

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: P196164

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-800-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196164
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-06-D-UNV-SL4-800-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 4000K, 800mA 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: 24253.1 lumens
Efficiency: N/A
Efficacy: 97.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B2 - U0 - G4

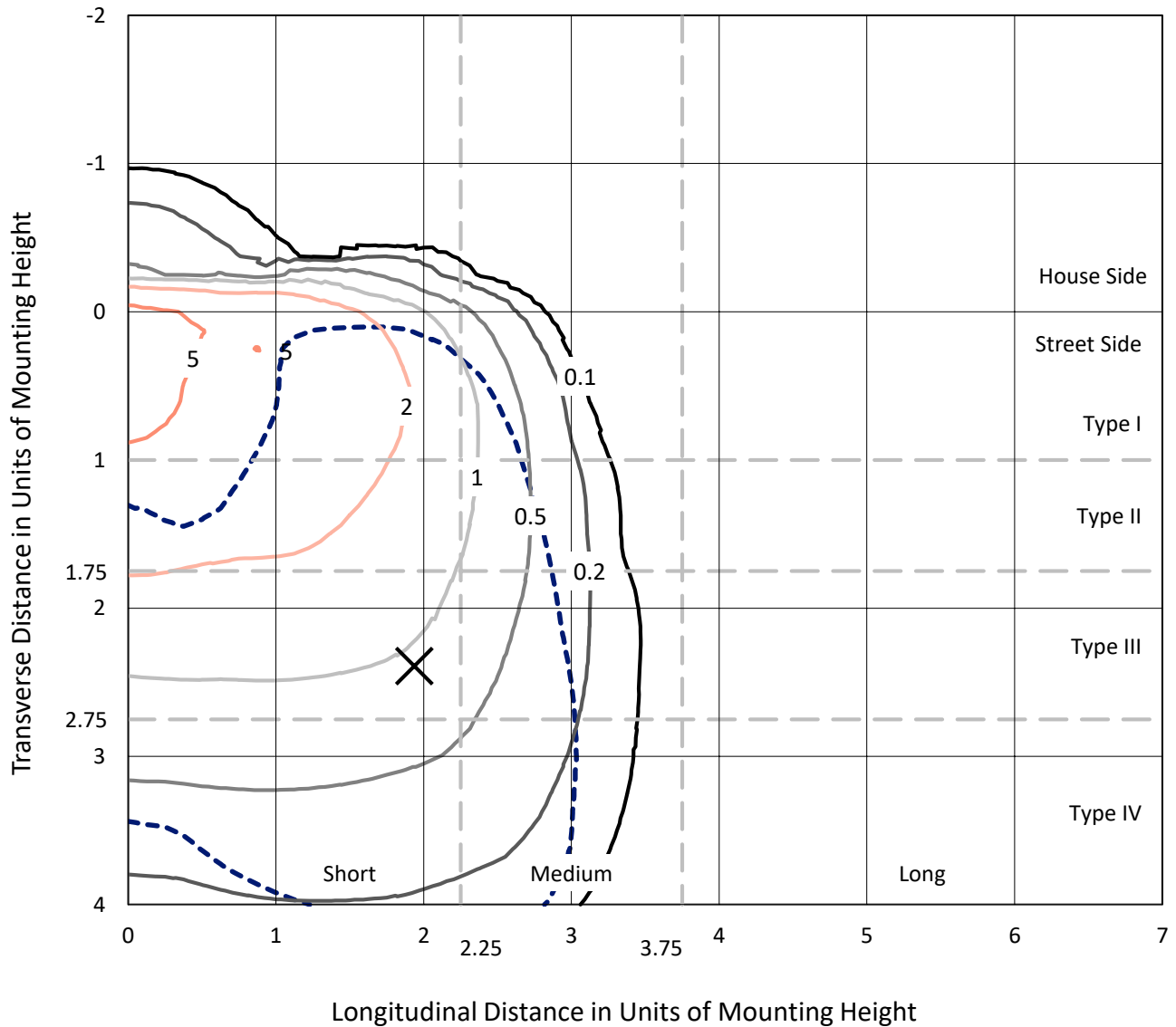
Input Watts (W): 249
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

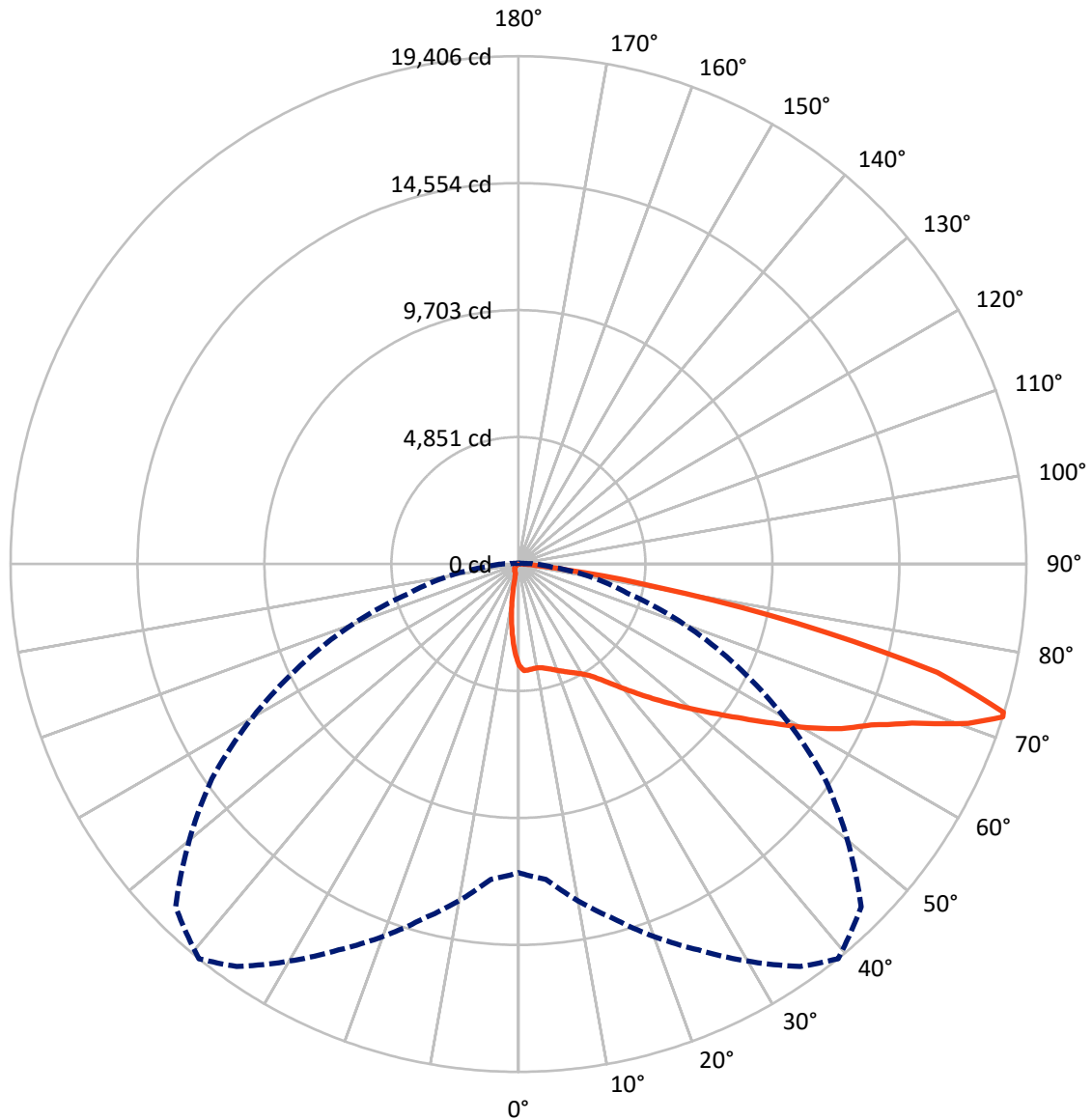
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 6.5 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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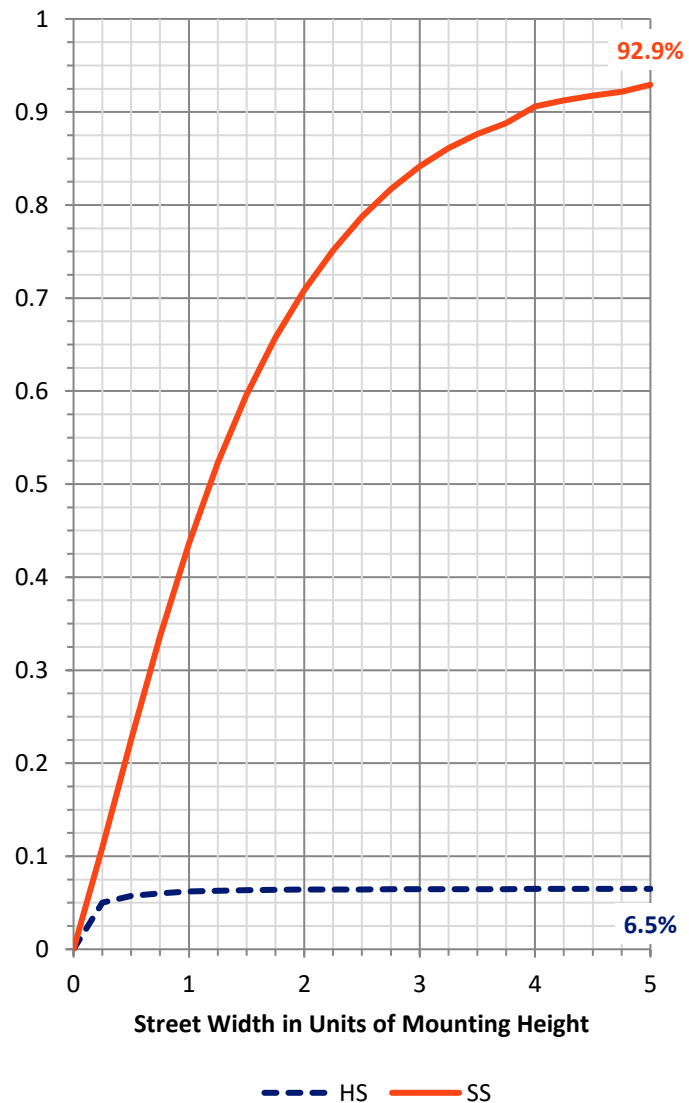
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1589.5	0.0	1589.5
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	22663.6	0.0	22663.6
	% Fixture	93.4	0.0	93.4
Total	Lumens	24253.1	0.0	24253.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	315.7	1.3
10°-20°	764.4	3.2
20°-30°	1269.5	5.2
30°-40°	2023.4	8.3
40°-50°	3339.9	13.8
50°-60°	5043.8	20.8
60°-70°	6570.4	27.1
70°-80°	4439.7	18.3
80°-90°	486.2	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°	24253.1	100.0
0°-180°	24253.1	100.0



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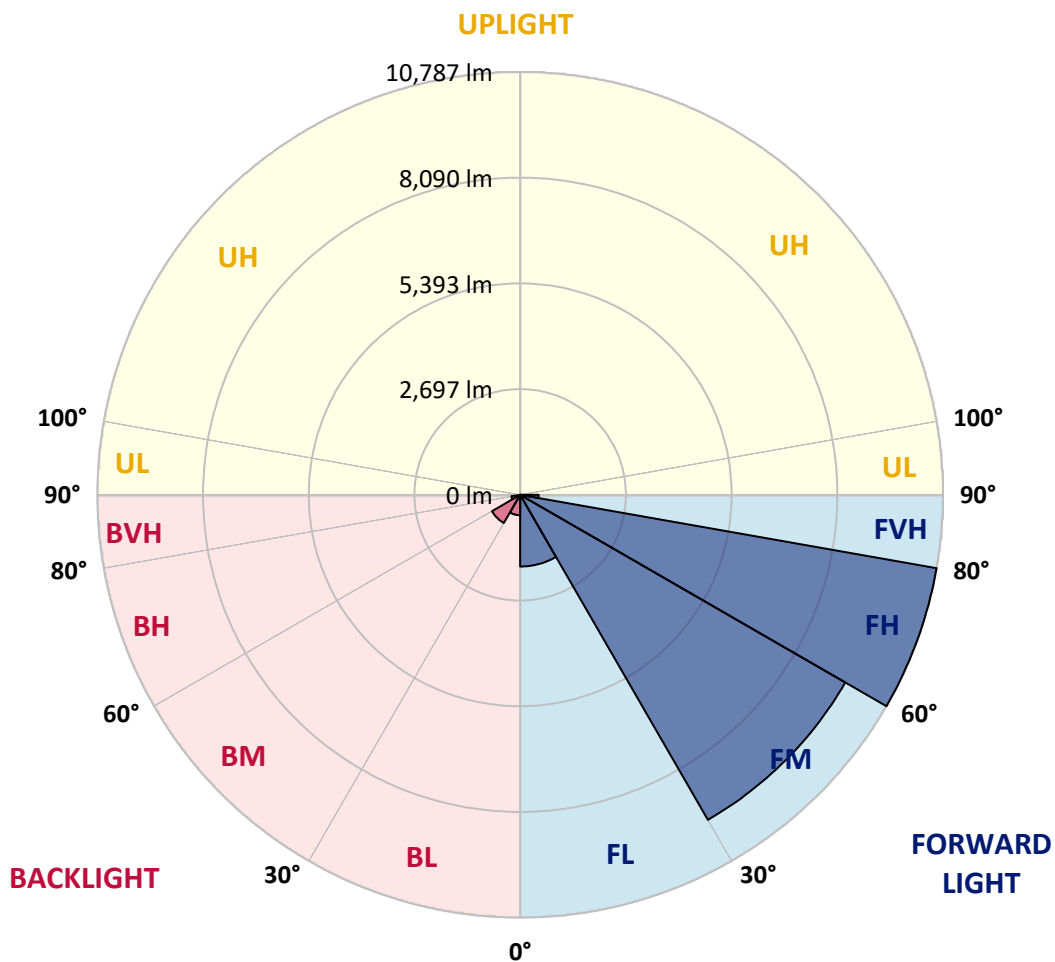
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1829.2	7.5			
FM	(30°-60°)	9575.5	39.5			
FH	(60°-80°)	10786.7	44.5			G4/12000
FVH	(80°-90°)	472.2	1.9			G3/500
BL	(0°-30°)	520.5	2.1	B2/1000		
BM	(30°-60°)	831.6	3.4	B1/1000		
BH	(60°-80°)	223.4	0.9	B1/500		G1/500
BVH	(80°-90°)	14.0	0.1			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9
2.5°	4133.5	4141.2	4131.6	4114.5	4089.7	4074.4	4053.4	4007.7	3950.5	3900.9	3843.7
5°	4166.0	4169.8	4158.3	4126.0	4087.8	4066.8	4040.1	3990.5	3931.4	3862.8	3759.9
7.5°	4175.5	4173.5	4160.2	4120.2	4061.1	4034.4	3988.7	3927.6	3866.7	3803.7	3687.4
10°	4171.7	4171.7	4162.2	4124.0	4057.3	4032.5	3981.0	3916.2	3840.0	3777.0	3653.1
12.5°	4158.3	4166.0	4160.2	4139.3	4089.7	4070.6	4024.9	3960.0	3887.6	3822.8	3691.2
15°	4175.5	4186.9	4198.4	4190.7	4162.2	4145.0	4103.1	4036.3	3977.2	3908.6	3767.4
17.5°	4244.1	4268.9	4295.6	4297.5	4267.0	4236.6	4188.9	4120.2	4063.0	4000.0	3847.5
20°	4373.7	4392.9	4442.4	4452.0	4390.9	4347.1	4280.3	4200.2	4143.1	4089.7	3921.9
22.5°	4566.4	4587.3	4627.3	4614.0	4511.0	4459.6	4375.7	4284.1	4225.1	4194.5	4007.7
25°	4858.1	4863.8	4873.3	4814.2	4644.5	4587.3	4484.4	4381.4	4333.7	4329.9	4129.8
27.5°	5201.3	5208.9	5166.9	5035.4	4793.2	4718.9	4602.6	4509.2	4486.3	4514.9	4284.1
30°	5594.0	5596.0	5479.6	5266.0	4964.8	4882.9	4762.8	4659.7	4680.7	4751.3	4482.5
32.5°	5996.3	5977.2	5817.1	5538.8	5199.4	5100.2	4997.2	4894.3	4955.3	5098.3	4772.3
35°	6364.3	6356.6	6167.9	5843.8	5504.4	5416.7	5342.4	5233.6	5332.8	5565.4	5166.9
37.5°	6732.2	6726.5	6511.1	6173.6	5880.0	5817.1	5761.8	5677.9	5839.9	6181.3	5695.1
40°	7138.4	7128.8	6863.8	6539.7	6316.6	6282.4	6249.9	6213.7	6490.1	6964.9	6352.8
42.5°	7639.8	7597.9	7237.5	6938.2	6797.1	6806.6	6808.6	6844.8	7277.6	7897.2	7128.8
45°	8215.6	8122.2	7613.1	7365.2	7325.2	7382.4	7439.6	7590.2	8194.7	8970.7	7986.8
47.5°	8774.3	8623.6	8045.9	7824.8	7906.7	8024.9	8162.2	8455.8	9224.3	10093.7	8764.7
50°	9254.7	9100.3	8474.9	8291.8	8553.1	8728.5	8972.5	9416.8	10310.9	11043.2	9254.7
52.5°	9632.2	9510.2	8928.7	8806.7	9270.0	9510.2	9893.5	10476.9	11336.8	11668.5	9597.9
55°	9910.6	9849.6	9363.4	9380.6	10067.0	10413.9	10890.6	11550.2	12202.4	12154.7	9855.3
57.5°	10225.2	10177.5	9819.1	10057.4	11026.0	11474.0	12025.0	12555.1	12831.5	12545.6	10107.0
60°	10547.4	10562.7	10372.0	10877.2	12211.9	12707.6	13188.1	13319.6	13371.1	12942.1	10372.0
62.5°	10791.4	10856.3	10873.5	11761.9	13428.3	13851.6	14059.4	13965.9	13954.5	13474.1	10351.0
65°	11071.7	11241.4	11523.6	12732.4	14534.2	14812.5	14961.3	15096.6	14810.6	13632.4	9332.9
67.5°	11556.0	11823.0	12457.8	13922.2	15811.5	16223.4	16644.7	16501.7	14938.4	12025.0	7109.8
70°	12208.1	12534.1	13655.2	15476.0	17544.7	18234.9	18587.6	16389.3	12682.9	8309.0	3750.3
72°	11796.3	12091.8	14025.1	16269.1	18772.6	19405.6	18522.8	14295.8	9193.7	4307.0	1256.5
72.5°	11395.9	11700.9	13906.9	16259.6	18894.6	19378.9	18101.4	13470.2	8135.5	3351.8	865.6
75°	7906.7	8291.8	11922.1	14616.1	17062.3	16530.4	13849.6	8156.5	2947.6	575.8	286.0
77.5°	4087.8	4385.2	7231.8	10328.1	11891.6	10890.6	8185.1	3538.7	816.0	305.0	188.7
80°	2533.8	2680.7	3382.4	5088.8	6177.4	5403.3	3611.1	1430.0	522.4	181.2	150.6
82.5°	1311.7	1424.3	2129.7	2053.5	2282.2	1897.1	1332.7	1197.4	322.2	112.5	154.5
85°	430.9	457.6	1307.9	1365.1	976.2	655.9	591.1	1142.0	93.4	72.4	131.6
87.5°	57.2	66.7	459.5	781.7	480.5	297.5	354.7	402.3	32.4	40.0	36.2
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°	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9	3881.9
2.5°	3805.6	3780.8	3702.7	3624.5	3534.9	3452.9	3388.0	3346.1	3365.2	3302.3	3311.8
5°	3696.9	3634.0	3462.4	3277.4	3077.2	2890.4	2741.7	2631.1	2610.2	2514.8	2518.6
7.5°	3592.1	3489.1	3210.7	2905.7	2573.9	2305.1	2061.0	1847.6	1771.2	1693.1	1647.4
10°	3534.9	3393.7	2999.1	2554.8	2087.7	1693.1	1349.9	1081.1	968.5	886.6	846.5
12.5°	3552.0	3365.2	2840.8	2236.5	1622.5	1121.1	762.6	566.3	497.7	459.5	446.1
15°	3609.2	3370.9	2697.8	1925.7	1180.2	678.7	448.1	383.2	377.5	375.6	373.7
17.5°	3662.6	3376.7	2547.2	1601.5	789.3	432.8	360.4	354.7	354.7	354.7	354.7
20°	3717.9	3378.5	2381.3	1262.2	518.6	354.7	339.4	335.5	339.4	339.4	339.4
22.5°	3782.8	3391.9	2221.2	932.3	383.2	333.7	324.2	322.2	324.2	324.2	322.2
25°	3862.8	3420.4	2047.7	667.3	347.0	320.3	310.8	308.8	310.8	308.8	308.8
27.5°	3969.6	3458.6	1845.6	478.5	331.7	307.0	297.5	297.5	297.5	295.5	295.5
30°	4106.8	3504.3	1574.8	377.5	316.5	293.6	286.0	286.0	284.1	282.1	282.1
32.5°	4303.2	3578.7	1279.3	341.3	299.3	276.5	268.8	270.8	268.8	266.9	265.0
35°	4581.6	3695.0	987.7	322.2	282.1	259.3	251.6	251.6	251.6	247.9	247.9
37.5°	4976.2	3872.4	739.8	303.2	265.0	242.1	232.6	232.6	230.7	226.9	228.8
40°	5464.4	4095.4	535.7	286.0	247.9	223.1	215.4	211.6	207.9	204.0	204.0
42.5°	6051.6	4312.8	402.3	268.8	230.7	207.9	198.2	194.5	186.9	183.0	181.2
45°	6709.4	4543.4	333.7	247.9	211.6	190.7	183.0	175.4	165.9	160.2	158.3
47.5°	7264.2	4684.6	297.5	226.9	192.5	173.5	165.9	154.5	143.0	139.2	139.2
50°	7597.9	4625.5	266.9	205.9	173.5	156.3	146.8	131.6	123.9	120.1	118.3
52.5°	7784.8	4450.0	242.1	188.7	156.3	137.3	123.9	110.6	106.8	102.9	102.9
55°	7912.4	4196.5	215.4	171.5	141.1	120.1	104.9	95.3	91.6	89.6	87.7
57.5°	8034.5	3887.6	190.7	156.3	125.8	106.8	89.6	85.8	78.2	76.3	76.3
60°	8070.7	3462.4	167.8	139.2	112.5	93.4	78.2	72.4	64.9	62.9	62.9
62.5°	7609.3	2755.0	148.7	118.3	99.1	80.1	68.6	61.0	53.4	53.4	53.4
65°	6358.6	1870.4	127.8	102.9	87.7	68.6	59.1	49.6	45.7	45.7	45.7
67.5°	4429.1	1042.9	108.6	87.7	74.4	57.2	49.6	41.9	40.0	41.9	41.9
70°	1996.2	413.8	91.6	72.4	61.0	47.7	41.9	36.2	40.0	40.0	40.0
72°	598.6	221.2	76.3	59.1	49.6	41.9	36.2	34.3	38.2	40.0	40.0
72.5°	444.3	198.2	72.4	57.2	49.6	40.0	34.3	34.3	38.2	40.0	40.0
75°	228.8	135.3	55.3	41.9	36.2	32.4	28.6	32.4	38.2	38.2	38.2
77.5°	179.2	110.6	45.7	32.4	30.5	28.6	26.7	30.5	34.3	34.3	34.3
80°	167.8	72.4	36.2	30.5	26.7	24.8	24.8	26.7	30.5	32.4	32.4
82.5°	169.7	59.1	32.4	28.6	24.8	22.9	22.9	24.8	28.6	30.5	30.5
85°	108.6	40.0	28.6	24.8	22.9	21.0	21.0	22.9	26.7	28.6	28.6
87.5°	36.2	30.5	24.8	22.9	19.0	19.0	19.0	19.0	22.9	24.8	26.7
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)