

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: P197135

Luminaire Tested: **NAV-AF-05-D-UNV-SL4-8030-1200-HSS**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P197135
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-SL4-8030-1200-HSS
Description: NAVION ROADWAY AND AREA LUMINAIRE
(5) 80 CRI, 3000K, 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: 21928 lumens
Efficiency: N/A
Efficacy: 68.5 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G4

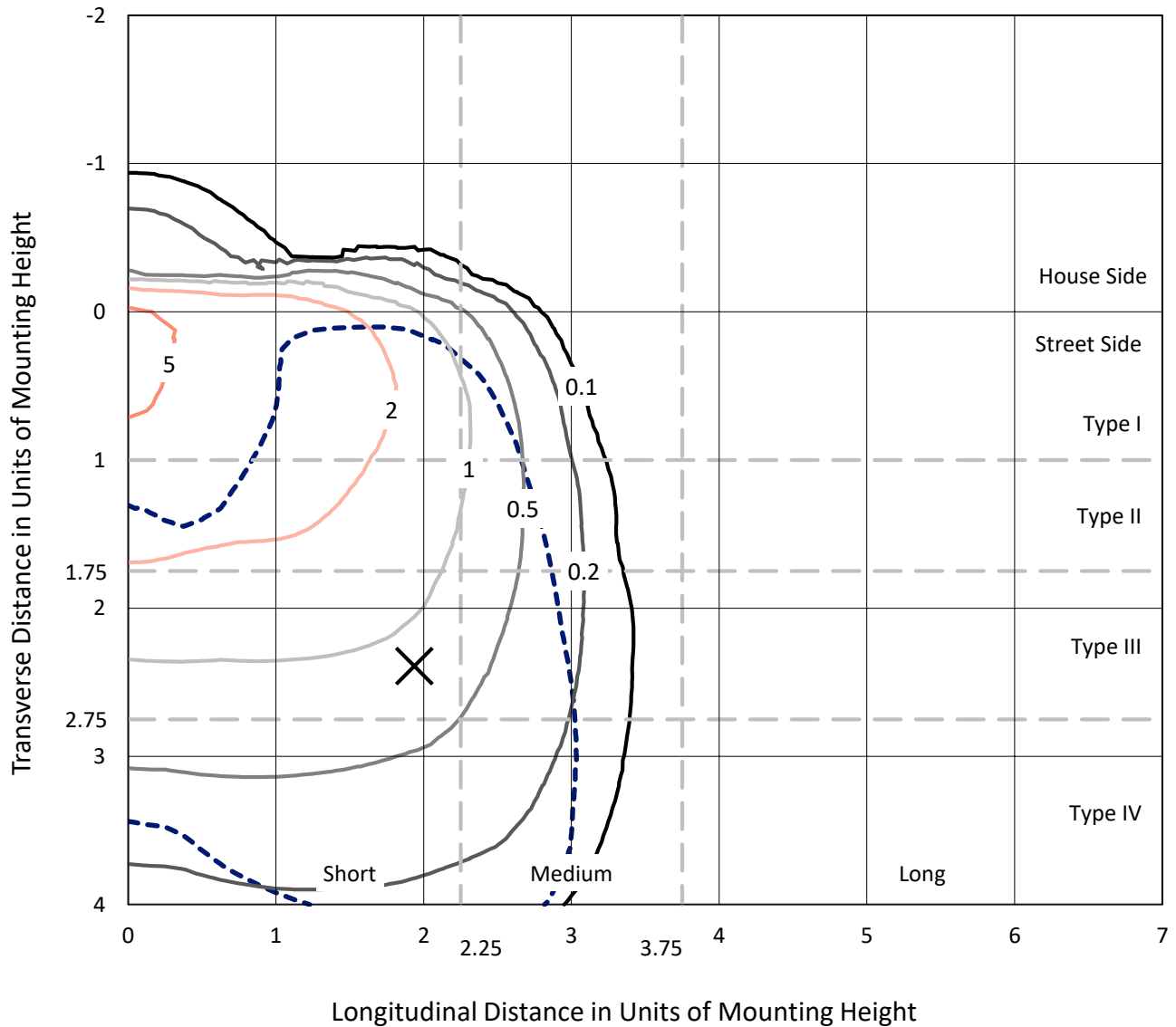
Input Watts (W): 320
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

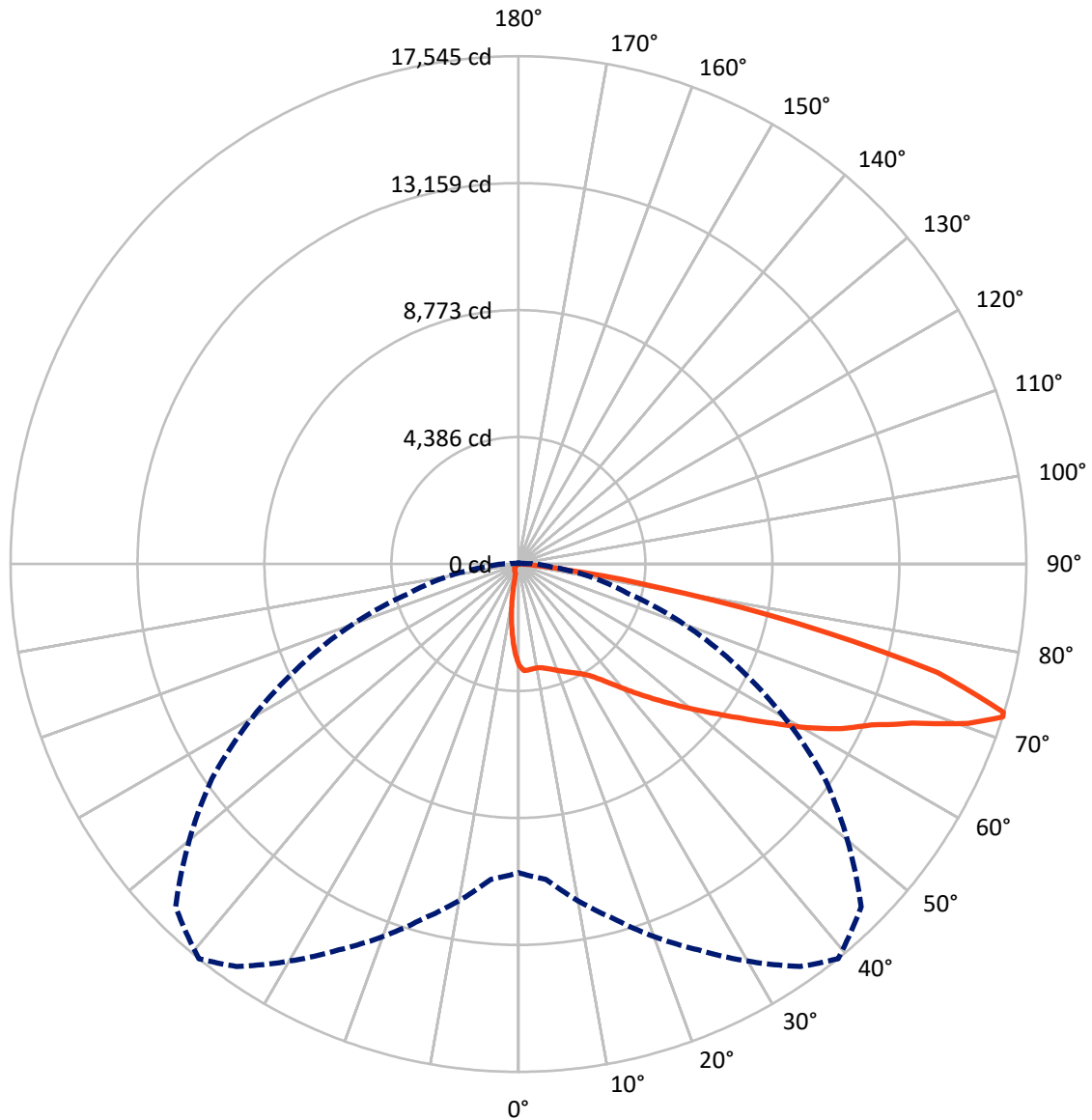
✕ Max cd
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 5.9 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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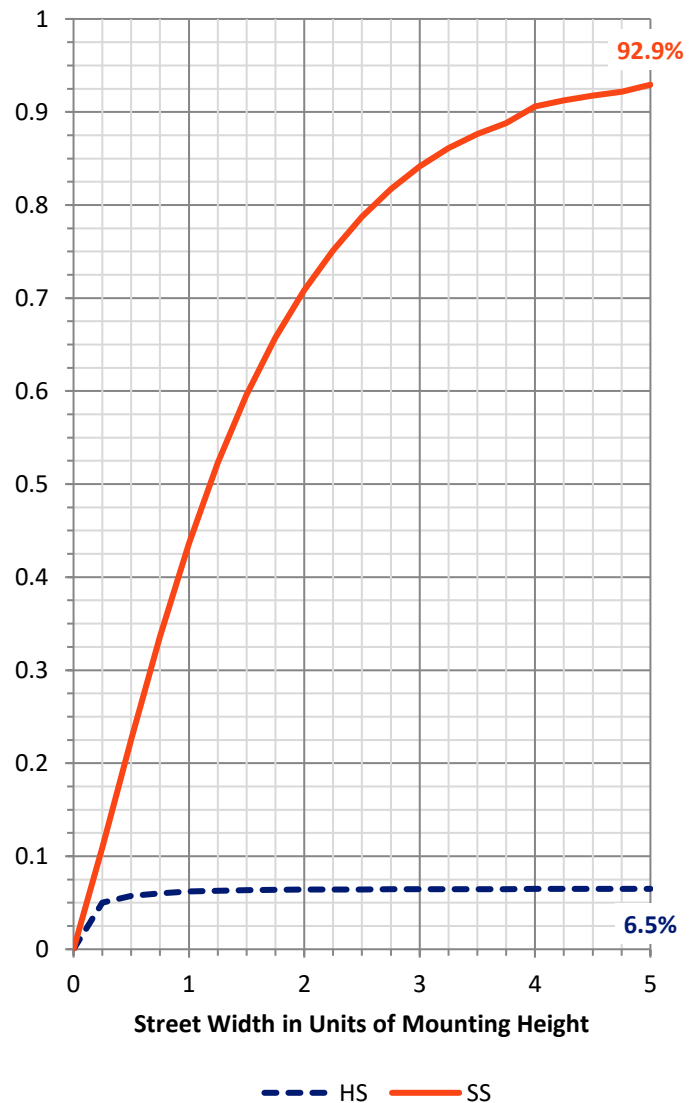
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1437.1	0.0	1437.1
	% Fixture	6.6	0.0	6.6
Street Side	Lumens	20490.9	0.0	20490.9
	% Fixture	93.4	0.0	93.4
Total	Lumens	21928.0	0.0	21928.0
	% Fixture	100.0	0.0	100.0

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	285.5	1.3
10°-20°	691.1	3.2
20°-30°	1147.8	5.2
30°-40°	1829.4	8.3
40°-50°	3019.7	13.8
50°-60°	4560.3	20.8
60°-70°	5940.5	27.1
70°-80°	4014.1	18.3
80°-90°	439.6	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°	21928.0	100.0
0°-180°	21928.0	100.0

Coefficient of Utilization



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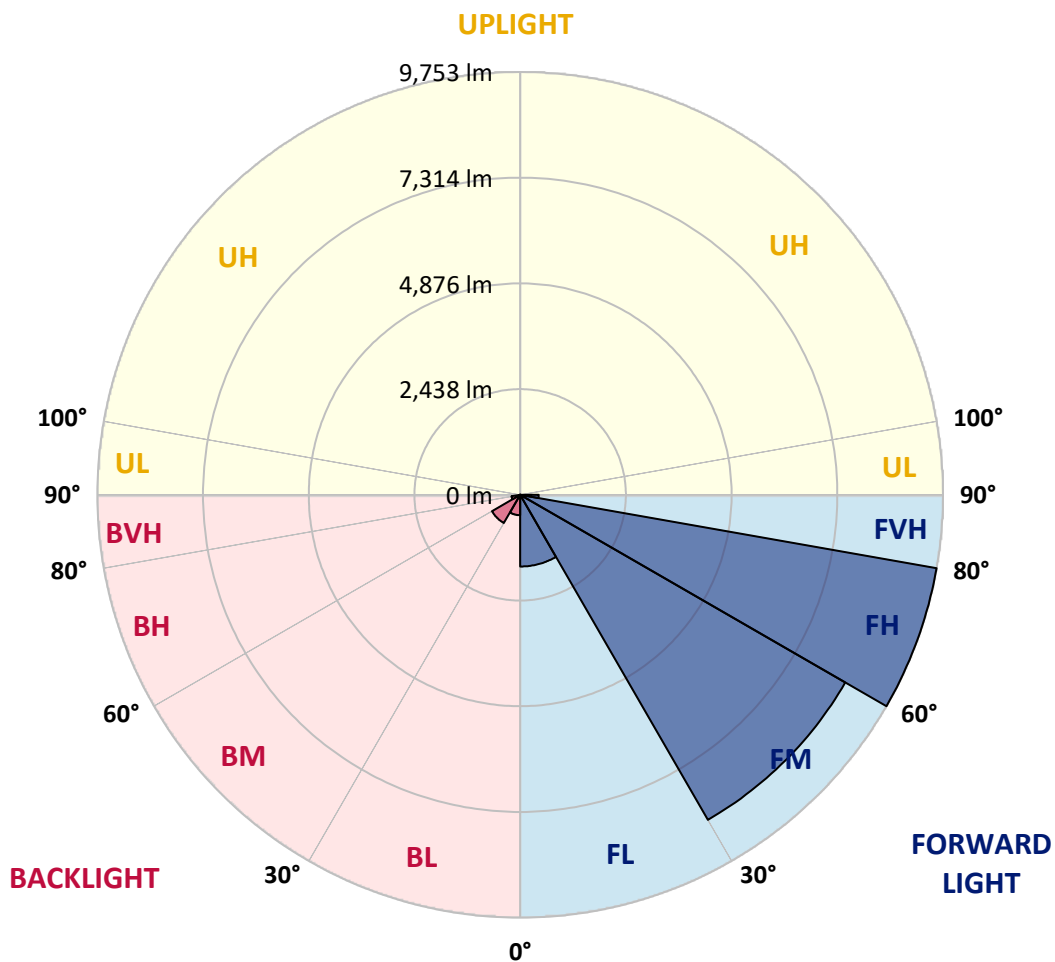
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	1653.9	7.5			
FM	(30°-60°)	8657.5	39.5			
FH	(60°-80°)	9752.6	44.5			G4/12000
FVH	(80°-90°)	427.0	1.9			G3/500
BL	(0°-30°)	470.6	2.1	B1/500		
BM	(30°-60°)	751.9	3.4	B1/1000		
BH	(60°-80°)	202.0	0.9	B1/500		G1/500
BVH	(80°-90°)	12.6	0.1			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G4

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	39°	45°	55°	65°	75°	85°
0°	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7
2.5°	3737.3	3744.2	3735.5	3720.0	3697.6	3683.8	3664.9	3623.5	3571.8	3527.0	3475.2
5°	3766.6	3770.0	3759.7	3730.4	3695.9	3676.9	3652.8	3608.0	3554.5	3492.5	3399.4
7.5°	3775.2	3773.5	3761.4	3725.2	3671.8	3647.6	3606.3	3551.1	3495.9	3439.0	3333.9
10°	3771.7	3771.7	3763.1	3728.6	3668.3	3645.9	3599.4	3540.7	3471.8	3414.9	3302.9
12.5°	3759.7	3766.6	3761.4	3742.4	3697.6	3680.4	3639.0	3580.4	3514.9	3456.3	3337.3
15°	3775.2	3785.5	3795.9	3789.0	3763.1	3747.6	3709.7	3649.3	3595.9	3533.9	3406.3
17.5°	3837.2	3859.7	3883.8	3885.5	3857.9	3830.4	3787.3	3725.2	3673.5	3616.6	3478.7
20°	3954.5	3971.7	4016.5	4025.1	3970.0	3930.3	3870.0	3797.6	3745.9	3697.6	3545.9
22.5°	4128.6	4147.5	4183.7	4171.7	4078.6	4032.0	3956.2	3873.4	3820.0	3792.4	3623.5
25°	4392.3	4397.5	4406.1	4352.7	4199.3	4147.5	4054.4	3961.4	3918.3	3914.8	3733.8
27.5°	4702.6	4709.5	4671.6	4552.6	4333.7	4266.5	4161.3	4076.9	4056.2	4082.0	3873.4
30°	5057.7	5059.4	4954.3	4761.2	4488.9	4414.7	4306.1	4213.0	4232.0	4295.8	4052.7
32.5°	5421.4	5404.2	5259.4	5007.7	4700.9	4611.2	4518.2	4425.1	4480.2	4609.5	4314.7
35°	5754.1	5747.2	5576.6	5283.5	4976.7	4897.4	4830.2	4731.9	4821.6	5031.9	4671.6
37.5°	6086.8	6081.7	5886.9	5581.8	5316.3	5259.4	5209.4	5133.6	5280.1	5588.7	5149.1
40°	6454.0	6445.4	6205.8	5912.7	5711.0	5680.0	5650.7	5618.0	5867.9	6297.2	5743.8
42.5°	6907.4	6869.5	6543.7	6273.0	6145.5	6154.1	6155.8	6188.6	6579.9	7140.1	6445.4
45°	7428.0	7343.5	6883.3	6659.2	6623.0	6674.7	6726.4	6862.6	7409.0	8110.6	7221.1
47.5°	7933.1	7796.9	7274.6	7074.6	7148.7	7255.6	7379.7	7645.2	8339.9	9126.0	7924.4
50°	8367.5	8227.8	7662.4	7496.9	7733.1	7891.7	8112.3	8514.0	9322.5	9984.4	8367.5
52.5°	8708.8	8598.5	8072.7	7962.4	8381.3	8598.5	8945.0	9472.4	10249.9	10549.8	8677.8
55°	8960.5	8905.3	8465.7	8481.2	9101.8	9415.6	9846.5	10443.0	11032.5	10989.4	8910.5
57.5°	9244.9	9201.8	8877.7	9093.2	9968.9	10374.0	10872.2	11351.4	11601.4	11342.8	9138.0
60°	9536.2	9550.0	9377.6	9834.5	11041.1	11489.3	11923.7	12042.7	12089.2	11701.4	9377.6
62.5°	9756.9	9815.5	9831.0	10634.3	12140.9	12523.6	12711.5	12627.1	12616.7	12182.3	9358.7
65°	10010.3	10163.7	10418.8	11511.7	13140.8	13392.4	13526.9	13649.3	13390.7	12325.4	8438.1
67.5°	10448.1	10689.5	11263.5	12587.4	14295.7	14668.1	15049.0	14919.8	13506.2	10872.2	6428.2
70°	11037.7	11332.5	12346.1	13992.3	15862.7	16486.7	16805.6	14818.0	11466.9	7512.5	3390.8
72°	10665.3	10932.5	12680.5	14709.4	16972.8	17545.1	16747.0	12925.3	8312.3	3894.1	1136.0
72.5°	10303.3	10579.1	12573.6	14700.8	17083.2	17521.0	16366.0	12178.9	7355.6	3030.5	782.6
75°	7148.7	7496.9	10779.1	13214.9	15426.6	14945.6	12521.9	7374.5	2665.0	520.6	258.6
77.5°	3695.9	3964.8	6538.5	9338.0	10751.5	9846.5	7400.4	3199.4	737.8	275.8	170.7
80°	2291.0	2423.7	3058.1	4600.9	5585.2	4885.3	3264.9	1292.9	472.3	163.8	136.2
82.5°	1186.0	1287.7	1925.5	1856.6	2063.4	1715.2	1205.0	1082.6	291.3	101.7	139.6
85°	389.6	413.7	1182.5	1234.3	882.6	593.0	534.4	1032.6	84.5	65.5	118.9
87.5°	51.7	60.3	415.4	706.8	434.4	268.9	320.6	363.7	29.3	36.2	32.8
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°	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7	3509.7
2.5°	3440.8	3418.4	3347.7	3277.0	3196.0	3121.9	3063.2	3025.3	3042.6	2985.7	2994.3
5°	3342.5	3285.6	3130.5	2963.3	2782.3	2613.3	2478.9	2378.9	2359.9	2273.7	2277.2
7.5°	3247.7	3154.6	2902.9	2627.1	2327.2	2084.1	1863.5	1670.4	1601.4	1530.8	1489.4
10°	3196.0	3068.4	2711.6	2309.9	1887.6	1530.8	1220.5	977.4	875.7	801.6	765.4
12.5°	3211.5	3042.6	2568.5	2022.1	1467.0	1013.6	689.5	512.0	449.9	415.4	403.4
15°	3263.2	3047.7	2439.2	1741.1	1067.1	613.7	405.1	346.5	341.3	339.6	337.9
17.5°	3311.5	3052.9	2303.0	1448.0	713.7	391.3	325.8	320.6	320.6	320.6	320.6
20°	3361.5	3054.6	2153.1	1141.2	468.9	320.6	306.8	303.4	306.8	306.8	306.8
22.5°	3420.1	3066.7	2008.3	843.0	346.5	301.7	293.1	291.3	293.1	293.1	291.3
25°	3492.5	3092.6	1851.4	603.3	313.7	289.6	281.0	279.3	281.0	279.3	279.3
27.5°	3589.0	3127.0	1668.7	432.7	299.9	277.5	268.9	268.9	268.9	267.2	267.2
30°	3713.1	3168.4	1423.9	341.3	286.2	265.5	258.6	258.6	256.9	255.1	255.1
32.5°	3890.7	3235.6	1156.7	308.6	270.6	250.0	243.1	244.8	243.1	241.3	239.6
35°	4142.4	3340.8	892.9	291.3	255.1	234.4	227.5	227.5	227.5	224.1	224.1
37.5°	4499.2	3501.1	668.8	274.1	239.6	218.9	210.3	210.3	208.6	205.1	206.9
40°	4940.5	3702.8	484.4	258.6	224.1	201.7	194.8	191.3	187.9	184.4	184.4
42.5°	5471.4	3899.3	363.7	243.1	208.6	187.9	179.3	175.8	168.9	165.5	163.8
45°	6066.2	4107.9	301.7	224.1	191.3	172.4	165.5	158.6	150.0	144.8	143.1
47.5°	6567.8	4235.5	268.9	205.1	174.1	156.9	150.0	139.6	129.3	125.8	125.8
50°	6869.5	4182.0	241.3	186.2	156.9	141.4	132.7	118.9	112.0	108.6	106.9
52.5°	7038.4	4023.4	218.9	170.7	141.4	124.1	112.0	100.0	96.5	93.1	93.1
55°	7153.9	3794.2	194.8	155.1	127.6	108.6	94.8	86.2	82.7	81.0	79.3
57.5°	7264.2	3514.9	172.4	141.4	113.8	96.5	81.0	77.6	70.7	69.0	69.0
60°	7297.0	3130.5	151.7	125.8	101.7	84.5	70.7	65.5	58.6	56.9	56.9
62.5°	6879.8	2490.9	134.5	106.9	89.6	72.4	62.1	55.2	48.3	48.3	48.3
65°	5749.0	1691.1	115.5	93.1	79.3	62.1	53.4	44.8	41.4	41.4	41.4
67.5°	4004.5	942.9	98.3	79.3	67.2	51.7	44.8	37.9	36.2	37.9	37.9
70°	1804.9	374.1	82.7	65.5	55.2	43.1	37.9	32.8	36.2	36.2	36.2
72°	541.3	200.0	69.0	53.4	44.8	37.9	32.8	31.0	34.5	36.2	36.2
72.5°	401.7	179.3	65.5	51.7	44.8	36.2	31.0	31.0	34.5	36.2	36.2
75°	206.9	122.4	50.0	37.9	32.8	29.3	25.9	29.3	34.5	34.5	34.5
77.5°	162.0	100.0	41.4	29.3	27.6	25.9	24.1	27.6	31.0	31.0	31.0
80°	151.7	65.5	32.8	27.6	24.1	22.4	22.4	24.1	27.6	29.3	29.3
82.5°	153.4	53.4	29.3	25.9	22.4	20.7	20.7	22.4	25.9	27.6	27.6
85°	98.3	36.2	25.9	22.4	20.7	19.0	19.0	20.7	24.1	25.9	25.9
87.5°	32.8	27.6	22.4	20.7	17.2	17.2	17.2	17.2	20.7	22.4	24.1
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)