

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: P196079

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196079
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-05-D-UNV-SL2-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 1200mA 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: 27524.5 lumens
Efficiency: N/A
Efficacy: 86.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type II - Medium - Semi-Cutoff
BUG Rating: B2 - U0 - G4

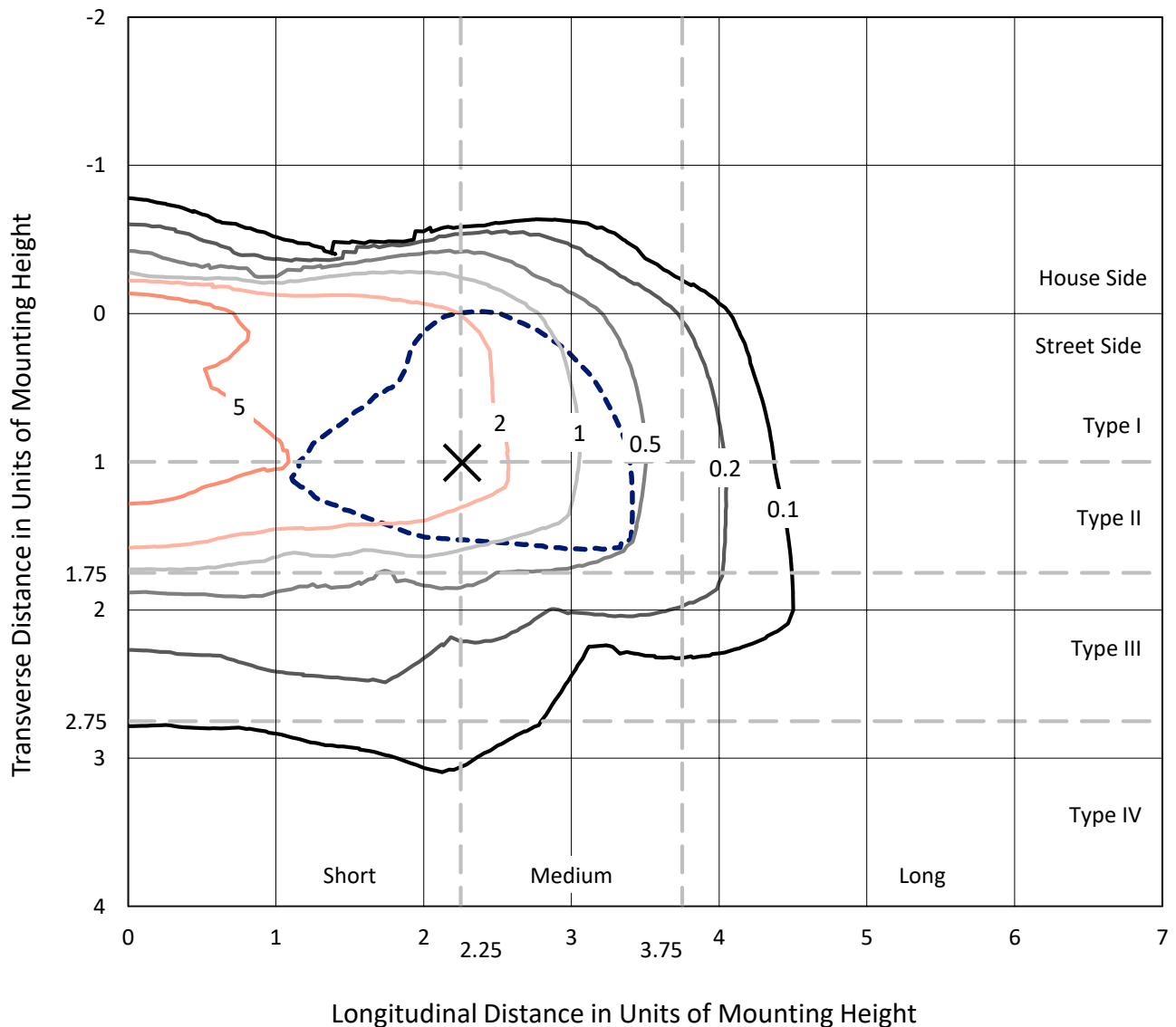
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

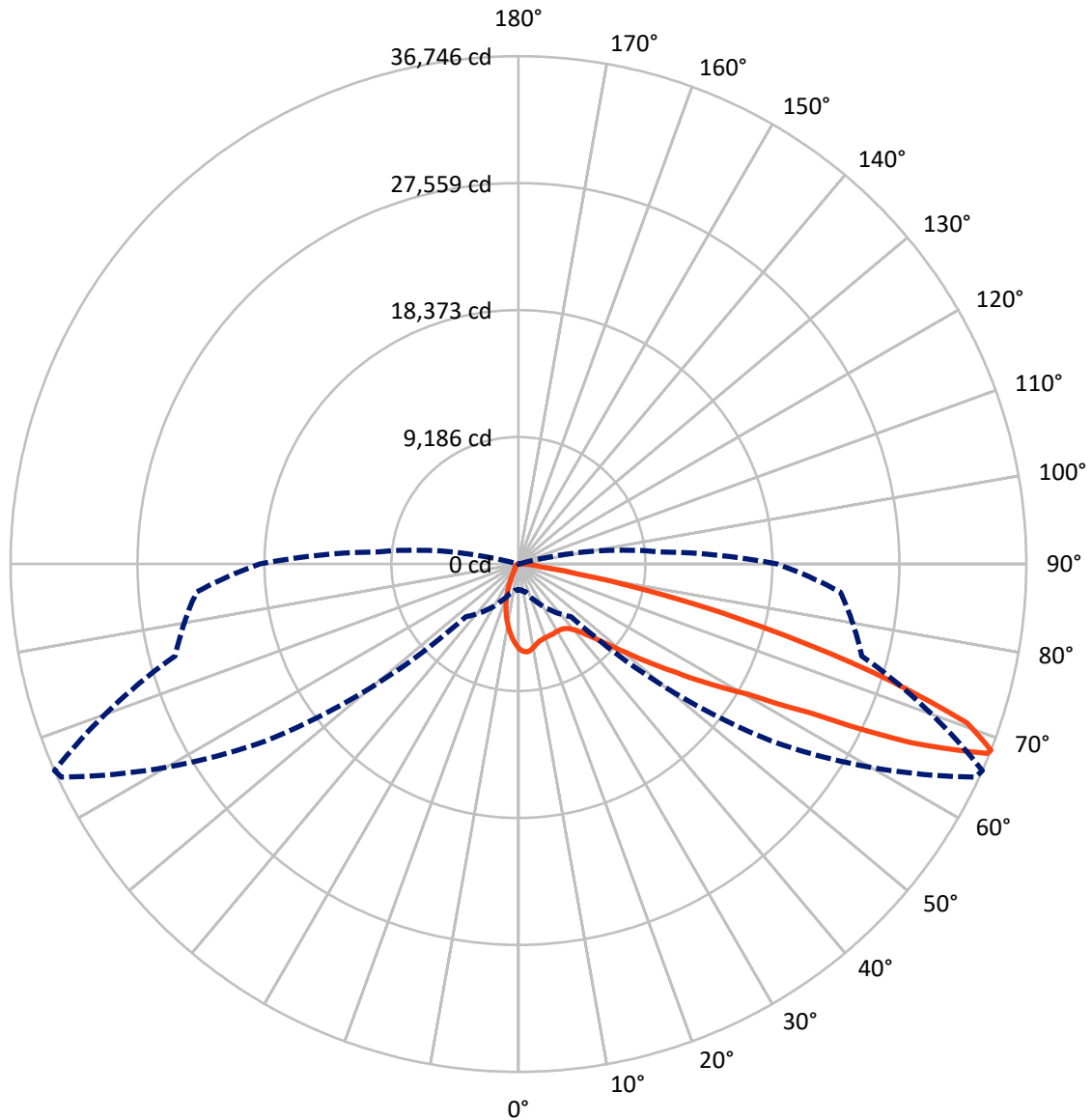
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 9.8 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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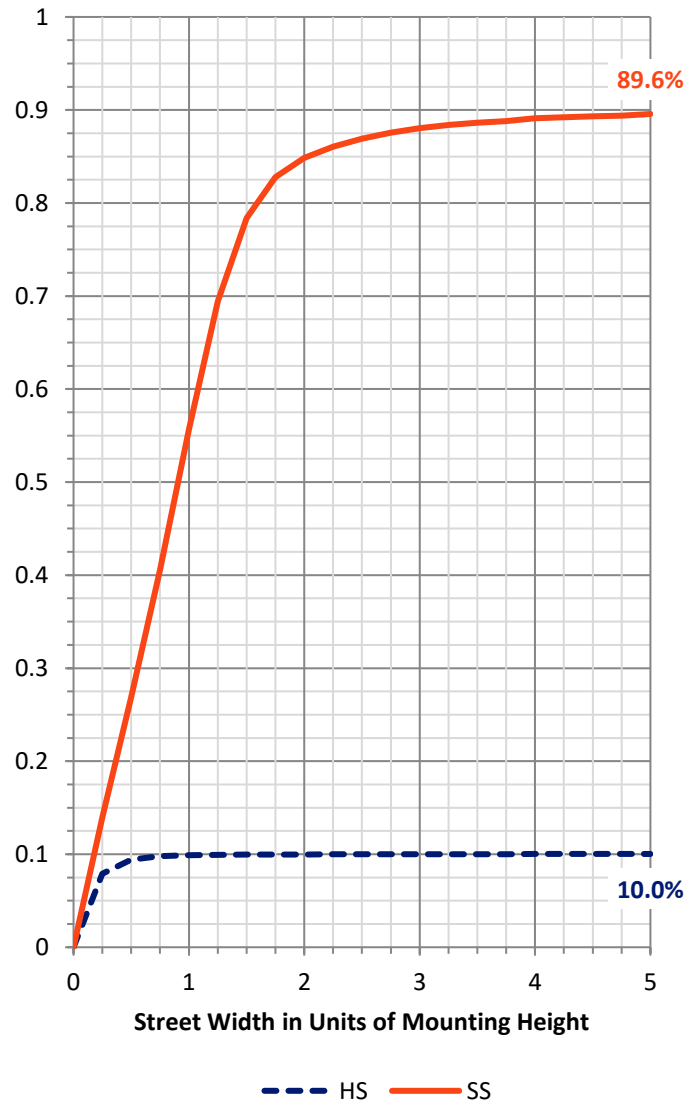
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2787.9	0.0	2787.9
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	24736.6	0.0	24736.6
	% Fixture	89.9	0.0	89.9
Total	Lumens	27524.5	0.0	27524.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	502.7	1.8
10°-20°	1081.6	3.9
20°-30°	1567.4	5.7
30°-40°	2399.4	8.7
40°-50°	4104.0	14.9
50°-60°	6419.8	23.3
60°-70°	7392.2	26.9
70°-80°	3699.2	13.4
80°-90°	358.3	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°	27524.5	100.0
0°-180°	27524.5	100.0

Coefficient of Utilization



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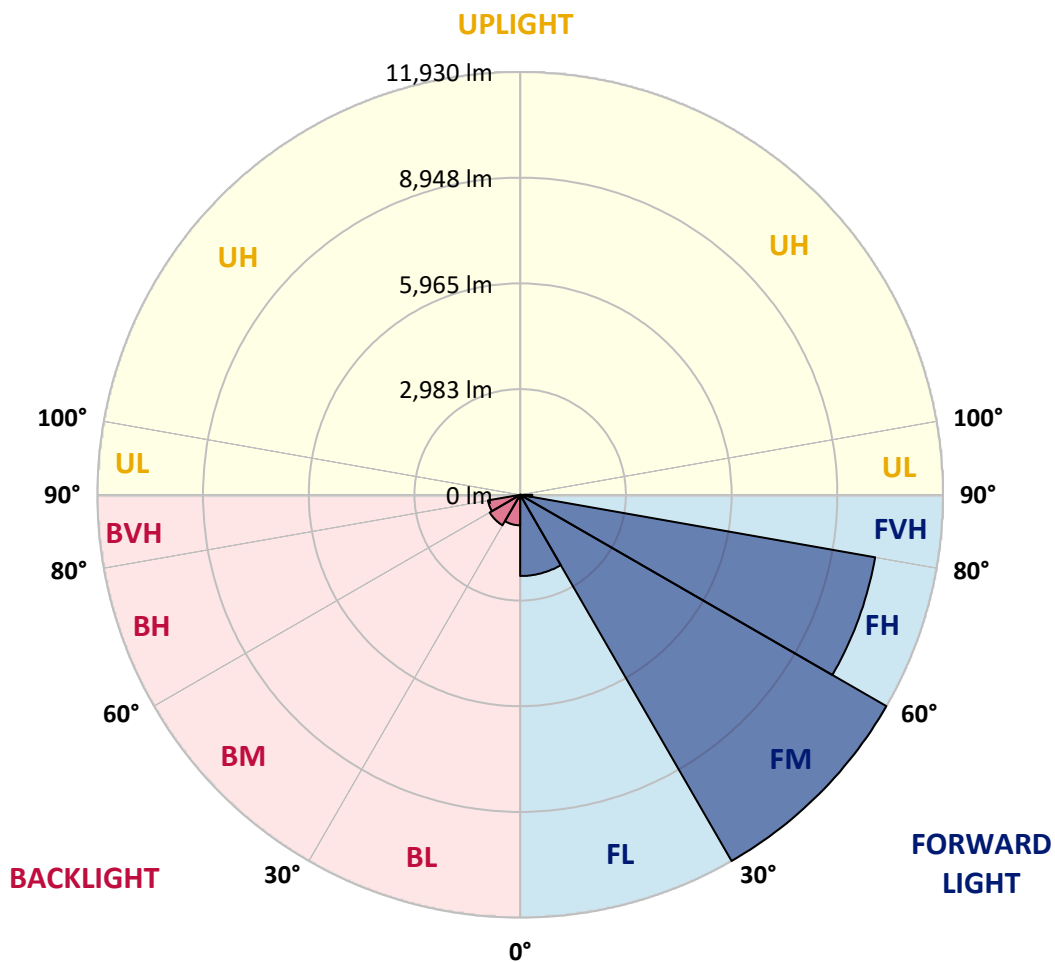
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	2291.3	8.3			
FM (30°-60°)	11930.4	43.3			
FH (60°-80°)	10170.2	36.9			G4/12000
FVH (80°-90°)	344.7	1.3			G3/500
BL (0°-30°)	860.5	3.1	B2/1000		
BM (30°-60°)	992.8	3.6	B1/1000		
BH (60°-80°)	921.1	3.3	B2/1000		G2/1000
BVH (80°-90°)	13.6	0.0			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 II Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	66°	75°	85°
0°	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2
2.5°	6449.8	6454.2	6452.0	6458.5	6454.2	6421.8	6387.2	6313.8	6320.2	6225.2	6119.3
5°	5996.1	6032.9	6069.6	6106.3	6194.9	6272.6	6365.6	6387.2	6387.2	6305.1	6149.5
7.5°	5533.7	5535.8	5576.9	5626.6	5745.4	5888.0	6104.2	6298.6	6302.9	6324.5	6153.8
10°	5185.8	5196.6	5224.7	5278.7	5397.6	5538.1	5780.0	6084.7	6108.4	6268.3	6110.6
12.5°	4915.7	4928.7	4959.0	5021.6	5129.6	5274.4	5529.4	5877.3	5909.7	6214.3	6097.6
15°	4708.2	4725.5	4749.4	4812.0	4928.7	5082.1	5360.8	5739.0	5777.8	6192.7	6138.7
17.5°	4621.8	4621.8	4619.6	4662.9	4779.5	4935.1	5226.9	5665.5	5715.2	6210.0	6207.9
20°	4658.6	4652.1	4606.8	4595.9	4667.2	4822.8	5121.0	5617.9	5674.1	6242.5	6292.1
22.5°	4853.1	4840.1	4738.5	4654.2	4632.6	4736.4	5049.7	5585.5	5652.5	6309.4	6404.5
25°	5265.7	5226.9	5086.4	4896.3	4725.5	4714.8	5000.0	5568.2	5639.5	6387.2	6527.7
27.5°	5801.6	5790.8	5566.1	5311.2	4982.7	4786.1	4984.8	5555.2	5626.6	6443.4	6627.0
30°	6467.1	6471.5	6212.2	5879.4	5382.5	4987.0	5032.4	5548.8	5622.2	6447.7	6670.3
32.5°	7154.2	7158.6	6942.5	6586.0	5929.1	5332.7	5166.3	5579.1	5646.1	6430.4	6668.1
35°	7815.4	7821.9	7692.3	7404.9	6659.4	5812.4	5419.2	5682.8	5730.3	6441.2	6663.7
37.5°	8651.6	8677.6	8517.7	8249.8	7575.6	6516.8	5831.8	5892.4	5931.3	6529.8	6696.1
40°	10077.7	10043.1	9585.0	9131.4	8569.6	7374.7	6428.2	6253.2	6266.2	6758.8	6819.3
42.5°	11739.4	11696.1	10911.8	10129.6	9591.6	8409.7	7190.9	6806.4	6804.2	7143.5	7087.2
45°	13169.8	13143.8	12318.5	11274.8	10723.8	9552.7	8130.9	7603.7	7577.7	7808.9	7575.6
47.5°	14185.4	14163.7	13539.3	12493.5	12033.2	10810.2	9304.1	8690.6	8636.5	8679.7	8368.6
50°	14284.7	14261.0	14042.7	13370.7	13563.0	12655.5	10754.1	10114.4	10045.3	9978.4	9567.8
52.5°	13355.5	13353.4	13468.0	13424.7	14634.7	15030.2	12532.4	11875.4	11793.4	11622.7	11214.3
55°	11456.3	11445.5	11879.8	12510.7	14611.0	17480.5	15244.1	13971.4	13863.3	13522.0	12986.1
57.5°	8370.7	8314.5	9222.1	10559.6	13584.6	18552.2	19550.4	16575.1	16395.8	15313.3	14487.8
60°	4621.8	4643.5	5810.3	7394.1	11153.7	18340.5	23513.2	19611.0	19139.9	16858.1	16026.3
62.5°	2590.7	2644.7	3513.4	4805.5	7111.0	16622.6	25639.4	24835.6	23701.3	18660.3	17971.0
65°	1959.8	1992.2	2428.7	3707.9	4483.6	11616.2	25978.7	32141.1	31162.4	21391.4	21067.3
67.5°	1845.3	1871.2	2085.1	3074.8	4083.8	6024.2	23424.7	36462.7	36585.8	25116.5	23465.8
68°	1858.3	1890.6	2104.6	2958.1	4077.4	5388.9	22335.6	36484.3	36745.7	25717.3	23383.6
70°	1707.0	1715.6	2225.5	2901.9	3952.0	4245.9	16158.1	33984.3	34453.2	26432.4	21227.3
72.5°	652.5	654.7	998.3	2513.0	4140.0	4269.6	8139.5	26860.2	26884.1	23003.3	16549.2
75°	339.2	285.2	313.3	786.5	3954.2	4161.6	4083.8	18340.5	18225.9	15557.4	10140.4
77.5°	233.3	198.8	209.6	272.2	1644.3	4159.4	2949.4	10546.6	10522.9	6618.4	2893.2
80°	131.8	114.6	125.3	229.0	576.9	3904.5	2748.5	4533.2	4271.8	1162.5	468.9
82.5°	67.0	56.2	67.0	192.3	358.6	2456.8	2672.9	1778.3	1583.8	276.6	304.6
85°	17.3	17.3	32.4	134.0	222.6	806.0	2396.3	1283.5	1153.9	121.0	216.0
87.5°	4.3	2.1	13.0	49.7	80.0	175.0	1328.8	715.2	615.8	62.7	125.3
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°	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2	6132.2
2.5°	6076.0	6015.6	5896.7	5762.7	5667.7	5563.9	5503.5	5429.9	5373.8	5324.0	5360.8
5°	6054.4	5937.7	5674.1	5378.1	5129.6	4892.0	4714.8	4546.2	4418.7	4338.7	4371.2
7.5°	5998.3	5825.4	5397.6	4935.1	4528.9	4146.4	3835.3	3556.6	3340.5	3223.8	3260.6
10°	5903.1	5659.0	5084.3	4442.5	3874.2	3334.0	2871.6	2456.8	2143.5	1996.5	2031.1
12.5°	5834.0	5512.1	4760.1	3967.1	3219.5	2452.4	1838.8	1363.4	1119.3	972.3	985.3
15°	5803.8	5397.6	4457.6	3465.9	2504.3	1575.1	993.9	719.5	635.3	605.0	607.1
17.5°	5808.1	5306.8	4170.3	2945.1	1782.6	905.3	609.4	548.8	535.8	529.4	529.4
20°	5818.9	5216.0	3872.1	2402.7	1140.9	583.4	507.8	488.4	481.8	473.2	475.4
22.5°	5851.3	5146.9	3571.7	1858.3	702.3	475.4	449.5	432.2	421.4	408.4	410.5
25°	5901.0	5095.0	3275.7	1337.5	494.8	414.9	391.1	367.3	347.9	332.8	334.9
27.5°	5931.3	5021.6	2960.2	911.9	410.5	363.0	330.6	298.2	276.6	263.6	261.5
30°	5909.7	4902.7	2601.6	598.5	363.0	313.3	274.5	237.6	216.0	205.3	205.3
32.5°	5851.3	4749.4	2206.1	436.5	321.9	270.1	222.6	190.2	175.0	168.6	170.7
35°	5784.3	4589.5	1784.7	369.5	289.5	229.0	181.5	155.6	149.0	146.9	146.9
37.5°	5747.6	4451.2	1380.7	334.9	259.3	190.2	149.0	134.0	127.5	127.5	127.5
40°	5788.7	4345.3	1022.0	309.0	229.0	157.7	125.3	114.6	112.3	112.3	112.3
42.5°	5963.7	4308.6	747.6	287.3	198.8	131.8	108.0	99.4	97.3	99.4	99.4
45°	6305.1	4388.5	566.1	265.8	170.7	108.0	92.9	86.4	86.4	88.6	88.6
47.5°	6884.2	4593.8	464.5	244.2	142.6	90.7	80.0	75.6	75.6	77.7	77.7
50°	7783.0	4974.0	417.1	220.4	118.9	77.7	67.0	64.9	64.9	67.0	69.2
52.5°	9148.7	5697.9	393.2	196.6	97.3	64.9	56.2	54.0	56.2	58.3	58.3
55°	10667.6	6624.8	365.2	172.9	82.1	54.0	45.4	45.4	47.6	51.9	51.9
57.5°	12082.9	7519.4	339.2	142.6	71.3	43.2	36.7	36.7	41.0	45.4	45.4
60°	13578.1	8396.7	304.6	114.6	60.5	34.6	30.3	30.3	36.7	41.0	43.2
62.5°	15425.6	9416.6	259.3	90.7	47.6	25.9	21.6	28.1	34.6	41.0	41.0
65°	18096.3	10684.9	203.2	71.3	36.7	19.4	17.3	25.9	32.4	38.9	41.0
67.5°	19066.5	10522.9	153.4	58.3	28.1	15.1	15.1	23.7	32.4	38.9	38.9
68°	18712.1	10168.4	146.9	56.2	25.9	15.1	15.1	23.7	32.4	38.9	38.9
70°	16305.0	8312.4	121.0	43.2	21.6	13.0	13.0	21.6	32.4	36.7	38.9
72.5°	12208.2	5522.9	103.7	28.1	19.4	13.0	10.8	21.6	30.3	36.7	36.7
75°	7003.0	2292.5	88.6	21.6	17.3	10.8	10.8	19.4	30.3	36.7	36.7
77.5°	1979.2	535.8	71.3	17.3	15.1	10.8	8.6	19.4	28.1	34.6	34.6
80°	363.0	159.9	56.2	15.1	13.0	10.8	8.6	19.4	28.1	34.6	34.6
82.5°	239.9	75.6	41.0	15.1	13.0	10.8	8.6	17.3	25.9	32.4	32.4
85°	179.3	54.0	25.9	15.1	13.0	10.8	8.6	17.3	25.9	32.4	32.4
87.5°	99.4	23.7	19.4	17.3	15.1	10.8	8.6	15.1	23.7	30.3	30.3
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)