

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: P196636

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196636
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-SL4-7030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 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: 12665.3 lumens
Efficiency: N/A
Efficacy: 98.2 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): 129
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

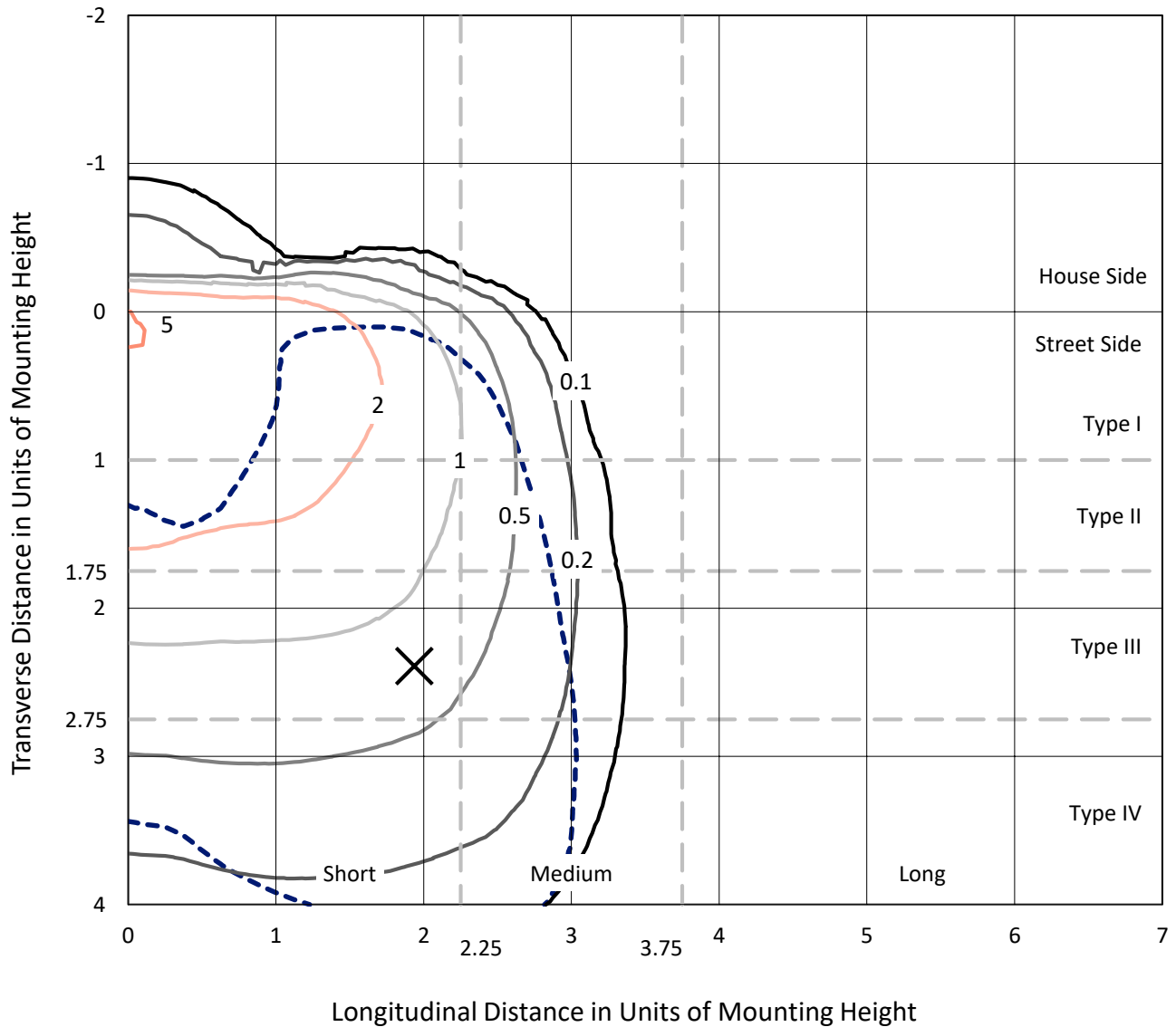


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

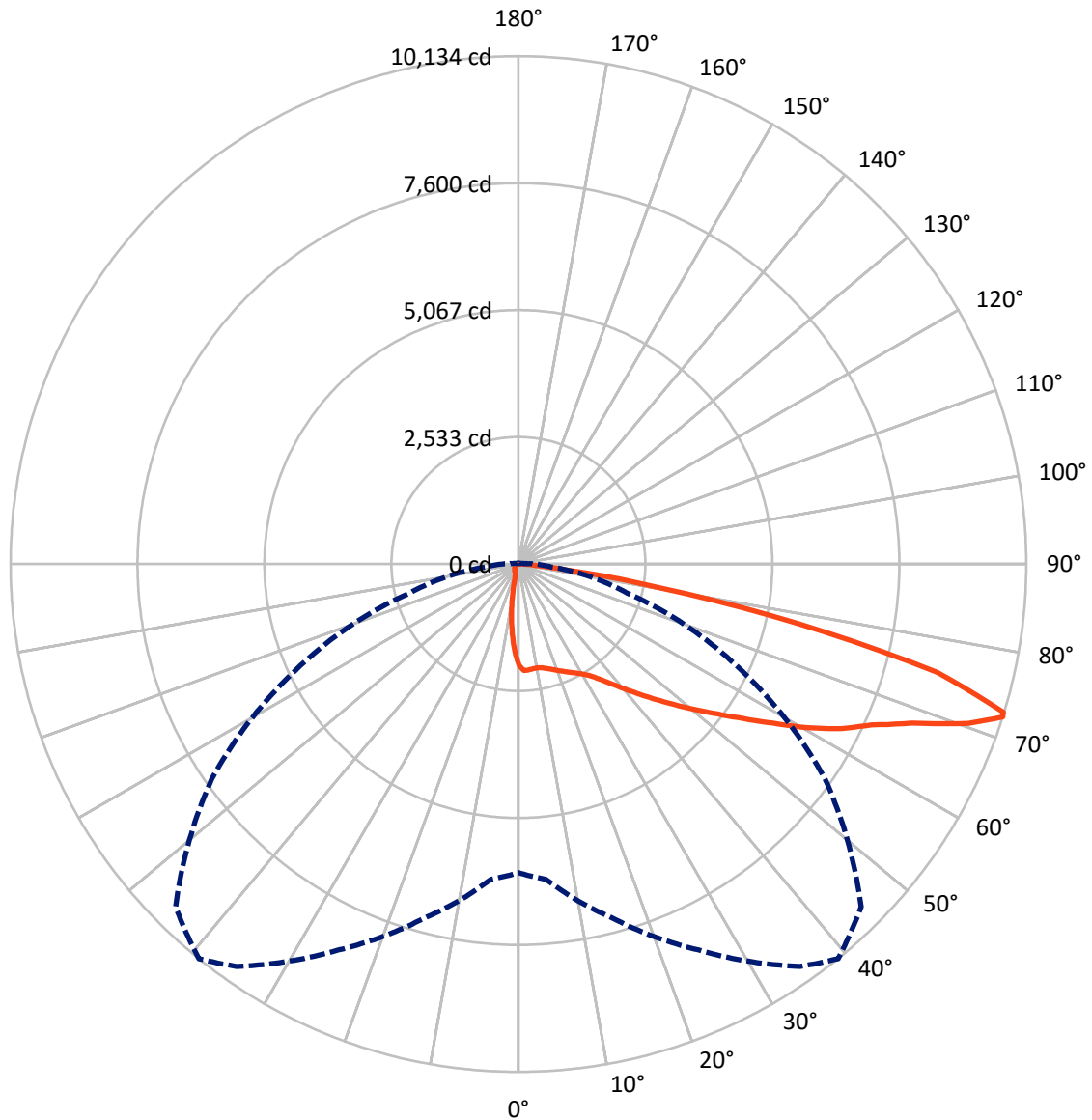


Based on 20 foot mounting height. Maximum calculated value = 5.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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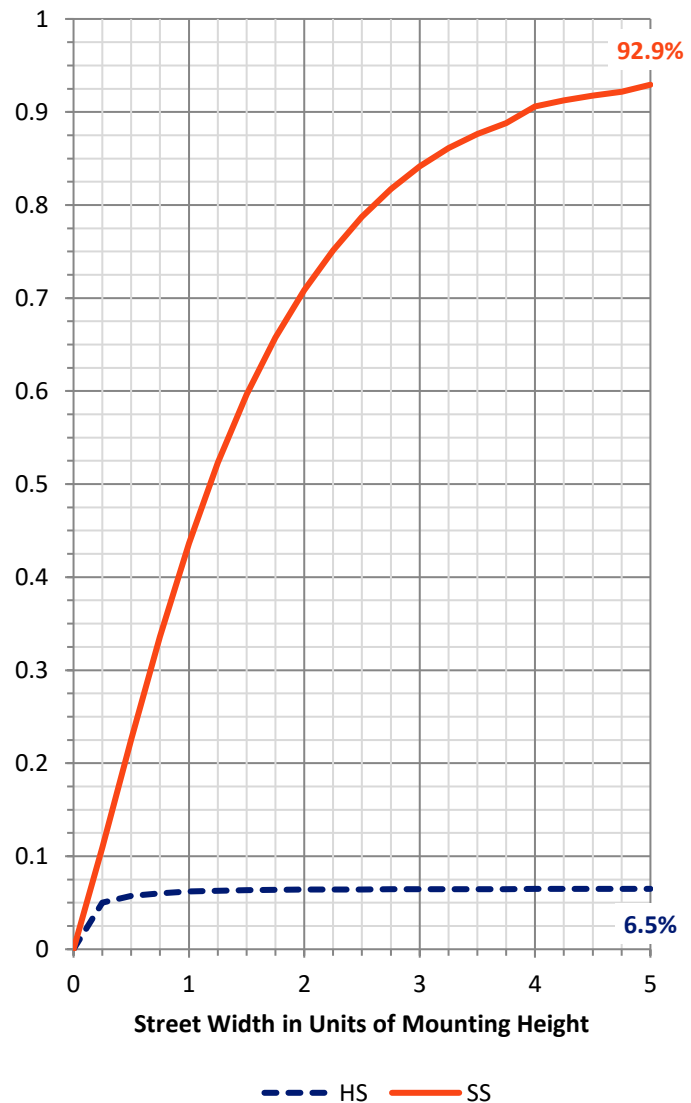
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	830.0	0.0	830.0
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	11835.3	0.0	11835.3
	% Fixture	93.4	0.0	93.4
Total	Lumens	12665.3	0.0	12665.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.9	1.3
10°-20°	399.2	3.2
20°-30°	663.0	5.2
30°-40°	1056.6	8.3
40°-50°	1744.1	13.8
50°-60°	2633.9	20.8
60°-70°	3431.2	27.1
70°-80°	2318.5	18.3
80°-90°	253.9	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°	12665.3	100.0
0°-180°	12665.3	100.0

Coefficient of Utilization



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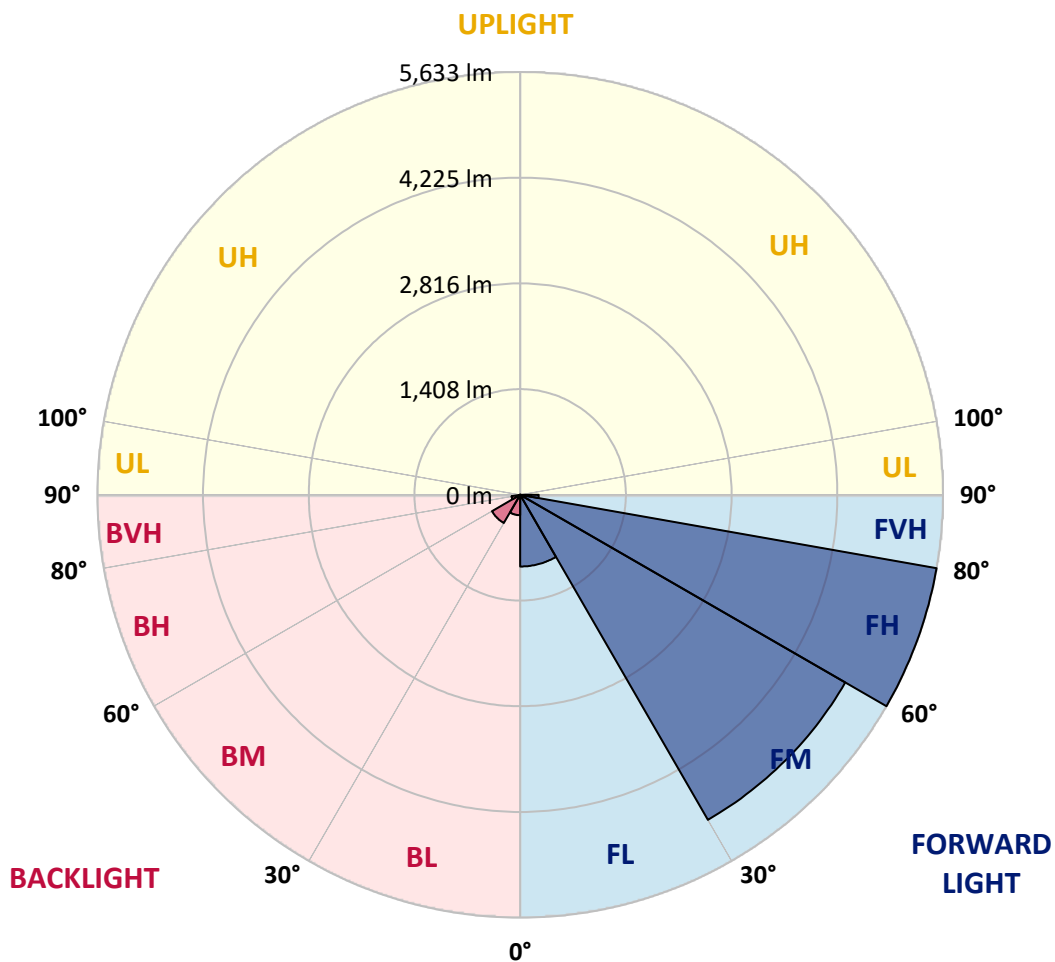
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	955.3	7.5			
FM	(30°-60°)	5000.4	39.5			
FH	(60°-80°)	5633.0	44.5			G3/7500
FVH	(80°-90°)	246.6	1.9			G3/500
BL	(0°-30°)	271.8	2.1	B1/500		
BM	(30°-60°)	434.3	3.4	B1/1000		
BH	(60°-80°)	116.7	0.9	B1/500		G1/500
BVH	(80°-90°)	7.3	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°	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2
2.5°	2158.6	2162.6	2157.7	2148.7	2135.7	2127.8	2116.8	2092.9	2063.1	2037.1	2007.2
5°	2175.6	2177.5	2171.5	2154.6	2134.7	2123.8	2109.8	2083.9	2053.1	2017.3	1963.5
7.5°	2180.5	2179.5	2172.5	2151.7	2120.7	2106.8	2082.9	2051.1	2019.2	1986.4	1925.5
10°	2178.5	2178.5	2173.5	2153.6	2118.7	2105.9	2078.9	2045.2	2005.2	1972.4	1907.6
12.5°	2171.5	2175.6	2172.5	2161.5	2135.7	2125.7	2101.8	2068.0	2030.1	1996.2	1927.6
15°	2180.5	2186.5	2192.4	2188.5	2173.5	2164.5	2142.7	2107.8	2076.9	2041.1	1967.4
17.5°	2216.4	2229.3	2243.2	2244.1	2228.4	2212.4	2187.5	2151.7	2121.7	2088.9	2009.3
20°	2284.1	2294.0	2319.9	2324.8	2293.1	2270.1	2235.2	2193.5	2163.6	2135.7	2048.1
22.5°	2384.6	2395.5	2416.5	2409.5	2355.7	2328.9	2285.0	2237.3	2206.4	2190.4	2092.9
25°	2537.0	2540.0	2544.8	2514.0	2425.4	2395.5	2341.8	2288.0	2263.1	2261.1	2156.6
27.5°	2716.1	2720.1	2698.2	2629.6	2503.1	2464.3	2403.4	2354.7	2342.8	2357.7	2237.3
30°	2921.3	2922.2	2861.5	2750.0	2592.7	2549.9	2487.2	2433.4	2444.3	2481.2	2340.8
32.5°	3131.4	3121.4	3037.7	2892.4	2715.2	2663.4	2609.6	2555.9	2587.7	2662.4	2492.1
35°	3323.5	3319.6	3221.0	3051.7	2874.5	2828.7	2789.8	2733.1	2784.9	2906.3	2698.2
37.5°	3515.6	3512.6	3400.1	3223.9	3070.6	3037.7	3008.9	2965.1	3049.8	3227.9	2974.0
40°	3727.7	3722.8	3584.4	3415.1	3298.6	3280.7	3263.8	3244.9	3389.2	3637.1	3317.5
42.5°	3989.6	3967.7	3779.5	3623.2	3549.5	3554.5	3555.6	3574.4	3800.5	4124.0	3722.8
45°	4290.3	4241.6	3975.7	3846.3	3825.3	3855.2	3885.0	3963.7	4279.3	4684.6	4170.9
47.5°	4582.0	4503.3	4201.7	4086.2	4129.0	4190.7	4262.4	4415.7	4817.0	5271.0	4577.1
50°	4833.0	4752.3	4425.8	4330.2	4466.5	4558.2	4685.6	4917.5	5384.6	5766.9	4833.0
52.5°	5030.1	4966.4	4662.6	4598.9	4840.9	4966.4	5166.6	5471.1	5920.2	6093.5	5012.2
55°	5175.5	5143.6	4889.7	4898.6	5257.1	5438.3	5687.3	6031.7	6372.2	6347.3	5146.5
57.5°	5339.7	5314.8	5127.6	5252.1	5758.0	5991.9	6279.6	6556.4	6700.8	6551.4	5278.0
60°	5508.0	5516.0	5416.4	5680.3	6377.3	6636.1	6887.0	6955.7	6982.5	6758.6	5416.4
62.5°	5635.5	5669.4	5678.3	6142.2	7012.5	7233.5	7342.0	7293.3	7287.3	7036.3	5405.5
65°	5781.8	5870.4	6017.8	6649.1	7589.9	7735.3	7812.9	7883.6	7734.4	7119.0	4873.7
67.5°	6034.7	6174.1	6505.7	7270.3	8257.0	8472.1	8692.1	8617.5	7801.0	6279.6	3712.8
70°	6375.3	6545.5	7131.0	8081.8	9162.1	9522.5	9706.7	8558.8	6623.2	4339.1	1958.5
72°	6160.1	6314.5	7324.0	8496.0	9803.3	10133.9	9672.8	7465.4	4801.1	2249.2	656.1
72.5°	5951.1	6110.5	7262.4	8491.0	9866.9	10119.9	9452.8	7034.3	4248.4	1750.4	452.0
75°	4129.0	4330.2	6225.9	7632.8	8910.2	8632.3	7232.5	4259.5	1539.3	300.7	149.3
77.5°	2134.7	2290.1	3776.5	5393.5	6210.0	5687.3	4274.3	1847.9	426.1	159.3	98.6
80°	1323.2	1399.9	1766.2	2657.4	3226.0	2821.7	1885.9	746.8	272.8	94.6	78.6
82.5°	685.0	743.7	1112.1	1072.4	1191.8	990.7	696.0	625.3	168.3	58.8	80.7
85°	225.1	239.0	683.0	712.9	509.8	342.5	308.6	596.4	48.8	37.8	68.8
87.5°	29.8	34.9	240.0	408.2	250.9	155.3	185.2	210.1	16.9	20.9	18.9
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°	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2	2027.2
2.5°	1987.3	1974.5	1933.6	1892.8	1845.9	1803.1	1769.4	1747.4	1757.3	1724.4	1729.5
5°	1930.6	1897.8	1808.1	1711.5	1606.9	1509.4	1431.8	1374.1	1363.0	1313.3	1315.3
7.5°	1875.9	1822.1	1676.7	1517.4	1344.1	1203.7	1076.3	964.8	925.0	884.1	860.2
10°	1845.9	1772.3	1566.2	1334.2	1090.3	884.1	704.9	564.6	505.8	462.9	442.1
12.5°	1854.9	1757.3	1483.5	1167.9	847.3	585.4	398.2	295.8	259.8	240.0	232.9
15°	1884.8	1760.3	1408.9	1005.6	616.3	354.4	234.1	200.2	197.1	196.1	195.1
17.5°	1912.7	1763.3	1330.2	836.4	412.2	226.0	188.2	185.2	185.2	185.2	185.2
20°	1941.5	1764.3	1243.6	659.2	270.9	185.2	177.2	175.3	177.2	177.2	177.2
22.5°	1975.4	1771.3	1159.9	486.9	200.2	174.3	169.3	168.3	169.3	169.3	168.3
25°	2017.3	1786.2	1069.3	348.4	181.3	167.2	162.2	161.2	162.2	161.2	161.2
27.5°	2072.9	1806.2	963.7	249.8	173.2	160.3	155.3	155.3	155.3	154.3	154.3
30°	2144.6	1830.0	822.4	197.1	165.3	153.3	149.3	149.3	148.4	147.4	147.4
32.5°	2247.3	1868.9	668.1	178.2	156.3	144.3	140.4	141.4	140.4	139.5	138.4
35°	2392.6	1929.6	515.7	168.3	147.4	135.4	131.4	131.4	131.4	129.5	129.5
37.5°	2598.7	2022.2	386.3	158.3	138.4	126.4	121.5	121.5	120.5	118.4	119.5
40°	2853.6	2138.6	279.8	149.3	129.5	116.5	112.5	110.6	108.5	106.5	106.5
42.5°	3160.3	2252.2	210.1	140.4	120.5	108.5	103.6	101.6	97.6	95.6	94.6
45°	3503.7	2372.7	174.3	129.5	110.6	99.5	95.6	91.6	86.7	83.6	82.6
47.5°	3793.5	2446.4	155.3	118.4	100.5	90.5	86.7	80.7	74.7	72.6	72.6
50°	3967.7	2415.5	139.5	107.5	90.5	81.6	76.7	68.8	64.7	62.8	61.7
52.5°	4065.3	2323.8	126.4	98.6	81.6	71.7	64.7	57.8	55.7	53.7	53.7
55°	4131.9	2191.4	112.5	89.6	73.6	62.8	54.7	49.8	47.7	46.8	45.8
57.5°	4195.8	2030.1	99.5	81.6	65.7	55.7	46.8	44.8	40.9	39.9	39.9
60°	4214.6	1808.1	87.6	72.6	58.8	48.8	40.9	37.8	33.9	32.9	32.9
62.5°	3973.6	1438.7	77.7	61.7	51.8	41.8	35.8	31.9	27.9	27.9	27.9
65°	3320.5	976.8	66.7	53.7	45.8	35.8	30.8	25.9	23.9	23.9	23.9
67.5°	2312.9	544.6	56.7	45.8	38.8	29.8	25.9	21.9	20.9	21.9	21.9
70°	1042.5	216.0	47.7	37.8	31.9	24.9	21.9	18.9	20.9	20.9	20.9
72°	312.6	115.5	39.9	30.8	25.9	21.9	18.9	17.9	19.8	20.9	20.9
72.5°	231.9	103.6	37.8	29.8	25.9	20.9	17.9	17.9	19.8	20.9	20.9
75°	119.5	70.7	28.9	21.9	18.9	16.9	15.0	16.9	19.8	19.8	19.8
77.5°	93.6	57.8	23.9	16.9	16.0	15.0	13.9	16.0	17.9	17.9	17.9
80°	87.6	37.8	18.9	16.0	13.9	12.9	12.9	13.9	16.0	16.9	16.9
82.5°	88.6	30.8	16.9	15.0	12.9	11.9	11.9	12.9	15.0	16.0	16.0
85°	56.7	20.9	15.0	12.9	11.9	10.9	10.9	11.9	13.9	15.0	15.0
87.5°	18.9	16.0	12.9	11.9	10.0	10.0	10.0	10.0	11.9	12.9	13.9
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)