

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: P197111

Luminaire Tested: **NAV-AF-05-D-UNV-SL3-8030-1200**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197111
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24262)
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-SL3-8030-1200
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE III
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 26881 lumens
Efficiency: N/A
Efficacy: 84.0 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B3 - U0 - G4

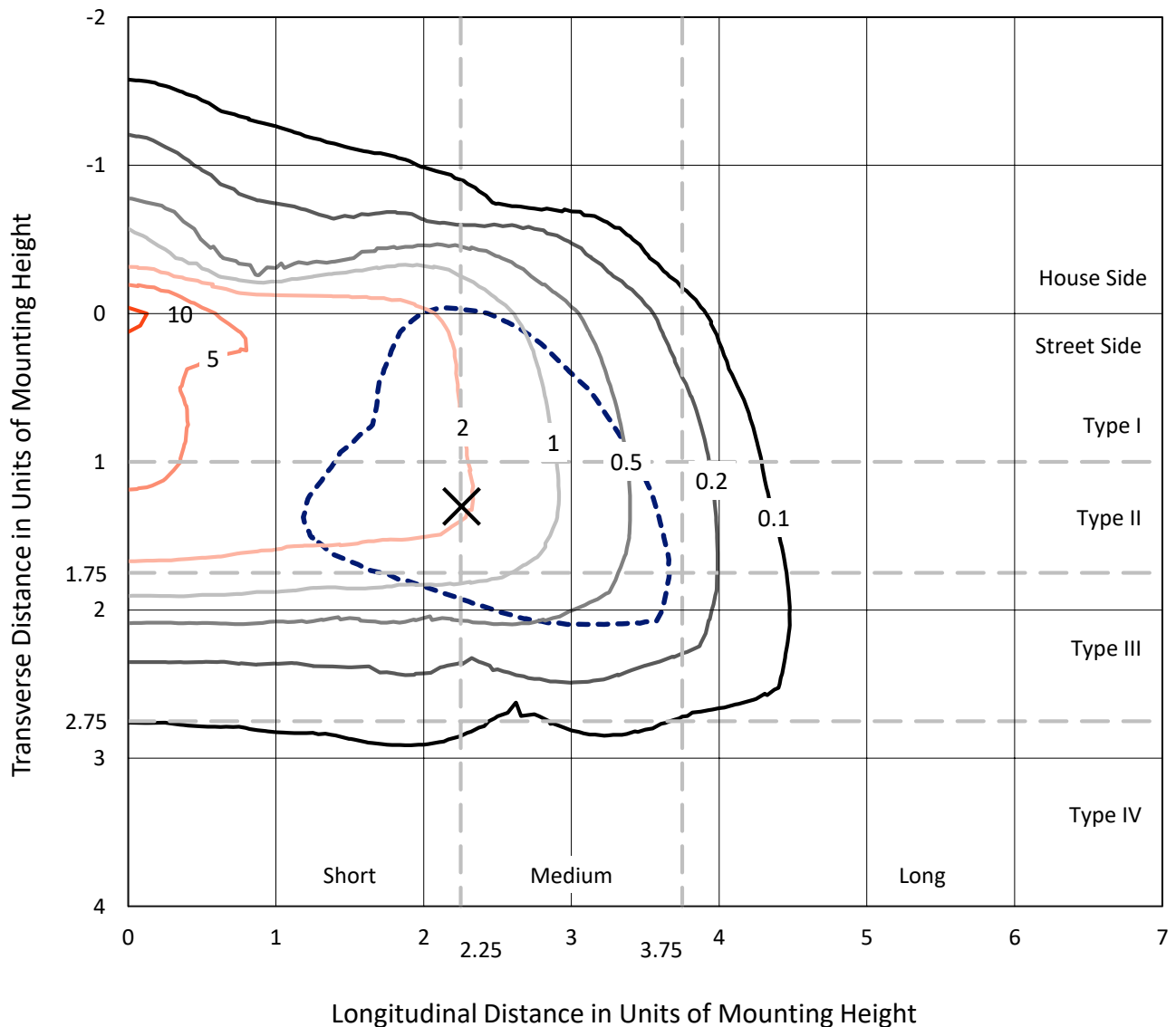
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

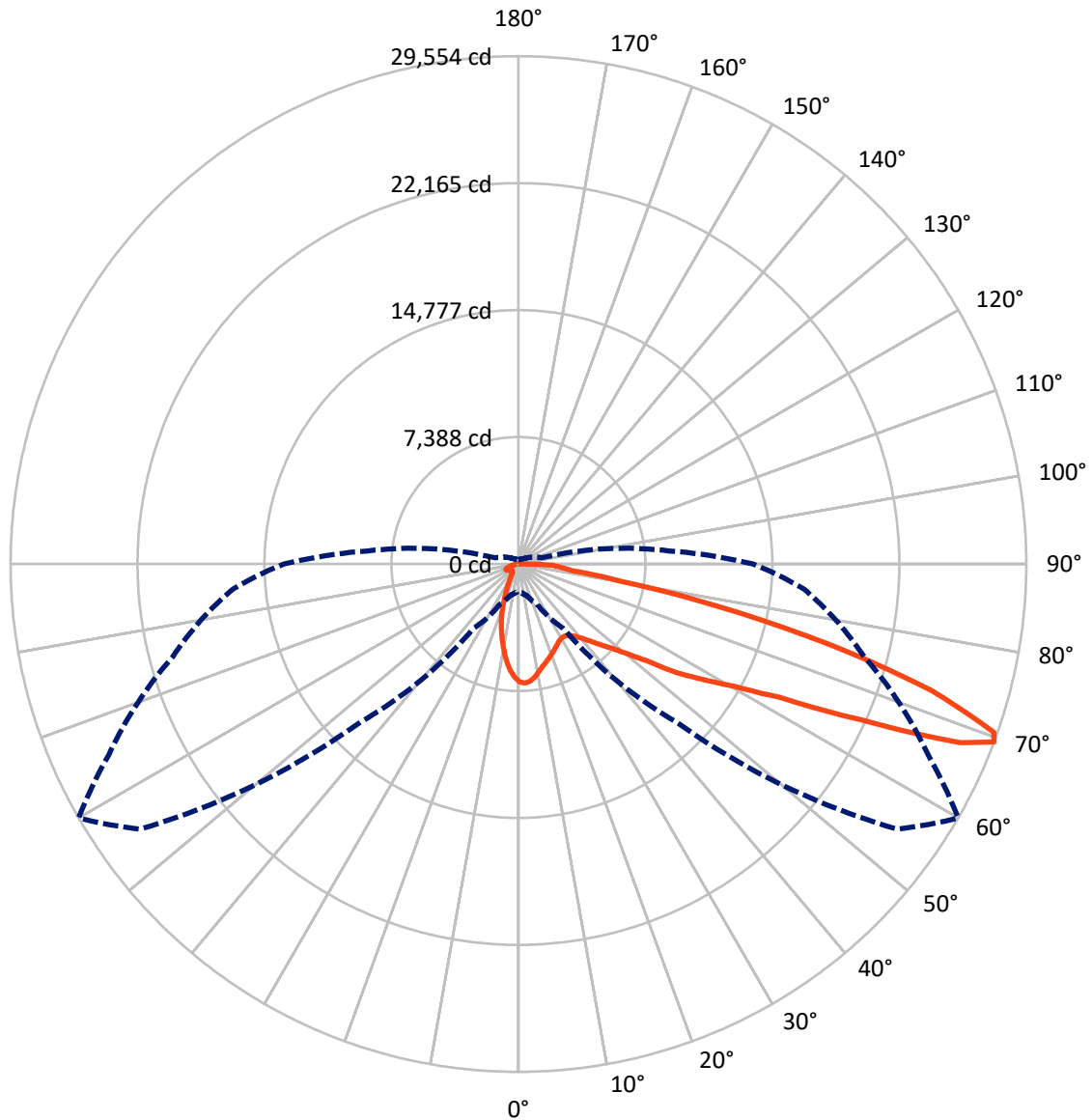
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 11 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 60-Deg Lateral - - - Horizontal Cone Through 69-Deg Vertical

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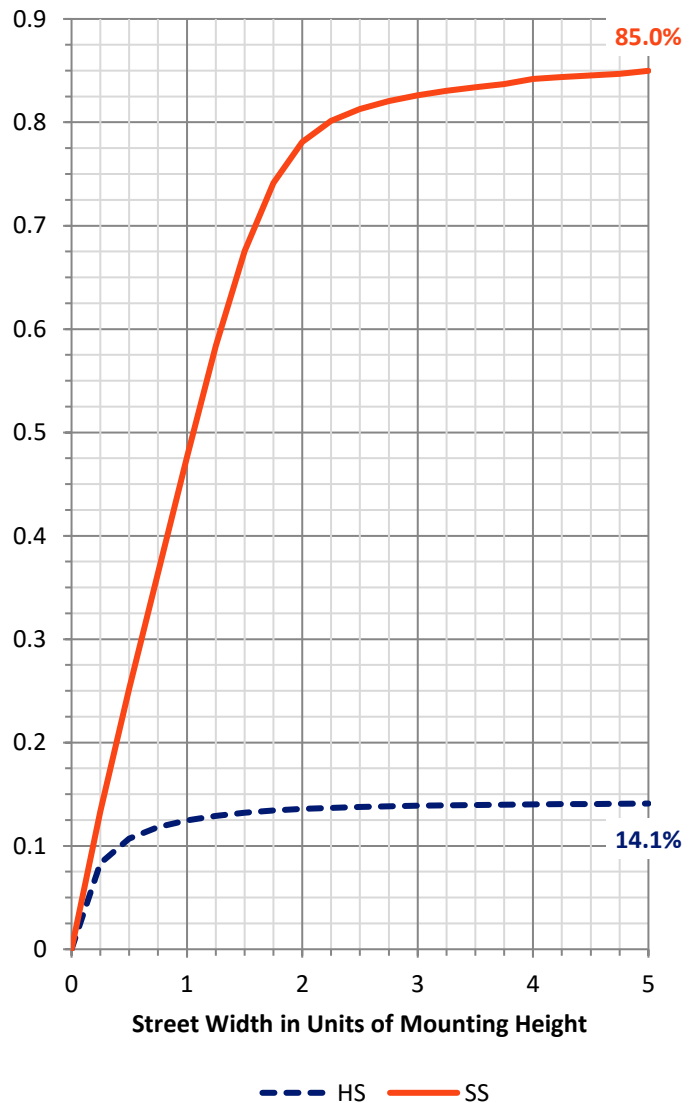
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3834.1	0.0	3834.1
	% Fixture	14.3	0.0	14.3
Street Side	Lumens	23046.9	0.0	23046.9
	% Fixture	85.7	0.0	85.7
Total	Lumens	26881.0	0.0	26881.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	581.9	2.2
10°-20°	1245.8	4.6
20°-30°	1589.3	5.9
30°-40°	2187.0	8.1
40°-50°	3542.5	13.2
50°-60°	5559.8	20.7
60°-70°	7412.3	27.6
70°-80°	4122.9	15.3
80°-90°	639.5	2.4
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°	26881.0	100.0
0°-180°	26881.0	100.0

Coefficient of Utilization



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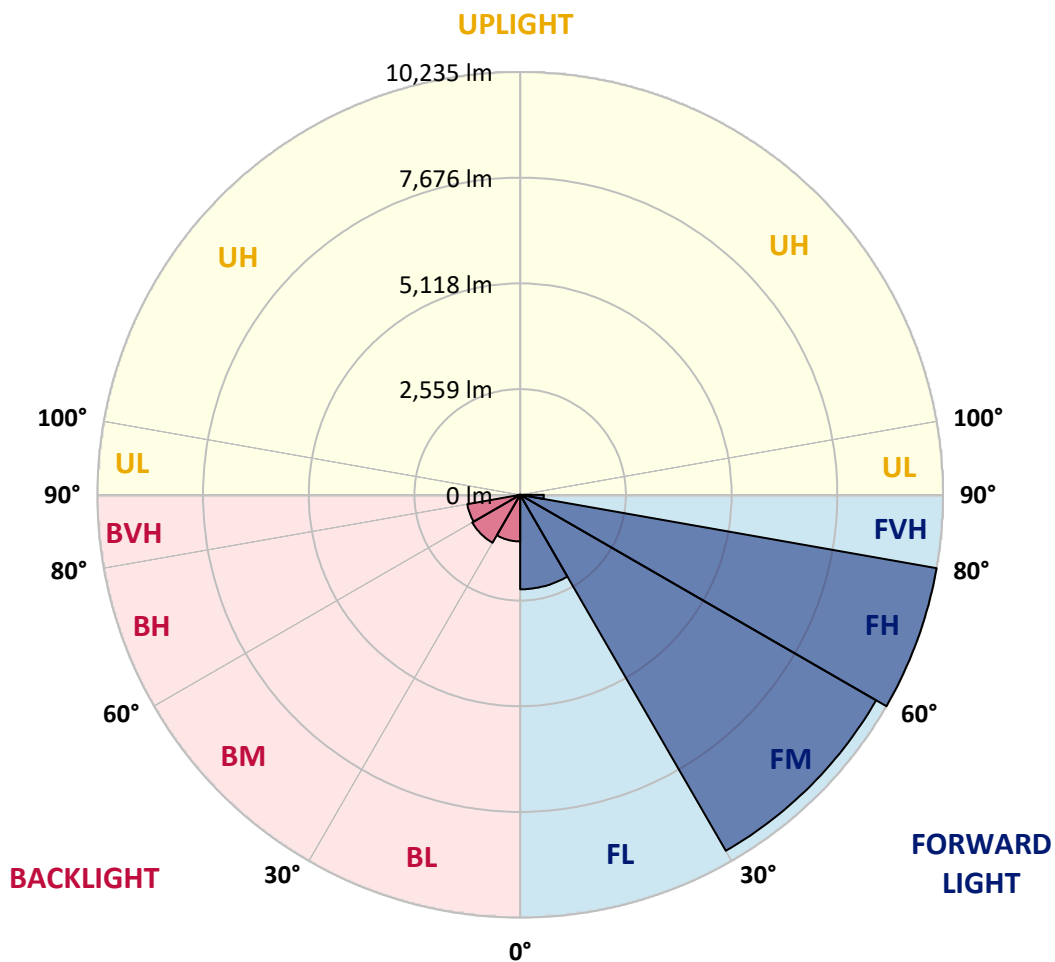
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2287.0	8.5			
FM	(30°-60°)	9949.9	37.0			
FH	(60°-80°)	10235.3	38.1			G4/12000
FVH	(80°-90°)	574.6	2.1			G4/750
BL	(0°-30°)	1129.9	4.2	B3/2500		
BM	(30°-60°)	1339.4	5.0	B2/2500		
BH	(60°-80°)	1300.0	4.8	B3/2500		G3/2500
BVH	(80°-90°)	64.8	0.2			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B3-U0-G4

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	60°	65°	75°	85°
0°	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8
2.5°	7041.5	7060.5	7060.5	7044.9	7036.3	6986.3	6957.0	6936.3	6900.1	6832.9	6772.6
5°	6789.8	6826.0	6841.5	6848.4	6893.2	6877.7	6879.5	6865.7	6834.6	6762.2	6664.0
7.5°	6327.9	6334.8	6362.3	6408.9	6517.5	6593.3	6655.4	6667.4	6660.5	6607.1	6469.2
10°	5872.8	5884.9	5917.6	5996.9	6100.3	6208.9	6343.4	6398.5	6439.9	6422.7	6248.6
12.5°	5495.3	5497.0	5533.2	5624.6	5740.1	5876.2	6059.0	6145.1	6243.4	6283.0	6088.3
15°	5131.6	5155.7	5190.2	5300.5	5443.6	5616.0	5826.3	5945.2	6074.5	6188.2	5964.1
17.5°	4855.8	4874.7	4895.4	4986.8	5152.3	5367.7	5628.0	5755.6	5926.2	6100.3	5836.6
20°	4704.1	4711.0	4695.5	4740.3	4879.9	5112.6	5414.3	5567.7	5771.1	6015.9	5705.6
22.5°	4673.1	4673.1	4616.2	4607.6	4669.6	4866.1	5193.6	5381.5	5629.7	5957.3	5588.4
25°	4817.9	4807.5	4700.6	4602.4	4580.0	4680.0	4983.3	5214.3	5509.1	5955.5	5500.5
27.5°	5091.9	5078.1	4945.4	4779.9	4636.9	4593.8	4821.3	5057.5	5414.3	6014.1	5455.6
30°	5433.2	5428.1	5293.6	5086.8	4850.6	4628.2	4757.5	4976.4	5350.5	6122.7	5453.9
32.5°	5807.3	5783.2	5700.4	5493.6	5186.7	4819.6	4795.5	4979.9	5333.3	6281.3	5493.6
35°	6205.5	6188.2	6167.6	5959.0	5614.2	5157.4	4962.7	5098.8	5417.7	6502.0	5605.6
37.5°	6712.3	6693.3	6727.8	6500.2	6122.7	5600.4	5245.3	5336.7	5590.1	6822.6	5814.2
40°	7613.8	7558.6	7462.1	7112.2	6715.7	6143.4	5653.9	5667.7	5884.9	7251.8	6148.6
42.5°	9094.5	8916.9	8439.4	7796.5	7341.4	6774.3	6186.5	6121.0	6291.7	7818.9	6634.7
45°	10578.6	10378.7	9571.9	8542.9	7989.5	7451.7	6845.0	6688.1	6798.4	8479.1	7260.4
47.5°	11537.0	11438.8	10528.6	9289.2	8668.7	8189.5	7598.3	7339.7	7419.0	9227.2	8032.6
50°	11818.0	11733.5	11018.2	9873.6	9309.9	9080.7	8530.8	8187.8	8201.6	10101.1	8958.3
52.5°	11607.7	11573.2	11099.2	10235.6	9899.5	10020.1	9821.9	9344.4	9230.6	11059.5	9961.5
55°	11326.7	11338.8	11156.1	10599.3	10499.3	10895.8	11511.2	11126.8	10644.1	12057.6	11006.1
57.5°	10442.4	10451.1	10930.3	11292.2	11643.9	12123.1	12826.4	12664.3	12102.4	13134.9	12176.5
60°	8408.4	8475.6	9542.6	11149.2	12952.2	14541.5	14713.9	14434.6	13653.8	14376.0	13698.6
62.5°	6007.2	6067.6	7303.5	9678.8	12798.8	17278.8	18199.3	17089.2	15758.5	16232.5	15839.5
65°	3156.2	3145.8	4102.5	6688.1	10780.3	17913.1	23691.1	21801.9	19304.2	18785.3	17908.0
67.5°	1763.4	1820.3	2190.9	3373.4	7026.0	15765.4	27198.9	27755.7	24234.1	20810.7	17818.3
69°	1630.7	1649.6	1897.8	2608.0	4580.0	13007.4	26897.3	29553.6	26312.9	20819.4	16670.3
70°	1584.1	1604.8	1830.6	2402.9	3847.4	10657.9	25799.3	29343.3	26818.0	20357.4	15625.7
72.5°	1420.4	1447.9	1666.9	2159.8	3242.4	5493.6	20781.4	25114.9	24292.7	17792.5	12116.2
75°	1211.8	1258.3	1589.3	2144.3	3071.7	3492.3	13858.9	18711.2	18080.3	12724.7	6874.3
77.5°	501.6	506.8	694.7	1570.3	3223.4	3342.3	7448.3	11852.5	10492.4	5579.8	2070.2
80°	349.9	343.0	346.5	458.5	2601.1	3364.7	3821.5	6027.9	4685.1	1472.1	968.7
82.5°	294.8	291.3	305.1	287.9	880.8	3818.1	3195.8	3142.4	2206.4	792.9	462.0
85°	194.8	189.6	249.9	262.0	418.9	3032.1	3437.1	2470.1	1644.5	424.0	196.5
87.5°	94.8	96.5	143.1	177.5	222.4	960.1	3292.3	1953.0	1270.4	184.4	79.3
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°	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8	6858.8
2.5°	6748.5	6696.7	6650.2	6591.6	6546.8	6508.9	6457.1	6455.4	6446.8	6458.9	6462.3
5°	6598.5	6512.3	6381.3	6234.8	6131.4	5995.2	5862.4	5817.6	5767.6	5762.5	5778.0
7.5°	6372.7	6238.2	6014.1	5790.1	5566.0	5336.7	5119.5	5009.2	4902.3	4869.6	4885.1
10°	6121.0	5950.4	5607.3	5241.9	4926.5	4585.2	4254.2	4040.5	3845.7	3762.9	3783.6
12.5°	5924.5	5707.3	5224.7	4750.6	4278.3	3788.8	3352.7	2930.4	2611.5	2468.4	2477.0
15°	5755.6	5478.1	4866.1	4235.2	3644.0	2973.5	2368.4	1878.9	1599.6	1496.2	1492.8
17.5°	5572.9	5236.7	4492.1	3756.0	2989.0	2159.8	1585.8	1296.3	1185.9	1151.5	1151.5
20°	5378.1	4988.5	4100.8	3233.7	2299.5	1508.3	1192.8	1080.8	1039.4	1029.1	1027.4
22.5°	5197.1	4745.5	3707.8	2677.0	1663.4	1144.6	1015.3	972.2	965.3	973.9	973.9
25°	5054.0	4531.7	3309.6	2090.9	1210.1	958.4	903.2	898.1	923.9	955.0	960.1
27.5°	4947.1	4340.4	2916.6	1527.2	951.5	834.3	815.3	837.7	898.1	960.1	972.2
30°	4873.0	4176.6	2446.0	1098.0	792.9	730.9	739.5	779.1	870.5	965.3	991.2
32.5°	4840.3	4043.9	1972.0	842.9	677.4	643.0	665.4	717.1	811.9	906.7	937.7
35°	4871.3	3947.4	1534.1	699.8	593.0	567.1	593.0	646.4	708.5	755.0	774.0
37.5°	4983.3	3912.9	1154.9	620.5	537.8	512.0	532.6	568.8	596.4	613.7	622.3
40°	5219.5	3949.1	905.0	579.2	506.8	477.5	482.6	499.9	518.8	532.6	534.4
42.5°	5595.3	4068.0	805.0	563.7	487.8	449.9	441.3	453.3	474.0	493.0	496.4
45°	6095.2	4266.3	794.6	568.8	479.2	427.5	410.3	422.3	449.9	480.9	486.1
47.5°	6741.6	4580.0	842.9	596.4	484.4	415.4	389.6	401.6	437.8	479.2	486.1
50°	7506.9	5014.4	932.5	637.8	508.5	415.4	380.9	391.3	429.2	475.8	482.6
52.5°	8408.4	5619.4	1025.6	679.2	543.0	430.9	384.4	382.7	417.1	460.2	468.9
55°	9403.0	6371.0	1115.3	715.4	561.9	451.6	393.0	372.3	399.9	434.4	441.3
57.5°	10573.4	7400.0	1272.1	749.8	572.3	467.1	403.4	362.0	377.5	401.6	406.8
60°	12161.0	8911.7	1577.2	808.4	591.2	474.0	405.1	351.6	349.9	367.2	368.9
62.5°	14231.2	10682.0	1868.5	877.4	629.2	475.8	398.2	344.7	327.5	332.7	332.7
65°	15703.3	11333.6	1784.1	936.0	663.6	474.0	391.3	339.6	310.3	301.7	301.7
67.5°	14865.6	10011.5	1515.2	951.5	667.1	455.1	375.8	327.5	294.8	274.1	274.1
69°	13634.8	8775.6	1391.1	923.9	639.5	432.7	358.5	315.4	284.4	260.3	260.3
70°	12631.6	7839.6	1315.2	891.2	606.8	413.7	343.0	303.4	274.1	253.4	251.7
72.5°	9430.6	5231.6	1123.9	768.8	498.2	349.9	299.9	270.6	246.5	232.7	232.7
75°	4976.4	2621.8	920.5	627.4	384.4	279.2	246.5	227.5	213.7	212.0	210.3
77.5°	1630.7	1185.9	661.9	472.3	282.7	217.2	196.5	184.4	182.7	189.6	189.6
80°	880.8	708.5	425.8	318.9	196.5	162.0	151.7	150.0	155.1	165.5	165.5
82.5°	427.5	349.9	253.4	196.5	134.5	118.9	118.9	120.7	127.6	139.6	139.6
85°	184.4	165.5	146.5	110.3	82.7	74.1	84.5	93.1	98.3	106.9	110.3
87.5°	87.9	77.6	67.2	43.1	36.2	37.9	44.8	55.2	65.5	72.4	74.1
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)