

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: P196647

Luminaire Tested: **NAV-AF-03-D-UNV-SL4-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196647
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-SL4-7030-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 3000K, 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: 14271.4 lumens
Efficiency: N/A
Efficacy: 86.0 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

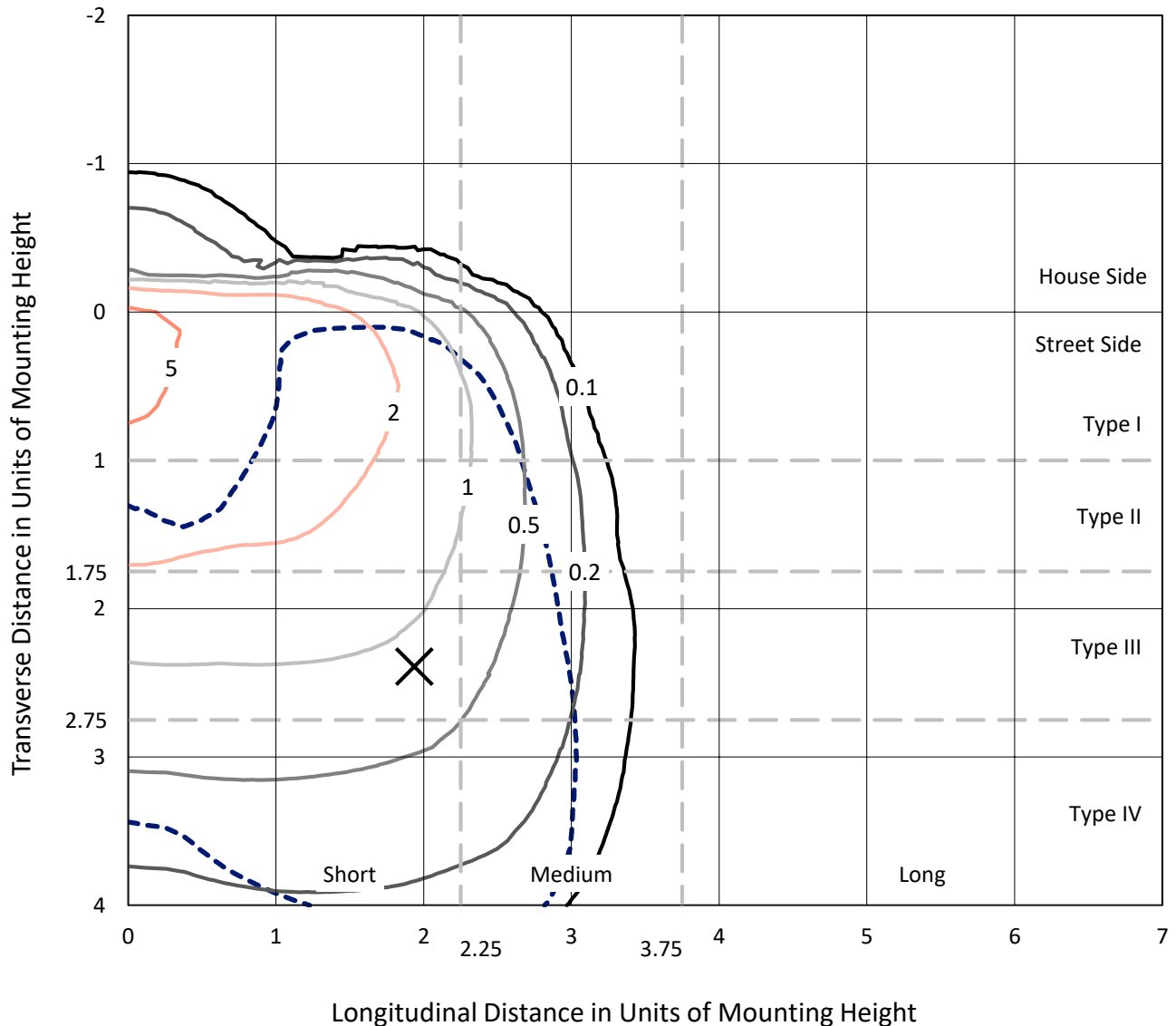


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Iso-Footcandle Lines of Horizontal Illumination

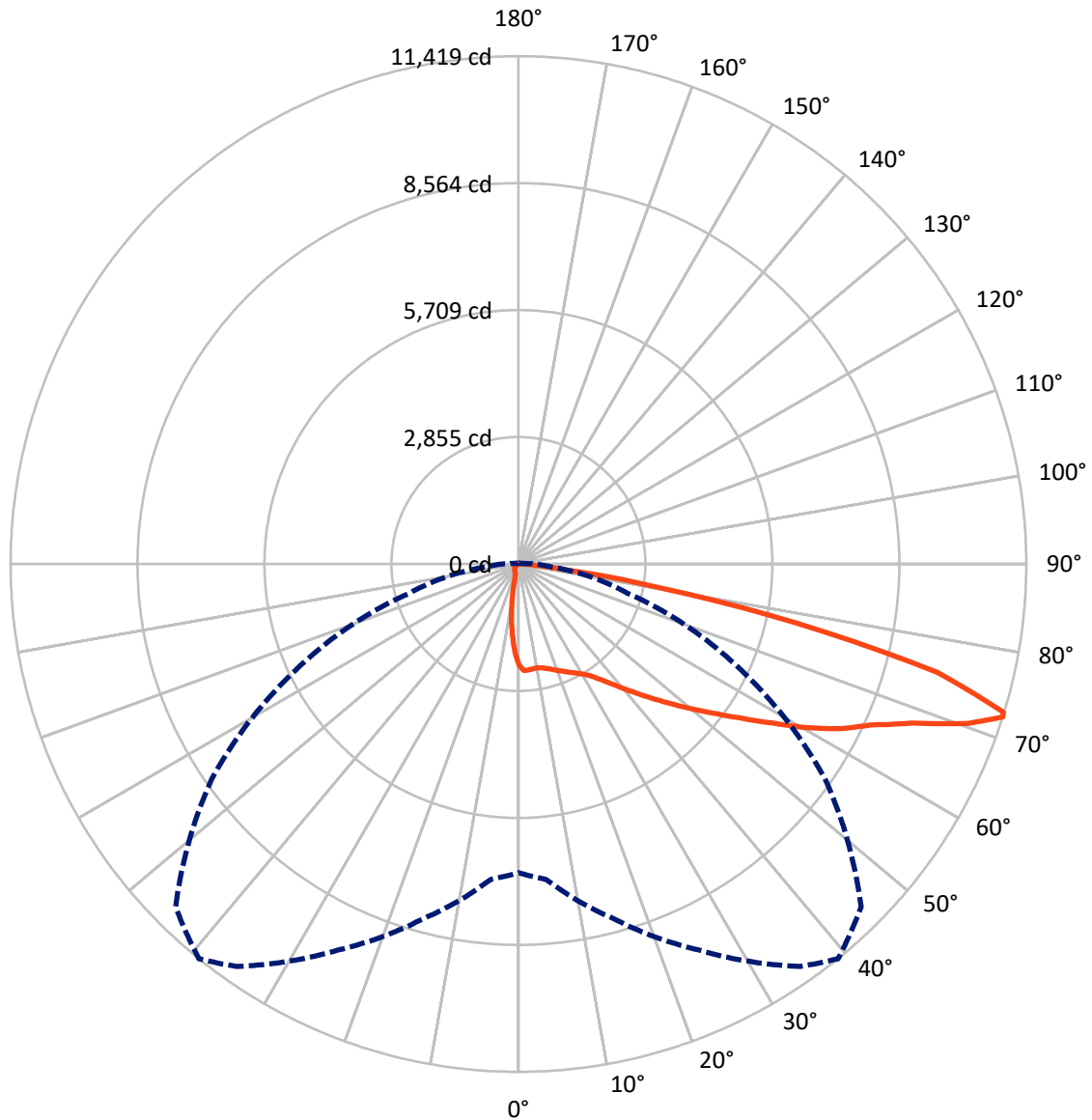
✕ Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 6 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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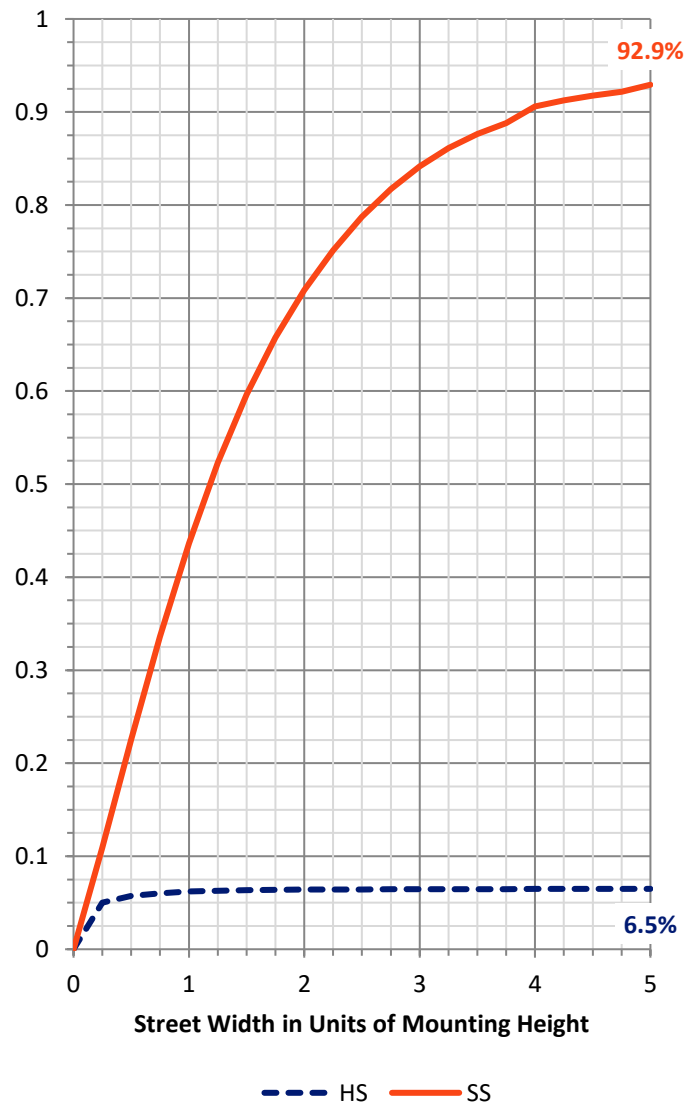
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	935.3	0.0	935.3
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	13336.1	0.0	13336.1
	% Fixture	93.4	0.0	93.4
Total	Lumens	14271.4	0.0	14271.4
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.8	1.3
10°-20°	449.8	3.2
20°-30°	747.1	5.2
30°-40°	1190.6	8.3
40°-50°	1965.3	13.8
50°-60°	2968.0	20.8
60°-70°	3866.3	27.1
70°-80°	2612.5	18.3
80°-90°	286.1	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°	14271.4	100.0
0°-180°	14271.4	100.0

Coefficient of Utilization



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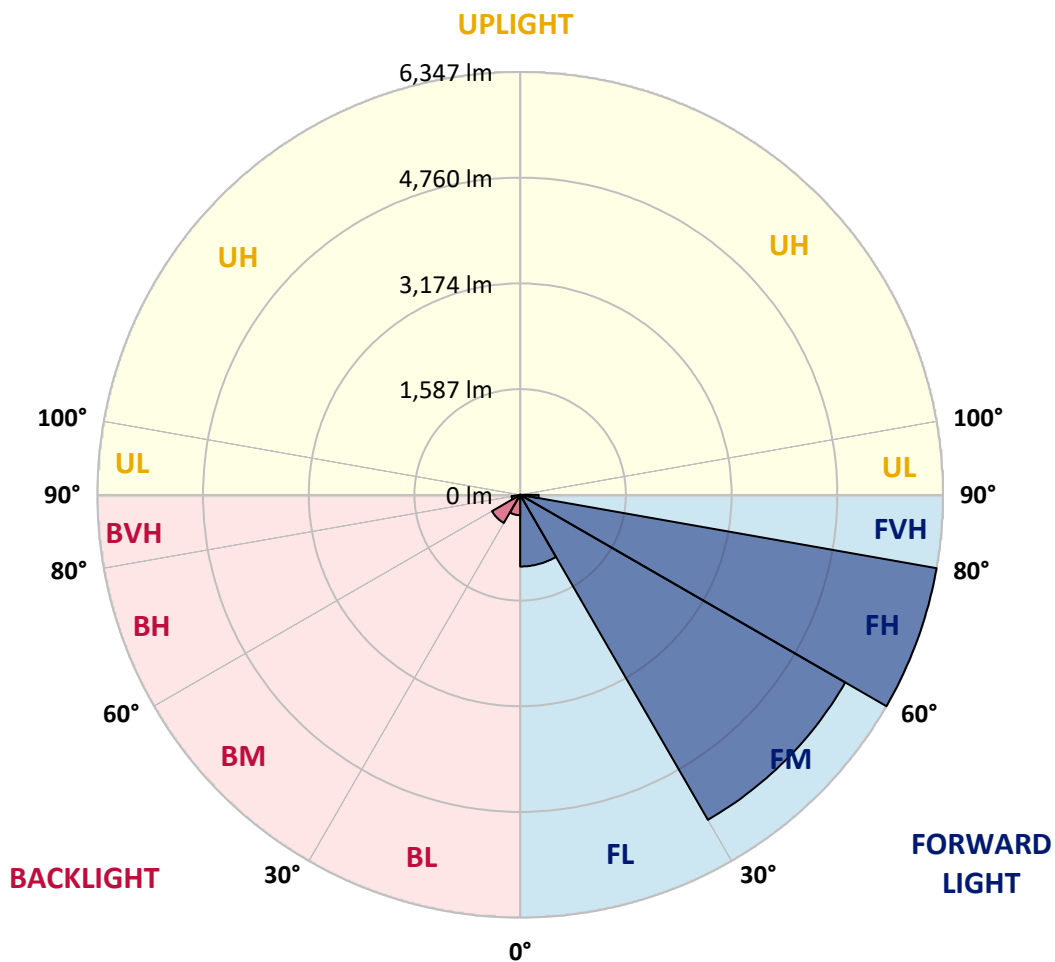
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1076.4	7.5			
FM	(30°-60°)	5634.5	39.5			
FH	(60°-80°)	6347.3	44.5			G3/7500
FVH	(80°-90°)	277.9	1.9			G3/500
BL	(0°-30°)	306.3	2.1	B1/500		
BM	(30°-60°)	489.4	3.4	B1/1000		
BH	(60°-80°)	131.5	0.9	B1/500		G1/500
BVH	(80°-90°)	8.2	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°	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3
2.5°	2432.3	2436.8	2431.2	2421.0	2406.6	2397.5	2385.2	2358.3	2324.6	2295.4	2261.7
5°	2451.4	2453.6	2447.0	2427.8	2405.5	2393.1	2377.4	2348.2	2313.4	2273.0	2212.4
7.5°	2457.0	2455.9	2448.1	2424.5	2389.7	2373.9	2347.1	2311.2	2275.3	2238.2	2169.8
10°	2454.7	2454.7	2449.1	2426.7	2387.5	2372.9	2342.6	2304.4	2259.6	2222.6	2149.5
12.5°	2447.0	2451.4	2448.1	2435.7	2406.6	2395.3	2368.4	2330.3	2287.6	2249.4	2172.1
15°	2457.0	2463.8	2470.5	2466.0	2449.1	2439.1	2414.4	2375.1	2340.4	2299.9	2216.9
17.5°	2497.4	2512.0	2527.7	2528.8	2510.9	2493.0	2464.9	2424.5	2390.8	2353.8	2264.1
20°	2573.7	2585.0	2614.1	2619.7	2583.8	2558.0	2518.8	2471.6	2437.9	2406.6	2307.8
22.5°	2687.0	2699.4	2723.0	2715.1	2654.5	2624.2	2574.8	2520.9	2486.2	2468.2	2358.3
25°	2858.7	2862.0	2867.6	2832.9	2733.0	2699.4	2638.7	2578.2	2550.1	2547.9	2430.0
27.5°	3060.6	3065.0	3040.4	2963.0	2820.5	2776.8	2708.3	2653.4	2639.9	2656.7	2520.9
30°	3291.8	3292.8	3224.5	3098.7	2921.5	2873.3	2802.6	2742.0	2754.3	2795.8	2637.6
32.5°	3528.4	3517.3	3423.0	3259.2	3059.5	3001.2	2940.6	2880.0	2915.9	3000.0	2808.2
35°	3745.0	3740.5	3629.4	3438.7	3239.0	3187.4	3143.6	3079.7	3138.0	3274.9	3040.4
37.5°	3961.5	3958.1	3831.4	3632.8	3460.0	3423.0	3390.5	3341.0	3436.4	3637.2	3351.2
40°	4200.5	4194.9	4038.9	3848.2	3716.9	3696.8	3677.6	3656.4	3819.0	4098.5	3738.2
42.5°	4495.6	4470.9	4258.8	4082.7	3999.7	4005.2	4006.4	4027.8	4282.4	4647.1	4194.9
45°	4834.4	4779.4	4479.8	4334.0	4310.4	4344.0	4377.8	4466.4	4822.0	5278.7	4699.8
47.5°	5163.0	5074.4	4734.5	4604.4	4652.6	4722.1	4802.9	4975.7	5427.9	5939.5	5157.5
50°	5445.8	5354.9	4986.9	4879.3	5032.9	5136.2	5279.7	5541.2	6067.3	6498.2	5445.8
52.5°	5668.0	5596.2	5253.9	5182.1	5454.8	5596.2	5821.7	6165.0	6671.0	6866.2	5647.7
55°	5831.7	5795.8	5509.7	5519.9	5923.7	6128.0	6408.4	6796.6	7180.3	7152.2	5799.3
57.5°	6016.9	5988.8	5777.9	5918.1	6488.1	6751.7	7075.9	7387.9	7550.6	7382.2	5947.3
60°	6206.5	6215.4	6103.2	6400.6	7185.9	7477.6	7760.3	7837.7	7868.1	7615.6	6103.2
62.5°	6350.0	6388.3	6398.3	6921.1	7901.7	8150.7	8273.1	8218.1	8211.4	7928.6	6090.8
65°	6515.0	6614.9	6780.9	7492.2	8552.4	8716.2	8803.8	8883.5	8715.1	8021.7	5491.8
67.5°	6800.0	6957.1	7330.6	8192.3	9304.1	9546.4	9794.4	9710.2	8790.2	7075.9	4183.6
70°	7183.7	7375.5	8035.3	9106.6	10323.9	10730.2	10937.6	9644.1	7463.1	4889.4	2206.8
72°	6941.4	7115.3	8252.9	9573.4	11046.4	11418.9	10899.4	8412.2	5409.9	2534.4	739.3
72.5°	6705.8	6885.3	8183.3	9567.8	11118.2	11403.3	10651.5	7926.4	4787.3	1972.3	509.3
75°	4652.6	4879.3	7015.4	8600.7	10040.1	9727.2	8149.6	4799.5	1734.5	338.8	168.3
77.5°	2405.5	2580.3	4255.4	6077.4	6997.4	6408.4	4816.3	2082.3	480.2	179.5	111.1
80°	1491.1	1577.3	1990.2	2994.5	3635.0	3179.6	2124.9	841.4	307.4	106.6	88.6
82.5°	771.9	838.1	1253.2	1208.3	1342.9	1116.3	784.3	704.6	189.6	66.2	90.9
85°	253.6	269.3	769.6	803.3	574.3	385.9	347.8	672.1	54.9	42.6	77.5
87.5°	33.7	39.3	270.4	460.0	282.8	175.1	208.6	236.8	19.1	23.6	21.3
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°	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3	2284.3
2.5°	2239.4	2224.7	2178.7	2132.7	2080.1	2031.7	1993.7	1969.0	1980.3	1943.1	1948.7
5°	2175.5	2138.4	2037.4	1928.5	1810.8	1700.8	1613.3	1548.2	1535.9	1479.8	1482.1
7.5°	2113.7	2053.1	1889.3	1709.8	1514.6	1356.5	1212.8	1087.1	1042.3	996.2	969.3
10°	2080.1	1997.0	1764.7	1503.4	1228.5	996.2	794.4	636.1	569.9	521.7	498.1
12.5°	2090.1	1980.3	1671.6	1316.0	954.7	659.7	448.7	333.2	292.9	270.4	262.6
15°	2123.8	1983.6	1587.5	1133.1	694.5	399.5	263.7	225.5	222.2	221.0	219.9
17.5°	2155.2	1986.9	1498.9	942.5	464.5	254.7	212.1	208.6	208.6	208.6	208.6
20°	2187.7	1988.1	1401.2	742.8	305.2	208.6	199.7	197.4	199.7	199.7	199.7
22.5°	2225.9	1995.9	1307.1	548.6	225.5	196.3	190.7	189.6	190.7	190.7	189.6
25°	2273.0	2012.8	1204.9	392.7	204.2	188.5	182.9	181.7	182.9	181.7	181.7
27.5°	2335.9	2035.2	1086.0	281.6	195.2	180.6	175.1	175.1	175.1	173.9	173.9
30°	2416.6	2062.0	926.7	222.2	186.3	172.7	168.3	168.3	167.1	166.1	166.1
32.5°	2532.2	2105.9	752.8	200.8	176.1	162.7	158.2	159.3	158.2	157.2	155.9
35°	2696.0	2174.3	581.1	189.6	166.1	152.6	148.0	148.0	148.0	145.9	145.9
37.5°	2928.2	2278.6	435.3	178.4	155.9	142.5	136.9	136.9	135.7	133.6	134.6
40°	3215.4	2409.9	315.2	168.3	145.9	131.2	126.7	124.5	122.3	120.0	120.0
42.5°	3561.0	2537.8	236.8	158.2	135.7	122.3	116.7	114.4	110.0	107.7	106.6
45°	3948.1	2673.6	196.3	145.9	124.5	112.2	107.7	103.2	97.6	94.3	93.1
47.5°	4274.6	2756.6	175.1	133.6	113.3	102.0	97.6	90.9	84.1	82.0	82.0
50°	4470.9	2721.7	157.2	121.2	102.0	92.0	86.5	77.5	72.8	70.7	69.6
52.5°	4580.8	2618.6	142.5	111.1	92.0	80.8	72.8	65.1	62.9	60.5	60.5
55°	4656.0	2469.4	126.7	100.9	83.0	70.7	61.7	56.0	53.9	52.8	51.6
57.5°	4727.7	2287.6	112.2	92.0	74.1	62.9	52.8	50.5	46.0	44.9	44.9
60°	4749.1	2037.4	98.8	82.0	66.2	54.9	46.0	42.6	38.1	37.0	37.0
62.5°	4477.6	1621.2	87.5	69.6	58.4	47.1	40.4	35.9	31.4	31.4	31.4
65°	3741.6	1100.6	75.2	60.5	51.6	40.4	34.8	29.2	26.9	26.9	26.9
67.5°	2606.3	613.7	63.9	51.6	43.7	33.7	29.2	24.7	23.6	24.7	24.7
70°	1174.6	243.4	53.9	42.6	35.9	28.1	24.7	21.3	23.6	23.6	23.6
72°	352.3	130.1	44.9	34.8	29.2	24.7	21.3	20.2	22.4	23.6	23.6
72.5°	261.4	116.7	42.6	33.7	29.2	23.6	20.2	20.2	22.4	23.6	23.6
75°	134.6	79.6	32.6	24.7	21.3	19.1	16.8	19.1	22.4	22.4	22.4
77.5°	105.4	65.1	26.9	19.1	17.9	16.8	15.8	17.9	20.2	20.2	20.2
80°	98.8	42.6	21.3	17.9	15.8	14.5	14.5	15.8	17.9	19.1	19.1
82.5°	99.9	34.8	19.1	16.8	14.5	13.4	13.4	14.5	16.8	17.9	17.9
85°	63.9	23.6	16.8	14.5	13.4	12.3	12.3	13.4	15.8	16.8	16.8
87.5°	21.3	17.9	14.5	13.4	11.3	11.3	11.3	11.3	13.4	14.5	15.8
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)