

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: P196000

Luminaire Tested: **NAV-AF-04-D-UNV-AFL-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196000  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24283)  
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-AFL-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 4000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND AUTOMOTIVE FRONTLINE OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 20947 lumens  
Efficiency: N/A  
Efficacy: 93.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B2 - U0 - G2

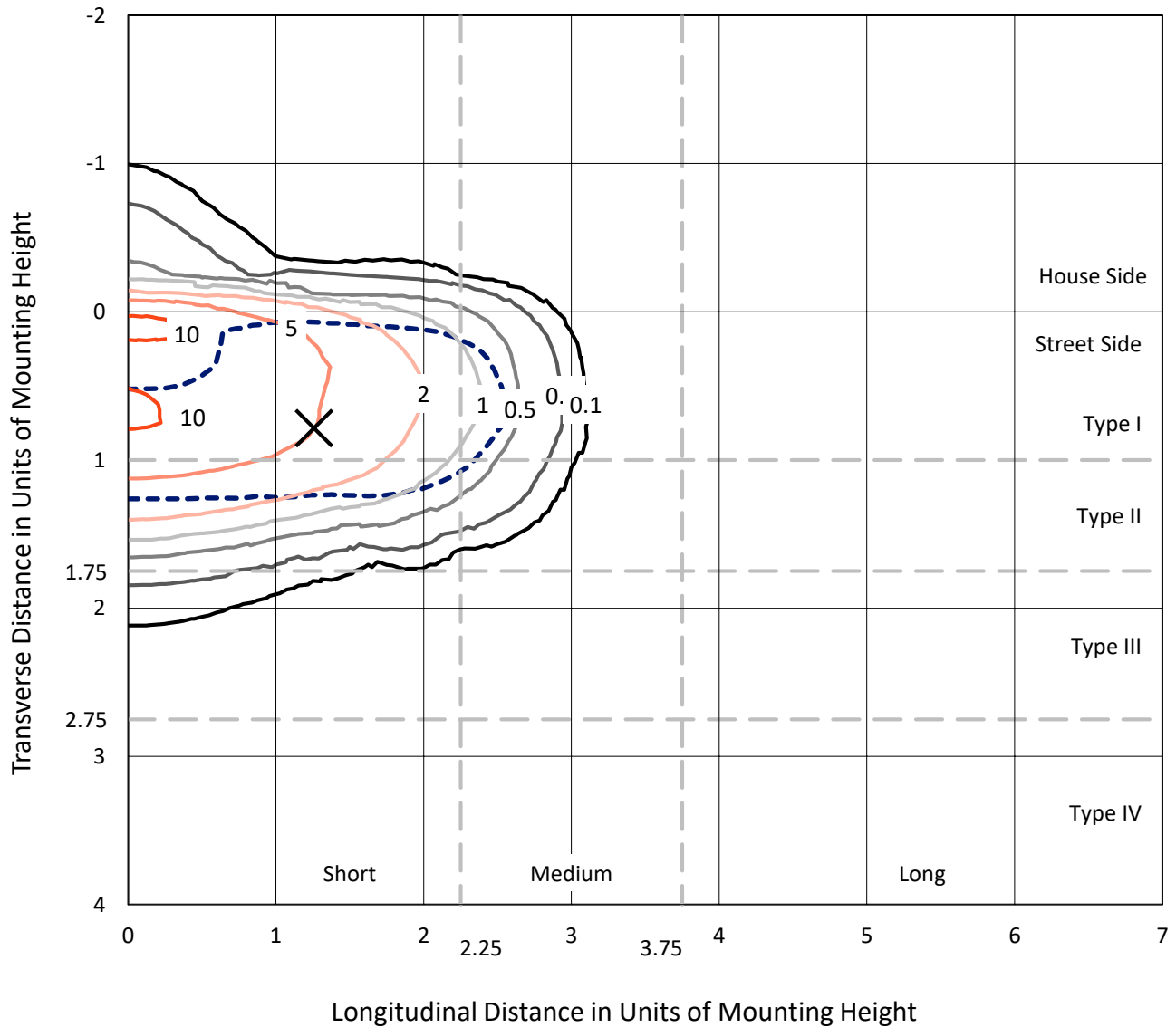
Input Watts (W): 225  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

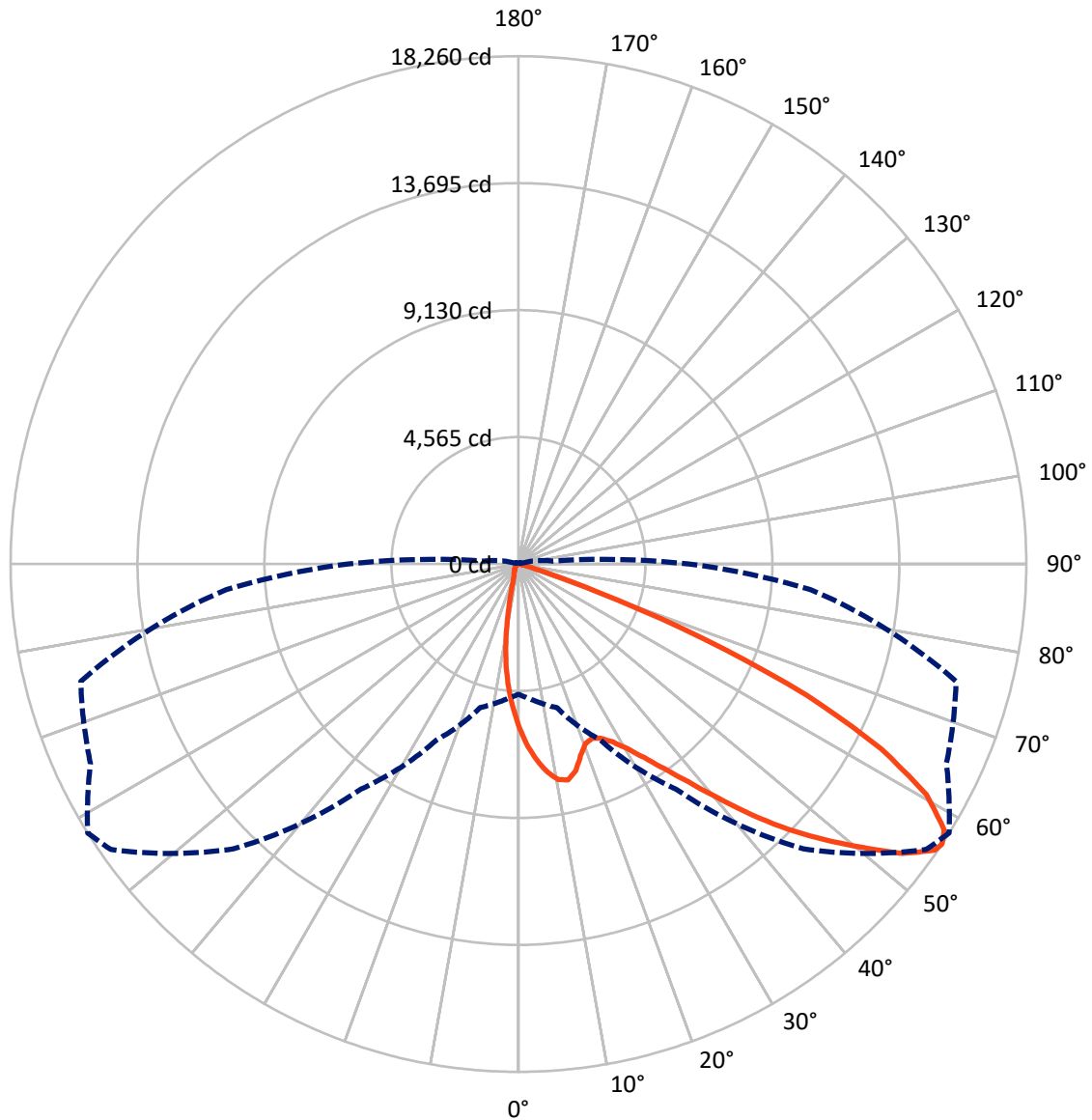
✕ Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11.8 fc  
 Type II - Short - Full Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 58-Deg Lateral    - - - Horizontal Cone Through 56-Deg Vertical

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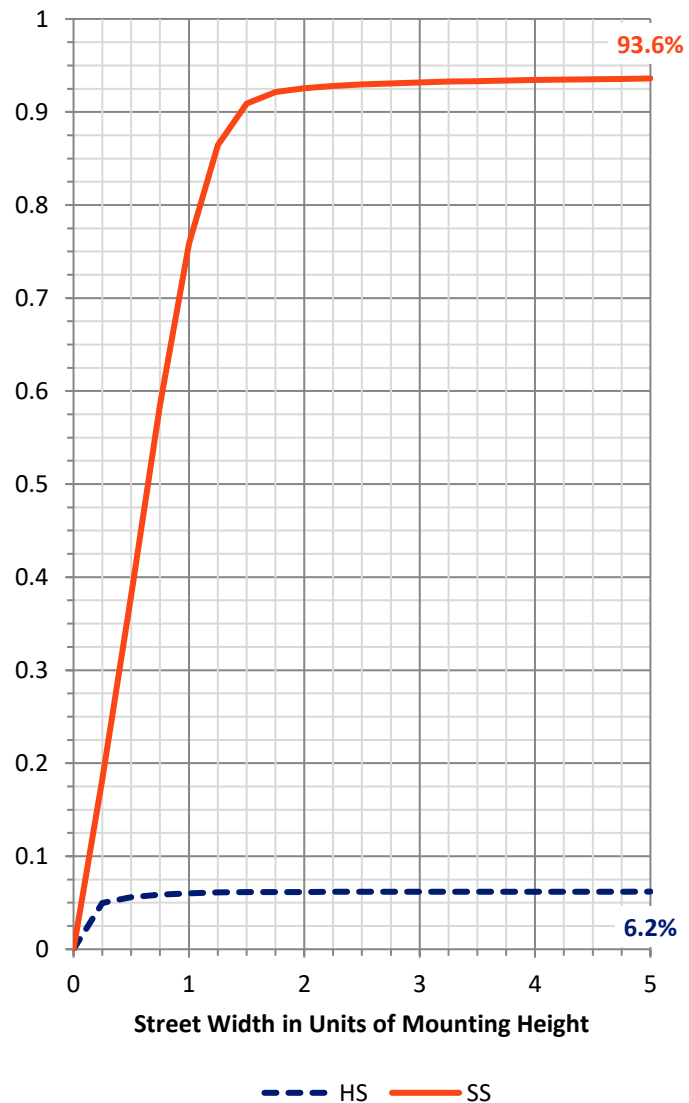
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1307.5	0.0	1307.5
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	19639.4	0.0	19639.4
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	20947.0	0.0	20947.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	505.9	2.4
10°-20°	1177.2	5.6
20°-30°	1980.8	9.5
30°-40°	3392.0	16.2
40°-50°	5118.6	24.4
50°-60°	5320.6	25.4
60°-70°	2986.9	14.3
70°-80°	409.4	2.0
80°-90°	55.5	0.3
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°	20947.0	100.0
0°-180°	20947.0	100.0



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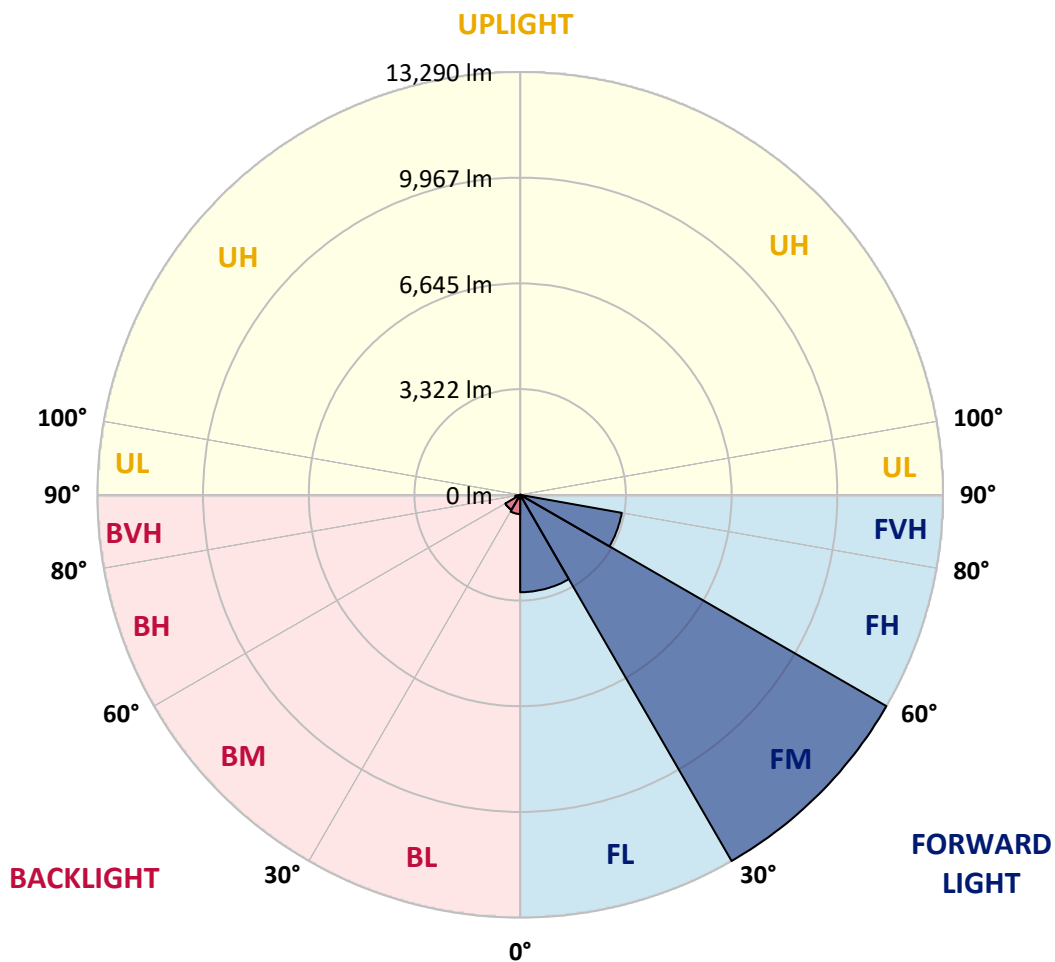
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3060.8	14.6			
FM	(30°-60°)	13289.6	63.4			
FH	(60°-80°)	3241.2	15.5			G2/5000
FVH	(80°-90°)	47.8	0.2			G1/100
BL	(0°-30°)	603.2	2.9	B2/1000		
BM	(30°-60°)	541.6	2.6	B1/1000		
BH	(60°-80°)	155.1	0.7	B1/500		G1/500
BVH	(80°-90°)	7.7	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8
2.5°	7135.7	7092.5	7047.8	6964.8	6888.0	6769.8	6606.7	6566.7	6439.0	6227.9	6031.4
5°	7751.0	7743.0	7712.6	7645.5	7562.5	7418.6	7234.8	7111.8	6913.6	6581.2	6202.4
7.5°	7386.6	7453.7	7564.0	7720.6	7826.1	7811.8	7671.1	7564.0	7367.5	6913.6	6370.2
10°	6226.4	6239.2	6391.0	6720.2	7241.2	7727.1	7910.8	7882.0	7701.5	7204.4	6517.2
12.5°	5817.2	5825.2	5860.4	5965.8	6304.7	6982.3	7814.9	7965.2	7950.8	7482.5	6673.8
15°	5849.2	5854.0	5863.6	5897.1	5993.1	6333.5	7329.1	7711.0	8110.6	7746.2	6827.3
17.5°	6101.7	6098.5	6068.1	6036.2	6066.6	6178.4	6833.7	7236.4	8077.0	7968.4	6953.5
20°	6593.9	6609.9	6507.6	6365.4	6291.9	6296.7	6589.1	6891.2	7888.5	8140.9	7047.8
22.5°	7286.0	7297.1	7129.4	6883.2	6667.5	6558.8	6640.3	6800.1	7671.1	8300.7	7124.5
25°	8112.2	8112.2	7877.2	7527.3	7193.3	6955.1	6884.8	6945.5	7588.0	8481.4	7201.3
27.5°	9003.9	9035.9	8729.0	8270.5	7829.4	7480.9	7260.4	7249.1	7651.9	8708.3	7287.5
30°	9974.1	10002.8	9638.4	9077.5	8554.8	8109.0	7770.2	7696.7	7896.5	9013.5	7413.8
32.5°	10939.3	10963.3	10560.5	9988.4	9379.5	8855.3	8409.5	8292.8	8335.9	9459.4	7599.2
35°	12166.7	12171.5	11661.6	10980.9	10330.4	9715.2	9151.0	9035.9	8988.0	10022.0	7866.1
37.5°	13143.2	13104.8	12782.0	12137.9	11391.6	10749.2	10085.9	9935.7	9820.6	10813.1	8280.0
40°	13373.2	13373.2	13325.4	13131.9	12539.0	11920.5	11278.1	11054.4	10800.3	11744.8	8836.1
42.5°	12774.0	12812.4	13128.8	13549.1	13553.9	13157.5	12529.5	12340.9	11893.4	12805.9	9443.5
45°	11433.1	11444.4	12203.4	13338.2	14108.4	14335.3	13871.9	13611.4	12991.4	13908.7	9999.5
47.5°	10950.5	10985.7	11308.5	12695.6	14150.0	15289.4	15160.0	14802.0	14007.8	14915.5	10519.0
50°	10208.9	10252.1	10646.9	11749.6	13776.0	15901.6	16392.2	16008.7	14933.0	15754.6	10776.3
52.5°	8435.0	8502.2	9059.9	10498.2	12841.1	15927.1	17520.5	17290.3	15880.8	16203.6	10745.9
55°	5804.4	5854.0	6504.4	8195.3	10955.3	15145.6	18006.3	18164.5	16726.2	16304.3	10598.9
56°	4682.6	4867.9	5344.2	6982.3	9881.3	14480.8	17894.5	18260.4	16977.1	16288.3	10535.0
57.5°	3095.7	3130.7	3650.2	5059.7	7934.8	13037.7	17389.4	18055.9	17299.9	16206.8	10488.6
60°	1455.9	1471.9	1658.9	2334.9	4294.2	9501.0	15748.1	16854.0	17418.2	16035.8	10487.0
62.5°	949.3	952.5	974.9	1113.9	1756.4	5174.8	13055.2	14647.0	16438.5	16016.6	10456.7
65°	781.5	789.5	762.3	779.9	918.9	1951.4	9208.5	11418.8	14138.8	15565.9	10114.6
67.5°	688.8	690.4	653.7	632.9	672.8	856.6	4639.4	7202.8	10575.0	13226.2	8331.1
70°	628.1	626.5	584.9	536.9	538.6	569.0	1511.8	2991.7	5850.8	7853.3	4783.2
72.5°	557.7	561.0	536.9	469.8	447.4	402.7	569.0	807.1	1991.3	2521.9	1260.9
75°	489.1	482.6	458.7	415.5	374.0	270.1	286.0	343.6	519.4	514.6	271.7
77.5°	370.8	364.4	375.5	354.8	292.5	188.6	156.6	179.0	235.0	218.9	110.3
80°	282.8	279.7	255.7	303.6	266.9	142.2	107.1	110.3	127.9	116.6	54.3
82.5°	204.6	203.0	193.3	187.0	169.4	103.8	81.5	86.3	95.9	81.5	40.0
85°	78.4	78.4	151.8	127.9	116.6	70.3	57.5	62.3	73.6	59.1	27.2
87.5°	12.8	12.8	102.3	84.7	52.8	35.2	36.7	40.0	43.2	35.2	20.8
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°	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8	5930.8
2.5°	5914.7	5807.7	5572.7	5345.8	5147.6	4930.3	4820.0	4692.2	4644.2	4548.3	4558.0
5°	5975.5	5751.7	5280.3	4783.2	4327.8	3864.3	3535.1	3225.1	3052.5	2881.4	2881.4
7.5°	6037.8	5695.8	4967.0	4172.7	3405.6	2611.4	2048.9	1598.2	1347.2	1179.5	1174.7
10°	6080.9	5623.9	4610.6	3464.7	2333.2	1345.6	811.8	639.2	576.9	549.7	548.2
12.5°	6136.9	5552.0	4204.7	2630.5	1296.1	639.2	506.6	479.5	468.3	461.9	461.9
15°	6184.9	5449.7	3712.5	1769.2	680.8	479.5	436.3	426.7	425.1	423.5	425.1
17.5°	6196.0	5304.2	3122.8	1035.6	493.8	418.7	399.6	391.6	391.6	389.9	389.9
20°	6170.4	5112.5	2470.7	639.2	426.7	385.1	364.4	354.8	353.2	353.2	353.2
22.5°	6117.7	4867.9	1826.7	484.3	388.3	354.8	327.7	318.0	318.0	319.7	321.2
25°	6052.2	4578.7	1254.5	417.2	359.6	322.8	295.6	286.0	289.3	292.5	294.1
27.5°	5969.1	4233.5	821.4	361.2	321.2	290.8	266.9	260.5	266.9	273.3	276.5
30°	5886.0	3854.7	556.2	313.2	278.0	255.7	241.3	239.7	249.3	263.7	265.3
32.5°	5831.6	3466.4	420.3	281.3	244.5	225.4	218.9	222.2	236.5	252.5	255.7
35°	5826.8	3087.6	358.0	255.7	222.2	204.6	201.3	210.9	226.9	239.7	243.0
37.5°	5901.9	2732.8	324.4	236.5	204.6	187.0	182.2	199.8	214.1	226.9	230.2
40°	6053.8	2414.8	302.1	218.9	190.2	169.4	166.2	180.6	195.0	209.4	214.1
42.5°	6244.0	2117.5	276.5	201.3	174.2	150.3	147.0	158.3	172.6	193.3	196.6
45°	6408.6	1841.1	249.3	182.2	156.6	129.4	127.9	140.7	151.8	171.0	174.2
47.5°	6547.6	1610.9	223.7	161.4	134.2	115.1	113.4	119.9	126.2	143.8	147.0
50°	6474.1	1416.0	198.1	132.7	108.6	99.1	97.5	97.5	105.5	123.1	126.2
52.5°	6293.5	1294.5	174.2	110.3	89.5	84.7	79.9	81.5	89.5	97.5	99.1
55°	6148.0	1237.0	153.4	97.5	75.1	70.3	65.6	63.9	65.6	62.3	59.1
56°	6112.9	1230.6	148.6	94.3	71.9	65.6	59.1	56.0	54.3	48.0	46.3
57.5°	6096.9	1230.6	140.7	87.9	67.1	59.1	51.1	44.7	38.4	33.6	33.6
60°	6084.1	1238.6	131.0	76.7	57.5	48.0	36.7	27.2	22.4	22.4	22.4
62.5°	6057.0	1235.4	119.9	63.9	49.5	36.7	22.4	17.6	16.0	17.6	19.1
65°	5751.7	1147.4	105.5	51.1	38.4	25.6	12.8	12.8	14.4	17.6	19.1
67.5°	4634.6	869.4	86.3	40.0	27.2	19.1	11.2	11.2	14.4	17.6	19.1
70°	2545.8	458.7	73.6	28.7	20.8	16.0	11.2	9.6	14.4	17.6	19.1
72.5°	621.6	191.8	67.1	22.4	19.1	14.4	9.6	9.6	14.4	17.6	19.1
75°	153.4	143.8	54.3	17.6	16.0	12.8	9.6	9.6	14.4	17.6	19.1
77.5°	71.9	190.2	36.7	16.0	14.4	11.2	9.6	9.6	14.4	17.6	17.6
80°	43.2	143.8	22.4	14.4	12.8	11.2	9.6	9.6	14.4	17.6	19.1
82.5°	25.6	41.5	16.0	14.4	12.8	9.6	9.6	9.6	14.4	17.6	19.1
85°	22.4	20.8	16.0	14.4	12.8	11.2	9.6	9.6	16.0	19.1	19.1
87.5°	17.6	16.0	14.4	12.8	12.8	11.2	9.6	9.6	14.4	17.6	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

(END OF REPORT)