

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: P195695

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-7050-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P195695
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-SL4-7050-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 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: 26872 lumens
Efficiency: N/A
Efficacy: 84.0 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

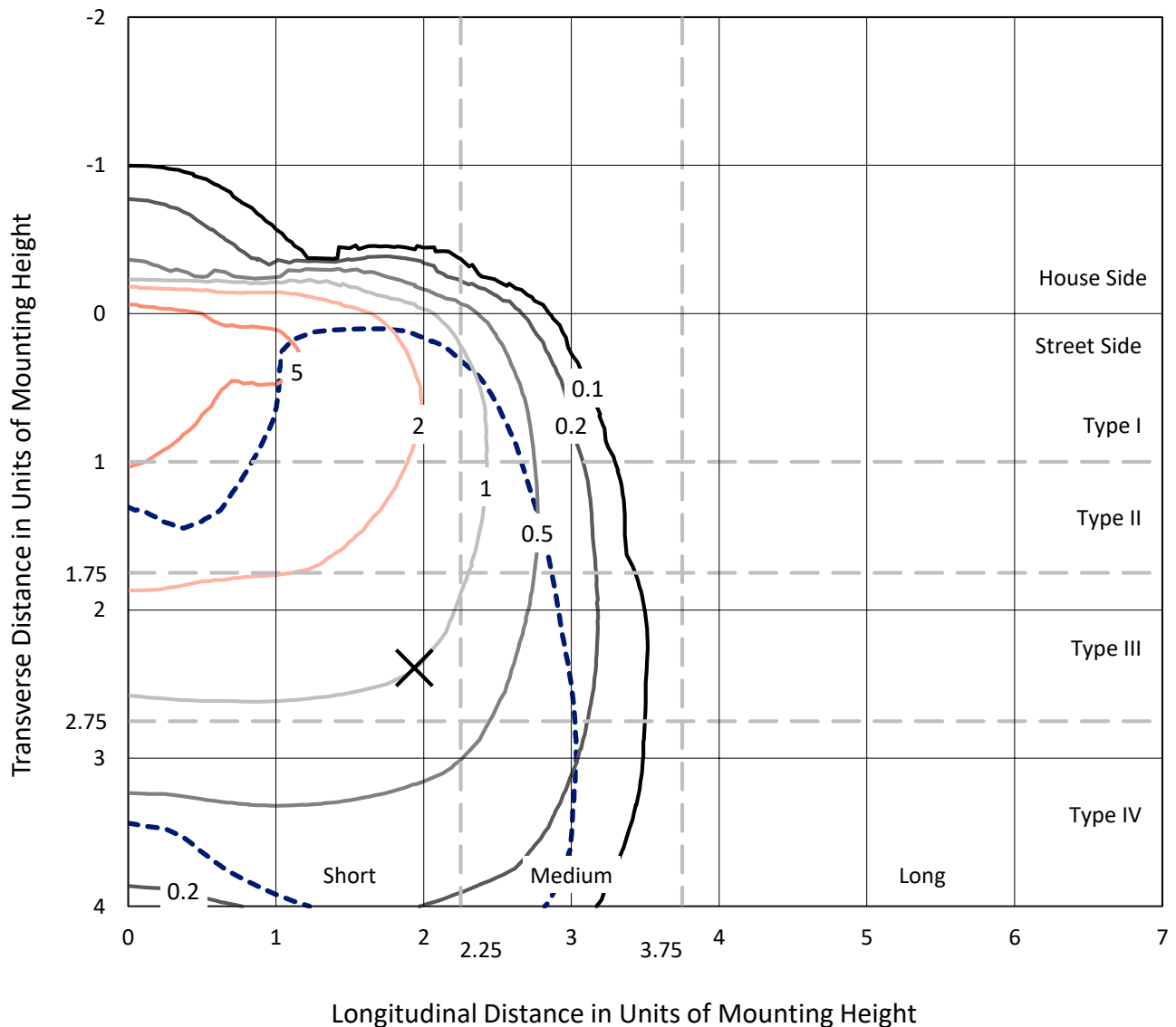
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

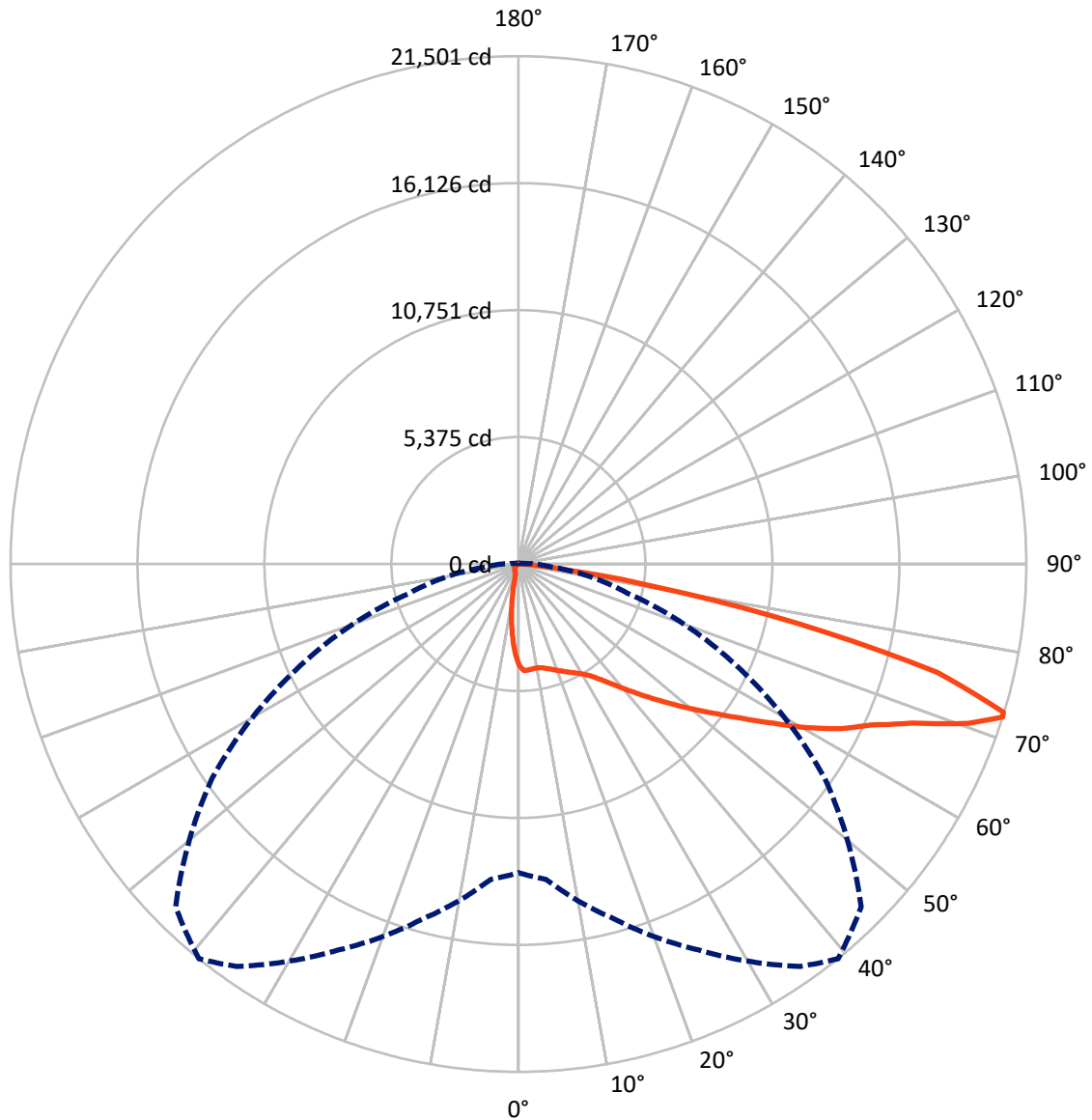
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 7.2 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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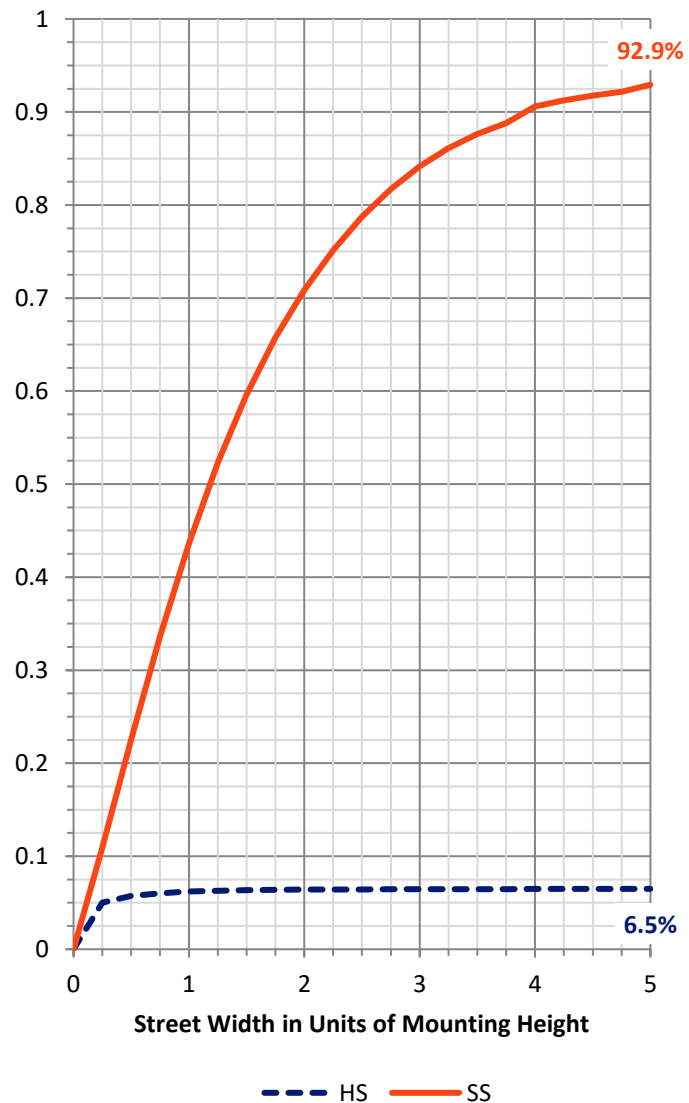
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1761.1	0.0	1761.1
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	25110.9	0.0	25110.9
	% Fixture	93.4	0.0	93.4
Total	Lumens	26872.0	0.0	26872.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	349.8	1.3
10°-20°	847.0	3.2
20°-30°	1406.6	5.2
30°-40°	2241.9	8.3
40°-50°	3700.5	13.8
50°-60°	5588.5	20.8
60°-70°	7279.9	27.1
70°-80°	4919.1	18.3
80°-90°	538.7	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°	26872.0	100.0
0°-180°	26872.0	100.0



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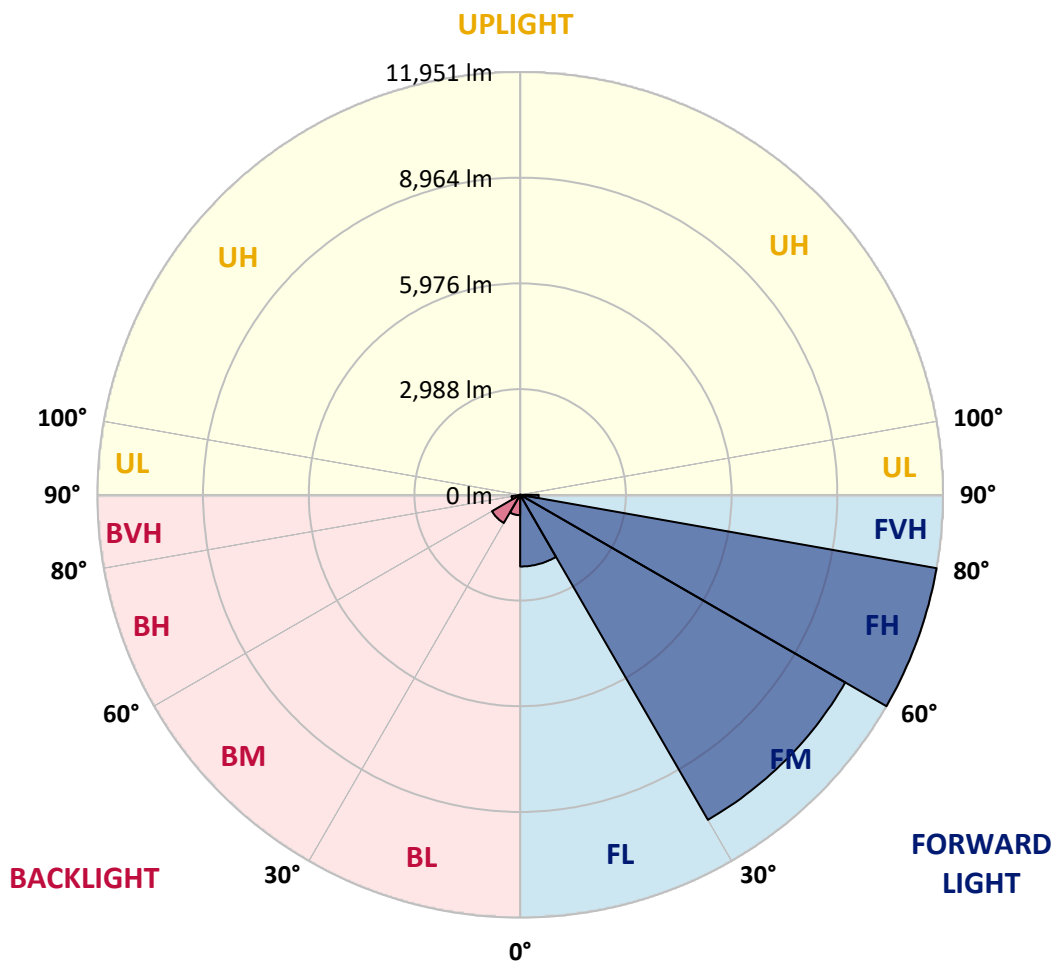
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	2026.8	7.5			
FM	(30°-60°)	10609.4	39.5			
FH	(60°-80°)	11951.4	44.5			G4/12000
FVH	(80°-90°)	523.2	1.9			G4/750
BL	(0°-30°)	576.7	2.1	B2/1000		
BM	(30°-60°)	921.4	3.4	B1/1000		
BH	(60°-80°)	247.5	0.9	B1/500		G1/500
BVH	(80°-90°)	15.5	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°	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0
2.5°	4579.9	4588.3	4577.8	4558.8	4531.3	4514.4	4491.2	4440.5	4377.1	4322.2	4258.8
5°	4615.8	4620.0	4607.3	4571.4	4529.2	4505.9	4476.4	4421.4	4356.0	4279.9	4165.8
7.5°	4626.4	4624.2	4609.5	4565.1	4499.6	4470.0	4419.3	4351.7	4284.1	4214.4	4085.6
10°	4622.1	4622.1	4611.6	4569.3	4495.4	4467.9	4410.9	4339.1	4254.6	4184.9	4047.5
12.5°	4607.3	4615.8	4609.5	4586.2	4531.3	4510.2	4459.5	4387.6	4307.4	4235.6	4089.8
15°	4626.4	4639.0	4651.7	4643.3	4611.6	4592.6	4546.1	4472.1	4406.7	4330.6	4174.3
17.5°	4702.4	4729.9	4759.4	4761.6	4727.8	4694.0	4641.1	4565.1	4501.7	4432.0	4263.0
20°	4846.1	4867.2	4922.1	4932.7	4865.1	4816.5	4742.5	4653.8	4590.4	4531.3	4345.4
22.5°	5059.4	5082.7	5127.0	5112.2	4998.2	4941.1	4848.2	4746.8	4681.3	4647.5	4440.5
25°	5382.6	5389.0	5399.5	5334.0	5146.0	5082.7	4968.6	4854.5	4801.7	4797.5	4575.7
27.5°	5762.9	5771.3	5724.9	5579.1	5310.8	5228.4	5099.6	4996.0	4970.7	5002.4	4746.8
30°	6198.1	6200.2	6071.3	5834.7	5500.9	5410.1	5277.0	5162.9	5186.2	5264.3	4966.5
32.5°	6643.8	6622.7	6445.2	6136.8	5760.8	5650.9	5536.8	5422.8	5490.4	5648.8	5287.6
35°	7051.5	7043.1	6833.9	6474.8	6098.8	6001.6	5919.2	5798.8	5908.6	6166.4	5724.9
37.5°	7459.2	7452.9	7214.2	6840.3	6514.9	6445.2	6384.0	6291.0	6470.6	6848.7	6310.0
40°	7909.2	7898.6	7605.0	7245.9	6998.7	6960.7	6924.8	6884.6	7190.9	7716.9	7038.8
42.5°	8464.8	8418.3	8019.0	7687.4	7531.0	7541.6	7543.7	7583.9	8063.4	8749.9	7898.6
45°	9102.7	8999.2	8435.2	8160.6	8116.2	8179.6	8243.0	8409.8	9079.5	9939.3	8849.2
47.5°	9721.7	9554.8	8914.7	8669.7	8760.5	8891.5	9043.6	9368.9	10220.2	11183.5	9711.1
50°	10254.0	10082.9	9390.0	9187.2	9476.6	9671.0	9941.4	10433.6	11424.4	12235.6	10254.0
52.5°	10672.3	10537.1	9892.8	9757.6	10270.9	10537.1	10961.7	11608.2	12560.9	12928.5	10634.3
55°	10980.7	10913.1	10374.5	10393.5	11154.0	11538.4	12066.6	12797.5	13520.0	13467.1	10919.5
57.5°	11329.3	11276.5	10879.3	11143.4	12216.6	12713.0	13323.5	13910.8	14217.1	13900.2	11198.3
60°	11686.3	11703.2	11492.0	12051.8	13530.5	14079.8	14612.1	14757.9	14814.9	14339.6	11492.0
62.5°	11956.7	12028.5	12047.6	13032.0	14878.3	15347.3	15577.5	15474.0	15461.3	14929.0	11468.7
65°	12267.3	12455.3	12767.9	14107.2	16103.5	16412.0	16576.7	16726.7	16409.9	15104.3	10340.7
67.5°	12803.8	13099.6	13803.0	15425.4	17518.9	17975.2	18442.1	18283.6	16551.4	13323.5	7877.5
70°	13526.3	13887.5	15129.7	17147.1	19439.2	20203.9	20594.7	18159.0	14052.3	9206.2	4155.3
72°	13070.0	13397.4	15539.5	18025.9	20799.6	21501.0	20522.9	15839.5	10186.4	4772.1	1392.1
72.5°	12626.4	12964.4	15408.5	18015.3	20934.8	21471.4	20056.0	14924.8	9014.0	3713.8	959.1
75°	8760.5	9187.2	13209.4	16194.4	18904.7	18315.3	15345.2	9037.2	3265.9	638.0	316.9
77.5°	4529.2	4858.7	8012.7	11443.4	13175.6	12066.6	9068.9	3920.8	904.1	338.0	209.1
80°	2807.5	2970.2	3747.6	5638.2	6844.5	5986.8	4001.1	1584.4	578.8	200.7	166.9
82.5°	1453.4	1578.0	2359.7	2275.2	2528.7	2101.9	1476.6	1326.6	357.0	124.6	171.1
85°	477.4	507.0	1449.2	1512.5	1081.6	726.7	654.9	1265.4	103.5	80.3	145.8
87.5°	63.4	73.9	509.1	866.1	532.3	329.5	392.9	445.7	35.9	44.4	40.1
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°	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0	4301.0
2.5°	4216.5	4189.1	4102.5	4015.9	3916.6	3825.7	3753.9	3707.4	3728.6	3658.8	3669.4
5°	4096.1	4026.4	3836.3	3631.4	3409.6	3202.5	3037.8	2915.2	2892.0	2786.4	2790.6
7.5°	3979.9	3865.9	3557.4	3219.4	2851.9	2554.0	2283.6	2047.0	1962.5	1875.9	1825.2
10°	3916.6	3760.2	3323.0	2830.7	2313.2	1875.9	1495.6	1197.8	1073.1	982.3	937.9
12.5°	3935.6	3728.6	3147.6	2478.0	1797.7	1242.1	845.0	627.4	551.4	509.1	494.3
15°	3999.0	3734.9	2989.2	2133.6	1307.6	752.0	496.4	424.6	418.3	416.2	414.0
17.5°	4058.1	3741.2	2822.3	1774.5	874.6	479.5	399.3	392.9	392.9	392.9	392.9
20°	4119.4	3743.3	2638.5	1398.5	574.6	392.9	376.0	371.8	376.0	376.0	376.0
22.5°	4191.2	3758.1	2461.1	1033.0	424.6	369.7	359.1	357.0	359.1	359.1	357.0
25°	4279.9	3789.8	2268.8	739.4	384.5	354.9	344.3	342.2	344.3	342.2	342.2
27.5°	4398.2	3832.1	2044.9	530.2	367.6	340.1	329.5	329.5	329.5	327.4	327.4
30°	4550.3	3882.8	1744.9	418.3	350.7	325.3	316.9	316.9	314.8	312.6	312.6
32.5°	4767.9	3965.2	1417.5	378.1	331.7	306.3	297.9	300.0	297.9	295.7	293.6
35°	5076.3	4094.0	1094.3	357.0	312.6	287.3	278.8	278.8	278.8	274.6	274.6
37.5°	5513.6	4290.5	819.6	335.9	293.6	268.3	257.7	257.7	255.6	251.4	253.5
40°	6054.4	4537.6	593.6	316.9	274.6	247.2	238.7	234.5	230.3	226.0	226.0
42.5°	6705.1	4778.5	445.7	297.9	255.6	230.3	219.7	215.5	207.0	202.8	200.7
45°	7433.9	5034.1	369.7	274.6	234.5	211.2	202.8	194.3	183.8	177.4	175.3
47.5°	8048.6	5190.4	329.5	251.4	213.4	192.2	183.8	171.1	158.4	154.2	154.2
50°	8418.3	5124.9	295.7	228.1	192.2	173.2	162.7	145.8	137.3	133.1	131.0
52.5°	8625.3	4930.6	268.3	209.1	173.2	152.1	137.3	122.5	118.3	114.1	114.1
55°	8766.8	4649.6	238.7	190.1	156.3	133.1	116.2	105.6	101.4	99.3	97.2
57.5°	8902.0	4307.4	211.2	173.2	139.4	118.3	99.3	95.1	86.6	84.5	84.5
60°	8942.2	3836.3	185.9	154.2	124.6	103.5	86.6	80.3	71.8	69.7	69.7
62.5°	8431.0	3052.6	164.8	131.0	109.8	88.7	76.0	67.6	59.1	59.1	59.1
65°	7045.2	2072.4	141.5	114.1	97.2	76.0	65.5	54.9	50.7	50.7	50.7
67.5°	4907.3	1155.5	120.4	97.2	82.4	63.4	54.9	46.5	44.4	46.5	46.5
70°	2211.8	458.4	101.4	80.3	67.6	52.8	46.5	40.1	44.4	44.4	44.4
72°	663.3	245.0	84.5	65.5	54.9	46.5	40.1	38.0	42.2	44.4	44.4
72.5°	492.2	219.7	80.3	63.4	54.9	44.4	38.0	38.0	42.2	44.4	44.4
75°	253.5	150.0	61.3	46.5	40.1	35.9	31.7	35.9	42.2	42.2	42.2
77.5°	198.6	122.5	50.7	35.9	33.8	31.7	29.6	33.8	38.0	38.0	38.0
80°	185.9	80.3	40.1	33.8	29.6	27.5	27.5	29.6	33.8	35.9	35.9
82.5°	188.0	65.5	35.9	31.7	27.5	25.3	25.3	27.5	31.7	33.8	33.8
85°	120.4	44.4	31.7	27.5	25.3	23.2	23.2	25.3	29.6	31.7	31.7
87.5°	40.1	33.8	27.5	25.3	21.1	21.1	21.1	21.1	25.3	27.5	29.6
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)