

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: P270420

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

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270420  
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-03-D-UNV-AFL-7027-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 2700K, 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: 13209.8 lumens  
Efficiency: N/A  
Efficacy: 79.6 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type II - Short - Full Cutoff  
BUG Rating: B1 - U0 - G2

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

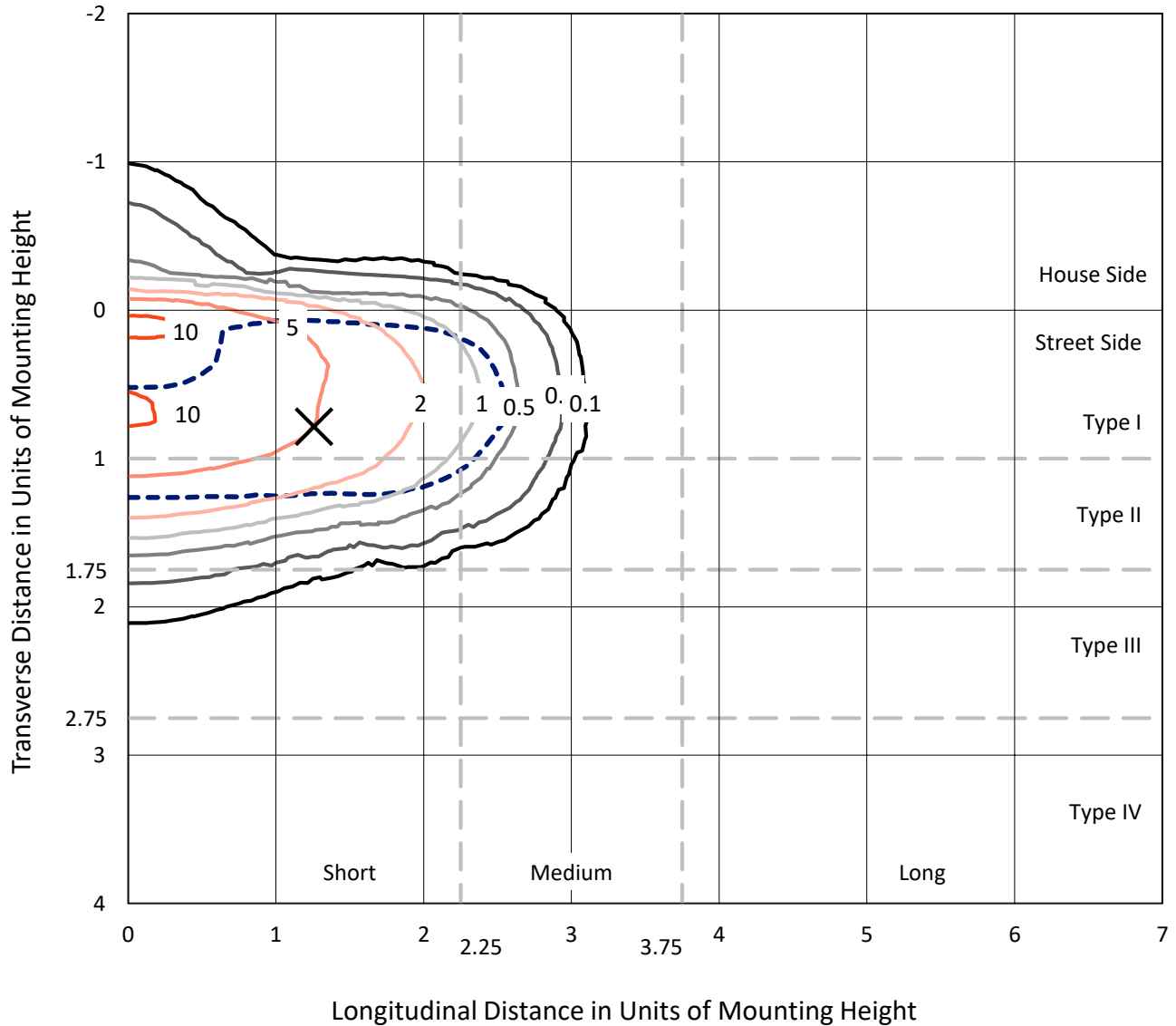


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### Iso-Footcandle Lines of Horizontal Illumination

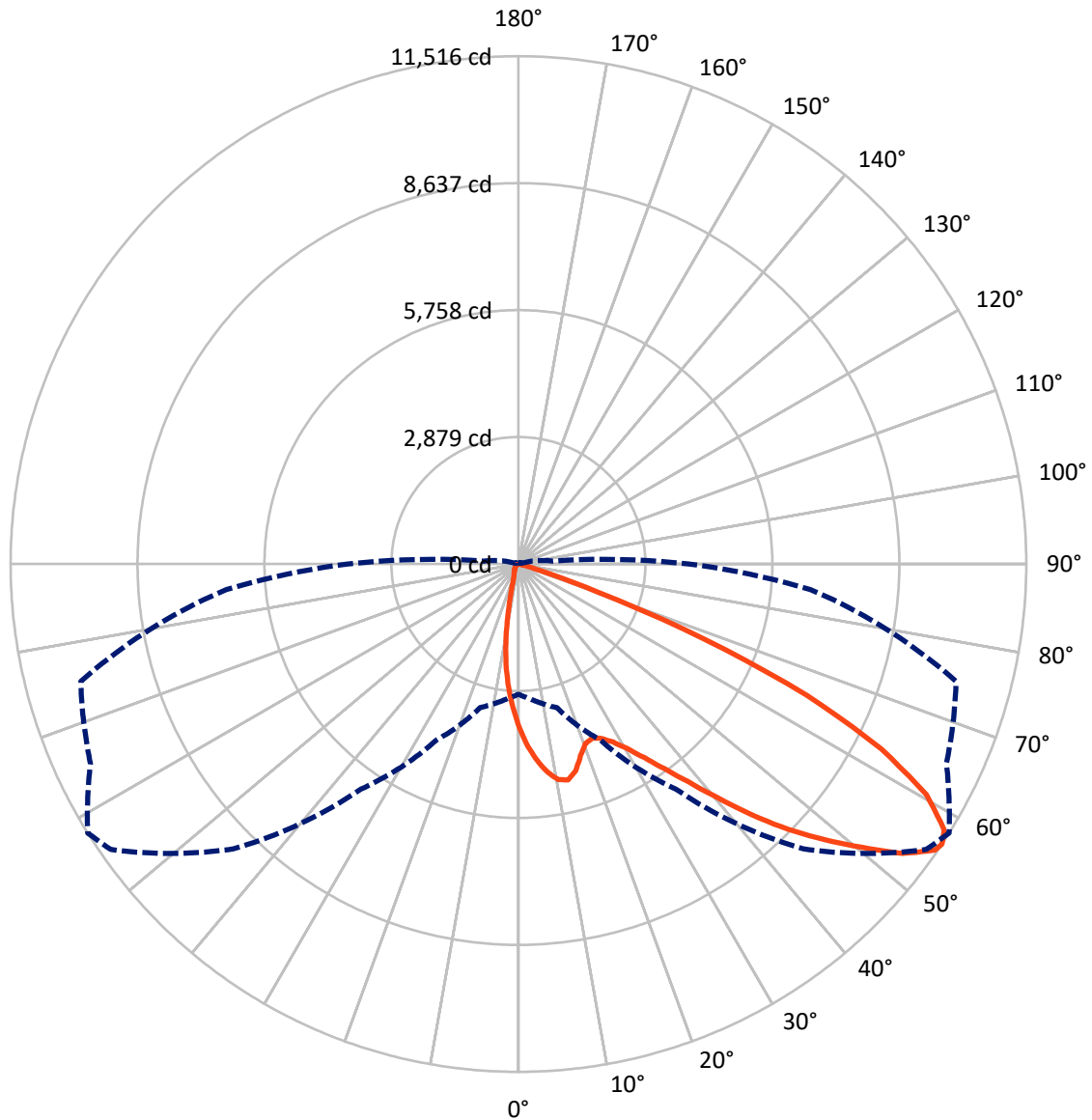
✕ Max cd  
 - - - 1/2 Max cd



Based on 20 foot mounting height. Maximum calculated value = 11.6 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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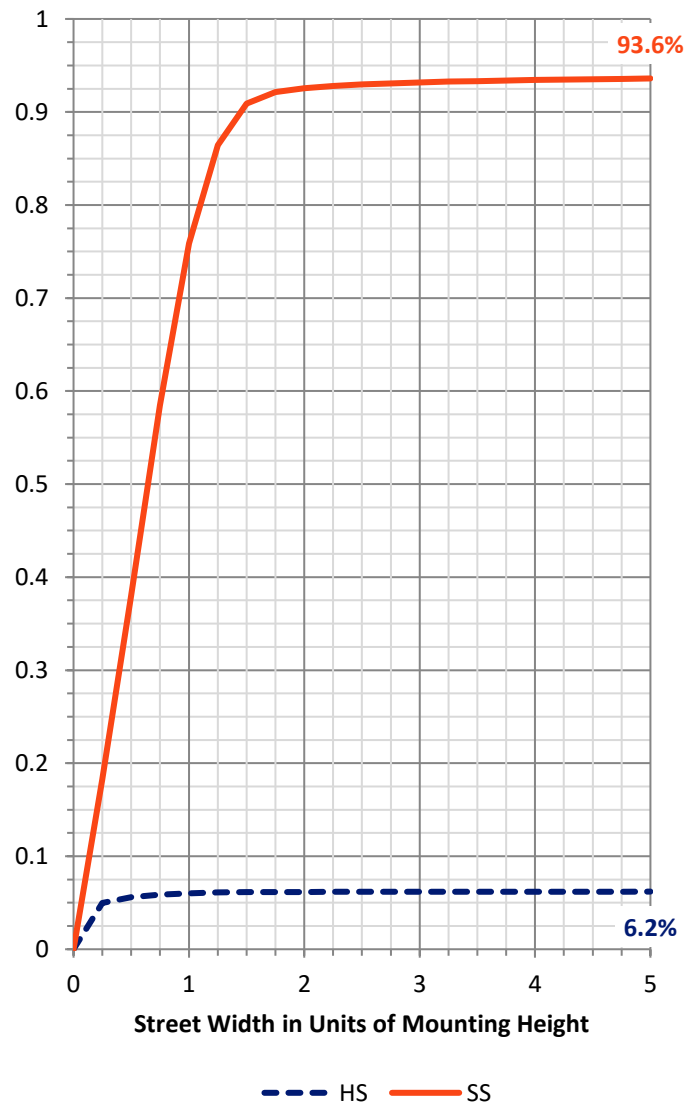
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	824.6	0.0	824.6
	% Fixture	6.2	0.0	6.2
<b>Street Side</b>	Lumens	12385.2	0.0	12385.2
	% Fixture	93.8	0.0	93.8
<b>Total</b>	Lumens	13209.8	0.0	13209.8
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	319.0	2.4
10°-20°	742.4	5.6
20°-30°	1249.2	9.5
30°-40°	2139.1	16.2
40°-50°	3227.9	24.4
50°-60°	3355.3	25.4
60°-70°	1883.6	14.3
70°-80°	258.2	2.0
80°-90°	35.0	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°	13209.8	100.0
0°-180°	13209.8	100.0

**Coefficient of Utilization**



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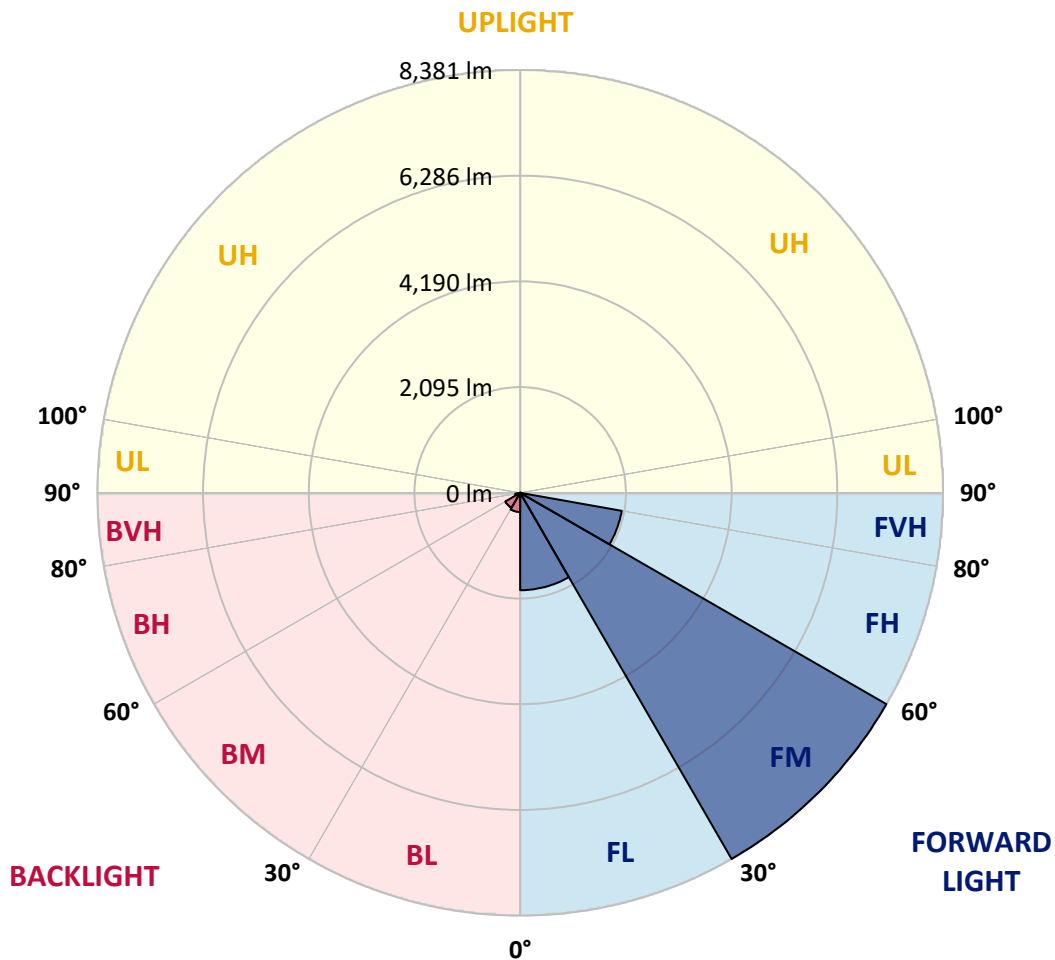
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1930.2	14.6			
FM	(30°-60°)	8380.8	63.4			
FH	(60°-80°)	2044.0	15.5			G2/5000
FVH	(80°-90°)	30.1	0.2			G1/100
BL	(0°-30°)	380.4	2.9	B1/500		
BM	(30°-60°)	341.6	2.6	B1/1000		
BH	(60°-80°)	97.8	0.7	B0/110		G0/110
BVH	(80°-90°)	4.8	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

**BUG Rating: B1-U0-G2**

Type II Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	58°	65°	75°	85°
0°	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1
2.5°	4500.0	4472.8	4444.5	4392.2	4343.8	4269.1	4166.3	4141.1	4060.6	3927.5	3803.6
5°	4887.9	4882.9	4863.9	4821.6	4769.1	4678.4	4562.5	4484.9	4360.0	4150.3	3911.4
7.5°	4658.3	4700.6	4770.1	4868.9	4935.4	4926.3	4837.6	4770.1	4646.2	4360.0	4017.2
10°	3926.5	3934.5	4030.3	4237.9	4566.5	4872.9	4988.7	4970.6	4856.7	4543.4	4109.9
12.5°	3668.5	3673.6	3695.7	3762.2	3975.9	4403.2	4928.3	5023.1	5014.0	4718.6	4208.6
15°	3688.7	3691.8	3697.8	3719.0	3779.3	3994.0	4621.9	4862.9	5114.8	4885.1	4305.4
17.5°	3847.9	3846.0	3826.8	3806.6	3825.7	3896.3	4309.4	4563.5	5093.6	5025.1	4385.0
20°	4158.3	4168.4	4103.8	4014.3	3967.9	3970.9	4155.3	4345.8	4974.6	5134.0	4444.5
22.5°	4594.7	4601.7	4495.9	4340.8	4204.6	4136.2	4187.5	4288.4	4837.6	5234.8	4493.0
25°	5115.8	5115.8	4967.6	4747.0	4536.4	4386.2	4341.8	4380.0	4785.2	5348.6	4541.3
27.5°	5678.1	5698.3	5504.9	5215.6	4937.4	4717.7	4578.7	4571.6	4825.5	5491.7	4595.6
30°	6289.9	6308.1	6078.2	5724.4	5395.0	5113.8	4900.2	4853.7	4979.8	5684.1	4675.4
32.5°	6898.7	6913.7	6659.8	6298.9	5915.0	5584.5	5303.2	5229.7	5256.9	5965.4	4792.3
35°	7672.7	7675.7	7354.2	6924.9	6514.7	6126.6	5770.9	5698.3	5668.0	6320.1	4960.6
37.5°	8288.4	8264.2	8060.8	7654.5	7183.8	6778.7	6360.4	6265.7	6193.2	6819.0	5221.6
40°	8433.6	8433.6	8403.4	8281.4	7907.5	7517.5	7112.3	6971.1	6810.9	7406.5	5572.4
42.5°	8055.6	8079.9	8279.4	8544.5	8547.5	8297.6	7901.4	7782.6	7500.3	8075.9	5955.4
45°	7210.1	7217.2	7695.8	8411.4	8897.3	9040.4	8748.1	8583.8	8192.7	8771.2	6306.0
47.5°	6905.7	6927.9	7131.5	8006.2	8923.5	9642.0	9560.3	9334.6	8833.8	9406.2	6633.5
50°	6438.1	6465.3	6714.2	7409.6	8687.6	10028.0	10337.3	10095.5	9417.2	9935.3	6795.9
52.5°	5319.4	5361.8	5713.4	6620.5	8098.0	10044.0	11049.0	10903.7	10014.8	10218.5	6776.8
55°	3660.5	3691.8	4101.9	5168.2	6908.8	9551.3	11355.2	11455.0	10548.0	10282.0	6684.0
56°	2953.0	3069.9	3370.3	4403.2	6231.5	9132.0	11284.8	11515.6	10706.3	10271.8	6643.7
57.5°	1952.1	1974.4	2301.8	3190.8	5003.9	8221.9	10966.2	11386.6	10909.8	10220.5	6614.4
60°	918.2	928.2	1046.2	1472.4	2708.1	5991.5	9931.2	10628.7	10984.5	10112.6	6613.4
62.5°	598.7	600.6	614.8	702.5	1107.6	3263.4	8233.1	9236.8	10366.6	10100.5	6594.3
65°	492.8	497.9	480.8	491.8	579.4	1230.6	5807.2	7201.1	8916.3	9816.3	6378.7
67.5°	434.4	435.4	412.2	399.0	424.3	540.2	2925.8	4542.3	6668.8	8340.9	5253.8
70°	396.2	395.1	368.8	338.7	339.6	358.9	953.5	1886.7	3689.7	4952.5	3016.5
72.5°	351.7	353.8	338.7	296.4	282.2	254.0	358.9	509.0	1255.8	1590.4	795.2
75°	308.4	304.3	289.3	262.0	235.9	170.3	180.4	216.8	327.5	324.5	171.3
77.5°	233.7	229.7	236.9	223.8	184.4	118.9	98.8	112.8	148.1	138.1	69.6
80°	178.5	176.3	161.2	191.5	168.3	89.7	67.6	69.6	80.6	73.7	34.2
82.5°	128.9	128.0	121.9	117.9	106.8	65.4	51.5	54.4	60.5	51.5	25.2
85°	49.3	49.3	95.8	80.6	73.7	44.3	36.3	39.3	46.4	37.3	17.2
87.5°	8.1	8.1	64.5	53.4	33.2	22.2	23.1	25.2	27.2	22.2	13.0
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°	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1	3740.1
2.5°	3730.0	3662.5	3514.3	3371.2	3246.2	3109.2	3039.7	2958.9	2928.7	2868.3	2874.3
5°	3768.3	3627.1	3329.8	3016.5	2729.2	2436.9	2229.4	2033.9	1925.0	1817.1	1817.1
7.5°	3807.6	3592.0	3132.4	2631.4	2147.7	1646.9	1292.0	1007.9	849.5	743.7	740.7
10°	3834.9	3546.6	2907.6	2184.9	1471.5	848.5	511.9	403.1	363.9	346.7	345.7
12.5°	3870.1	3501.2	2651.5	1658.9	817.4	403.1	319.4	302.4	295.4	291.3	291.3
15°	3900.4	3436.7	2341.3	1115.7	429.3	302.4	275.2	269.1	268.1	267.1	268.1
17.5°	3907.4	3345.0	1969.4	653.1	311.4	264.0	252.0	246.9	246.9	246.0	246.0
20°	3891.3	3224.0	1558.1	403.1	269.1	242.9	229.7	223.8	222.7	222.7	222.7
22.5°	3858.0	3069.9	1151.9	305.3	244.9	223.8	206.6	200.5	200.5	201.6	202.6
25°	3816.7	2887.4	791.1	263.1	226.7	203.6	186.5	180.4	182.4	184.4	185.4
27.5°	3764.3	2669.8	518.1	227.8	202.6	183.4	168.3	164.3	168.3	172.4	174.4
30°	3711.8	2431.0	350.7	197.5	175.3	161.2	152.3	151.2	157.3	166.2	167.4
32.5°	3677.7	2185.9	265.1	177.3	154.1	142.1	138.1	140.0	149.2	159.2	161.2
35°	3674.5	1947.2	225.7	161.2	140.0	128.9	127.0	132.9	143.1	151.2	153.3
37.5°	3721.9	1723.4	204.6	149.2	128.9	117.9	115.0	126.0	135.0	143.1	145.2
40°	3817.6	1522.8	190.5	138.1	120.0	106.8	104.8	113.8	123.0	132.1	135.0
42.5°	3937.6	1335.4	174.4	127.0	109.9	94.7	92.7	99.8	108.9	121.9	124.0
45°	4041.5	1161.0	157.3	115.0	98.8	81.7	80.6	88.8	95.8	107.8	109.9
47.5°	4129.1	1016.0	141.2	101.8	84.7	72.6	71.5	75.5	79.6	90.6	92.7
50°	4082.7	892.9	125.0	83.6	68.5	62.5	61.4	61.4	66.6	77.7	79.6
52.5°	3968.8	816.4	109.9	69.6	56.5	53.4	50.3	51.5	56.5	61.4	62.5
55°	3877.2	780.1	96.7	61.4	47.4	44.3	41.3	40.3	41.3	39.3	37.3
56°	3854.9	776.0	93.8	59.5	45.4	41.3	37.3	35.3	34.2	30.3	29.3
57.5°	3844.8	776.0	88.8	55.4	42.3	37.3	32.2	28.2	24.2	21.2	21.2
60°	3836.8	781.0	82.6	48.4	36.3	30.3	23.1	17.2	14.2	14.2	14.2
62.5°	3819.8	779.1	75.5	40.3	31.3	23.1	14.2	11.0	10.2	11.0	12.0
65°	3627.1	723.7	66.6	32.2	24.2	16.1	8.1	8.1	9.1	11.0	12.0
67.5°	2922.7	548.2	54.4	25.2	17.2	12.0	7.0	7.0	9.1	11.0	12.0
70°	1605.5	289.3	46.4	18.1	13.0	10.2	7.0	6.1	9.1	11.0	12.0
72.5°	392.0	120.9	42.3	14.2	12.0	9.1	6.1	6.1	9.1	11.0	12.0
75°	96.7	90.6	34.2	11.0	10.2	8.1	6.1	6.1	9.1	11.0	12.0
77.5°	45.4	120.0	23.1	10.2	9.1	7.0	6.1	6.1	9.1	11.0	11.0
80°	27.2	90.6	14.2	9.1	8.1	7.0	6.1	6.1	9.1	11.0	12.0
82.5°	16.1	26.2	10.2	9.1	8.1	6.1	6.1	6.1	9.1	11.0	12.0
85°	14.2	13.0	10.2	9.1	8.1	7.0	6.1	6.1	10.2	12.0	12.0
87.5°	11.0	10.2	9.1	8.1	8.1	7.0	6.1	6.1	9.1	11.0	12.0
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)