

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: P197038

Luminaire Tested: **NAV-AF-04-D-UNV-SL2-8030-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197038
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-SL2-8030-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 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: 17814 lumens
Efficiency: N/A
Efficacy: 69.0 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): 258
Input Voltage (V): NR
Input Current (A_{in}): 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

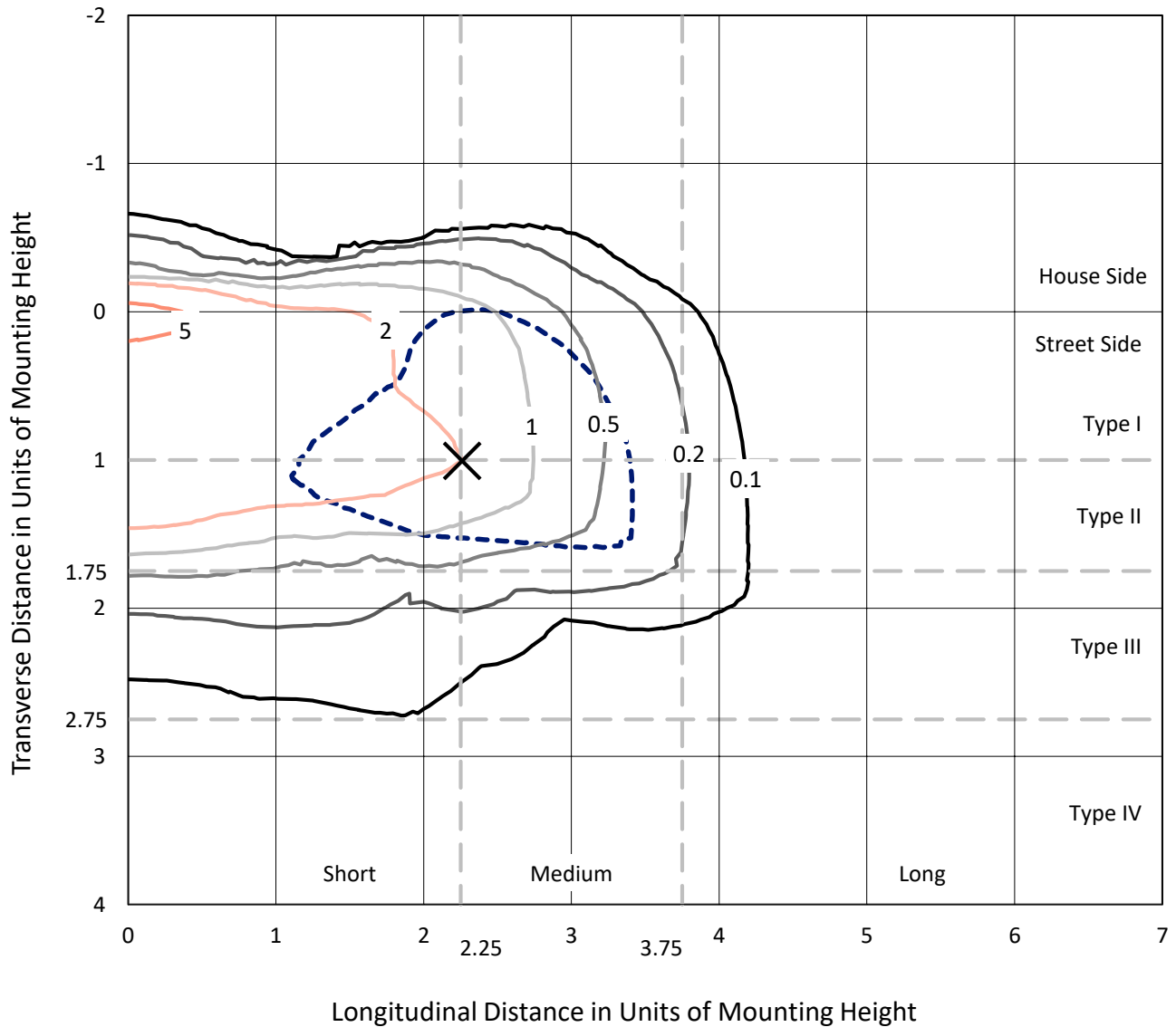


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

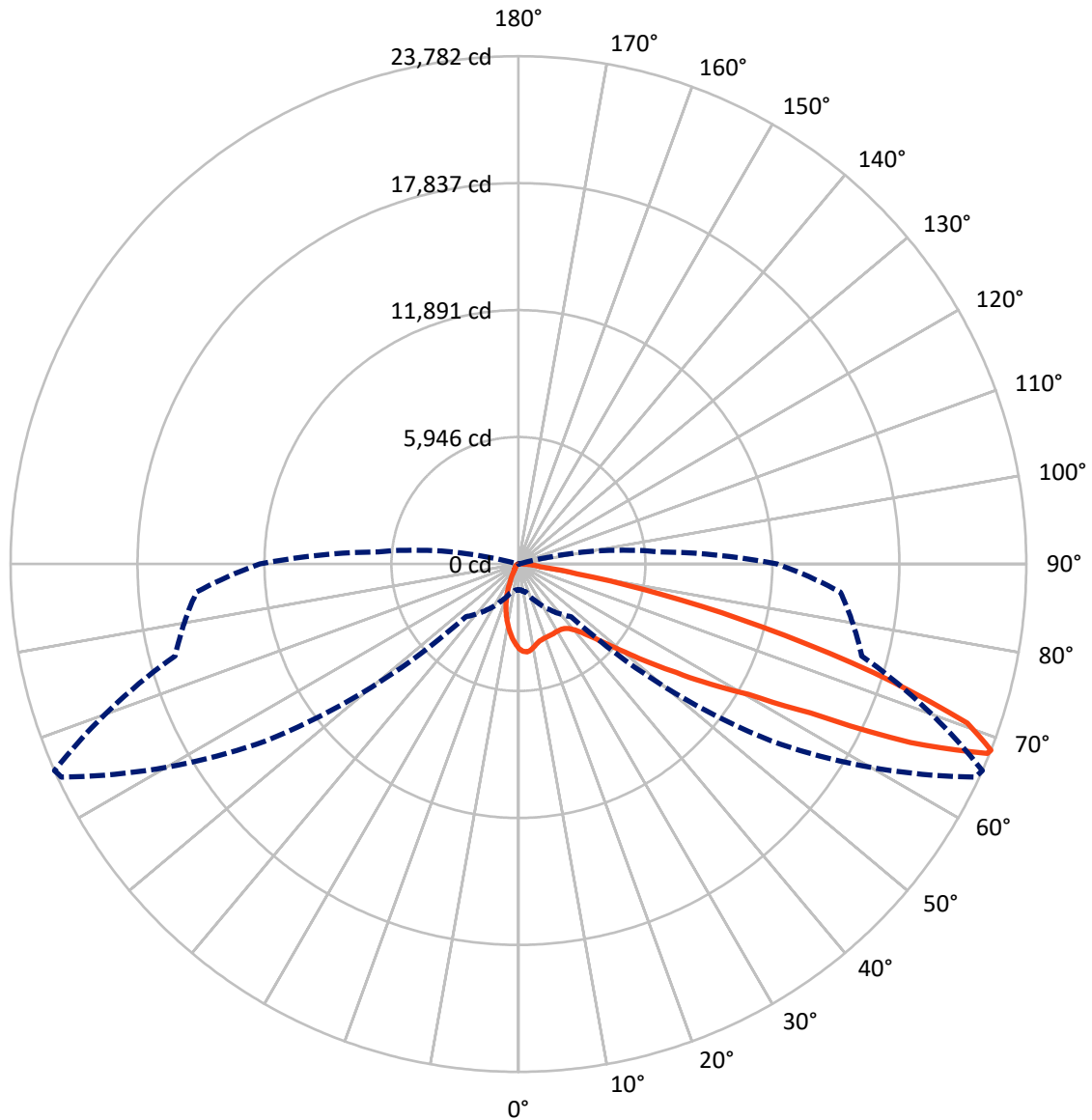


Based on 25 foot mounting height. Maximum calculated value = 6.4 fc
 Type II - Medium - Semi-Cutoff

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Luminous Intensity Polar Plot



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

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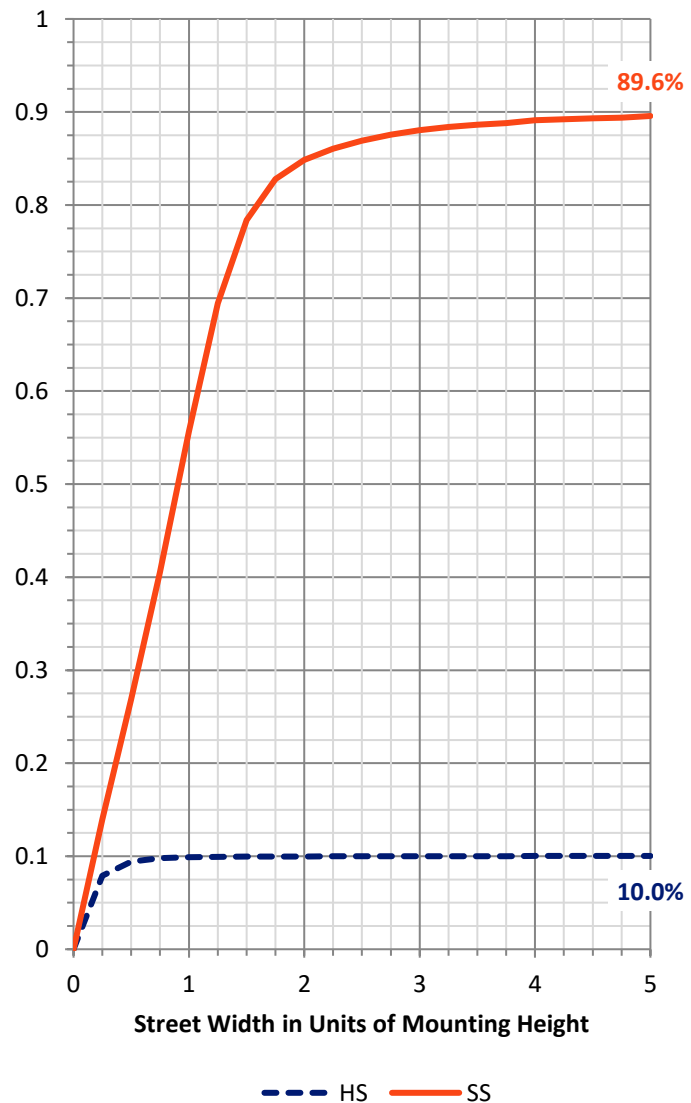
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1804.4	0.0	1804.4
	% Fixture	10.1	0.0	10.1
Street Side	Lumens	16009.6	0.0	16009.6
	% Fixture	89.9	0.0	89.9
Total	Lumens	17814.0	0.0	17814.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	325.4	1.8
10°-20°	700.0	3.9
20°-30°	1014.4	5.7
30°-40°	1552.9	8.7
40°-50°	2656.1	14.9
50°-60°	4154.9	23.3
60°-70°	4784.3	26.9
70°-80°	2394.1	13.4
80°-90°	231.9	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°	17814.0	100.0
0°-180°	17814.0	100.0

Coefficient of Utilization



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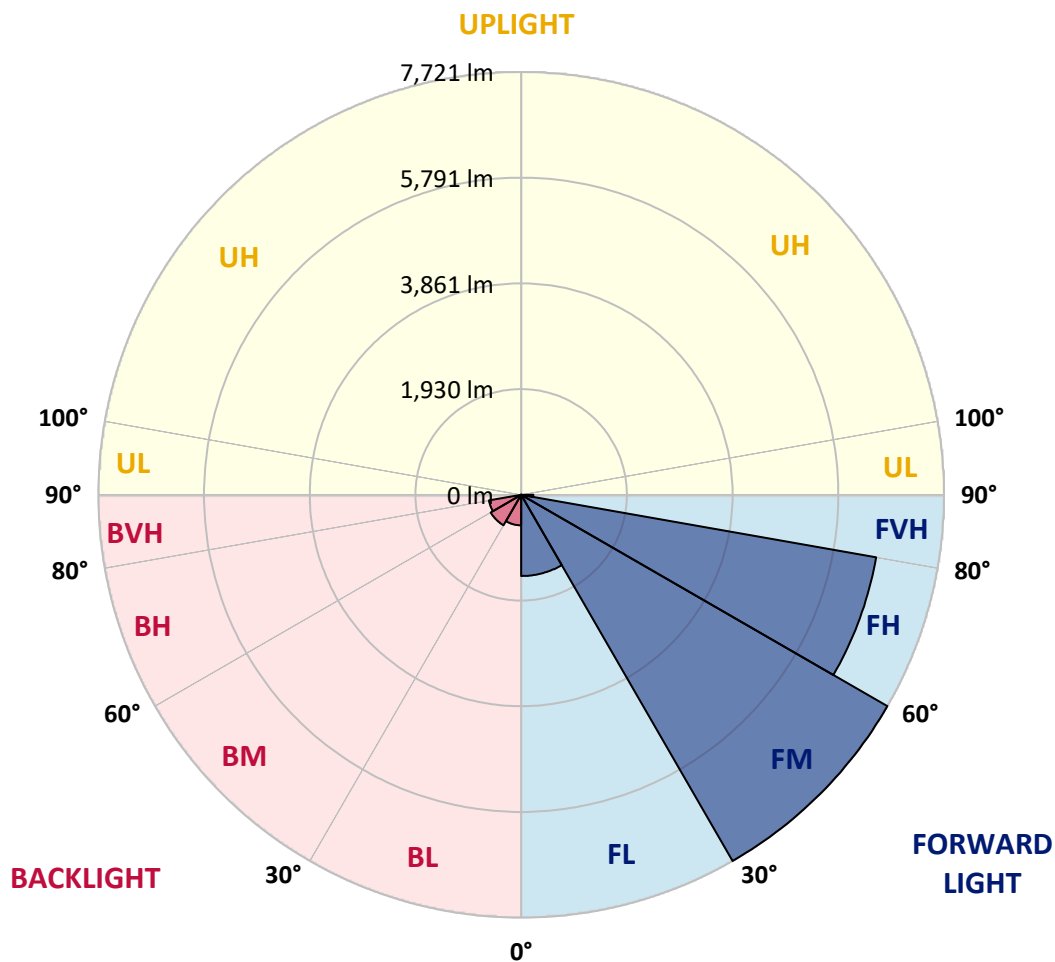
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1482.9	8.3			
FM (30°-60°)	7721.4	43.3			
FH (60°-80°)	6582.2	36.9			G3/7500
FVH (80°-90°)	223.1	1.3			G2/225
BL (0°-30°)	556.9	3.1	B2/1000		
BM (30°-60°)	642.5	3.6	B1/1000		
BH (60°-80°)	596.2	3.3	B2/1000		G2/1000
BVH (80°-90°)	8.8	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°	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8
2.5°	4174.4	4177.2	4175.8	4180.0	4177.2	4156.2	4133.8	4086.3	4090.5	4028.9	3960.4
5°	3880.7	3904.5	3928.2	3952.0	4009.3	4059.7	4119.8	4133.8	4133.8	4080.7	3980.0
7.5°	3581.4	3582.8	3609.4	3641.6	3718.5	3810.8	3950.6	4076.5	4079.3	4093.3	3982.8
10°	3356.3	3363.3	3381.4	3416.4	3493.3	3584.2	3740.8	3938.0	3953.4	4056.9	3954.8
12.5°	3181.5	3189.9	3209.4	3250.0	3319.9	3413.6	3578.6	3803.8	3824.8	4021.9	3946.4
15°	3047.2	3058.4	3073.8	3114.3	3189.9	3289.1	3469.5	3714.3	3739.4	4007.9	3973.0
17.5°	2991.3	2991.3	2989.9	3017.8	3093.4	3194.1	3382.8	3666.7	3698.9	4019.1	4017.7
20°	3015.1	3010.9	2981.5	2974.5	3020.6	3121.3	3314.3	3636.0	3672.3	4040.1	4072.3
22.5°	3140.9	3132.5	3066.8	3012.3	2998.3	3065.4	3268.2	3615.0	3658.3	4083.5	4145.0
25°	3408.0	3382.8	3291.9	3168.9	3058.4	3051.4	3236.0	3603.8	3649.9	4133.8	4224.7
27.5°	3754.8	3747.8	3602.4	3437.4	3224.8	3097.6	3226.2	3595.4	3641.6	4170.2	4289.0
30°	4185.5	4188.3	4020.5	3805.2	3483.5	3227.6	3257.0	3591.2	3638.8	4173.0	4317.0
32.5°	4630.3	4633.1	4493.2	4262.5	3837.3	3451.4	3343.7	3610.8	3654.1	4161.8	4315.6
35°	5058.2	5062.4	4978.5	4792.5	4310.0	3761.8	3507.3	3677.9	3708.7	4168.8	4312.8
37.5°	5599.4	5616.2	5512.7	5339.3	4903.0	4217.7	3774.4	3813.6	3838.7	4226.1	4333.8
40°	6522.4	6500.0	6203.5	5909.8	5546.2	4772.9	4160.4	4047.1	4055.5	4374.3	4413.5
42.5°	7597.8	7569.8	7062.2	6555.9	6207.7	5442.8	4654.0	4405.1	4403.7	4623.3	4586.9
45°	8523.5	8506.7	7972.5	7297.1	6940.5	6182.5	5262.4	4921.1	4904.4	5054.0	4903.0
47.5°	9180.8	9166.8	8762.7	8085.8	7787.9	6996.4	6021.7	5624.6	5589.6	5617.6	5416.2
50°	9245.1	9229.7	9088.5	8653.6	8778.0	8190.7	6960.1	6546.1	6501.4	6458.0	6192.3
52.5°	8643.8	8642.4	8716.5	8688.5	9471.7	9727.6	8111.0	7685.9	7632.7	7522.2	7257.9
55°	7414.6	7407.6	7688.7	8097.0	9456.3	11313.4	9866.0	9042.4	8972.4	8751.5	8404.7
57.5°	5417.6	5381.2	5968.6	6834.2	8792.0	12007.1	12653.1	10727.5	10611.4	9910.8	9376.6
60°	2991.3	3005.3	3760.4	4785.5	7218.8	11870.0	15217.9	12692.3	12387.4	10910.7	10372.3
62.5°	1676.7	1711.7	2273.9	3110.1	4602.3	10758.2	16594.0	16073.7	15339.6	12077.0	11630.9
65°	1268.4	1289.4	1571.9	2399.7	2901.8	7518.0	16813.5	20801.9	20168.4	13844.6	13634.9
67.5°	1194.3	1211.1	1349.5	1990.0	2643.1	3898.9	15160.6	23598.8	23678.5	16255.5	15187.1
68°	1202.7	1223.6	1362.1	1914.5	2638.9	3487.7	14455.7	23612.8	23782.0	16644.3	15134.0
70°	1104.8	1110.4	1440.4	1878.1	2557.8	2747.9	10457.6	21994.8	22298.2	17107.2	13738.3
72.5°	422.3	423.7	646.1	1626.4	2679.4	2763.3	5267.9	17384.1	17399.5	14887.9	10710.7
75°	219.6	184.6	202.8	509.0	2559.2	2693.4	2643.1	11870.0	11795.9	10068.8	6562.9
77.5°	151.0	128.7	135.6	176.2	1064.2	2692.0	1908.9	6825.8	6810.4	4283.4	1872.5
80°	85.3	74.1	81.1	148.2	373.4	2527.0	1778.8	2933.9	2764.7	752.4	303.5
82.5°	43.4	36.4	43.4	124.5	232.1	1590.0	1729.9	1150.9	1025.1	179.0	197.2
85°	11.2	11.2	21.0	86.7	144.0	521.6	1550.9	830.7	746.8	78.3	139.8
87.5°	2.8	1.4	8.4	32.2	51.7	113.3	860.0	462.9	398.6	40.6	81.1
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°	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8	3968.8
2.5°	3932.4	3893.3	3816.4	3729.7	3668.1	3601.0	3561.8	3514.3	3477.9	3445.8	3469.5
5°	3918.4	3842.9	3672.3	3480.7	3319.9	3166.1	3051.4	2942.3	2859.8	2808.1	2829.1
7.5°	3882.1	3770.2	3493.3	3194.1	2931.1	2683.6	2482.2	2301.8	2162.0	2086.5	2110.3
10°	3820.6	3662.5	3290.5	2875.2	2507.4	2157.8	1858.5	1590.0	1387.3	1292.2	1314.5
12.5°	3775.8	3567.4	3080.8	2567.5	2083.7	1587.2	1190.1	882.4	724.4	629.3	637.7
15°	3756.2	3493.3	2885.0	2243.1	1620.8	1019.5	643.3	465.7	411.1	391.6	393.0
17.5°	3759.0	3434.6	2699.0	1906.1	1153.7	585.9	394.4	355.2	346.8	342.6	342.6
20°	3766.0	3375.8	2506.0	1555.1	738.4	377.6	328.6	316.0	311.9	306.3	307.7
22.5°	3787.0	3331.1	2311.6	1202.7	454.5	307.7	290.9	279.7	272.7	264.3	265.7
25°	3819.2	3297.5	2120.0	865.6	320.2	268.5	253.1	237.7	225.1	215.4	216.8
27.5°	3838.7	3250.0	1915.9	590.1	265.7	234.9	214.0	193.0	179.0	170.6	169.2
30°	3824.8	3173.1	1683.7	387.4	234.9	202.8	177.6	153.8	139.8	132.9	132.9
32.5°	3787.0	3073.8	1427.8	282.5	208.4	174.8	144.0	123.1	113.3	109.1	110.5
35°	3743.6	2970.3	1155.1	239.1	187.4	148.2	117.5	100.7	96.5	95.1	95.1
37.5°	3719.9	2880.8	893.6	216.8	167.8	123.1	96.5	86.7	82.5	82.5	82.5
40°	3746.4	2812.3	661.5	200.0	148.2	102.1	81.1	74.1	72.7	72.7	72.7
42.5°	3859.7	2788.5	483.9	186.0	128.7	85.3	69.9	64.3	62.9	64.3	64.3
45°	4080.7	2840.2	366.4	172.0	110.5	69.9	60.1	55.9	55.9	57.3	57.3
47.5°	4455.5	2973.1	300.7	158.0	92.3	58.7	51.7	48.9	48.9	50.3	50.3
50°	5037.2	3219.2	269.9	142.6	76.9	50.3	43.4	42.0	42.0	43.4	44.8
52.5°	5921.0	3687.7	254.5	127.3	62.9	42.0	36.4	35.0	36.4	37.8	37.8
55°	6904.1	4287.6	236.3	111.9	53.1	35.0	29.4	29.4	30.8	33.6	33.6
57.5°	7820.1	4866.6	219.6	92.3	46.1	28.0	23.8	23.8	26.6	29.4	29.4
60°	8787.8	5434.4	197.2	74.1	39.2	22.4	19.6	19.6	23.8	26.6	28.0
62.5°	9983.5	6094.4	167.8	58.7	30.8	16.8	14.0	18.2	22.4	26.6	26.6
65°	11712.0	6915.3	131.5	46.1	23.8	12.6	11.2	16.8	21.0	25.2	26.6
67.5°	12339.9	6810.4	99.3	37.8	18.2	9.8	9.8	15.4	21.0	25.2	25.2
68°	12110.5	6581.1	95.1	36.4	16.8	9.8	9.8	15.4	21.0	25.2	25.2
70°	10552.7	5379.8	78.3	28.0	14.0	8.4	8.4	14.0	21.0	23.8	25.2
72.5°	7901.2	3574.4	67.1	18.2	12.6	8.4	7.0	14.0	19.6	23.8	23.8
75°	4532.4	1483.8	57.3	14.0	11.2	7.0	7.0	12.6	19.6	23.8	23.8
77.5°	1281.0	346.8	46.1	11.2	9.8	7.0	5.6	12.6	18.2	22.4	22.4
80°	234.9	103.5	36.4	9.8	8.4	7.0	5.6	12.6	18.2	22.4	22.4
82.5°	155.2	48.9	26.6	9.8	8.4	7.0	5.6	11.2	16.8	21.0	21.0
85°	116.1	35.0	16.8	9.8	8.4	7.0	5.6	11.2	16.8	21.0	21.0
87.5°	64.3	15.4	12.6	11.2	9.8	7.0	5.6	9.8	15.4	19.6	19.6
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)