

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: P270448

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

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270448
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-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(3) 70 CRI, 2700K, 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: 12820.1 lumens
Efficiency: N/A
Efficacy: 77.2 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

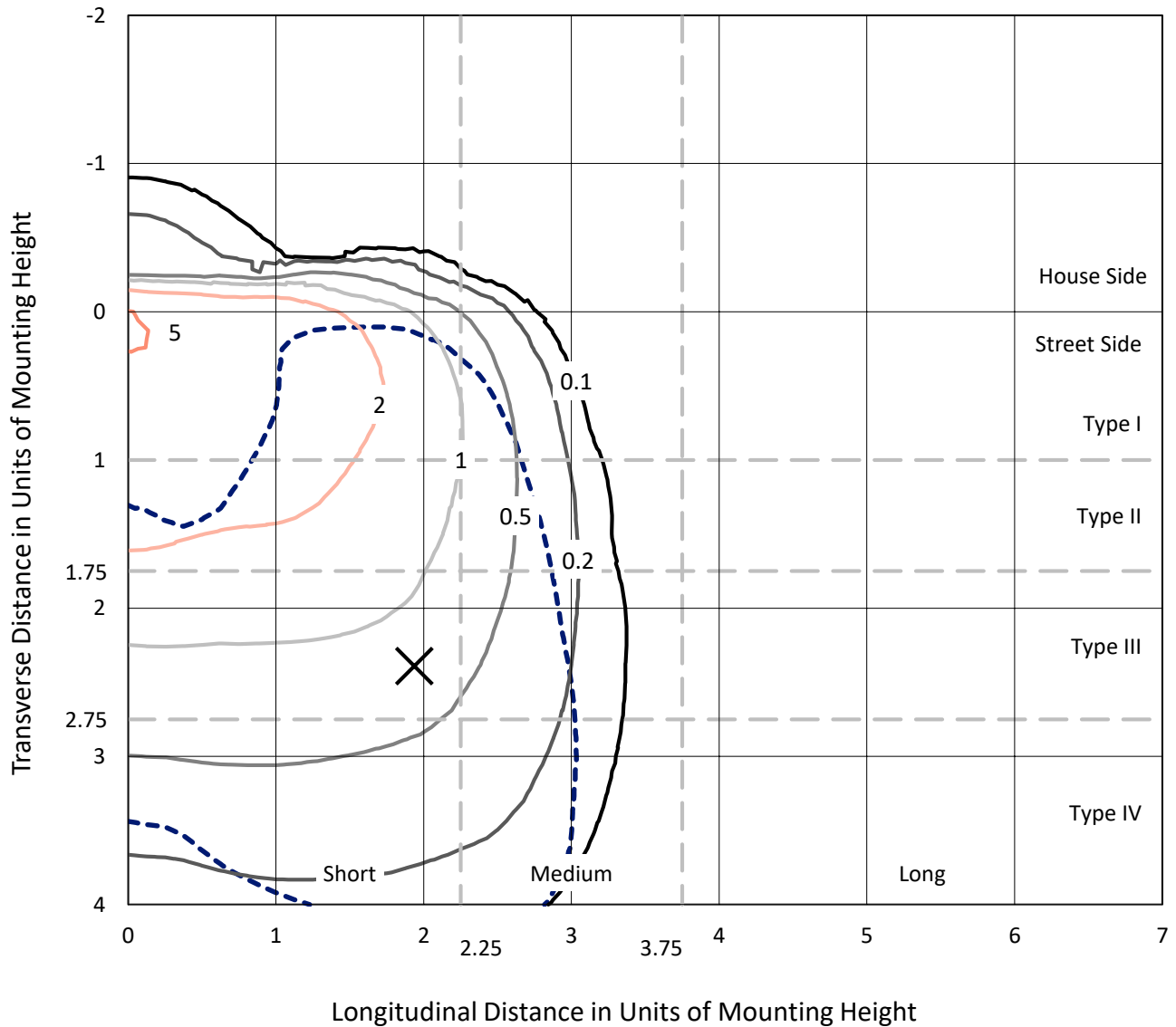


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

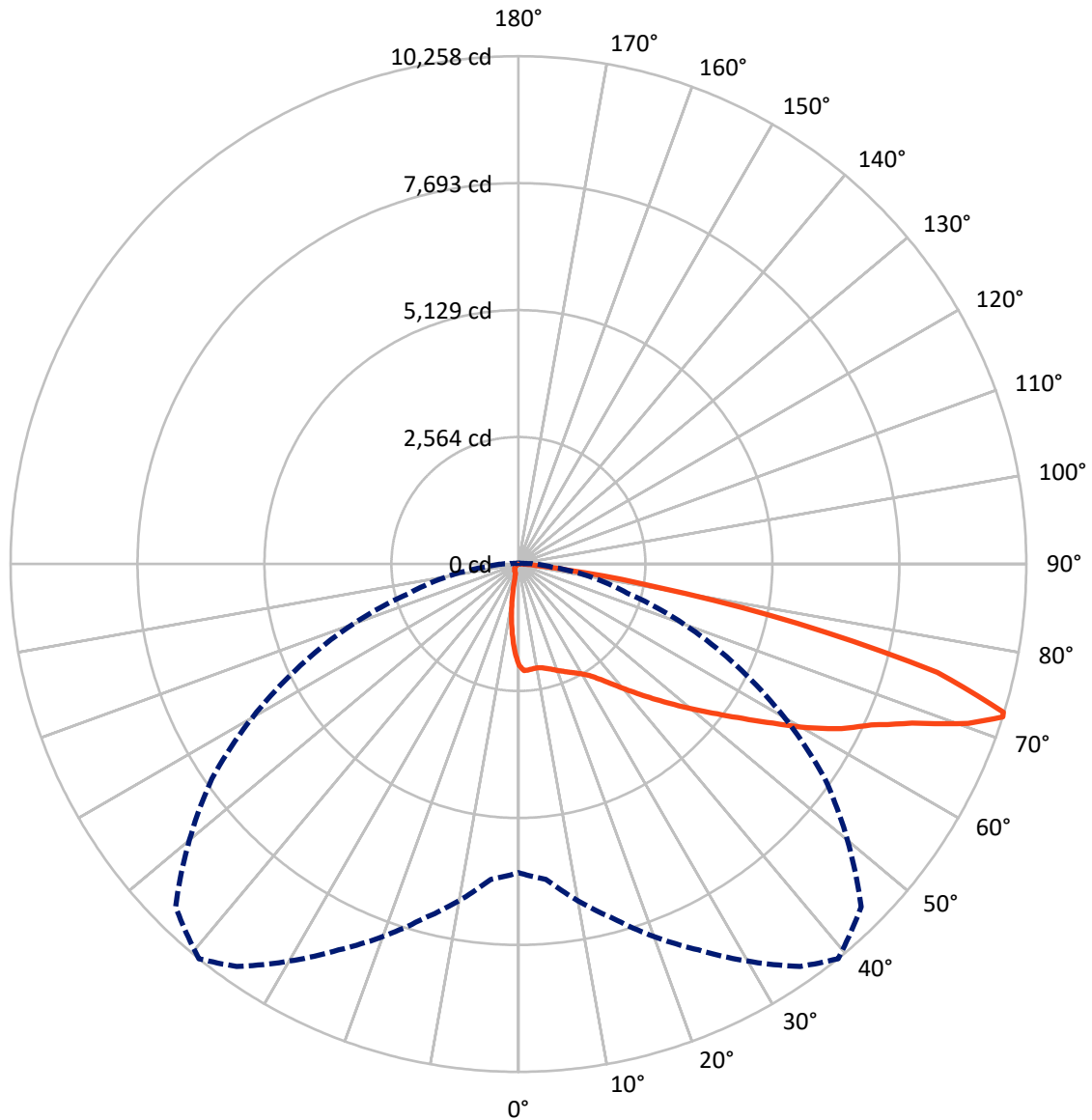


Based on 20 foot mounting height. Maximum calculated value = 5.4 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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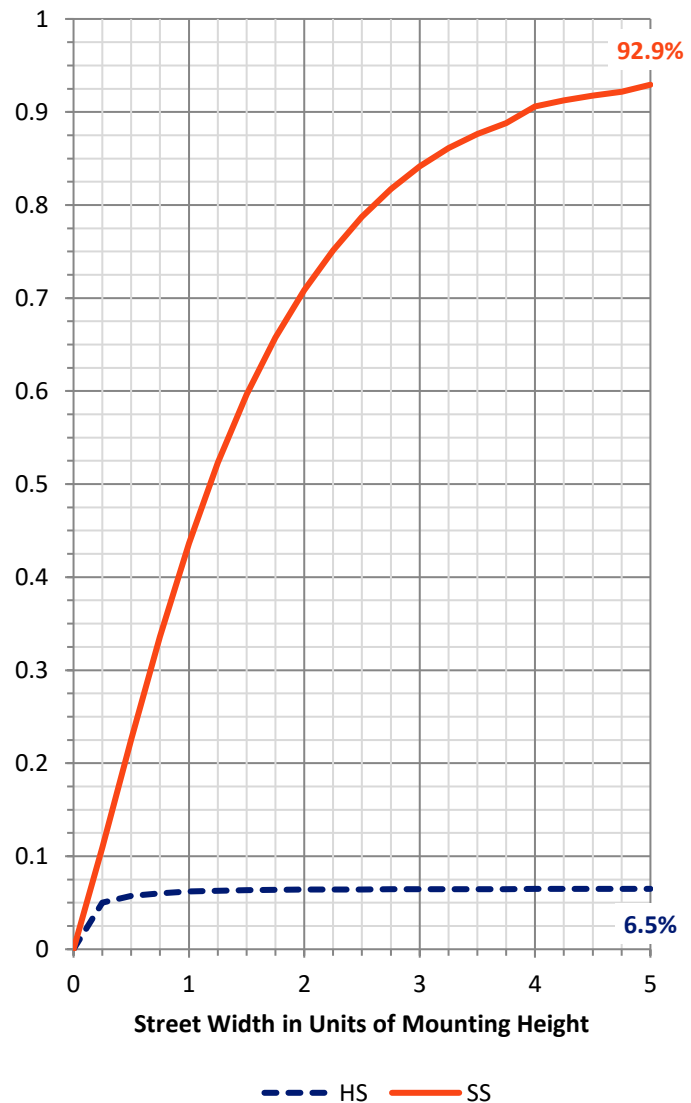
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	840.2	0.0	840.2
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	11979.9	0.0	11979.9
	% Fixture	93.4	0.0	93.4
Total	Lumens	12820.1	0.0	12820.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	166.9	1.3
10°-20°	404.1	3.2
20°-30°	671.1	5.2
30°-40°	1069.6	8.3
40°-50°	1765.4	13.8
50°-60°	2666.1	20.8
60°-70°	3473.1	27.1
70°-80°	2346.8	18.3
80°-90°	257.0	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°	12820.1	100.0
0°-180°	12820.1	100.0



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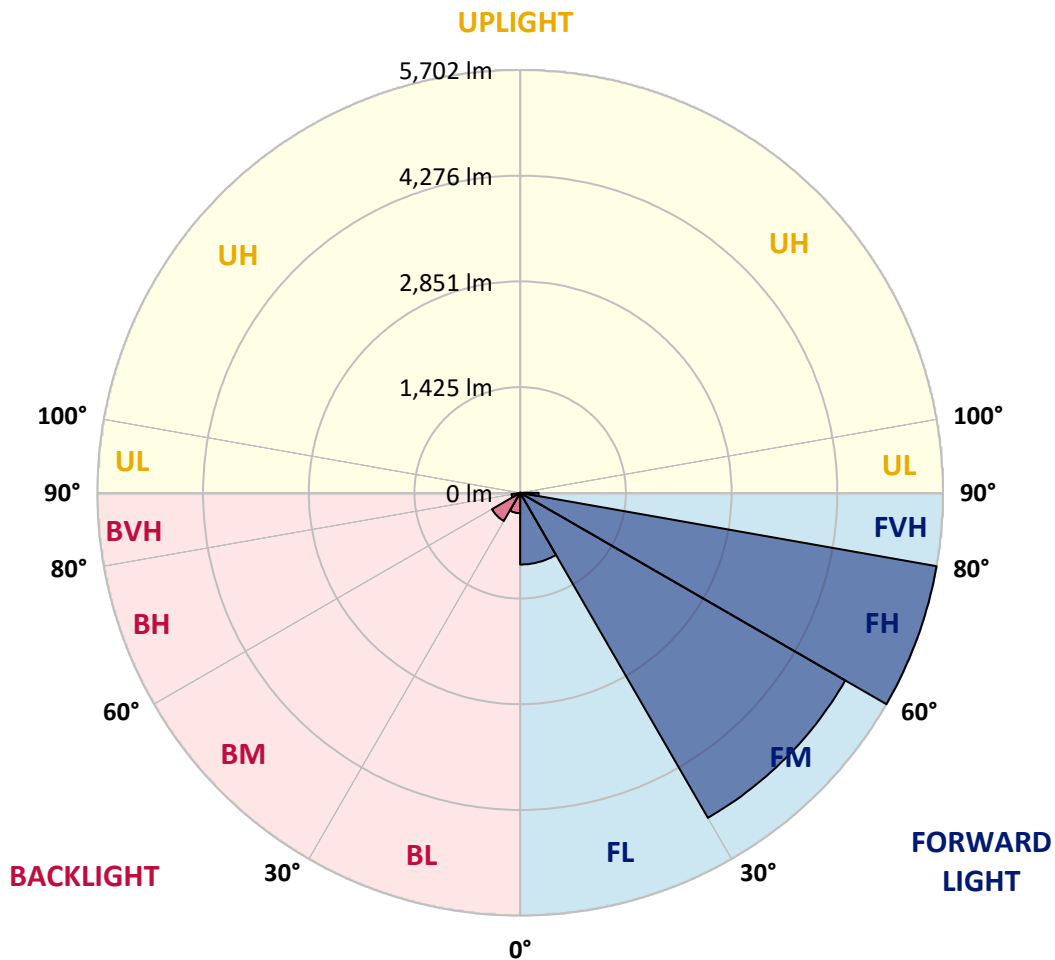
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	966.9	7.5			
FM	(30°-60°)	5061.5	39.5			
FH	(60°-80°)	5701.8	44.5			G3/7500
FVH	(80°-90°)	249.6	1.9			G3/500
BL	(0°-30°)	275.1	2.1	B1/500		
BM	(30°-60°)	439.6	3.4	B1/1000		
BH	(60°-80°)	118.1	0.9	B1/500		G1/500
BVH	(80°-90°)	7.4	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°	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0
2.5°	2184.9	2189.0	2184.0	2174.8	2161.9	2153.7	2142.6	2118.5	2088.2	2062.0	2031.7
5°	2202.1	2204.1	2198.2	2180.9	2160.9	2149.7	2135.6	2109.4	2078.1	2041.8	1987.4
7.5°	2207.1	2206.1	2199.1	2177.9	2146.7	2132.5	2108.4	2076.2	2043.9	2010.6	1949.1
10°	2205.1	2205.1	2200.0	2179.9	2144.7	2131.6	2104.4	2070.1	2029.8	1996.6	1930.9
12.5°	2198.2	2202.1	2199.1	2188.0	2161.9	2151.7	2127.5	2093.3	2055.0	2020.6	1951.2
15°	2207.1	2213.2	2219.3	2215.2	2200.0	2191.1	2168.9	2133.6	2102.4	2066.0	1991.5
17.5°	2243.4	2256.5	2270.6	2271.6	2255.6	2239.5	2214.2	2177.9	2147.7	2114.4	2033.9
20°	2312.0	2322.1	2348.3	2353.3	2321.0	2297.9	2262.7	2220.3	2190.0	2161.9	2073.1
22.5°	2413.7	2424.9	2446.1	2439.0	2384.6	2357.3	2313.0	2264.5	2233.4	2217.2	2118.5
25°	2568.0	2570.9	2576.0	2544.8	2455.1	2424.9	2370.4	2316.0	2290.8	2288.8	2182.9
27.5°	2749.4	2753.3	2731.2	2661.7	2533.7	2494.4	2432.9	2383.6	2371.4	2386.5	2264.5
30°	2957.0	2957.9	2896.6	2783.6	2624.4	2581.1	2517.6	2463.2	2474.2	2511.5	2369.4
32.5°	3169.6	3159.6	3074.9	2927.8	2748.4	2696.0	2641.6	2587.1	2619.4	2694.9	2522.6
35°	3364.2	3360.1	3260.3	3089.0	2909.6	2863.3	2823.9	2766.5	2818.9	2941.9	2731.2
37.5°	3558.6	3555.6	3441.8	3263.4	3108.1	3074.9	3045.7	3001.2	3086.9	3267.3	3010.4
40°	3773.3	3768.3	3628.2	3456.9	3338.9	3320.9	3303.6	3284.6	3430.6	3681.7	3358.0
42.5°	4038.4	4016.2	3825.7	3667.5	3593.0	3597.9	3599.0	3618.2	3846.9	4174.5	3768.3
45°	4342.8	4293.4	4024.2	3893.3	3872.1	3902.2	3932.6	4012.2	4331.6	4741.9	4221.9
47.5°	4637.9	4558.4	4253.0	4136.2	4179.5	4241.9	4314.5	4469.7	4875.9	5335.5	4633.0
50°	4892.0	4810.3	4479.8	4383.1	4521.1	4613.9	4742.8	4977.7	5450.3	5837.4	4892.0
52.5°	5091.6	5027.1	4719.6	4655.1	4900.1	5027.1	5229.7	5538.1	5992.6	6167.9	5073.4
55°	5238.6	5206.4	4949.4	4958.6	5321.3	5504.8	5756.7	6105.4	6450.1	6424.9	5209.5
57.5°	5405.0	5379.8	5190.3	5316.3	5828.3	6065.1	6356.3	6636.6	6782.7	6631.5	5342.5
60°	5575.3	5583.3	5482.5	5749.7	6455.1	6717.2	6971.1	7040.6	7068.0	6841.1	5482.5
62.5°	5704.2	5738.6	5747.6	6217.3	7098.1	7321.8	7431.8	7382.4	7376.3	7122.3	5471.4
65°	5852.5	5942.2	6091.3	6730.3	7682.7	7829.8	7908.5	7980.1	7828.8	7205.9	4933.3
67.5°	6108.5	6249.6	6585.1	7359.2	8357.9	8575.6	8798.4	8722.7	7896.3	6356.3	3758.1
70°	6453.2	6625.4	7218.2	8180.5	9274.0	9639.0	9825.3	8663.3	6704.1	4392.2	1982.4
72°	6235.5	6391.7	7413.6	8599.8	9923.0	10257.7	9791.0	7556.7	4859.7	2276.7	664.1
72.5°	6023.9	6185.1	7351.1	8594.8	9987.5	10243.6	9568.3	7120.3	4300.5	1771.7	457.5
75°	4179.5	4383.1	6302.0	7726.1	9019.1	8738.0	7320.8	4311.4	1558.1	304.3	151.2
77.5°	2160.9	2317.9	3822.6	5459.4	6285.8	5756.7	4326.5	1870.5	431.4	161.2	99.8
80°	1339.5	1416.9	1787.8	2690.0	3265.3	2856.3	1908.8	755.8	276.1	95.8	79.6
82.5°	693.4	752.9	1125.8	1085.4	1206.3	1002.8	704.5	632.9	170.3	59.5	81.7
85°	227.8	241.9	691.3	721.6	515.9	346.7	312.4	603.8	49.3	38.3	69.6
87.5°	30.3	35.3	242.9	413.2	254.0	157.3	187.4	212.7	17.2	21.2	19.1
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°	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0	2052.0
2.5°	2011.7	1998.5	1957.1	1915.8	1868.6	1825.1	1791.0	1768.8	1778.9	1745.5	1750.5
5°	1954.3	1920.9	1830.2	1732.4	1626.7	1527.8	1449.2	1390.8	1379.7	1329.3	1331.4
7.5°	1898.7	1844.3	1697.2	1535.9	1360.6	1218.6	1089.5	976.5	936.3	894.9	870.7
10°	1868.6	1793.9	1585.2	1350.5	1103.6	894.9	713.6	571.4	511.9	468.6	447.4
12.5°	1877.5	1778.9	1501.6	1182.2	857.6	592.6	403.1	299.3	263.1	242.9	235.9
15°	1907.8	1781.9	1426.1	1017.9	623.9	358.9	236.9	202.6	199.6	198.5	197.5
17.5°	1936.0	1784.8	1346.5	846.7	417.3	228.8	190.5	187.4	187.4	187.4	187.4
20°	1965.2	1785.9	1258.7	667.3	274.2	187.4	179.4	177.3	179.4	179.4	179.4
22.5°	1999.5	1792.9	1174.2	492.8	202.6	176.3	171.3	170.3	171.3	171.3	170.3
25°	2041.8	1808.1	1082.4	352.8	183.4	169.3	164.3	163.2	164.3	163.2	163.2
27.5°	2098.4	1828.2	975.6	253.0	175.3	162.2	157.3	157.3	157.3	156.2	156.2
30°	2170.8	1852.3	832.5	199.6	167.4	155.1	151.2	151.2	150.1	149.2	149.2
32.5°	2274.7	1891.7	676.2	180.4	158.2	146.2	142.1	143.1	142.1	141.2	140.0
35°	2421.8	1953.2	522.0	170.3	149.2	137.1	132.9	132.9	132.9	131.1	131.1
37.5°	2630.4	2046.9	391.0	160.3	140.0	128.0	123.0	123.0	121.9	120.0	120.9
40°	2888.4	2164.8	283.1	151.2	131.1	117.9	113.8	111.8	109.9	107.8	107.8
42.5°	3198.9	2279.7	212.7	142.1	121.9	109.9	104.8	102.8	98.8	96.7	95.8
45°	3546.6	2401.7	176.3	131.1	111.8	100.8	96.7	92.7	87.7	84.7	83.6
47.5°	3839.9	2476.3	157.3	120.0	101.8	91.6	87.7	81.7	75.5	73.7	73.7
50°	4016.2	2444.9	141.2	108.9	91.6	82.6	77.7	69.6	65.4	63.5	62.5
52.5°	4115.0	2352.3	128.0	99.8	82.6	72.6	65.4	58.5	56.5	54.3	54.3
55°	4182.5	2218.3	113.8	90.6	74.6	63.5	55.4	50.3	48.4	47.4	46.4
57.5°	4246.9	2055.0	100.8	82.6	66.6	56.5	47.4	45.4	41.3	40.3	40.3
60°	4266.1	1830.2	88.8	73.7	59.5	49.3	41.3	38.3	34.2	33.2	33.2
62.5°	4022.3	1456.3	78.6	62.5	52.5	42.3	36.3	32.2	28.2	28.2	28.2
65°	3361.1	988.7	67.6	54.3	46.4	36.3	31.3	26.2	24.2	24.2	24.2
67.5°	2341.3	551.3	57.4	46.4	39.3	30.3	26.2	22.2	21.2	22.2	22.2
70°	1055.1	218.6	48.4	38.3	32.2	25.2	22.2	19.1	21.2	21.2	21.2
72°	316.5	116.9	40.3	31.3	26.2	22.2	19.1	18.1	20.1	21.2	21.2
72.5°	234.8	104.8	38.3	30.3	26.2	21.2	18.1	18.1	20.1	21.2	21.2
75°	120.9	71.5	29.3	22.2	19.1	17.2	15.1	17.2	20.1	20.1	20.1
77.5°	94.7	58.5	24.2	17.2	16.1	15.1	14.2	16.1	18.1	18.1	18.1
80°	88.8	38.3	19.1	16.1	14.2	13.0	13.0	14.2	16.1	17.2	17.2
82.5°	89.7	31.3	17.2	15.1	13.0	12.0	12.0	13.0	15.1	16.1	16.1
85°	57.4	21.2	15.1	13.0	12.0	11.0	11.0	12.0	14.2	15.1	15.1
87.5°	19.1	16.1	13.0	12.0	10.2	10.2	10.2	10.2	12.0	13.0	14.2
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)