

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: INVUE

Report Number: P596044

Luminaire Tested: **MSA-SA1A-AMB-U-SLR**

Issue Date: 4/29/2022

Test Information

Test Method: LM-79-08
Report Number: P596044
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2109-400-25)
Test Lab: INNOVATIONS CENTER
Issue Date: 4/29/2022
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: MSA-SA1A-AMB-U-SLR
Description: POST TOP DECORATIVE LUMINAIRE. (1) LIGHTSQUARES WITH 16 LEDS EACH
AND SPILL LIGHT ELIMINATOR RIGHT OPTICS.
Light Source: (16) 1549K CCT, -21.5 CRI LEDS
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 670.1 lumens
Efficiency: N/A
Efficacy: 32.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B0 - U0 - G1

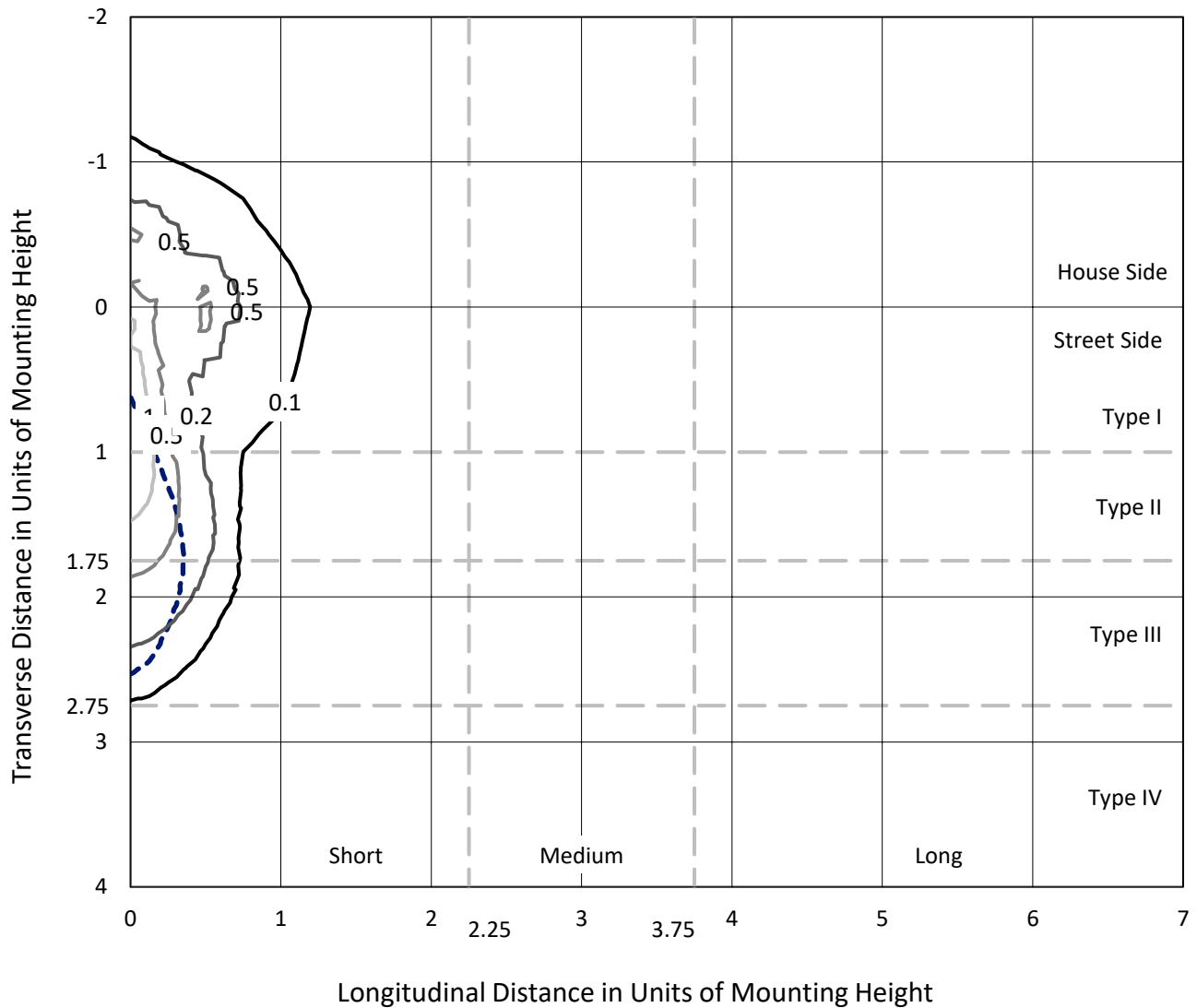
Input Watts (W): 20.5
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Iso-Footcandle Lines of Horizontal Illumination

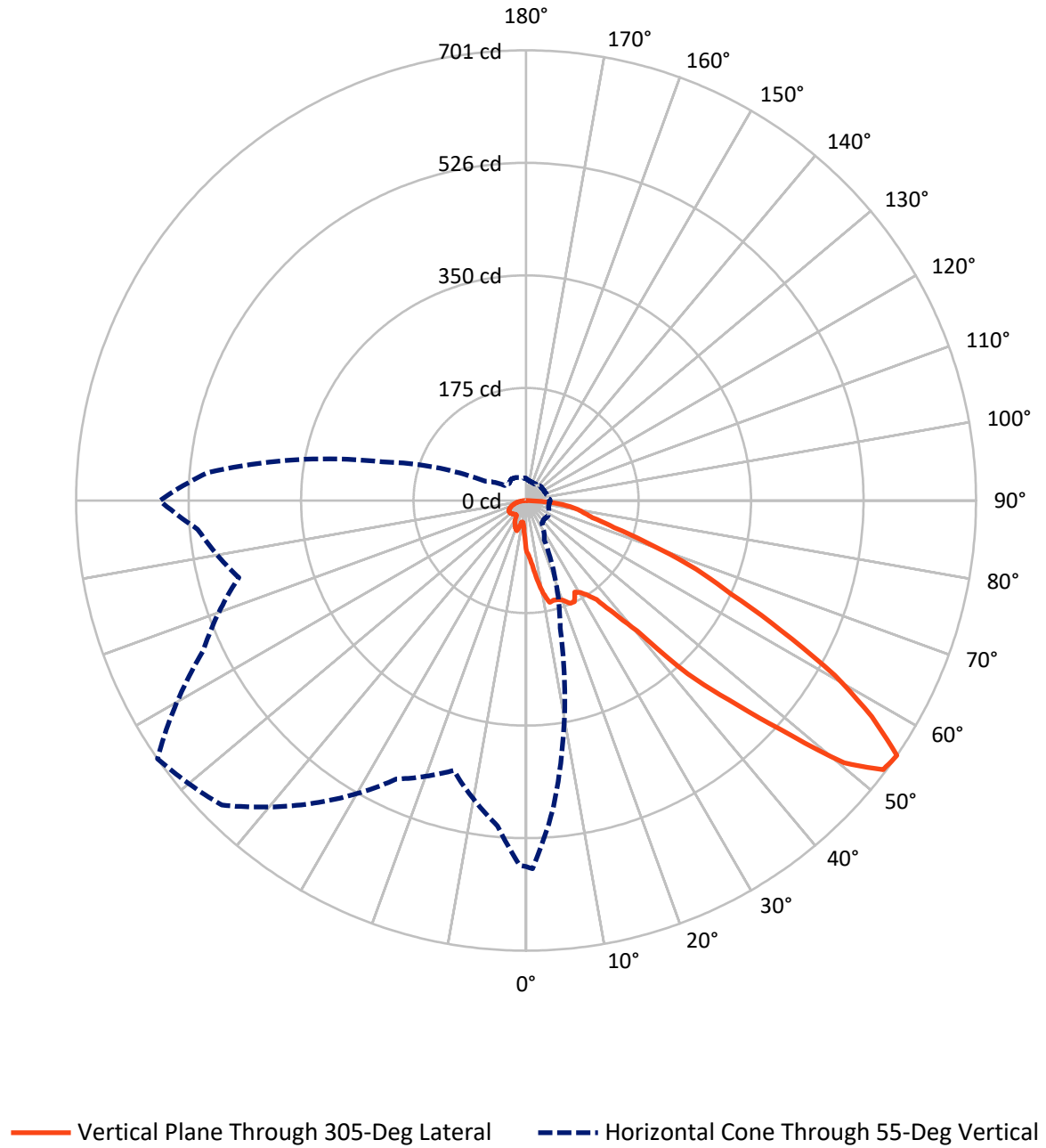
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 1.8 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



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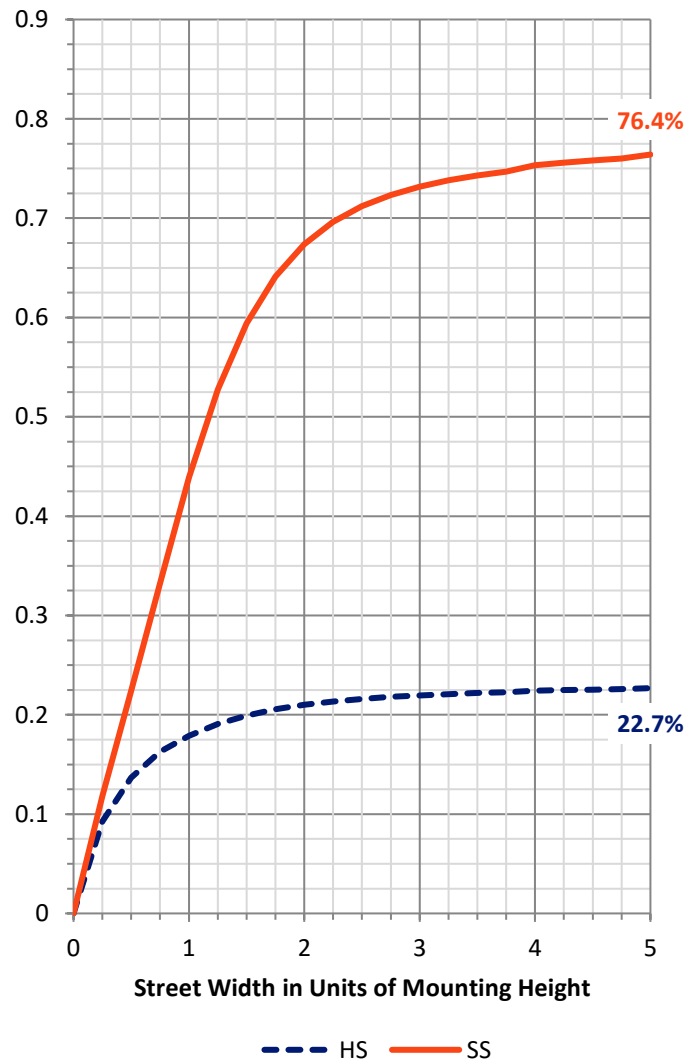
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	153.5	0.0	153.5
	% Fixture	22.9	0.0	22.9
Street Side	Lumens	516.5	0.0	516.5
	% Fixture	77.1	0.0	77.1
Total	Lumens	670.1	0.0	670.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	7.4	1.1
10°-20°	22.3	3.3
20°-30°	51.3	7.7
30°-40°	70.0	10.4
40°-50°	124.7	18.6
50°-60°	175.5	26.2
60°-70°	139.0	20.7
70°-80°	63.7	9.5
80°-90°	16.1	2.4
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°	670.1	100.0
0°-180°	670.1	100.0



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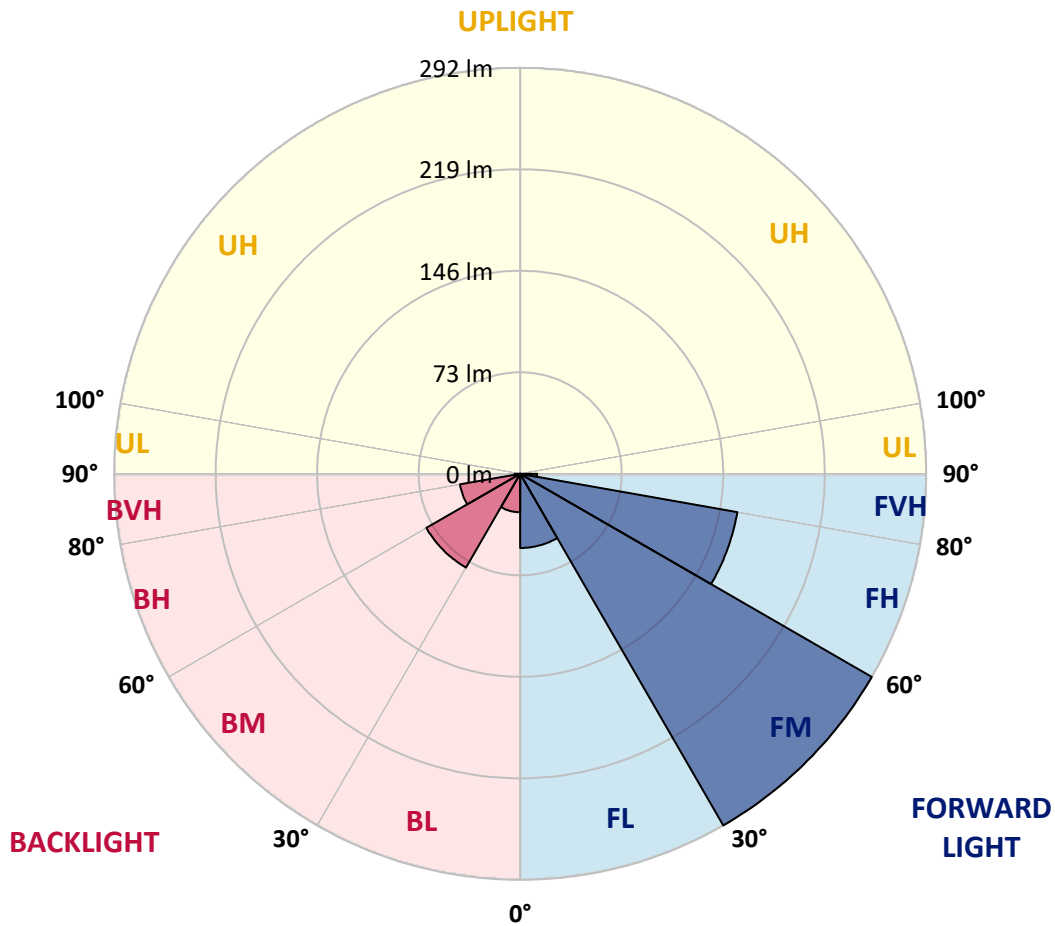
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	53.4	8.0			
FM (30°-60°)	292.2	43.6			
FH (60°-80°)	158.8	23.7			G0/660
FVH (80°-90°)	12.2	1.8			G1/100
BL (0°-30°)	27.7	4.1	B0/110		
BM (30°-60°)	77.9	11.6	B0/220		
BH (60°-80°)	44.0	6.6	B0/110		G0/110
BVH (80°-90°)	3.9	0.6			G0/10
UL (90°-100°)	0.0	0.0		U0/0	
UH (100°-180°)	0.0	0.0		U0/0	

BUG Rating: B0-U0-G1

Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
2.5°	97.5	99.3	89.1	99.3	84.3	81.6	82.5	81.6	73.5	76.5	66.3
5°	119.3	119.3	107.1	100.5	89.1	75.3	66.3	64.2	63.0	66.3	62.7
7.5°	114.3	115.7	101.7	91.8	75.0	62.7	56.1	52.8	54.6	57.9	57.6
10°	99.0	100.2	93.9	78.6	66.6	63.0	57.9	52.2	47.7	47.4	44.1
12.5°	95.7	95.7	88.5	77.7	68.1	61.8	55.8	48.9	43.2	39.9	37.5
15°	101.1	101.7	94.2	79.5	67.2	56.7	48.9	42.6	37.5	33.0	31.5
17.5°	118.7	119.9	109.5	83.1	62.1	51.6	44.4	37.8	31.5	29.1	29.7
20°	166.1	170.0	141.2	87.3	57.3	46.5	39.0	32.7	29.7	29.7	32.4
22.5°	221.0	227.3	182.6	95.7	57.9	44.7	38.1	33.9	32.7	33.9	40.5
25°	240.2	245.3	199.7	104.4	68.4	57.0	53.1	51.9	50.7	51.3	62.4
27.5°	240.2	245.6	202.1	97.5	66.9	58.2	58.2	67.8	79.2	83.7	97.8
30°	260.9	265.4	224.0	87.3	46.5	36.9	37.2	38.4	41.7	51.3	74.7
32.5°	290.9	296.9	237.8	91.8	43.2	33.3	30.6	28.8	29.1	30.9	38.4
35°	312.8	317.0	264.8	94.8	46.5	34.2	30.6	29.7	28.8	30.3	33.9
37.5°	355.6	361.9	281.0	100.8	51.0	35.1	31.5	30.3	29.7	31.5	34.5
40°	390.7	399.7	301.7	106.5	55.8	36.6	32.7	31.5	31.5	32.7	35.7
42.5°	434.8	441.7	340.4	119.0	59.7	38.1	34.2	33.6	33.3	34.2	36.0
45°	474.7	484.9	370.0	130.7	62.1	38.1	36.9	35.4	35.1	35.4	36.0
47.5°	513.7	519.7	406.6	150.5	63.9	39.3	37.8	36.9	36.3	36.0	36.3
50°	538.0	538.9	441.4	171.2	63.3	40.5	39.0	39.3	37.8	36.3	36.6
52.5°	553.0	553.9	468.7	188.9	65.4	42.0	40.2	41.1	38.1	36.0	36.3
55°	569.8	573.3	481.9	205.4	67.5	42.9	40.2	41.7	39.0	36.3	36.3
57.5°	562.6	566.8	476.2	211.1	69.3	44.7	40.2	42.3	39.6	36.6	36.0
60°	519.7	524.2	447.1	209.0	69.9	46.2	39.9	39.9	39.6	36.0	35.4
62.5°	453.4	463.3	382.6	189.8	65.7	45.3	38.7	38.7	37.8	34.5	33.9
65°	382.3	388.0	324.2	158.9	61.2	41.4	36.3	36.6	35.1	32.7	32.1
67.5°	312.5	317.6	261.5	127.4	57.0	38.4	33.3	34.5	33.0	30.9	30.0
70°	233.9	242.3	193.7	98.1	50.1	34.2	30.6	30.9	30.0	28.2	27.0
72.5°	168.8	174.5	135.8	77.1	44.4	29.7	26.4	27.3	26.4	25.2	24.0
75°	125.3	127.7	105.6	57.3	35.7	25.8	22.8	24.0	23.7	22.5	21.3
77.5°	100.5	105.0	84.3	39.3	29.1	22.2	19.5	20.4	19.8	18.6	16.5
80°	75.0	78.3	66.0	28.2	21.3	17.4	15.6	16.5	15.9	14.1	12.3
82.5°	50.1	48.9	48.3	19.2	14.7	12.6	11.1	11.7	12.0	10.5	8.1
85°	17.7	15.9	17.1	10.5	8.7	7.5	5.7	6.9	6.3	5.7	4.5
87.5°	2.7	2.1	1.8	2.4	2.7	1.8	1.8	2.1	2.1	1.8	1.5
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°	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
2.5°	78.9	77.4	67.2	59.4	57.0	55.5	50.7	50.1	59.4	60.0	74.1
5°	69.9	65.7	63.3	55.8	42.9	38.4	39.9	48.6	57.3	61.5	69.9
7.5°	59.4	52.2	51.0	44.4	35.7	29.7	30.9	40.2	47.1	53.1	57.0
10°	43.5	39.6	37.8	33.9	33.9	32.4	31.5	35.1	40.5	44.4	46.2
12.5°	36.3	35.4	33.6	33.6	35.1	39.0	39.6	40.2	39.0	39.0	39.9
15°	30.6	31.8	32.7	36.6	43.5	47.7	48.9	44.7	41.4	36.3	35.1
17.5°	29.1	30.9	38.7	45.9	49.2	50.7	50.4	46.8	43.8	39.6	35.4
20°	34.8	35.7	42.0	45.3	47.4	44.1	42.3	45.9	45.3	43.2	39.3
22.5°	42.3	44.4	52.2	49.8	45.0	36.0	35.4	45.9	51.9	51.6	46.5
25°	62.4	64.8	60.6	55.2	40.8	29.7	30.3	46.8	57.6	66.3	61.5
27.5°	93.3	88.8	75.0	60.0	38.7	28.2	29.7	45.6	63.3	83.7	90.0
30°	81.3	81.9	65.4	50.1	34.2	27.3	27.9	39.9	59.7	89.1	99.0
32.5°	42.3	40.2	40.5	34.2	27.9	26.7	26.7	30.3	39.3	51.9	53.7
35°	34.5	34.2	31.2	28.8	27.3	26.4	26.7	27.9	30.9	35.1	35.7
37.5°	36.0	34.5	31.2	28.5	27.3	27.0	26.7	28.2	30.0	33.6	35.7
40°	36.6	34.8	31.5	28.8	27.6	27.6	27.6	28.2	29.7	33.6	36.0
42.5°	37.2	35.1	31.8	29.4	28.5	28.8	28.8	28.8	30.0	33.6	36.6
45°	37.5	35.1	32.4	30.3	29.4	30.3	29.7	29.7	30.3	33.3	36.6
47.5°	37.5	35.4	33.0	30.9	30.0	31.2	30.6	30.3	30.3	33.3	36.9
50°	37.8	35.7	33.3	31.5	30.9	31.5	30.9	30.0	30.6	33.3	36.6
52.5°	37.8	35.7	33.6	32.1	31.2	31.2	30.6	29.7	30.3	32.4	35.4
55°	37.8	35.4	33.6	32.1	31.5	31.5	30.0	29.1	30.0	31.8	34.8
57.5°	37.8	35.7	33.0	31.5	31.5	30.9	29.4	28.5	29.1	31.2	34.2
60°	36.9	34.5	32.1	30.6	30.9	30.3	28.5	27.3	27.9	30.3	33.3
62.5°	35.4	33.3	30.9	29.4	29.7	29.1	27.0	25.8	26.7	28.8	31.8
65°	33.3	31.5	29.4	27.6	27.9	27.0	25.5	24.3	25.2	27.3	29.7
67.5°	30.9	29.7	27.3	25.8	25.8	24.6	23.4	22.5	23.4	25.5	28.2
70°	28.2	27.0	24.9	23.7	23.7	22.2	21.0	20.7	21.6	23.4	25.5
72.5°	24.9	24.3	22.5	21.0	21.0	19.5	18.9	18.6	19.2	21.0	22.5
75°	21.9	21.6	20.4	18.9	18.6	17.1	16.5	16.5	17.1	18.9	19.8
77.5°	17.1	17.4	16.5	15.9	15.6	14.4	14.1	14.4	15.0	16.5	16.2
80°	12.3	13.2	13.2	12.6	12.6	11.4	11.7	11.7	12.0	12.3	12.3
82.5°	8.1	9.3	9.3	9.0	9.0	7.5	8.1	8.4	8.7	8.4	7.8
85°	4.2	4.8	5.7	5.1	5.1	3.6	4.8	5.1	5.1	4.5	3.6
87.5°	0.6	1.2	1.5	1.2	0.9	0.0	0.9	1.2	1.5	1.5	0.6
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
2.5°	75.3	76.5	74.7	79.8	82.8	78.0	78.9	88.8	88.5	109.5	108.0
5°	69.0	74.7	71.1	68.4	68.4	72.9	84.9	103.2	106.2	127.7	126.2
7.5°	57.9	58.8	60.0	60.9	59.4	64.5	84.3	105.3	116.0	131.3	130.7
10°	48.9	50.1	53.1	57.3	62.7	65.4	73.2	95.1	109.2	121.7	125.0
12.5°	40.2	44.7	49.5	54.9	63.0	69.9	76.8	94.2	102.9	110.4	121.4
15°	35.1	37.2	39.9	46.8	57.0	64.8	76.5	93.6	115.1	125.3	133.7
17.5°	34.5	35.7	36.3	39.6	48.6	61.5	78.6	100.8	140.3	149.0	158.9
20°	36.3	35.1	35.4	38.7	44.1	57.3	75.6	122.6	178.7	189.8	200.3
22.5°	41.4	37.5	37.5	40.5	49.5	62.1	85.2	160.1	245.3	288.8	291.5
25°	56.7	45.3	49.2	60.3	69.6	79.5	96.6	167.9	279.5	319.7	338.3
27.5°	89.7	95.4	94.5	94.5	84.6	80.1	86.4	136.7	242.0	280.1	287.9
30°	105.6	99.0	86.7	68.4	57.3	57.3	61.8	129.2	252.5	277.7	281.3
32.5°	53.7	47.7	40.2	39.3	39.6	45.0	56.4	136.4	286.7	305.0	302.9
35°	36.0	33.9	33.6	34.5	36.9	43.5	58.5	140.0	314.6	335.9	324.2
37.5°	35.7	34.2	33.0	34.2	36.0	43.5	60.9	142.7	360.4	392.8	358.6
40°	36.3	35.1	33.9	34.2	35.4	42.6	65.4	149.3	399.4	435.4	398.8
42.5°	36.9	36.3	35.1	35.1	35.1	41.7	67.2	159.5	429.4	480.7	439.6
45°	36.9	37.5	36.9	36.0	35.7	40.5	69.0	169.1	450.1	520.3	460.6
47.5°	37.2	38.7	38.4	37.8	36.3	39.3	68.7	188.6	472.6	536.2	481.9
50°	37.2	39.0	39.3	39.3	36.6	39.6	66.9	206.3	490.9	552.1	488.8
52.5°	36.0	38.1	39.3	40.2	37.2	39.6	68.7	218.0	494.2	561.7	504.1
55°	34.8	37.2	39.3	40.5	37.2	40.5	71.7	231.8	498.1	570.4	513.4
57.5°	34.5	37.2	39.6	40.2	37.5	42.6	75.6	236.3	480.1	562.6	518.5
60°	33.9	36.9	39.6	38.7	37.2	44.7	76.2	230.9	432.7	533.5	509.2
62.5°	33.0	35.7	38.7	36.6	36.0	45.3	76.2	213.5	384.4	487.6	480.1
65°	30.9	33.6	35.4	34.5	34.2	43.5	73.2	176.3	322.4	426.4	422.8
67.5°	29.1	31.5	33.0	32.1	31.8	41.1	69.0	140.0	250.4	350.2	367.3
70°	26.1	28.8	30.3	30.0	29.1	37.5	63.6	109.2	182.3	268.1	302.9
72.5°	23.1	25.8	27.0	26.4	26.1	32.7	54.0	83.4	123.2	188.6	228.8
75°	20.1	22.8	24.0	22.8	21.9	26.1	42.0	58.2	95.1	131.0	158.6
77.5°	16.8	19.8	21.0	19.2	18.0	21.0	29.7	42.0	83.4	102.9	111.6
80°	12.9	15.3	17.1	15.3	14.1	15.9	21.3	27.9	65.4	82.8	84.6
82.5°	8.1	10.2	11.7	10.8	9.9	11.1	12.9	17.7	44.7	62.4	65.4
85°	4.8	6.0	6.3	6.0	4.5	6.6	7.5	9.9	23.1	30.0	41.4
87.5°	1.5	1.8	1.8	1.2	0.3	0.9	1.2	1.8	0.9	0.3	0.9
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):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9	78.9
2.5°	100.2	89.7	86.1	87.0	87.9	80.7	82.5	88.2	101.1	97.5
5°	125.6	114.5	100.5	93.3	93.0	99.0	121.7	108.9	120.8	119.3
7.5°	141.2	136.7	124.1	117.2	115.4	128.6	128.0	115.1	117.8	114.3
10°	133.4	137.9	146.6	147.8	134.9	127.7	126.2	106.2	103.5	99.0
12.5°	144.8	150.5	162.8	170.3	155.3	137.6	122.9	106.8	99.9	95.7
15°	146.9	157.7	161.0	163.7	156.8	147.2	133.1	113.1	106.2	101.1
17.5°	164.6	165.2	162.2	159.5	160.7	155.3	159.2	143.6	126.2	118.7
20°	185.9	166.7	165.8	164.6	166.4	173.9	204.2	190.4	186.2	166.1
22.5°	231.5	195.2	173.9	171.8	183.2	217.1	265.1	255.5	234.2	221.0
25°	280.1	211.4	174.8	170.3	184.4	259.7	302.6	289.4	263.6	240.2
27.5°	244.1	201.2	161.6	147.2	166.4	230.3	248.3	267.5	263.3	240.2
30°	230.6	198.5	165.8	146.6	168.5	203.3	230.0	280.4	262.4	260.9
32.5°	249.8	204.8	175.4	157.4	164.3	209.3	250.7	303.2	305.0	290.9
35°	269.0	223.4	189.2	173.6	190.7	224.0	272.0	322.1	324.2	312.8
37.5°	302.3	249.2	221.9	212.9	226.7	257.9	292.4	362.5	372.7	355.6
40°	336.2	296.0	266.6	273.8	264.5	287.3	314.0	403.0	415.6	390.7
42.5°	376.0	348.7	369.1	339.2	321.5	332.0	341.3	438.4	458.2	434.8
45°	398.8	401.2	442.6	447.7	382.9	364.3	361.0	457.3	499.6	474.7
47.5°	417.7	466.0	531.4	533.8	460.6	413.8	385.9	478.3	522.7	513.7
50°	431.8	504.7	642.0	626.4	499.9	428.8	406.0	487.0	536.5	538.0
52.5°	450.4	543.4	696.3	669.6	547.0	452.5	420.4	497.5	553.6	553.0
55°	463.3	555.1	700.8	670.5	575.1	478.6	435.1	508.6	568.0	569.8
57.5°	469.9	524.8	635.1	605.7	553.0	466.3	436.9	508.9	562.3	562.6
60°	467.8	461.2	552.4	518.5	467.5	419.2	422.5	487.3	527.8	519.7
62.5°	442.6	385.3	445.0	423.7	371.2	357.7	407.5	449.2	480.1	453.4
65°	412.3	343.6	351.1	349.6	304.1	290.6	379.3	391.6	409.6	382.3
67.5°	372.1	295.1	286.1	263.3	242.0	243.5	325.1	330.2	336.5	312.5
70°	316.7	232.7	207.5	185.3	172.4	193.1	284.6	263.9	266.0	233.9
72.5°	256.1	176.0	143.9	127.1	121.4	149.9	231.8	196.7	196.4	168.8
75°	203.9	124.4	106.8	95.1	93.6	112.2	182.3	143.0	140.9	125.3
77.5°	142.4	91.5	92.1	86.1	80.4	88.8	133.1	105.0	108.6	100.5
80°	89.7	70.8	80.4	76.5	72.3	71.4	91.8	74.1	79.5	75.0
82.5°	69.3	53.1	62.1	61.5	58.8	57.0	64.5	48.6	50.4	50.1
85°	62.1	35.7	38.4	30.9	32.7	34.2	47.4	22.2	17.1	17.7
87.5°	5.1	3.9	3.3	1.8	4.2	5.1	6.3	1.5	1.8	2.7
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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