

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: P196654

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7030-1200-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196654  
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-SL4-7030-1200-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 3000K, 1200mA 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: 21087 lumens  
Efficiency: N/A  
Efficacy: 81.7 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): 258  
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

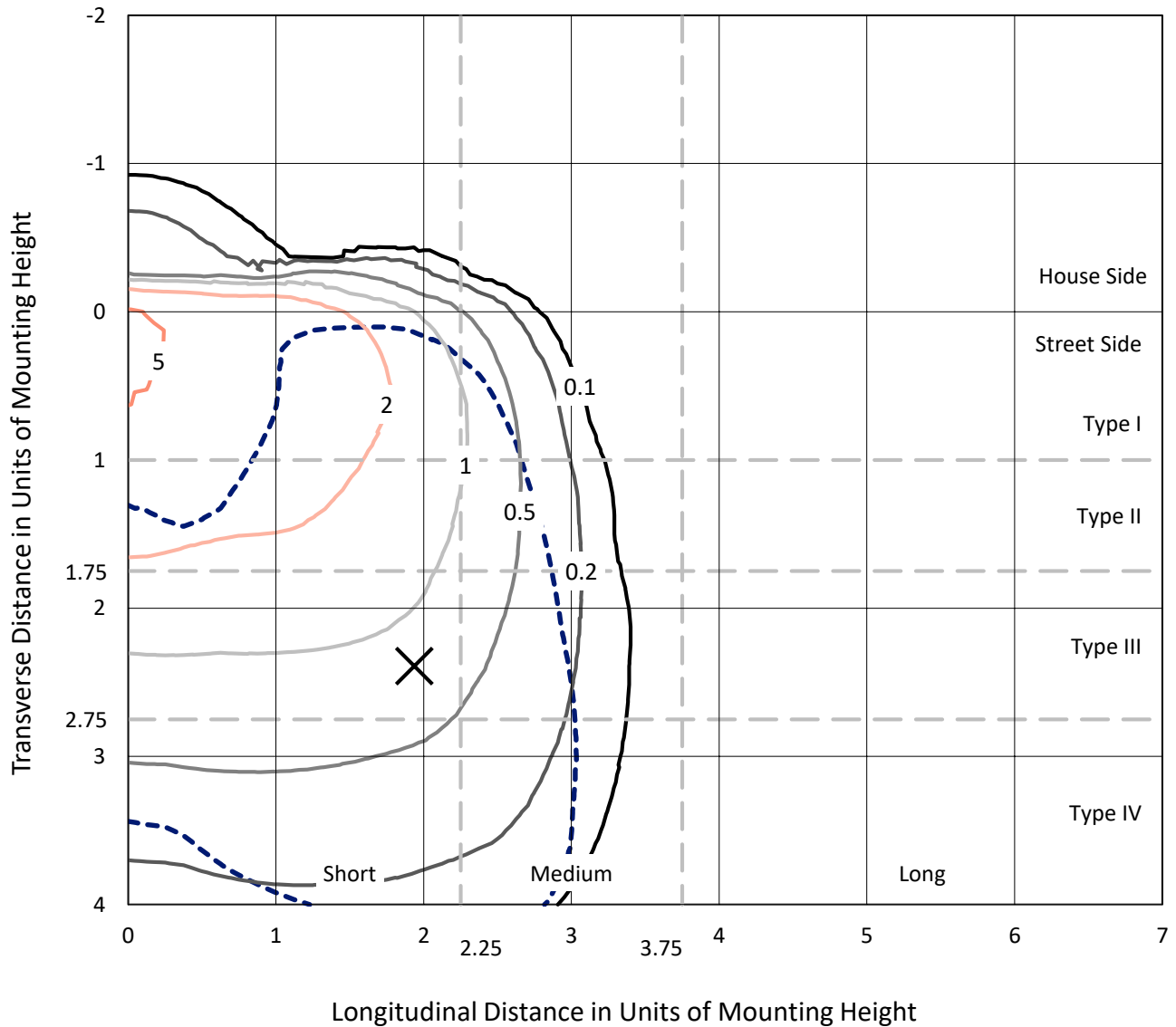


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

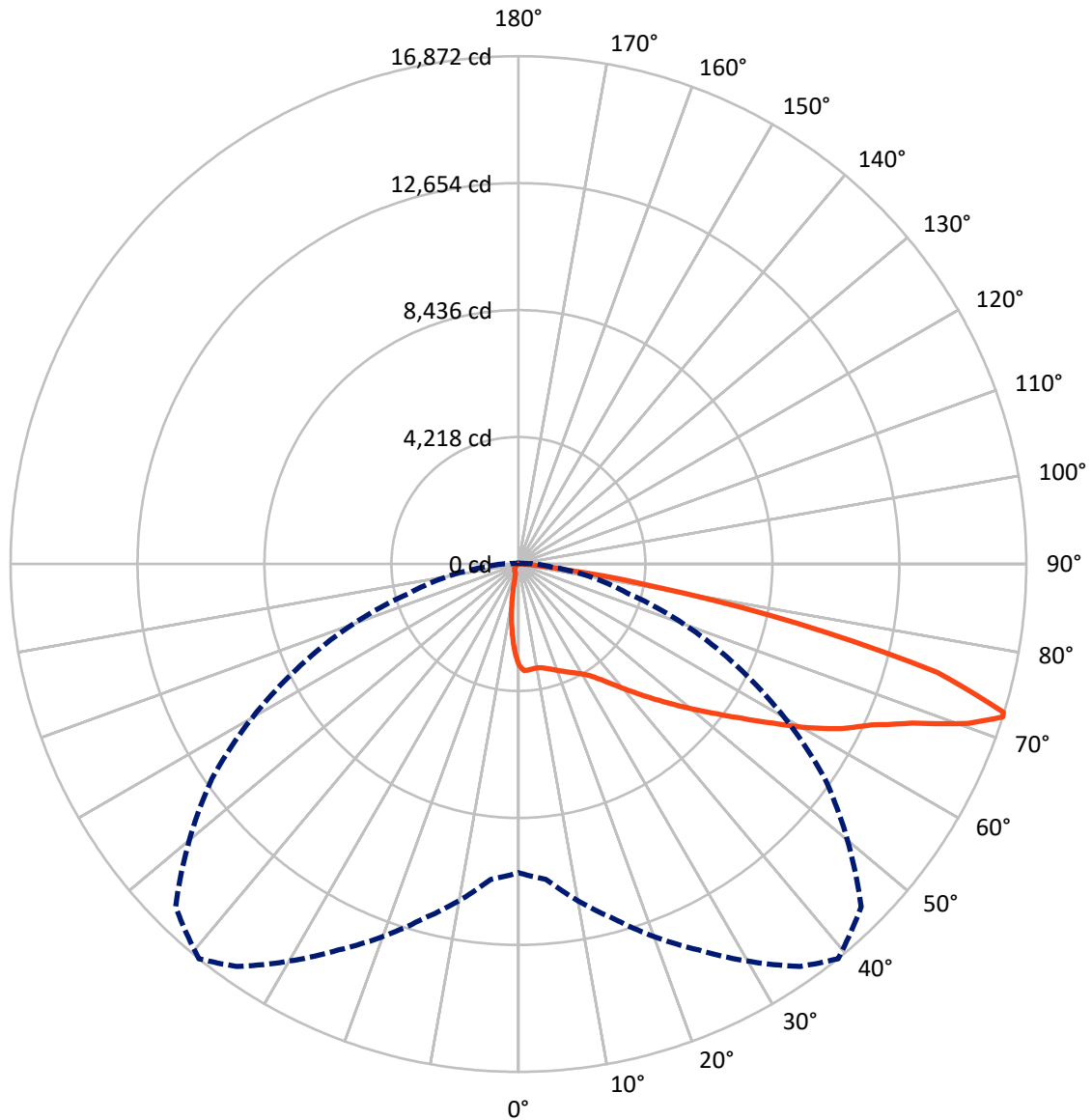


Based on 25 foot mounting height. Maximum calculated value = 5.7 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



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

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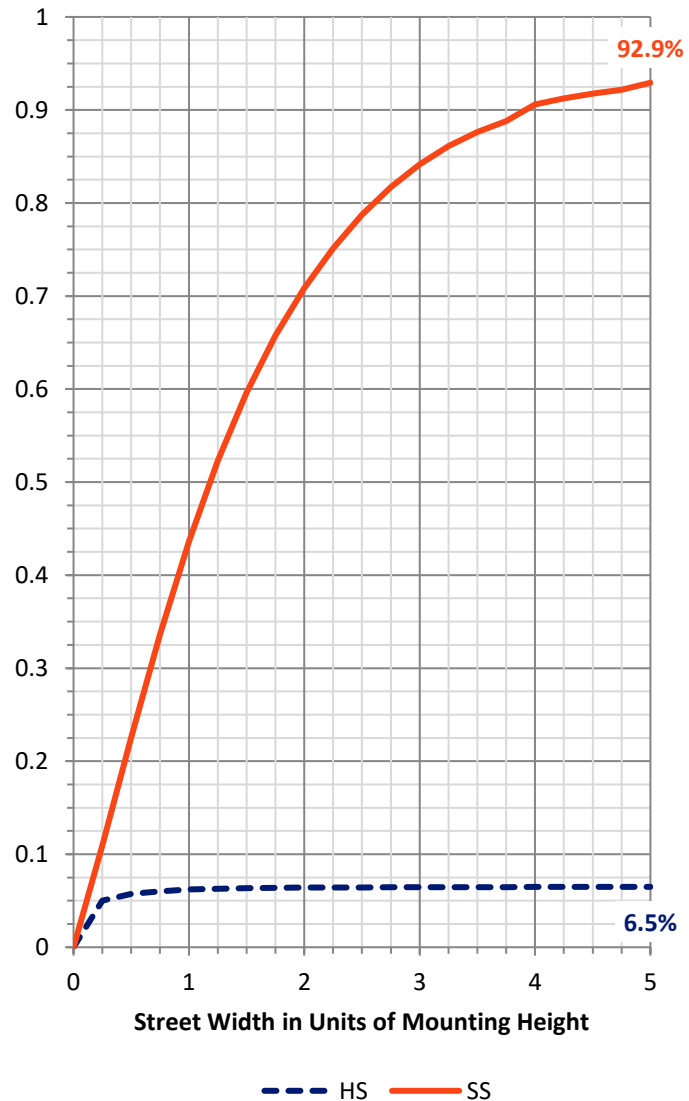
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1382.0	0.0	1382.0
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	19705.0	0.0	19705.0
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	21087.0	0.0	21087.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	274.5	1.3
10°-20°	664.6	3.2
20°-30°	1103.8	5.2
30°-40°	1759.3	8.3
40°-50°	2903.9	13.8
50°-60°	4385.4	20.8
60°-70°	5712.7	27.1
70°-80°	3860.1	18.3
80°-90°	422.8	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°	21087.0	100.0
0°-180°	21087.0	100.0



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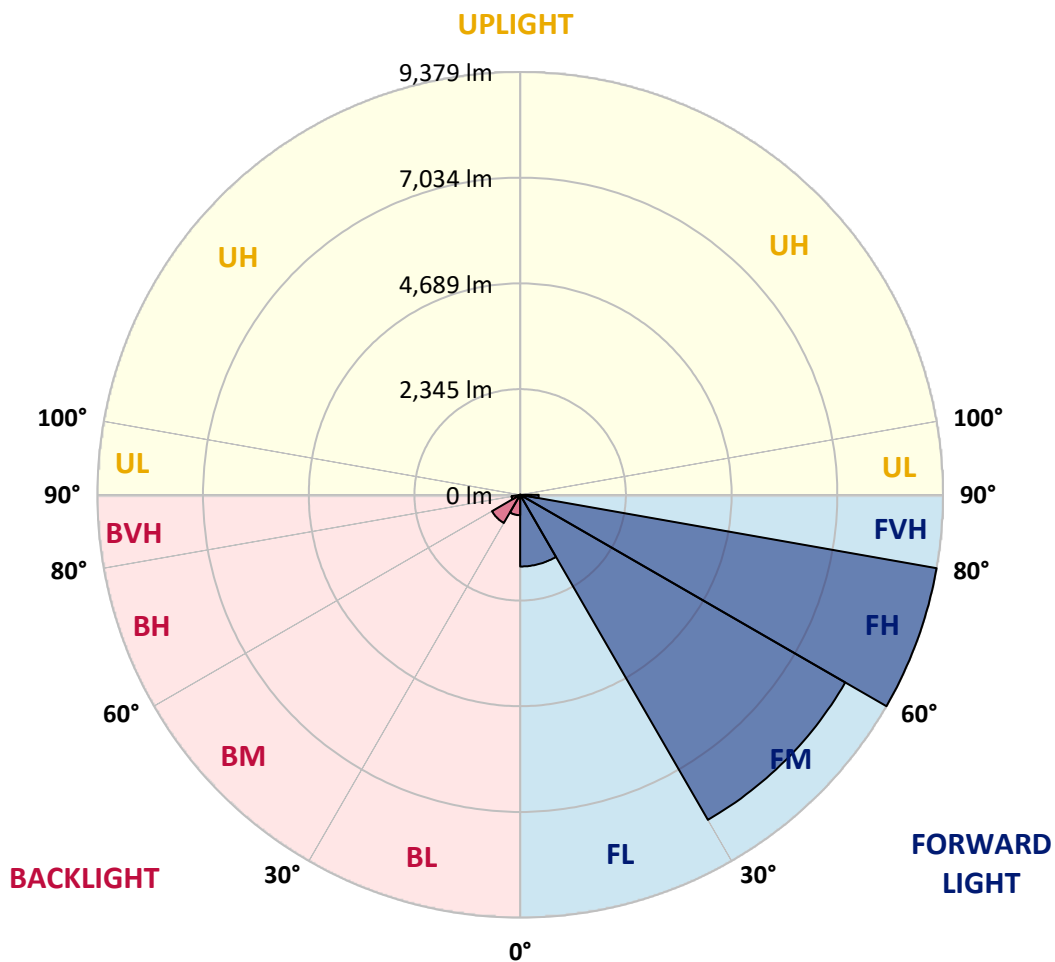
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1590.5	7.5			
FM	(30°-60°)	8325.4	39.5			
FH	(60°-80°)	9378.5	44.5			G4/12000
FVH	(80°-90°)	410.6	1.9			G3/500
BL	(0°-30°)	452.5	2.1	B1/500		
BM	(30°-60°)	723.1	3.4	B1/1000		
BH	(60°-80°)	194.2	0.9	B1/500		G1/500
BVH	(80°-90°)	12.2	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°	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1
2.5°	3594.0	3600.5	3592.2	3577.3	3555.9	3542.5	3524.2	3484.5	3434.8	3391.7	3341.9
5°	3622.2	3625.4	3615.5	3587.3	3554.2	3535.9	3512.6	3469.6	3418.1	3358.5	3269.0
7.5°	3630.3	3628.7	3617.1	3582.3	3530.9	3507.8	3468.0	3414.9	3361.9	3307.2	3206.0
10°	3627.1	3627.1	3618.7	3585.7	3527.7	3506.1	3461.4	3404.9	3338.6	3283.9	3176.1
12.5°	3615.5	3622.2	3617.1	3598.9	3555.9	3539.2	3499.5	3443.1	3380.1	3323.7	3209.4
15°	3630.3	3640.3	3650.4	3643.7	3618.7	3603.9	3567.5	3509.4	3458.0	3398.3	3275.7
17.5°	3690.1	3711.6	3734.8	3736.4	3710.0	3683.4	3642.0	3582.3	3532.6	3477.9	3345.3
20°	3802.8	3819.3	3862.6	3870.7	3817.7	3779.6	3721.6	3652.0	3602.3	3555.9	3410.0
22.5°	3970.3	3988.5	4023.3	4011.7	3922.2	3877.4	3804.5	3724.8	3673.6	3647.0	3484.5
25°	4223.9	4228.9	4237.2	4185.7	4038.2	3988.5	3898.9	3809.5	3768.1	3764.6	3590.6
27.5°	4522.2	4528.9	4492.4	4378.0	4167.4	4102.9	4001.7	3920.6	3900.7	3925.4	3724.8
30°	4863.7	4865.5	4764.2	4578.6	4316.8	4245.4	4141.0	4051.5	4069.7	4131.0	3897.3
32.5°	5213.6	5196.9	5057.7	4815.7	4520.6	4434.4	4344.9	4255.3	4308.4	4432.7	4149.2
35°	5533.4	5526.9	5362.8	5080.9	4785.9	4709.6	4644.9	4550.4	4636.6	4838.9	4492.4
37.5°	5853.4	5848.4	5661.2	5367.7	5112.5	5057.7	5009.6	4936.7	5077.6	5374.4	4951.6
40°	6206.5	6198.2	5967.7	5686.0	5492.0	5462.2	5434.0	5402.6	5642.9	6055.7	5523.5
42.5°	6642.5	6606.1	6292.7	6032.4	5909.8	5918.0	5919.6	5951.3	6327.5	6866.3	6198.2
45°	7143.2	7061.9	6619.3	6403.8	6368.9	6418.7	6468.3	6599.4	7124.9	7799.6	6944.2
47.5°	7628.8	7497.9	6995.6	6803.2	6874.6	6977.3	7096.7	7351.9	8020.0	8775.9	7620.5
50°	8046.6	7912.3	7368.6	7209.5	7436.5	7589.0	7801.2	8187.5	8964.9	9601.4	8046.6
52.5°	8374.8	8268.7	7763.1	7657.0	8059.8	8268.7	8601.9	9109.2	9856.9	10145.3	8345.0
55°	8616.8	8563.7	8141.0	8155.9	8752.8	9054.5	9468.9	10042.4	10609.4	10568.0	8568.7
57.5°	8890.3	8848.9	8537.3	8744.4	9586.6	9976.1	10455.2	10916.1	11156.5	10907.8	8787.6
60°	9170.4	9183.8	9018.0	9457.3	10617.7	11048.8	11466.4	11580.8	11625.6	11252.6	9018.0
62.5°	9382.6	9439.0	9453.9	10226.4	11675.3	12043.3	12224.0	12142.7	12132.8	11715.1	8999.8
65°	9626.4	9773.9	10019.3	11070.2	12636.8	12878.8	13008.1	13125.9	12877.2	11852.7	8114.5
67.5°	10047.5	10279.5	10831.5	12104.7	13747.4	14105.6	14471.9	14347.6	12988.2	10455.2	6181.7
70°	10614.4	10897.8	11872.5	13455.8	15254.3	15854.4	16161.1	14249.7	11027.1	7224.3	3260.8
72°	10256.2	10513.3	12194.2	14145.4	16321.9	16872.3	16104.7	12429.6	7993.5	3744.8	1092.5
72.5°	9908.1	10173.4	12091.4	14137.0	16428.0	16849.1	15738.4	11711.8	7073.5	2914.3	752.6
75°	6874.6	7209.5	10365.8	12708.1	14834.9	14372.4	12041.7	7091.7	2562.7	500.6	248.7
77.5°	3554.2	3812.7	6287.8	8979.9	10339.2	9468.9	7116.6	3076.7	709.5	265.3	164.1
80°	2203.1	2330.7	2940.8	4424.5	5370.9	4697.9	3139.7	1243.3	454.2	157.5	131.0
82.5°	1140.5	1238.4	1851.7	1785.4	1984.2	1649.4	1158.7	1041.0	280.1	97.8	134.3
85°	374.6	397.8	1137.2	1186.9	848.7	570.3	513.8	992.9	81.2	63.1	114.4
87.5°	49.7	58.0	399.6	679.7	417.7	258.6	308.3	349.7	28.2	34.9	31.4
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°	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1	3375.1
2.5°	3308.8	3287.3	3219.4	3151.4	3073.5	3002.1	2945.7	2909.2	2925.9	2871.3	2879.4
5°	3214.3	3159.6	3010.4	2849.6	2675.5	2513.1	2383.8	2287.7	2269.5	2186.5	2189.9
7.5°	3123.1	3033.6	2791.6	2526.4	2237.9	2004.2	1792.0	1606.3	1540.0	1472.0	1432.3
10°	3073.5	2950.8	2607.6	2221.3	1815.3	1472.0	1173.7	939.9	842.2	770.9	736.1
12.5°	3088.3	2925.9	2470.1	1944.5	1410.7	974.7	663.1	492.3	432.6	399.6	387.9
15°	3138.0	2930.9	2345.7	1674.3	1026.2	590.1	389.6	333.2	328.3	326.5	324.9
17.5°	3184.5	2935.8	2214.6	1392.5	686.2	376.3	313.3	308.3	308.3	308.3	308.3
20°	3232.6	2937.4	2070.5	1097.4	450.9	308.3	295.1	291.7	295.1	295.1	295.1
22.5°	3288.9	2949.1	1931.2	810.6	333.2	290.1	281.8	280.1	281.8	281.8	280.1
25°	3358.5	2973.9	1780.4	580.1	301.7	278.5	270.2	268.6	270.2	268.6	268.6
27.5°	3451.4	3007.2	1604.7	416.1	288.5	266.9	258.6	258.6	258.6	257.0	257.0
30°	3570.7	3046.9	1369.2	328.3	275.3	255.3	248.7	248.7	247.0	245.4	245.4
32.5°	3741.5	3111.4	1112.4	296.7	260.2	240.4	233.7	235.4	233.7	232.0	230.4
35°	3983.5	3212.7	858.7	280.1	245.4	225.4	218.8	218.8	218.8	215.5	215.5
37.5°	4326.6	3366.9	643.2	263.6	230.4	210.6	202.2	202.2	200.6	197.3	199.0
40°	4751.0	3560.8	465.8	248.7	215.5	193.9	187.3	184.0	180.8	177.3	177.3
42.5°	5261.6	3749.8	349.7	233.7	200.6	180.8	172.4	169.2	162.5	159.2	157.5
45°	5833.5	3950.4	290.1	215.5	184.0	165.7	159.2	152.5	144.2	139.2	137.5
47.5°	6315.9	4072.9	258.6	197.3	167.3	150.9	144.2	134.3	124.3	121.1	121.1
50°	6606.1	4021.7	232.0	179.0	150.9	135.9	127.7	114.4	107.7	104.5	102.8
52.5°	6768.5	3869.1	210.6	164.1	135.9	119.3	107.7	96.1	92.9	89.5	89.5
55°	6879.5	3648.6	187.3	149.2	122.7	104.5	91.1	82.9	79.5	77.9	76.3
57.5°	6985.6	3380.1	165.7	135.9	109.4	92.9	77.9	74.7	68.0	66.3	66.3
60°	7017.1	3010.4	145.9	121.1	97.8	81.2	68.0	63.1	56.4	54.7	54.7
62.5°	6615.9	2395.4	129.3	102.8	86.2	69.6	59.6	53.1	46.4	46.4	46.4
65°	5528.5	1626.3	111.1	89.5	76.3	59.6	51.4	43.0	39.8	39.8	39.8
67.5°	3850.9	906.8	94.5	76.3	64.7	49.7	43.0	36.5	34.9	36.5	36.5
70°	1735.6	359.7	79.5	63.1	53.1	41.4	36.5	31.4	34.9	34.9	34.9
72°	520.5	192.3	66.3	51.4	43.0	36.5	31.4	29.8	33.1	34.9	34.9
72.5°	386.2	172.4	63.1	49.7	43.0	34.9	29.8	29.8	33.1	34.9	34.9
75°	199.0	117.7	48.1	36.5	31.4	28.2	24.9	28.2	33.1	33.1	33.1
77.5°	155.8	96.1	39.8	28.2	26.6	24.9	23.2	26.6	29.8	29.8	29.8
80°	145.9	63.1	31.4	26.6	23.2	21.6	21.6	23.2	26.6	28.2	28.2
82.5°	147.5	51.4	28.2	24.9	21.6	19.8	19.8	21.6	24.9	26.6	26.6
85°	94.5	34.9	24.9	21.6	19.8	18.2	18.2	19.8	23.2	24.9	24.9
87.5°	31.4	26.6	21.6	19.8	16.6	16.6	16.6	16.6	19.8	21.6	23.2
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)