

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: P195209

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7060-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195209
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
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-SL4-7060-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 24496 lumens
Efficiency: N/A
Efficacy: 87.8 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

Input Watts (W): 279
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

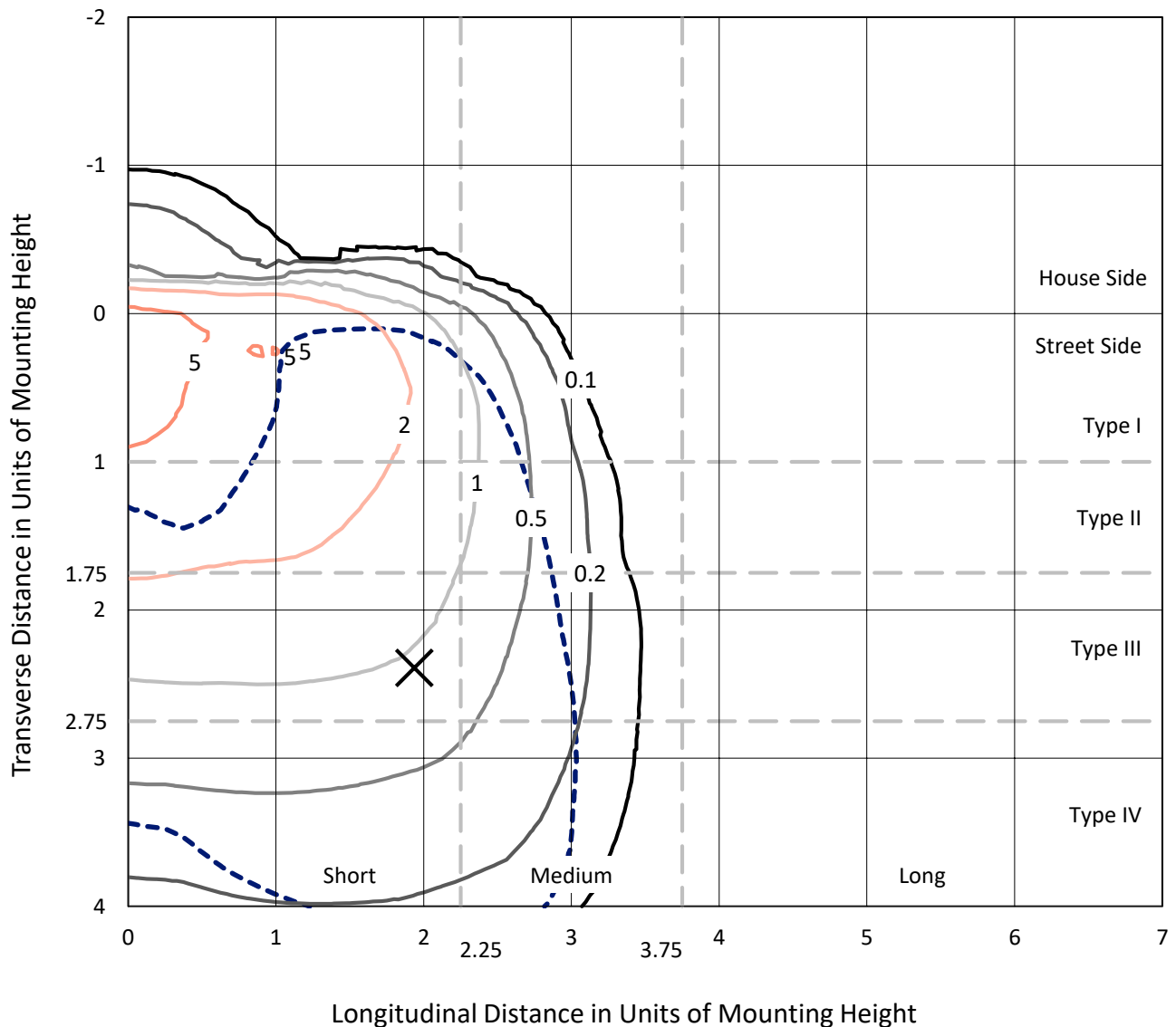


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Iso-Footcandle Lines of Horizontal Illumination

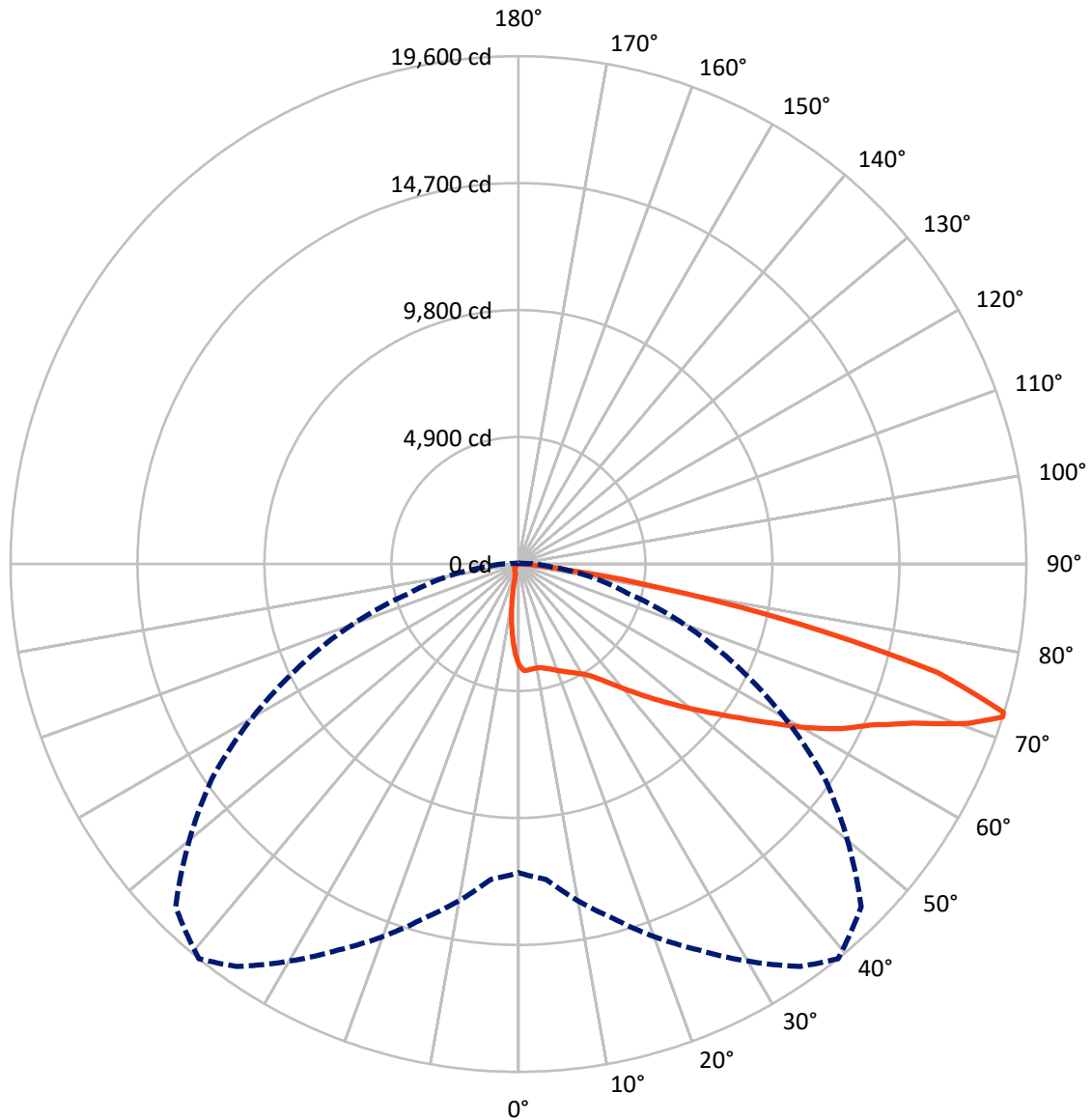
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.6 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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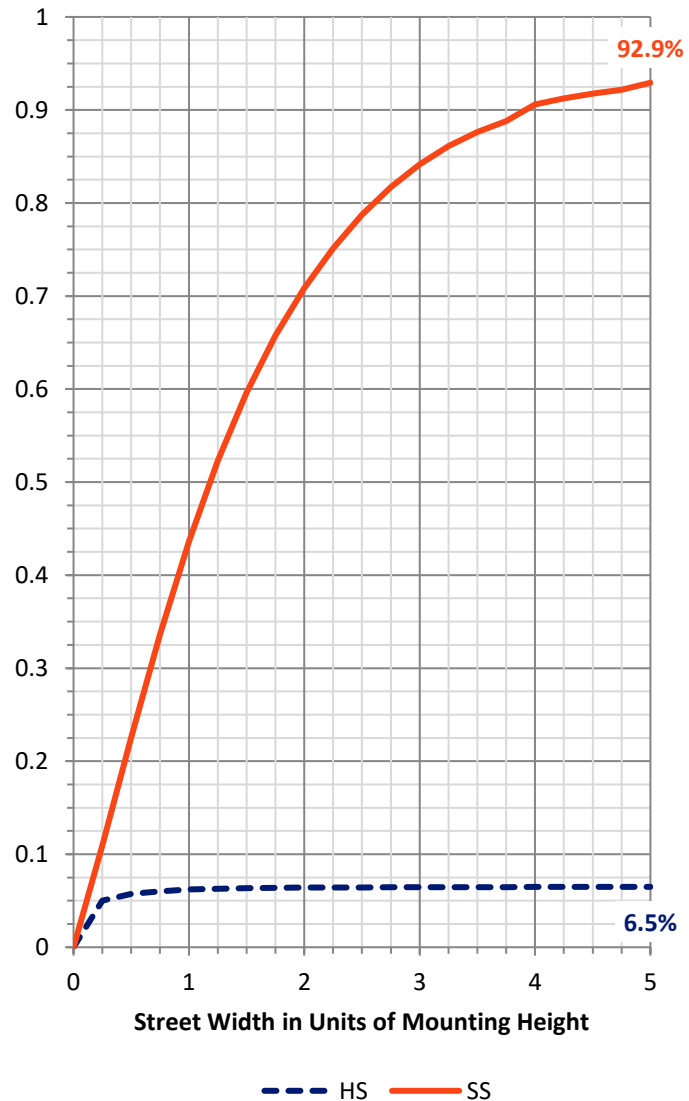
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1605.4	0.0	1605.4
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	22890.6	0.0	22890.6
	% Fixture	93.4	0.0	93.4
Total	Lumens	24496.0	0.0	24496.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	318.9	1.3
10°-20°	772.1	3.2
20°-30°	1282.3	5.2
30°-40°	2043.7	8.3
40°-50°	3373.3	13.8
50°-60°	5094.3	20.8
60°-70°	6636.2	27.1
70°-80°	4484.1	18.3
80°-90°	491.1	2.0
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°	24496.0	100.0
0°-180°	24496.0	100.0



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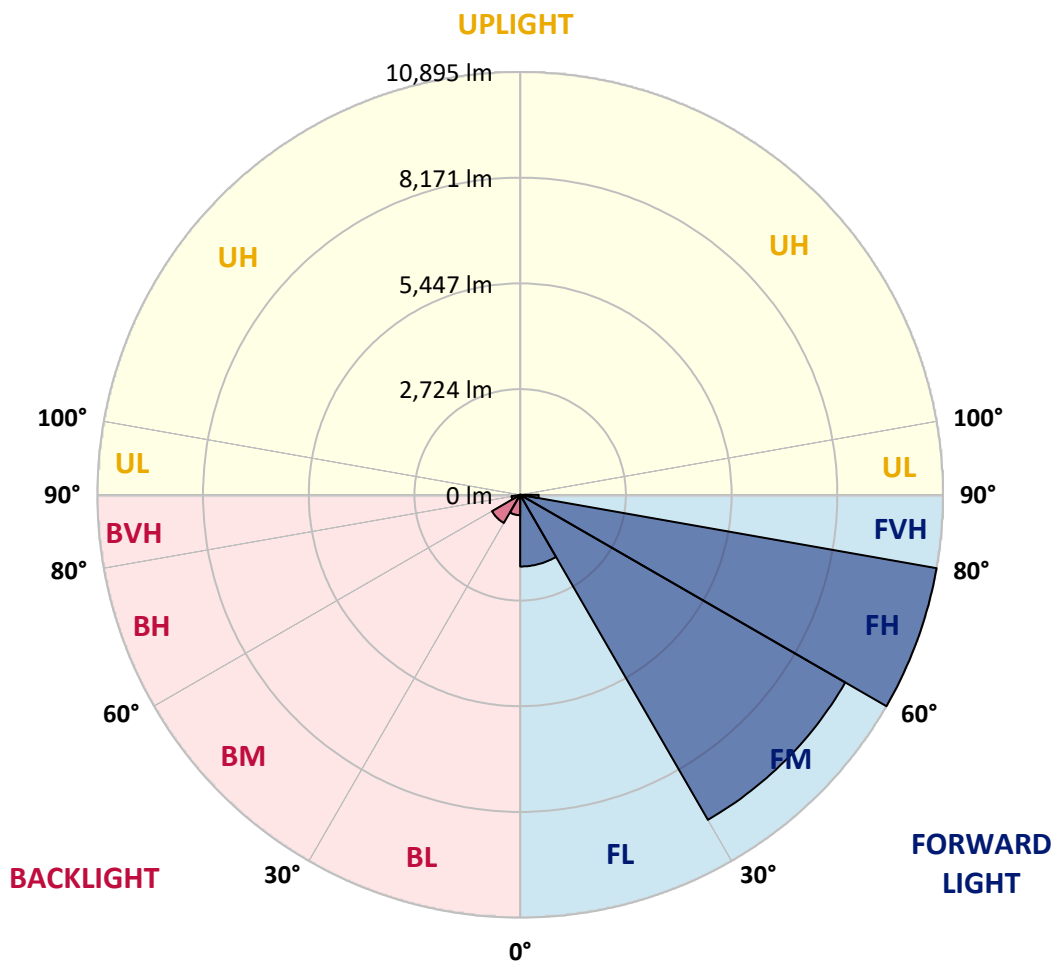
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1847.6	7.5			
FM	(30°-60°)	9671.3	39.5			
FH	(60°-80°)	10894.7	44.5			G4/12000
FVH	(80°-90°)	477.0	1.9			G3/500
BL	(0°-30°)	525.7	2.1	B2/1000		
BM	(30°-60°)	840.0	3.4	B1/1000		
BH	(60°-80°)	225.6	0.9	B1/500		G1/500
BVH	(80°-90°)	14.1	0.1			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7
2.5°	4174.9	4182.6	4173.0	4155.7	4130.6	4115.2	4094.1	4047.8	3990.1	3940.0	3882.2
5°	4207.7	4211.5	4200.0	4167.2	4128.7	4107.5	4080.6	4030.5	3970.8	3901.5	3797.5
7.5°	4217.3	4215.4	4201.9	4161.5	4101.8	4074.8	4028.6	3967.0	3905.3	3841.8	3724.3
10°	4213.5	4213.5	4203.8	4165.3	4097.9	4072.9	4020.9	3955.4	3878.4	3814.8	3689.7
12.5°	4200.0	4207.7	4201.9	4180.7	4130.6	4111.4	4065.2	3999.7	3926.5	3861.0	3728.2
15°	4217.3	4228.9	4240.4	4232.7	4203.8	4186.5	4144.1	4076.7	4017.0	3947.7	3805.2
17.5°	4286.6	4311.7	4338.6	4340.5	4309.7	4278.9	4230.8	4161.5	4103.7	4040.1	3886.1
20°	4417.6	4436.8	4486.9	4496.5	4434.9	4390.6	4323.2	4242.3	4184.6	4130.6	3961.2
22.5°	4612.1	4633.3	4673.7	4660.2	4556.2	4504.2	4419.5	4327.1	4267.4	4236.6	4047.8
25°	4906.7	4912.5	4922.1	4862.4	4691.0	4633.3	4529.3	4425.3	4377.1	4373.3	4171.1
27.5°	5253.3	5261.0	5218.7	5085.8	4841.2	4766.1	4648.7	4554.3	4531.2	4560.1	4327.1
30°	5650.0	5652.0	5534.5	5318.8	5014.5	4931.7	4810.4	4706.4	4727.6	4798.9	4527.3
32.5°	6056.4	6037.1	5875.3	5594.2	5251.4	5151.3	5047.3	4943.3	5004.9	5149.3	4820.0
35°	6428.0	6420.3	6229.7	5902.3	5559.5	5470.9	5395.8	5286.1	5386.2	5621.1	5218.7
37.5°	6799.7	6793.9	6576.3	6235.4	5938.9	5875.3	5819.5	5734.8	5898.4	6243.1	5752.1
40°	7209.9	7200.2	6932.6	6605.2	6379.9	6345.2	6312.5	6275.9	6555.1	7034.6	6416.5
42.5°	7716.3	7673.9	7310.0	7007.7	6865.2	6874.8	6876.7	6913.3	7350.4	7976.3	7200.2
45°	8297.9	8203.5	7689.4	7439.0	7398.6	7456.3	7514.1	7666.2	8276.7	9060.5	8066.8
47.5°	8862.1	8710.0	8126.5	7903.1	7985.9	8105.3	8244.0	8540.5	9316.6	10194.7	8852.5
50°	9347.4	9191.4	8559.8	8374.9	8638.7	8815.9	9062.4	9511.1	10414.2	11153.7	9347.4
52.5°	9728.7	9605.4	9018.1	8894.8	9362.8	9605.4	9992.5	10581.8	11450.3	11785.3	9694.0
55°	10009.8	9948.2	9457.2	9474.5	10167.7	10518.2	10999.6	11665.9	12324.5	12276.4	9954.0
57.5°	10327.6	10279.4	9917.4	10158.1	11136.4	11588.9	12145.4	12680.8	12960.0	12671.2	10208.2
60°	10653.0	10668.4	10475.9	10986.2	12334.2	12834.8	13320.1	13453.0	13505.0	13071.7	10475.9
62.5°	10899.5	10965.0	10982.3	11879.7	13562.8	13990.3	14200.2	14105.8	14094.3	13609.0	10454.7
65°	11182.6	11354.0	11639.0	12859.9	14679.7	14960.8	15111.0	15247.8	14958.9	13768.8	9426.3
67.5°	11671.7	11941.3	12582.6	14061.5	15969.9	16385.9	16811.4	16667.0	15087.9	12145.4	7181.0
70°	12330.3	12659.6	13791.9	15631.0	17720.4	18417.5	18773.7	16553.4	12809.8	8392.2	3787.9
72°	11914.4	12212.8	14165.5	16432.1	18960.5	19599.9	18708.3	14439.0	9285.8	4350.2	1269.0
72.5°	11510.0	11818.1	14046.1	16422.4	19083.8	19572.9	18282.7	13605.1	8217.0	3385.4	874.3
75°	7985.9	8374.9	12041.5	14762.5	17233.2	16695.9	13988.3	8238.2	2977.1	581.6	288.9
77.5°	4128.7	4429.1	7304.2	10431.6	12010.6	10999.6	8267.1	3574.1	824.2	308.1	190.6
80°	2559.3	2707.5	3416.2	5139.7	6239.3	5457.5	3647.3	1444.3	527.6	182.9	152.1
82.5°	1324.9	1438.5	2151.0	2074.0	2305.1	1916.1	1346.1	1209.3	325.4	113.6	156.0
85°	435.2	462.2	1321.0	1378.8	986.0	662.4	597.0	1153.5	94.4	73.2	132.9
87.5°	57.8	67.4	464.1	789.5	485.3	300.4	358.2	406.3	32.7	40.4	36.6
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°	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7	3920.7
2.5°	3843.7	3818.7	3739.7	3660.8	3570.3	3487.5	3422.0	3379.6	3398.9	3335.3	3345.0
5°	3733.9	3670.4	3497.1	3310.3	3108.1	2919.4	2769.2	2657.5	2636.3	2540.0	2543.9
7.5°	3628.0	3524.0	3242.9	2934.8	2599.7	2328.2	2081.7	1866.0	1789.0	1710.0	1663.8
10°	3570.3	3427.8	3029.1	2580.4	2108.7	1710.0	1363.4	1091.9	978.3	895.5	855.0
12.5°	3587.6	3398.9	2869.3	2258.9	1638.8	1132.3	770.3	571.9	502.6	464.1	450.6
15°	3645.4	3404.7	2724.9	1945.0	1192.0	685.6	452.5	387.1	381.3	379.4	377.4
17.5°	3699.3	3410.4	2572.7	1617.6	797.2	437.1	364.0	358.2	358.2	358.2	358.2
20°	3755.1	3412.4	2405.2	1274.8	523.8	358.2	342.8	338.9	342.8	342.8	342.8
22.5°	3820.6	3425.8	2243.5	941.7	387.1	337.0	327.4	325.4	327.4	327.4	325.4
25°	3901.5	3454.7	2068.2	674.0	350.5	323.5	313.9	312.0	313.9	312.0	312.0
27.5°	4009.3	3493.2	1864.1	483.4	335.1	310.0	300.4	300.4	300.4	298.5	298.5
30°	4148.0	3539.5	1590.6	381.3	319.7	296.6	288.9	288.9	286.9	285.0	285.0
32.5°	4346.3	3614.6	1292.2	344.7	302.3	279.2	271.5	273.5	271.5	269.6	267.7
35°	4627.5	3732.0	997.5	325.4	285.0	261.9	254.2	254.2	254.2	250.3	250.3
37.5°	5026.1	3911.1	747.2	306.2	267.7	244.6	234.9	234.9	233.0	229.2	231.1
40°	5519.1	4136.4	541.1	288.9	250.3	225.3	217.6	213.8	209.9	206.1	206.1
42.5°	6112.2	4356.0	406.3	271.5	233.0	209.9	200.3	196.4	188.7	184.9	182.9
45°	6776.6	4589.0	337.0	250.3	213.8	192.6	184.9	177.2	167.5	161.8	159.8
47.5°	7337.0	4731.5	300.4	229.2	194.5	175.2	167.5	156.0	144.4	140.6	140.6
50°	7673.9	4671.8	269.6	208.0	175.2	157.9	148.3	132.9	125.2	121.3	119.4
52.5°	7862.7	4494.6	244.6	190.6	157.9	138.7	125.2	111.7	107.8	104.0	104.0
55°	7991.7	4238.5	217.6	173.3	142.5	121.3	105.9	96.3	92.4	90.5	88.6
57.5°	8114.9	3926.5	192.6	157.9	127.1	107.8	90.5	86.7	79.0	77.0	77.0
60°	8151.5	3497.1	169.5	140.6	113.6	94.4	79.0	73.2	65.5	63.5	63.5
62.5°	7685.5	2782.6	150.2	119.4	100.1	80.9	69.3	61.6	53.9	53.9	53.9
65°	6422.2	1889.1	129.0	104.0	88.6	69.3	59.7	50.1	46.2	46.2	46.2
67.5°	4473.4	1053.4	109.8	88.6	75.1	57.8	50.1	42.4	40.4	42.4	42.4
70°	2016.2	417.9	92.4	73.2	61.6	48.1	42.4	36.6	40.4	40.4	40.4
72°	604.7	223.4	77.0	59.7	50.1	42.4	36.6	34.7	38.5	40.4	40.4
72.5°	448.7	200.3	73.2	57.8	50.1	40.4	34.7	34.7	38.5	40.4	40.4
75°	231.1	136.7	55.8	42.4	36.6	32.7	28.9	32.7	38.5	38.5	38.5
77.5°	181.0	111.7	46.2	32.7	30.8	28.9	27.0	30.8	34.7	34.7	34.7
80°	169.5	73.2	36.6	30.8	27.0	25.0	25.0	27.0	30.8	32.7	32.7
82.5°	171.4	59.7	32.7	28.9	25.0	23.1	23.1	25.0	28.9	30.8	30.8
85°	109.8	40.4	28.9	25.0	23.1	21.2	21.2	23.1	27.0	28.9	28.9
87.5°	36.6	30.8	25.0	23.1	19.3	19.3	19.3	19.3	23.1	25.0	27.0
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)