

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: P270447

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7027-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270447
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-03-D-UNV-SL4-7027-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 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: 14064.6 lumens
Efficiency: N/A
Efficacy: 73.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G3

Input Watts (W): 191
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

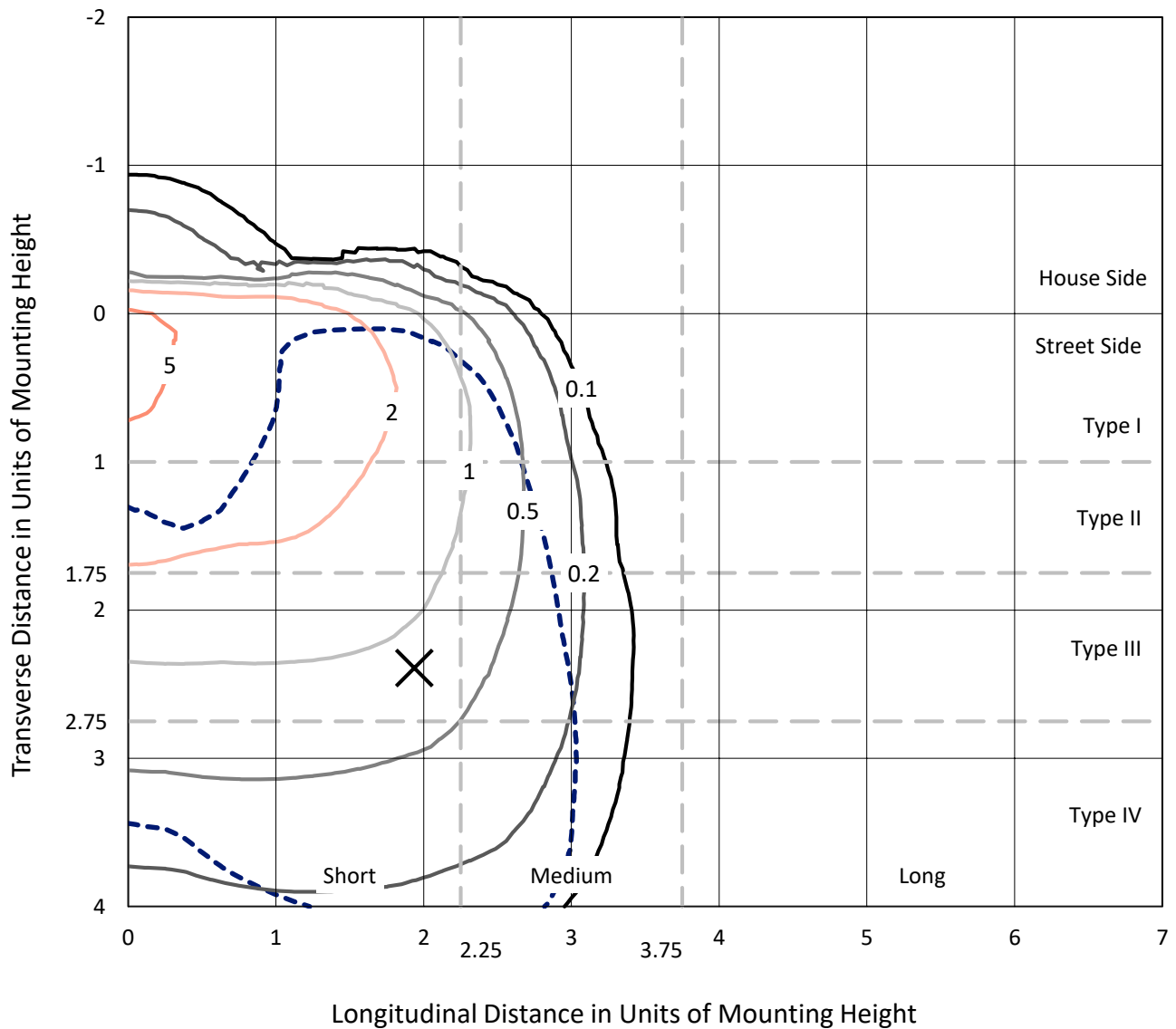


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

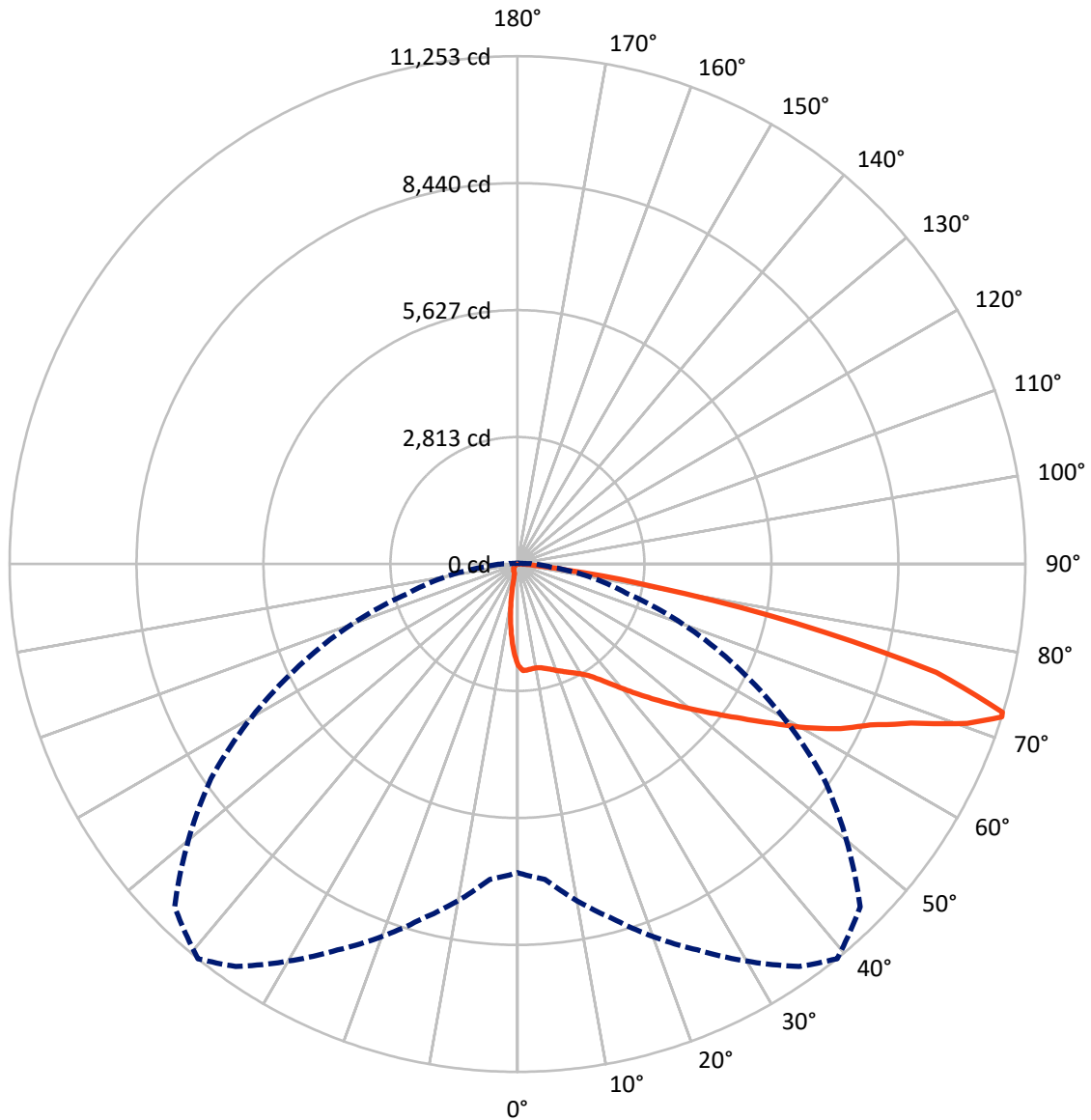


Based on 20 foot mounting height. Maximum calculated value = 5.9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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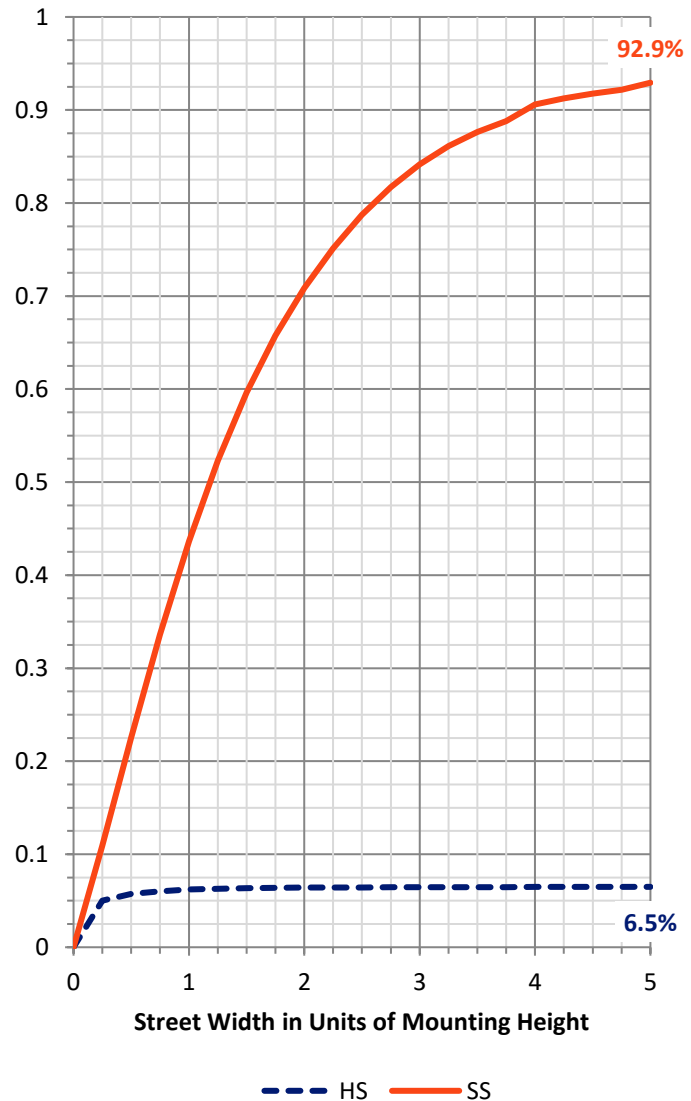
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	921.7	0.0	921.7
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	13142.8	0.0	13142.8
	% Fixture	93.4	0.0	93.4
Total	Lumens	14064.6	0.0	14064.6
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.1	1.3
10°-20°	443.3	3.2
20°-30°	736.2	5.2
30°-40°	1173.4	8.3
40°-50°	1936.8	13.8
50°-60°	2925.0	20.8
60°-70°	3810.2	27.1
70°-80°	2574.6	18.3
80°-90°	282.0	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°	14064.6	100.0
0°-180°	14064.6	100.0



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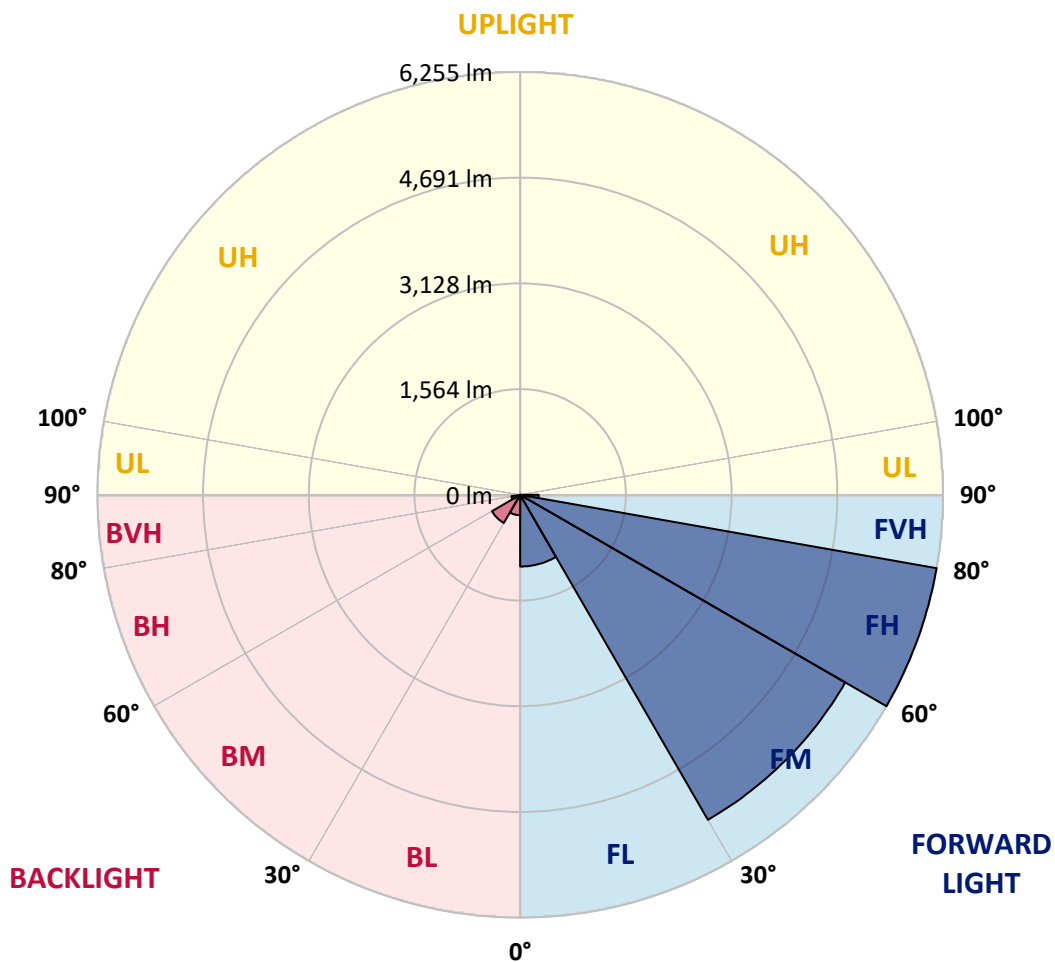
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1060.8	7.5			
FM	(30°-60°)	5552.9	39.5			
FH	(60°-80°)	6255.3	44.5			G3/7500
FVH	(80°-90°)	273.9	1.9			G3/500
BL	(0°-30°)	301.8	2.1	B1/500		
BM	(30°-60°)	482.3	3.4	B1/1000		
BH	(60°-80°)	129.6	0.9	B1/500		G1/500
BVH	(80°-90°)	8.1	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°	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2
2.5°	2397.0	2401.4	2396.0	2386.0	2371.6	2362.8	2350.7	2324.2	2290.9	2262.2	2229.1
5°	2415.9	2418.1	2411.5	2392.6	2370.5	2358.4	2342.9	2314.2	2279.9	2240.1	2180.4
7.5°	2421.4	2420.4	2412.6	2389.3	2355.0	2339.5	2313.0	2277.7	2242.3	2205.8	2138.3
10°	2419.1	2419.1	2413.7	2391.6	2352.8	2338.5	2308.6	2271.1	2226.8	2190.3	2118.5
12.5°	2411.5	2415.9	2412.6	2400.5	2371.6	2360.6	2334.1	2296.4	2254.4	2216.8	2140.7
15°	2421.4	2428.1	2434.6	2430.3	2413.7	2403.8	2379.4	2340.8	2306.4	2266.7	2184.8
17.5°	2461.1	2475.5	2491.1	2492.2	2474.6	2456.8	2429.1	2389.3	2356.2	2319.8	2231.2
20°	2536.5	2547.5	2576.2	2581.6	2546.3	2521.0	2482.2	2435.8	2402.5	2371.6	2274.4
22.5°	2648.1	2660.2	2683.4	2675.7	2616.0	2586.1	2537.5	2484.4	2450.1	2432.5	2324.2
25°	2817.3	2820.6	2826.1	2791.8	2693.4	2660.2	2600.6	2540.9	2513.2	2510.9	2394.9
27.5°	3016.2	3020.7	2996.3	2920.1	2779.6	2736.5	2669.0	2614.8	2601.6	2618.2	2484.4
30°	3244.0	3245.1	3177.7	3053.9	2879.2	2831.5	2762.0	2702.2	2714.4	2755.3	2599.4
32.5°	3477.2	3466.3	3373.3	3212.0	3015.2	2957.7	2897.9	2838.3	2873.6	2956.5	2767.5
35°	3690.6	3686.3	3576.8	3388.9	3192.0	3141.3	3098.1	3035.1	3092.5	3227.4	2996.3
37.5°	3904.2	3900.8	3775.8	3580.1	3409.8	3373.3	3341.3	3292.6	3386.7	3584.5	3302.6
40°	4139.6	4134.1	3980.4	3792.5	3663.1	3643.2	3624.4	3603.5	3763.7	4039.0	3684.0
42.5°	4430.4	4406.0	4197.2	4023.5	3941.8	3947.2	3948.3	3969.3	4220.3	4579.6	4134.1
45°	4764.3	4710.2	4414.9	4271.3	4247.9	4281.1	4314.3	4401.6	4752.2	5202.2	4631.7
47.5°	5088.3	5001.0	4665.8	4537.7	4585.2	4653.8	4733.3	4903.6	5349.1	5853.4	5082.7
50°	5367.0	5277.4	4914.6	4808.5	4960.0	5061.7	5203.3	5460.8	5979.5	6403.9	5367.0
52.5°	5585.8	5515.1	5177.8	5107.0	5375.7	5515.1	5737.2	6075.6	6574.2	6766.7	5565.9
55°	5747.3	5711.9	5430.0	5439.9	5837.9	6039.1	6315.5	6698.1	7076.3	7048.6	5715.1
57.5°	5929.7	5902.0	5694.1	5832.3	6394.0	6653.8	6973.5	7280.9	7441.1	7275.3	5861.1
60°	6116.5	6125.5	6014.8	6307.8	7081.8	7369.2	7647.9	7724.2	7754.0	7505.2	6014.8
62.5°	6258.0	6295.6	6305.7	6820.8	7787.1	8032.6	8153.1	8098.9	8092.4	7813.7	6002.7
65°	6420.5	6519.0	6682.6	7383.6	8428.4	8590.0	8676.2	8754.6	8588.9	7905.5	5412.3
67.5°	6701.4	6856.3	7224.3	8073.5	9169.3	9408.0	9652.5	9569.6	8662.9	6973.5	4123.0
70°	7079.6	7268.6	7918.7	8974.6	10174.4	10574.6	10779.1	9504.2	7355.0	4818.5	2174.8
72°	6840.8	7012.1	8133.3	9434.7	10886.4	11253.4	10741.6	8290.3	5331.5	2497.6	728.6
72.5°	6608.7	6785.4	8064.8	9429.1	10957.2	11237.9	10497.1	7811.5	4717.9	1943.8	502.0
75°	4585.2	4808.5	6913.7	8476.0	9894.7	9586.2	8031.6	4730.0	1709.4	333.9	165.8
77.5°	2370.5	2543.0	4193.7	5989.4	6896.0	6315.5	4746.6	2052.1	473.2	176.8	109.5
80°	1469.4	1554.5	1961.4	2951.0	3582.4	3133.5	2094.0	829.2	303.0	105.0	87.3
82.5°	760.8	825.9	1235.0	1190.9	1323.6	1100.2	772.8	694.4	186.8	65.2	89.6
85°	249.9	265.4	758.4	791.6	566.1	380.3	342.8	662.3	54.2	42.0	76.3
87.5°	33.1	38.6	266.4	453.4	278.7	172.5	205.6	233.3	18.9	23.3	21.0
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°	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2	2251.2
2.5°	2206.9	2192.6	2147.2	2101.9	2049.9	2002.3	1964.8	1940.5	1951.5	1914.9	1920.5
5°	2143.8	2107.5	2007.9	1900.6	1784.6	1676.1	1589.9	1525.9	1513.6	1458.4	1460.6
7.5°	2083.1	2023.3	1861.9	1685.0	1492.7	1336.8	1195.3	1071.4	1027.1	981.8	955.3
10°	2049.9	1968.0	1739.2	1481.6	1210.6	981.8	782.9	626.8	561.7	514.1	491.0
12.5°	2059.9	1951.5	1647.4	1297.0	941.0	650.2	442.2	328.4	288.5	266.4	258.7
15°	2093.1	1954.8	1564.5	1116.8	684.4	393.5	259.8	222.2	218.9	217.7	216.8
17.5°	2124.0	1958.1	1477.2	928.8	457.7	250.9	208.9	205.6	205.6	205.6	205.6
20°	2156.0	1959.3	1381.0	731.9	300.8	205.6	196.8	194.7	196.8	196.8	196.8
22.5°	2193.7	1967.0	1288.1	540.7	222.2	193.4	187.9	186.8	187.9	187.9	186.8
25°	2240.1	1983.5	1187.5	387.0	201.2	185.8	180.2	179.1	180.2	179.1	179.1
27.5°	2301.9	2005.6	1070.3	277.5	192.3	178.0	172.5	172.5	172.5	171.3	171.3
30°	2381.5	2032.2	913.2	218.9	183.6	170.3	165.8	165.8	164.7	163.6	163.6
32.5°	2495.5	2075.4	741.9	197.8	173.6	160.3	155.9	157.1	155.9	154.8	153.7
35°	2656.8	2142.7	572.7	186.8	163.6	150.3	146.0	146.0	146.0	143.6	143.6
37.5°	2885.7	2245.7	429.0	175.8	153.7	140.4	134.8	134.8	133.8	131.6	132.7
40°	3168.9	2374.9	310.8	165.8	143.6	129.4	125.0	122.7	120.6	118.2	118.2
42.5°	3509.4	2501.1	233.3	155.9	133.8	120.6	115.1	112.7	108.3	106.1	105.0
45°	3890.7	2634.8	193.4	143.6	122.7	110.6	106.1	101.7	96.2	92.9	91.7
47.5°	4212.6	2716.7	172.5	131.6	111.7	100.6	96.2	89.6	83.0	80.7	80.7
50°	4406.0	2682.3	154.8	119.5	100.6	90.6	85.1	76.3	71.9	69.7	68.5
52.5°	4514.4	2580.7	140.4	109.5	90.6	79.6	71.9	64.0	62.0	59.6	59.6
55°	4588.5	2433.6	125.0	99.5	81.8	69.7	60.8	55.2	53.1	51.9	50.8
57.5°	4659.2	2254.4	110.6	90.6	73.0	62.0	51.9	49.8	45.4	44.2	44.2
60°	4680.3	2007.9	97.2	80.7	65.2	54.2	45.4	42.0	37.5	36.6	36.6
62.5°	4412.7	1597.6	86.2	68.5	57.5	46.4	39.9	35.4	30.9	30.9	30.9
65°	3687.5	1084.7	74.1	59.6	50.8	39.9	34.2	28.7	26.5	26.5	26.5
67.5°	2568.4	604.7	63.1	50.8	43.1	33.1	28.7	24.3	23.3	24.3	24.3
70°	1157.6	239.9	53.1	42.0	35.4	27.7	24.3	21.0	23.3	23.3	23.3
72°	347.1	128.3	44.2	34.2	28.7	24.3	21.0	19.9	22.1	23.3	23.3
72.5°	257.6	115.1	42.0	33.1	28.7	23.3	19.9	19.9	22.1	23.3	23.3
75°	132.7	78.5	32.1	24.3	21.0	18.9	16.6	18.9	22.1	22.1	22.1
77.5°	103.9	64.0	26.5	18.9	17.6	16.6	15.5	17.6	19.9	19.9	19.9
80°	97.2	42.0	21.0	17.6	15.5	14.4	14.4	15.5	17.6	18.9	18.9
82.5°	98.5	34.2	18.9	16.6	14.4	13.2	13.2	14.4	16.6	17.6	17.6
85°	63.1	23.3	16.6	14.4	13.2	12.1	12.1	13.2	15.5	16.6	16.6
87.5°	21.0	17.6	14.4	13.2	11.0	11.0	11.0	11.0	13.2	14.4	15.5
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)