

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: P270605

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7027-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270605  
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-SL4-7027-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 2700K, 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: 17194.5 lumens  
Efficiency: N/A  
Efficacy: 81.9 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

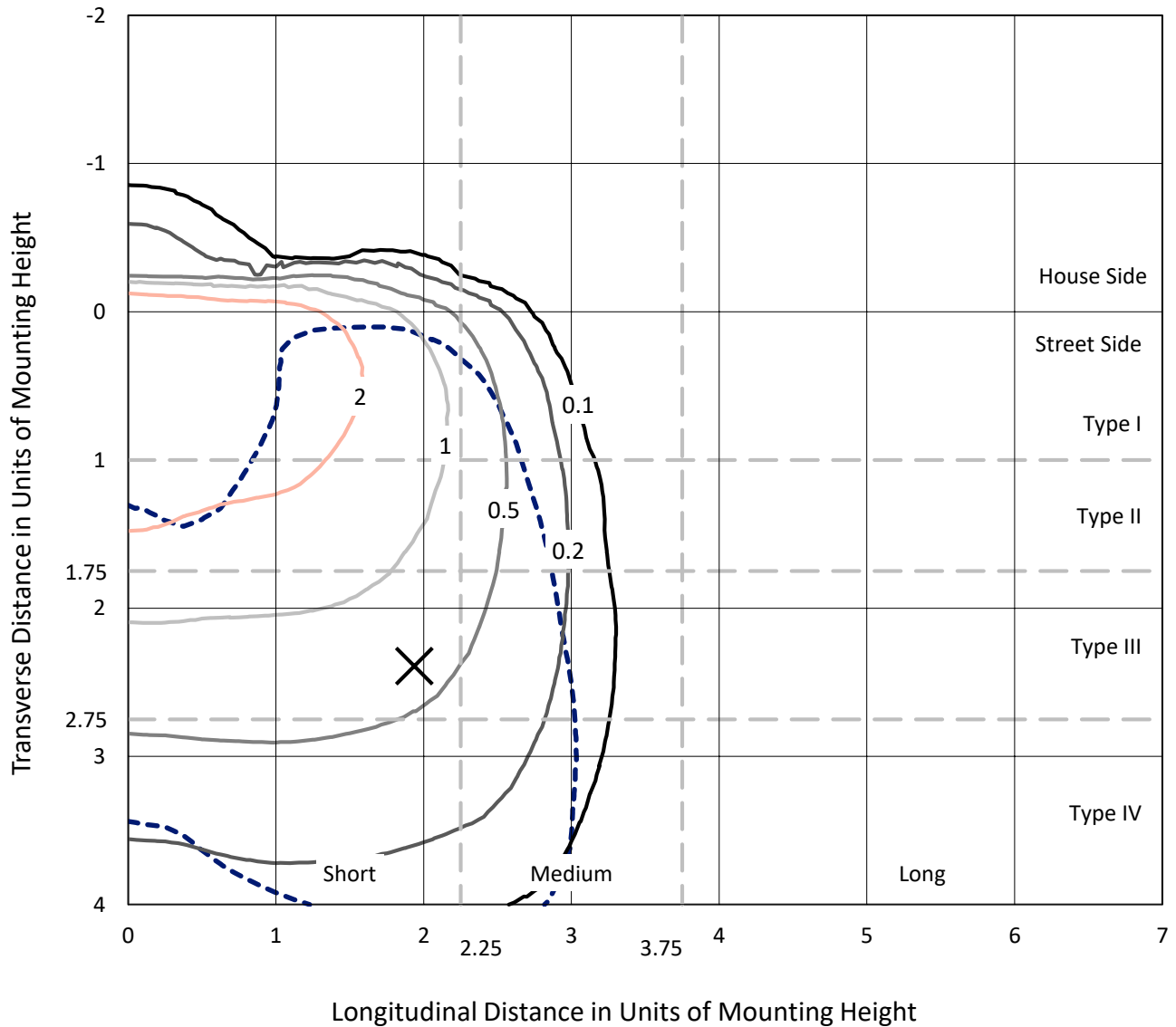


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

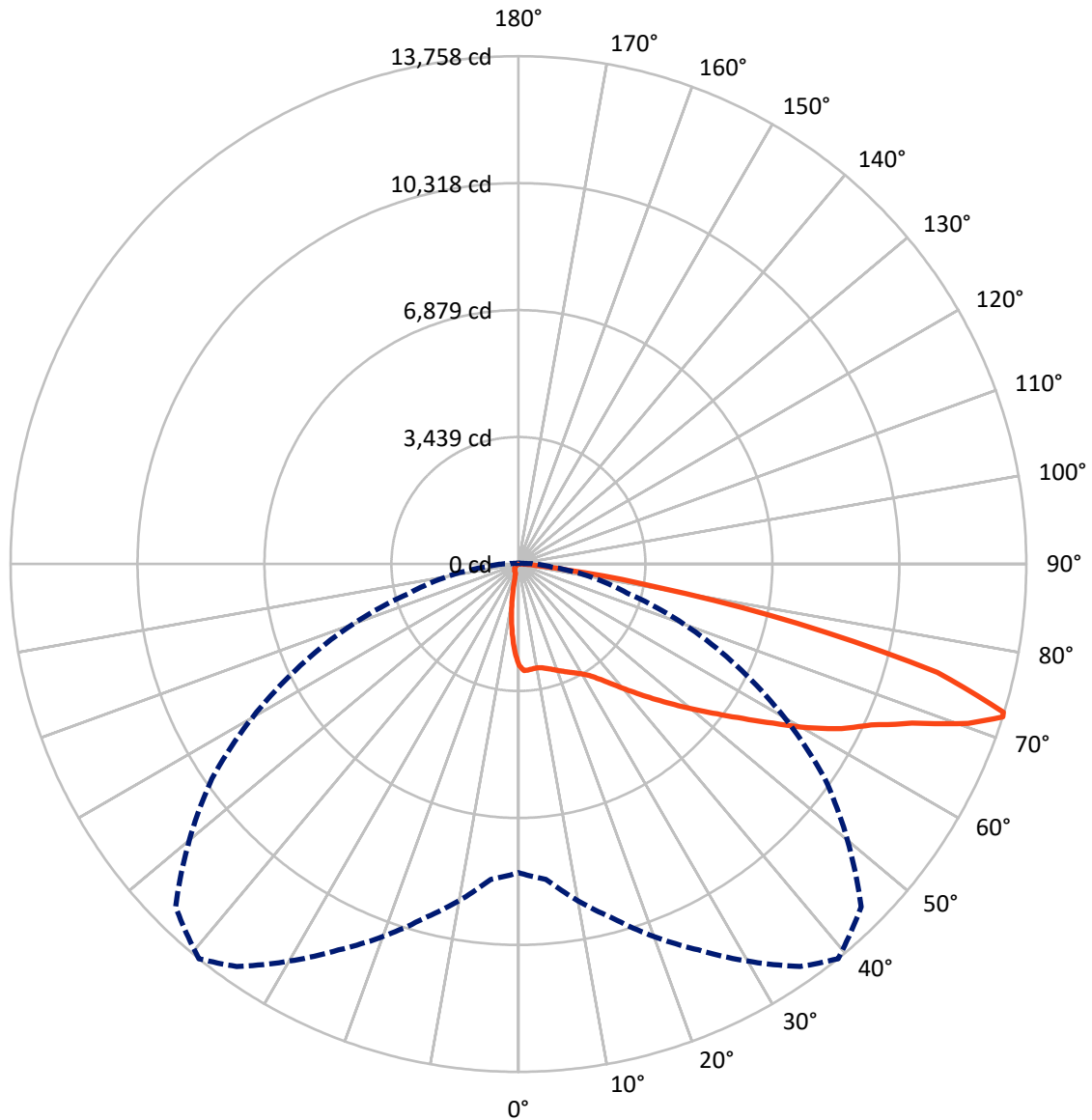


Based on 25 foot mounting height. Maximum calculated value = 4.6 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



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

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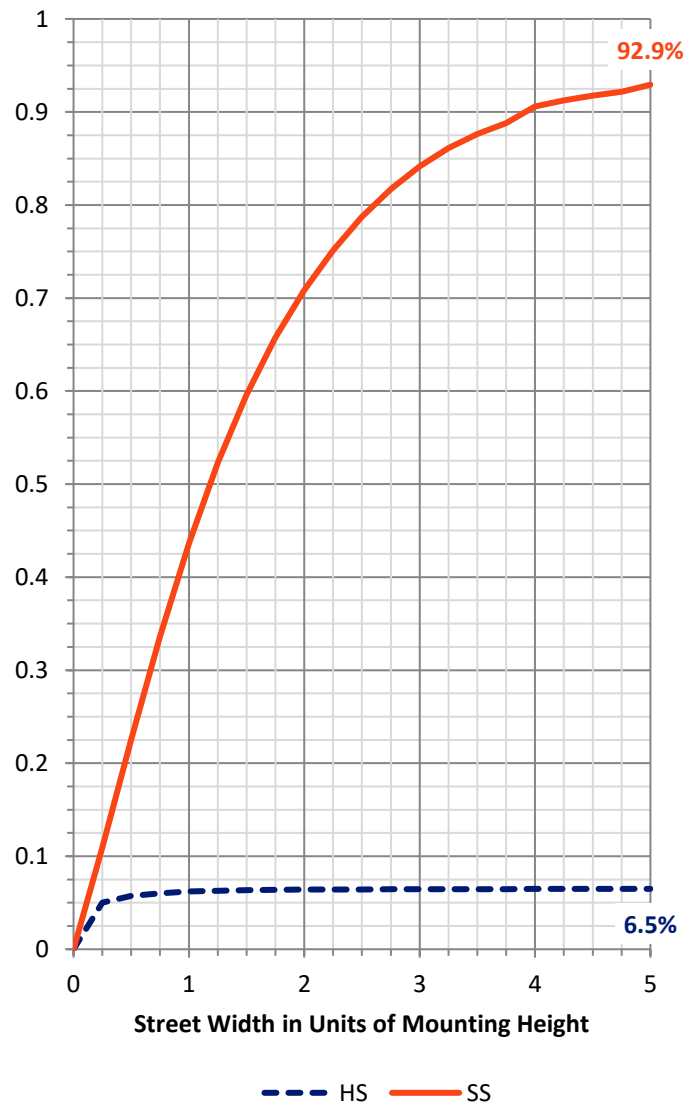
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1126.9	0.0	1126.9
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	16067.7	0.0	16067.7
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	17194.5	0.0	17194.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	223.8	1.3
10°-20°	542.0	3.2
20°-30°	900.1	5.2
30°-40°	1434.5	8.3
40°-50°	2367.8	13.8
50°-60°	3575.9	20.8
60°-70°	4658.2	27.1
70°-80°	3147.6	18.3
80°-90°	344.7	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°	17194.5	100.0
0°-180°	17194.5	100.0

**Coefficient of Utilization**



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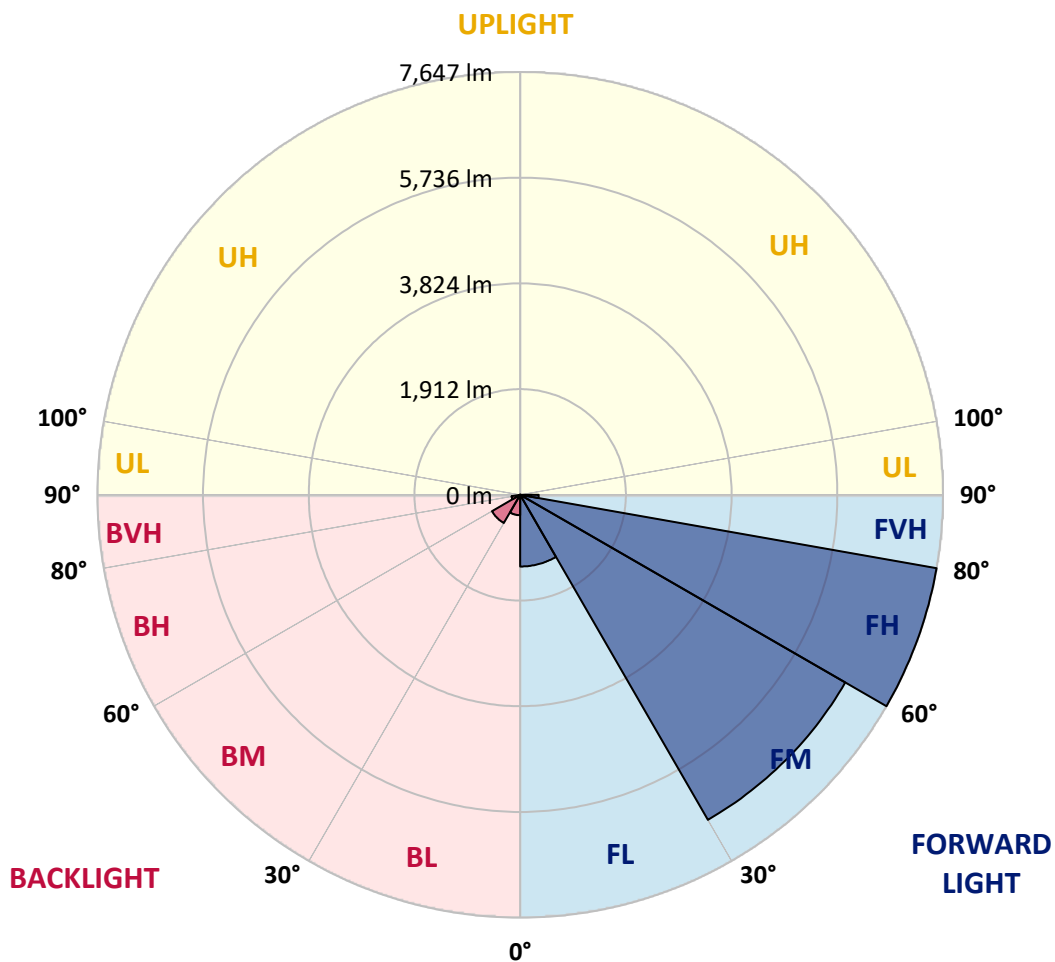
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1296.9	7.5			
FM	(30°-60°)	6788.6	39.5			
FH	(60°-80°)	7647.4	44.5			G4/12000
FVH	(80°-90°)	334.8	1.9			G3/500
BL	(0°-30°)	369.0	2.1	B1/500		
BM	(30°-60°)	589.6	3.4	B1/1000		
BH	(60°-80°)	158.4	0.9	B1/500		G1/500
BVH	(80°-90°)	9.9	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-G4**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0
2.5°	2930.5	2935.9	2929.2	2917.1	2899.4	2888.6	2873.8	2841.2	2800.7	2765.6	2725.1
5°	2953.4	2956.2	2948.1	2925.2	2898.1	2883.2	2864.2	2829.1	2787.3	2738.7	2665.6
7.5°	2960.3	2958.8	2949.4	2921.1	2879.2	2860.3	2827.9	2784.6	2741.3	2696.7	2614.2
10°	2957.6	2957.6	2950.8	2923.8	2876.5	2858.9	2822.4	2776.4	2722.4	2677.8	2590.0
12.5°	2948.1	2953.4	2949.4	2934.7	2899.4	2886.0	2853.5	2807.6	2756.2	2710.1	2616.9
15°	2960.3	2968.4	2976.4	2971.1	2950.8	2938.6	2908.9	2861.6	2819.7	2771.0	2671.0
17.5°	3009.0	3026.5	3045.4	3046.8	3025.1	3003.6	2969.7	2921.1	2880.5	2835.9	2727.8
20°	3100.9	3114.3	3149.5	3156.3	3112.9	3081.9	3034.7	2977.8	2937.3	2899.4	2780.6
22.5°	3237.4	3252.3	3280.6	3271.2	3198.1	3161.7	3102.1	3037.3	2995.4	2973.7	2841.2
25°	3444.2	3448.2	3455.1	3413.1	3292.7	3252.3	3179.2	3106.2	3072.5	3069.8	2927.8
27.5°	3687.5	3692.9	3663.2	3570.0	3398.2	3345.5	3263.1	3196.8	3180.5	3200.9	3037.3
30°	3965.9	3967.4	3884.8	3733.4	3519.9	3461.8	3376.5	3303.5	3318.5	3368.5	3177.9
32.5°	4251.1	4237.7	4124.1	3926.8	3686.1	3615.9	3542.8	3469.9	3513.1	3614.5	3383.3
35°	4512.0	4506.6	4372.8	4143.1	3902.3	3840.3	3787.6	3710.4	3780.7	3945.6	3663.2
37.5°	4773.0	4768.8	4616.1	4376.9	4168.8	4124.1	4085.0	4025.5	4140.3	4382.3	4037.6
40°	5060.8	5054.0	4866.2	4636.4	4478.2	4453.9	4430.9	4405.3	4601.3	4937.9	4503.9
42.5°	5416.3	5386.5	5131.1	4918.8	4818.9	4825.6	4827.0	4852.6	5159.5	5598.9	5054.0
45°	5824.6	5758.3	5397.5	5221.7	5193.3	5233.9	5274.4	5381.1	5809.7	6359.8	5662.3
47.5°	6220.7	6113.9	5704.2	5547.5	5605.7	5689.3	5786.7	5994.8	6539.7	7156.0	6213.8
50°	6561.2	6451.7	6008.5	5878.6	6063.7	6188.2	6361.2	6676.2	7310.0	7829.2	6561.2
52.5°	6828.8	6742.4	6330.0	6243.6	6572.1	6742.4	7014.1	7427.6	8037.3	8272.5	6804.5
55°	7026.3	6983.0	6638.2	6650.4	7137.0	7383.1	7721.0	8188.7	8650.9	8617.3	6987.0
57.5°	7249.3	7215.5	6961.3	7130.3	7817.1	8134.6	8525.4	8901.0	9097.0	8894.3	7165.5
60°	7477.8	7488.5	7353.3	7711.6	8657.8	9009.2	9349.9	9443.2	9479.6	9175.5	7353.3
62.5°	7650.8	7696.7	7708.9	8338.7	9520.1	9820.2	9967.7	9901.4	9893.3	9552.5	7338.6
65°	7849.4	7969.8	8169.7	9026.8	10304.2	10501.5	10606.9	10702.9	10500.2	9664.9	6616.6
67.5°	8192.8	8382.1	8832.1	9870.2	11209.8	11501.8	11800.6	11699.2	10590.7	8525.4	5040.6
70°	8655.1	8886.3	9681.0	10971.9	12438.6	12927.9	13178.0	11619.3	8991.7	5890.7	2658.9
72°	8363.1	8572.6	9943.2	11534.2	13309.1	13757.8	13132.0	10135.1	6518.0	3053.6	890.8
72.5°	8079.3	8295.5	9859.4	11527.5	13395.5	13738.9	12833.2	9549.9	5767.7	2376.3	613.7
75°	5605.7	5878.6	8452.3	10362.3	12096.5	11719.4	9819.0	5782.7	2089.7	408.2	202.7
77.5°	2898.1	3108.9	5127.0	7322.3	8430.7	7721.0	5803.0	2508.7	578.6	216.3	133.8
80°	1796.4	1900.5	2397.9	3607.8	4379.5	3830.8	2560.2	1013.7	370.5	128.4	106.8
82.5°	929.9	1009.8	1510.0	1455.9	1617.9	1344.9	944.8	848.9	228.4	79.8	109.6
85°	305.6	324.4	927.3	967.8	692.1	465.1	419.0	809.7	66.3	51.4	93.2
87.5°	40.6	47.3	325.7	554.3	340.6	210.8	251.4	285.2	22.9	28.3	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°	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0	2752.0
2.5°	2698.0	2680.5	2625.0	2569.6	2506.1	2448.1	2402.0	2372.2	2385.8	2341.3	2347.9
5°	2621.0	2576.3	2454.7	2323.6	2181.7	2049.3	1943.8	1865.4	1850.5	1783.0	1785.7
7.5°	2546.7	2473.7	2276.2	2060.1	1824.8	1634.2	1461.3	1309.8	1255.7	1200.3	1167.8
10°	2506.1	2406.1	2126.3	1811.3	1480.1	1200.3	957.1	766.4	686.7	628.5	600.2
12.5°	2518.3	2385.8	2014.1	1585.6	1150.3	794.8	540.7	401.5	352.9	325.7	316.4
15°	2558.8	2389.9	1912.8	1365.2	836.7	481.2	317.6	271.6	267.6	266.3	264.9
17.5°	2596.6	2394.0	1806.0	1135.5	559.6	306.9	255.5	251.4	251.4	251.4	251.4
20°	2635.8	2395.2	1688.4	894.8	367.6	251.4	240.6	238.0	240.6	240.6	240.6
22.5°	2681.8	2404.8	1574.8	661.1	271.6	236.6	229.7	228.4	229.7	229.7	228.4
25°	2738.7	2425.0	1451.8	473.0	246.0	227.1	220.4	218.9	220.4	218.9	218.9
27.5°	2814.3	2452.1	1308.6	339.3	235.1	217.6	210.8	210.8	210.8	209.6	209.6
30°	2911.5	2484.4	1116.6	267.6	224.3	208.1	202.7	202.7	201.4	200.1	200.1
32.5°	3050.9	2537.3	907.0	242.0	212.2	196.0	190.6	192.0	190.6	189.3	187.8
35°	3248.2	2619.6	700.1	228.4	200.1	183.9	178.5	178.5	178.5	175.7	175.7
37.5°	3528.1	2745.3	524.5	215.0	187.8	171.7	164.8	164.8	163.5	160.8	162.2
40°	3874.0	2903.5	379.9	202.7	175.7	158.1	152.7	150.0	147.3	144.6	144.6
42.5°	4290.3	3057.7	285.2	190.6	163.5	147.3	140.6	137.9	132.5	129.7	128.4
45°	4756.7	3221.1	236.6	175.7	150.0	135.1	129.7	124.3	117.6	113.5	112.2
47.5°	5150.1	3321.2	210.8	160.8	136.5	123.0	117.6	109.6	101.4	98.6	98.6
50°	5386.5	3279.3	189.3	146.0	123.0	110.9	104.1	93.2	87.9	85.2	83.8
52.5°	5519.0	3154.8	171.7	133.8	110.9	97.3	87.9	78.4	75.6	73.0	73.0
55°	5609.6	2975.1	152.7	121.7	100.0	85.2	74.3	67.6	64.9	63.5	62.3
57.5°	5696.2	2756.2	135.1	110.9	89.2	75.6	63.5	60.8	55.4	54.1	54.1
60°	5721.8	2454.7	118.9	98.6	79.8	66.3	55.4	51.4	46.0	44.6	44.6
62.5°	5394.7	1953.3	105.5	83.8	70.2	56.8	48.7	43.3	37.9	37.9	37.9
65°	4508.0	1326.1	90.5	73.0	62.3	48.7	42.0	35.2	32.5	32.5	32.5
67.5°	3140.0	739.3	77.1	62.3	52.7	40.6	35.2	29.7	28.3	29.7	29.7
70°	1415.3	293.3	64.9	51.4	43.3	33.7	29.7	25.7	28.3	28.3	28.3
72°	424.4	156.8	54.1	42.0	35.2	29.7	25.7	24.3	26.9	28.3	28.3
72.5°	314.9	140.6	51.4	40.6	35.2	28.3	24.3	24.3	26.9	28.3	28.3
75°	162.2	95.9	39.2	29.7	25.7	22.9	20.3	22.9	26.9	26.9	26.9
77.5°	127.1	78.4	32.5	22.9	21.6	20.3	19.0	21.6	24.3	24.3	24.3
80°	118.9	51.4	25.7	21.6	19.0	17.5	17.5	19.0	21.6	22.9	22.9
82.5°	120.4	42.0	22.9	20.3	17.5	16.2	16.2	17.5	20.3	21.6	21.6
85°	77.1	28.3	20.3	17.5	16.2	14.8	14.8	16.2	19.0	20.3	20.3
87.5°	25.7	21.6	17.5	16.2	13.6	13.6	13.6	13.6	16.2	17.5	19.0
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)