

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: P195687

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7050-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195687
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-SL4-7050-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 5000K, 1050mA 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: 14756 lumens
Efficiency: N/A
Efficacy: 88.9 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): 166
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

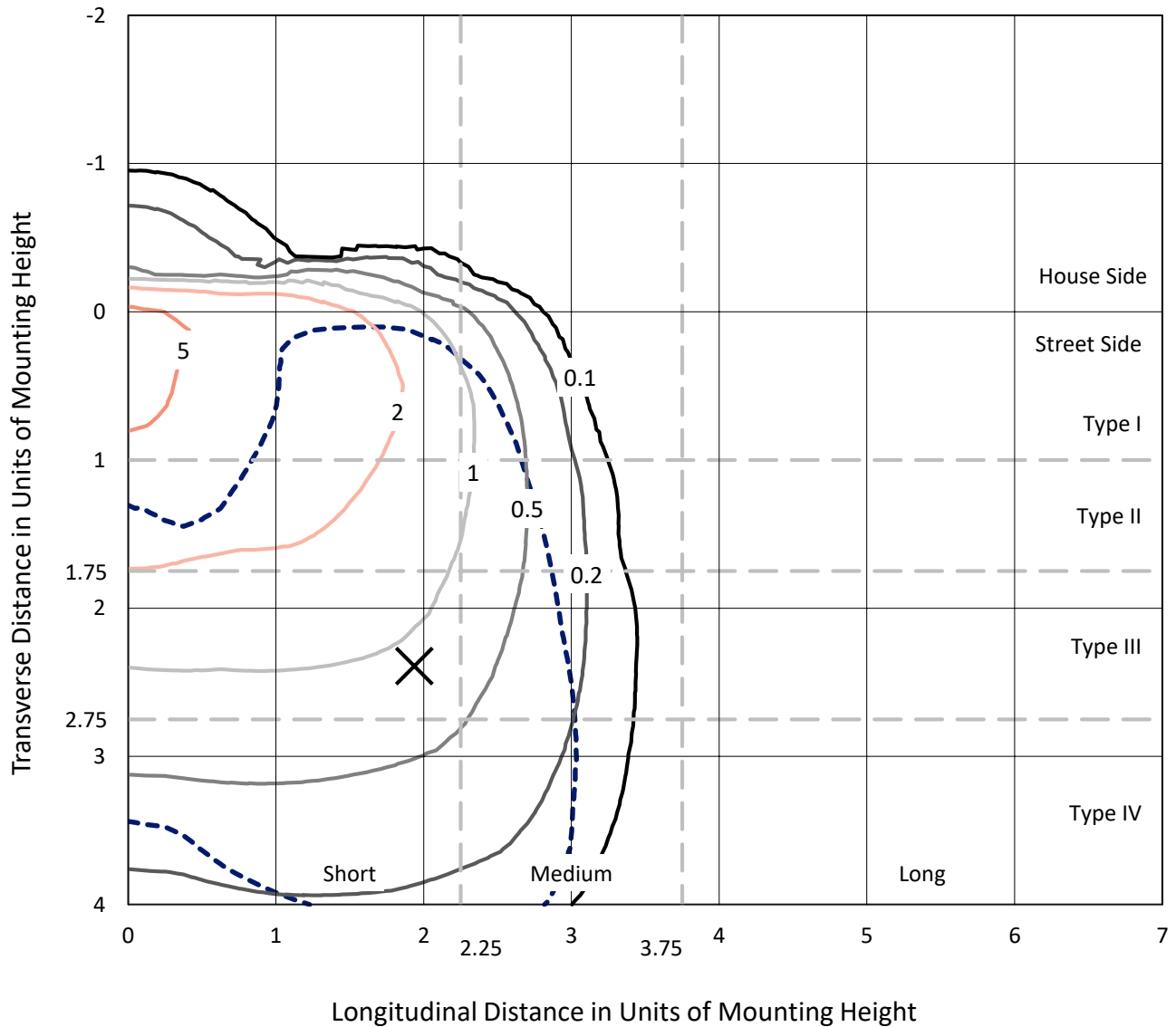


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Iso-Footcandle Lines of Horizontal Illumination

✕ Max cd
 - - - 1/2 Max cd

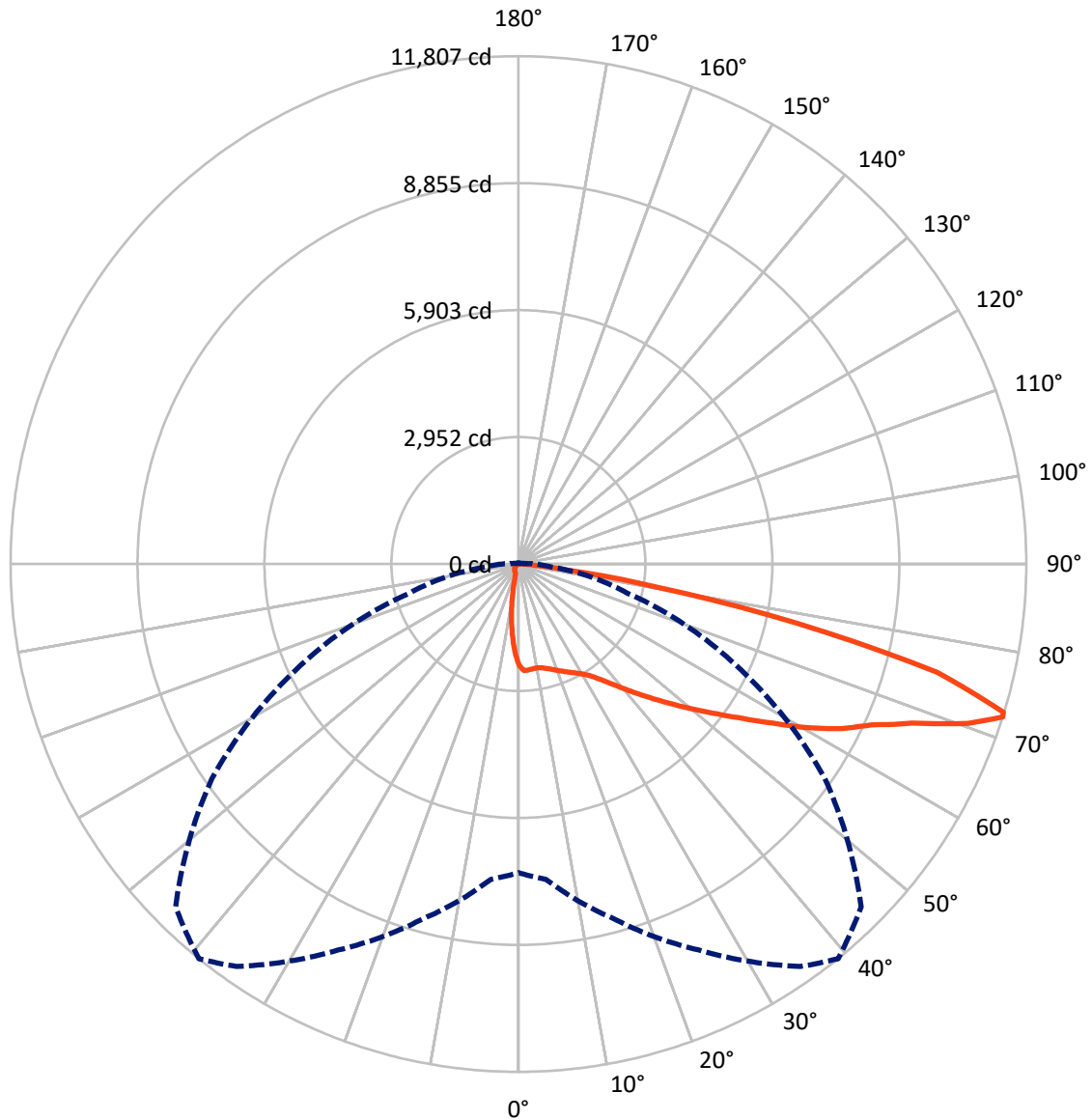


Based on 20 foot mounting height. Maximum calculated value = 6.2 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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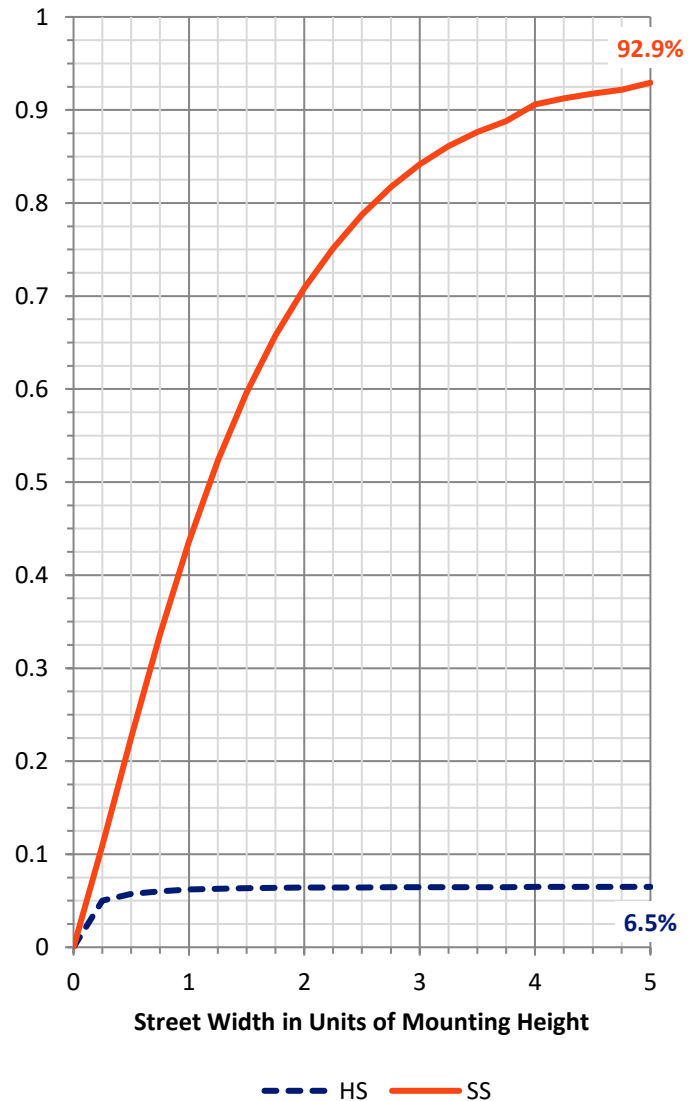
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	967.1	0.0	967.1
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	13788.9	0.0	13788.9
	% Fixture	93.4	0.0	93.4
Total	Lumens	14756.0	0.0	14756.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.1	1.3
10°-20°	465.1	3.2
20°-30°	772.4	5.2
30°-40°	1231.1	8.3
40°-50°	2032.0	13.8
50°-60°	3068.7	20.8
60°-70°	3997.5	27.1
70°-80°	2701.2	18.3
80°-90°	295.8	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°	14756.0	100.0
0°-180°	14756.0	100.0



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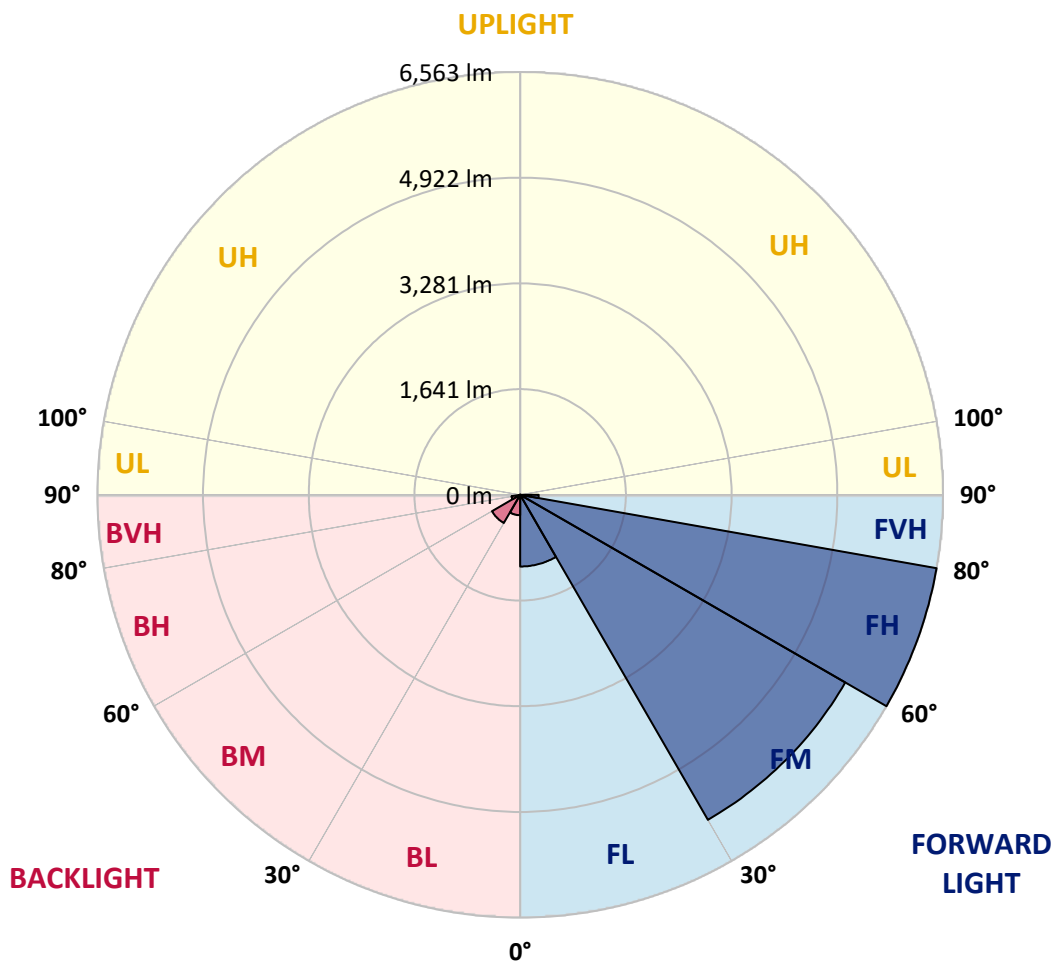
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1112.9	7.5			
FM	(30°-60°)	5825.9	39.5			
FH	(60°-80°)	6562.8	44.5			G3/7500
FVH	(80°-90°)	287.3	1.9			G3/500
BL	(0°-30°)	316.7	2.1	B1/500		
BM	(30°-60°)	506.0	3.4	B1/1000		
BH	(60°-80°)	135.9	0.9	B1/500		G1/500
BVH	(80°-90°)	8.5	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°	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8
2.5°	2514.9	2519.6	2513.8	2503.3	2488.2	2479.0	2466.2	2438.4	2403.6	2373.4	2338.6
5°	2534.6	2537.0	2530.0	2510.3	2487.1	2474.3	2458.1	2427.9	2392.0	2350.2	2287.6
7.5°	2540.4	2539.3	2531.2	2506.8	2470.8	2454.6	2426.8	2389.6	2352.5	2314.2	2243.5
10°	2538.1	2538.1	2532.3	2509.1	2468.5	2453.4	2422.1	2382.7	2336.3	2298.0	2222.6
12.5°	2530.0	2534.6	2531.2	2518.4	2488.2	2476.6	2448.8	2409.4	2365.3	2325.8	2245.8
15°	2540.4	2547.4	2554.4	2549.7	2532.3	2521.9	2496.4	2455.8	2419.8	2378.0	2292.2
17.5°	2582.2	2597.3	2613.5	2614.7	2596.1	2577.6	2548.6	2506.8	2472.0	2433.7	2340.9
20°	2661.1	2672.7	2702.8	2708.6	2671.5	2644.8	2604.2	2555.5	2520.7	2488.2	2386.2
22.5°	2778.2	2791.0	2815.4	2807.2	2744.6	2713.3	2662.2	2606.6	2570.6	2552.0	2438.4
25°	2955.7	2959.2	2965.0	2929.0	2825.8	2791.0	2728.4	2665.7	2636.7	2634.4	2512.6
27.5°	3164.5	3169.2	3143.6	3063.6	2916.3	2871.0	2800.3	2743.4	2729.5	2746.9	2606.6
30°	3403.5	3404.6	3333.9	3204.0	3020.7	2970.8	2897.7	2835.1	2847.8	2890.8	2727.2
32.5°	3648.3	3636.7	3539.2	3369.8	3163.4	3103.0	3040.4	2977.8	3014.9	3101.9	2903.5
35°	3872.1	3867.5	3752.7	3555.5	3349.0	3295.6	3250.4	3184.2	3244.6	3386.1	3143.6
37.5°	4096.0	4092.5	3961.5	3756.1	3577.5	3539.2	3505.6	3454.5	3553.1	3760.8	3465.0
40°	4343.1	4337.3	4176.1	3978.9	3843.1	3822.3	3802.5	3780.5	3948.7	4237.5	3865.2
42.5°	4648.2	4622.7	4403.4	4221.3	4135.5	4141.3	4142.4	4164.5	4427.8	4804.8	4337.3
45°	4998.5	4941.7	4631.9	4481.1	4456.8	4491.6	4526.4	4618.0	4985.8	5457.9	4859.3
47.5°	5338.4	5246.8	4895.3	4760.7	4810.6	4882.5	4966.0	5144.7	5612.2	6141.1	5332.6
50°	5630.7	5536.8	5156.3	5044.9	5203.8	5310.6	5459.0	5729.3	6273.4	6718.8	5630.7
52.5°	5860.4	5786.2	5432.4	5358.1	5640.0	5786.2	6019.3	6374.3	6897.5	7099.3	5839.5
55°	6029.8	5992.6	5696.8	5707.3	6124.9	6336.0	6626.0	7027.4	7424.1	7395.1	5996.1
57.5°	6221.2	6192.2	5974.1	6119.1	6708.4	6981.0	7316.2	7638.7	7806.9	7632.9	6149.2
60°	6417.2	6426.5	6310.5	6617.9	7429.9	7731.5	8023.8	8103.9	8135.2	7874.2	6310.5
62.5°	6565.7	6605.1	6615.6	7156.1	8170.0	8427.5	8554.0	8497.1	8490.2	8197.8	6297.7
65°	6736.2	6839.5	7011.1	7746.6	8842.8	9012.2	9102.6	9185.0	9011.0	8294.1	5678.3
67.5°	7030.9	7193.3	7579.5	8470.4	9620.0	9870.6	10126.9	10039.9	9088.7	7316.2	4325.7
70°	7427.6	7625.9	8308.0	9415.9	10674.5	11094.4	11309.0	9971.5	7716.4	5055.4	2281.8
72°	7177.0	7356.8	8533.1	9898.4	11421.5	11806.6	11269.6	8697.8	5593.6	2620.5	764.5
72.5°	6933.4	7119.0	8461.2	9892.6	11495.8	11790.4	11013.2	8195.5	4949.8	2039.3	526.6
75°	4810.6	5044.9	7253.6	8892.7	10381.0	10057.3	8426.4	4962.5	1793.4	350.3	174.0
77.5°	2487.1	2668.0	4399.9	6283.8	7235.0	6626.0	4980.0	2153.0	496.5	185.6	114.8
80°	1541.7	1631.0	2057.9	3096.1	3758.5	3287.5	2197.1	870.0	317.8	110.2	91.6
82.5°	798.1	866.5	1295.7	1249.3	1388.5	1154.2	810.9	728.5	196.0	68.4	94.0
85°	262.2	278.4	795.8	830.6	593.9	399.0	359.6	694.8	56.8	44.1	80.0
87.5°	34.8	40.6	279.6	475.6	292.3	181.0	215.8	244.8	19.7	24.4	22.0
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°	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8	2361.8
2.5°	2315.4	2300.3	2252.8	2205.2	2150.7	2100.8	2061.3	2035.8	2047.4	2009.1	2014.9
5°	2249.3	2211.0	2106.6	1994.1	1872.3	1758.6	1668.1	1600.8	1588.1	1530.1	1532.4
7.5°	2185.5	2122.8	1953.5	1767.9	1566.0	1402.5	1254.0	1124.1	1077.7	1030.1	1002.3
10°	2150.7	2064.8	1824.7	1554.4	1270.2	1030.1	821.3	657.7	589.3	539.4	515.0
12.5°	2161.1	2047.4	1728.4	1360.7	987.2	682.1	464.0	344.5	302.8	279.6	271.4
15°	2195.9	2050.9	1641.4	1171.6	718.1	413.0	272.6	233.2	229.7	228.5	227.4
17.5°	2228.4	2054.4	1549.8	974.4	480.2	263.3	219.2	215.8	215.8	215.8	215.8
20°	2262.0	2055.5	1448.9	767.9	315.5	215.8	206.5	204.2	206.5	206.5	206.5
22.5°	2301.5	2063.7	1351.4	567.2	233.2	203.0	197.2	196.0	197.2	197.2	196.0
25°	2350.2	2081.1	1245.9	406.0	211.1	194.9	189.1	187.9	189.1	187.9	187.9
27.5°	2415.2	2104.3	1122.9	291.2	201.8	186.8	181.0	181.0	181.0	179.8	179.8
30°	2498.7	2132.1	958.2	229.7	192.6	178.6	174.0	174.0	172.8	171.7	171.7
32.5°	2618.2	2177.4	778.4	207.6	182.1	168.2	163.6	164.7	163.6	162.4	161.2
35°	2787.5	2248.1	600.9	196.0	171.7	157.8	153.1	153.1	153.1	150.8	150.8
37.5°	3027.6	2356.0	450.1	184.4	161.2	147.3	141.5	141.5	140.4	138.0	139.2
40°	3324.6	2491.7	326.0	174.0	150.8	135.7	131.1	128.8	126.4	124.1	124.1
42.5°	3681.9	2624.0	244.8	163.6	140.4	126.4	120.6	118.3	113.7	111.4	110.2
45°	4082.1	2764.3	203.0	150.8	128.8	116.0	111.4	106.7	100.9	97.4	96.3
47.5°	4419.7	2850.2	181.0	138.0	117.2	105.6	100.9	94.0	87.0	84.7	84.7
50°	4622.7	2814.2	162.4	125.3	105.6	95.1	89.3	80.0	75.4	73.1	71.9
52.5°	4736.3	2707.5	147.3	114.8	95.1	83.5	75.4	67.3	65.0	62.6	62.6
55°	4814.1	2553.2	131.1	104.4	85.8	73.1	63.8	58.0	55.7	54.5	53.4
57.5°	4888.3	2365.3	116.0	95.1	76.6	65.0	54.5	52.2	47.6	46.4	46.4
60°	4910.3	2106.6	102.1	84.7	68.4	56.8	47.6	44.1	39.4	38.3	38.3
62.5°	4629.6	1676.2	90.5	71.9	60.3	48.7	41.8	37.1	32.5	32.5	32.5
65°	3868.7	1138.0	77.7	62.6	53.4	41.8	36.0	30.2	27.8	27.8	27.8
67.5°	2694.7	634.5	66.1	53.4	45.2	34.8	30.2	25.5	24.4	25.5	25.5
70°	1214.5	251.7	55.7	44.1	37.1	29.0	25.5	22.0	24.4	24.4	24.4
72°	364.2	134.6	46.4	36.0	30.2	25.5	22.0	20.9	23.2	24.4	24.4
72.5°	270.3	120.6	44.1	34.8	30.2	24.4	20.9	20.9	23.2	24.4	24.4
75°	139.2	82.4	33.6	25.5	22.0	19.7	17.4	19.7	23.2	23.2	23.2
77.5°	109.0	67.3	27.8	19.7	18.6	17.4	16.2	18.6	20.9	20.9	20.9
80°	102.1	44.1	22.0	18.6	16.2	15.1	15.1	16.2	18.6	19.7	19.7
82.5°	103.2	36.0	19.7	17.4	15.1	13.9	13.9	15.1	17.4	18.6	18.6
85°	66.1	24.4	17.4	15.1	13.9	12.8	12.8	13.9	16.2	17.4	17.4
87.5°	22.0	18.6	15.1	13.9	11.6	11.6	11.6	11.6	13.9	15.1	16.2
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)