

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: P270595

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-7027-600-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P270595  
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-05-D-UNV-SL3-7027-600-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(5) 70 CRI, 2700K, 615mA 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: 14611.3 lumens  
Efficiency: N/A  
Efficacy: 90.2 lumens/watt  
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')  
IES Classification: Type III - Medium - 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

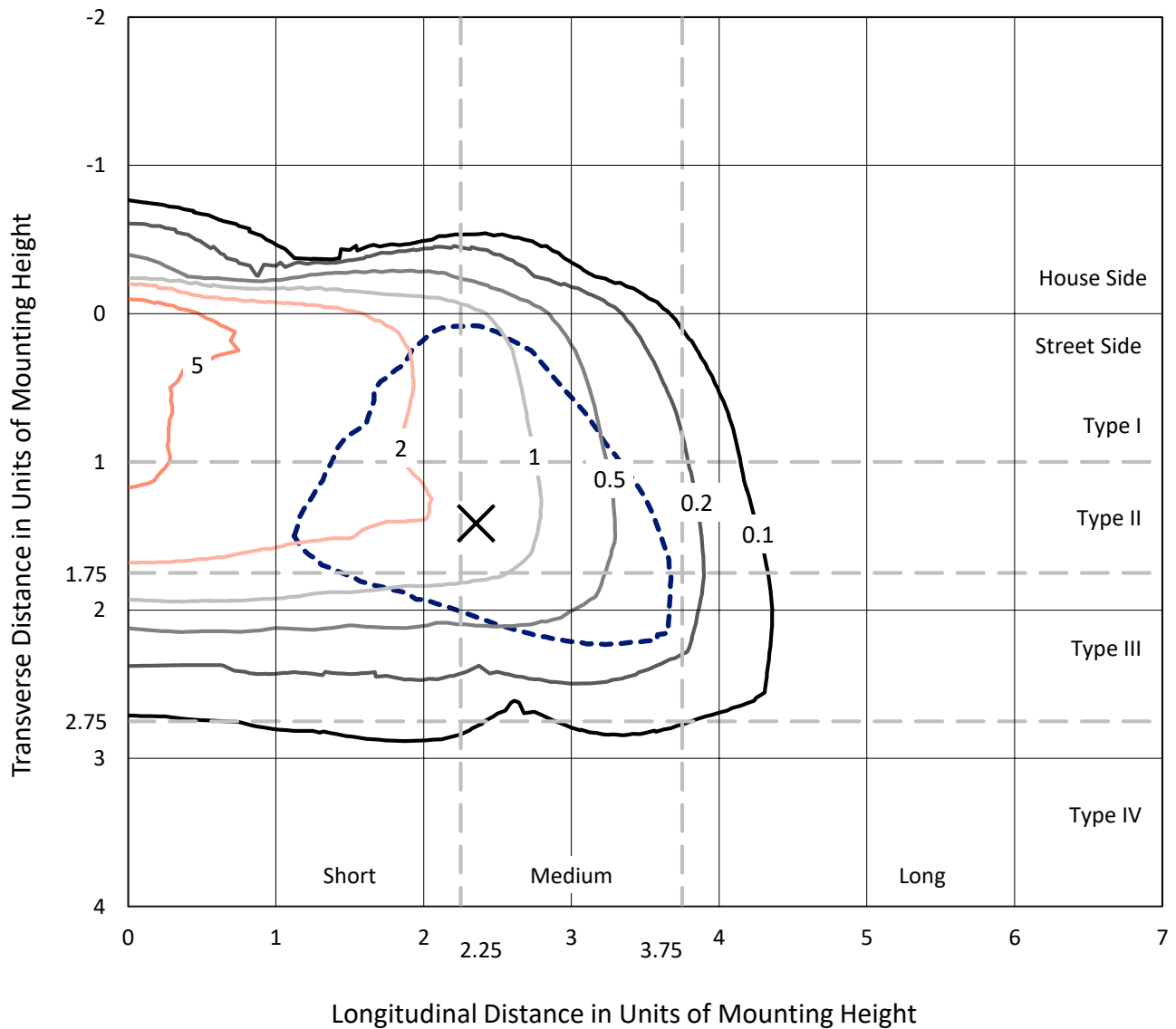


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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

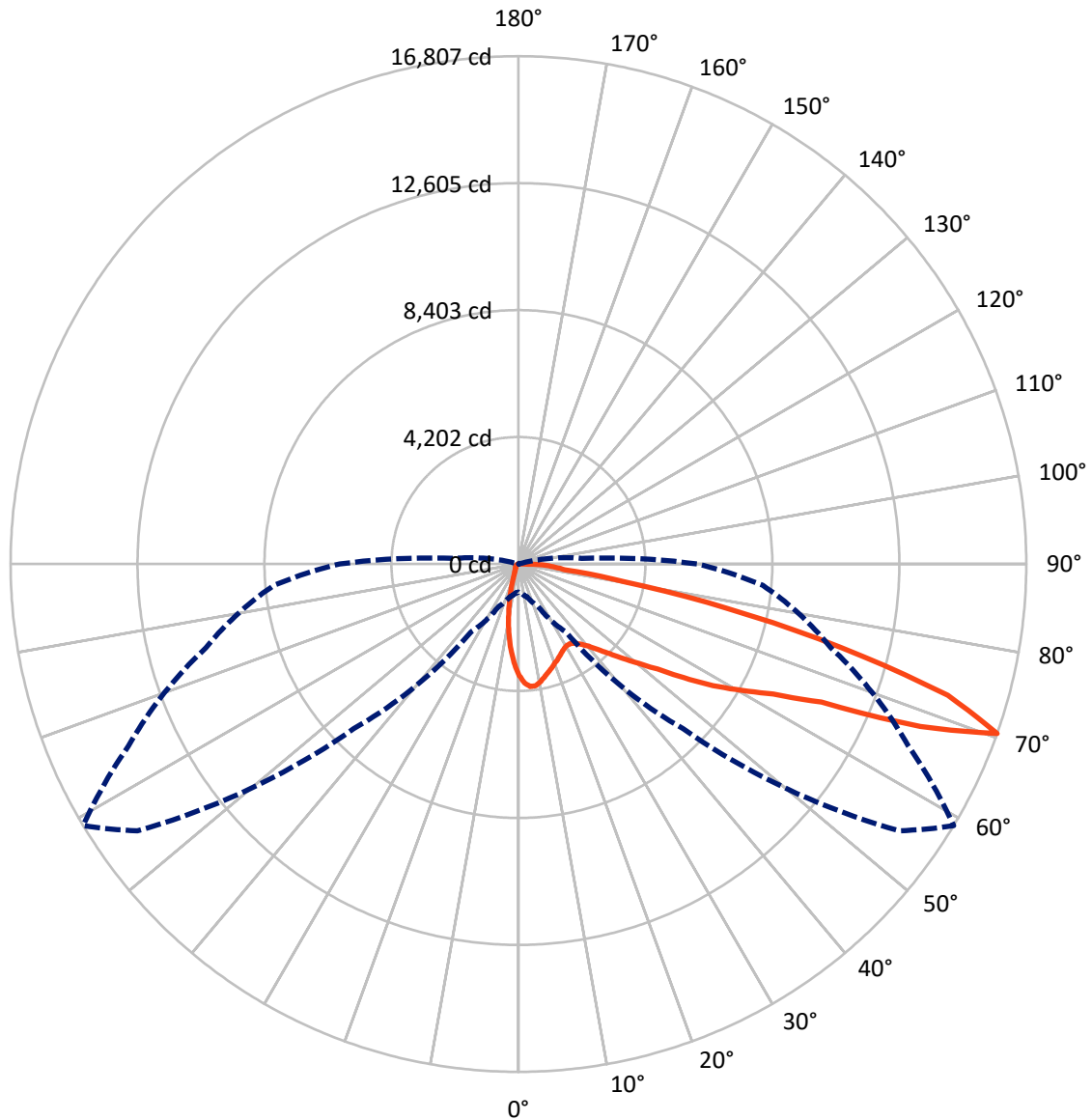


Based on 20 foot mounting height. Maximum calculated value = 9.8 fc  
 Type III - Medium - Non-Cutoff

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### Luminous Intensity Polar Plot



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

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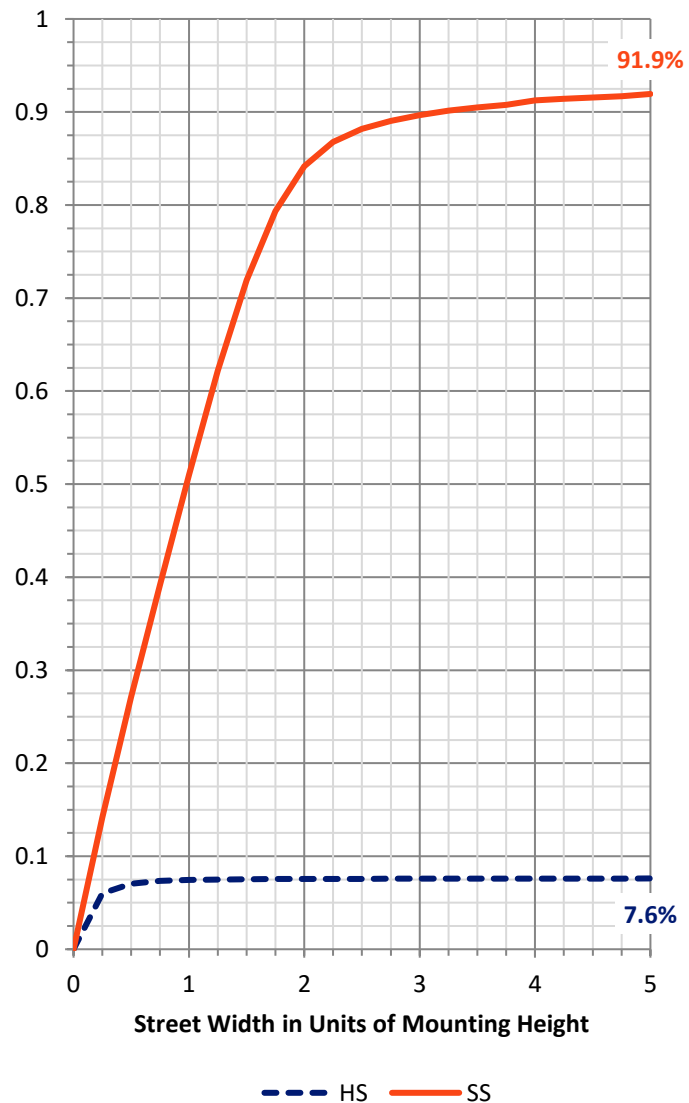
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1123.2	0.0	1123.2
	% Fixture	7.7	0.0	7.7
<b>Street Side</b>	Lumens	13488.1	0.0	13488.1
	% Fixture	92.3	0.0	92.3
<b>Total</b>	Lumens	14611.3	0.0	14611.3
	% Fixture	100.0	0.0	100.0

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	303.8	2.1
10°-20°	637.2	4.4
20°-30°	862.6	5.9
30°-40°	1244.9	8.5
40°-50°	2067.4	14.1
50°-60°	3162.4	21.6
60°-70°	3933.3	26.9
70°-80°	2174.3	14.9
80°-90°	225.5	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°	14611.3	100.0
0°-180°	14611.3	100.0

**Coefficient of Utilization**



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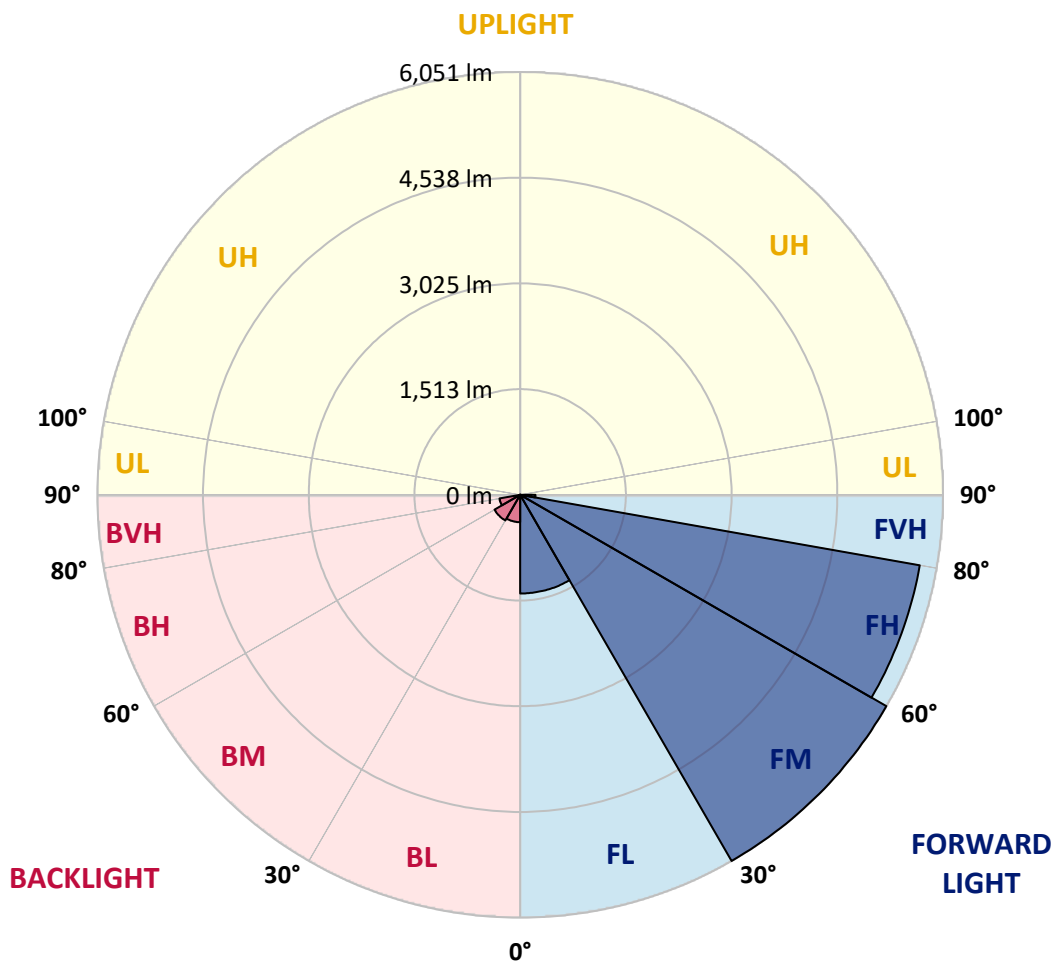
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1412.2	9.7			
FM	(30°-60°)	6050.7	41.4			
FH	(60°-80°)	5806.2	39.7			G3/7500
FVH	(80°-90°)	218.9	1.5			G2/225
BL	(0°-30°)	391.4	2.7	B1/500		
BM	(30°-60°)	424.0	2.9	B1/1000		
BH	(60°-80°)	301.3	2.1	B1/500		G1/500
BVH	(80°-90°)	6.5	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°	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6
2.5°	4176.3	4169.8	4142.2	4136.6	4105.9	4044.1	3972.5	3943.7	3885.3	3792.7	3690.2
5°	4245.7	4249.2	4251.3	4239.2	4234.8	4184.0	4104.7	4070.5	3992.2	3840.2	3652.8
7.5°	3985.7	3994.5	4022.0	4034.2	4087.1	4107.0	4090.4	4068.3	4006.6	3826.9	3563.4
10°	3711.2	3727.7	3757.5	3777.4	3842.4	3895.3	3962.6	3968.1	3954.8	3782.9	3463.2
12.5°	3475.4	3490.8	3523.8	3563.4	3629.6	3698.1	3798.4	3833.5	3877.7	3754.1	3391.6
15°	3272.5	3276.9	3308.8	3358.6	3445.5	3539.2	3658.3	3710.1	3796.1	3743.1	3336.5
17.5°	3095.1	3096.2	3117.1	3162.4	3268.2	3391.6	3530.5	3598.8	3707.9	3727.7	3287.9
20°	2978.2	2977.2	2978.2	3002.4	3096.2	3242.7	3411.5	3483.1	3623.0	3709.0	3238.4
22.5°	2938.5	2933.1	2907.6	2898.9	2958.4	3087.4	3289.1	3382.7	3547.0	3703.5	3202.0
25°	2987.0	2983.7	2929.7	2879.0	2884.5	2964.9	3164.5	3279.2	3487.5	3723.4	3193.1
27.5°	3143.6	3136.9	3054.2	2955.1	2892.3	2906.6	3071.9	3192.0	3440.1	3771.9	3205.3
30°	3348.6	3349.7	3261.4	3141.4	2993.6	2912.0	3022.3	3135.9	3408.1	3844.6	3231.7
32.5°	3576.7	3575.7	3512.8	3373.9	3185.4	3013.5	3044.4	3140.2	3412.5	3951.6	3282.4
35°	3812.6	3800.5	3779.6	3657.2	3436.7	3191.0	3144.6	3215.3	3458.8	4092.6	3368.5
37.5°	4084.9	4080.5	4101.4	3972.5	3747.5	3452.1	3321.0	3368.5	3575.7	4300.9	3507.3
40°	4518.0	4493.9	4503.7	4328.5	4098.1	3803.9	3567.9	3580.0	3761.9	4576.4	3726.7
42.5°	5343.6	5245.6	5061.4	4733.0	4483.9	4193.9	3890.9	3869.9	4025.3	4910.4	4015.5
45°	6330.0	6217.7	5753.6	5179.4	4869.6	4612.8	4289.9	4233.6	4349.5	5308.4	4388.0
47.5°	7153.5	7032.2	6417.2	5645.6	5262.0	5044.9	4731.9	4665.7	4737.4	5770.2	4835.4
50°	7434.6	7367.3	6827.2	6033.6	5657.7	5529.8	5286.3	5176.0	5193.7	6268.5	5357.9
52.5°	7305.6	7282.4	6920.9	6299.3	6023.7	6065.5	5893.6	5777.9	5758.0	6812.8	5935.6
55°	7033.3	7022.3	6846.0	6447.0	6346.6	6556.1	6745.6	6645.3	6457.9	7391.6	6412.8
57.5°	6644.3	6686.2	6812.8	6731.3	6743.4	7074.2	7537.0	7588.8	7308.9	7852.3	6766.7
60°	5604.9	5717.3	6298.1	7036.7	7602.0	7936.0	8384.7	8481.6	8029.8	8167.5	7175.5
62.5°	4143.3	4304.1	5131.9	6488.8	8075.0	9575.0	9512.2	9469.3	8717.5	8589.7	7919.5
65°	2433.7	2622.2	3322.1	5070.3	7361.8	10628.7	11617.5	11022.4	9765.7	9467.1	9104.4
67.5°	1212.4	1213.6	1530.0	2676.2	5440.7	9893.7	14690.5	14346.7	11994.4	10760.0	9571.8
70°	932.5	957.9	1132.0	1555.2	2751.1	7705.8	15394.9	16806.7	14234.3	10702.6	8121.2
72.5°	790.2	806.9	1007.4	1353.6	2056.8	4230.4	13327.1	14855.9	13582.8	9042.7	5986.2
75°	568.7	582.0	891.7	1228.0	1893.6	2098.6	9142.0	11017.9	10191.2	6361.0	3294.5
77.5°	141.0	140.0	310.9	996.4	1694.2	1748.1	5245.6	7065.3	5847.3	2604.5	846.6
80°	62.8	60.6	70.5	209.5	1576.2	1650.0	2306.9	3567.9	2243.1	422.2	259.0
82.5°	44.0	42.0	44.0	77.2	526.9	1531.0	1394.3	1546.4	821.2	144.4	110.2
85°	14.4	13.2	24.3	65.0	147.7	882.9	1360.2	1155.1	610.7	61.8	73.8
87.5°	2.2	2.2	8.9	35.3	42.9	294.3	798.1	800.2	274.4	36.4	33.1
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°	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6	3694.6
2.5°	3638.4	3573.5	3481.9	3390.5	3307.7	3222.8	3154.6	3122.6	3108.2	3088.5	3045.4
5°	3554.8	3436.7	3236.1	3038.8	2854.8	2678.4	2527.4	2441.5	2348.9	2344.4	2299.2
7.5°	3420.2	3252.8	2936.3	2629.9	2348.9	2079.9	1848.4	1698.5	1596.0	1532.1	1488.0
10°	3270.3	3055.3	2636.5	2205.6	1823.1	1463.8	1166.2	972.1	854.2	794.7	760.5
12.5°	3151.3	2881.3	2341.2	1798.9	1319.4	907.2	630.5	489.3	426.5	402.4	391.3
15°	3048.8	2721.4	2064.5	1435.1	880.7	521.3	364.8	318.5	308.6	308.6	307.5
17.5°	2945.2	2567.0	1795.5	1078.0	554.4	341.6	287.6	281.1	282.2	285.5	285.5
20°	2847.1	2420.6	1536.6	768.2	363.8	273.4	261.2	259.0	262.3	266.7	265.5
22.5°	2767.7	2291.5	1294.0	527.9	279.9	248.0	240.2	237.1	239.2	242.5	241.4
25°	2711.4	2181.4	1071.4	368.1	243.6	226.0	217.1	212.7	210.6	212.7	211.6
27.5°	2677.3	2088.6	862.0	276.7	218.3	203.9	192.9	184.1	178.6	178.6	176.3
30°	2655.3	2001.7	675.6	229.2	197.3	181.8	166.5	154.2	145.4	143.3	142.2
32.5°	2654.1	1926.8	504.8	202.7	177.4	159.8	141.0	125.7	115.7	113.5	112.4
35°	2681.7	1866.0	371.4	183.0	159.8	138.9	117.9	101.4	92.5	92.5	91.4
37.5°	2753.3	1830.7	281.1	167.5	145.4	121.2	99.3	83.8	76.0	78.2	78.2
40°	2886.8	1824.2	229.2	155.3	133.4	105.8	80.5	68.4	65.0	68.4	68.4
42.5°	3090.7	1859.4	203.9	146.7	122.3	90.4	67.3	58.4	57.3	60.6	60.6
45°	3356.2	1928.9	189.6	138.9	110.2	75.0	56.2	50.8	49.5	54.0	54.0
47.5°	3678.1	2022.7	176.3	130.1	98.1	61.8	47.4	42.9	42.9	47.4	48.5
50°	4059.5	2149.4	163.1	121.2	88.2	51.8	39.6	36.4	37.5	42.0	42.9
52.5°	4498.3	2304.7	151.1	113.5	77.2	42.0	33.1	30.8	32.0	36.4	37.5
55°	4876.3	2440.3	136.7	105.8	62.8	34.1	27.6	26.5	27.6	33.1	33.1
57.5°	5205.9	2570.4	123.4	93.8	49.5	27.6	22.1	22.1	24.3	29.7	30.8
60°	5643.4	2775.5	112.4	79.4	37.5	20.9	17.6	18.8	22.1	26.5	27.6
62.5°	6418.3	3123.8	98.1	66.1	27.6	16.4	14.4	15.5	19.9	25.3	26.5
65°	7388.3	3453.3	81.6	55.2	20.9	12.1	11.0	14.4	19.9	25.3	26.5
67.5°	7289.0	3003.6	63.9	44.0	15.5	9.9	8.9	13.2	18.8	25.3	26.5
70°	5911.2	2105.3	47.4	29.7	12.1	8.9	8.9	13.2	18.8	24.3	25.3
72.5°	4100.4	1171.7	36.4	19.9	11.0	8.9	7.7	12.1	17.6	24.3	25.3
75°	1950.9	359.3	28.7	14.4	9.9	7.7	6.6	12.1	17.6	24.3	25.3
77.5°	374.8	91.4	23.1	12.1	8.9	7.7	6.6	11.0	17.6	23.1	24.3
80°	126.8	40.9	18.8	11.0	8.9	7.7	6.6	11.0	16.4	22.1	23.1
82.5°	69.4	23.1	16.4	9.9	8.9	6.6	5.5	9.9	15.5	22.1	23.1
85°	54.0	16.4	13.2	9.9	8.9	6.6	5.5	9.9	15.5	20.9	22.1
87.5°	27.6	12.1	11.0	9.9	8.9	6.6	5.5	8.9	14.4	19.9	22.1
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)