

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: P196648

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196648
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-04-D-UNV-SL4-7030-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 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: 19222 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G4

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

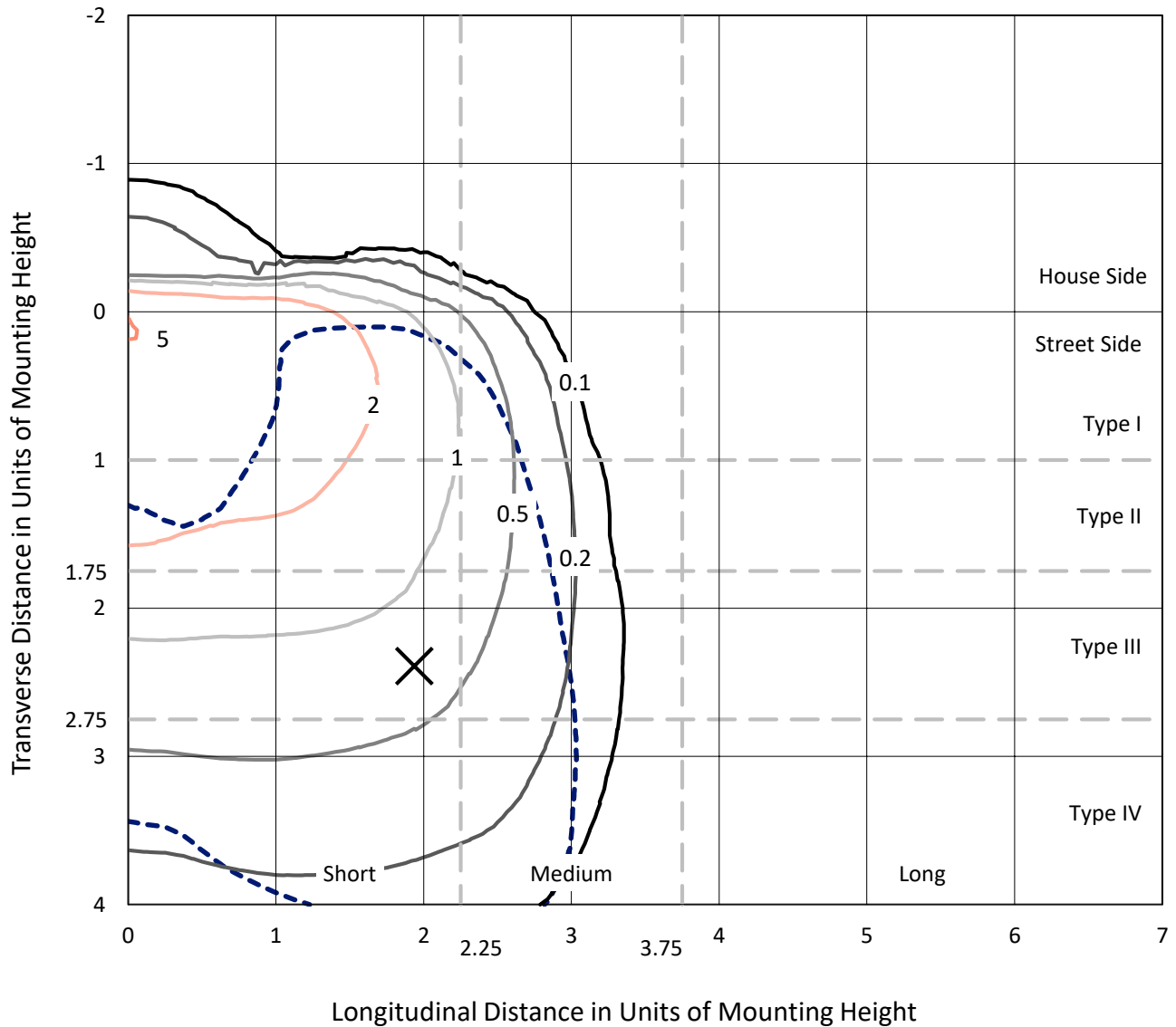


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Iso-Footcandle Lines of Horizontal Illumination

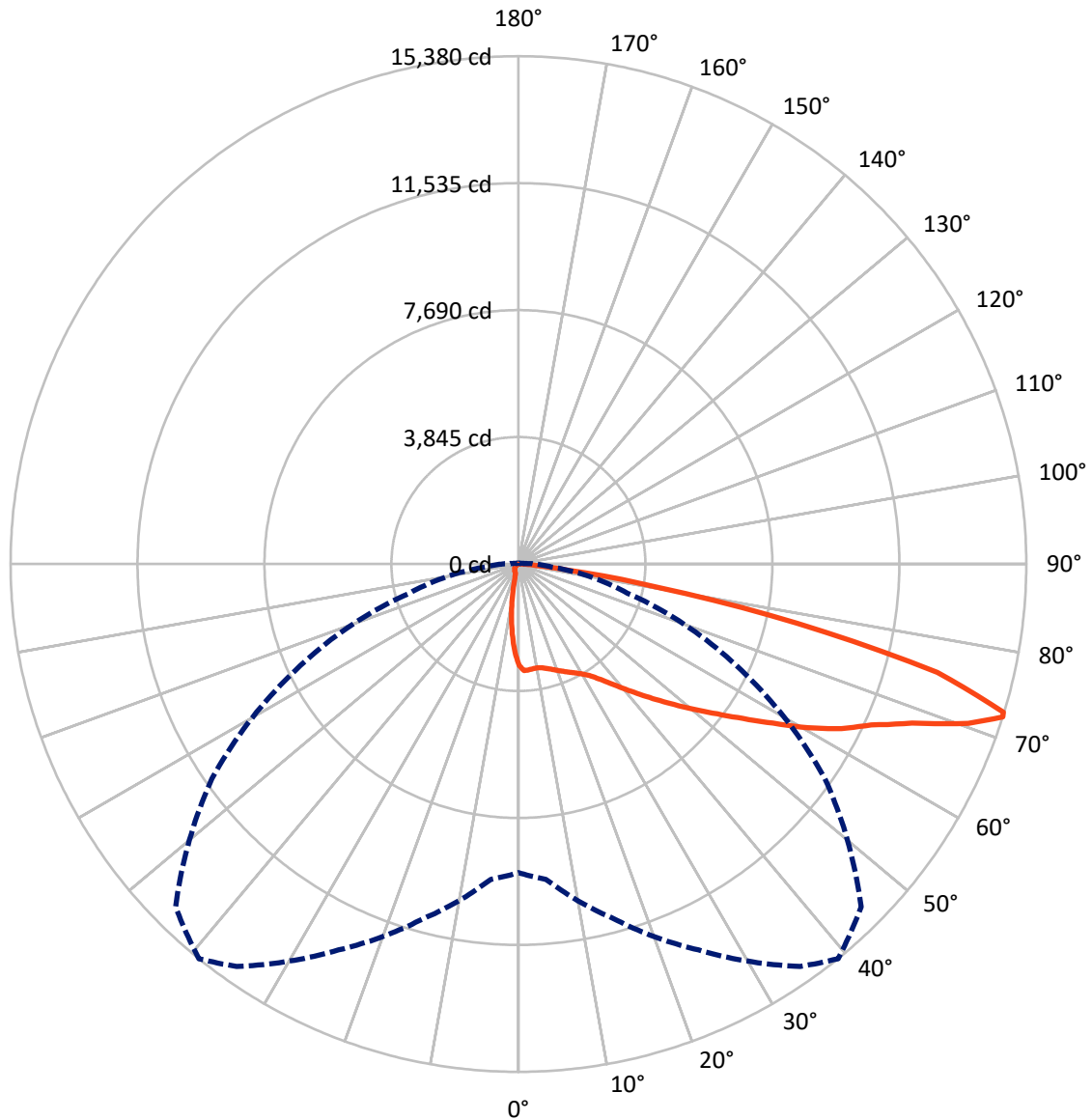
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.2 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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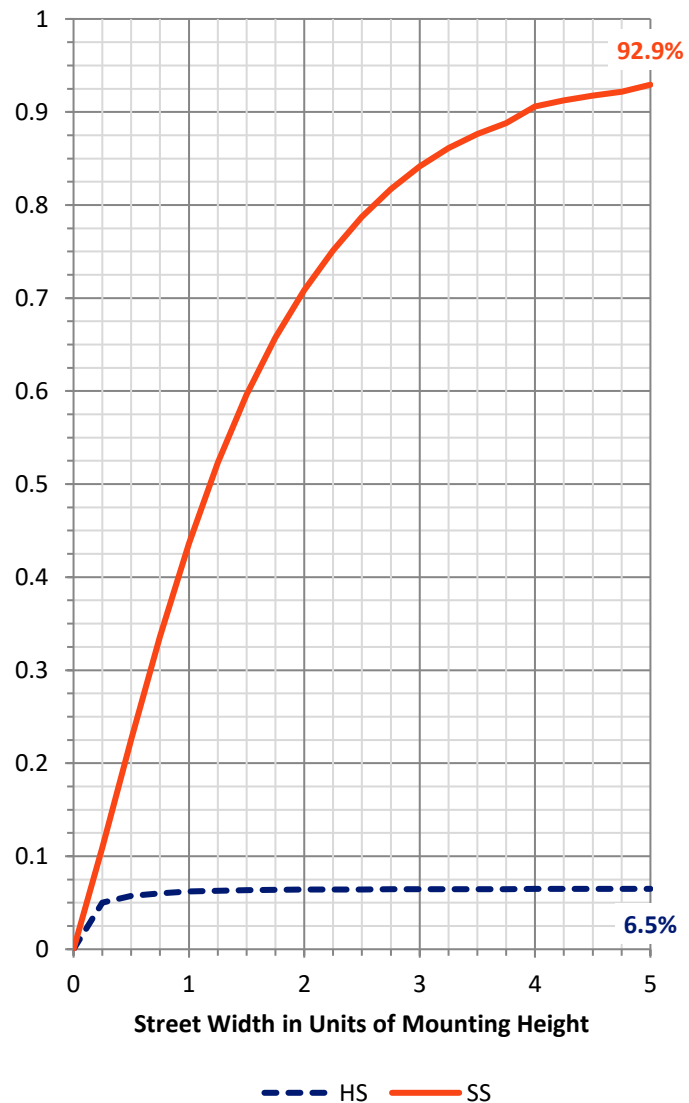
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1259.8	0.0	1259.8
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	17962.2	0.0	17962.2
	% Fixture	93.4	0.0	93.4
Total	Lumens	19222.0	0.0	19222.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	250.2	1.3
10°-20°	605.9	3.2
20°-30°	1006.2	5.2
30°-40°	1603.7	8.3
40°-50°	2647.0	13.8
50°-60°	3997.5	20.8
60°-70°	5207.4	27.1
70°-80°	3518.7	18.3
80°-90°	385.3	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°	19222.0	100.0
0°-180°	19222.0	100.0



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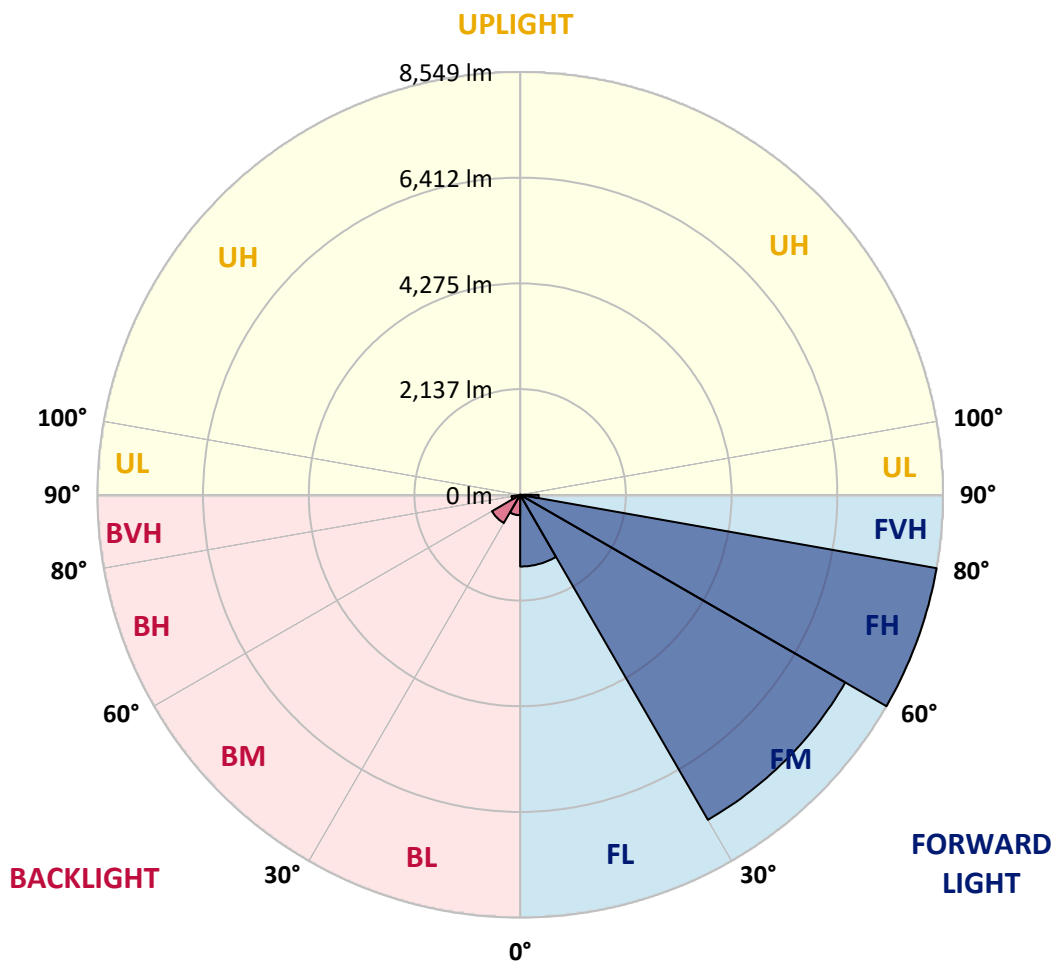
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1449.8	7.5			
FM	(30°-60°)	7589.1	39.5			
FH	(60°-80°)	8549.1	44.5			G4/12000
FVH	(80°-90°)	374.3	1.9			G3/500
BL	(0°-30°)	412.5	2.1	B1/500		
BM	(30°-60°)	659.1	3.4	B1/1000		
BH	(60°-80°)	177.1	0.9	B1/500		G1/500
BVH	(80°-90°)	11.1	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: 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°	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6
2.5°	3276.0	3282.1	3274.6	3261.0	3241.2	3229.2	3212.5	3176.3	3131.1	3091.7	3046.3
5°	3301.7	3304.8	3295.7	3270.0	3239.7	3223.1	3202.1	3162.7	3115.8	3061.5	2979.9
7.5°	3309.4	3307.9	3297.2	3265.5	3218.7	3197.5	3161.2	3112.9	3064.5	3014.7	2922.4
10°	3306.3	3306.3	3298.7	3268.5	3215.6	3196.0	3155.2	3103.8	3043.3	2993.4	2895.3
12.5°	3295.7	3301.7	3297.2	3280.6	3241.2	3226.2	3190.0	3138.6	3081.1	3029.8	2925.5
15°	3309.4	3318.4	3327.5	3321.4	3298.7	3285.1	3251.9	3199.0	3152.1	3097.7	2985.9
17.5°	3363.8	3383.3	3404.5	3406.0	3381.8	3357.6	3319.9	3265.5	3220.2	3170.2	3049.4
20°	3466.5	3481.5	3520.9	3528.4	3480.0	3445.3	3392.4	3328.9	3283.7	3241.2	3108.3
22.5°	3619.1	3635.7	3667.4	3656.9	3575.3	3534.4	3468.0	3395.4	3348.6	3324.4	3176.3
25°	3850.3	3854.7	3862.5	3815.6	3681.1	3635.7	3554.1	3472.5	3434.8	3431.8	3273.1
27.5°	4122.3	4128.4	4095.0	3990.8	3799.0	3740.0	3647.8	3573.8	3555.7	3578.2	3395.4
30°	4433.5	4435.1	4342.9	4173.7	3934.9	3870.0	3774.7	3693.2	3709.8	3765.6	3552.6
32.5°	4752.4	4737.3	4610.4	4389.7	4120.8	4042.1	3960.6	3879.0	3927.4	4040.7	3782.3
35°	5044.1	5038.1	4888.4	4631.5	4362.5	4293.1	4234.2	4148.0	4226.5	4410.9	4095.0
37.5°	5335.6	5331.2	5160.5	4892.9	4660.2	4610.4	4566.6	4500.1	4628.6	4898.9	4513.6
40°	5657.6	5650.1	5440.0	5183.0	5006.3	4979.1	4953.4	4924.7	5143.8	5520.1	5035.0
42.5°	6054.9	6021.8	5736.1	5498.9	5387.0	5394.6	5396.1	5424.8	5767.9	6259.0	5650.1
45°	6511.3	6437.3	6033.9	5837.4	5805.6	5851.0	5896.2	6015.7	6494.7	7109.7	6330.1
47.5°	6954.2	6834.7	6376.8	6201.5	6266.6	6360.2	6469.0	6701.8	7310.7	7999.8	6946.4
50°	7334.9	7212.5	6716.8	6571.7	6778.8	6917.9	7111.2	7463.3	8172.0	8752.3	7334.9
52.5°	7634.1	7537.4	7076.5	6979.8	7347.0	7537.4	7841.1	8303.4	8985.1	9247.9	7606.8
55°	7854.7	7806.3	7421.0	7434.6	7978.6	8253.7	8631.4	9154.3	9671.1	9633.3	7810.8
57.5°	8104.1	8066.3	7782.2	7971.0	8738.7	9093.7	9530.4	9950.6	10169.8	9943.0	8010.4
60°	8359.4	8371.6	8220.3	8620.9	9678.6	10071.5	10452.3	10556.5	10597.4	10257.4	8220.3
62.5°	8552.9	8604.1	8617.9	9322.0	10642.7	10978.2	11143.0	11068.8	11059.8	10679.0	8203.7
65°	8774.9	8909.4	9133.1	10091.1	11519.1	11739.8	11857.6	11964.9	11738.3	10804.4	7396.9
67.5°	9158.7	9370.3	9873.5	11034.1	12531.6	12857.9	13192.0	13078.6	11839.5	9530.4	5634.9
70°	9675.6	9934.0	10822.4	12265.7	13905.2	14452.2	14731.8	12989.4	10051.9	6585.4	2972.3
72°	9349.2	9583.4	11115.7	12894.2	14878.3	15380.0	14680.4	11330.1	7286.5	3413.6	995.8
72.5°	9031.8	9273.6	11022.0	12886.7	14975.0	15358.8	14346.4	10675.9	6447.8	2656.5	686.0
75°	6266.6	6571.7	9449.0	11584.1	13522.8	13101.3	10976.6	6464.6	2336.2	456.3	226.7
77.5°	3239.7	3475.5	5731.6	8185.6	9424.7	8631.4	6487.2	2804.5	646.7	241.8	149.5
80°	2008.3	2124.6	2680.6	4033.1	4896.0	4282.4	2862.0	1133.3	414.1	143.5	119.4
82.5°	1039.6	1128.7	1687.9	1627.4	1808.8	1503.5	1056.2	949.0	255.3	89.1	122.4
85°	341.6	362.6	1036.7	1082.0	773.7	519.8	468.4	905.1	74.1	57.5	104.3
87.5°	45.4	52.9	364.2	619.5	380.8	235.8	281.1	318.8	25.6	31.6	28.7
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°	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6	3076.6
2.5°	3016.2	2996.6	2934.6	2872.7	2801.6	2736.6	2685.3	2651.9	2667.1	2617.2	2624.7
5°	2930.0	2880.2	2744.1	2597.5	2438.8	2290.8	2172.9	2085.3	2068.8	1993.1	1996.1
7.5°	2847.0	2765.4	2544.6	2302.9	2040.0	1827.0	1633.5	1464.3	1403.8	1341.8	1305.5
10°	2801.6	2689.8	2376.9	2024.9	1654.6	1341.8	1069.8	856.8	767.6	702.6	671.0
12.5°	2815.2	2667.1	2251.5	1772.5	1286.0	888.5	604.4	448.8	394.4	364.2	353.6
15°	2860.5	2671.6	2138.2	1526.3	935.4	538.0	355.1	303.7	299.2	297.7	296.2
17.5°	2902.8	2676.2	2018.8	1269.4	625.6	343.1	285.6	281.1	281.1	281.1	281.1
20°	2946.6	2677.7	1887.4	1000.4	411.1	281.1	269.0	265.9	269.0	269.0	269.0
22.5°	2998.1	2688.3	1760.3	738.9	303.7	264.4	256.9	255.3	256.9	256.9	255.3
25°	3061.5	2710.9	1622.9	529.0	275.0	253.9	246.3	244.8	246.3	244.8	244.8
27.5°	3146.1	2741.1	1462.8	379.2	262.9	243.3	235.8	235.8	235.8	234.3	234.3
30°	3255.0	2777.4	1248.2	299.2	250.9	232.7	226.7	226.7	225.2	223.7	223.7
32.5°	3410.5	2836.4	1013.9	270.5	237.2	219.1	213.0	214.5	213.0	211.5	210.0
35°	3631.1	2928.4	782.8	255.3	223.7	205.5	199.5	199.5	199.5	196.4	196.4
37.5°	3943.9	3069.1	586.2	240.3	210.0	191.9	184.3	184.3	182.8	179.8	181.4
40°	4330.8	3245.9	424.6	226.7	196.4	176.8	170.8	167.7	164.8	161.7	161.7
42.5°	4796.3	3418.0	318.8	213.0	182.8	164.8	157.2	154.2	148.0	145.1	143.5
45°	5317.5	3600.9	264.4	196.4	167.7	151.1	145.1	139.0	131.4	127.0	125.4
47.5°	5757.3	3712.7	235.8	179.8	152.6	137.5	131.4	122.4	113.3	110.4	110.4
50°	6021.8	3665.9	211.5	163.3	137.5	123.9	116.4	104.3	98.3	95.2	93.6
52.5°	6169.9	3526.9	191.9	149.5	123.9	108.8	98.3	87.6	84.6	81.6	81.6
55°	6271.1	3326.0	170.8	136.0	111.8	95.2	83.1	75.6	72.5	71.0	69.5
57.5°	6367.7	3081.1	151.1	123.9	99.8	84.6	71.0	68.0	62.0	60.4	60.4
60°	6396.5	2744.1	133.0	110.4	89.1	74.1	62.0	57.5	51.4	49.8	49.8
62.5°	6030.8	2183.5	117.9	93.6	78.5	63.5	54.4	48.4	42.3	42.3	42.3
65°	5039.5	1482.4	101.3	81.6	69.5	54.4	46.9	39.4	36.3	36.3	36.3
67.5°	3510.3	826.5	86.1	69.5	58.9	45.4	39.4	33.3	31.6	33.3	33.3
70°	1582.1	327.9	72.5	57.5	48.4	37.8	33.3	28.7	31.6	31.6	31.6
72°	474.5	175.3	60.4	46.9	39.4	33.3	28.7	27.2	30.3	31.6	31.6
72.5°	352.1	157.2	57.5	45.4	39.4	31.6	27.2	27.2	30.3	31.6	31.6
75°	181.4	107.3	43.8	33.3	28.7	25.6	22.6	25.6	30.3	30.3	30.3
77.5°	142.0	87.6	36.3	25.6	24.1	22.6	21.2	24.1	27.2	27.2	27.2
80°	133.0	57.5	28.7	24.1	21.2	19.6	19.6	21.2	24.1	25.6	25.6
82.5°	134.5	46.9	25.6	22.6	19.6	18.1	18.1	19.6	22.6	24.1	24.1
85°	86.1	31.6	22.6	19.6	18.1	16.6	16.6	18.1	21.2	22.6	22.6
87.5°	28.7	24.1	19.6	18.1	15.1	15.1	15.1	15.1	18.1	19.6	21.2
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)