

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: P270607

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7027-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P270607
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-SL4-7027-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 70 CRI, 2700K, 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: 23346.5 lumens
Efficiency: N/A
Efficacy: 73.0 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): 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

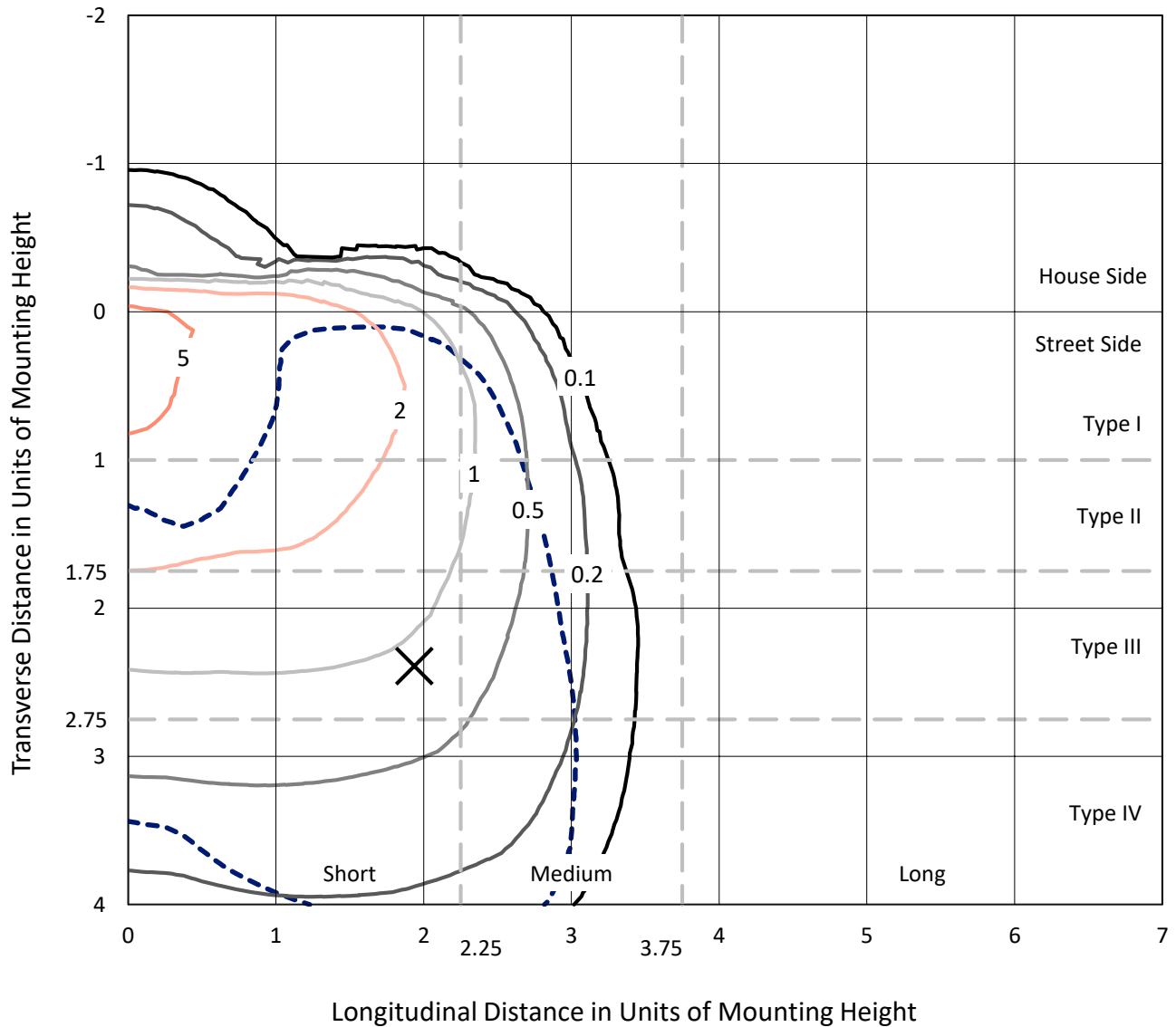


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

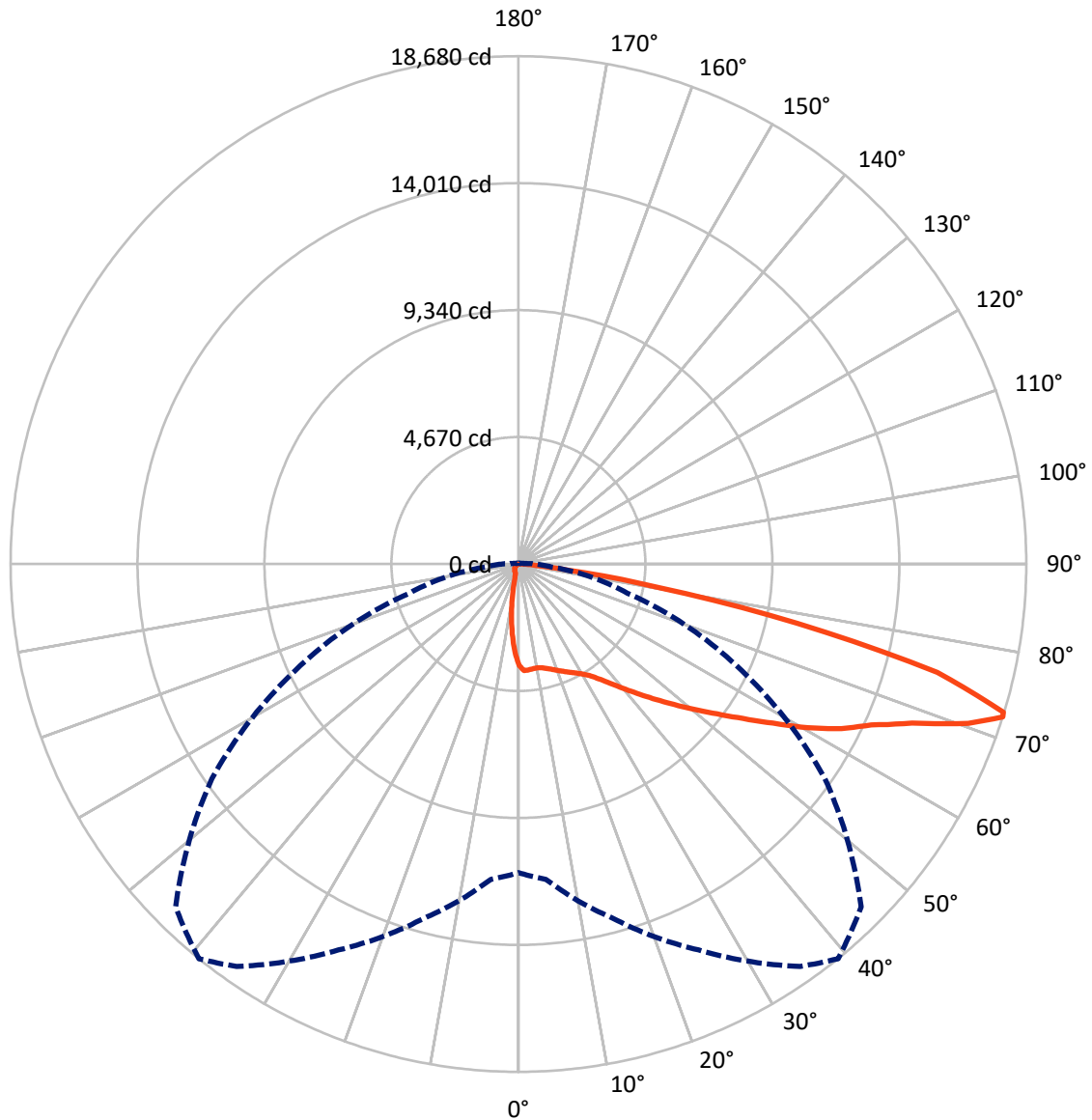


Based on 25 foot mounting height. Maximum calculated value = 6.3 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



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

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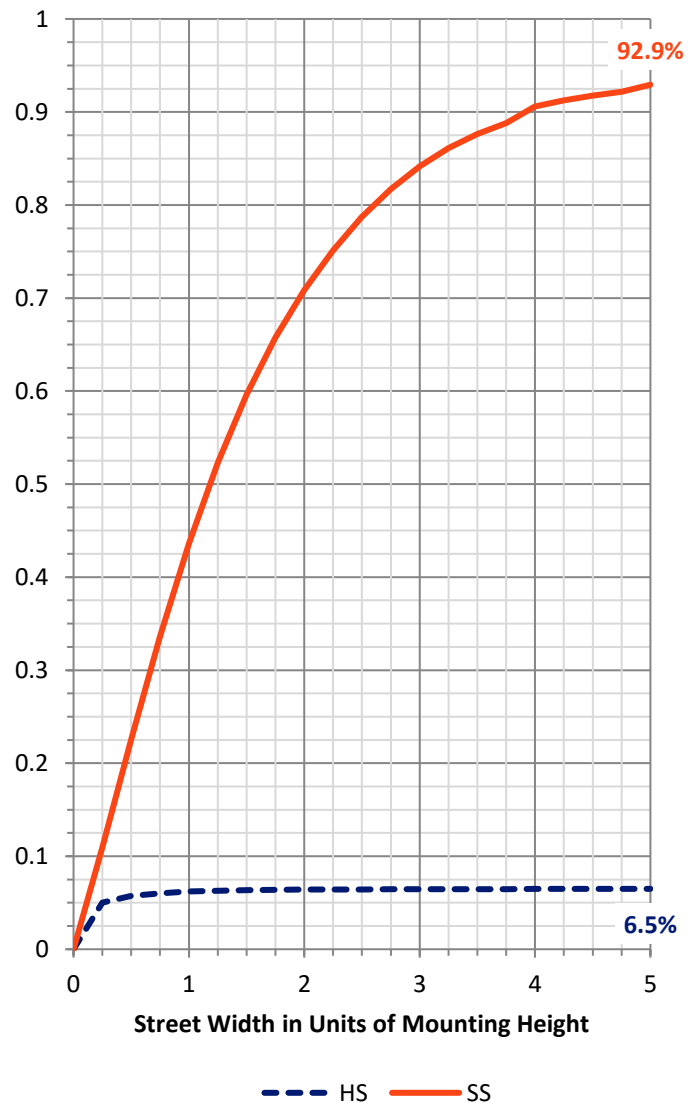
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1530.1	0.0	1530.1
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	21816.4	0.0	21816.4
	% Fixture	93.4	0.0	93.4
Total	Lumens	23346.5	0.0	23346.5
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	303.9	1.3
10°-20°	735.9	3.2
20°-30°	1222.1	5.2
30°-40°	1947.8	8.3
40°-50°	3215.0	13.8
50°-60°	4855.3	20.8
60°-70°	6324.8	27.1
70°-80°	4273.7	18.3
80°-90°	468.1	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°	23346.5	100.0
0°-180°	23346.5	100.0

Coefficient of Utilization



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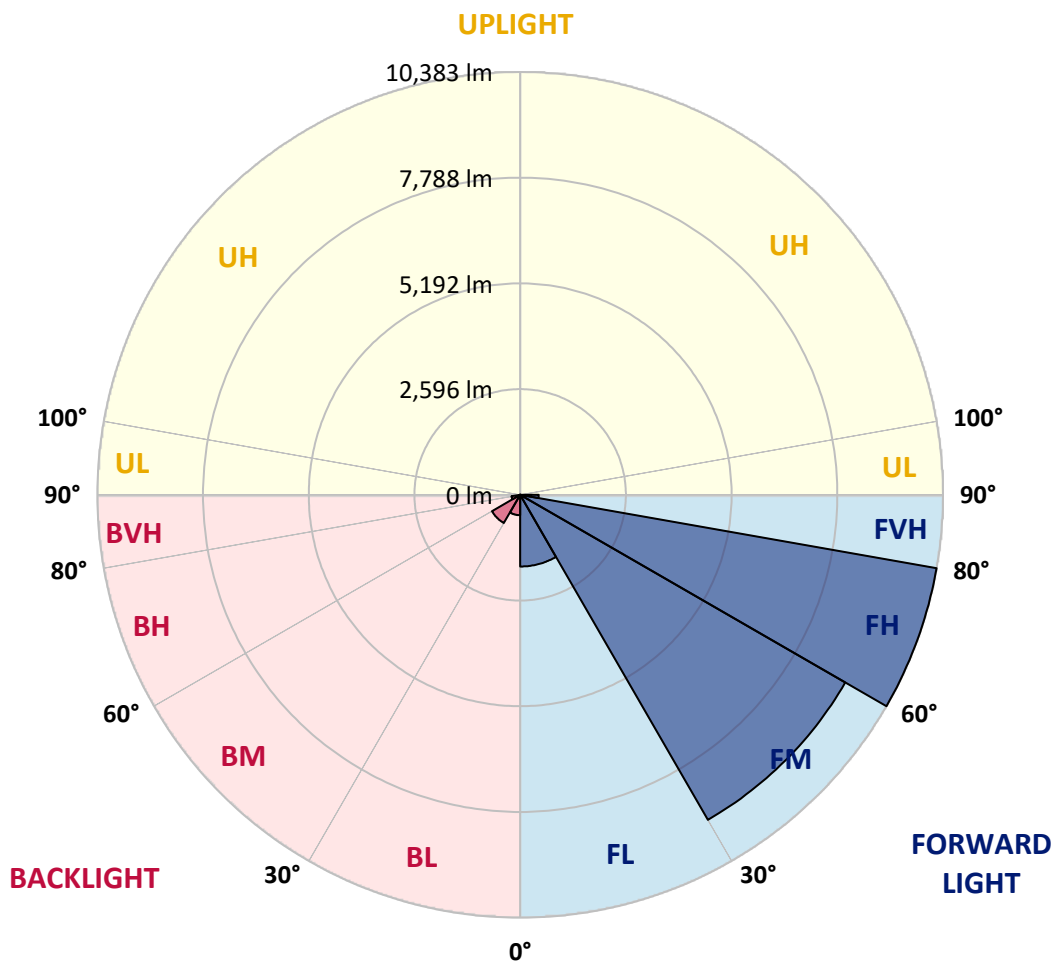
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1760.9	7.5			
FM	(30°-60°)	9217.5	39.5			
FH	(60°-80°)	10383.5	44.5			G4/12000
FVH	(80°-90°)	454.6	1.9			G3/500
BL	(0°-30°)	501.0	2.1	B2/1000		
BM	(30°-60°)	800.5	3.4	B1/1000		
BH	(60°-80°)	215.1	0.9	B1/500		G1/500
BVH	(80°-90°)	13.5	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°	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8
2.5°	3979.0	3986.4	3977.2	3960.6	3936.8	3922.1	3902.0	3858.0	3802.9	3755.2	3700.1
5°	4010.3	4013.8	4002.8	3971.6	3934.9	3914.9	3889.1	3841.4	3784.5	3718.4	3619.4
7.5°	4019.3	4017.6	4004.7	3966.1	3909.2	3883.6	3839.5	3780.7	3722.0	3661.5	3549.6
10°	4015.8	4015.8	4006.5	3969.8	3905.7	3881.8	3832.2	3769.7	3696.3	3635.8	3516.5
12.5°	4002.8	4010.3	4004.7	3984.5	3936.8	3918.4	3874.4	3812.0	3742.2	3679.8	3553.2
15°	4019.3	4030.4	4041.5	4034.1	4006.5	3990.0	3949.7	3885.3	3828.5	3762.5	3626.6
17.5°	4085.5	4109.3	4135.0	4136.9	4107.5	4078.1	4032.2	3966.1	3911.1	3850.6	3703.7
20°	4210.3	4228.6	4276.3	4285.5	4226.7	4184.6	4120.3	4043.2	3988.1	3936.8	3775.2
22.5°	4395.6	4415.9	4454.3	4441.5	4342.4	4292.9	4212.2	4123.9	4067.2	4037.7	3858.0
25°	4676.4	4682.0	4691.0	4634.3	4471.0	4415.9	4316.7	4217.6	4171.6	4168.0	3975.4
27.5°	5006.9	5014.2	4973.7	4847.2	4614.1	4542.5	4430.5	4340.6	4318.5	4346.1	4123.9
30°	5384.9	5386.7	5274.8	5069.2	4779.3	4700.3	4584.7	4485.5	4505.8	4573.7	4314.9
32.5°	5772.1	5753.9	5599.7	5331.7	5004.9	4909.5	4810.5	4711.3	4770.1	4907.7	4593.8
35°	6126.4	6119.1	5937.3	5625.4	5298.7	5214.2	5142.6	5038.1	5133.5	5357.3	4973.7
37.5°	6480.6	6475.2	6267.7	5942.8	5660.2	5599.7	5546.4	5465.6	5621.7	5950.2	5482.1
40°	6871.6	6862.3	6607.3	6295.2	6080.4	6047.5	6016.3	5981.4	6247.5	6704.5	6115.3
42.5°	7354.2	7313.8	6967.0	6678.8	6543.1	6552.1	6554.0	6588.9	7005.5	7601.9	6862.3
45°	7908.5	7818.6	7328.6	7090.0	7051.3	7106.4	7161.5	7306.5	7888.2	8635.2	7688.2
47.5°	8446.3	8301.2	7745.1	7532.3	7611.2	7725.0	7857.1	8139.7	8879.3	9716.2	8437.2
50°	8908.8	8760.1	8158.0	7981.9	8233.3	8402.1	8637.2	9064.7	9925.6	10630.4	8908.8
52.5°	9272.1	9154.6	8595.0	8477.5	8923.5	9154.6	9523.7	10085.2	10913.0	11232.2	9239.1
55°	9540.1	9481.4	9013.4	9029.9	9690.6	10024.6	10483.5	11118.5	11746.1	11700.3	9486.9
57.5°	9843.0	9797.0	9452.1	9681.5	10613.7	11045.1	11575.5	12085.7	12351.9	12076.5	9729.2
60°	10153.2	10167.7	9984.2	10470.6	11755.4	12232.6	12695.0	12821.7	12871.3	12458.4	9984.2
62.5°	10388.0	10450.4	10467.1	11322.2	12926.3	13333.7	13533.9	13443.9	13432.9	12970.4	9964.1
65°	10657.9	10821.3	11092.8	12256.5	13990.8	14258.7	14401.9	14532.2	14256.9	13122.7	8983.9
67.5°	11124.0	11380.9	11992.2	13401.6	15220.5	15616.9	16022.6	15884.9	14379.9	11575.5	6843.9
70°	11751.6	12065.6	13144.7	14897.5	16888.9	17553.2	17892.8	15776.7	12208.8	7998.4	3610.1
72°	11355.2	11639.8	13500.7	15661.1	18070.8	18680.2	17830.4	13761.5	8850.0	4146.0	1209.5
72.5°	10969.8	11263.5	13387.0	15651.8	18188.3	18654.5	17424.8	12966.8	7831.5	3226.5	833.3
75°	7611.2	7981.9	11476.3	14069.8	16424.5	15912.4	13331.9	7851.5	2837.4	554.3	275.3
77.5°	3934.9	4221.2	6961.4	9942.0	11447.0	10483.5	7879.2	3406.5	785.5	293.7	181.6
80°	2439.2	2580.6	3255.8	4898.5	5946.5	5201.4	3476.1	1376.6	503.0	174.4	144.9
82.5°	1262.7	1371.1	2050.1	1976.7	2197.0	1826.2	1282.9	1152.5	310.2	108.2	148.7
85°	414.7	440.4	1259.1	1314.1	939.6	631.4	568.9	1099.3	89.9	69.8	126.7
87.5°	55.1	64.1	442.3	752.5	462.4	286.3	341.4	387.3	31.3	38.5	34.9
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°	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8	3736.8
2.5°	3663.4	3639.6	3564.2	3488.9	3402.7	3323.8	3261.3	3221.1	3239.4	3178.8	3187.9
5°	3558.7	3498.2	3333.0	3154.9	2962.3	2782.4	2639.2	2532.9	2512.6	2420.8	2424.4
7.5°	3457.8	3358.7	3090.7	2797.1	2477.7	2219.0	1983.9	1778.5	1705.1	1629.7	1585.8
10°	3402.7	3267.0	2887.1	2459.4	2009.7	1629.7	1299.4	1040.6	932.4	853.4	814.9
12.5°	3419.3	3239.4	2734.7	2152.9	1561.9	1079.1	734.2	545.1	479.1	442.3	429.5
15°	3474.4	3244.9	2597.0	1853.7	1136.0	653.3	431.2	368.9	363.5	361.6	359.7
17.5°	3525.7	3250.3	2452.1	1541.8	759.8	416.6	346.8	341.4	341.4	341.4	341.4
20°	3578.8	3252.3	2292.4	1215.0	499.2	341.4	326.8	323.0	326.8	326.8	326.8
22.5°	3641.3	3265.1	2138.1	897.4	368.9	321.1	312.0	310.2	312.0	312.0	310.2
25°	3718.4	3292.6	1971.2	642.4	334.0	308.4	299.1	297.2	299.1	297.2	297.2
27.5°	3821.2	3329.3	1776.6	460.7	319.3	295.5	286.3	286.3	286.3	284.5	284.5
30°	3953.4	3373.3	1516.0	363.5	304.6	282.6	275.3	275.3	273.4	271.6	271.6
32.5°	4142.4	3444.9	1231.5	328.5	288.1	266.1	258.8	260.6	258.8	256.9	255.1
35°	4410.3	3556.8	950.6	310.2	271.6	249.5	242.3	242.3	242.3	238.6	238.6
37.5°	4790.2	3727.5	712.0	291.8	255.1	233.1	223.9	223.9	222.2	218.4	220.3
40°	5260.0	3942.3	515.7	275.3	238.6	214.8	207.4	203.7	200.1	196.4	196.4
42.5°	5825.4	4151.5	387.3	258.8	222.2	200.1	190.9	187.1	179.9	176.2	174.4
45°	6458.5	4373.6	321.1	238.6	203.7	183.6	176.2	168.8	159.7	154.1	152.4
47.5°	6992.6	4509.4	286.3	218.4	185.4	167.1	159.7	148.7	137.6	133.9	133.9
50°	7313.8	4452.5	256.9	198.3	167.1	150.5	141.4	126.7	119.3	115.6	113.7
52.5°	7493.8	4283.7	233.1	181.6	150.5	132.1	119.3	106.4	102.8	99.2	99.2
55°	7616.6	4039.6	207.4	165.2	135.9	115.6	100.9	91.7	88.2	86.2	84.4
57.5°	7734.1	3742.2	183.6	150.5	121.1	102.8	86.2	82.6	75.3	73.4	73.4
60°	7769.0	3333.0	161.5	133.9	108.2	89.9	75.3	69.8	62.4	60.5	60.5
62.5°	7324.9	2652.1	143.2	113.7	95.4	77.1	66.0	58.7	51.5	51.5	51.5
65°	6121.0	1800.5	123.0	99.2	84.4	66.0	57.0	47.7	44.0	44.0	44.0
67.5°	4263.4	1003.9	104.7	84.4	71.5	55.1	47.7	40.3	38.5	40.3	40.3
70°	1921.7	398.3	88.2	69.8	58.7	45.9	40.3	34.9	38.5	38.5	38.5
72°	576.4	212.9	73.4	57.0	47.7	40.3	34.9	33.1	36.7	38.5	38.5
72.5°	427.7	190.9	69.8	55.1	47.7	38.5	33.1	33.1	36.7	38.5	38.5
75°	220.3	130.3	53.2	40.3	34.9	31.3	27.5	31.3	36.7	36.7	36.7
77.5°	172.6	106.4	44.0	31.3	29.4	27.5	25.7	29.4	33.1	33.1	33.1
80°	161.5	69.8	34.9	29.4	25.7	23.9	23.9	25.7	29.4	31.3	31.3
82.5°	163.3	57.0	31.3	27.5	23.9	22.0	22.0	23.9	27.5	29.4	29.4
85°	104.7	38.5	27.5	23.9	22.0	20.2	20.2	22.0	25.7	27.5	27.5
87.5°	34.9	29.4	23.9	22.0	18.3	18.3	18.3	18.3	22.0	23.9	25.7
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)