

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: P195203

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7060-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195203
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-SL4-7060-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 5700K, 800mA 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: 19791 lumens
Efficiency: N/A
Efficacy: 94.2 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G4

Input Watts (W): 210
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

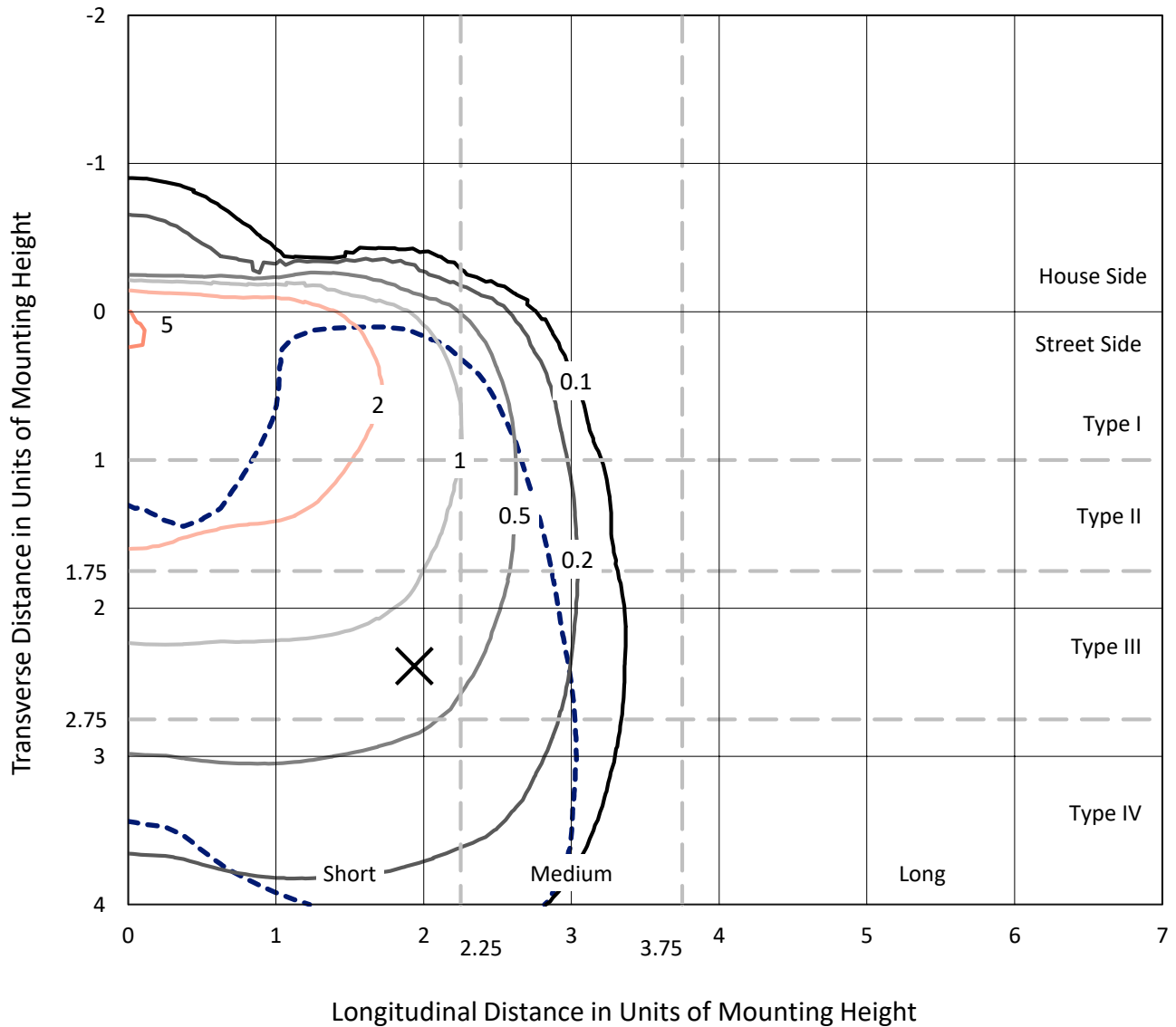


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

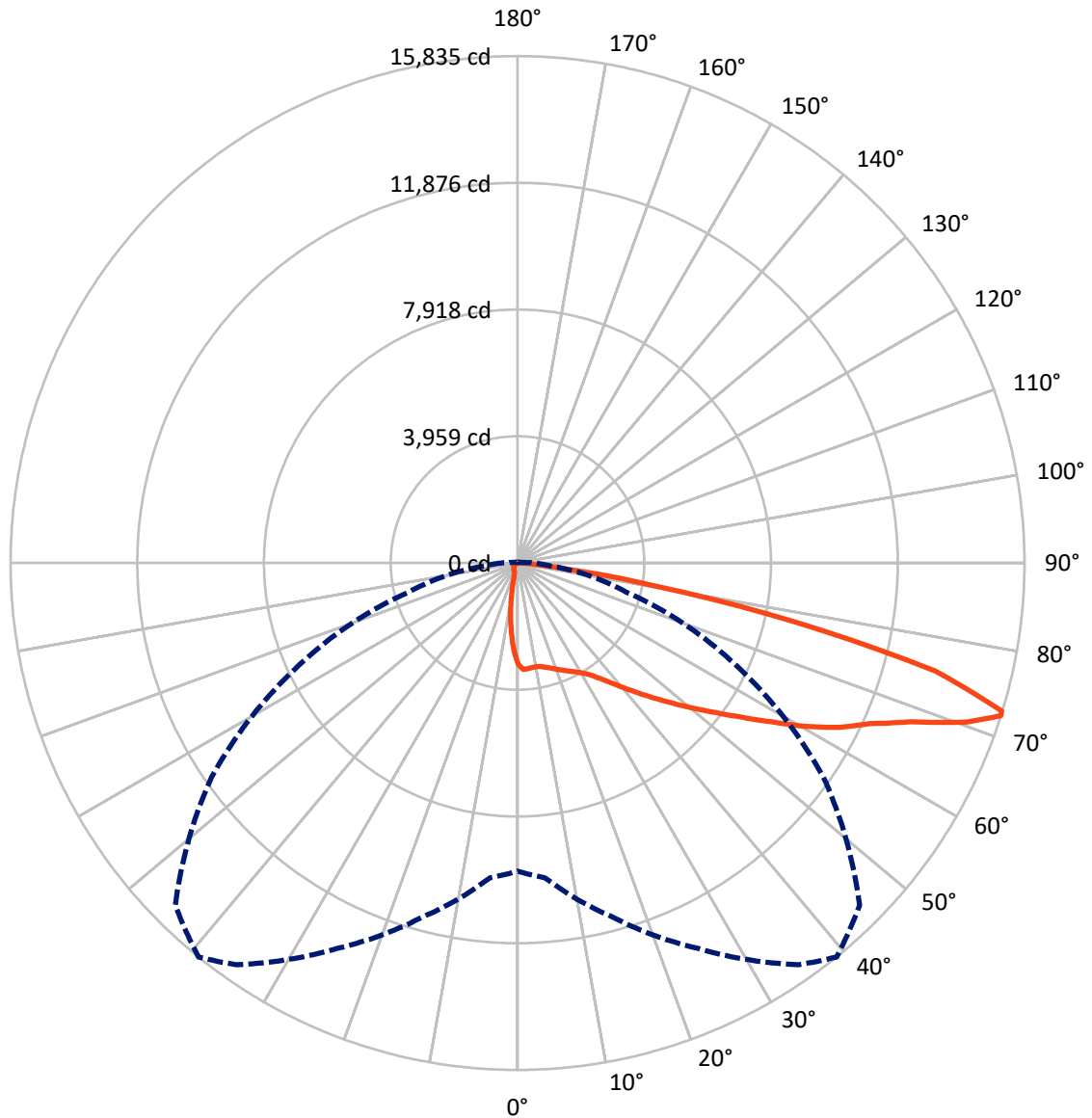


Based on 25 foot mounting height. Maximum calculated value = 5.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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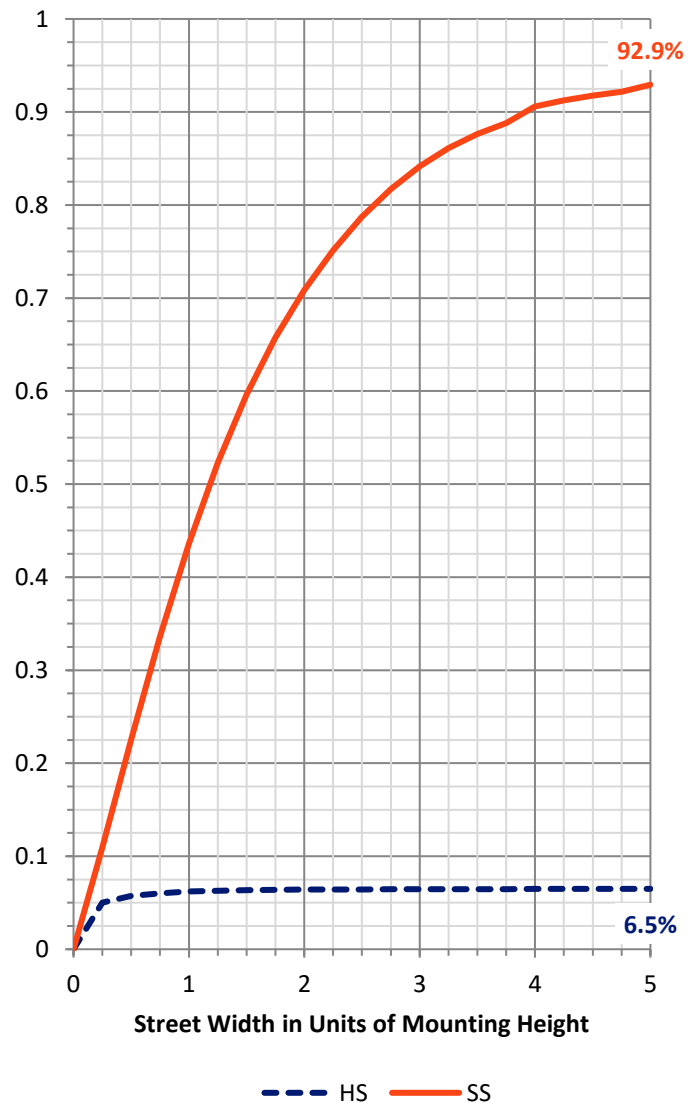
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1297.1	0.0	1297.1
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	18493.9	0.0	18493.9
	% Fixture	93.4	0.0	93.4
Total	Lumens	19791.0	0.0	19791.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	257.6	1.3
10°-20°	623.8	3.2
20°-30°	1036.0	5.2
30°-40°	1651.1	8.3
40°-50°	2725.4	13.8
50°-60°	4115.8	20.8
60°-70°	5361.6	27.1
70°-80°	3622.9	18.3
80°-90°	396.8	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°	19791.0	100.0
0°-180°	19791.0	100.0

Coefficient of Utilization



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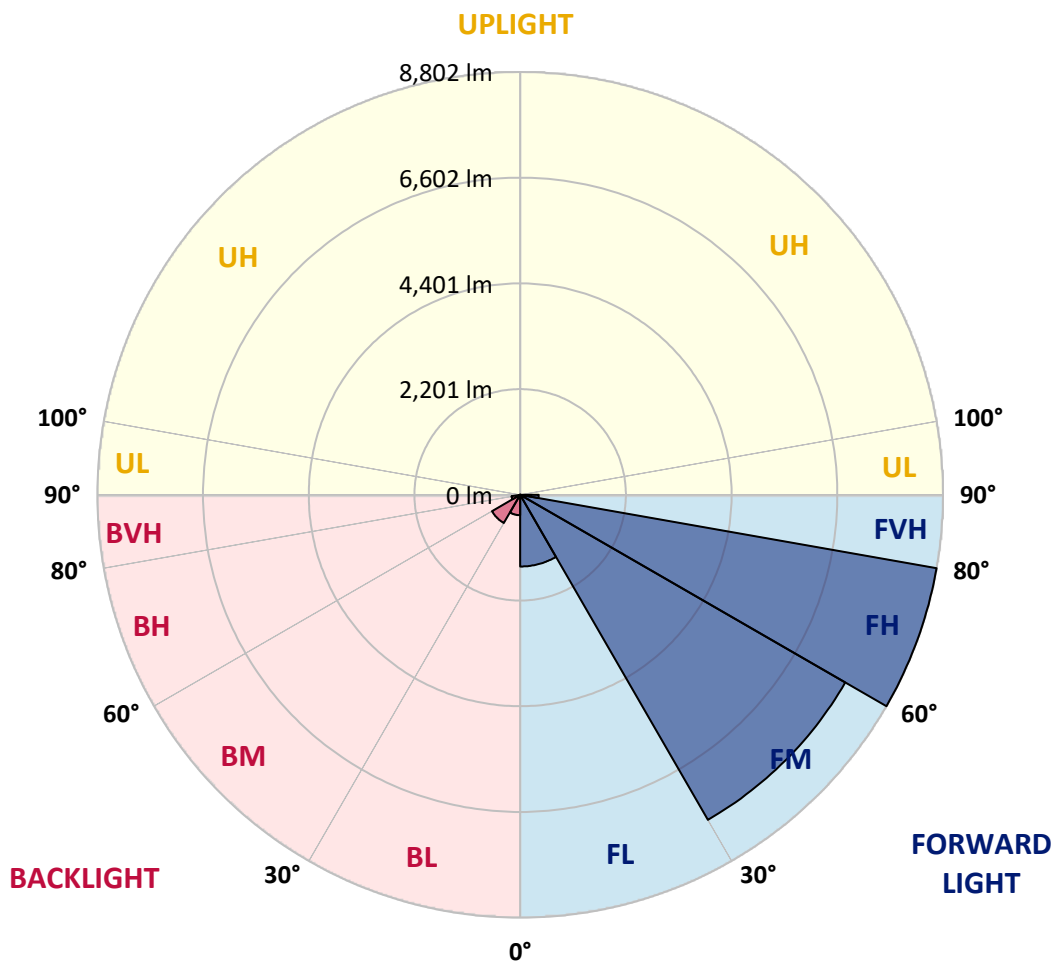
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1492.7	7.5			
FM	(30°-60°)	7813.7	39.5			
FH	(60°-80°)	8802.1	44.5			G4/12000
FVH	(80°-90°)	385.4	1.9			G3/500
BL	(0°-30°)	424.7	2.1	B1/500		
BM	(30°-60°)	678.6	3.4	B1/1000		
BH	(60°-80°)	182.3	0.9	B1/500		G1/500
BVH	(80°-90°)	11.4	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7
2.5°	3373.0	3379.3	3371.5	3357.5	3337.3	3324.8	3307.7	3270.4	3223.7	3183.2	3136.6
5°	3399.5	3402.6	3393.3	3366.8	3335.7	3318.6	3296.8	3256.4	3208.1	3152.1	3068.1
7.5°	3407.3	3405.7	3394.8	3362.2	3313.9	3292.1	3254.8	3205.0	3155.2	3103.9	3009.0
10°	3404.2	3404.2	3396.4	3365.3	3310.8	3290.6	3248.6	3195.7	3133.4	3082.1	2981.0
12.5°	3393.3	3399.5	3394.8	3377.7	3337.3	3321.7	3284.4	3231.5	3172.3	3119.4	3012.1
15°	3407.3	3416.6	3425.9	3419.7	3396.4	3382.4	3348.2	3293.7	3245.5	3189.5	3074.3
17.5°	3463.3	3483.5	3505.3	3506.8	3482.0	3457.1	3418.2	3362.2	3315.5	3264.1	3139.7
20°	3569.1	3584.6	3625.1	3632.9	3583.1	3547.3	3492.8	3427.5	3380.8	3337.3	3200.4
22.5°	3726.2	3743.3	3776.0	3765.1	3681.1	3639.1	3570.6	3496.0	3447.7	3422.8	3270.4
25°	3964.3	3968.9	3976.7	3928.5	3790.0	3743.3	3659.3	3575.3	3536.4	3533.3	3369.9
27.5°	4244.3	4250.5	4216.3	4109.0	3911.4	3850.7	3755.8	3679.5	3660.9	3684.2	3496.0
30°	4564.8	4566.4	4471.5	4297.2	4051.4	3984.5	3886.5	3802.5	3819.6	3877.1	3657.8
32.5°	4893.1	4877.5	4746.8	4519.7	4242.8	4161.9	4077.8	3993.8	4043.6	4160.3	3894.3
35°	5193.4	5187.1	5033.1	4768.6	4491.7	4420.1	4359.4	4270.8	4351.7	4541.5	4216.3
37.5°	5493.6	5489.0	5313.2	5037.8	4798.2	4746.8	4701.7	4633.3	4765.5	5044.0	4647.3
40°	5825.0	5817.3	5601.0	5336.5	5154.5	5126.5	5100.0	5070.5	5296.1	5683.5	5184.0
42.5°	6234.2	6200.0	5905.9	5661.7	5546.5	5554.3	5555.9	5585.4	5938.6	6444.3	5817.3
45°	6704.1	6627.9	6212.4	6010.2	5977.5	6024.2	6070.9	6193.8	6687.0	7320.2	6517.4
47.5°	7159.9	7037.0	6565.6	6385.1	6452.0	6548.5	6660.5	6900.1	7527.1	8236.6	7152.2
50°	7552.0	7426.0	6915.7	6766.3	6979.5	7122.6	7321.8	7684.3	8413.9	9011.4	7552.0
52.5°	7860.1	7760.5	7286.0	7186.4	7564.5	7760.5	8073.2	8549.3	9251.0	9521.7	7832.1
55°	8087.2	8037.4	7640.7	7654.7	8214.8	8498.0	8886.9	9425.2	9957.3	9918.4	8042.1
57.5°	8343.9	8305.0	8012.5	8207.0	8997.4	9363.0	9812.6	10245.2	10470.8	10237.4	8247.5
60°	8606.9	8619.3	8463.7	8876.0	9965.1	10369.6	10761.7	10869.1	10911.1	10561.0	8463.7
62.5°	8806.0	8858.9	8872.9	9597.9	10957.7	11303.1	11472.7	11396.5	11387.1	10995.1	8446.6
65°	9034.7	9173.2	9403.5	10389.9	11860.1	12087.3	12208.6	12319.1	12085.7	11124.2	7615.8
67.5°	9429.9	9647.7	10165.8	11360.7	12902.5	13238.6	13582.4	13465.7	12190.0	9812.6	5801.7
70°	9962.0	10228.1	11142.9	12628.7	14316.8	14880.0	15167.8	13373.9	10349.4	6780.3	3060.3
72°	9625.9	9867.1	11444.7	13275.9	15318.7	15835.3	15114.9	11665.6	7502.2	3514.6	1025.3
72.5°	9299.2	9548.2	11348.3	13268.2	15418.3	15813.5	14771.1	10992.0	6638.7	2735.2	706.3
75°	6452.0	6766.3	9728.6	11927.0	13923.2	13489.1	11301.6	6655.9	2405.3	469.9	233.4
77.5°	3335.7	3578.4	5901.3	8428.0	9703.7	8886.9	6679.2	2887.6	665.9	248.9	154.0
80°	2067.7	2187.5	2760.0	4152.5	5040.9	4409.2	2946.7	1166.9	426.3	147.8	122.9
82.5°	1070.4	1162.2	1737.9	1675.6	1862.3	1548.1	1087.5	977.1	262.9	91.8	126.0
85°	351.6	373.4	1067.3	1114.0	796.6	535.2	482.3	931.9	76.2	59.1	107.4
87.5°	46.7	54.5	375.0	637.9	392.1	242.7	289.4	328.3	26.4	32.7	29.6
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°	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7	3167.7
2.5°	3105.4	3085.2	3021.4	2957.6	2884.5	2817.6	2764.7	2730.5	2746.0	2694.7	2702.5
5°	3016.8	2965.4	2825.4	2674.5	2511.1	2358.6	2237.3	2147.1	2129.9	2052.1	2055.3
7.5°	2931.2	2847.2	2620.0	2371.1	2100.4	1881.0	1681.9	1507.6	1445.4	1381.6	1344.2
10°	2884.5	2769.4	2447.3	2084.8	1703.6	1381.6	1101.5	882.2	790.4	723.5	690.8
12.5°	2898.5	2746.0	2318.2	1825.0	1324.0	914.8	622.3	462.1	406.1	375.0	364.1
15°	2945.2	2750.7	2201.5	1571.4	963.1	553.9	365.6	312.7	308.1	306.5	304.9
17.5°	2988.8	2755.4	2078.6	1306.9	644.1	353.2	294.1	289.4	289.4	289.4	289.4
20°	3033.9	2756.9	1943.2	1030.0	423.2	289.4	276.9	273.8	276.9	276.9	276.9
22.5°	3086.8	2767.8	1812.5	760.8	312.7	272.3	264.5	262.9	264.5	264.5	262.9
25°	3152.1	2791.2	1671.0	544.5	283.2	261.4	253.6	252.0	253.6	252.0	252.0
27.5°	3239.2	2822.3	1506.0	390.5	270.7	250.5	242.7	242.7	242.7	241.2	241.2
30°	3351.3	2859.6	1285.1	308.1	258.3	239.6	233.4	233.4	231.8	230.3	230.3
32.5°	3511.5	2920.3	1044.0	278.5	244.3	225.6	219.4	220.9	219.4	217.8	216.3
35°	3738.7	3015.2	805.9	262.9	230.3	211.6	205.4	205.4	205.4	202.3	202.3
37.5°	4060.7	3159.9	603.7	247.4	216.3	197.6	189.8	189.8	188.3	185.1	186.7
40°	4459.0	3341.9	437.2	233.4	202.3	182.0	175.8	172.7	169.6	166.5	166.5
42.5°	4938.2	3519.3	328.3	219.4	188.3	169.6	161.8	158.7	152.5	149.4	147.8
45°	5475.0	3707.6	272.3	202.3	172.7	155.6	149.4	143.1	135.4	130.7	129.1
47.5°	5927.7	3822.7	242.7	185.1	157.1	141.6	135.4	126.0	116.7	113.6	113.6
50°	6200.0	3774.5	217.8	168.0	141.6	127.6	119.8	107.4	101.1	98.0	96.5
52.5°	6352.5	3631.3	197.6	154.0	127.6	112.0	101.1	90.2	87.1	84.0	84.0
55°	6456.7	3424.4	175.8	140.0	115.1	98.0	85.6	77.8	74.7	73.1	71.6
57.5°	6556.3	3172.3	155.6	127.6	102.7	87.1	73.1	70.0	63.8	62.2	62.2
60°	6585.8	2825.4	136.9	113.6	91.8	76.2	63.8	59.1	52.9	51.3	51.3
62.5°	6209.3	2248.2	121.4	96.5	80.9	65.3	56.0	49.8	43.6	43.6	43.6
65°	5188.7	1526.3	104.2	84.0	71.6	56.0	48.2	40.5	37.3	37.3	37.3
67.5°	3614.2	851.0	88.7	71.6	60.7	46.7	40.5	34.2	32.7	34.2	34.2
70°	1629.0	337.6	74.7	59.1	49.8	38.9	34.2	29.6	32.7	32.7	32.7
72°	488.5	180.5	62.2	48.2	40.5	34.2	29.6	28.0	31.1	32.7	32.7
72.5°	362.5	161.8	59.1	46.7	40.5	32.7	28.0	28.0	31.1	32.7	32.7
75°	186.7	110.5	45.1	34.2	29.6	26.4	23.3	26.4	31.1	31.1	31.1
77.5°	146.2	90.2	37.3	26.4	24.9	23.3	21.8	24.9	28.0	28.0	28.0
80°	136.9	59.1	29.6	24.9	21.8	20.2	20.2	21.8	24.9	26.4	26.4
82.5°	138.5	48.2	26.4	23.3	20.2	18.7	18.7	20.2	23.3	24.9	24.9
85°	88.7	32.7	23.3	20.2	18.7	17.1	17.1	18.7	21.8	23.3	23.3
87.5°	29.6	24.9	20.2	18.7	15.6	15.6	15.6	15.6	18.7	20.2	21.8
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)