

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: P197117

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-8030-600-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197117
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-SL4-8030-600-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 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: 13169 lumens
Efficiency: N/A
Efficacy: 81.3 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

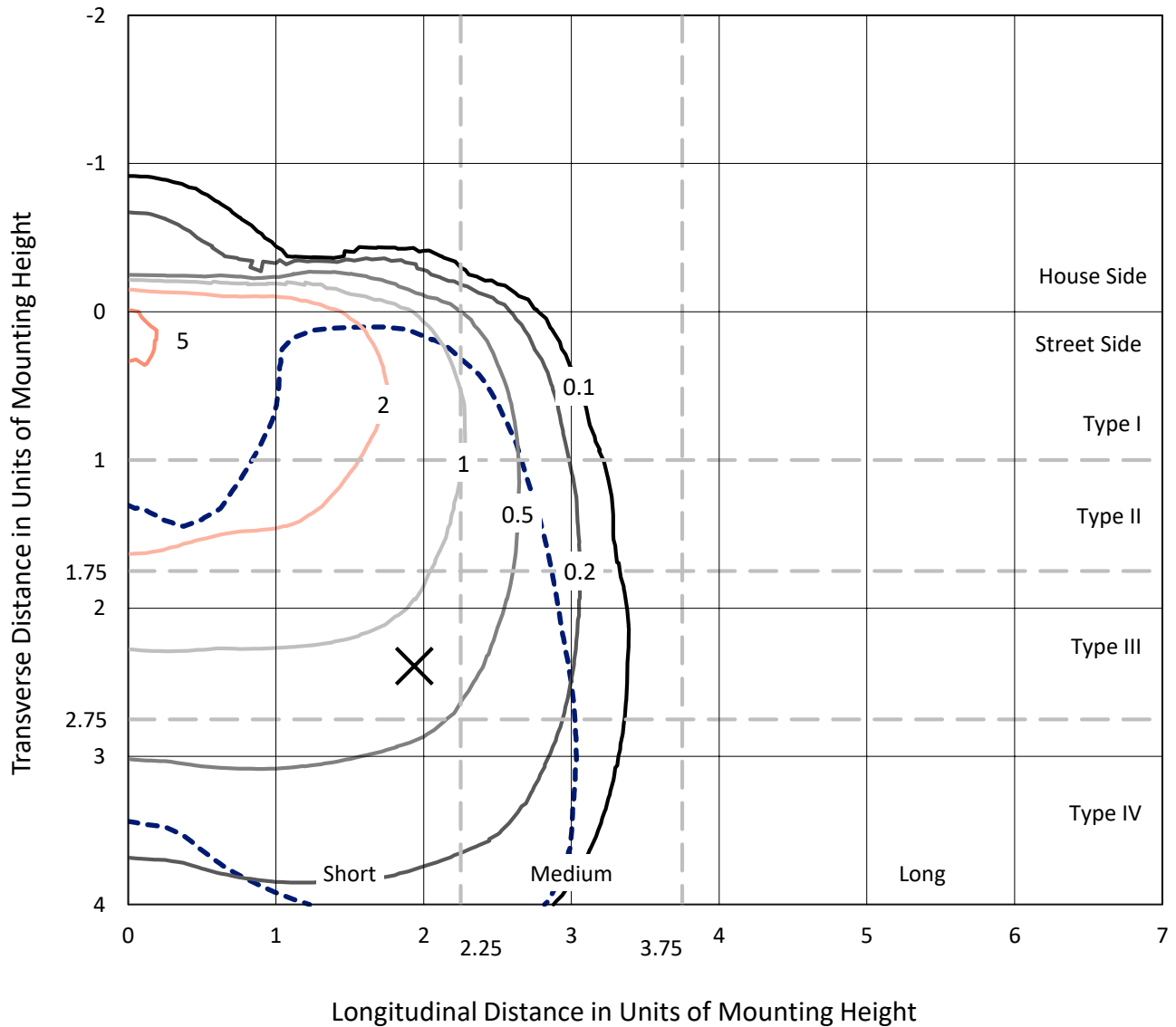


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Iso-Footcandle Lines of Horizontal Illumination

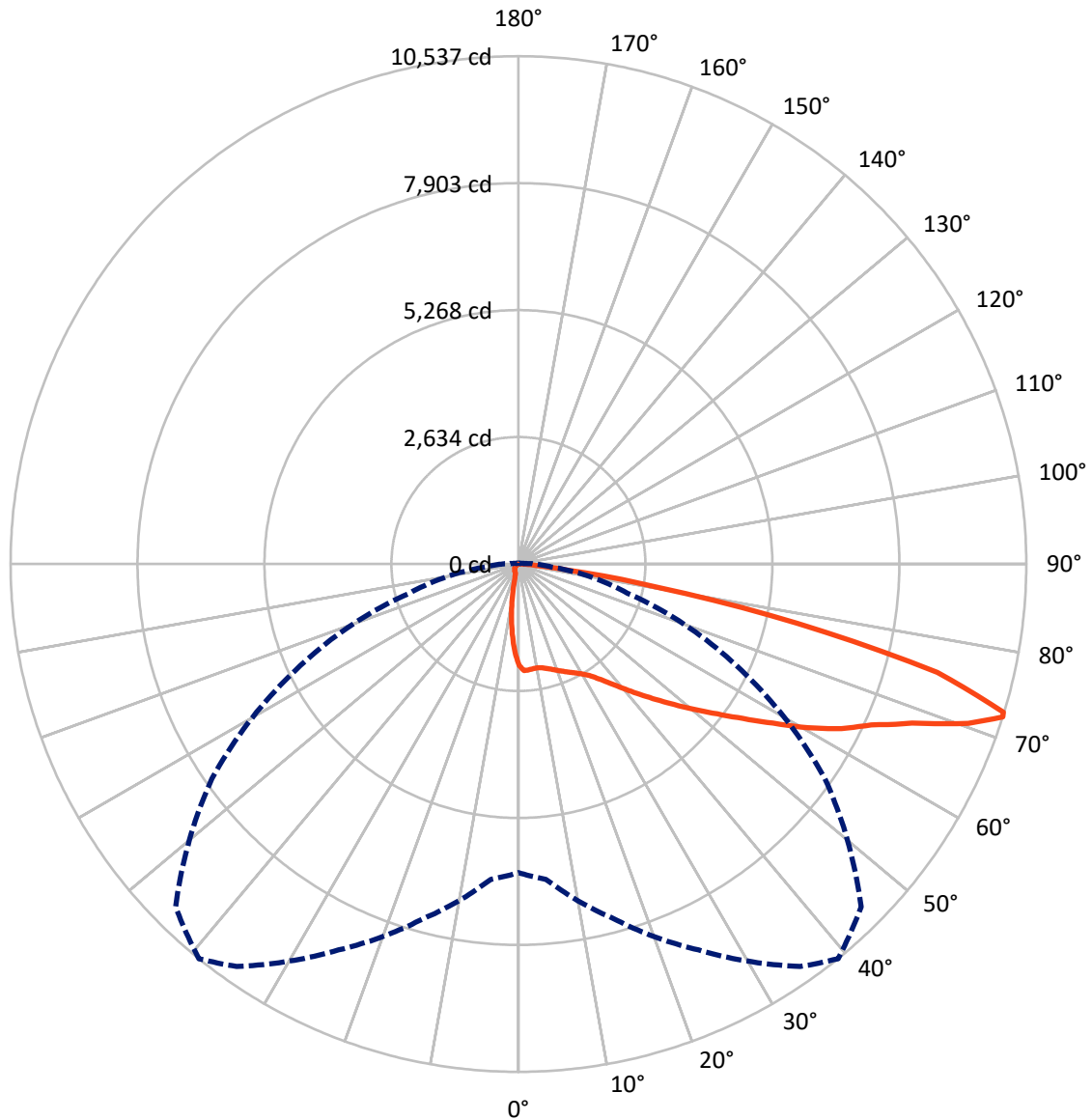
× Max cd
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 5.5 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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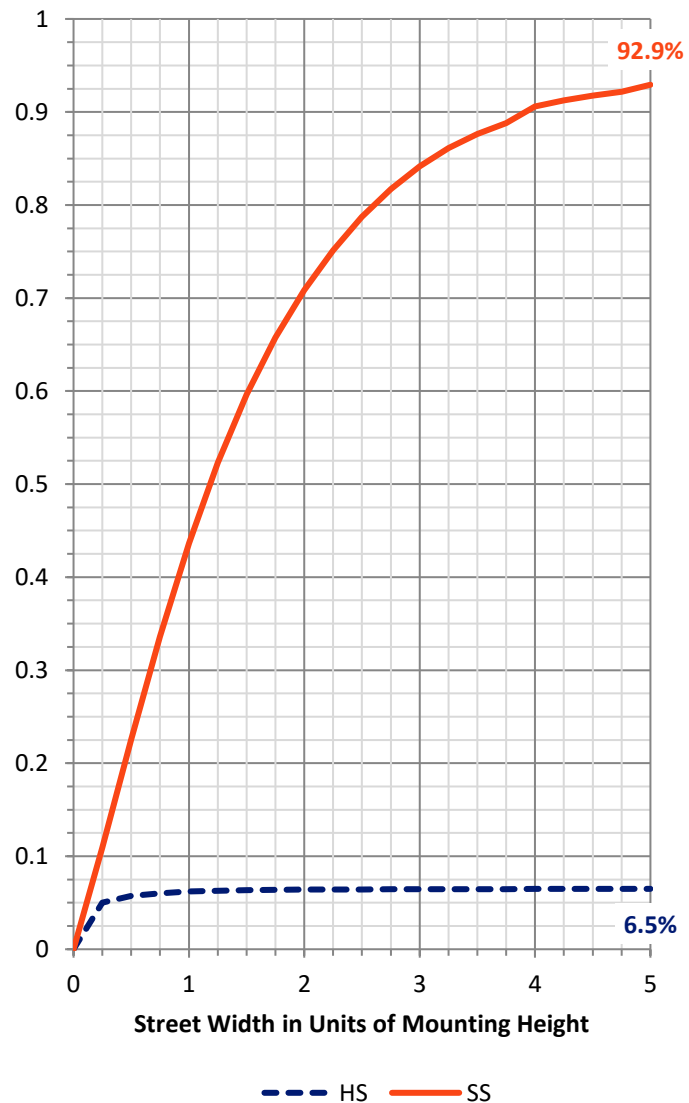
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	863.1	0.0	863.1
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	12305.9	0.0	12305.9
	% Fixture	93.4	0.0	93.4
Total	Lumens	13169.0	0.0	13169.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.4	1.3
10°-20°	415.1	3.2
20°-30°	689.3	5.2
30°-40°	1098.7	8.3
40°-50°	1813.5	13.8
50°-60°	2738.7	20.8
60°-70°	3567.6	27.1
70°-80°	2410.7	18.3
80°-90°	264.0	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°	13169.0	100.0
0°-180°	13169.0	100.0



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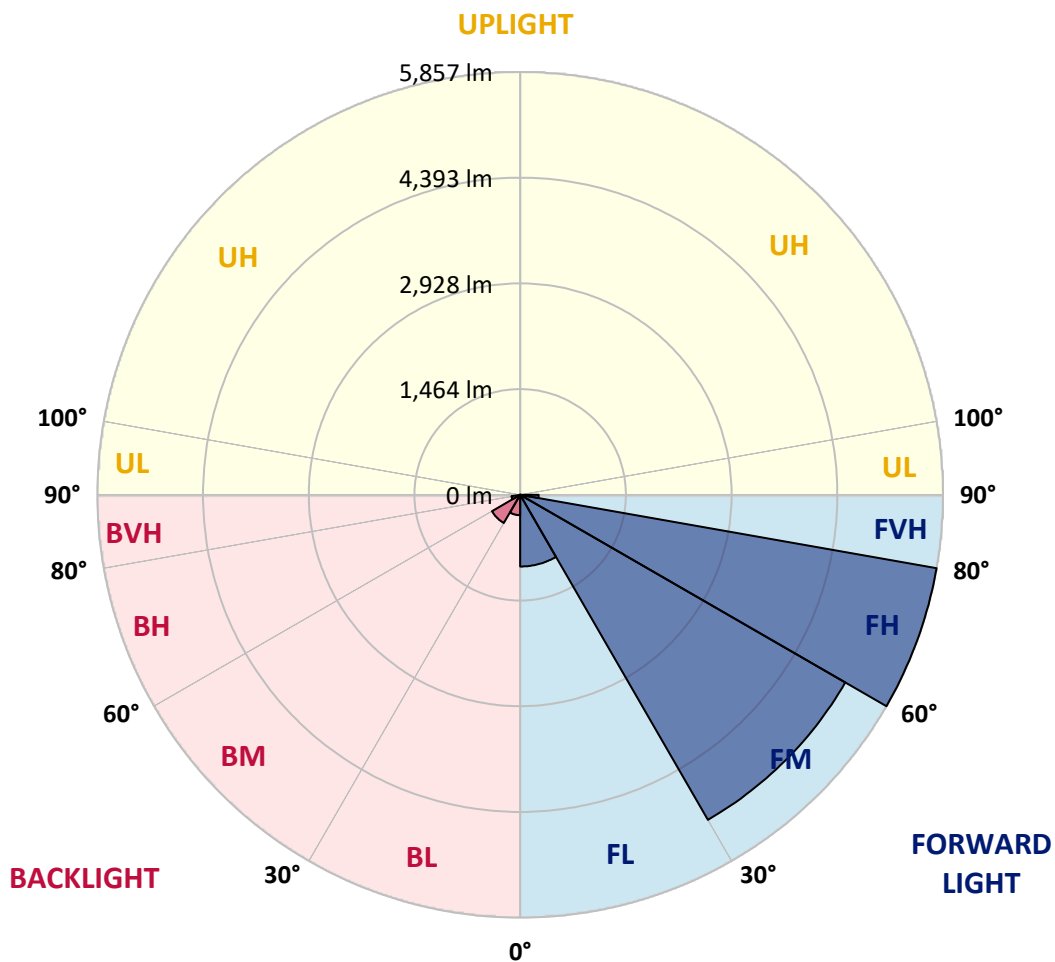
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	993.2	7.5			
FM	(30°-60°)	5199.3	39.5			
FH	(60°-80°)	5857.0	44.5			G3/7500
FVH	(80°-90°)	256.4	1.9			G3/500
BL	(0°-30°)	282.6	2.1	B1/500		
BM	(30°-60°)	451.6	3.4	B1/1000		
BH	(60°-80°)	121.3	0.9	B1/500		G1/500
BVH	(80°-90°)	7.6	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°	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8
2.5°	2244.4	2248.6	2243.4	2234.1	2220.6	2212.3	2201.0	2176.1	2145.1	2118.1	2087.1
5°	2262.0	2264.1	2257.9	2240.3	2219.6	2208.2	2193.7	2166.8	2134.7	2097.4	2041.5
7.5°	2267.2	2266.2	2258.9	2237.2	2205.1	2190.6	2165.8	2132.6	2099.5	2065.3	2002.2
10°	2265.1	2265.1	2260.0	2239.3	2203.0	2189.6	2161.6	2126.4	2085.0	2050.8	1983.6
12.5°	2257.9	2262.0	2258.9	2247.5	2220.6	2210.3	2185.4	2150.2	2110.9	2075.7	2004.3
15°	2267.2	2273.4	2279.6	2275.5	2260.0	2250.6	2227.9	2191.6	2159.5	2122.3	2045.7
17.5°	2304.5	2317.9	2332.4	2333.5	2316.9	2300.3	2274.5	2237.2	2206.1	2172.0	2089.1
20°	2374.9	2385.2	2412.1	2417.3	2384.2	2360.4	2324.2	2280.7	2249.6	2220.6	2129.5
22.5°	2479.4	2490.8	2512.6	2505.3	2449.4	2421.5	2375.9	2326.2	2294.1	2277.6	2176.1
25°	2637.8	2640.9	2646.1	2614.0	2521.9	2490.8	2434.9	2379.0	2353.1	2351.1	2242.4
27.5°	2824.2	2828.3	2805.5	2734.1	2602.6	2562.3	2499.1	2448.4	2436.0	2451.5	2326.2
30°	3037.4	3038.5	2975.3	2859.4	2695.8	2651.3	2586.1	2530.2	2541.6	2579.9	2433.9
32.5°	3255.9	3245.5	3158.6	3007.4	2823.1	2769.3	2713.4	2657.5	2690.6	2768.3	2591.2
35°	3455.7	3451.5	3349.1	3173.1	2988.8	2941.2	2900.8	2841.8	2895.6	3021.9	2805.5
37.5°	3655.5	3652.4	3535.4	3352.2	3192.7	3158.6	3128.5	3083.0	3171.0	3356.3	3092.3
40°	3876.0	3870.8	3726.9	3550.9	3429.8	3411.2	3393.6	3373.9	3524.0	3781.8	3449.5
42.5°	4148.3	4125.5	3929.8	3767.3	3690.7	3695.9	3696.9	3716.6	3951.6	4288.0	3870.8
45°	4460.9	4410.2	4133.8	3999.2	3977.5	4008.5	4039.6	4121.4	4449.5	4870.9	4336.7
47.5°	4764.3	4682.5	4368.8	4248.7	4293.2	4357.4	4431.9	4591.4	5008.6	5480.7	4759.1
50°	5025.1	4941.3	4601.7	4502.3	4644.2	4739.4	4871.9	5113.1	5598.7	5996.2	5025.1
52.5°	5230.1	5163.9	4848.1	4781.9	5033.4	5163.9	5371.9	5688.7	6155.6	6335.8	5211.5
55°	5381.3	5348.1	5084.1	5093.5	5466.2	5654.6	5913.4	6271.6	6625.6	6599.8	5351.2
57.5°	5552.1	5526.2	5331.6	5461.0	5986.9	6230.2	6529.4	6817.2	6967.3	6812.0	5487.9
60°	5727.0	5735.3	5631.8	5906.1	6630.8	6900.0	7160.9	7232.3	7260.3	7027.3	5631.8
62.5°	5859.6	5894.8	5904.1	6386.5	7291.3	7521.1	7634.0	7583.3	7577.0	7316.2	5620.4
65°	6011.7	6103.9	6257.1	6913.4	7891.8	8042.9	8123.7	8197.2	8041.9	7402.1	5067.6
67.5°	6274.7	6419.6	6764.4	7559.4	8585.4	8809.0	9037.8	8960.2	8111.2	6529.4	3860.5
70°	6628.8	6805.8	7414.5	8403.2	9526.4	9901.2	10092.7	8899.1	6886.5	4511.7	2036.4
72°	6405.1	6565.6	7615.4	8833.8	10193.1	10536.8	10057.5	7762.4	4992.0	2338.6	682.2
72.5°	6187.7	6353.4	7551.2	8828.7	10259.4	10522.4	9828.7	7314.1	4417.4	1820.0	470.0
75°	4293.2	4502.3	6473.5	7936.3	9264.5	8975.7	7520.1	4428.8	1600.5	312.6	155.3
77.5°	2219.6	2381.1	3926.7	5608.0	6456.9	5913.4	4444.4	1921.4	443.1	165.6	102.5
80°	1375.9	1455.6	1836.5	2763.1	3354.2	2933.9	1960.8	776.4	283.7	98.3	81.8
82.5°	712.3	773.3	1156.4	1115.0	1239.2	1030.1	723.6	650.1	175.0	61.1	83.9
85°	234.0	248.5	710.2	741.2	530.1	356.1	320.9	620.1	50.7	39.3	71.4
87.5°	31.1	36.2	249.5	424.5	260.9	161.5	192.6	218.4	17.6	21.7	19.7
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°	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8	2107.8
2.5°	2066.4	2052.9	2010.5	1968.0	1919.4	1874.9	1839.7	1816.9	1827.2	1793.1	1798.2
5°	2007.4	1973.2	1880.0	1779.6	1670.9	1569.4	1488.7	1428.7	1417.3	1365.5	1367.6
7.5°	1950.4	1894.5	1743.4	1577.7	1397.6	1251.6	1119.1	1003.2	961.8	919.3	894.5
10°	1919.4	1842.8	1628.5	1387.2	1133.6	919.3	733.0	587.0	525.9	481.4	459.7
12.5°	1928.7	1827.2	1542.5	1214.4	881.0	608.7	414.1	307.5	270.2	249.5	242.3
15°	1959.7	1830.3	1464.9	1045.6	640.8	368.6	243.3	208.1	205.0	203.9	202.9
17.5°	1988.7	1833.4	1383.1	869.6	428.6	235.0	195.7	192.6	192.6	192.6	192.6
20°	2018.8	1834.5	1293.0	685.3	281.6	192.6	184.3	182.2	184.3	184.3	184.3
22.5°	2054.0	1841.7	1206.1	506.2	208.1	181.2	176.0	175.0	176.0	176.0	175.0
25°	2097.4	1857.3	1111.9	362.3	188.4	173.9	168.7	167.7	168.7	167.7	167.7
27.5°	2155.4	1878.0	1002.1	259.8	180.1	166.7	161.5	161.5	161.5	160.5	160.5
30°	2229.9	1902.8	855.1	205.0	171.9	159.4	155.3	155.3	154.3	153.2	153.2
32.5°	2336.6	1943.2	694.7	185.3	162.5	150.1	146.0	147.0	146.0	144.9	143.9
35°	2487.7	2006.3	536.3	175.0	153.2	140.8	136.7	136.7	136.7	134.6	134.6
37.5°	2702.0	2102.6	401.7	164.6	143.9	131.5	126.3	126.3	125.3	123.2	124.2
40°	2967.0	2223.7	290.9	155.3	134.6	121.1	117.0	114.9	112.8	110.8	110.8
42.5°	3285.9	2341.8	218.4	146.0	125.3	112.8	107.7	105.6	101.5	99.4	98.3
45°	3643.1	2467.0	181.2	134.6	114.9	103.5	99.4	95.2	90.1	87.0	85.9
47.5°	3944.3	2543.6	161.5	123.2	104.6	94.2	90.1	83.9	77.6	75.6	75.6
50°	4125.5	2511.5	144.9	111.8	94.2	84.9	79.7	71.4	67.3	65.2	64.2
52.5°	4227.0	2416.3	131.5	102.5	84.9	74.5	67.3	60.0	58.0	55.9	55.9
55°	4296.3	2278.6	117.0	93.2	76.6	65.2	56.9	51.8	49.7	48.7	47.6
57.5°	4362.6	2110.9	103.5	84.9	68.3	58.0	48.7	46.6	42.4	41.4	41.4
60°	4382.2	1880.0	91.1	75.6	61.1	50.7	42.4	39.3	35.2	34.2	34.2
62.5°	4131.7	1495.9	80.8	64.2	53.8	43.5	37.3	33.1	29.0	29.0	29.0
65°	3452.6	1015.6	69.4	55.9	47.6	37.3	32.1	26.9	24.8	24.8	24.8
67.5°	2404.9	566.3	59.0	47.6	40.4	31.1	26.9	22.8	21.7	22.8	22.8
70°	1083.9	224.7	49.7	39.3	33.1	25.9	22.8	19.7	21.7	21.7	21.7
72°	325.1	120.1	41.4	32.1	26.9	22.8	19.7	18.6	20.7	21.7	21.7
72.5°	241.2	107.7	39.3	31.1	26.9	21.7	18.6	18.6	20.7	21.7	21.7
75°	124.2	73.5	30.0	22.8	19.7	17.6	15.5	17.6	20.7	20.7	20.7
77.5°	97.3	60.0	24.8	17.6	16.6	15.5	14.5	16.6	18.6	18.6	18.6
80°	91.1	39.3	19.7	16.6	14.5	13.5	13.5	14.5	16.6	17.6	17.6
82.5°	92.1	32.1	17.6	15.5	13.5	12.4	12.4	13.5	15.5	16.6	16.6
85°	59.0	21.7	15.5	13.5	12.4	11.4	11.4	12.4	14.5	15.5	15.5
87.5°	19.7	16.6	13.5	12.4	10.4	10.4	10.4	10.4	12.4	13.5	14.5
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)