

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: P270520

Luminaire Tested: **NAV-AF-04-D-UNV-SL3-7027-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270520  
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-SL3-7027-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(4) 70 CRI, 2700K, 1050mA 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: 17993.5 lumens  
Efficiency: N/A  
Efficacy: 80.0 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B1 - U0 - G3

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

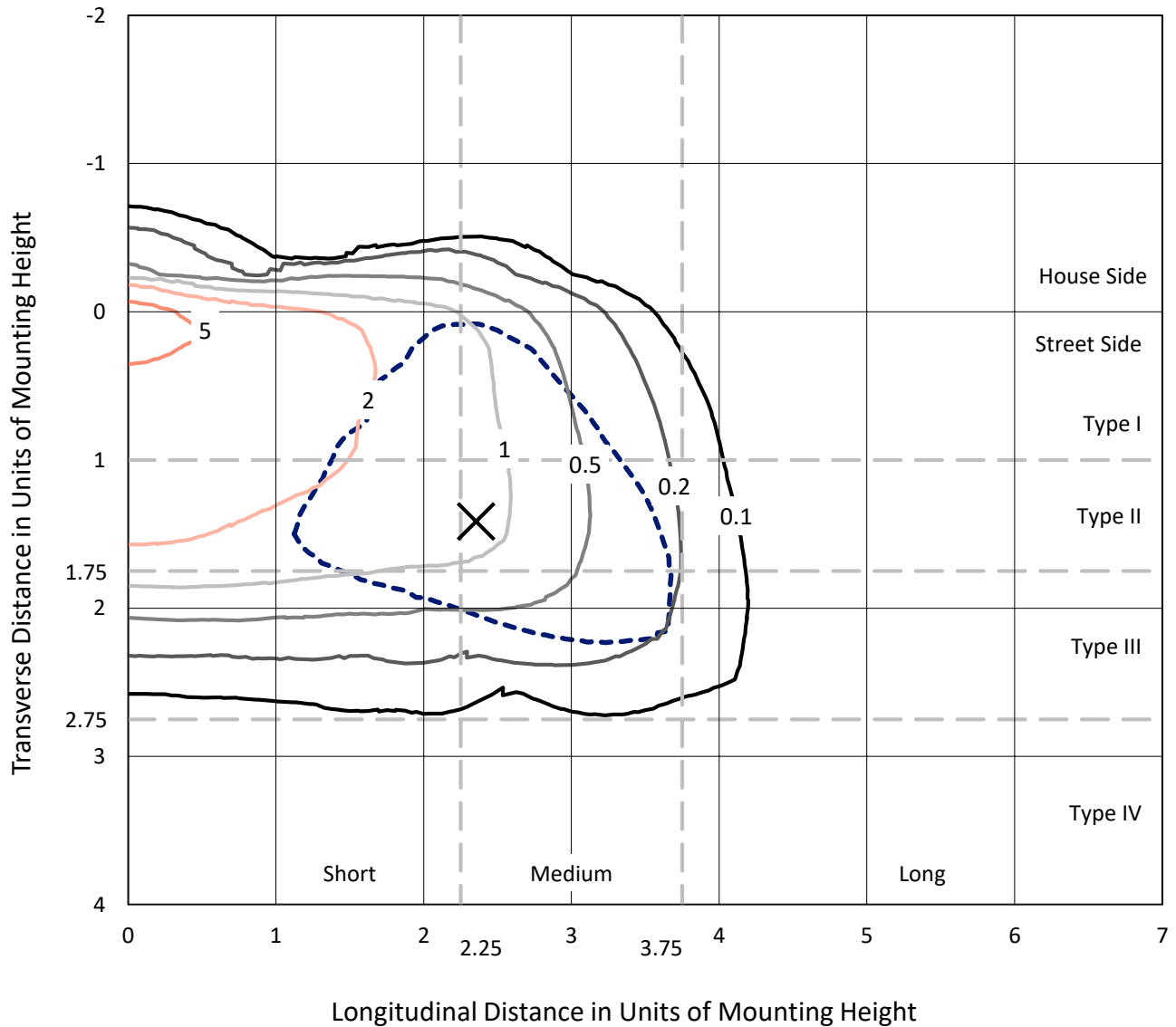


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

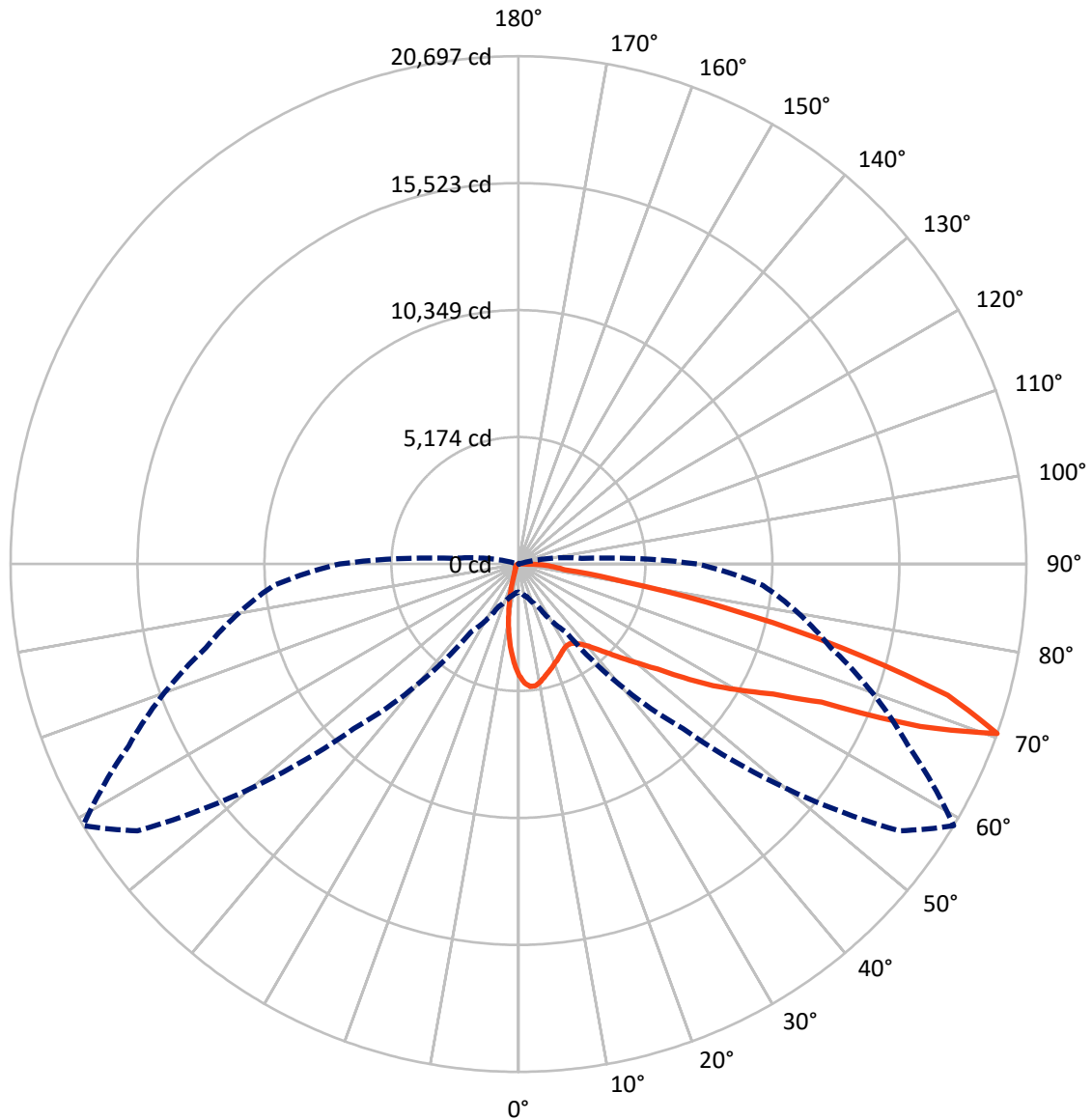


Based on 25 foot mounting height. Maximum calculated value = 7.7 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



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

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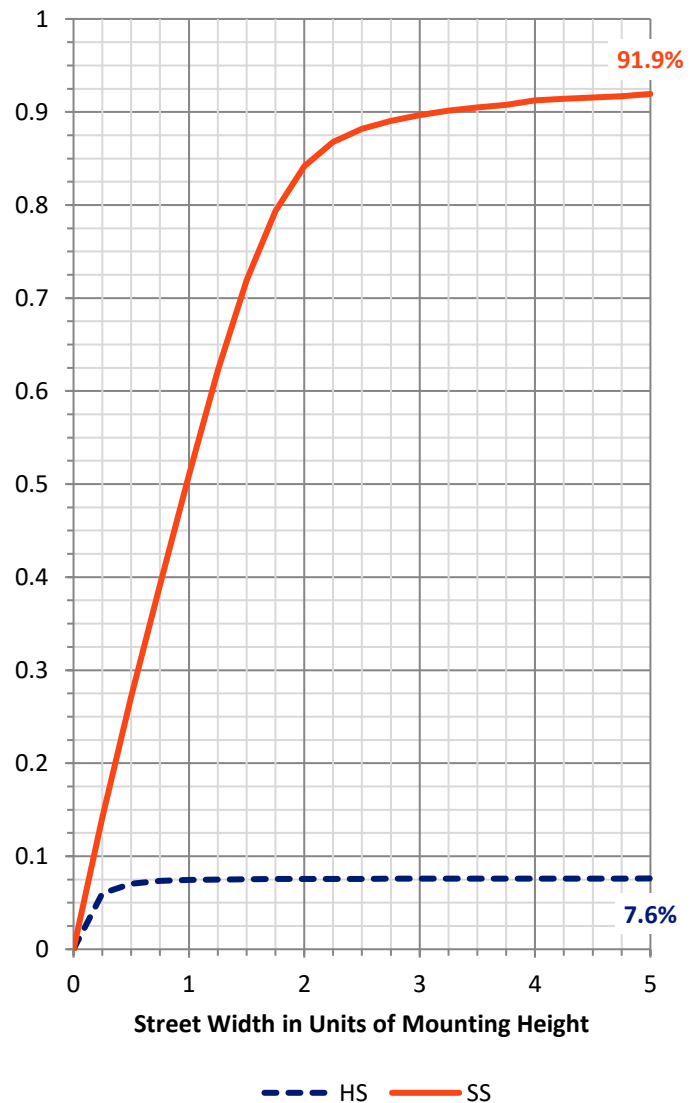
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1383.2	0.0	1383.2
	% Fixture	7.7	0.0	7.7
<b>Street Side</b>	Lumens	16610.3	0.0	16610.3
	% Fixture	92.3	0.0	92.3
<b>Total</b>	Lumens	17993.5	0.0	17993.5
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	374.1	2.1
10°-20°	784.7	4.4
20°-30°	1062.3	5.9
30°-40°	1533.0	8.5
40°-50°	2546.0	14.1
50°-60°	3894.4	21.6
60°-70°	4843.7	26.9
70°-80°	2677.6	14.9
80°-90°	277.6	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°	17993.5	100.0
0°-180°	17993.5	100.0

**Coefficient of Utilization**



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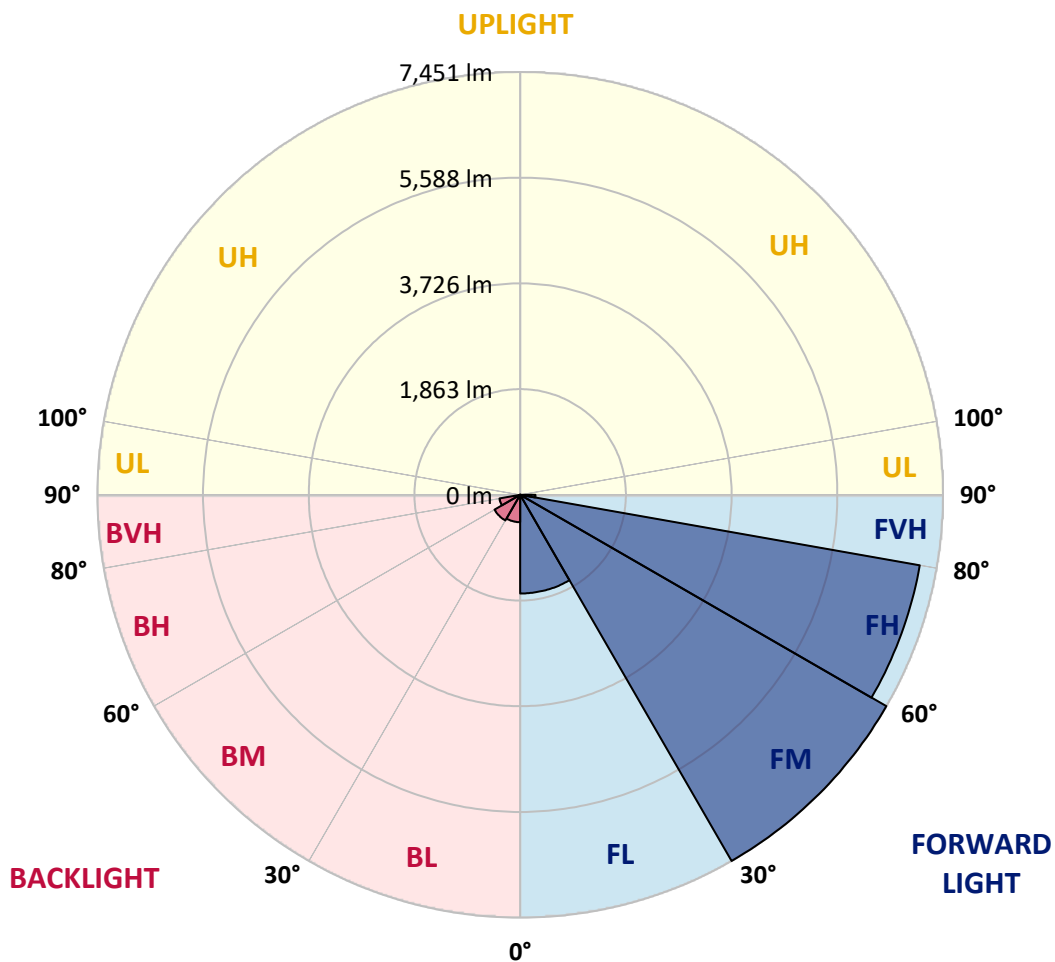
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1739.1	9.7			
FM	(30°-60°)	7451.3	41.4			
FH	(60°-80°)	7150.2	39.7			G3/7500
FVH	(80°-90°)	269.6	1.5			G3/500
BL	(0°-30°)	482.0	2.7	B1/500		
BM	(30°-60°)	522.1	2.9	B1/1000		
BH	(60°-80°)	371.1	2.1	B1/500		G1/500
BVH	(80°-90°)	8.0	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-G3**

Type III Medium





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	59°	65°	75°	85°
0°	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9
2.5°	5143.1	5134.9	5100.9	5094.2	5056.2	4980.3	4892.0	4856.6	4784.7	4670.6	4544.4
5°	5228.6	5232.6	5235.4	5220.4	5215.0	5152.6	5054.9	5012.8	4916.5	4729.0	4498.4
7.5°	4908.2	4919.1	4953.1	4967.9	5033.2	5057.5	5037.2	5010.0	4934.0	4712.8	4388.4
10°	4570.2	4590.6	4627.3	4651.8	4731.8	4796.9	4879.8	4886.5	4870.3	4658.5	4264.9
12.5°	4279.7	4298.7	4339.5	4388.4	4469.8	4554.0	4677.6	4721.0	4775.2	4623.1	4176.6
15°	4030.1	4035.5	4074.8	4135.8	4243.1	4358.5	4505.1	4568.9	4674.8	4609.7	4108.8
17.5°	3811.5	3812.9	3838.6	3894.3	4024.5	4176.6	4347.6	4431.8	4566.3	4590.6	4049.0
20°	3667.6	3666.3	3667.6	3697.5	3812.9	3993.3	4201.1	4289.2	4461.7	4567.5	3987.9
22.5°	3618.7	3611.9	3580.7	3569.9	3643.2	3801.9	4050.4	4165.8	4368.0	4560.8	3943.2
25°	3678.5	3674.3	3608.0	3545.4	3552.3	3651.3	3896.9	4038.2	4294.7	4585.2	3932.3
27.5°	3871.2	3863.2	3761.3	3639.2	3561.7	3579.3	3783.0	3931.0	4236.3	4645.0	3947.2
30°	4123.7	4125.0	4016.4	3868.6	3686.6	3586.2	3721.9	3861.8	4197.1	4734.4	3979.9
32.5°	4404.7	4403.3	4326.0	4154.9	3922.8	3711.1	3749.0	3867.2	4202.5	4866.2	4042.3
35°	4695.1	4680.2	4654.4	4503.7	4232.3	3929.5	3872.6	3959.5	4259.5	5039.9	4148.2
37.5°	5030.4	5024.9	5050.8	4892.0	4615.0	4251.3	4089.8	4148.2	4403.3	5296.4	4319.1
40°	5563.8	5534.0	5546.2	5330.5	5046.7	4684.3	4393.8	4408.7	4632.6	5635.7	4589.4
42.5°	6580.5	6459.7	6233.1	5828.6	5521.8	5164.7	4791.5	4765.8	4957.1	6047.1	4944.9
45°	7795.4	7657.0	7085.6	6378.2	5996.8	5680.6	5282.9	5213.7	5356.1	6537.1	5403.8
47.5°	8809.4	8660.0	7902.6	6952.4	6480.2	6212.7	5827.1	5745.7	5834.0	7105.9	5954.8
50°	9155.4	9072.7	8407.5	7430.2	6967.3	6810.0	6509.9	6374.3	6395.9	7719.3	6598.2
52.5°	8996.6	8968.1	8522.8	7757.4	7418.1	7469.6	7257.9	7115.4	7091.0	8389.9	7309.5
55°	8661.4	8647.9	8430.7	7939.3	7815.8	8073.6	8307.2	8183.6	7952.9	9102.5	7897.2
57.5°	8182.2	8233.9	8389.9	8289.5	8304.4	8711.7	9281.6	9345.4	9000.7	9670.0	8332.9
60°	6902.2	7040.6	7756.1	8665.5	9361.7	9773.1	10325.5	10445.0	9888.5	10058.1	8836.4
62.5°	5102.4	5300.4	6319.9	7990.9	9944.1	11791.5	11714.1	11661.2	10735.5	10578.0	9752.7
65°	2997.0	3229.1	4091.2	6243.8	9065.9	13089.2	14306.6	13573.7	12026.2	11658.5	11211.8
67.5°	1493.2	1494.5	1884.0	3295.7	6700.0	12183.7	18091.1	17667.5	14770.9	13250.7	11787.4
70°	1148.4	1179.6	1394.0	1915.2	3388.0	9489.3	18958.4	20697.2	17529.0	13180.1	10001.1
72.5°	973.3	993.5	1240.6	1666.8	2532.9	5209.6	16411.9	18294.6	16726.9	11135.8	7371.9
75°	700.4	716.7	1098.1	1512.0	2332.0	2584.5	11258.1	13568.3	12550.3	7833.4	4057.1
77.5°	173.7	172.4	382.8	1227.1	2086.3	2152.8	6459.7	8700.8	7200.9	3207.5	1042.5
80°	77.3	74.6	86.9	258.0	1941.1	2032.0	2841.0	4393.8	2762.3	519.8	319.0
82.5°	54.3	51.7	54.3	95.0	648.8	1885.5	1717.1	1904.3	1011.2	177.9	135.7
85°	17.6	16.3	29.9	80.0	181.8	1087.3	1675.0	1422.6	752.1	75.9	91.0
87.5°	2.8	2.8	10.9	43.5	52.9	362.5	982.7	985.4	338.0	44.7	40.8
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°	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9	4549.9
2.5°	4480.7	4400.5	4287.9	4175.3	4073.5	3968.9	3884.8	3845.5	3827.8	3803.3	3750.5
5°	4377.5	4232.3	3985.2	3742.2	3515.5	3298.3	3112.4	3006.5	2892.5	2887.2	2831.5
7.5°	4212.0	4005.6	3616.0	3238.7	2892.5	2561.3	2276.3	2091.8	1965.5	1886.7	1832.5
10°	4027.3	3762.6	3246.8	2716.0	2245.1	1802.5	1436.1	1197.3	1051.9	978.7	936.7
12.5°	3880.7	3548.1	2883.1	2215.2	1624.8	1117.1	776.5	602.7	525.2	495.4	481.9
15°	3754.5	3351.3	2542.4	1767.2	1084.6	642.1	449.3	392.3	380.1	380.1	378.7
17.5°	3626.8	3161.3	2211.2	1327.5	682.7	420.8	354.3	346.1	347.5	351.5	351.5
20°	3506.1	2980.8	1892.2	946.0	448.0	336.7	321.8	319.0	323.0	328.5	327.2
22.5°	3408.3	2821.9	1593.6	650.2	344.8	305.5	295.9	291.8	294.6	298.6	297.2
25°	3339.1	2686.2	1319.4	453.4	299.9	278.3	267.3	261.9	259.3	261.9	260.6
27.5°	3297.0	2572.2	1061.4	340.6	268.8	251.2	237.5	226.7	219.8	219.8	217.2
30°	3269.9	2464.9	832.1	282.3	243.0	223.9	205.0	190.0	179.2	176.4	175.1
32.5°	3268.6	2372.8	621.6	249.8	218.6	196.8	173.7	154.8	142.6	139.7	138.5
35°	3302.4	2298.0	457.4	225.4	196.8	171.0	145.3	124.9	114.1	114.1	112.6
37.5°	3390.7	2254.6	346.1	206.3	179.2	149.3	122.2	103.1	93.7	96.4	96.4
40°	3555.0	2246.4	282.3	191.3	164.2	130.3	99.2	84.1	80.0	84.1	84.1
42.5°	3806.1	2289.9	251.2	180.5	150.6	111.3	82.9	72.0	70.5	74.6	74.6
45°	4133.2	2375.4	233.5	171.0	135.7	92.3	69.2	62.4	61.1	66.6	66.6
47.5°	4529.6	2490.8	217.2	160.2	120.8	75.9	58.4	52.9	52.9	58.4	59.7
50°	4999.2	2646.9	201.0	149.3	108.5	63.8	48.9	44.7	46.2	51.7	52.9
52.5°	5539.4	2838.3	185.9	139.7	95.0	51.7	40.8	38.0	39.3	44.7	46.2
55°	6005.0	3005.2	168.3	130.3	77.3	42.1	34.0	32.6	34.0	40.8	40.8
57.5°	6410.8	3165.4	152.1	115.4	61.1	34.0	27.2	27.2	29.9	36.7	38.0
60°	6949.7	3417.8	138.5	97.7	46.2	25.8	21.6	23.0	27.2	32.6	34.0
62.5°	7903.9	3846.8	120.8	81.4	34.0	20.3	17.6	19.0	24.4	31.3	32.6
65°	9098.5	4252.7	100.4	67.8	25.8	14.9	13.6	17.6	24.4	31.3	32.6
67.5°	8976.4	3698.9	78.7	54.3	19.0	12.1	10.9	16.3	23.0	31.3	32.6
70°	7279.5	2592.6	58.4	36.7	14.9	10.9	10.9	16.3	23.0	29.9	31.3
72.5°	5049.5	1442.9	44.7	24.4	13.6	10.9	9.5	14.9	21.6	29.9	31.3
75°	2402.5	442.5	35.4	17.6	12.1	9.5	8.2	14.9	21.6	29.9	31.3
77.5°	461.5	112.6	28.4	14.9	10.9	9.5	8.2	13.6	21.6	28.4	29.9
80°	156.0	50.2	23.0	13.6	10.9	9.5	8.2	13.6	20.3	27.2	28.4
82.5°	85.5	28.4	20.3	12.1	10.9	8.2	6.7	12.1	19.0	27.2	28.4
85°	66.6	20.3	16.3	12.1	10.9	8.2	6.7	12.1	19.0	25.8	27.2
87.5°	34.0	14.9	13.6	12.1	10.9	8.2	6.7	10.9	17.6	24.4	27.2
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)