

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: P195166

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7060-1200-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P195166  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24263)  
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-SL3-7060-1200-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 5700K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III  
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 22719 lumens  
Efficiency: N/A  
Efficacy: 88.1 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B2 - U0 - G4

Input Watts (W): 258  
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

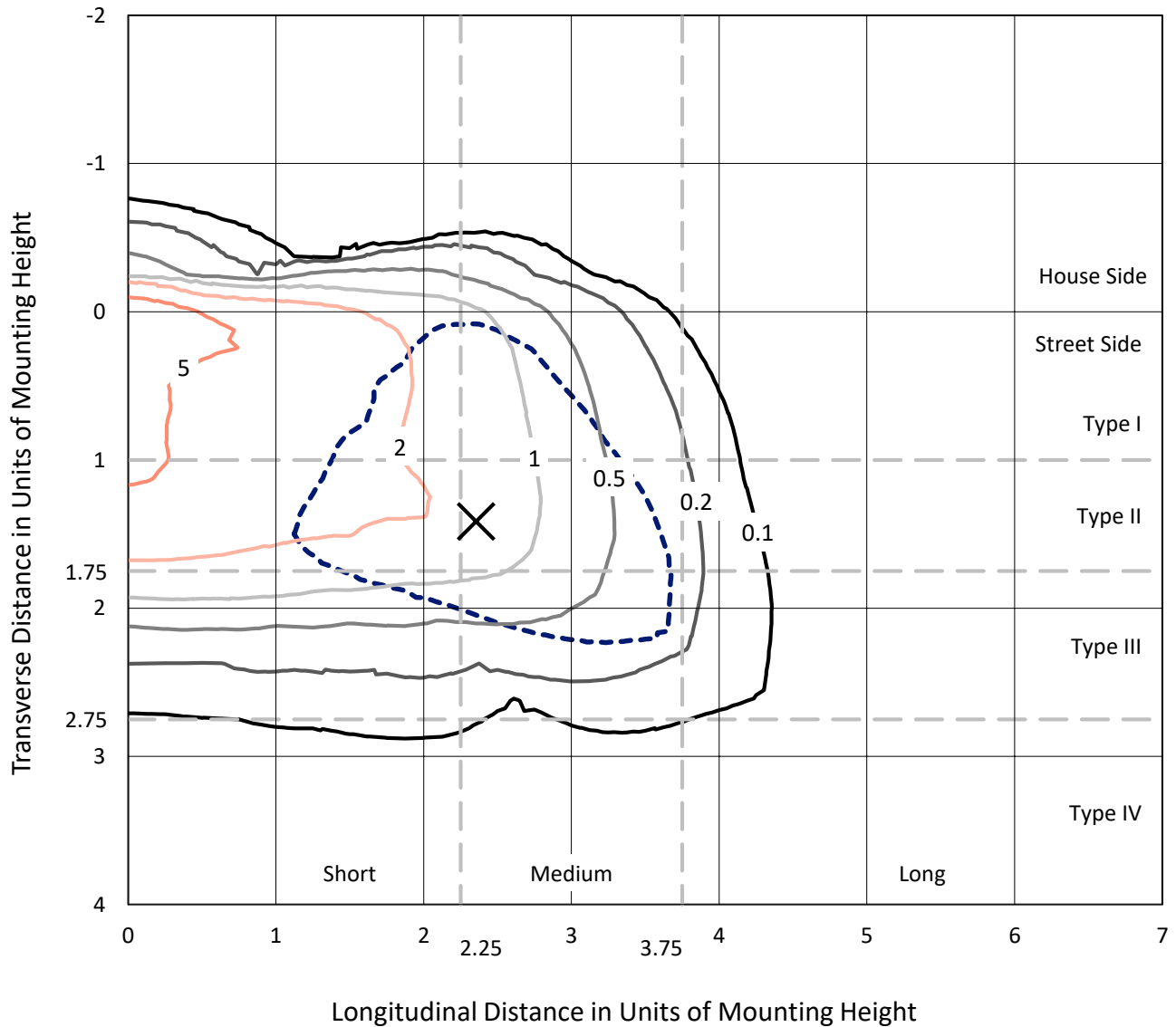


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

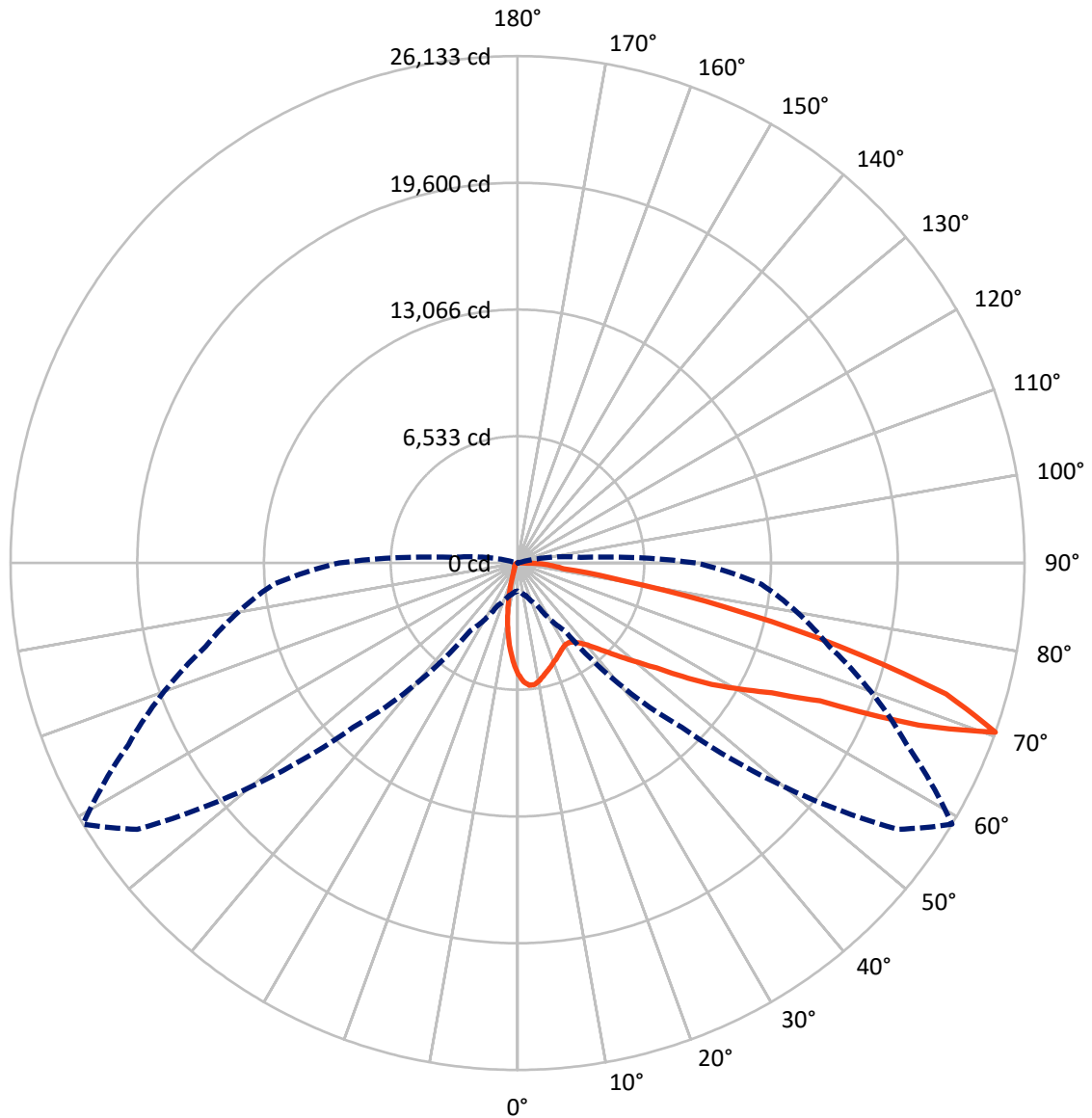


Based on 25 foot mounting height. Maximum calculated value = 9.8 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 59-Deg Lateral      - - - Horizontal Cone Through 70-Deg Vertical

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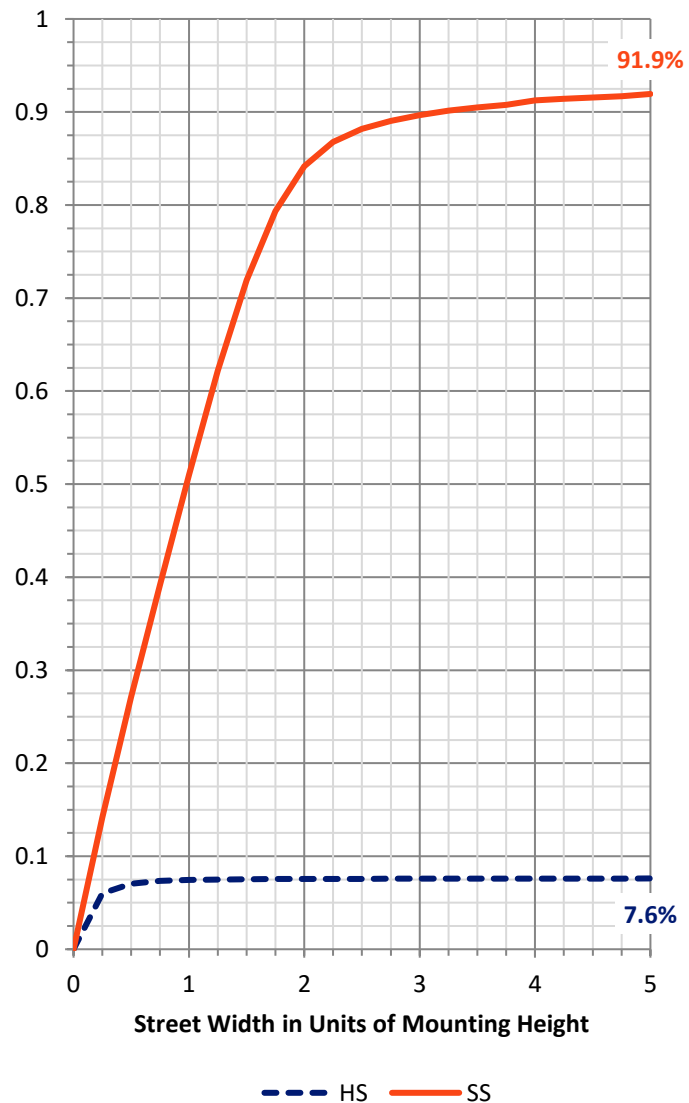
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1746.5	0.0	1746.5
	% Fixture	7.7	0.0	7.7
<b>Street Side</b>	Lumens	20972.5	0.0	20972.5
	% Fixture	92.3	0.0	92.3
<b>Total</b>	Lumens	22719.0	0.0	22719.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	472.4	2.1
10°-20°	990.8	4.4
20°-30°	1341.3	5.9
30°-40°	1935.6	8.5
40°-50°	3214.6	14.1
50°-60°	4917.1	21.6
60°-70°	6115.8	26.9
70°-80°	3380.8	14.9
80°-90°	350.6	1.5
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°	22719.0	100.0
0°-180°	22719.0	100.0



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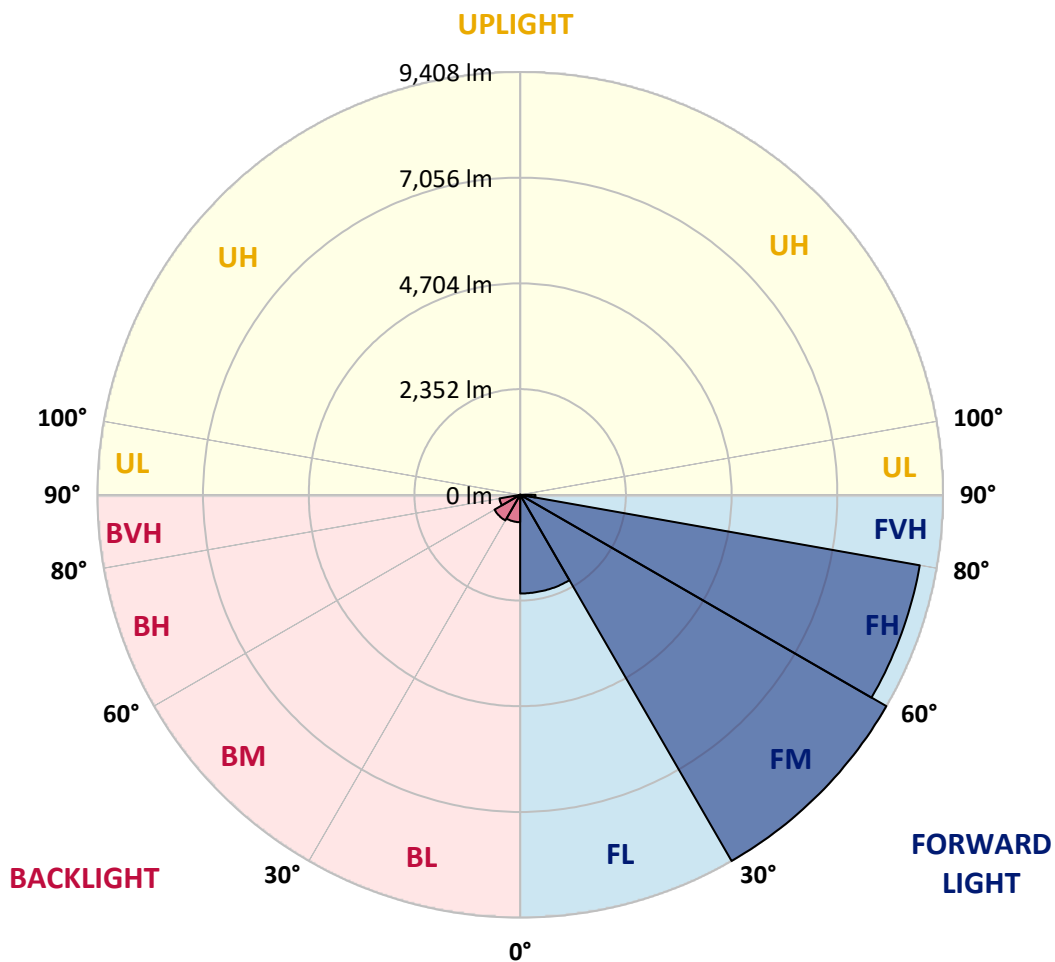
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2195.9	9.7			
FM (30°-60°)	9408.2	41.4			
FH (60°-80°)	9028.1	39.7			G4/12000
FVH (80°-90°)	340.4	1.5			G3/500
BL (0°-30°)	608.6	2.7	B2/1000		
BM (30°-60°)	659.2	2.9	B1/1000		
BH (60°-80°)	468.5	2.1	B1/500		G1/500
BVH (80°-90°)	10.1	0.0			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B2-U0-G4**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8
2.5°	6493.8	6483.5	6440.6	6432.1	6384.1	6288.1	6176.7	6132.1	6041.3	5897.4	5738.0
5°	6601.7	6606.9	6610.3	6591.5	6584.6	6505.8	6382.4	6329.2	6207.6	5971.0	5679.7
7.5°	6197.3	6211.0	6253.8	6272.7	6354.9	6385.8	6360.1	6325.8	6229.8	5950.5	5540.9
10°	5770.5	5796.2	5842.5	5873.4	5974.5	6056.7	6161.3	6169.9	6149.3	5881.9	5384.9
12.5°	5403.8	5427.8	5479.2	5540.9	5643.7	5750.0	5905.9	5960.8	6029.3	5837.4	5273.5
15°	5088.4	5095.3	5145.0	5222.1	5357.5	5503.2	5688.3	5768.8	5902.5	5820.2	5187.8
17.5°	4812.5	4814.2	4846.8	4917.0	5081.6	5273.5	5489.5	5595.7	5765.4	5796.2	5112.4
20°	4630.8	4629.1	4630.8	4668.5	4814.2	5042.1	5304.4	5415.8	5633.4	5767.1	5035.3
22.5°	4569.1	4560.5	4521.1	4507.4	4600.0	4800.5	5114.1	5259.8	5515.2	5758.5	4978.7
25°	4644.5	4639.4	4555.4	4476.6	4485.1	4610.3	4920.5	5098.7	5422.6	5789.4	4965.0
27.5°	4887.9	4877.6	4749.1	4594.8	4497.1	4519.4	4776.5	4963.3	5348.9	5864.8	4983.9
30°	5206.7	5208.4	5071.3	4884.5	4654.8	4528.0	4699.4	4875.9	5299.2	5977.9	5025.0
32.5°	5561.4	5559.7	5462.0	5246.1	4953.0	4685.7	4733.6	4882.8	5306.1	6144.1	5103.8
35°	5928.2	5909.3	5876.8	5686.5	5343.8	4961.6	4889.6	4999.3	5378.1	6363.5	5237.5
37.5°	6351.5	6344.7	6377.2	6176.7	5827.1	5367.8	5163.8	5237.5	5559.7	6687.4	5453.5
40°	7025.1	6987.4	7002.8	6730.3	6372.1	5914.5	5547.7	5566.6	5849.4	7115.9	5794.5
42.5°	8308.7	8156.2	7870.0	7359.3	6971.9	6521.2	6049.9	6017.3	6259.0	7635.2	6243.5
45°	9842.6	9667.8	8946.3	8053.4	7571.8	7172.5	6670.3	6582.9	6762.8	8253.9	6822.8
47.5°	11122.9	10934.3	9978.0	8778.3	8181.9	7844.3	7357.5	7254.7	7366.1	8972.0	7518.6
50°	11559.9	11455.4	10615.6	9381.6	8797.2	8598.4	8219.6	8048.2	8075.7	9746.7	8331.0
52.5°	11359.4	11323.4	10761.2	9794.6	9366.2	9431.3	9163.9	8984.0	8953.1	10593.3	9229.1
55°	10936.1	10918.9	10644.7	10024.3	9868.3	10194.0	10488.7	10332.8	10041.4	11493.1	9971.2
57.5°	10331.1	10396.2	10593.3	10466.5	10485.3	10999.5	11719.3	11799.8	11364.5	12209.5	10521.3
60°	8714.9	8889.7	9792.9	10941.2	11820.4	12339.7	13037.2	13188.1	12485.4	12699.6	11157.1
62.5°	6442.4	6692.6	7979.7	10089.4	12555.6	14888.2	14790.5	14723.7	13554.8	13356.0	12314.0
65°	3784.2	4077.2	5165.5	7883.7	11446.8	16526.6	18064.0	17138.5	15184.7	14720.2	14156.4
67.5°	1885.2	1886.9	2378.8	4161.2	8459.6	15383.5	22842.2	22307.4	18650.1	16730.6	14883.1
70°	1449.9	1489.3	1760.1	2418.2	4277.8	11981.5	23937.3	26132.8	22132.6	16641.5	12627.6
72.5°	1228.8	1254.5	1566.5	2104.6	3198.0	6577.7	20722.1	23099.2	21119.7	14060.4	9307.9
75°	884.3	904.9	1386.5	1909.2	2944.4	3263.2	14214.7	17131.6	15846.2	9890.6	5122.7
77.5°	219.4	217.7	483.3	1549.3	2634.2	2718.2	8156.2	10985.8	9092.0	4049.8	1316.2
80°	97.7	94.3	109.7	325.6	2450.8	2565.6	3587.1	5547.7	3487.7	656.4	402.8
82.5°	68.6	65.1	68.6	120.0	819.2	2380.5	2168.0	2404.5	1276.8	224.5	171.4
85°	22.3	20.6	37.7	101.1	229.7	1372.8	2114.9	1796.1	949.5	96.0	114.8
87.5°	3.4	3.4	13.7	54.8	66.8	457.6	1240.8	1244.3	426.7	56.6	51.4
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°	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8	5744.8
2.5°	5657.4	5556.3	5414.0	5271.8	5143.3	5011.3	4905.0	4855.3	4833.1	4802.2	4735.4
5°	5527.2	5343.8	5031.9	4725.1	4438.9	4164.6	3929.9	3796.2	3652.2	3645.4	3575.1
7.5°	5318.1	5057.6	4565.7	4089.2	3652.2	3234.0	2874.1	2641.0	2481.7	2382.2	2313.7
10°	5085.0	4750.8	4099.5	3429.4	2834.7	2276.0	1813.3	1511.6	1328.2	1235.7	1182.6
12.5°	4899.9	4480.0	3640.2	2797.0	2051.5	1410.5	980.3	760.9	663.3	625.6	608.4
15°	4740.5	4231.5	3210.0	2231.4	1369.4	810.6	567.3	495.3	479.9	479.9	478.2
17.5°	4579.4	3991.6	2791.9	1676.1	862.1	531.3	447.3	437.0	438.7	443.9	443.9
20°	4426.9	3763.6	2389.1	1194.6	565.6	425.0	406.2	402.8	407.9	414.8	413.0
22.5°	4303.5	3563.1	2012.1	820.9	435.3	385.6	373.6	368.5	371.9	377.0	375.3
25°	4216.1	3391.7	1665.9	572.4	378.8	351.3	337.6	330.8	327.3	330.8	329.1
27.5°	4162.9	3247.7	1340.2	430.2	339.3	317.1	299.9	286.2	277.6	277.6	274.2
30°	4128.7	3112.3	1050.6	356.5	306.8	282.8	258.8	239.9	226.2	222.8	221.1
32.5°	4126.9	2995.8	784.9	315.3	275.9	248.5	219.4	195.4	180.0	176.5	174.8
35°	4169.8	2901.5	577.6	284.5	248.5	215.9	183.4	157.7	144.0	144.0	142.2
37.5°	4281.2	2846.7	437.0	260.5	226.2	188.5	154.2	130.3	118.3	121.7	121.7
40°	4488.6	2836.4	356.5	241.7	207.4	164.5	125.1	106.3	101.1	106.3	106.3
42.5°	4805.6	2891.3	317.1	227.9	190.2	140.5	104.5	90.8	89.1	94.3	94.3
45°	5218.7	2999.2	294.8	215.9	171.4	116.5	87.4	78.8	77.1	84.0	84.0
47.5°	5719.1	3144.9	274.2	202.2	152.5	96.0	73.7	66.8	66.8	73.7	75.4
50°	6312.1	3342.0	253.6	188.5	137.1	80.6	61.7	56.6	58.3	65.1	66.8
52.5°	6994.2	3583.7	234.8	176.5	120.0	65.1	51.4	48.0	49.7	56.6	58.3
55°	7582.1	3794.5	212.5	164.5	97.7	53.1	42.8	41.1	42.8	51.4	51.4
57.5°	8094.5	3996.7	192.0	145.7	77.1	42.8	34.3	34.3	37.7	46.3	48.0
60°	8774.9	4315.5	174.8	123.4	58.3	32.6	27.4	29.1	34.3	41.1	42.8
62.5°	9979.7	4857.0	152.5	102.8	42.8	25.7	22.3	24.0	30.8	39.4	41.1
65°	11487.9	5369.5	126.8	85.7	32.6	18.9	17.1	22.3	30.8	39.4	41.1
67.5°	11333.7	4670.2	99.4	68.6	24.0	15.4	13.7	20.6	29.1	39.4	41.1
70°	9191.4	3273.4	73.7	46.3	18.9	13.7	13.7	20.6	29.1	37.7	39.4
72.5°	6375.5	1821.8	56.6	30.8	17.1	13.7	12.0	18.9	27.4	37.7	39.4
75°	3033.5	558.7	44.6	22.3	15.4	12.0	10.3	18.9	27.4	37.7	39.4
77.5°	582.7	142.2	36.0	18.9	13.7	12.0	10.3	17.1	27.4	36.0	37.7
80°	197.1	63.4	29.1	17.1	13.7	12.0	10.3	17.1	25.7	34.3	36.0
82.5°	108.0	36.0	25.7	15.4	13.7	10.3	8.6	15.4	24.0	34.3	36.0
85°	84.0	25.7	20.6	15.4	13.7	10.3	8.6	15.4	24.0	32.6	34.3
87.5°	42.8	18.9	17.1	15.4	13.7	10.3	8.6	13.7	22.3	30.8	34.3
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)