

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: P270603

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7027-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270603
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-SL4-7027-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 615mA 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: 14021.5 lumens
Efficiency: N/A
Efficacy: 86.6 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 - G3

Input Watts (W): 162
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

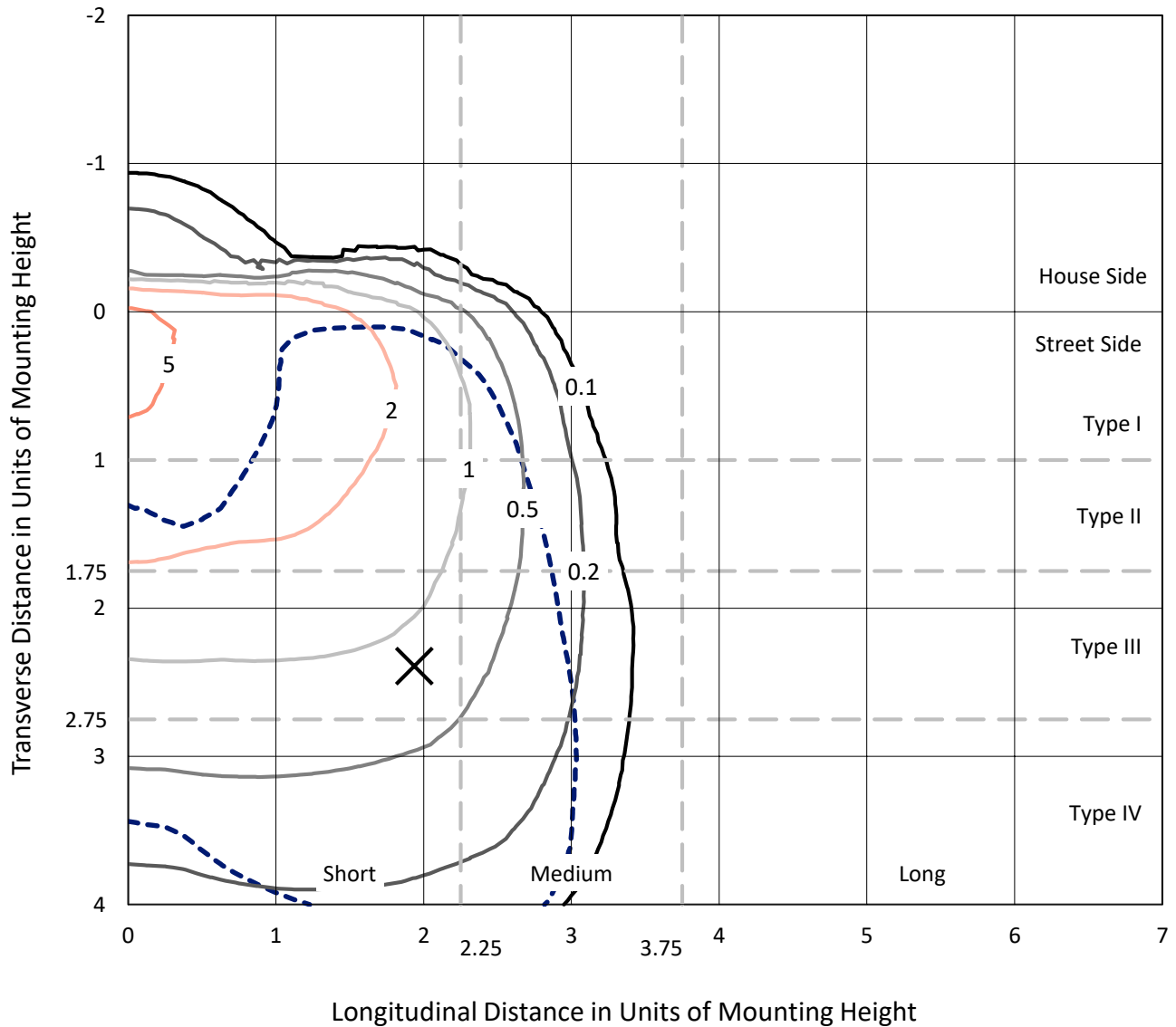


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

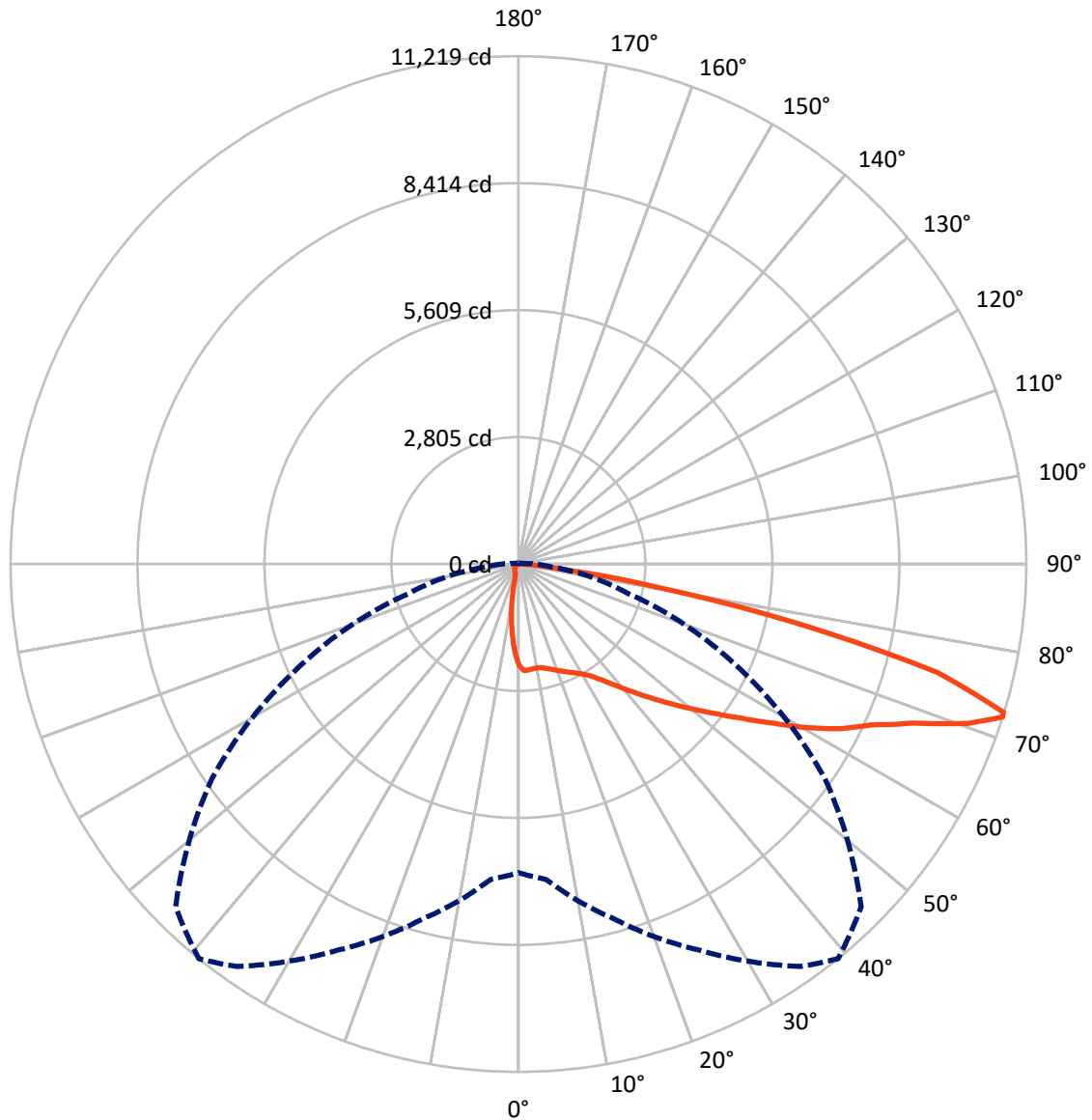


Based on 20 foot mounting height. Maximum calculated value = 5.9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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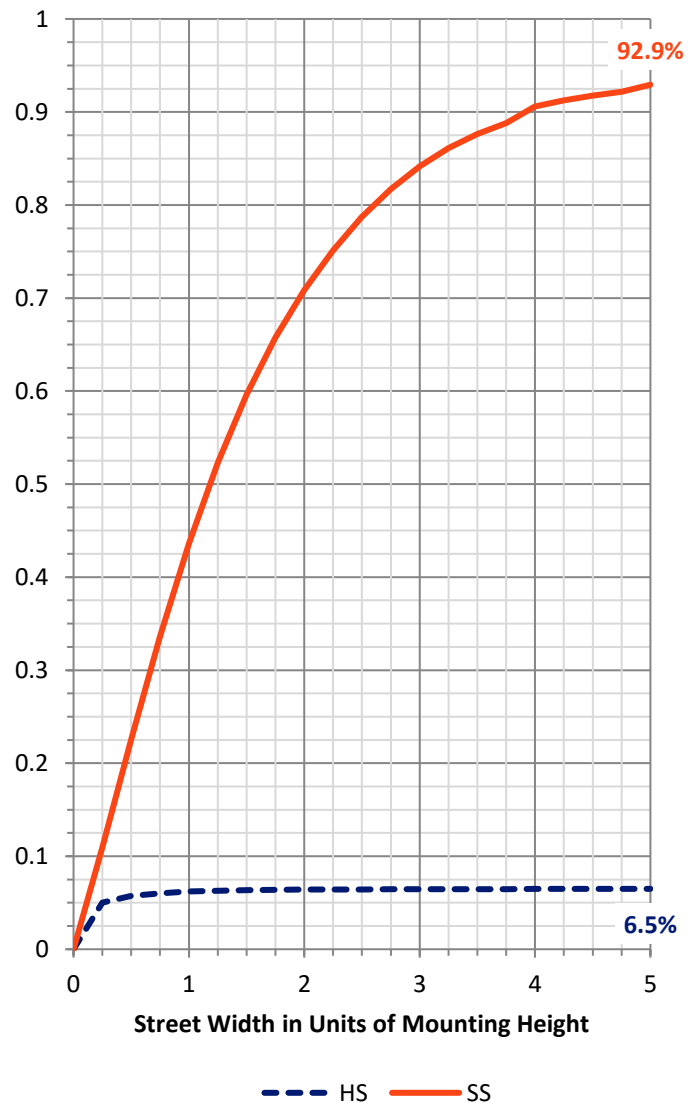
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	918.9	0.0	918.9
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	13102.5	0.0	13102.5
	% Fixture	93.4	0.0	93.4
Total	Lumens	14021.5	0.0	14021.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.5	1.3
10°-20°	441.9	3.2
20°-30°	734.0	5.2
30°-40°	1169.8	8.3
40°-50°	1930.9	13.8
50°-60°	2916.0	20.8
60°-70°	3798.5	27.1
70°-80°	2566.7	18.3
80°-90°	281.1	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°	14021.5	100.0
0°-180°	14021.5	100.0

Coefficient of Utilization



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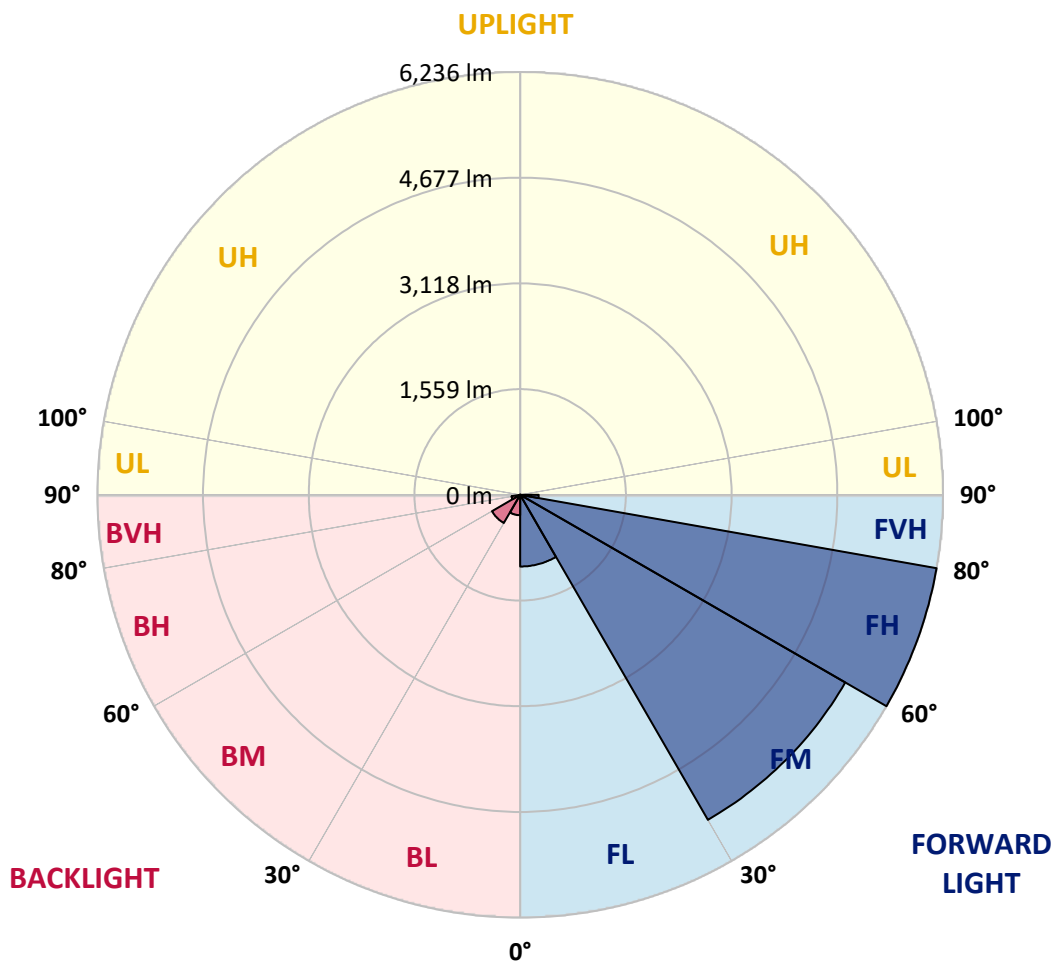
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1057.5	7.5			
FM	(30°-60°)	5535.9	39.5			
FH	(60°-80°)	6236.1	44.5			G3/7500
FVH	(80°-90°)	273.0	1.9			G3/500
BL	(0°-30°)	300.9	2.1	B1/500		
BM	(30°-60°)	480.8	3.4	B1/1000		
BH	(60°-80°)	129.2	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°	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2
2.5°	2389.8	2394.2	2388.7	2378.7	2364.3	2355.5	2343.4	2317.0	2283.9	2255.3	2222.1
5°	2408.4	2410.6	2404.0	2385.3	2363.4	2351.1	2335.8	2307.0	2272.9	2233.1	2173.7
7.5°	2413.9	2412.8	2405.1	2382.0	2347.8	2332.4	2305.9	2270.6	2235.4	2199.1	2131.8
10°	2411.8	2411.8	2406.3	2384.2	2345.7	2331.3	2301.5	2264.1	2220.0	2183.6	2111.9
12.5°	2404.0	2408.4	2405.1	2393.1	2364.3	2353.4	2326.9	2289.4	2247.5	2210.1	2134.1
15°	2413.9	2420.7	2427.2	2422.8	2406.3	2396.4	2372.1	2333.4	2299.3	2259.6	2178.1
17.5°	2453.6	2468.0	2483.5	2484.5	2466.8	2449.3	2421.7	2382.0	2349.0	2312.5	2224.5
20°	2528.5	2539.6	2568.3	2573.9	2538.5	2513.2	2474.7	2428.3	2395.2	2364.3	2267.4
22.5°	2639.8	2652.1	2675.2	2667.4	2608.0	2578.2	2529.6	2476.7	2442.6	2425.0	2317.0
25°	2808.6	2811.9	2817.4	2783.2	2685.2	2652.1	2592.6	2533.0	2505.5	2503.2	2387.5
27.5°	3006.9	3011.4	2987.1	2911.0	2771.1	2728.2	2660.9	2606.9	2593.6	2610.1	2476.7
30°	3234.1	3235.2	3168.0	3044.4	2870.4	2823.0	2753.5	2693.9	2706.1	2746.8	2591.4
32.5°	3466.6	3455.6	3363.1	3202.1	3005.9	2948.5	2889.0	2829.5	2864.9	2947.5	2759.0
35°	3679.4	3675.0	3565.8	3378.4	3182.2	3131.5	3088.6	3025.8	3083.1	3217.5	2987.1
37.5°	3892.1	3888.9	3764.3	3569.1	3399.4	3363.1	3331.1	3282.5	3376.3	3573.5	3292.5
40°	4127.0	4121.5	3968.2	3780.7	3651.8	3631.9	3613.3	3592.3	3752.1	4026.7	3672.8
42.5°	4416.7	4392.5	4184.2	4011.1	3929.5	3935.1	3936.3	3957.2	4207.4	4565.5	4121.5
45°	4749.7	4695.7	4401.3	4258.1	4234.9	4267.9	4301.1	4388.1	4737.5	5186.2	4617.4
47.5°	5072.6	4985.6	4651.6	4523.8	4571.1	4639.4	4718.8	4888.5	5332.8	5835.4	5067.1
50°	5350.5	5261.2	4899.5	4793.7	4944.8	5046.1	5187.4	5444.1	5961.2	6384.3	5350.5
52.5°	5568.7	5498.2	5161.9	5091.5	5359.3	5498.2	5719.7	6057.0	6554.2	6745.9	5548.8
55°	5729.6	5694.4	5413.2	5423.2	5819.9	6020.6	6296.2	6677.6	7054.5	7027.0	5697.6
57.5°	5911.4	5883.9	5676.7	5814.5	6374.5	6633.4	6952.1	7258.5	7418.3	7252.9	5843.1
60°	6097.8	6106.6	5996.4	6288.5	7060.0	7346.6	7624.5	7700.5	7730.3	7482.3	5996.4
62.5°	6238.9	6276.3	6286.2	6799.9	7763.3	8008.0	8128.1	8074.1	8067.5	7789.7	5984.1
65°	6401.0	6499.0	6662.1	7360.9	8402.6	8563.5	8649.5	8727.8	8562.5	7881.2	5395.6
67.5°	6680.9	6835.2	7202.3	8048.8	9141.2	9379.3	9622.9	9540.2	8636.2	6952.1	4110.4
70°	7057.9	7246.3	7894.5	8947.1	10143.1	10542.1	10746.1	9475.1	7332.2	4803.6	2168.1
72°	6819.8	6990.6	8108.3	9405.7	10853.0	11218.9	10708.5	8264.9	5315.1	2490.0	726.4
72.5°	6588.3	6764.6	8040.0	9400.1	10923.5	11203.5	10465.0	7787.5	4703.3	1937.9	500.4
75°	4571.1	4793.7	6892.4	8449.9	9864.2	9556.7	8007.0	4715.6	1704.2	332.9	165.4
77.5°	2363.4	2535.2	4180.9	5971.0	6874.9	6296.2	4732.0	2045.8	471.8	176.3	109.1
80°	1465.0	1549.8	1955.4	2941.9	3571.3	3123.9	2087.8	826.7	302.0	104.7	87.0
82.5°	758.3	823.3	1231.2	1187.1	1319.4	1096.8	770.4	692.2	186.3	65.0	89.3
85°	249.1	264.6	756.2	789.3	564.3	379.2	341.7	660.3	54.0	42.0	76.0
87.5°	33.1	38.5	265.7	451.9	277.8	171.9	205.1	232.7	18.8	23.1	20.9
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°	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2	2244.2
2.5°	2200.0	2185.8	2140.7	2095.4	2043.6	1996.3	1958.8	1934.5	1945.5	1909.2	1914.6
5°	2137.2	2101.0	2001.8	1894.9	1779.1	1671.0	1585.1	1521.1	1509.1	1453.8	1456.2
7.5°	2076.7	2017.1	1856.2	1679.9	1488.0	1332.6	1191.5	1068.2	1024.0	978.9	952.4
10°	2043.6	1962.1	1733.9	1477.1	1207.1	978.9	780.4	625.0	560.0	512.6	489.3
12.5°	2053.5	1945.5	1642.5	1293.0	938.0	648.1	440.9	327.4	287.6	265.7	258.0
15°	2086.7	1948.9	1559.6	1113.3	682.4	392.4	259.0	221.5	218.3	217.1	216.0
17.5°	2117.5	1952.1	1472.6	926.0	456.3	250.2	208.3	205.1	205.1	205.1	205.1
20°	2149.5	1953.3	1376.7	729.8	299.9	205.1	196.2	194.0	196.2	196.2	196.2
22.5°	2187.0	1960.9	1284.1	539.1	221.5	192.9	187.3	186.3	187.3	187.3	186.3
25°	2233.1	1977.4	1183.8	385.8	200.6	185.2	179.8	178.6	179.8	178.6	178.6
27.5°	2294.9	1999.4	1066.9	276.7	191.8	177.4	171.9	171.9	171.9	170.9	170.9
30°	2374.3	2025.9	910.5	218.3	183.0	169.8	165.4	165.4	164.2	163.1	163.1
32.5°	2487.9	2068.9	739.7	197.3	173.1	159.8	155.4	156.6	155.4	154.2	153.3
35°	2648.7	2136.2	571.0	186.3	163.1	149.8	145.4	145.4	145.4	143.3	143.3
37.5°	2876.9	2238.8	427.8	175.3	153.3	140.0	134.4	134.4	133.4	131.2	132.3
40°	3159.1	2367.8	309.7	165.4	143.3	128.9	124.5	122.3	120.2	117.9	117.9
42.5°	3498.5	2493.3	232.7	155.4	133.4	120.2	114.7	112.5	108.1	105.8	104.7
45°	3878.9	2626.7	192.9	143.3	122.3	110.2	105.8	101.4	95.8	92.5	91.4
47.5°	4199.7	2708.3	171.9	131.2	111.3	100.3	95.8	89.3	82.6	80.5	80.5
50°	4392.5	2674.2	154.2	119.0	100.3	90.4	84.9	76.0	71.7	69.4	68.4
52.5°	4500.6	2572.7	140.0	109.1	90.4	79.4	71.7	63.9	61.8	59.5	59.5
55°	4574.3	2426.1	124.5	99.3	81.6	69.4	60.6	55.2	52.9	51.8	50.8
57.5°	4645.0	2247.5	110.2	90.4	72.8	61.8	51.8	49.5	45.2	44.0	44.0
60°	4665.8	2001.8	96.9	80.5	65.0	54.0	45.2	42.0	37.5	36.4	36.4
62.5°	4399.2	1592.8	86.0	68.4	57.3	46.4	39.6	35.3	30.8	30.8	30.8
65°	3676.0	1081.3	73.8	59.5	50.8	39.6	34.1	28.7	26.5	26.5	26.5
67.5°	2560.6	602.9	62.8	50.8	42.9	33.1	28.7	24.3	23.1	24.3	24.3
70°	1154.1	239.2	52.9	42.0	35.3	27.6	24.3	20.9	23.1	23.1	23.1
72°	346.0	127.9	44.0	34.1	28.7	24.3	20.9	19.9	22.1	23.1	23.1
72.5°	256.8	114.7	42.0	33.1	28.7	23.1	19.9	19.9	22.1	23.1	23.1
75°	132.3	78.2	32.0	24.3	20.9	18.8	16.4	18.8	22.1	22.1	22.1
77.5°	103.7	63.9	26.5	18.8	17.6	16.4	15.5	17.6	19.9	19.9	19.9
80°	96.9	42.0	20.9	17.6	15.5	14.4	14.4	15.5	17.6	18.8	18.8
82.5°	98.2	34.1	18.8	16.4	14.4	13.2	13.2	14.4	16.4	17.6	17.6
85°	62.8	23.1	16.4	14.4	13.2	12.1	12.1	13.2	15.5	16.4	16.4
87.5°	20.9	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)