

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: P195694

Luminaire Tested: **NAV-AF-04-D-UNV-SL4-7050-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195694
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24285)
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-SL4-7050-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(4) 70 CRI, 5000K, 1200mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 21803 lumens
Efficiency: N/A
Efficacy: 84.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G4

Input Watts (W): 258
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

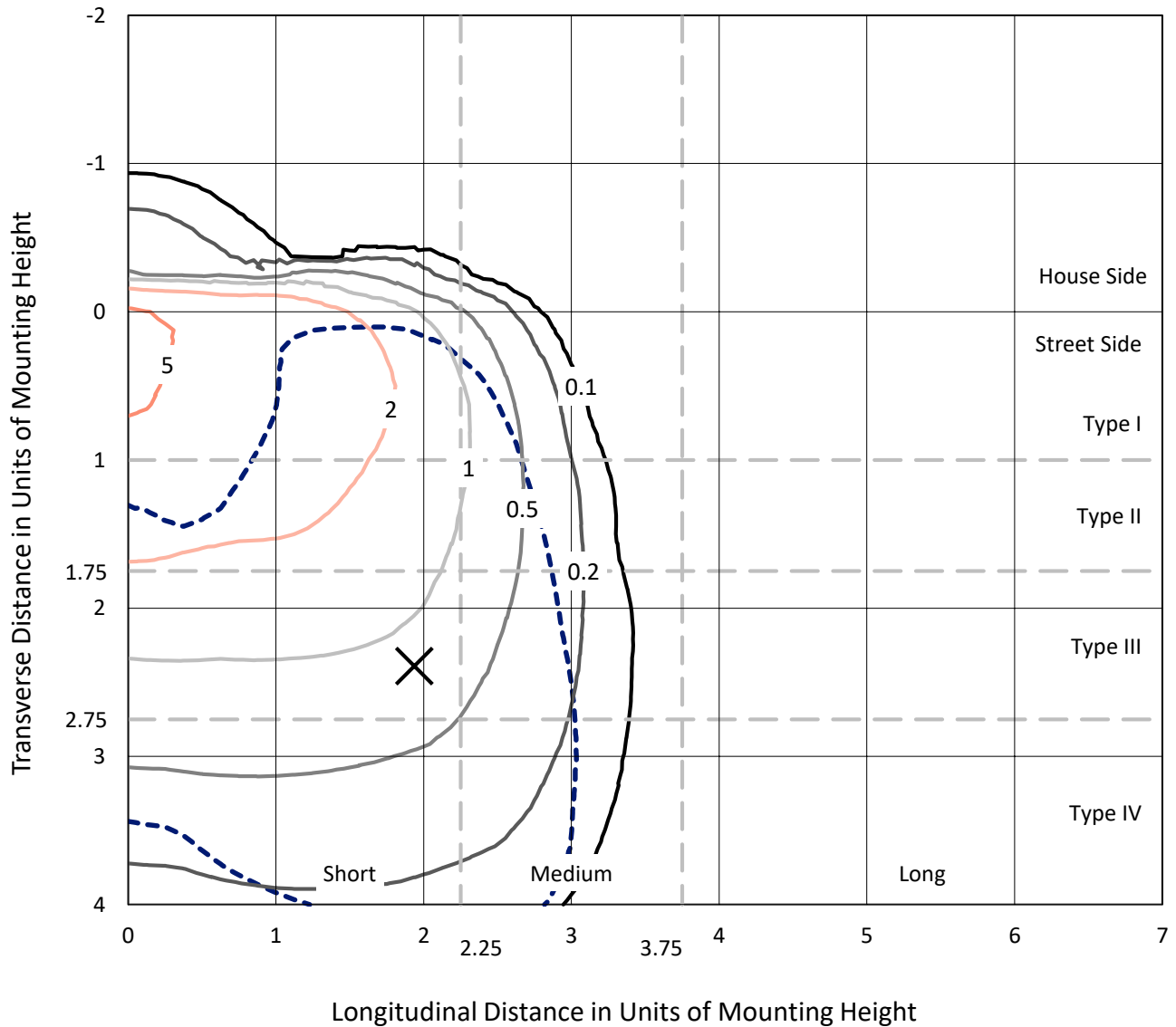


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

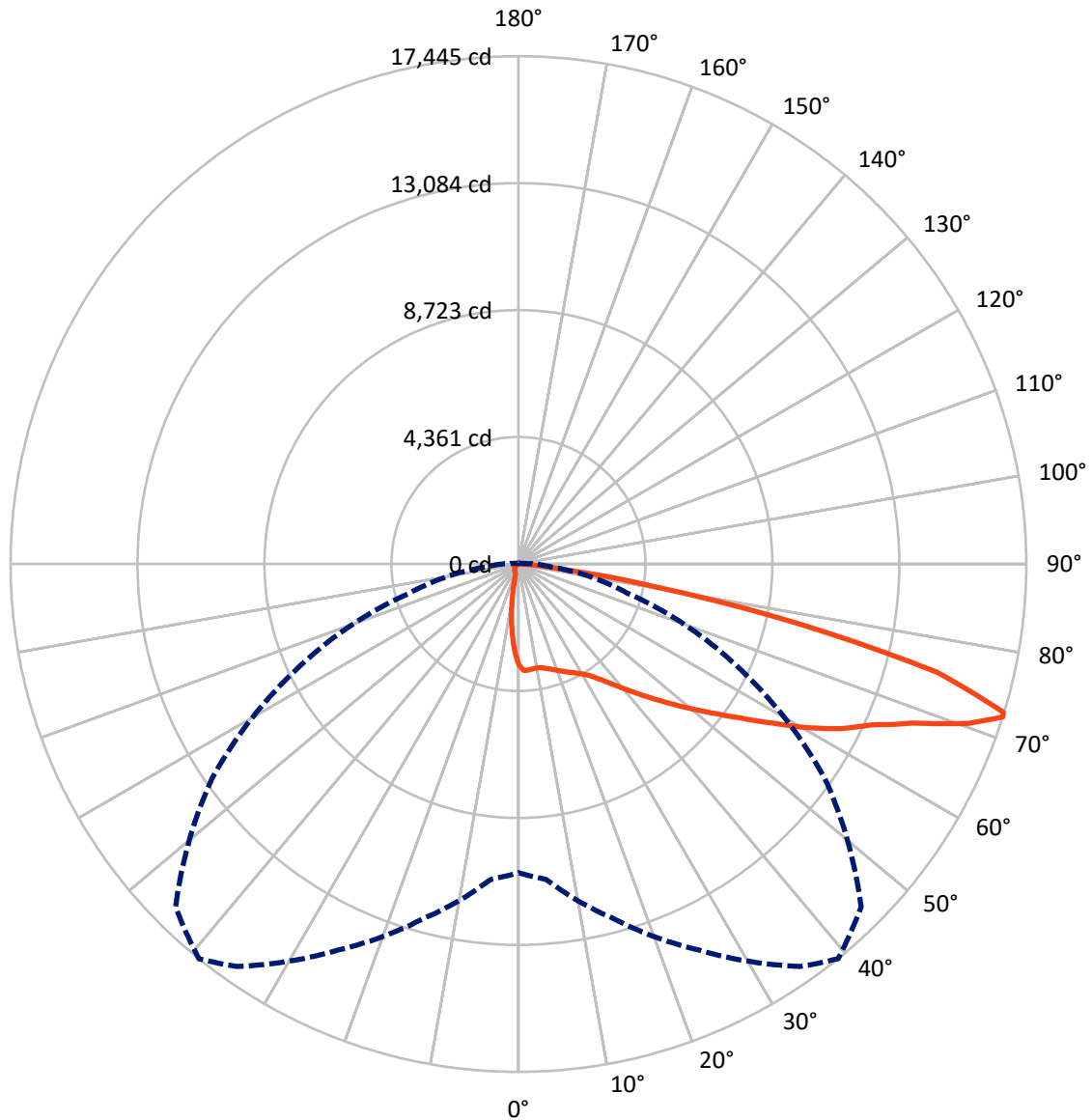


Based on 25 foot mounting height. Maximum calculated value = 5.9 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 39-Deg Lateral - - - Horizontal Cone Through 72-Deg Vertical

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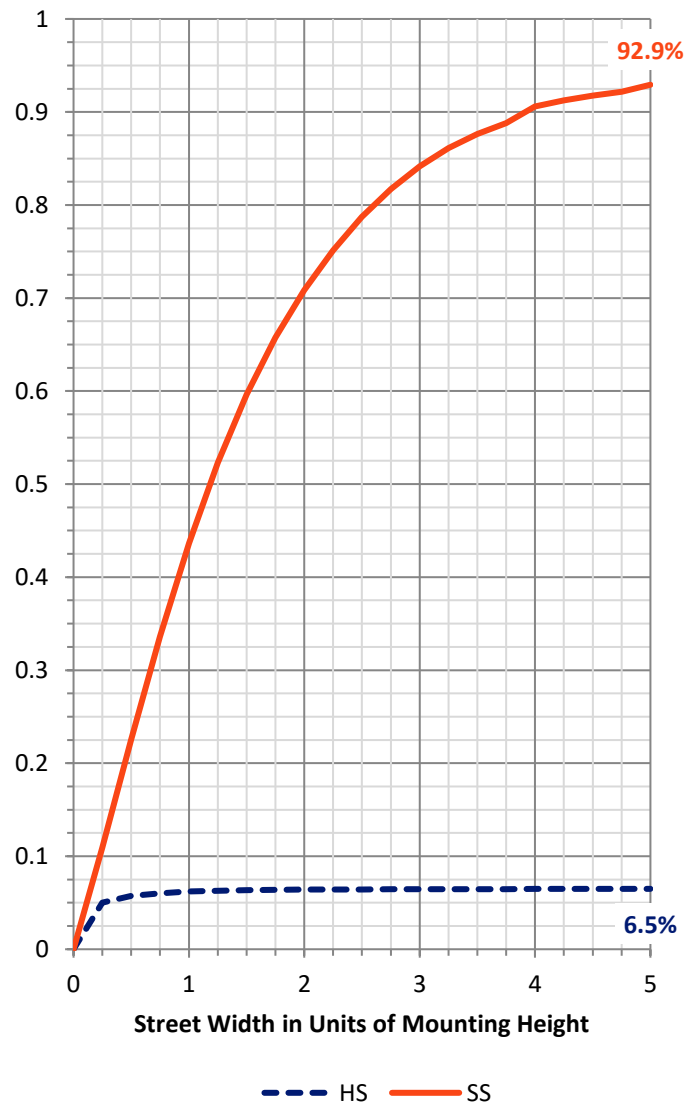
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1428.9	0.0	1428.9
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	20374.1	0.0	20374.1
	% Fixture	93.4	0.0	93.4
Total	Lumens	21803.0	0.0	21803.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	283.8	1.3
10°-20°	687.2	3.2
20°-30°	1141.3	5.2
30°-40°	1819.0	8.3
40°-50°	3002.5	13.8
50°-60°	4534.3	20.8
60°-70°	5906.6	27.1
70°-80°	3991.2	18.3
80°-90°	437.1	2.0
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°	21803.0	100.0
0°-180°	21803.0	100.0

Coefficient of Utilization



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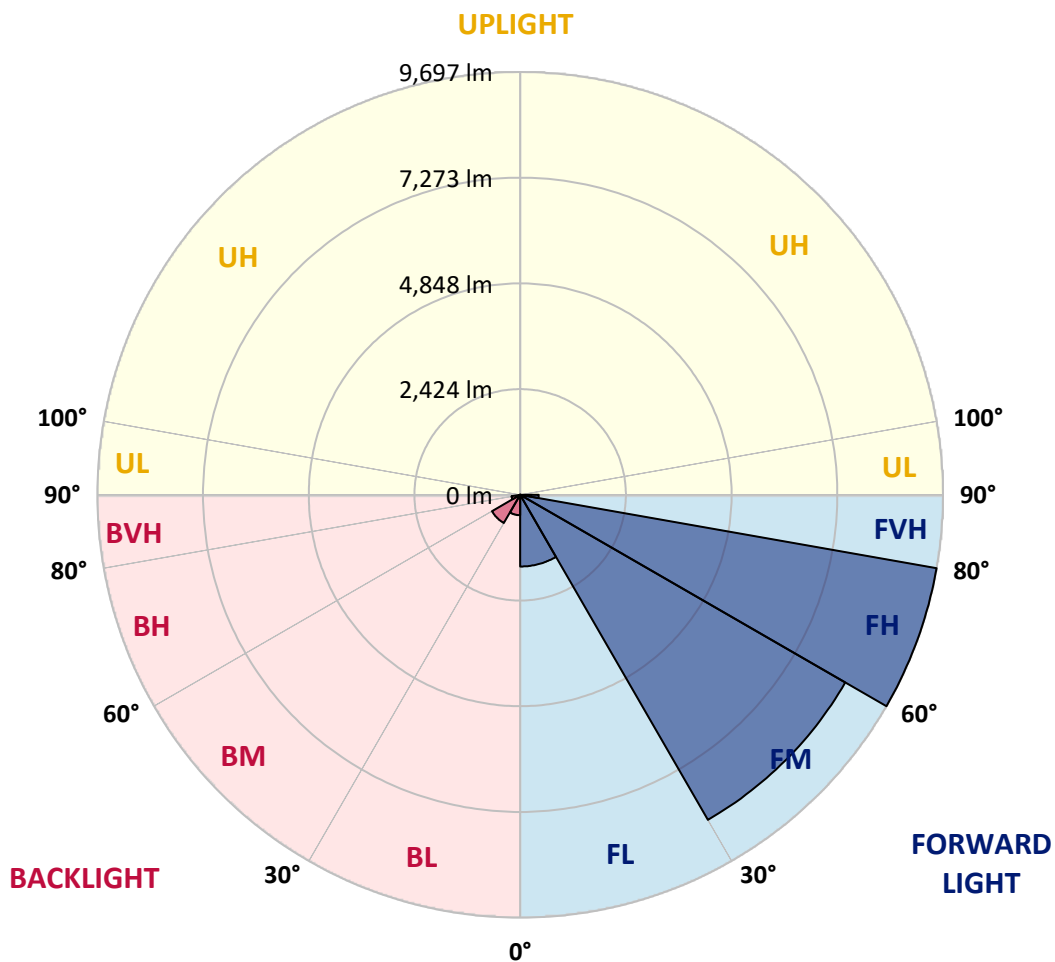
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1644.5	7.5			
FM (30°-60°)	8608.1	39.5			
FH (60°-80°)	9697.0	44.5			G4/12000
FVH (80°-90°)	424.5	1.9			G3/500
BL (0°-30°)	467.9	2.1	B1/500		
BM (30°-60°)	747.6	3.4	B1/1000		
BH (60°-80°)	200.8	0.9	B1/500		G1/500
BVH (80°-90°)	12.6	0.1			G1/100
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7
2.5°	3716.0	3722.8	3714.2	3698.8	3676.5	3662.8	3644.0	3602.8	3551.4	3506.9	3455.4
5°	3745.1	3748.5	3738.2	3709.1	3674.8	3656.0	3632.0	3587.4	3534.3	3472.6	3380.0
7.5°	3753.7	3752.0	3740.0	3704.0	3650.8	3626.8	3585.7	3530.8	3476.0	3419.4	3314.9
10°	3750.2	3750.2	3741.7	3707.4	3647.4	3625.1	3578.8	3520.6	3452.0	3395.4	3284.0
12.5°	3738.2	3745.1	3740.0	3721.1	3676.5	3659.4	3618.3	3560.0	3494.9	3436.6	3318.3
15°	3753.7	3764.0	3774.2	3767.4	3741.7	3726.2	3688.5	3628.5	3575.4	3513.7	3386.9
17.5°	3815.4	3837.7	3861.6	3863.4	3835.9	3808.5	3765.7	3704.0	3652.5	3596.0	3458.9
20°	3931.9	3949.1	3993.6	4002.2	3947.4	3907.9	3847.9	3775.9	3724.5	3676.5	3525.7
22.5°	4105.0	4123.9	4159.9	4147.9	4055.3	4009.1	3933.6	3851.4	3798.2	3770.8	3602.8
25°	4367.3	4372.4	4381.0	4327.9	4175.3	4123.9	4031.3	3938.8	3895.9	3892.5	3712.5
27.5°	4675.8	4682.7	4644.9	4526.7	4309.0	4242.2	4137.6	4053.6	4033.1	4058.8	3851.4
30°	5028.9	5030.6	4926.0	4734.1	4463.3	4389.6	4281.6	4189.0	4207.9	4271.3	4029.6
32.5°	5390.5	5373.4	5229.4	4979.2	4674.1	4585.0	4492.4	4399.8	4454.7	4583.2	4290.2
35°	5721.3	5714.5	5544.8	5253.4	4948.3	4869.5	4802.6	4704.9	4794.1	5003.2	4644.9
37.5°	6052.1	6047.0	5853.3	5549.9	5286.0	5229.4	5179.7	5104.3	5250.0	5556.8	5119.7
40°	6417.2	6408.7	6170.4	5879.0	5678.5	5647.6	5618.5	5585.9	5834.5	6261.3	5711.1
42.5°	6868.0	6830.3	6506.4	6237.3	6110.4	6119.0	6120.7	6153.3	6542.4	7099.4	6408.7
45°	7385.6	7301.7	6844.0	6621.2	6585.2	6636.6	6688.0	6823.4	7366.8	8064.4	7180.0
47.5°	7887.8	7752.4	7233.1	7034.3	7108.0	7214.2	7337.6	7601.6	8292.3	9073.9	7879.3
50°	8319.8	8180.9	7618.7	7454.2	7689.0	7846.7	8066.1	8465.5	9269.3	9927.5	8319.8
52.5°	8659.1	8549.4	8026.7	7917.0	8333.5	8549.4	8894.0	9418.4	10191.5	10489.7	8628.3
55°	8909.4	8854.5	8417.5	8432.9	9049.9	9361.9	9790.4	10383.4	10969.6	10926.8	8859.7
57.5°	9192.2	9149.4	8827.1	9041.4	9912.1	10314.9	10810.2	11286.7	11535.2	11278.1	9085.9
60°	9481.9	9495.6	9324.2	9778.4	10978.2	11423.8	11855.8	11974.0	12020.3	11634.7	9324.2
62.5°	9701.3	9759.5	9775.0	10573.7	12071.7	12452.2	12639.1	12555.1	12544.8	12112.9	9305.3
65°	9953.2	10105.8	10359.4	11446.1	13065.8	13316.1	13449.8	13571.5	13314.4	12255.1	8390.0
67.5°	10388.6	10628.5	11199.3	12515.7	14214.2	14584.5	14963.3	14834.7	13429.2	10810.2	6391.5
70°	10974.8	11267.9	12275.7	13912.6	15772.3	16392.7	16709.8	14733.6	11401.6	7469.6	3371.4
72°	10604.5	10870.2	12608.2	14625.6	16876.1	17445.1	16651.5	12851.6	8264.9	3871.9	1129.5
72.5°	10244.6	10518.8	12501.9	14617.0	16985.8	17421.1	16272.7	12109.4	7313.7	3013.2	778.2
75°	7108.0	7454.2	10717.7	13139.6	15338.6	14860.4	12450.5	7332.5	2649.8	517.6	257.1
77.5°	3674.8	3942.2	6501.2	9284.8	10690.2	9790.4	7358.2	3181.2	733.6	274.2	169.7
80°	2277.9	2409.9	3040.6	4574.7	5553.4	4857.5	3246.3	1285.5	469.6	162.8	135.4
82.5°	1179.2	1280.4	1914.5	1846.0	2051.7	1705.4	1198.1	1076.4	289.7	101.1	138.8
85°	387.4	411.4	1175.8	1227.2	877.6	589.6	531.3	1026.7	84.0	65.1	118.3
87.5°	51.4	60.0	413.1	702.7	431.9	267.4	318.8	361.7	29.1	36.0	32.6
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°	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7	3489.7
2.5°	3421.2	3398.9	3328.6	3258.3	3177.8	3104.1	3045.8	3008.1	3025.2	2968.7	2977.2
5°	3323.5	3266.9	3112.6	2946.4	2766.4	2598.4	2464.7	2365.3	2346.5	2260.8	2264.2
7.5°	3229.2	3136.6	2886.4	2612.1	2313.9	2072.2	1852.8	1660.9	1592.3	1522.0	1480.9
10°	3177.8	3050.9	2696.1	2296.8	1876.8	1522.0	1213.5	971.8	870.7	797.0	761.0
12.5°	3193.2	3025.2	2553.9	2010.5	1458.6	1007.8	685.6	509.1	447.4	413.1	401.1
15°	3244.6	3030.4	2425.3	1731.1	1061.0	610.2	402.8	344.5	339.4	337.7	335.9
17.5°	3292.6	3035.5	2289.9	1439.8	709.6	389.1	323.9	318.8	318.8	318.8	318.8
20°	3342.3	3037.2	2140.8	1134.7	466.2	318.8	305.1	301.7	305.1	305.1	305.1
22.5°	3400.6	3049.2	1996.8	838.1	344.5	300.0	291.4	289.7	291.4	291.4	289.7
25°	3472.6	3074.9	1840.8	599.9	311.9	288.0	279.4	277.7	279.4	277.7	277.7
27.5°	3568.6	3109.2	1659.2	430.2	298.2	276.0	267.4	267.4	267.4	265.7	265.7
30°	3692.0	3150.3	1415.8	339.4	284.5	264.0	257.1	257.1	255.4	253.7	253.7
32.5°	3868.5	3217.2	1150.1	306.8	269.1	248.5	241.7	243.4	241.7	240.0	238.2
35°	4118.8	3321.7	887.9	289.7	253.7	233.1	226.2	226.2	226.2	222.8	222.8
37.5°	4473.5	3481.1	665.0	272.5	238.2	217.7	209.1	209.1	207.4	204.0	205.7
40°	4912.3	3681.7	481.6	257.1	222.8	200.5	193.7	190.3	186.8	183.4	183.4
42.5°	5440.2	3877.1	361.7	241.7	207.4	186.8	178.3	174.8	168.0	164.5	162.8
45°	6031.6	4084.5	300.0	222.8	190.3	171.4	164.5	157.7	149.1	144.0	142.3
47.5°	6530.4	4211.3	267.4	204.0	173.1	156.0	149.1	138.8	128.6	125.1	125.1
50°	6830.3	4158.2	240.0	185.1	156.0	140.5	132.0	118.3	111.4	108.0	106.3
52.5°	6998.3	4000.5	217.7	169.7	140.5	123.4	111.4	99.4	96.0	92.6	92.6
55°	7113.1	3772.5	193.7	154.3	126.8	108.0	94.3	85.7	82.3	80.6	78.8
57.5°	7222.8	3494.9	171.4	140.5	113.1	96.0	80.6	77.1	70.3	68.6	68.6
60°	7255.4	3112.6	150.8	125.1	101.1	84.0	70.3	65.1	58.3	56.6	56.6
62.5°	6840.6	2476.7	133.7	106.3	89.1	72.0	61.7	54.8	48.0	48.0	48.0
65°	5716.2	1681.4	114.8	92.6	78.8	61.7	53.1	44.6	41.1	41.1	41.1
67.5°	3981.6	937.6	97.7	78.8	66.8	51.4	44.6	37.7	36.0	37.7	37.7
70°	1794.6	371.9	82.3	65.1	54.8	42.9	37.7	32.6	36.0	36.0	36.0
72°	538.2	198.8	68.6	53.1	44.6	37.7	32.6	30.9	34.3	36.0	36.0
72.5°	399.4	178.3	65.1	51.4	44.6	36.0	30.9	30.9	34.3	36.0	36.0
75°	205.7	121.7	49.7	37.7	32.6	29.1	25.7	29.1	34.3	34.3	34.3
77.5°	161.1	99.4	41.1	29.1	27.4	25.7	24.0	27.4	30.9	30.9	30.9
80°	150.8	65.1	32.6	27.4	24.0	22.3	22.3	24.0	27.4	29.1	29.1
82.5°	152.5	53.1	29.1	25.7	22.3	20.6	20.6	22.3	25.7	27.4	27.4
85°	97.7	36.0	25.7	22.3	20.6	18.9	18.9	20.6	24.0	25.7	25.7
87.5°	32.6	27.4	22.3	20.6	17.1	17.1	17.1	17.1	20.6	22.3	24.0
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)