

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: P196119

Luminaire Tested: **NAV-AF-03-D-UNV-SL3-HSS**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P196119  
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-03-D-UNV-SL3-HSS  
Description: NAVION ROADWAY AND AREA LUMINAIRE  
(3) 70 CRI, 4000K, 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: 15729.9 lumens  
Efficiency: N/A  
Efficacy: 94.8 lumens/watt  
Luminous Opening: Rectangular (W 0.5' x L: 1.5' x H: 0')  
IES Classification: Type III - Medium - Non-Cutoff  
BUG Rating: B1 - U0 - G3

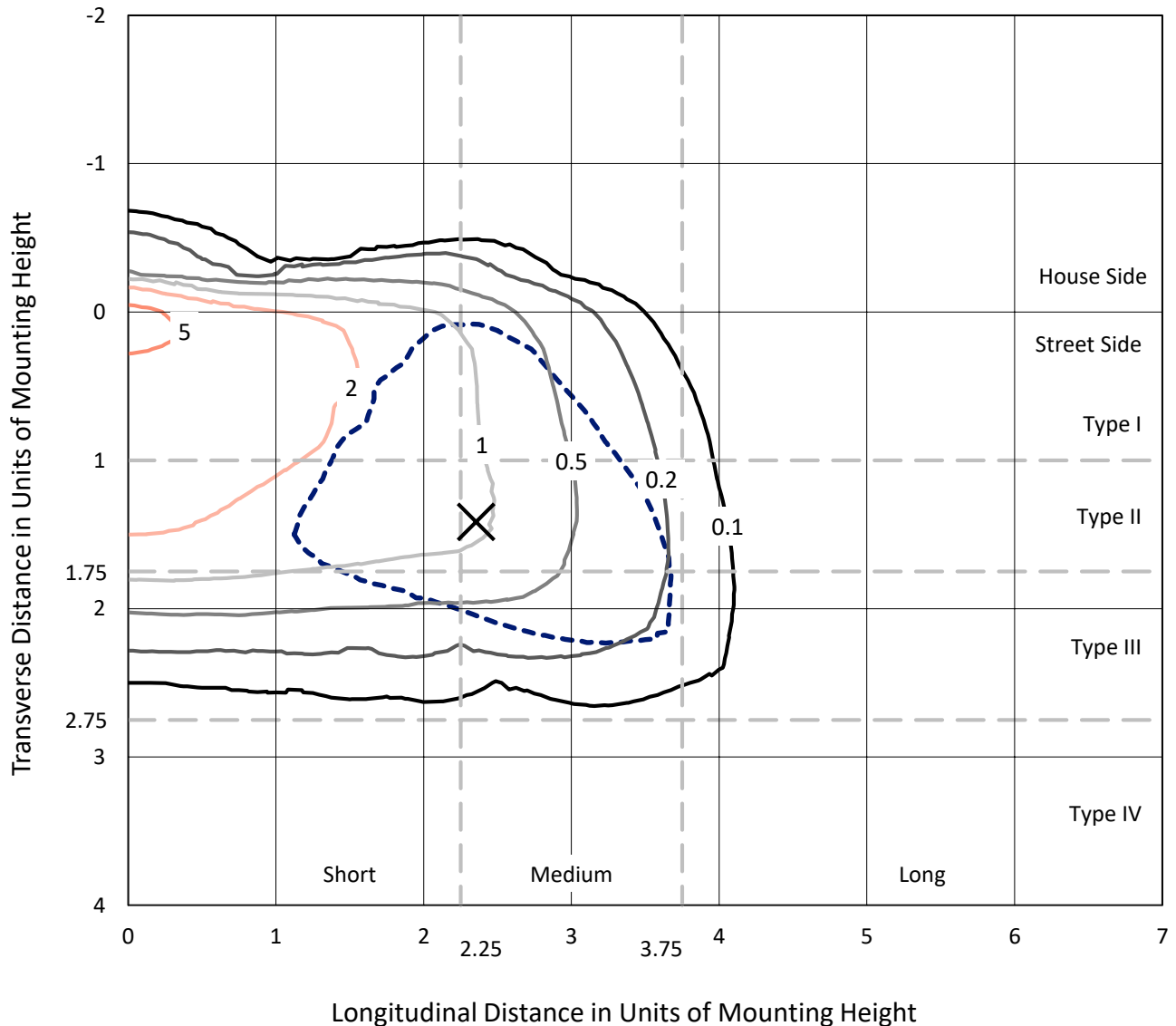
Input Watts (W): 166  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

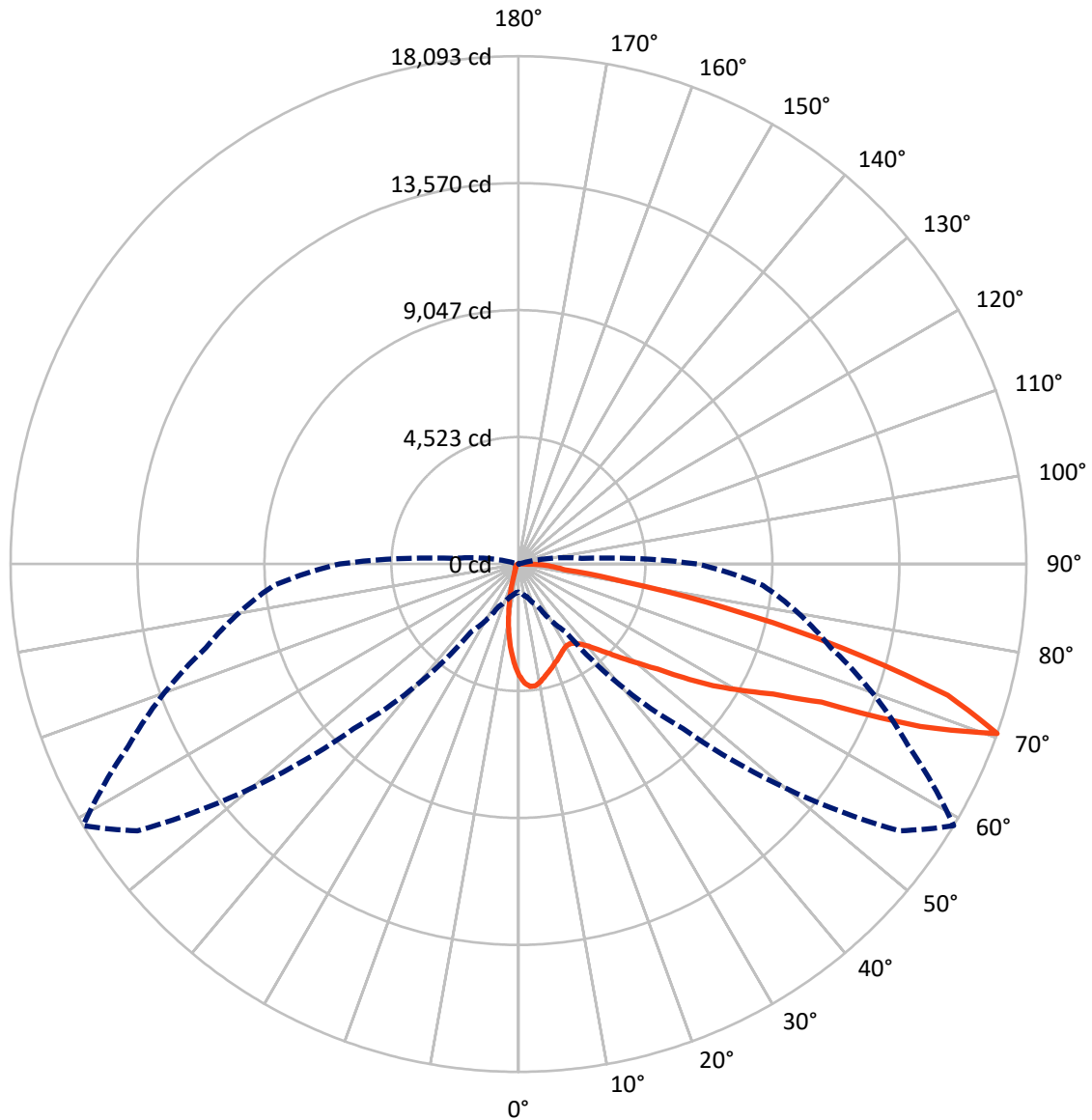
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.8 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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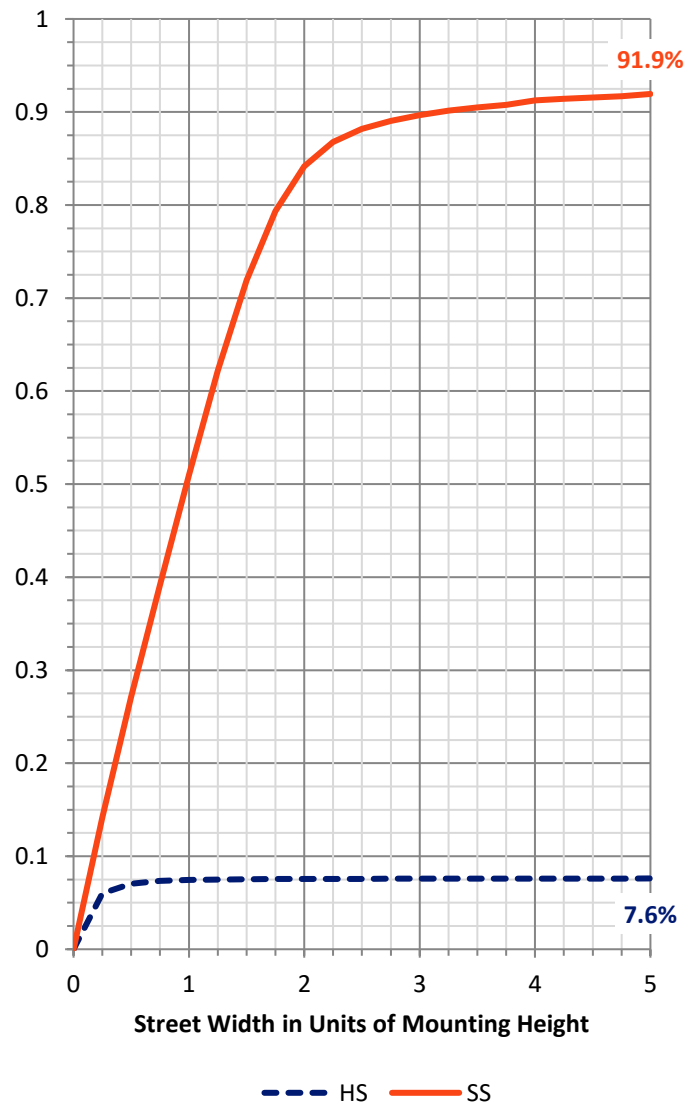
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	1209.2	0.0	1209.2
	% Fixture	7.7	0.0	7.7
<b>Street Side</b>	Lumens	14520.7	0.0	14520.7
	% Fixture	92.3	0.0	92.3
<b>Total</b>	Lumens	15729.9	0.0	15729.9
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	327.1	2.1
10°-20°	686.0	4.4
20°-30°	928.6	5.9
30°-40°	1340.2	8.5
40°-50°	2225.7	14.1
50°-60°	3404.5	21.6
60°-70°	4234.4	26.9
70°-80°	2340.8	14.9
80°-90°	242.7	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°	15729.9	100.0
0°-180°	15729.9	100.0



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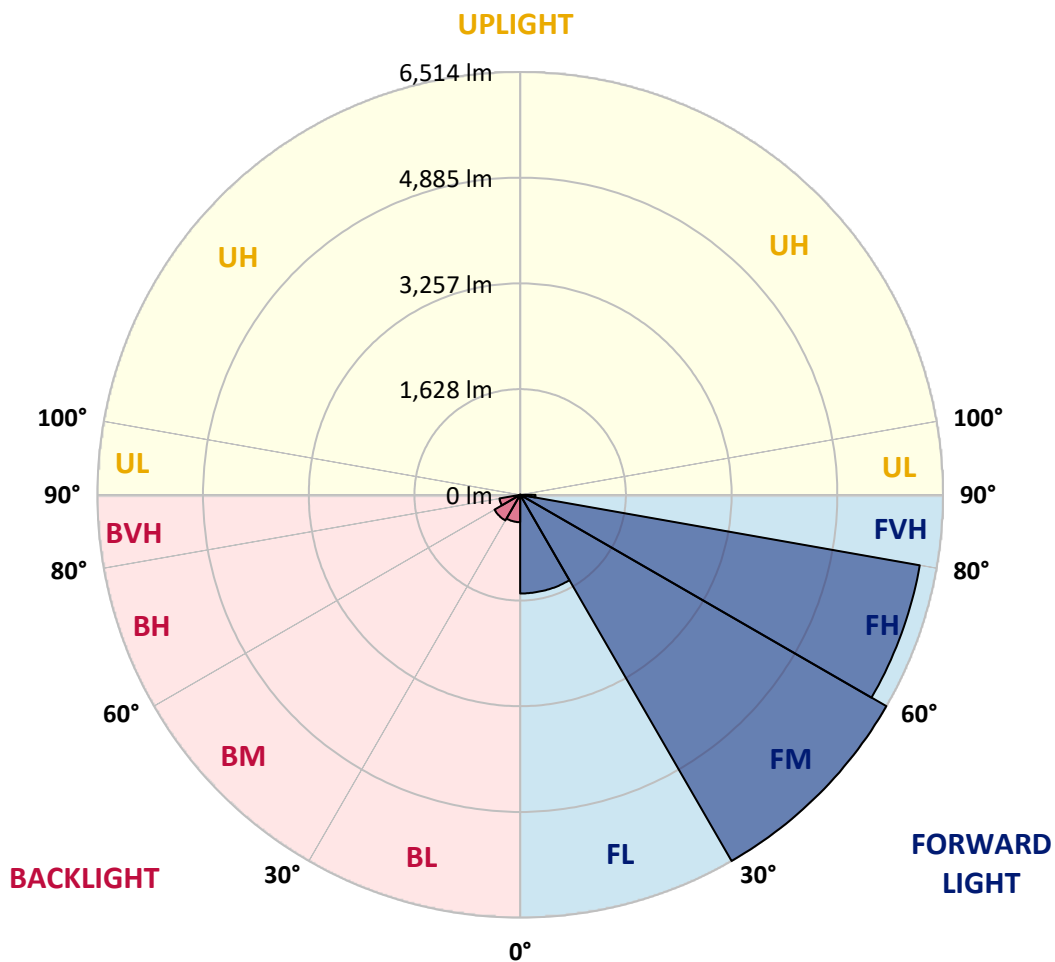
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1520.3	9.7			
FM	(30°-60°)	6513.9	41.4			
FH	(60°-80°)	6250.7	39.7			G3/7500
FVH	(80°-90°)	235.7	1.5			G3/500
BL	(0°-30°)	421.4	2.7	B1/500		
BM	(30°-60°)	456.4	2.9	B1/1000		
BH	(60°-80°)	324.4	2.1	B1/500		G1/500
BVH	(80°-90°)	7.0	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°	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5
2.5°	4496.1	4488.9	4459.2	4453.3	4420.2	4353.7	4276.5	4245.7	4182.8	4083.1	3972.7
5°	4570.9	4574.4	4576.8	4563.7	4559.0	4504.4	4418.9	4382.1	4297.9	4134.2	3932.4
7.5°	4290.8	4300.3	4329.9	4343.0	4399.9	4421.3	4403.5	4379.8	4313.4	4119.9	3836.4
10°	3995.3	4013.1	4045.2	4066.5	4136.5	4193.5	4265.9	4271.8	4257.5	4072.5	3728.3
12.5°	3741.4	3758.0	3793.6	3836.4	3907.6	3981.1	4089.0	4127.0	4174.5	4041.6	3651.2
15°	3523.0	3527.9	3562.2	3615.6	3709.3	3810.2	3938.4	3994.1	4086.7	4029.7	3591.9
17.5°	3332.1	3333.2	3355.8	3404.4	3518.3	3651.2	3800.8	3874.3	3991.8	4013.1	3539.7
20°	3206.2	3205.0	3206.2	3232.3	3333.2	3491.0	3672.6	3749.7	3900.4	3993.0	3486.3
22.5°	3163.5	3157.5	3130.3	3120.8	3184.9	3323.7	3540.8	3641.7	3818.6	3987.1	3447.1
25°	3215.7	3212.2	3154.1	3099.4	3105.4	3192.0	3406.7	3530.2	3754.4	4008.3	3437.6
27.5°	3384.2	3377.1	3288.1	3181.3	3113.7	3129.1	3307.1	3436.4	3703.4	4060.6	3450.7
30°	3605.0	3606.1	3511.2	3381.9	3222.8	3135.0	3253.7	3375.9	3669.0	4138.9	3479.2
32.5°	3850.6	3849.4	3781.7	3632.2	3429.3	3244.2	3277.4	3380.6	3673.7	4254.0	3533.8
35°	4104.5	4091.4	4068.9	3937.2	3699.9	3435.3	3385.5	3461.4	3723.6	4405.8	3626.3
37.5°	4397.6	4392.9	4415.4	4276.5	4034.5	3716.5	3575.3	3626.3	3849.4	4630.2	3775.8
40°	4863.9	4837.8	4848.5	4659.8	4411.8	4095.0	3841.1	3854.2	4049.9	4926.8	4011.9
42.5°	5752.7	5647.1	5449.0	5095.3	4827.1	4515.1	4188.8	4166.2	4333.5	5286.4	4322.8
45°	6814.7	6693.7	6194.2	5575.9	5242.4	4966.0	4618.3	4557.8	4682.4	5714.7	4723.9
47.5°	7701.1	7570.6	6908.5	6077.9	5664.9	5431.2	5094.1	5022.9	5100.0	6212.0	5205.7
50°	8003.7	7931.3	7349.9	6495.5	6090.9	5953.3	5691.0	5572.3	5591.3	6748.3	5768.1
52.5°	7864.9	7840.0	7450.8	6781.4	6484.9	6529.9	6344.9	6220.3	6198.9	7334.5	6390.0
55°	7571.8	7559.9	7370.1	6940.5	6832.5	7058.0	7262.0	7154.1	6952.4	7957.4	6903.7
57.5°	7152.9	7198.0	7334.5	7246.7	7259.7	7615.7	8114.0	8169.8	7868.4	8453.5	7284.6
60°	6034.0	6155.0	6780.3	7575.4	8184.1	8543.6	9026.6	9131.0	8644.4	8792.8	7724.8
62.5°	4460.5	4633.8	5524.9	6985.6	8693.1	10308.1	10240.5	10194.2	9385.0	9247.3	8525.8
65°	2620.1	2822.9	3576.4	5458.5	7925.4	11442.5	12506.9	11866.1	10513.4	10191.9	9801.4
67.5°	1305.3	1306.5	1647.1	2881.1	5857.1	10651.1	15815.2	15444.9	12912.7	11583.7	10304.6
70°	1003.9	1031.1	1218.6	1674.3	2961.7	8295.6	16573.4	18093.4	15323.9	11522.0	8743.0
72.5°	850.8	868.6	1084.5	1457.2	2214.2	4554.2	14347.4	15993.2	14622.7	9735.0	6444.5
75°	612.3	626.6	959.9	1321.9	2038.6	2259.3	9841.8	11861.4	10971.5	6847.9	3546.8
77.5°	151.9	150.7	334.6	1072.7	1823.8	1881.9	5647.1	7606.2	6295.0	2804.0	911.3
80°	67.6	65.3	75.9	225.5	1696.9	1776.4	2483.6	3841.1	2414.8	454.5	278.9
82.5°	47.5	45.1	47.5	83.1	567.2	1648.2	1501.1	1664.9	884.0	155.5	118.7
85°	15.4	14.2	26.1	70.0	159.0	950.5	1464.3	1243.6	657.3	66.5	79.5
87.5°	2.4	2.4	9.5	38.0	46.2	316.8	859.1	861.5	295.4	39.2	35.6
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°	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5	3977.5
2.5°	3917.0	3847.0	3748.5	3650.0	3561.0	3469.6	3396.1	3361.7	3346.3	3324.9	3278.7
5°	3826.9	3699.9	3483.9	3271.5	3073.4	2883.5	2720.9	2628.4	2528.6	2523.9	2475.2
7.5°	3682.1	3501.7	3161.1	2831.2	2528.6	2239.1	1989.9	1828.5	1718.3	1649.4	1601.9
10°	3520.7	3289.3	2838.4	2374.4	1962.6	1575.9	1255.5	1046.6	919.6	855.6	818.8
12.5°	3392.5	3101.8	2520.3	1936.5	1420.4	976.6	678.7	526.8	459.2	433.1	421.3
15°	3282.1	2929.7	2222.6	1545.0	948.1	561.3	392.8	342.9	332.3	332.3	331.0
17.5°	3170.6	2763.6	1933.0	1160.5	596.9	367.9	309.7	302.6	303.8	307.3	307.3
20°	3065.1	2605.8	1654.1	827.1	391.6	294.3	281.2	278.9	282.4	287.1	286.0
22.5°	2979.5	2466.9	1393.1	568.4	301.4	267.0	258.7	255.1	257.5	261.1	259.8
25°	2919.1	2348.3	1153.4	396.3	262.3	243.3	233.7	229.0	226.7	229.0	227.8
27.5°	2882.3	2248.7	927.9	297.9	235.0	219.5	207.7	198.1	192.2	192.2	189.9
30°	2858.5	2154.8	727.4	246.8	212.4	195.8	179.2	166.1	156.6	154.3	153.0
32.5°	2857.4	2074.2	543.5	218.3	191.1	172.1	151.9	135.2	124.6	122.2	121.0
35°	2887.1	2009.0	399.9	197.0	172.1	149.6	126.9	109.1	99.6	99.6	98.5
37.5°	2964.2	1970.9	302.6	180.3	156.6	130.5	106.8	90.2	81.8	84.3	84.3
40°	3107.7	1963.9	246.8	167.4	143.6	114.0	86.6	73.6	70.0	73.6	73.6
42.5°	3327.2	2001.8	219.5	157.8	131.8	97.3	72.4	62.9	61.7	65.3	65.3
45°	3613.3	2076.6	204.1	149.6	118.7	80.7	60.6	54.6	53.4	58.1	58.1
47.5°	3959.7	2177.5	189.9	140.0	105.6	66.5	51.0	46.2	46.2	51.0	52.2
50°	4370.3	2313.9	175.6	130.5	94.9	55.8	42.8	39.2	40.3	45.1	46.2
52.5°	4842.5	2481.2	162.5	122.2	83.1	45.1	35.6	33.2	34.4	39.2	40.3
55°	5249.6	2627.1	147.1	114.0	67.6	36.8	29.7	28.4	29.7	35.6	35.6
57.5°	5604.3	2767.2	132.9	100.9	53.4	29.7	23.7	23.7	26.1	32.0	33.2
60°	6075.5	2987.9	121.0	85.4	40.3	22.5	19.0	20.2	23.7	28.4	29.7
62.5°	6909.6	3362.8	105.6	71.2	29.7	17.8	15.4	16.6	21.4	27.3	28.4
65°	7953.9	3717.7	87.8	59.3	22.5	13.1	11.9	15.4	21.4	27.3	28.4
67.5°	7847.1	3233.5	68.8	47.5	16.6	10.6	9.5	14.2	20.2	27.3	28.4
70°	6363.8	2266.4	51.0	32.0	13.1	9.5	9.5	14.2	20.2	26.1	27.3
72.5°	4414.2	1261.4	39.2	21.4	11.9	9.5	8.3	13.1	19.0	26.1	27.3
75°	2100.3	386.9	30.9	15.4	10.6	8.3	7.2	13.1	19.0	26.1	27.3
77.5°	403.5	98.5	25.0	13.1	9.5	8.3	7.2	11.9	19.0	25.0	26.1
80°	136.5	43.9	20.2	11.9	9.5	8.3	7.2	11.9	17.8	23.7	25.0
82.5°	74.8	25.0	17.8	10.6	9.5	7.2	5.9	10.6	16.6	23.7	25.0
85°	58.1	17.8	14.2	10.6	9.5	7.2	5.9	10.6	16.6	22.5	23.7
87.5°	29.7	13.1	11.9	10.6	9.5	7.2	5.9	9.5	15.4	21.4	23.7
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)