
60°	4351.1	4438.4	4889.4	5462.7	5901.6	6160.9	6509.2	6584.5	6233.6	6340.6	5570.5
62.5°	3216.5	3341.4	3984.0	5037.4	6268.7	7433.3	7384.5	7351.1	6767.6	6668.3	6148.1
65°	1889.3	2035.7	2579.0	3936.1	5715.1	8251.3	9018.9	8556.8	7581.3	7349.4	7067.9
67.5°	941.2	942.1	1187.7	2077.6	4223.6	7680.6	11404.5	11137.5	9311.5	8353.1	7430.7
70°	723.9	743.6	878.8	1207.4	2135.8	5982.1	11951.3	13047.4	11050.2	8308.6	6304.6
72.5°	613.5	626.4	782.1	1050.8	1596.7	3284.1	10346.0	11532.8	10544.5	7020.0	4647.2
75°	441.5	451.8	692.2	953.2	1470.1	1629.2	7097.0	8553.4	7911.6	4938.1	2557.6
77.5°	109.5	108.7	241.3	773.5	1315.2	1357.1	4072.2	5484.9	4539.4	2022.0	657.2
80°	48.8	47.1	54.8	162.6	1223.6	1281.0	1790.9	2769.8	1741.3	327.7	201.1
82.5°	34.2	32.5	34.2	59.9	409.0	1188.5	1082.4	1200.5	637.5	112.1	85.6
85°	11.1	10.3	18.8	50.5	114.7	685.4	1055.9	896.8	474.0	47.9	57.3
87.5°	1.7	1.7	6.8	27.4	33.4	228.5	619.5	621.2	213.1	28.2	25.7
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°	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2	2868.2
2.5°	2824.6	2774.1	2703.1	2632.1	2567.9	2502.0	2449.0	2424.1	2413.0	2397.6	2364.2
5°	2759.6	2668.0	2512.3	2359.1	2216.2	2079.3	1962.1	1895.3	1823.5	1820.0	1784.9
7.5°	2655.2	2525.1	2279.5	2041.7	1823.5	1614.7	1435.0	1318.6	1239.0	1189.4	1155.2
10°	2538.8	2371.9	2046.8	1712.2	1415.3	1136.3	905.3	754.7	663.2	616.9	590.4
12.5°	2446.4	2236.7	1817.5	1396.5	1024.2	704.2	489.4	379.9	331.1	312.3	303.8
15°	2366.8	2112.7	1602.7	1114.1	683.7	404.7	283.2	247.3	239.6	239.6	238.7
17.5°	2286.4	1992.9	1393.9	836.9	430.4	265.3	223.3	218.2	219.1	221.6	221.6
20°	2210.2	1879.1	1192.8	596.4	282.4	212.2	202.8	201.1	203.7	207.1	206.2
22.5°	2148.6	1779.0	1004.6	409.9	217.3	192.5	186.5	184.0	185.7	188.2	187.4
25°	2105.0	1693.4	831.7	285.8	189.1	175.4	168.6	165.1	163.4	165.1	164.3
27.5°	2078.4	1621.5	669.1	214.8	169.4	158.3	149.7	142.9	138.6	138.6	136.9
30°	2061.3	1553.9	524.5	178.0	153.2	141.2	129.2	119.8	112.9	111.2	110.4
32.5°	2060.5	1495.7	391.9	157.4	137.8	124.1	109.5	97.5	89.8	88.1	87.3
35°	2081.9	1448.7	288.4	142.0	124.1	107.8	91.6	78.7	71.9	71.9	71.0
37.5°	2137.5	1421.3	218.2	130.1	112.9	94.1	77.0	65.0	59.0	60.8	60.8
40°	2241.0	1416.1	178.0	120.7	103.5	82.1	62.5	53.1	50.5	53.1	53.1
42.5°	2399.3	1443.5	158.3	113.8	95.0	70.2	52.2	45.4	44.5	47.1	47.1
45°	2605.5	1497.4	147.2	107.8	85.6	58.2	43.6	39.4	38.5	41.9	41.9
47.5°	2855.4	1570.2	136.9	101.0	76.2	47.9	36.8	33.4	33.4	36.8	37.6
50°	3151.5	1668.6	126.6	94.1	68.5	40.2	30.8	28.2	29.1	32.5	33.4
52.5°	3492.0	1789.2	117.2	88.1	59.9	32.5	25.7	24.0	24.8	28.2	29.1
55°	3785.5	1894.5	106.1	82.1	48.8	26.5	21.4	20.5	21.4	25.7	25.7
57.5°	4041.4	1995.4	95.8	72.7	38.5	21.4	17.1	17.1	18.8	23.1	24.0
60°	4381.1	2154.6	87.3	61.6	29.1	16.3	13.7	14.5	17.1	20.5	21.4
62.5°	4982.6	2425.0	76.2	51.3	21.4	12.8	11.1	12.0	15.4	19.7	20.5
65°	5735.6	2680.8	63.3	42.8	16.3	9.4	8.6	11.1	15.4	19.7	20.5
67.5°	5658.6	2331.7	49.6	34.2	12.0	7.7	6.8	10.3	14.5	19.7	20.5
70°	4589.0	1634.3	36.8	23.1	9.4	6.8	6.8	10.3	14.5	18.8	19.7
72.5°	3183.1	909.6	28.2	15.4	8.6	6.8	6.0	9.4	13.7	18.8	19.7
75°	1514.6	279.0	22.2	11.1	7.7	6.0	5.1	9.4	13.7	18.8	19.7
77.5°	290.9	71.0	18.0	9.4	6.8	6.0	5.1	8.6	13.7	18.0	18.8
80°	98.4	31.7	14.5	8.6	6.8	6.0	5.1	8.6	12.8	17.1	18.0
82.5°	53.9	18.0	12.8	7.7	6.8	5.1	4.3	7.7	12.0	17.1	18.0
85°	41.9	12.8	10.3	7.7	6.8	5.1	4.3	7.7	12.0	16.3	17.1
87.5°	21.4	9.4	8.6	7.7	6.8	5.1	4.3	6.8	11.1	15.4	17.1
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)