

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: P270681

Luminaire Tested: **NAV-AF-06-D-UNV-SL4-7027**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270681
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P24284)
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-SL4-7027
Description: NAVION ROADWAY AND AREA LUMINAIRE
(6) 70 CRI, 2700K, 1050mA LIGHTSQUARES WITH 16 LEDS EACH AND TYPE IV
SPILL LIGHT ELIMINATOR OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 29856.7 lumens
Efficiency: N/A
Efficacy: 89.7 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

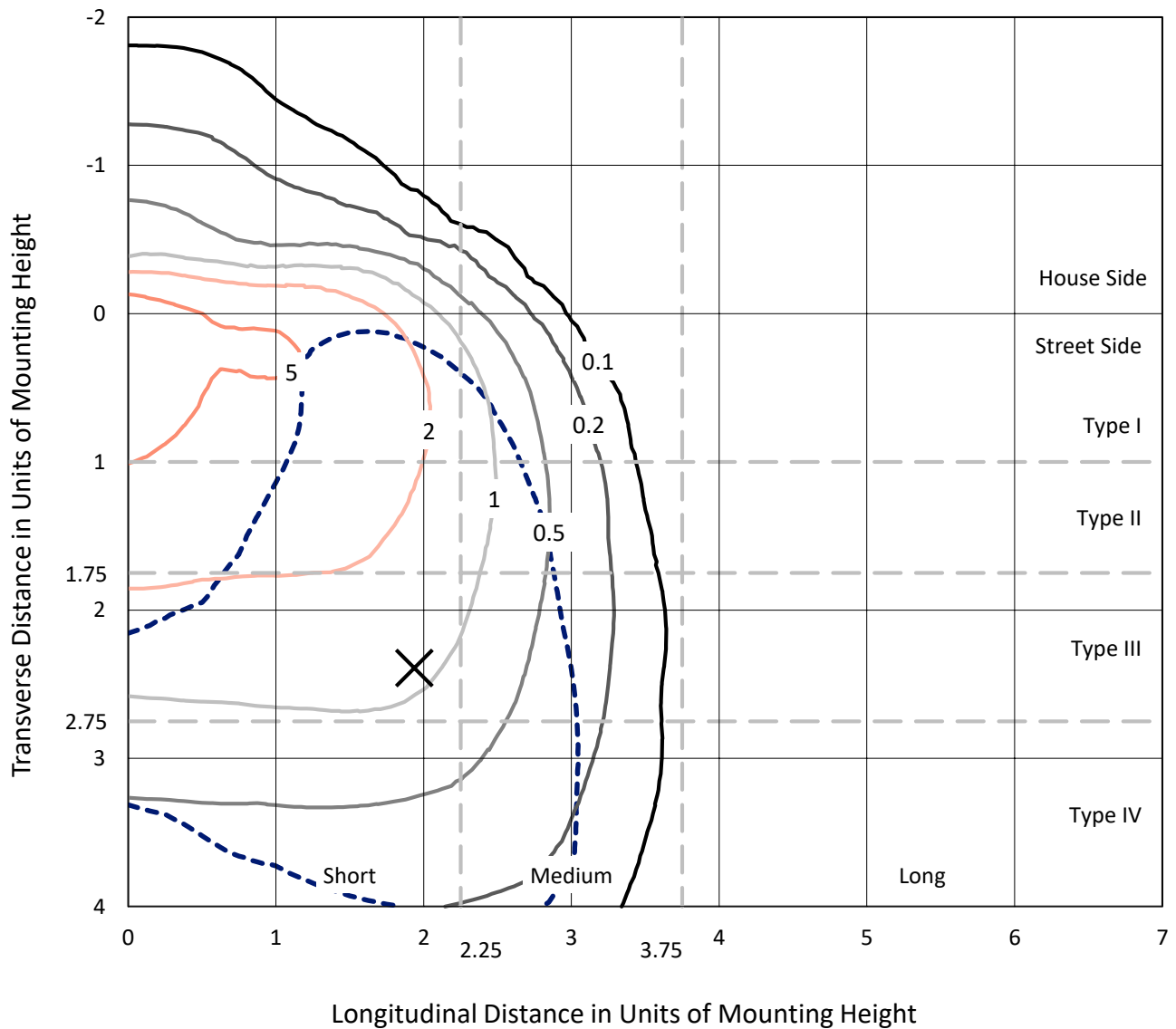
Input Watts (W): 333
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

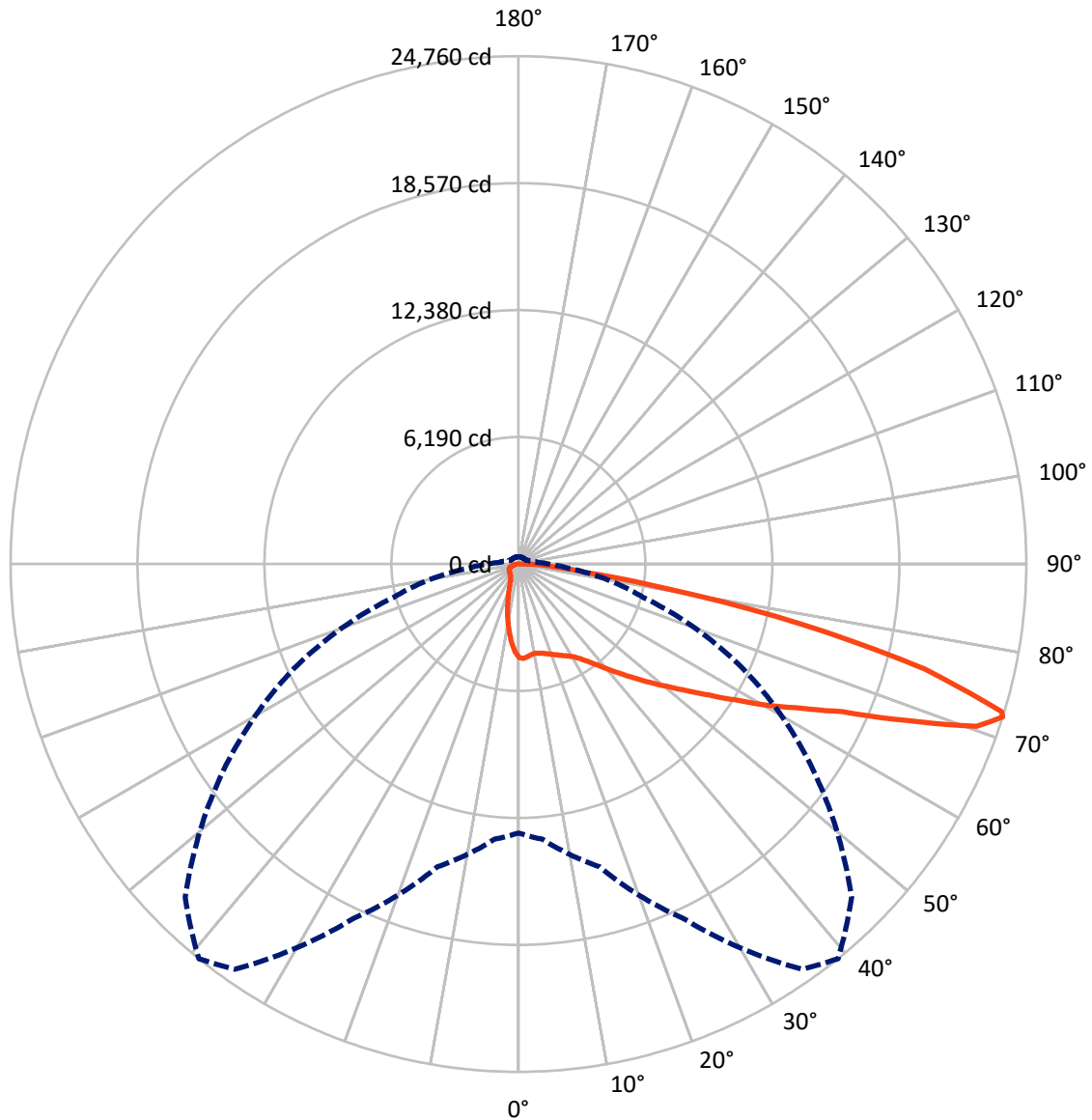
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.3 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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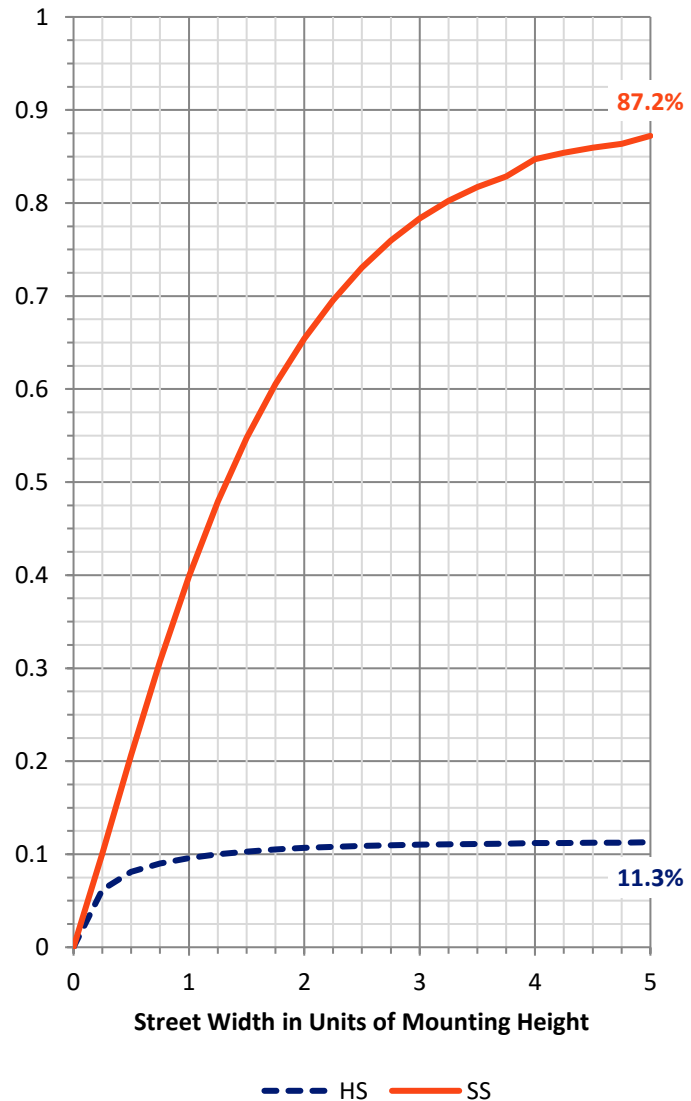
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	3423.5	0.0	3423.5
	% Fixture	11.5	0.0	11.5
Street Side	Lumens	26433.2	0.0	26433.2
	% Fixture	88.5	0.0	88.5
Total	Lumens	29856.7	0.0	29856.7
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	391.8	1.3
10°-20°	984.6	3.3
20°-30°	1534.4	5.1
30°-40°	2362.5	7.9
40°-50°	3851.4	12.9
50°-60°	5984.7	20.0
60°-70°	8010.2	26.8
70°-80°	5760.5	19.3
80°-90°	976.5	3.3
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°	29856.7	100.0
0°-180°	29856.7	100.0

Coefficient of Utilization



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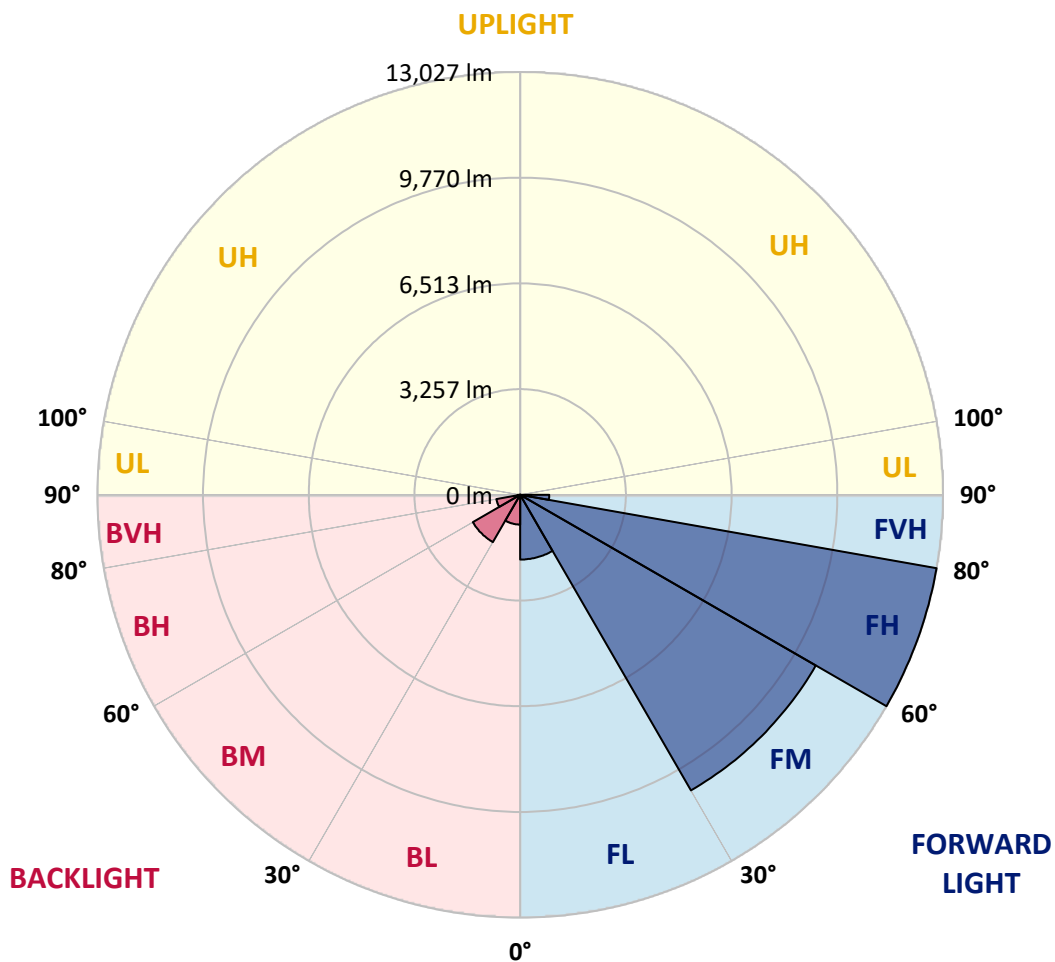
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1994.4	6.7			
FM	(30°-60°)	10516.1	35.2			
FH	(60°-80°)	13026.9	43.6			G5
FVH	(80°-90°)	895.8	3.0			G5
BL	(0°-30°)	916.5	3.1	B2/1000		
BM	(30°-60°)	1682.5	5.6	B2/2500		
BH	(60°-80°)	743.8	2.5	B2/1000		G2/1000
BVH	(80°-90°)	80.7	0.3			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°	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6
2.5°	4657.8	4659.9	4653.8	4635.9	4619.8	4611.8	4597.7	4573.7	4541.7	4519.6	4501.5
5°	4613.8	4619.8	4615.9	4585.7	4557.6	4541.7	4519.6	4485.4	4443.3	4425.4	4383.3
7.5°	4579.6	4583.7	4571.7	4537.6	4483.5	4463.5	4423.3	4379.2	4341.1	4315.1	4265.1
10°	4555.7	4559.6	4549.6	4515.6	4455.5	4431.3	4383.3	4335.2	4285.1	4252.9	4196.9
12.5°	4521.6	4529.6	4529.6	4513.5	4473.5	4457.4	4409.3	4357.1	4311.1	4277.1	4206.9
15°	4515.6	4525.7	4543.5	4541.7	4529.6	4517.5	4479.5	4427.3	4387.3	4347.2	4261.0
17.5°	4565.6	4587.7	4623.8	4635.9	4627.8	4601.7	4557.6	4509.5	4465.5	4427.3	4321.1
20°	4691.9	4704.0	4758.1	4782.0	4742.1	4704.0	4645.9	4583.7	4543.5	4513.5	4377.4
22.5°	4882.4	4898.4	4942.5	4944.5	4860.3	4814.1	4740.0	4663.9	4625.8	4613.8	4453.4
25°	5187.0	5183.0	5195.0	5145.0	4992.6	4938.4	4848.2	4760.1	4734.0	4758.1	4565.6
27.5°	5551.7	5541.7	5503.6	5373.4	5142.8	5072.6	4964.6	4886.3	4886.3	4942.5	4718.0
30°	5972.7	5962.6	5838.4	5619.8	5321.3	5241.2	5126.8	5044.7	5086.7	5195.0	4924.4
32.5°	6417.6	6381.5	6207.2	5914.5	5575.8	5487.7	5377.3	5293.3	5373.4	5557.8	5221.0
35°	6836.6	6816.3	6602.0	6255.3	5904.5	5830.3	5754.2	5650.0	5778.3	6064.8	5639.9
37.5°	7269.4	7253.4	6990.8	6622.0	6305.4	6255.3	6191.1	6119.0	6325.3	6702.2	6207.2
40°	7752.5	7720.4	7389.6	7020.9	6772.3	6748.2	6714.2	6694.2	7026.9	7588.1	6924.7
42.5°	8299.6	8237.5	7810.6	7459.7	7281.4	7301.5	7283.4	7363.5	7872.7	8610.3	7778.5
45°	8924.9	8800.6	8229.5	7926.7	7844.5	7924.8	7962.8	8167.3	8872.7	9790.6	8732.5
47.5°	9510.1	9349.7	8688.3	8433.8	8479.9	8618.2	8726.5	9087.3	9969.1	10957.2	9706.5
50°	10049.2	9868.9	9179.4	8958.9	9183.5	9379.8	9604.3	10113.4	11135.6	12157.8	10600.4
52.5°	10448.0	10317.8	9670.4	9532.2	9991.2	10251.6	10610.5	11253.8	12314.1	13302.1	11398.1
55°	10756.8	10686.5	10149.5	10189.6	10905.1	11278.0	11712.8	12452.3	13560.8	14328.3	12039.4
57.5°	11113.6	11061.4	10696.7	10983.2	12039.4	12508.4	13021.6	13843.3	14747.3	15232.2	12542.6
60°	11490.3	11490.3	11305.9	11939.3	13458.4	13995.7	14506.6	15146.1	15929.7	16046.0	12746.9
62.5°	11775.0	11849.1	11915.2	12957.4	14805.3	15472.8	16033.9	16647.2	17154.4	16446.8	12265.9
65°	12187.8	12346.1	12718.9	14133.9	16472.8	17346.7	18104.4	18619.3	18146.4	16128.1	10696.7
67.5°	12897.2	13131.9	13925.4	15885.5	19026.2	20335.0	21070.6	20180.8	17952.0	14121.9	8193.4
70°	13536.6	13867.3	15224.3	18108.4	22345.2	23704.1	23365.5	19818.0	15635.1	10351.9	5040.7
72°	13111.8	13472.5	15284.3	19076.3	24119.0	24760.4	22974.6	17563.1	12081.6	6317.4	2485.3
72.5°	12833.1	13208.0	15089.9	19052.3	24167.1	24626.1	22431.4	16667.2	10967.1	5527.7	2010.2
75°	10720.7	11041.3	12975.5	16885.7	21297.0	20455.2	17505.0	10786.8	5040.7	1785.8	1034.2
77.5°	7000.9	7245.3	8946.8	11698.7	14917.6	14107.8	10654.5	5050.7	1890.0	1084.3	777.7
80°	3517.5	3691.9	4788.1	6151.1	8051.0	7407.7	4918.4	2443.2	1264.6	783.6	611.2
82.5°	2447.3	2607.5	3297.0	3140.7	3365.1	3256.9	2312.9	2038.3	946.0	495.1	320.6
85°	2052.4	2218.8	2727.8	2238.8	1831.9	1669.5	1657.6	1926.1	625.3	244.5	270.6
87.5°	1789.9	2042.3	2250.8	1635.5	1256.6	1108.4	1220.5	1765.8	198.4	134.2	82.1
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°	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6	4559.6
2.5°	4471.5	4465.5	4435.4	4389.3	4355.3	4333.2	4291.1	4289.0	4293.1	4257.0	4271.0
5°	4345.2	4321.1	4243.0	4136.8	4050.5	3968.4	3878.3	3848.1	3822.1	3768.0	3774.0
7.5°	4213.0	4170.8	4034.6	3860.1	3693.8	3541.5	3391.2	3317.0	3260.8	3190.8	3190.8
10°	4134.8	4068.7	3860.1	3605.6	3341.1	3118.6	2894.1	2759.9	2661.7	2571.5	2565.4
12.5°	4130.8	4030.5	3740.0	3389.1	3026.4	2713.7	2407.1	2200.7	2054.3	1948.2	1938.2
15°	4162.8	4022.5	3639.8	3186.7	2729.8	2322.8	1944.1	1681.5	1495.1	1376.9	1364.9
17.5°	4190.9	4012.5	3531.4	2974.3	2441.1	1946.1	1525.2	1252.6	1076.3	980.1	970.1
20°	4217.0	3990.5	3393.2	2749.8	2122.4	1593.4	1192.5	972.1	855.8	801.6	795.7
22.5°	4255.0	3970.4	3248.9	2497.3	1809.8	1296.8	984.2	825.7	763.6	737.6	733.6
25°	4317.2	3972.5	3108.6	2238.8	1523.3	1080.3	851.9	753.6	719.5	701.4	701.4
27.5°	4407.4	3996.5	2970.2	1976.2	1280.8	932.0	773.6	715.5	693.5	679.5	675.4
30°	4539.7	4040.5	2824.0	1727.7	1088.2	829.8	727.5	691.4	673.4	661.4	659.4
32.5°	4732.0	4118.6	2669.7	1501.2	942.1	757.6	693.5	671.5	657.4	647.4	645.3
35°	5018.7	4257.0	2519.3	1308.8	837.8	705.4	665.5	647.4	639.4	635.3	633.3
37.5°	5439.4	4479.5	2377.1	1158.5	769.6	671.5	637.3	627.3	623.3	623.3	623.3
40°	5968.6	4772.1	2248.7	1052.3	731.6	645.3	617.3	609.3	609.3	611.2	611.2
42.5°	6612.0	5138.8	2138.5	980.1	709.5	627.3	603.3	599.3	597.3	597.3	599.3
45°	7359.5	5571.7	2070.4	923.9	693.5	617.3	593.2	591.3	583.2	579.2	579.2
47.5°	8111.2	6034.8	2066.5	891.8	673.4	605.3	583.2	583.2	567.2	559.1	561.3
50°	8812.6	6449.7	2110.5	883.8	661.4	587.2	573.2	575.3	553.1	543.1	541.1
52.5°	9377.9	6766.4	2164.6	894.0	661.4	571.2	555.2	565.3	541.1	529.1	527.1
55°	9814.8	6986.7	2184.6	915.9	669.3	557.2	539.2	555.2	537.1	521.0	521.0
57.5°	10127.4	7056.9	2098.4	926.0	681.5	555.2	523.2	553.1	543.1	523.2	523.2
60°	10013.1	6650.1	1777.7	887.9	679.5	551.2	511.0	557.2	563.1	541.1	541.1
62.5°	9121.3	5563.8	1427.0	801.6	645.3	537.1	497.0	553.1	577.3	569.2	565.3
65°	7425.7	4080.6	1106.4	699.5	587.2	507.1	466.9	517.2	545.1	553.1	555.2
67.5°	5233.0	2583.4	859.8	595.2	515.1	462.9	433.0	457.0	466.9	471.0	479.1
70°	2862.1	1399.0	683.4	501.1	441.0	418.9	396.8	398.8	394.9	390.9	394.9
72°	1437.1	913.9	577.3	434.9	390.9	376.7	366.8	360.8	360.8	354.7	356.7
72.5°	1236.5	849.7	557.2	418.9	378.7	366.8	358.8	352.8	350.8	346.7	348.7
75°	823.7	673.4	465.1	350.8	322.8	314.6	318.7	312.7	314.6	310.6	312.7
77.5°	665.5	579.2	394.9	296.6	276.6	264.6	272.5	274.6	278.6	274.6	272.5
80°	557.2	493.0	330.7	244.5	230.4	220.4	224.4	238.5	240.4	228.4	226.6
82.5°	360.8	396.8	260.6	190.4	176.3	172.4	182.4	196.4	200.4	184.4	180.4
85°	302.6	318.7	188.5	130.3	116.2	112.3	132.3	146.3	156.3	140.2	136.4
87.5°	84.3	156.3	92.2	62.2	52.1	52.1	64.0	76.1	90.2	92.2	92.2
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)