

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: P197039

Luminaire Tested: **NAV-AF-05-D-UNV-SL2-8030-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197039
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-SL2-8030-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 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: 21956 lumens
Efficiency: N/A
Efficacy: 68.6 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

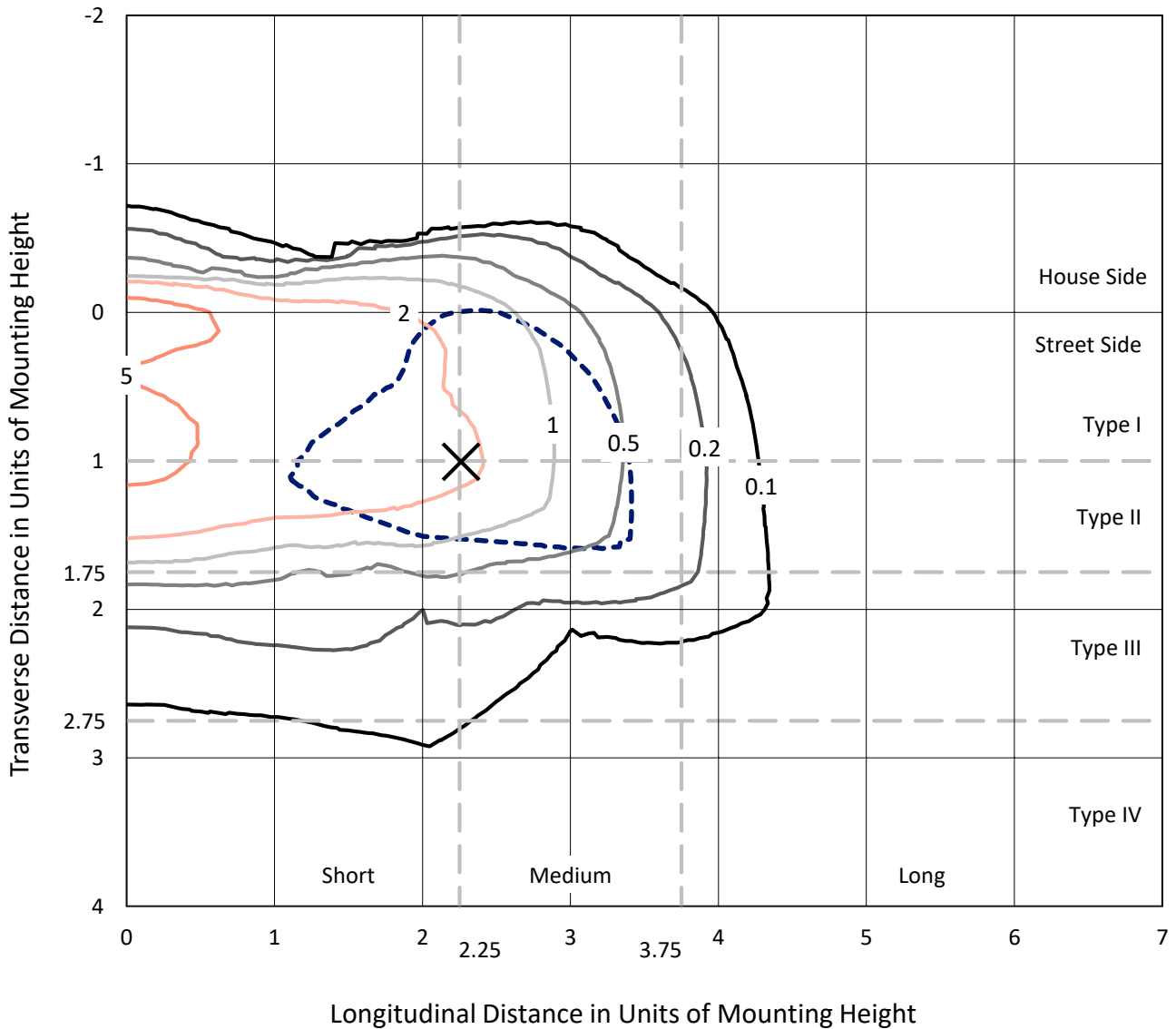


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

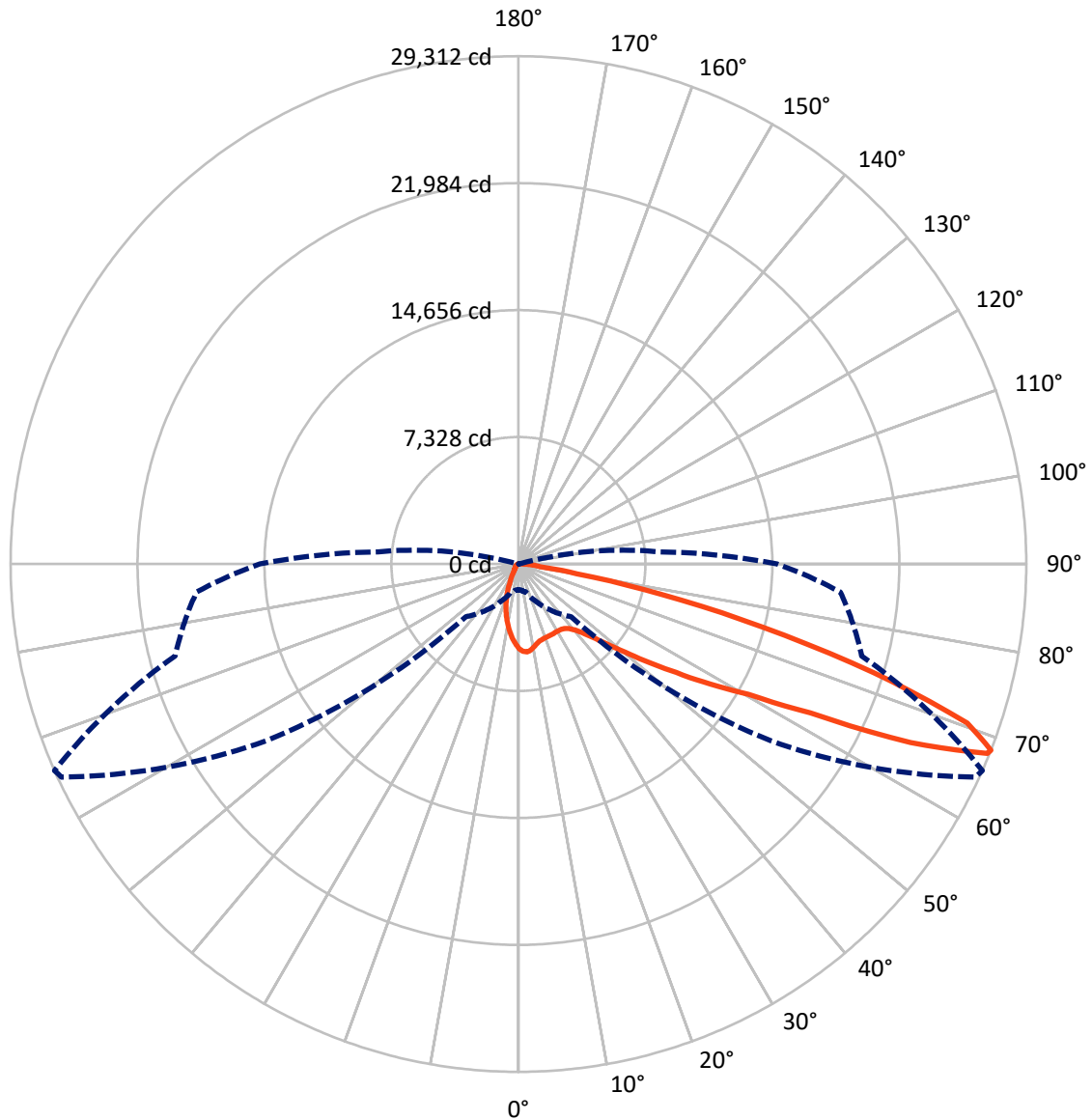


Based on 25 foot mounting height. Maximum calculated value = 7.8 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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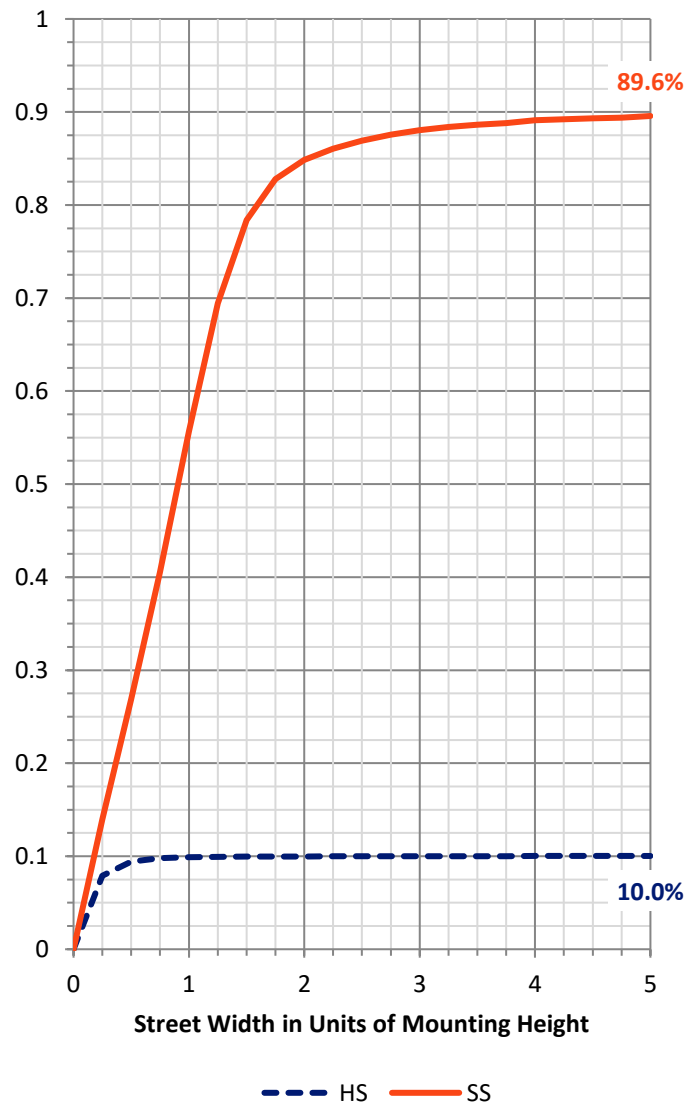
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	2223.9	0.0	2223.9
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	19732.1	0.0	19732.1
	% Fixture	89.9	0.0	89.9
Total	Lumens	21956.0	0.0	21956.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	401.0	1.8
10°-20°	862.8	3.9
20°-30°	1250.3	5.7
30°-40°	1914.0	8.7
40°-50°	3273.7	14.9
50°-60°	5121.0	23.3
60°-70°	5896.7	26.9
70°-80°	2950.8	13.4
80°-90°	285.8	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°	21956.0	100.0
0°-180°	21956.0	100.0



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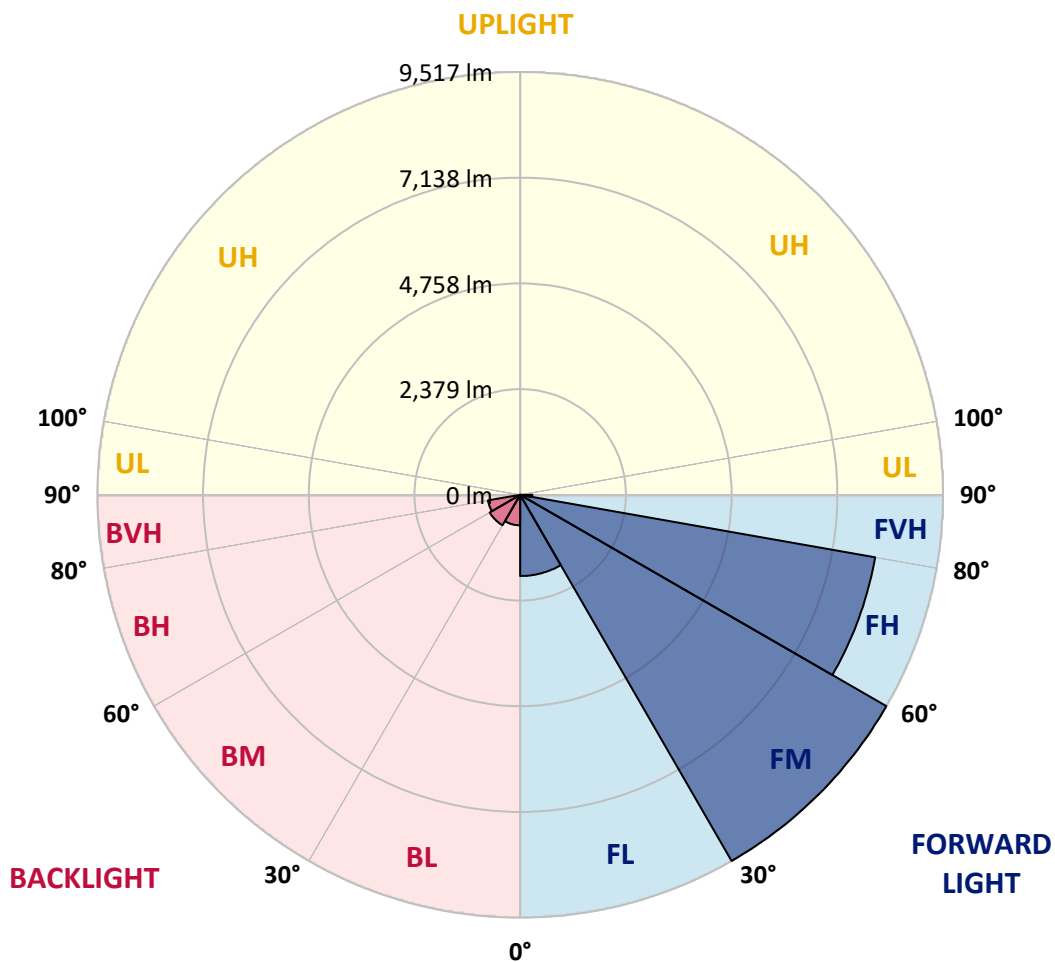
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1827.7	8.3			
FM (30°-60°)	9516.8	43.3			
FH (60°-80°)	8112.7	36.9			G4/12000
FVH (80°-90°)	275.0	1.3			G3/500
BL (0°-30°)	686.4	3.1	B2/1000		
BM (30°-60°)	791.9	3.6	B1/1000		
BH (60°-80°)	734.8	3.3	B2/1000		G2/1000
BVH (80°-90°)	10.8	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°	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6
2.5°	5145.0	5148.4	5146.7	5151.9	5148.4	5122.6	5095.0	5036.4	5041.5	4965.7	4881.2
5°	4783.0	4812.3	4841.6	4870.9	4941.6	5003.6	5077.7	5095.0	5095.0	5029.5	4905.4
7.5°	4414.2	4415.9	4448.6	4488.3	4583.1	4696.8	4869.2	5024.3	5027.8	5045.0	4908.8
10°	4136.7	4145.3	4167.7	4210.8	4305.6	4417.6	4610.6	4853.7	4872.6	5000.2	4874.4
12.5°	3921.2	3931.5	3955.7	4005.7	4091.8	4207.3	4410.7	4688.2	4714.1	4957.1	4864.0
15°	3755.7	3769.5	3788.5	3838.5	3931.5	4053.9	4276.3	4577.9	4608.9	4939.9	4896.8
17.5°	3686.8	3686.8	3685.1	3719.5	3812.6	3936.7	4169.4	4519.3	4558.9	4953.6	4951.9
20°	3716.1	3710.9	3674.7	3666.1	3723.0	3847.1	4084.9	4481.4	4526.2	4979.5	5019.1
22.5°	3871.2	3860.9	3779.9	3712.6	3695.4	3778.1	4028.1	4455.5	4508.9	5032.9	5108.8
25°	4200.4	4169.4	4057.4	3905.7	3769.5	3760.9	3988.4	4441.7	4498.6	5095.0	5207.0
27.5°	4627.9	4619.3	4440.0	4236.6	3974.6	3817.8	3976.4	4431.4	4488.3	5139.8	5286.3
30°	5158.7	5162.2	4955.4	4689.9	4293.5	3978.1	4014.3	4426.2	4484.8	5143.2	5320.8
32.5°	5706.9	5710.3	5537.9	5253.5	4729.6	4253.9	4121.1	4450.3	4503.8	5129.4	5319.0
35°	6234.3	6239.4	6136.0	5906.8	5312.1	4636.5	4322.8	4533.1	4571.0	5138.1	5315.6
37.5°	6901.3	6922.0	6794.4	6580.7	6043.0	5198.4	4652.0	4700.3	4731.3	5208.7	5341.5
40°	8038.9	8011.3	7645.9	7284.0	6835.8	5882.7	5127.7	4988.1	4998.5	5391.4	5439.7
42.5°	9364.3	9329.9	8704.2	8080.3	7651.1	6708.3	5736.2	5429.4	5427.6	5698.2	5653.4
45°	10505.4	10484.7	9826.3	8993.8	8554.2	7620.1	6485.9	6065.4	6044.7	6229.1	6043.0
47.5°	11315.5	11298.2	10800.1	9965.9	9598.8	8623.2	7421.8	6932.3	6889.2	6923.7	6675.5
50°	11394.7	11375.8	11201.7	10665.7	10819.1	10095.2	8578.4	8068.2	8013.0	7959.6	7632.1
52.5°	10653.6	10651.9	10743.2	10708.8	11674.0	11989.4	9996.9	9472.9	9407.4	9271.3	8945.5
55°	9138.6	9129.9	9476.4	9979.7	11655.0	13944.0	12160.0	11144.8	11058.6	10786.3	10358.9
57.5°	6677.2	6632.4	7356.3	8423.3	10836.3	14798.9	15595.2	13221.8	13078.7	12215.2	11556.8
60°	3686.8	3704.0	4634.8	5898.2	8897.2	14630.0	18756.3	15643.4	15267.7	13447.6	12784.0
62.5°	2066.6	2109.7	2802.6	3833.3	5672.4	13259.7	20452.3	19811.1	18906.2	14885.0	14335.2
65°	1563.3	1589.2	1937.3	2957.7	3576.5	9266.1	20722.9	25638.6	24857.8	17063.7	16805.1
67.5°	1472.0	1492.6	1663.3	2452.7	3257.6	4805.4	18685.6	29085.8	29184.1	20035.2	18718.3
68°	1482.3	1508.2	1678.8	2359.6	3252.4	4298.7	17816.9	29103.1	29311.6	20514.3	18652.8
70°	1361.6	1368.5	1775.3	2314.8	3152.5	3386.9	12889.1	27108.8	27482.9	21084.9	16932.7
72.5°	520.5	522.3	796.3	2004.6	3302.4	3405.8	6492.8	21426.1	21445.1	18349.5	13201.1
75°	270.6	227.5	249.9	627.4	3154.2	3319.7	3257.6	14630.0	14538.6	12410.0	8088.9
77.5°	186.1	158.6	167.2	217.2	1311.7	3317.9	2352.7	8412.9	8394.0	5279.4	2307.9
80°	105.1	91.4	100.0	182.7	460.2	3114.6	2192.4	3616.1	3407.6	927.3	374.0
82.5°	53.4	44.8	53.4	153.4	286.1	1959.7	2132.1	1418.5	1263.4	220.6	243.0
85°	13.8	13.8	25.9	106.9	177.5	642.9	1911.5	1023.8	920.4	96.5	172.4
87.5°	3.4	1.7	10.3	39.6	63.8	139.6	1060.0	570.5	491.2	50.0	100.0
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°	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6	4891.6
2.5°	4846.8	4798.5	4703.7	4596.9	4521.0	4438.3	4390.0	4331.4	4286.6	4247.0	4276.3
5°	4829.5	4736.5	4526.2	4290.1	4091.8	3902.2	3760.9	3626.5	3524.8	3461.0	3486.9
7.5°	4784.7	4646.8	4305.6	3936.7	3612.7	3307.6	3059.4	2837.1	2664.7	2571.6	2600.9
10°	4708.9	4514.1	4055.6	3543.7	3090.4	2659.5	2290.7	1959.7	1709.8	1592.6	1620.2
12.5°	4653.7	4396.9	3797.1	3164.5	2568.2	1956.3	1466.8	1087.6	892.8	775.6	786.0
15°	4629.6	4305.6	3555.8	2764.7	1997.7	1256.5	792.9	574.0	506.7	482.6	484.3
17.5°	4633.0	4233.2	3326.6	2349.3	1422.0	722.2	486.1	437.8	427.5	422.3	422.3
20°	4641.7	4160.8	3088.7	1916.6	910.1	465.4	405.0	389.5	384.4	377.5	379.2
22.5°	4667.5	4105.6	2849.1	1482.3	560.2	379.2	358.5	344.7	336.1	325.8	327.5
25°	4707.2	4064.3	2613.0	1066.9	394.7	330.9	312.0	293.0	277.5	265.4	267.2
27.5°	4731.3	4005.7	2361.3	727.4	327.5	289.6	263.7	237.9	220.6	210.3	208.6
30°	4714.1	3910.9	2075.2	477.4	289.6	249.9	218.9	189.6	172.4	163.7	163.7
32.5°	4667.5	3788.5	1759.8	348.2	256.8	215.5	177.5	151.7	139.6	134.4	136.2
35°	4614.1	3660.9	1423.7	294.7	231.0	182.7	144.8	124.1	118.9	117.2	117.2
37.5°	4584.8	3550.6	1101.4	267.2	206.8	151.7	118.9	106.9	101.7	101.7	101.7
40°	4617.5	3466.2	815.3	246.5	182.7	125.8	100.0	91.4	89.6	89.6	89.6
42.5°	4757.1	3436.9	596.4	229.2	158.6	105.1	86.2	79.3	77.6	79.3	79.3
45°	5029.5	3500.6	451.6	212.0	136.2	86.2	74.1	68.9	68.9	70.7	70.7
47.5°	5491.4	3664.4	370.6	194.8	113.8	72.4	63.8	60.3	60.3	62.0	62.0
50°	6208.4	3967.7	332.7	175.8	94.8	62.0	53.4	51.7	51.7	53.4	55.2
52.5°	7297.7	4545.1	313.7	156.8	77.6	51.7	44.8	43.1	44.8	46.5	46.5
55°	8509.4	5284.6	291.3	137.9	65.5	43.1	36.2	36.2	37.9	41.4	41.4
57.5°	9638.4	5998.1	270.6	113.8	56.9	34.5	29.3	29.3	32.7	36.2	36.2
60°	10831.1	6697.9	243.0	91.4	48.3	27.6	24.1	24.1	29.3	32.7	34.5
62.5°	12304.8	7511.5	206.8	72.4	37.9	20.7	17.2	22.4	27.6	32.7	32.7
65°	14435.2	8523.2	162.0	56.9	29.3	15.5	13.8	20.7	25.9	31.0	32.7
67.5°	15209.1	8394.0	122.4	46.5	22.4	12.1	12.1	19.0	25.9	31.0	31.0
68°	14926.4	8111.3	117.2	44.8	20.7	12.1	12.1	19.0	25.9	31.0	31.0
70°	13006.3	6630.7	96.5	34.5	17.2	10.3	10.3	17.2	25.9	29.3	31.0
72.5°	9738.4	4405.5	82.7	22.4	15.5	10.3	8.6	17.2	24.1	29.3	29.3
75°	5586.2	1828.7	70.7	17.2	13.8	8.6	8.6	15.5	24.1	29.3	29.3
77.5°	1578.8	427.5	56.9	13.8	12.1	8.6	6.9	15.5	22.4	27.6	27.6
80°	289.6	127.5	44.8	12.1	10.3	8.6	6.9	15.5	22.4	27.6	27.6
82.5°	191.3	60.3	32.7	12.1	10.3	8.6	6.9	13.8	20.7	25.9	25.9
85°	143.1	43.1	20.7	12.1	10.3	8.6	6.9	13.8	20.7	25.9	25.9
87.5°	79.3	19.0	15.5	13.8	12.1	8.6	6.9	12.1	19.0	24.1	24.1
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)