

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: P196552

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-7030-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196552
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24258)
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-SL2-7030-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 3000K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE II
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 19247.1 lumens
Efficiency: N/A
Efficacy: 85.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G3

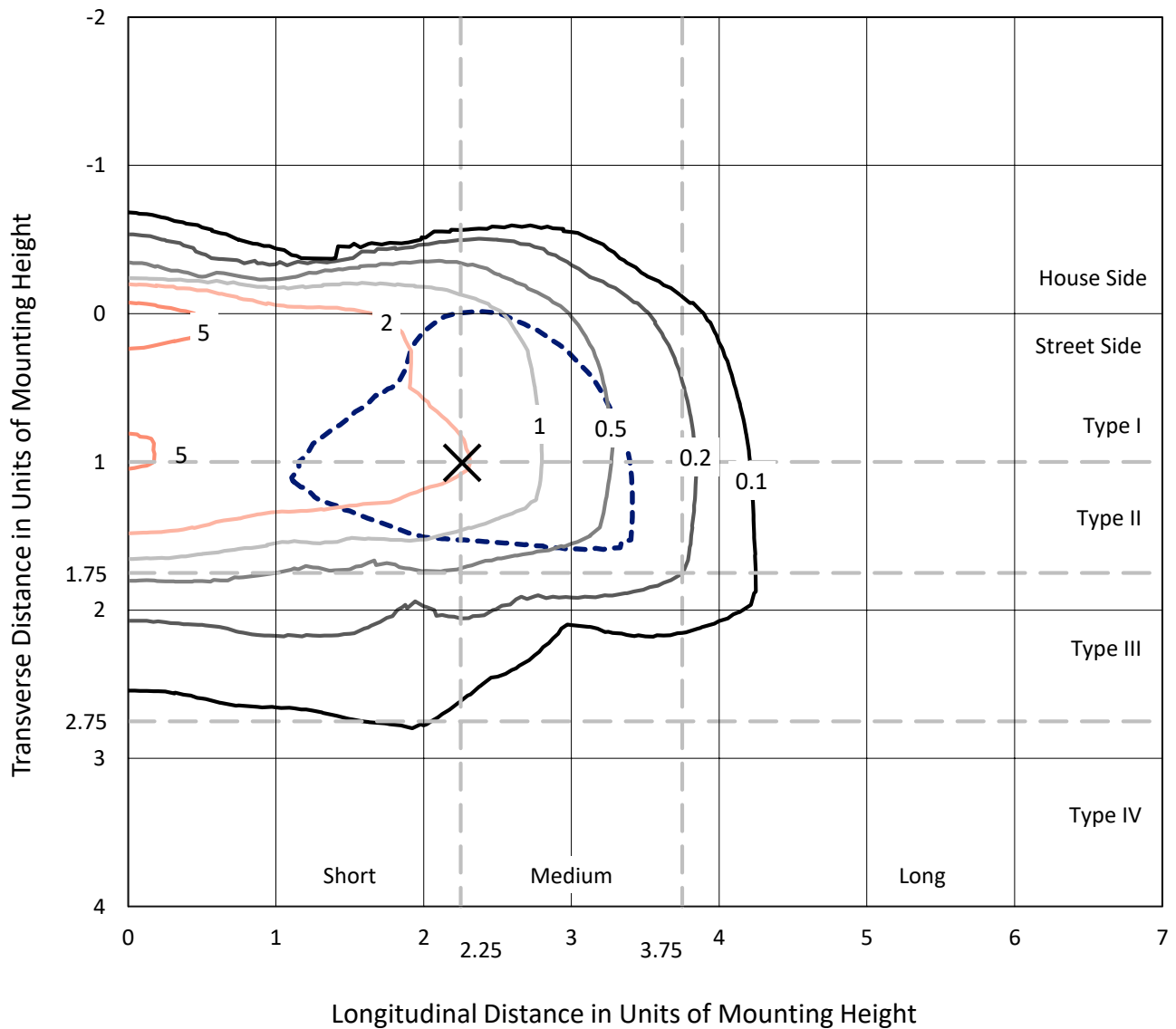
Input Watts (W): 225
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

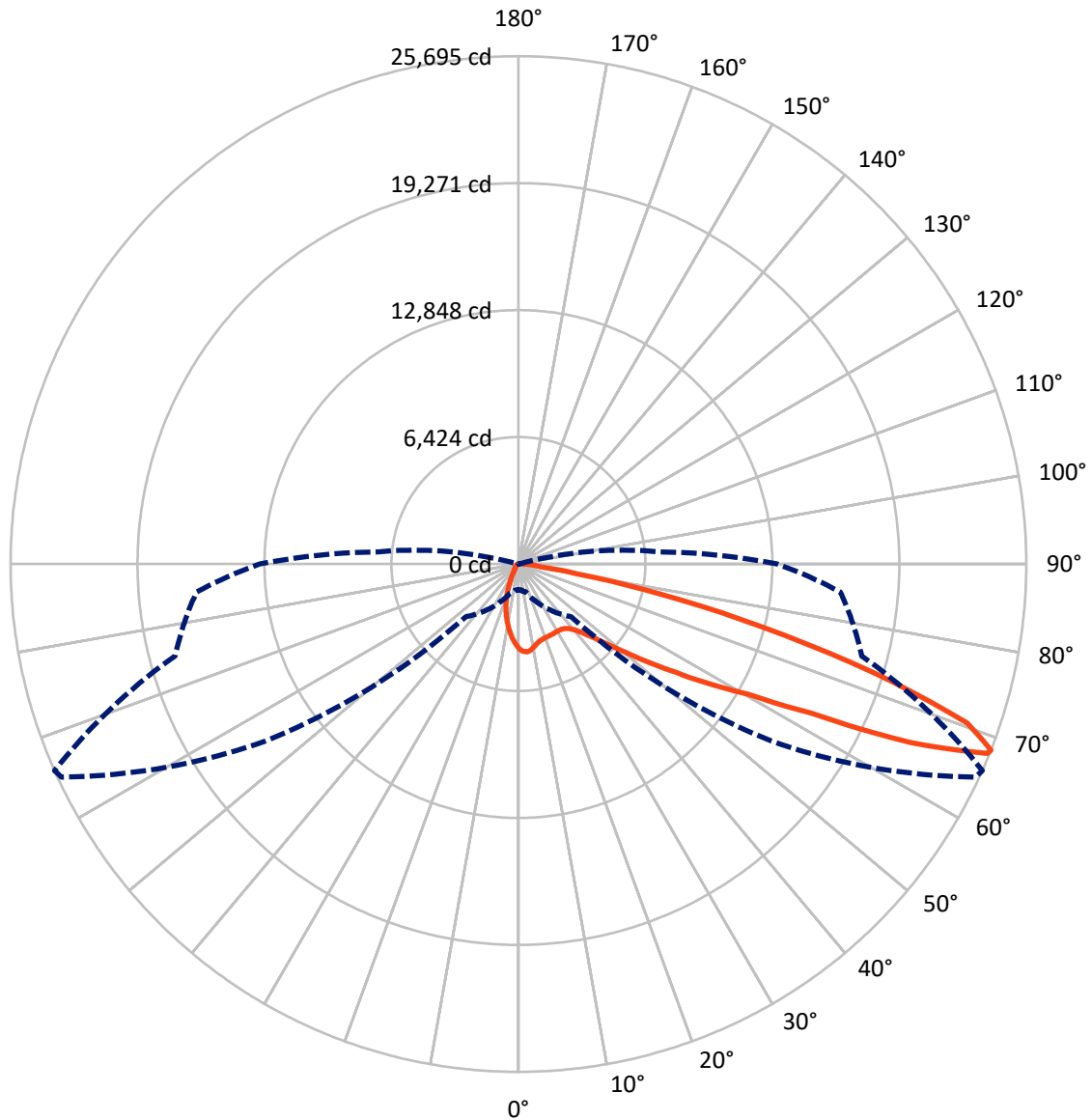
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.9 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 66-Deg Lateral - - - Horizontal Cone Through 68-Deg Vertical

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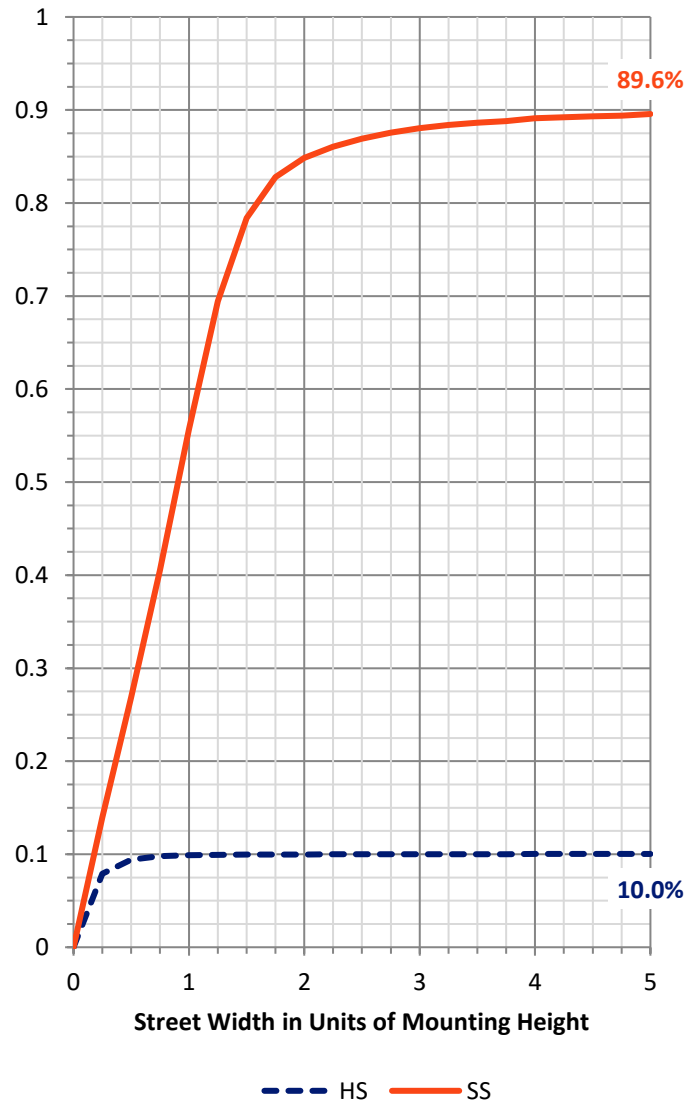
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1949.5	0.0	1949.5
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	17297.6	0.0	17297.6
	% Fixture	89.9	0.0	89.9
Total	Lumens	19247.1	0.0	19247.1
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	351.5	1.8
10°-20°	756.4	3.9
20°-30°	1096.0	5.7
30°-40°	1677.8	8.7
40°-50°	2869.8	14.9
50°-60°	4489.2	23.3
60°-70°	5169.1	26.9
70°-80°	2586.7	13.4
80°-90°	250.5	1.3
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°	19247.1	100.0
0°-180°	19247.1	100.0

Coefficient of Utilization



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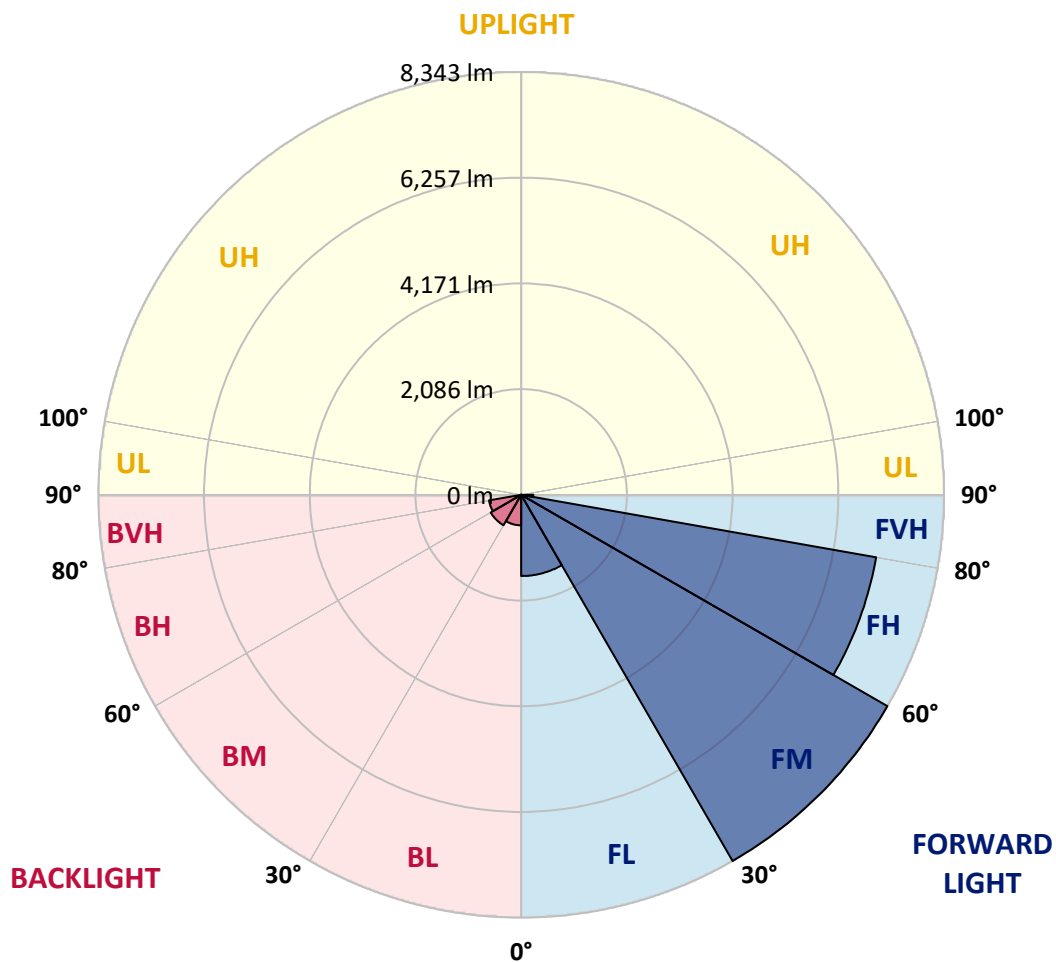
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1602.2	8.3			
FM	(30°-60°)	8342.6	43.3			
FH	(60°-80°)	7111.7	36.9			G3/7500
FVH	(80°-90°)	241.0	1.3			G3/500
BL	(0°-30°)	601.7	3.1	B2/1000		
BM	(30°-60°)	694.2	3.6	B1/1000		
BH	(60°-80°)	644.1	3.3	B2/1000		G2/1000
BVH	(80°-90°)	9.5	0.0			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B2-U0-G3

Type II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1
2.5°	4510.2	4513.2	4511.7	4516.2	4513.2	4490.5	4466.4	4414.9	4419.5	4353.0	4279.0
5°	4193.0	4218.6	4244.2	4270.0	4331.9	4386.3	4451.2	4466.4	4466.4	4408.9	4300.1
7.5°	3869.5	3871.0	3899.8	3934.5	4017.6	4117.3	4268.4	4404.5	4407.4	4422.6	4303.1
10°	3626.4	3633.9	3653.5	3691.3	3774.4	3872.5	4041.8	4254.9	4271.5	4383.3	4272.9
12.5°	3437.4	3446.5	3467.7	3511.5	3587.0	3688.3	3866.4	4109.8	4132.4	4345.5	4264.0
15°	3292.3	3304.4	3321.1	3364.8	3446.5	3553.7	3748.6	4013.1	4040.3	4330.4	4292.6
17.5°	3231.9	3231.9	3230.4	3260.7	3342.2	3451.1	3654.9	3961.7	3996.4	4342.5	4341.0
20°	3257.6	3253.0	3221.3	3213.8	3263.7	3372.4	3581.0	3928.4	3967.7	4365.1	4399.9
22.5°	3393.6	3384.6	3313.5	3254.7	3239.4	3311.9	3531.0	3905.8	3952.7	4412.0	4478.4
25°	3682.1	3654.9	3556.8	3423.8	3304.4	3296.9	3496.3	3893.7	3943.6	4466.4	4564.6
27.5°	4056.9	4049.3	3892.3	3713.9	3484.3	3346.7	3485.8	3884.6	3934.5	4505.7	4634.1
30°	4522.2	4525.3	4343.9	4111.3	3763.8	3487.2	3519.0	3880.2	3931.4	4508.7	4664.3
32.5°	5002.8	5005.8	4854.7	4605.4	4146.1	3729.0	3612.6	3901.3	3948.1	4496.6	4662.7
35°	5465.1	5469.6	5379.0	5178.1	4656.7	4064.5	3789.4	3973.8	4007.1	4504.1	4659.8
37.5°	6049.8	6067.9	5956.2	5768.8	5297.4	4556.9	4078.1	4120.3	4147.6	4566.1	4682.5
40°	7047.1	7022.8	6702.6	6385.2	5992.5	5156.8	4495.0	4372.7	4381.8	4726.2	4768.5
42.5°	8208.9	8178.8	7630.3	7083.3	6707.1	5880.7	5028.4	4759.5	4758.0	4995.3	4955.9
45°	9209.3	9191.1	8613.9	7884.1	7498.8	6679.9	5685.8	5317.0	5298.8	5460.6	5297.4
47.5°	9919.4	9904.3	9467.7	8736.3	8414.5	7559.3	6506.2	6077.0	6039.3	6069.5	5851.9
50°	9988.9	9972.3	9819.6	9349.8	9484.2	8849.7	7520.0	7072.8	7024.4	6977.6	6690.5
52.5°	9339.2	9337.7	9417.7	9387.5	10233.7	10510.2	8763.4	8304.1	8246.8	8127.4	7841.9
55°	8011.1	8003.5	8307.2	8748.4	10217.1	12223.6	10659.8	9769.8	9694.2	9455.6	9080.7
57.5°	5853.4	5814.1	6448.7	7384.0	9499.3	12973.0	13671.1	11590.4	11465.1	10708.1	10130.9
60°	3231.9	3247.0	4063.0	5170.4	7799.5	12825.0	16442.1	13713.3	13384.0	11788.4	11206.7
62.5°	1811.6	1849.4	2456.8	3360.4	4972.5	11623.8	17928.9	17366.9	16573.6	13048.5	12566.6
65°	1370.4	1393.0	1698.3	2592.8	3135.2	8122.9	18166.1	22475.4	21790.8	14958.3	14731.8
67.5°	1290.4	1308.5	1458.1	2150.1	2855.7	4212.5	16380.1	25497.3	25583.4	17563.3	16408.9
68°	1299.4	1322.0	1471.6	2068.5	2851.1	3768.4	15618.7	25512.4	25695.1	17983.3	16351.5
70°	1193.6	1199.6	1556.3	2029.2	2763.5	2969.0	11298.8	23764.2	24092.1	18483.5	14843.5
72.5°	456.2	457.8	698.0	1757.2	2895.0	2985.6	5691.8	18782.6	18799.2	16085.5	11572.4
75°	237.2	199.4	219.1	550.0	2765.1	2910.1	2855.7	12825.0	12744.9	10878.8	7090.9
77.5°	163.3	139.0	146.5	190.3	1149.9	2908.6	2062.5	7374.9	7358.3	4628.0	2023.2
80°	92.3	80.1	87.6	160.2	403.3	2730.3	1922.0	3169.9	2987.1	812.9	327.9
82.5°	46.9	39.4	46.9	134.5	250.9	1718.0	1869.1	1243.5	1107.6	193.4	213.0
85°	12.1	12.1	22.6	93.6	155.5	563.6	1675.6	897.4	806.9	84.5	151.1
87.5°	3.1	1.5	9.1	34.8	55.9	122.4	929.2	500.1	430.6	43.8	87.6
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°	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1	4288.1
2.5°	4248.8	4206.5	4123.3	4029.7	3963.3	3890.7	3848.4	3797.0	3757.8	3723.0	3748.6
5°	4233.7	4152.1	3967.7	3760.7	3587.0	3420.8	3296.9	3179.0	3089.9	3034.0	3056.6
7.5°	4194.4	4073.5	3774.4	3451.1	3167.0	2899.5	2682.0	2487.1	2336.0	2254.3	2280.0
10°	4128.0	3957.2	3555.3	3106.5	2709.1	2331.4	2008.0	1718.0	1498.8	1396.2	1420.3
12.5°	4079.5	3854.4	3328.6	2774.1	2251.3	1715.0	1285.9	953.4	782.7	679.9	689.0
15°	4058.4	3774.4	3117.0	2423.6	1751.2	1101.5	695.0	503.1	444.2	423.1	424.6
17.5°	4061.3	3710.9	2916.1	2059.4	1246.5	633.0	426.1	383.8	374.8	370.2	370.2
20°	4069.1	3647.4	2707.7	1680.2	797.8	408.0	355.1	341.4	336.9	330.9	332.3
22.5°	4091.6	3599.1	2497.5	1299.4	491.0	332.3	314.2	302.2	294.7	285.6	287.2
25°	4126.4	3562.8	2290.6	935.3	346.1	290.1	273.4	256.9	243.2	232.7	234.2
27.5°	4147.6	3511.5	2070.0	637.6	287.2	253.8	231.2	208.4	193.4	184.3	182.8
30°	4132.4	3428.3	1819.1	418.6	253.8	219.1	191.9	166.2	151.1	143.5	143.5
32.5°	4091.6	3321.1	1542.6	305.2	225.2	188.9	155.5	133.0	122.4	117.9	119.3
35°	4044.8	3209.3	1248.1	258.4	202.4	160.2	127.0	108.8	104.3	102.7	102.7
37.5°	4019.1	3112.6	965.6	234.2	181.3	133.0	104.3	93.6	89.1	89.1	89.1
40°	4047.8	3038.5	714.7	216.2	160.2	110.4	87.6	80.1	78.5	78.5	78.5
42.5°	4170.2	3012.9	522.8	200.9	139.0	92.3	75.5	69.5	68.0	69.5	69.5
45°	4408.9	3068.8	395.8	185.8	119.3	75.5	65.0	60.4	60.4	62.0	62.0
47.5°	4813.9	3212.3	324.8	170.8	99.8	63.5	55.9	52.9	52.9	54.4	54.4
50°	5442.4	3478.2	291.6	154.2	83.1	54.4	46.9	45.4	45.4	46.9	48.4
52.5°	6397.3	3984.3	275.0	137.4	68.0	45.4	39.4	37.8	39.4	40.8	40.8
55°	7459.5	4632.6	255.3	120.8	57.5	37.8	31.6	31.6	33.3	36.3	36.3
57.5°	8449.2	5258.1	237.2	99.8	49.8	30.3	25.6	25.6	28.7	31.6	31.6
60°	9494.8	5871.6	213.0	80.1	42.3	24.1	21.2	21.2	25.6	28.7	30.3
62.5°	10786.6	6584.7	181.3	63.5	33.3	18.1	15.1	19.6	24.1	28.7	28.7
65°	12654.2	7471.7	142.0	49.8	25.6	13.5	12.1	18.1	22.6	27.2	28.7
67.5°	13332.6	7358.3	107.3	40.8	19.6	10.6	10.6	16.6	22.6	27.2	27.2
68°	13084.8	7110.5	102.7	39.4	18.1	10.6	10.6	16.6	22.6	27.2	27.2
70°	11401.6	5812.6	84.5	30.3	15.1	9.1	9.1	15.1	22.6	25.6	27.2
72.5°	8536.9	3862.0	72.5	19.6	13.5	9.1	7.5	15.1	21.2	25.6	25.6
75°	4897.0	1603.2	62.0	15.1	12.1	7.5	7.5	13.5	21.2	25.6	25.6
77.5°	1384.0	374.8	49.8	12.1	10.6	7.5	6.0	13.5	19.6	24.1	24.1
80°	253.8	111.8	39.4	10.6	9.1	7.5	6.0	13.5	19.6	24.1	24.1
82.5°	167.7	52.9	28.7	10.6	9.1	7.5	6.0	12.1	18.1	22.6	22.6
85°	125.4	37.8	18.1	10.6	9.1	7.5	6.0	12.1	18.1	22.6	22.6
87.5°	69.5	16.6	13.5	12.1	10.6	7.5	6.0	10.6	16.6	21.2	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)