

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: P270525

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7027-800-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270525  
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-SL4-7027-800-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 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: 13951.8 lumens  
Efficiency: N/A  
Efficacy: 81.6 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B1 - U0 - G3

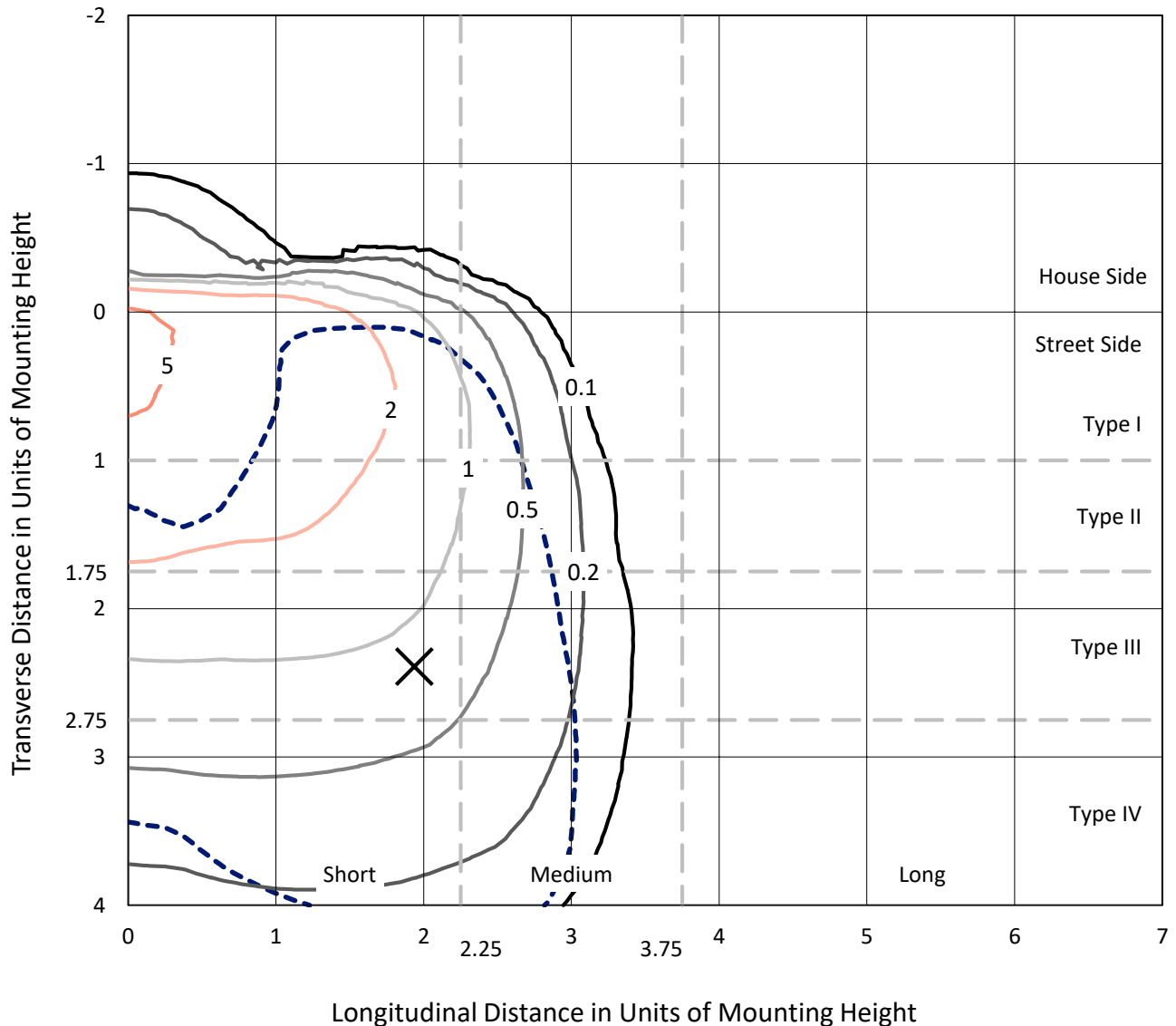
Input Watts (W): 171  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

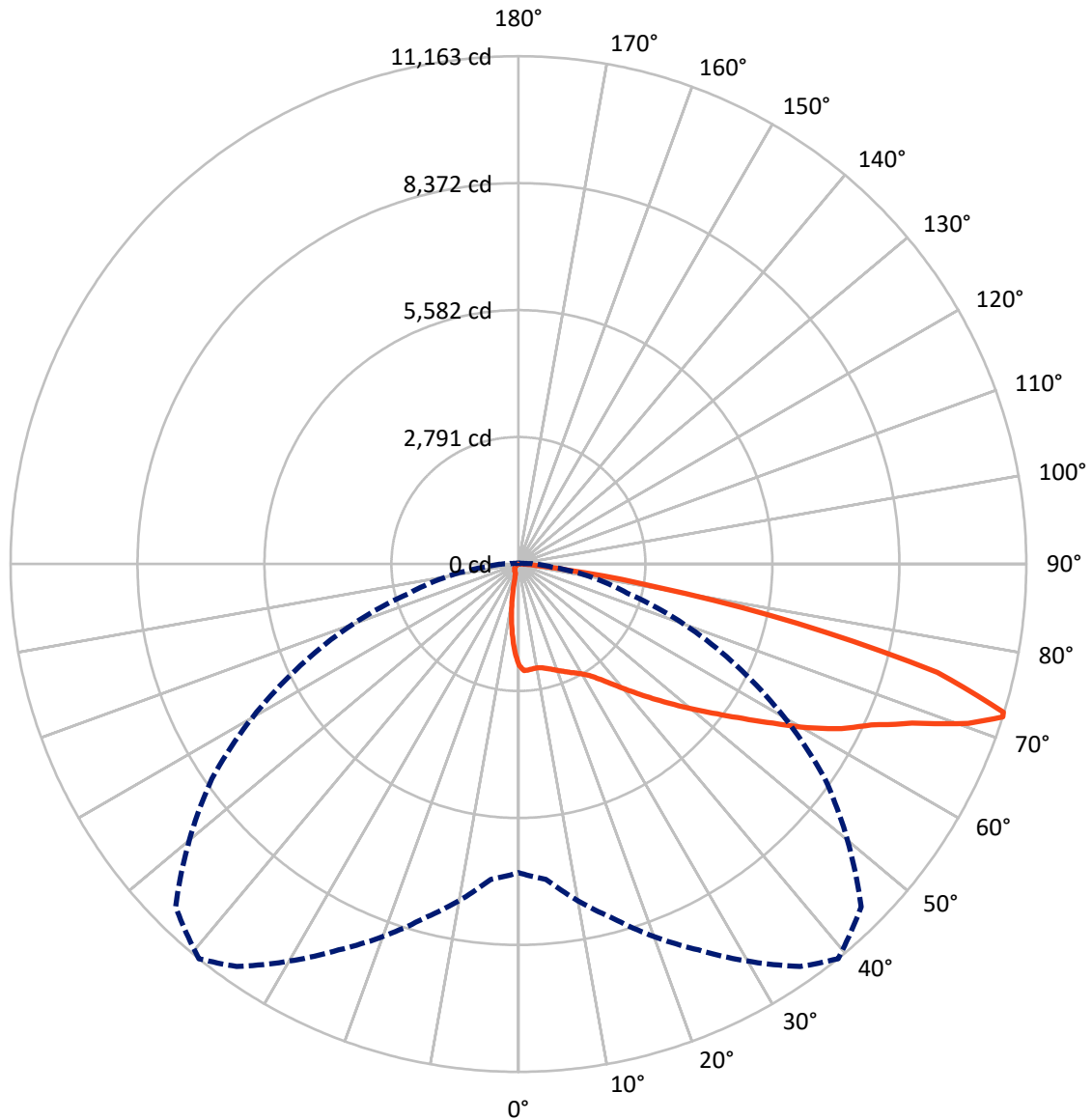


Based on 20 foot mounting height. Maximum calculated value = 5.9 fc  
 Type IV - Short - Non-Cutoff

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### Luminous Intensity Polar Plot



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

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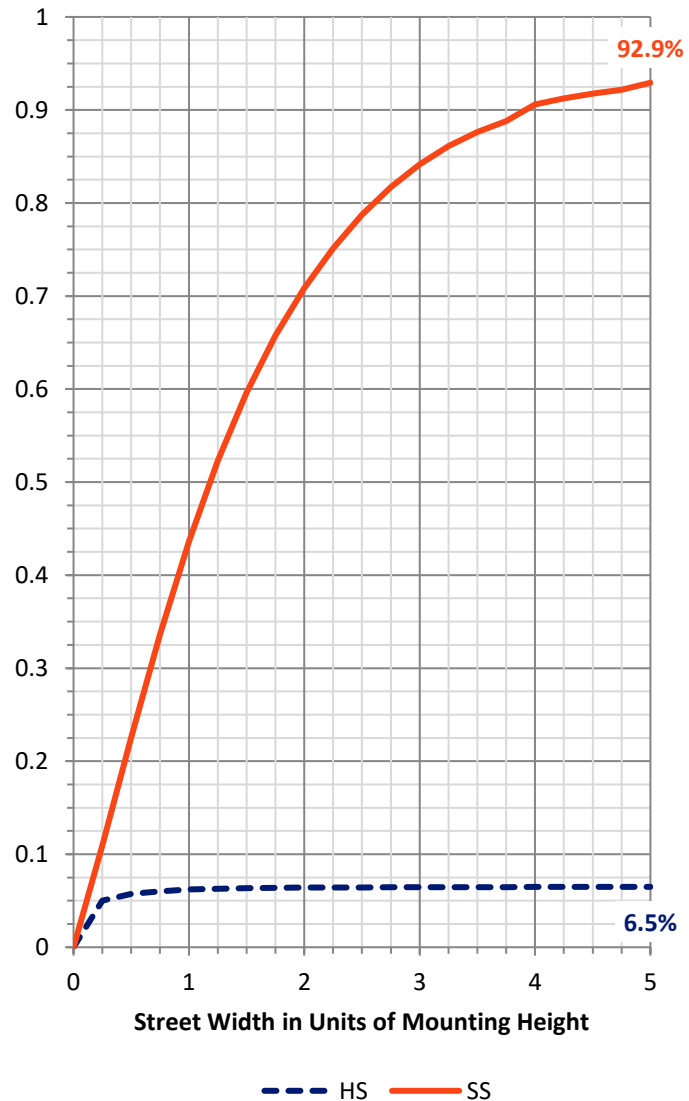
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	914.4	0.0	914.4
	% Fixture	6.6	0.0	6.6
<b>Street Side</b>	Lumens	13037.4	0.0	13037.4
	% Fixture	93.4	0.0	93.4
<b>Total</b>	Lumens	13951.8	0.0	13951.8
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	181.6	1.3
10°-20°	439.7	3.2
20°-30°	730.3	5.2
30°-40°	1164.0	8.3
40°-50°	1921.3	13.8
50°-60°	2901.5	20.8
60°-70°	3779.7	27.1
70°-80°	2554.0	18.3
80°-90°	279.7	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°	13951.8	100.0
0°-180°	13951.8	100.0



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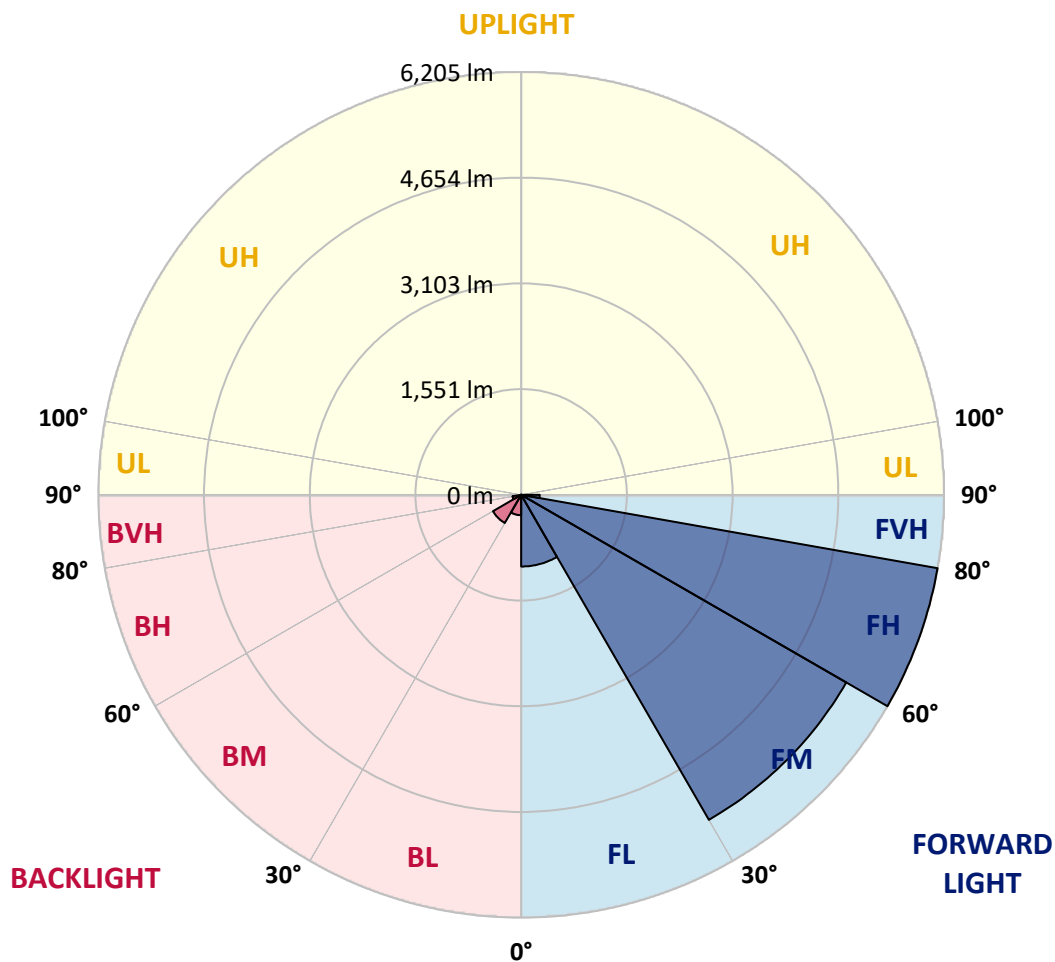
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1052.3	7.5			
FM	(30°-60°)	5508.3	39.5			
FH	(60°-80°)	6205.1	44.5			G3/7500
FVH	(80°-90°)	271.7	1.9			G3/500
BL	(0°-30°)	299.4	2.1	B1/500		
BM	(30°-60°)	478.4	3.4	B1/1000		
BH	(60°-80°)	128.5	0.9	B1/500		G1/500
BVH	(80°-90°)	8.0	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-G3**

Type IV Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0
2.5°	2377.9	2382.2	2376.7	2366.9	2352.7	2343.9	2331.8	2305.5	2272.5	2244.1	2211.2
5°	2396.5	2398.7	2392.0	2373.4	2351.6	2339.5	2324.2	2295.6	2261.7	2222.0	2162.8
7.5°	2402.0	2400.9	2393.3	2370.2	2336.1	2320.9	2294.5	2259.3	2224.4	2188.1	2121.2
10°	2399.8	2399.8	2394.3	2372.3	2333.9	2319.8	2290.0	2252.8	2208.9	2172.7	2101.4
12.5°	2392.0	2396.5	2393.3	2381.1	2352.7	2341.6	2315.3	2278.0	2236.4	2199.1	2123.5
15°	2402.0	2408.5	2415.2	2410.7	2394.3	2384.5	2360.2	2321.8	2288.0	2248.4	2167.3
17.5°	2441.5	2455.7	2471.1	2472.1	2454.6	2437.1	2409.7	2370.2	2337.3	2301.1	2213.3
20°	2516.1	2527.0	2555.5	2561.0	2525.9	2500.7	2462.3	2416.3	2383.4	2352.7	2256.2
22.5°	2626.9	2639.0	2661.9	2654.2	2595.1	2565.4	2517.1	2464.5	2430.5	2412.9	2305.5
25°	2794.6	2798.0	2803.4	2769.5	2671.7	2639.0	2579.7	2520.5	2492.9	2490.8	2375.7
27.5°	2992.1	2996.4	2972.3	2896.7	2757.3	2714.6	2647.7	2593.9	2580.7	2597.2	2464.5
30°	3218.0	3219.0	3152.2	3029.4	2856.0	2808.9	2739.8	2680.5	2692.6	2733.3	2578.6
32.5°	3449.4	3438.4	3346.4	3186.2	2990.9	2934.0	2874.7	2815.5	2850.5	2932.8	2745.3
35°	3661.1	3656.7	3548.1	3361.6	3166.4	3116.0	3073.2	3010.7	3067.7	3201.5	2972.3
37.5°	3872.8	3869.4	3745.6	3551.4	3382.5	3346.4	3314.4	3266.2	3359.5	3555.9	3276.1
40°	4106.4	4100.9	3948.5	3762.0	3633.6	3613.9	3595.2	3574.4	3733.4	4006.6	3654.6
42.5°	4394.9	4370.8	4163.5	3991.2	3910.1	3915.5	3916.6	3937.5	4186.5	4542.9	4100.9
45°	4726.1	4672.4	4379.4	4236.9	4213.9	4246.7	4279.6	4366.3	4714.0	5160.5	4594.6
47.5°	5047.4	4960.8	4628.4	4501.2	4548.4	4616.4	4695.4	4864.3	5306.3	5806.5	5041.9
50°	5323.9	5235.1	4875.2	4769.9	4920.1	5021.2	5161.5	5417.0	5931.5	6352.6	5323.9
52.5°	5540.9	5470.8	5136.2	5066.1	5332.6	5470.8	5691.2	6026.9	6521.5	6712.3	5521.3
55°	5701.2	5666.0	5386.3	5396.2	5791.1	5990.6	6264.9	6644.4	7019.4	6992.0	5669.4
57.5°	5882.1	5854.7	5648.5	5785.5	6342.8	6600.4	6917.5	7222.4	7381.5	7217.0	5814.1
60°	6067.4	6076.2	5966.5	6257.2	7024.9	7310.0	7586.5	7662.3	7691.7	7445.1	5966.5
62.5°	6207.8	6245.1	6255.0	6766.2	7724.7	7968.1	8087.7	8034.0	8027.4	7751.0	5954.4
65°	6369.1	6466.7	6629.0	7324.4	8360.9	8521.1	8606.5	8684.5	8519.9	7842.1	5368.8
67.5°	6647.6	6801.2	7166.5	8008.7	9095.7	9332.6	9575.0	9492.7	8593.4	6917.5	4090.0
70°	7022.8	7210.3	7855.1	8902.7	10092.6	10489.7	10692.6	9428.0	7295.9	4779.8	2157.4
72°	6785.8	6955.8	8067.9	9358.9	10799.1	11163.1	10655.3	8223.8	5288.7	2477.6	722.7
72.5°	6555.6	6731.0	7999.9	9353.4	10869.2	11147.7	10413.0	7748.8	4680.0	1928.1	497.9
75°	4548.4	4769.9	6858.2	8408.0	9815.2	9509.2	7967.1	4692.0	1695.6	331.3	164.5
77.5°	2351.6	2522.6	4160.1	5941.3	6840.8	6264.9	4708.6	2035.6	469.5	175.4	108.5
80°	1457.6	1542.1	1945.6	2927.3	3553.7	3108.3	2077.3	822.6	300.6	104.3	86.6
82.5°	754.5	819.3	1225.1	1181.2	1312.9	1091.4	766.7	688.8	185.4	64.7	88.8
85°	247.9	263.3	752.4	785.3	561.6	377.3	340.0	657.0	53.8	41.7	75.6
87.5°	32.9	38.4	264.3	449.7	276.4	171.0	204.1	231.5	18.7	23.0	20.8
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°	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0	2233.0
2.5°	2189.2	2174.9	2130.1	2085.0	2033.5	1986.3	1949.1	1924.9	1935.8	1899.6	1905.1
5°	2126.6	2090.4	1991.8	1885.5	1770.2	1662.8	1577.2	1513.6	1501.4	1446.7	1448.8
7.5°	2066.3	2007.2	1846.9	1671.4	1480.6	1326.0	1185.7	1062.8	1018.9	973.9	947.6
10°	2033.5	1952.2	1725.3	1469.6	1200.9	973.9	776.6	621.8	557.2	510.0	487.1
12.5°	2043.4	1935.8	1634.2	1286.6	933.3	645.0	438.7	325.7	286.3	264.3	256.6
15°	2076.3	1939.1	1551.9	1107.8	678.8	390.5	257.8	220.4	217.2	216.0	215.0
17.5°	2107.0	1942.4	1465.3	921.3	454.1	249.0	207.2	204.1	204.1	204.1	204.1
20°	2138.8	1943.6	1369.8	726.1	298.3	204.1	195.2	193.0	195.2	195.2	195.2
22.5°	2176.1	1951.2	1277.7	536.4	220.4	192.0	186.5	185.4	186.5	186.5	185.4
25°	2222.0	1967.6	1177.9	383.8	199.7	184.2	178.9	177.7	178.9	177.7	177.7
27.5°	2283.5	1989.6	1061.6	275.3	190.8	176.5	171.0	171.0	171.0	170.0	170.0
30°	2362.5	2015.8	905.9	217.2	182.0	168.9	164.5	164.5	163.4	162.4	162.4
32.5°	2475.5	2058.6	735.9	196.3	172.1	159.0	154.7	155.8	154.7	153.5	152.4
35°	2635.5	2125.6	568.2	185.4	162.4	149.2	144.7	144.7	144.7	142.7	142.7
37.5°	2862.5	2227.5	425.5	174.5	152.4	139.2	133.8	133.8	132.7	130.6	131.6
40°	3143.3	2356.0	308.2	164.5	142.7	128.3	124.0	121.7	119.6	117.4	117.4
42.5°	3481.2	2480.9	231.5	154.7	132.7	119.6	114.1	111.8	107.4	105.3	104.3
45°	3859.6	2613.7	192.0	142.7	121.7	109.7	105.3	100.9	95.4	92.2	91.1
47.5°	4178.7	2694.8	171.0	130.6	110.9	99.8	95.4	88.8	82.3	80.0	80.0
50°	4370.8	2660.8	153.5	118.4	99.8	89.9	84.4	75.6	71.2	69.1	68.0
52.5°	4478.2	2559.9	139.2	108.5	89.9	79.1	71.2	63.6	61.4	59.2	59.2
55°	4551.7	2414.0	124.0	98.8	81.1	69.1	60.4	54.8	52.6	51.6	50.5
57.5°	4621.9	2236.4	109.7	89.9	72.5	61.4	51.6	49.3	44.9	43.8	43.8
60°	4642.7	1991.8	96.5	80.0	64.7	53.8	44.9	41.7	37.3	36.2	36.2
62.5°	4377.4	1584.9	85.6	68.0	57.0	46.1	39.4	35.2	30.7	30.7	30.7
65°	3657.8	1076.0	73.5	59.2	50.5	39.4	34.0	28.6	26.3	26.3	26.3
67.5°	2547.9	600.0	62.5	50.5	42.8	32.9	28.6	24.2	23.0	24.2	24.2
70°	1148.4	238.1	52.6	41.7	35.2	27.4	24.2	20.8	23.0	23.0	23.0
72°	344.4	127.2	43.8	34.0	28.6	24.2	20.8	19.8	21.9	23.0	23.0
72.5°	255.6	114.1	41.7	32.9	28.6	23.0	19.8	19.8	21.9	23.0	23.0
75°	131.6	77.9	31.8	24.2	20.8	18.7	16.4	18.7	21.9	21.9	21.9
77.5°	103.0	63.6	26.3	18.7	17.5	16.4	15.4	17.5	19.8	19.8	19.8
80°	96.5	41.7	20.8	17.5	15.4	14.3	14.3	15.4	17.5	18.7	18.7
82.5°	97.6	34.0	18.7	16.4	14.3	13.1	13.1	14.3	16.4	17.5	17.5
85°	62.5	23.0	16.4	14.3	13.1	12.0	12.0	13.1	15.4	16.4	16.4
87.5°	20.8	17.5	14.3	13.1	11.0	11.0	11.0	11.0	13.1	14.3	15.4
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)