

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: P196175

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P196175
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-05-D-UNV-SL4-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 4000K, 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: 27488.7 lumens
Efficiency: N/A
Efficacy: 85.9 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 - G5

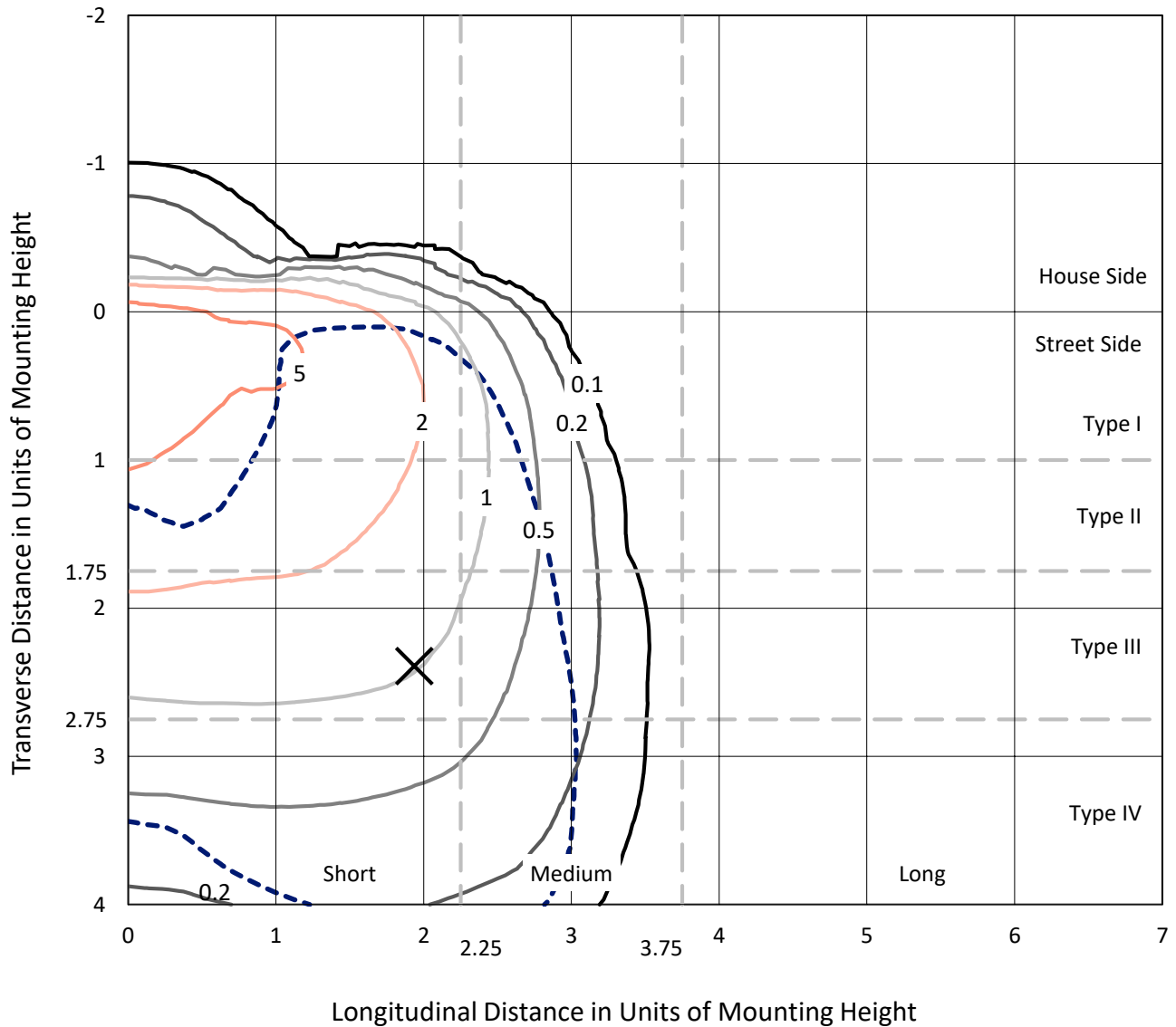
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

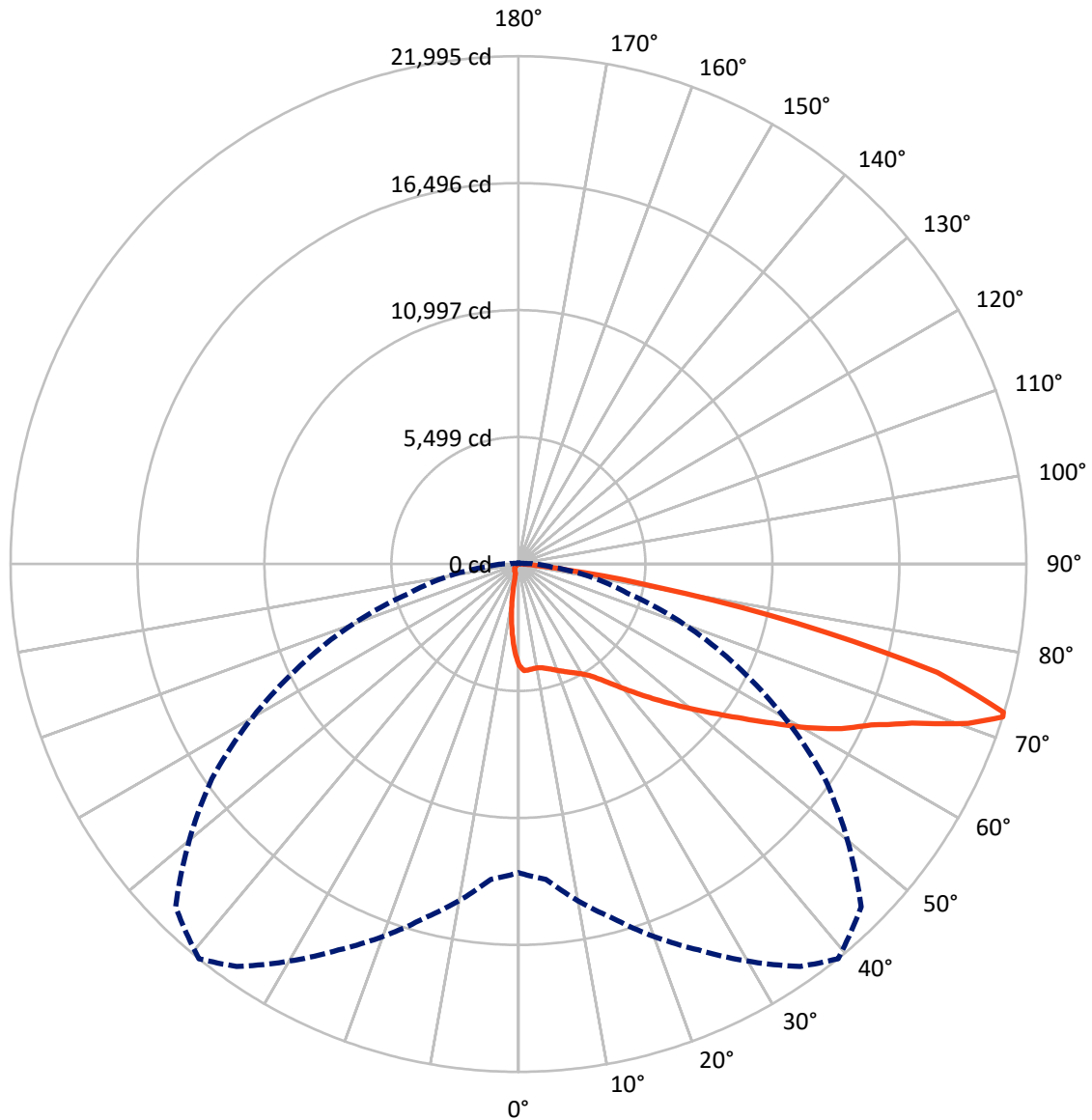
× Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.4 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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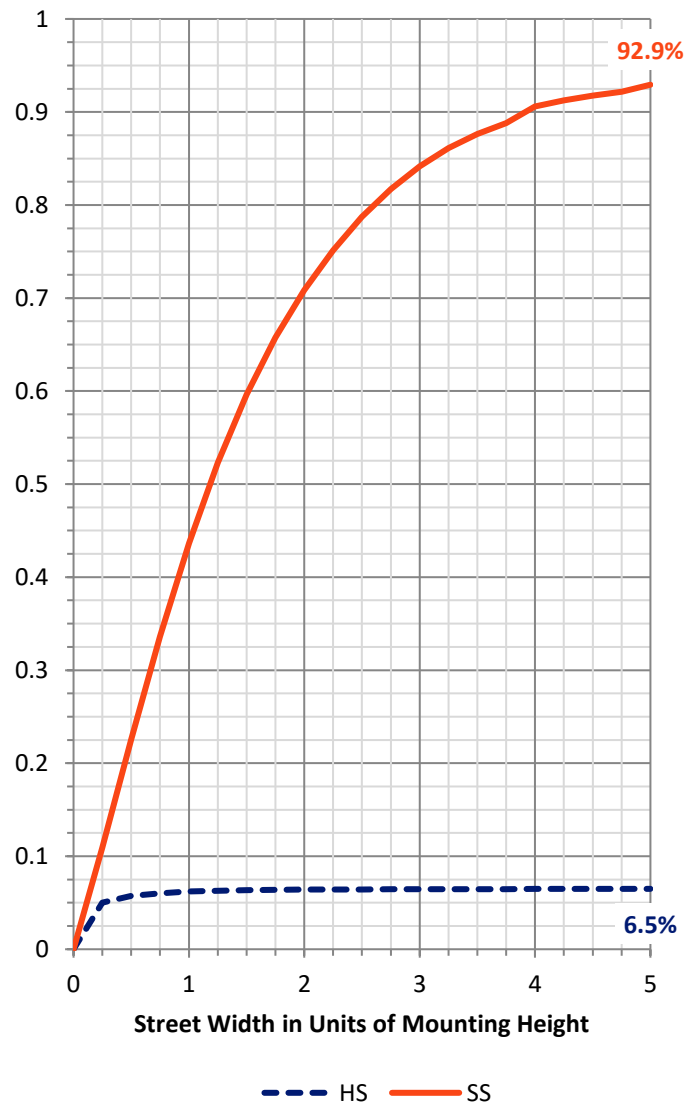
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1801.5	0.0	1801.5
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	25687.2	0.0	25687.2
	% Fixture	93.4	0.0	93.4
Total	Lumens	27488.7	0.0	27488.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	357.9	1.3
10°-20°	866.4	3.2
20°-30°	1438.9	5.2
30°-40°	2293.3	8.3
40°-50°	3785.4	13.8
50°-60°	5716.7	20.8
60°-70°	7447.0	27.1
70°-80°	5032.0	18.3
80°-90°	551.1	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°	27488.7	100.0
0°-180°	27488.7	100.0

Coefficient of Utilization



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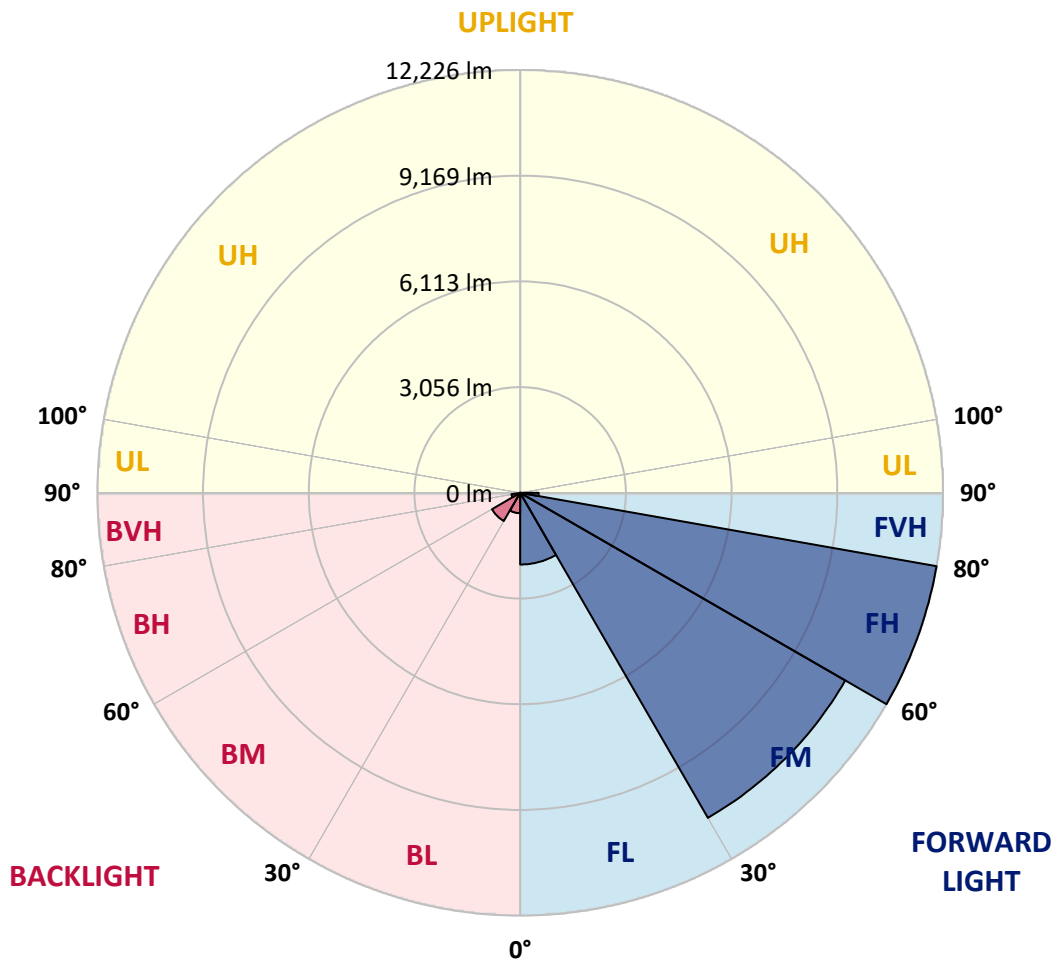
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2073.3	7.5			
FM	(30°-60°)	10852.9	39.5			
FH	(60°-80°)	12225.7	44.5			G5
FVH	(80°-90°)	535.2	1.9			G4/750
BL	(0°-30°)	589.9	2.1	B2/1000		
BM	(30°-60°)	942.6	3.4	B1/1000		
BH	(60°-80°)	253.2	0.9	B1/500		G1/500
BVH	(80°-90°)	15.8	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-G5

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7
2.5°	4685.0	4693.6	4682.9	4663.4	4635.3	4618.0	4594.3	4542.4	4477.6	4421.4	4356.5
5°	4721.7	4726.0	4713.0	4676.3	4633.1	4609.3	4579.1	4522.9	4456.0	4378.1	4261.4
7.5°	4732.6	4730.3	4715.3	4669.9	4602.9	4572.6	4520.7	4451.6	4382.4	4311.1	4179.4
10°	4728.2	4728.2	4717.4	4674.2	4598.6	4570.4	4512.1	4438.7	4352.2	4280.9	4140.4
12.5°	4713.0	4721.7	4715.3	4691.5	4635.3	4613.7	4561.8	4488.3	4406.3	4332.8	4183.7
15°	4732.6	4745.5	4758.5	4749.9	4717.4	4698.0	4650.4	4574.7	4507.8	4430.0	4270.1
17.5°	4810.3	4838.5	4868.6	4870.9	4836.3	4801.7	4747.6	4669.9	4605.0	4533.7	4360.8
20°	4957.3	4978.9	5035.1	5045.9	4976.8	4927.0	4851.3	4760.6	4695.8	4635.3	4445.1
22.5°	5175.5	5199.4	5244.7	5229.5	5112.9	5054.5	4959.5	4855.7	4788.7	4754.2	4542.4
25°	5506.1	5512.7	5523.4	5456.4	5264.1	5199.4	5082.6	4965.9	4911.9	4907.6	4680.7
27.5°	5895.2	5903.8	5856.3	5707.1	5432.7	5348.4	5216.6	5110.7	5084.8	5117.2	4855.7
30°	6340.4	6342.5	6210.6	5968.6	5627.2	5534.3	5398.1	5281.4	5305.2	5385.1	5080.5
32.5°	6796.3	6774.7	6593.1	6277.6	5893.0	5780.6	5663.9	5547.3	5616.4	5778.4	5409.0
35°	7213.3	7204.7	6990.7	6623.4	6238.8	6139.3	6055.1	5931.9	6044.2	6307.9	5856.3
37.5°	7630.4	7624.0	7379.8	6997.3	6664.4	6593.1	6530.5	6435.4	6619.1	7005.9	6454.8
40°	8090.7	8079.9	7779.5	7412.2	7159.3	7120.5	7083.7	7042.6	7355.9	7894.0	7200.3
42.5°	8659.1	8611.5	8203.0	7863.8	7703.8	7714.7	7716.8	7758.0	8248.5	8950.7	8079.9
45°	9311.6	9205.7	8628.8	8347.9	8302.5	8367.3	8432.2	8602.8	9287.9	10167.4	9052.3
47.5°	9944.8	9774.1	9119.3	8868.7	8961.6	9095.6	9251.2	9583.9	10454.8	11440.2	9934.0
50°	10489.3	10314.3	9605.5	9398.1	9694.1	9893.0	10169.6	10673.1	11686.6	12516.4	10489.3
52.5°	10917.2	10778.9	10119.8	9981.5	10506.6	10778.9	11213.3	11874.6	12849.2	13225.2	10878.4
55°	11232.7	11163.6	10612.6	10632.0	11410.0	11803.2	12343.5	13091.2	13830.3	13776.2	11170.1
57.5°	11589.3	11535.3	11129.0	11399.2	12497.0	13004.8	13629.3	14230.1	14543.4	14219.2	11455.3
60°	11954.5	11971.8	11755.8	12328.4	13841.0	14402.9	14947.5	15096.6	15154.9	14668.7	11755.8
62.5°	12231.1	12304.6	12324.1	13331.1	15219.8	15699.5	15935.0	15829.1	15816.1	15271.6	11731.9
65°	12548.8	12741.2	13060.9	14431.0	16473.1	16788.7	16957.1	17110.6	16786.5	15451.0	10578.0
67.5°	13097.7	13400.2	14119.8	15779.4	17921.0	18387.7	18865.4	18703.2	16931.3	13629.3	8058.3
70°	13836.7	14206.2	15476.9	17540.6	19885.3	20667.6	21067.4	18575.8	14374.8	9417.5	4250.7
72°	13370.0	13704.9	15896.1	18439.6	21277.0	21994.5	20993.9	16203.0	10420.2	4881.6	1424.0
72.5°	12916.2	13261.9	15762.1	18428.8	21415.3	21964.2	20516.3	15267.3	9220.9	3799.0	981.1
75°	8961.6	9398.1	13512.6	16566.1	19338.6	18735.7	15697.4	9244.6	3340.9	652.6	324.2
77.5°	4633.1	4970.2	8196.6	11706.0	13478.0	12343.5	9277.0	4010.8	924.8	345.8	213.9
80°	2871.9	3038.4	3833.6	5767.6	7001.6	6124.2	4092.9	1620.8	592.1	205.3	170.7
82.5°	1486.8	1614.2	2413.9	2327.4	2586.7	2150.1	1510.5	1357.0	365.2	127.5	175.0
85°	488.4	518.6	1482.5	1547.2	1106.4	743.4	669.9	1294.4	105.9	82.1	149.1
87.5°	64.9	75.6	520.8	886.0	544.5	337.1	401.9	455.9	36.7	45.4	41.0
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°	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7	4399.7
2.5°	4313.3	4285.2	4196.7	4108.1	4006.5	3913.5	3840.1	3792.5	3814.2	3742.8	3753.6
5°	4190.1	4118.8	3924.3	3714.7	3487.9	3276.0	3107.5	2982.1	2958.4	2850.4	2854.6
7.5°	4071.2	3954.6	3639.0	3293.3	2917.4	2612.6	2336.0	2094.0	2007.5	1919.0	1867.1
10°	4006.5	3846.5	3399.3	2895.7	2366.3	1919.0	1529.9	1225.3	1097.7	1004.8	959.4
12.5°	4025.9	3814.2	3219.8	2534.9	1839.0	1270.6	864.4	641.8	564.1	520.8	505.6
15°	4090.8	3820.6	3057.8	2182.6	1337.6	769.3	507.8	434.3	427.9	425.8	423.5
17.5°	4151.2	3827.1	2887.1	1815.2	894.7	490.5	408.5	401.9	401.9	401.9	401.9
20°	4213.9	3829.2	2699.1	1430.6	587.8	401.9	384.6	380.3	384.6	384.6	384.6
22.5°	4287.4	3844.4	2517.6	1056.7	434.3	378.2	367.3	365.2	367.3	367.3	365.2
25°	4378.1	3876.8	2320.9	756.4	393.3	363.0	352.2	350.1	352.2	350.1	350.1
27.5°	4499.1	3920.0	2091.8	542.4	376.0	347.9	337.1	337.1	337.1	334.9	334.9
30°	4654.7	3971.9	1784.9	427.9	358.7	332.8	324.2	324.2	322.0	319.8	319.8
32.5°	4877.3	4056.2	1450.0	386.8	339.3	313.3	304.7	306.9	304.7	302.5	300.3
35°	5192.8	4188.0	1119.4	365.2	319.8	293.9	285.2	285.2	285.2	280.9	280.9
37.5°	5640.1	4389.0	838.4	343.6	300.3	274.5	263.6	263.6	261.5	257.2	259.3
40°	6193.4	4641.7	607.2	324.2	280.9	252.9	244.2	239.9	235.6	231.2	231.2
42.5°	6859.0	4888.2	455.9	304.7	261.5	235.6	224.7	220.4	211.8	207.5	205.3
45°	7604.5	5149.6	378.2	280.9	239.9	216.0	207.5	198.8	188.0	181.5	179.3
47.5°	8233.3	5309.5	337.1	257.2	218.3	196.6	188.0	175.0	162.0	157.7	157.7
50°	8611.5	5242.5	302.5	233.3	196.6	177.2	166.4	149.1	140.5	136.2	134.0
52.5°	8823.3	5043.8	274.5	213.9	177.2	155.6	140.5	125.3	121.0	116.7	116.7
55°	8968.0	4756.3	244.2	194.5	159.9	136.2	118.9	108.0	103.7	101.6	99.4
57.5°	9106.3	4406.3	216.0	177.2	142.6	121.0	101.6	97.3	88.6	86.4	86.4
60°	9147.4	3924.3	190.2	157.7	127.5	105.9	88.6	82.1	73.4	71.3	71.3
62.5°	8624.5	3122.7	168.6	134.0	112.3	90.7	77.7	69.2	60.5	60.5	60.5
65°	7206.9	2120.0	144.7	116.7	99.4	77.7	67.0	56.2	51.9	51.9	51.9
67.5°	5019.9	1182.0	123.2	99.4	84.3	64.9	56.2	47.6	45.4	47.6	47.6
70°	2262.6	468.9	103.7	82.1	69.2	54.0	47.6	41.0	45.4	45.4	45.4
72°	678.5	250.6	86.4	67.0	56.2	47.6	41.0	38.9	43.2	45.4	45.4
72.5°	503.5	224.7	82.1	64.9	56.2	45.4	38.9	38.9	43.2	45.4	45.4
75°	259.3	153.4	62.7	47.6	41.0	36.7	32.4	36.7	43.2	43.2	43.2
77.5°	203.2	125.3	51.9	36.7	34.6	32.4	30.3	34.6	38.9	38.9	38.9
80°	190.2	82.1	41.0	34.6	30.3	28.1	28.1	30.3	34.6	36.7	36.7
82.5°	192.3	67.0	36.7	32.4	28.1	25.9	25.9	28.1	32.4	34.6	34.6
85°	123.2	45.4	32.4	28.1	25.9	23.7	23.7	25.9	30.3	32.4	32.4
87.5°	41.0	34.6	28.1	25.9	21.6	21.6	21.6	21.6	25.9	28.1	30.3
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)