

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: P270523

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7027-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270523
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-SL4-7027-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 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: 11377.3 lumens
Efficiency: N/A
Efficacy: 88.2 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

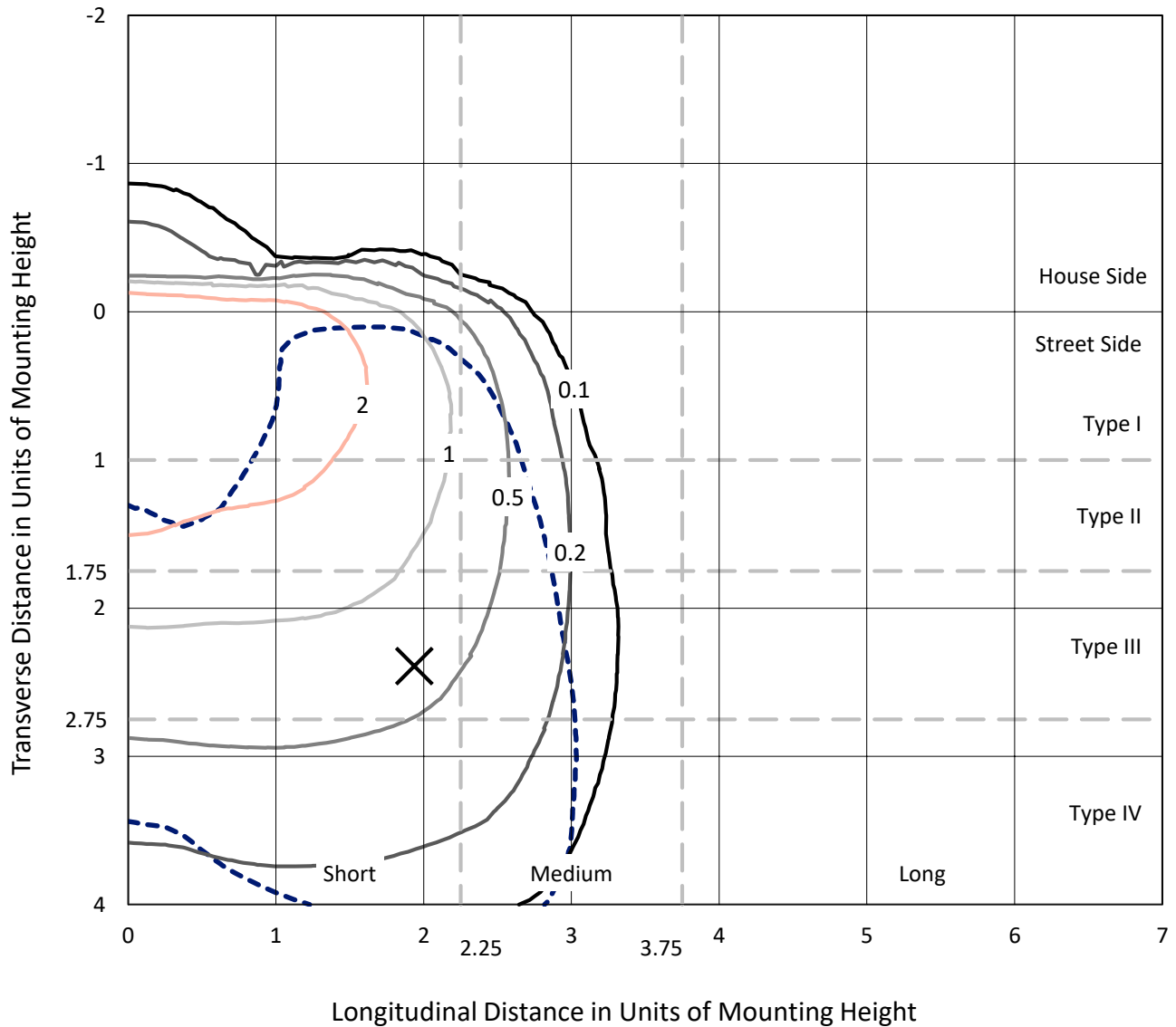


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

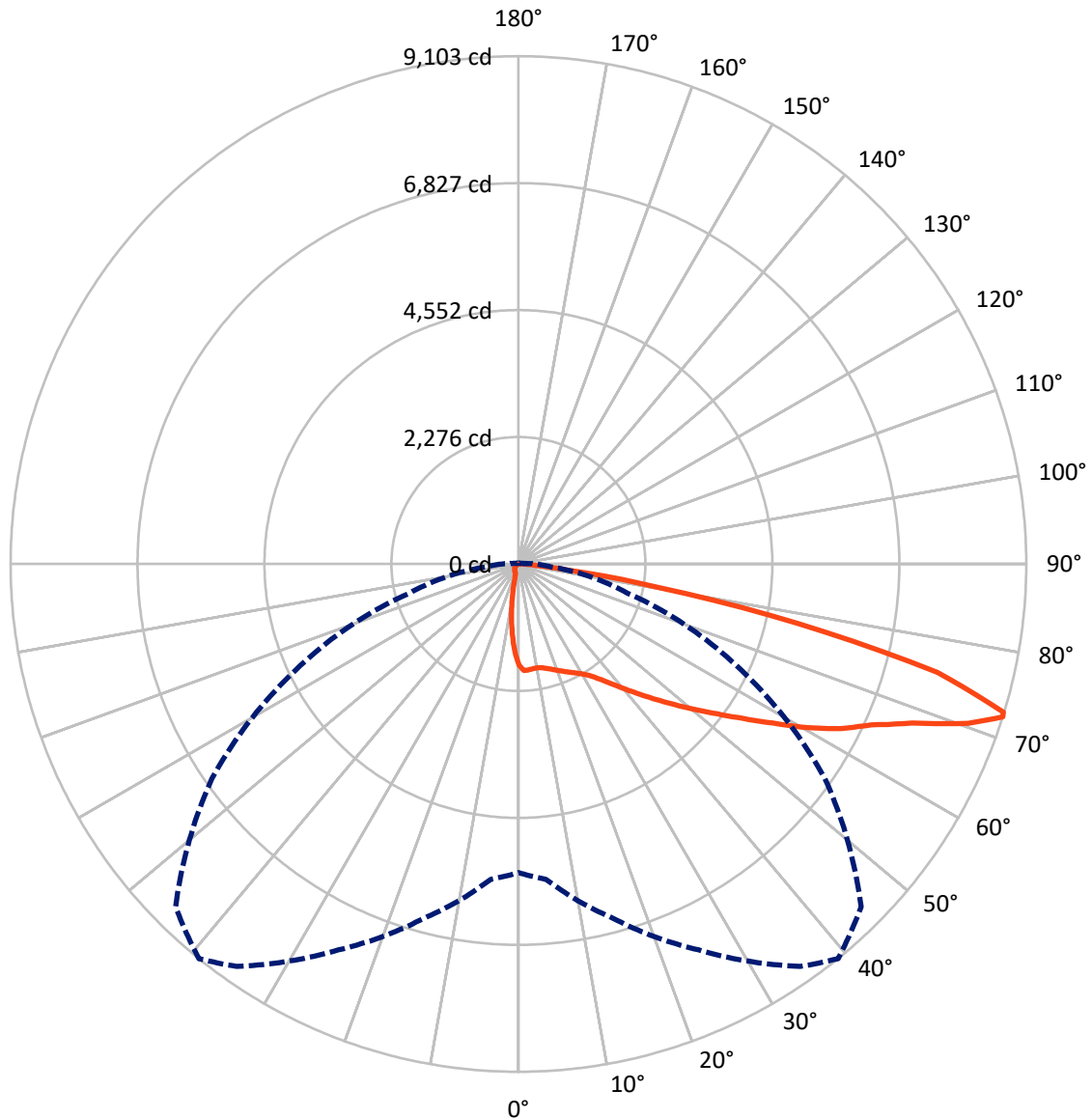


Based on 20 foot mounting height. Maximum calculated value = 4.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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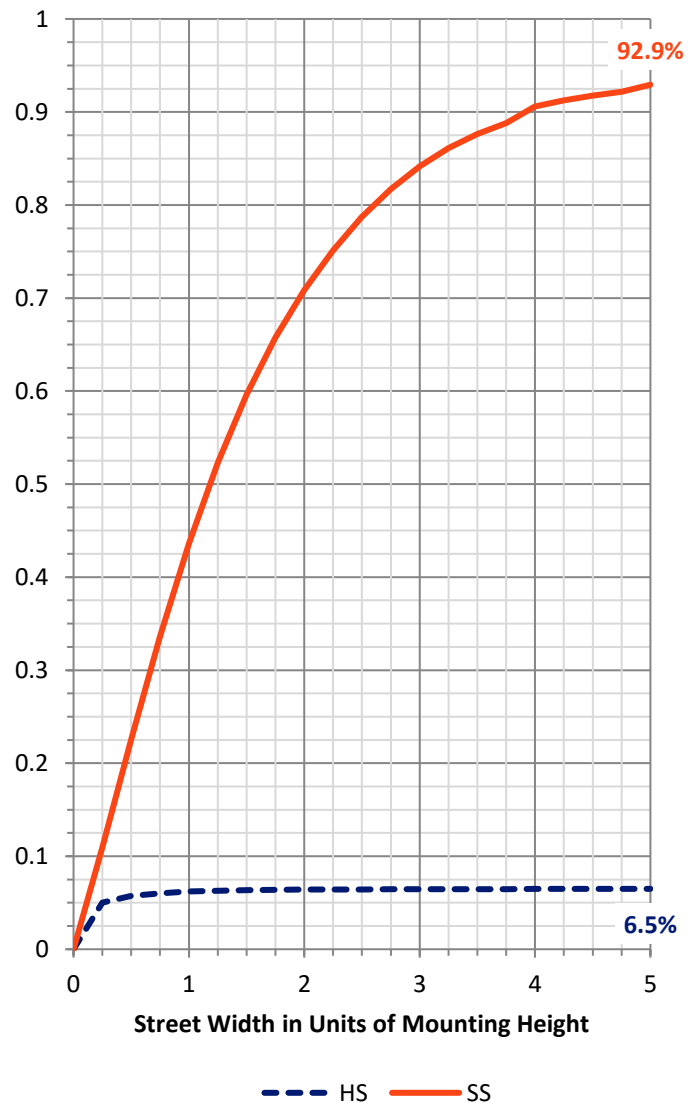
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	745.6	0.0	745.6
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	10631.7	0.0	10631.7
	% Fixture	93.4	0.0	93.4
Total	Lumens	11377.3	0.0	11377.3
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.1	1.3
10°-20°	358.6	3.2
20°-30°	595.6	5.2
30°-40°	949.2	8.3
40°-50°	1566.8	13.8
50°-60°	2366.1	20.8
60°-70°	3082.2	27.1
70°-80°	2082.7	18.3
80°-90°	228.1	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°	11377.3	100.0
0°-180°	11377.3	100.0

Coefficient of Utilization



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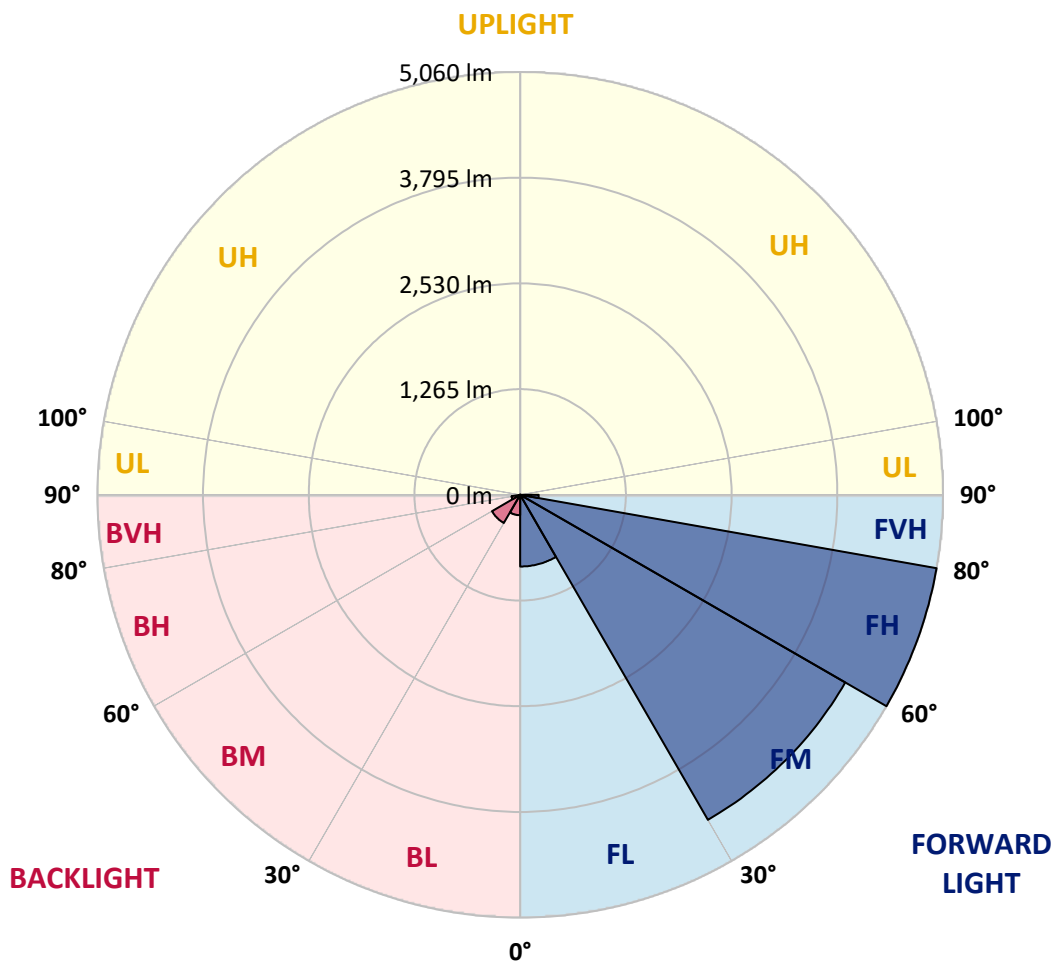
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	858.1	7.5			
FM	(30°-60°)	4491.9	39.5			
FH	(60°-80°)	5060.1	44.5			G3/7500
FVH	(80°-90°)	221.5	1.9			G2/225
BL	(0°-30°)	244.2	2.1	B1/500		
BM	(30°-60°)	390.1	3.4	B1/1000		
BH	(60°-80°)	104.8	0.9	B0/110		G0/110
BVH	(80°-90°)	6.6	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°	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0
2.5°	1939.1	1942.7	1938.3	1930.2	1918.5	1911.4	1901.5	1880.1	1853.3	1829.9	1803.1
5°	1954.4	1956.1	1950.7	1935.5	1917.6	1907.8	1895.2	1872.0	1844.3	1812.2	1763.8
7.5°	1958.8	1957.9	1951.6	1932.9	1905.0	1892.5	1871.1	1842.5	1813.9	1784.4	1729.7
10°	1957.0	1957.0	1952.5	1934.6	1903.2	1891.7	1867.5	1837.2	1801.3	1771.8	1713.6
12.5°	1950.7	1954.4	1951.6	1941.7	1918.5	1909.5	1888.1	1857.7	1823.6	1793.2	1731.6
15°	1958.8	1964.1	1969.4	1965.9	1952.5	1944.4	1924.8	1893.4	1865.7	1833.5	1767.3
17.5°	1991.0	2002.6	2015.1	2015.9	2001.8	1987.4	1965.0	1932.9	1905.9	1876.5	1805.0
20°	2051.8	2060.7	2084.0	2088.4	2059.9	2039.2	2007.9	1970.4	1943.6	1918.5	1839.8
22.5°	2142.1	2151.9	2170.8	2164.5	2116.1	2092.1	2052.6	2009.8	1982.0	1967.6	1880.1
25°	2279.0	2281.7	2286.0	2258.3	2178.7	2151.9	2103.7	2055.3	2033.0	2031.2	1937.3
27.5°	2439.9	2443.5	2423.8	2362.2	2248.5	2213.7	2159.0	2115.2	2104.5	2117.9	2009.8
30°	2624.2	2625.0	2570.5	2470.3	2329.0	2290.6	2234.3	2185.9	2195.7	2228.9	2102.8
32.5°	2813.0	2804.0	2728.8	2598.3	2439.1	2392.5	2344.2	2296.0	2324.5	2391.6	2238.7
35°	2985.5	2982.0	2893.4	2741.4	2582.2	2541.0	2506.1	2455.2	2501.7	2610.7	2423.8
37.5°	3158.1	3155.4	3054.3	2896.0	2758.3	2728.8	2702.9	2663.6	2739.7	2899.6	2671.6
40°	3348.6	3344.2	3219.9	3067.8	2963.1	2947.1	2931.9	2914.9	3044.5	3267.2	2980.1
42.5°	3583.9	3564.2	3395.1	3254.7	3188.5	3193.0	3194.0	3210.9	3414.0	3704.6	3344.2
45°	3854.0	3810.3	3571.4	3455.2	3436.3	3463.1	3489.9	3560.6	3844.1	4208.2	3746.7
47.5°	4116.0	4045.3	3774.4	3670.7	3709.1	3764.5	3828.9	3966.6	4327.1	4735.0	4111.6
50°	4341.5	4269.0	3975.7	3889.8	4012.3	4094.7	4209.1	4417.4	4837.0	5180.4	4341.5
52.5°	4518.6	4461.3	4188.4	4131.2	4348.6	4461.3	4641.2	4914.7	5318.1	5473.8	4502.5
55°	4649.2	4620.5	4392.4	4400.4	4722.5	4885.3	5108.9	5418.3	5724.2	5701.8	4623.1
57.5°	4796.7	4774.3	4606.1	4718.0	5172.4	5382.6	5641.0	5889.6	6019.4	5885.2	4741.3
60°	4947.9	4955.1	4865.6	5102.6	5728.8	5961.2	6186.6	6248.3	6272.4	6071.3	4865.6
62.5°	5062.4	5092.9	5100.8	5517.6	6299.4	6497.9	6595.4	6551.6	6546.2	6320.7	4855.8
65°	5193.8	5273.4	5405.8	5972.9	6818.0	6948.7	7018.4	7081.9	6947.9	6395.0	4378.1
67.5°	5421.0	5546.2	5844.1	6530.9	7417.3	7610.5	7808.2	7741.1	7007.7	5641.0	3335.2
70°	5727.0	5879.9	6405.8	7259.9	8230.4	8554.1	8719.6	7688.4	5949.7	3897.8	1759.3
72°	5533.6	5672.3	6579.2	7632.0	8806.4	9103.3	8689.1	6706.2	4312.9	2020.5	589.4
72.5°	5345.9	5489.1	6523.9	7627.5	8863.5	9090.8	8491.5	6318.9	3816.4	1572.4	406.0
75°	3709.1	3889.8	5592.8	6856.6	8004.1	7754.4	6497.0	3826.3	1382.8	270.1	134.1
77.5°	1917.6	2057.2	3392.4	4845.0	5578.5	5108.9	3839.6	1660.0	382.8	143.1	88.6
80°	1188.6	1257.5	1586.6	2387.2	2897.9	2534.7	1694.1	670.9	245.1	85.0	70.6
82.5°	615.3	668.1	999.0	963.3	1070.6	890.0	625.2	561.7	151.2	52.8	72.5
85°	202.2	214.7	613.5	640.4	458.0	307.7	277.2	535.7	43.8	34.0	61.8
87.5°	26.8	31.4	215.6	366.7	225.4	139.5	166.4	188.7	15.2	18.8	17.0
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°	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0	1821.0
2.5°	1785.2	1773.7	1737.0	1700.3	1658.2	1619.7	1589.5	1569.7	1578.6	1549.0	1553.6
5°	1734.3	1704.8	1624.2	1537.4	1443.5	1355.9	1286.2	1234.4	1224.4	1179.7	1181.5
7.5°	1685.1	1636.8	1506.2	1363.1	1207.4	1081.3	966.8	866.7	830.9	794.2	772.7
10°	1658.2	1592.1	1406.9	1198.5	979.4	794.2	633.2	507.2	454.4	415.8	397.1
12.5°	1666.3	1578.6	1332.6	1049.1	761.1	525.9	357.7	265.7	233.4	215.6	209.2
15°	1693.1	1581.3	1265.6	903.3	553.6	318.4	210.3	179.8	177.1	176.2	175.3
17.5°	1718.2	1584.0	1194.9	751.3	370.3	203.0	169.1	166.4	166.4	166.4	166.4
20°	1744.1	1584.9	1117.1	592.2	243.4	166.4	159.2	157.5	159.2	159.2	159.2
22.5°	1774.5	1591.2	1041.9	437.4	179.8	156.6	152.1	151.2	152.1	152.1	151.2
25°	1812.2	1604.6	960.6	313.0	162.9	150.2	145.7	144.8	145.7	144.8	144.8
27.5°	1862.1	1622.5	865.7	224.4	155.6	144.0	139.5	139.5	139.5	138.6	138.6
30°	1926.5	1643.9	738.8	177.1	148.5	137.7	134.1	134.1	133.3	132.4	132.4
32.5°	2018.8	1678.8	600.2	160.1	140.4	129.6	126.1	127.0	126.1	125.3	124.3
35°	2149.3	1733.4	463.3	151.2	132.4	121.6	118.0	118.0	118.0	116.3	116.3
37.5°	2334.4	1816.6	347.0	142.2	124.3	113.5	109.1	109.1	108.2	106.4	107.3
40°	2563.4	1921.1	251.3	134.1	116.3	104.7	101.1	99.4	97.5	95.7	95.7
42.5°	2838.9	2023.2	188.7	126.1	108.2	97.5	93.1	91.3	87.7	85.9	85.0
45°	3147.4	2131.4	156.6	116.3	99.4	89.4	85.9	82.3	77.9	75.1	74.2
47.5°	3407.7	2197.6	139.5	106.4	90.3	81.3	77.9	72.5	67.1	65.2	65.2
50°	3564.2	2169.9	125.3	96.6	81.3	73.3	68.9	61.8	58.1	56.4	55.4
52.5°	3651.9	2087.5	113.5	88.6	73.3	64.4	58.1	51.9	50.0	48.2	48.2
55°	3711.7	1968.5	101.1	80.5	66.1	56.4	49.1	44.7	42.8	42.0	41.1
57.5°	3769.1	1823.6	89.4	73.3	59.0	50.0	42.0	40.2	36.7	35.8	35.8
60°	3786.0	1624.2	78.7	65.2	52.8	43.8	36.7	34.0	30.5	29.6	29.6
62.5°	3569.5	1292.4	69.8	55.4	46.5	37.5	32.2	28.7	25.1	25.1	25.1
65°	2982.8	877.5	59.9	48.2	41.1	32.2	27.7	23.3	21.5	21.5	21.5
67.5°	2077.7	489.2	50.9	41.1	34.9	26.8	23.3	19.7	18.8	19.7	19.7
70°	936.5	194.0	42.8	34.0	28.7	22.4	19.7	17.0	18.8	18.8	18.8
72°	280.8	103.8	35.8	27.7	23.3	19.7	17.0	16.1	17.8	18.8	18.8
72.5°	208.3	93.1	34.0	26.8	23.3	18.8	16.1	16.1	17.8	18.8	18.8
75°	107.3	63.5	26.0	19.7	17.0	15.2	13.5	15.2	17.8	17.8	17.8
77.5°	84.1	51.9	21.5	15.2	14.4	13.5	12.5	14.4	16.1	16.1	16.1
80°	78.7	34.0	17.0	14.4	12.5	11.6	11.6	12.5	14.4	15.2	15.2
82.5°	79.6	27.7	15.2	13.5	11.6	10.7	10.7	11.6	13.5	14.4	14.4
85°	50.9	18.8	13.5	11.6	10.7	9.8	9.8	10.7	12.5	13.5	13.5
87.5°	17.0	14.4	11.6	10.7	9.0	9.0	9.0	9.0	10.7	11.6	12.5
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)