

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: P400862

Luminaire Tested: **ENT-SA1-830-U-SLL-XXB**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P400862
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-7)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1-830-U-SLL-XXB
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K LIGHTSQUARE IN BATTERY OPERATION WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 542 lumens
Efficiency: N/A
Efficacy: 41.7 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type III - Medium - Non-Cutoff
BUG Rating: B0 - U0 - G0

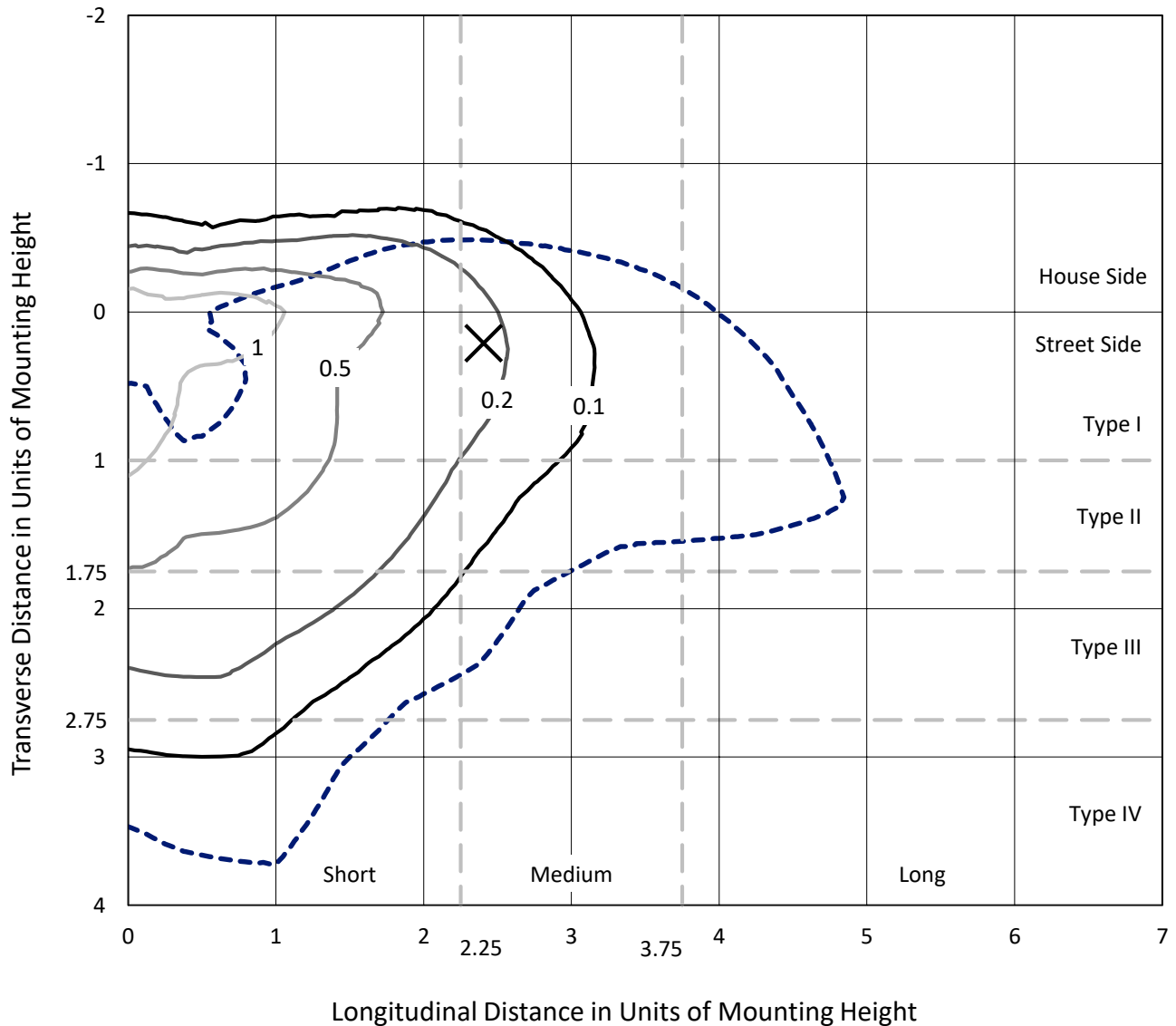
Input Watts (W): 13
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

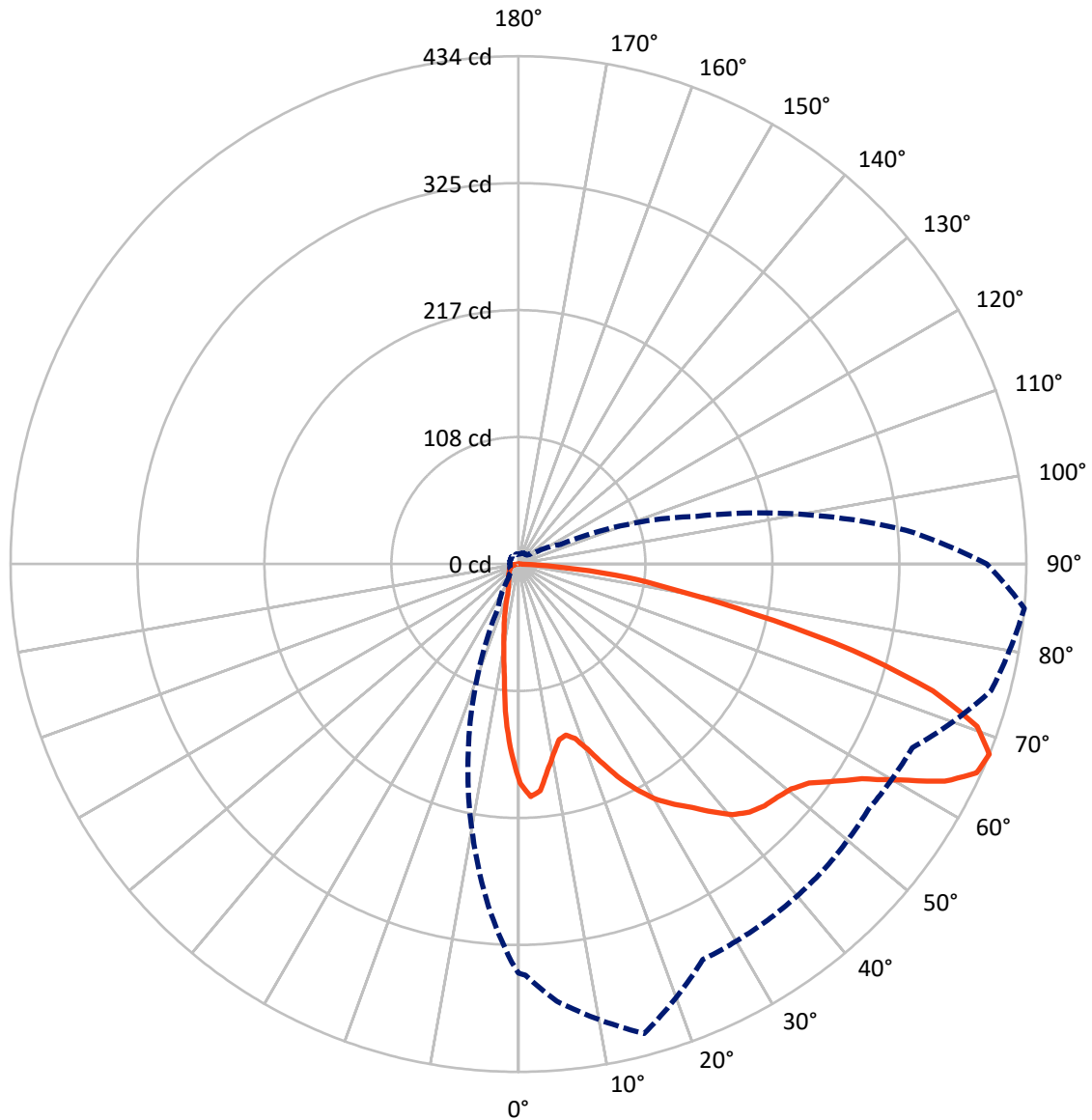
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 2 fc
 Type III - Medium - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 85-Deg Lateral - - - Horizontal Cone Through 67.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	109.2	0.0	109.2
	% Fixture	20.1	0.0	20.1
Street Side	Lumens	432.8	0.0	432.8
	% Fixture	79.9	0.0	79.9
Total	Lumens	542.0	0.0	542.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	14.2	2.6
10°-20°	28.1	5.2
20°-30°	39.2	7.2
30°-40°	55.3	10.2
40°-50°	76.6	14.1
50°-60°	107.7	19.9
60°-70°	131.6	24.3
70°-80°	77.4	14.3
80°-90°	11.8	2.2
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°	542.0	100.0
0°-180°	542.0	100.0



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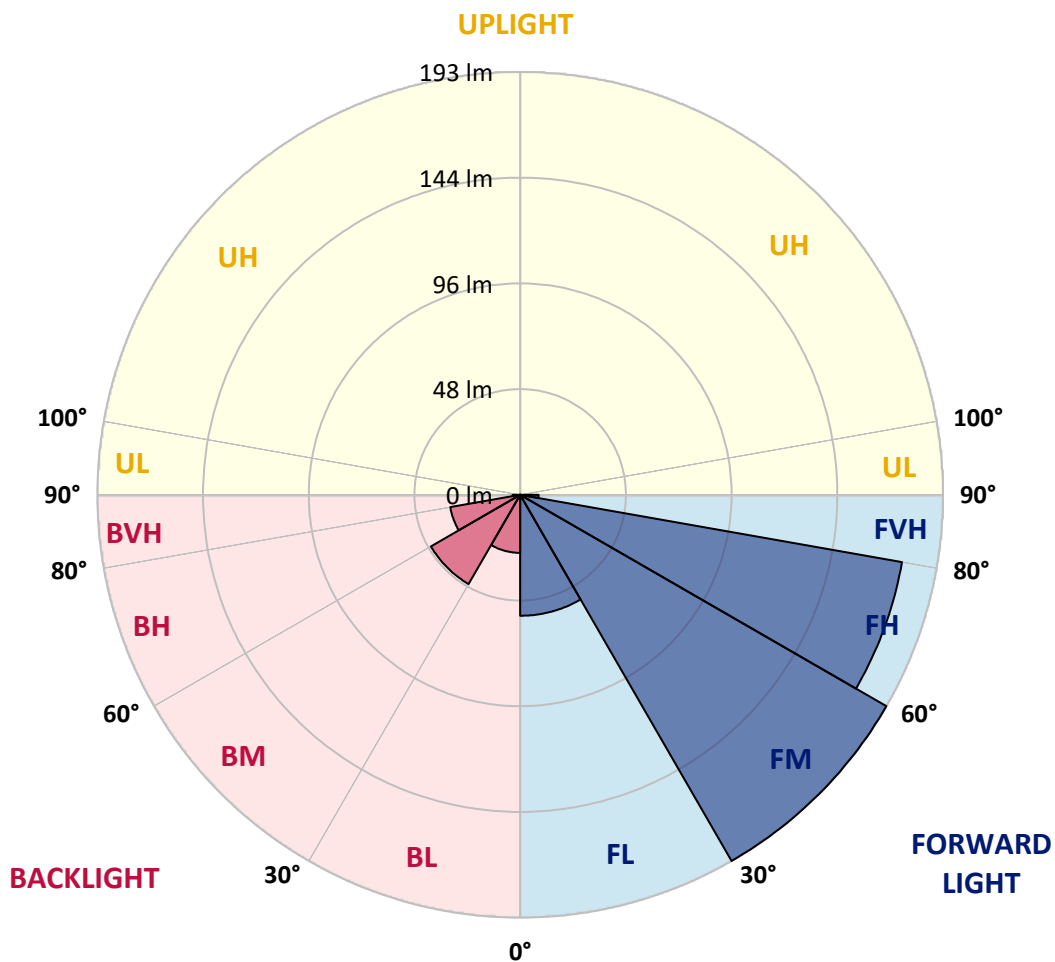
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	55.1	10.2			
FM	(30°-60°)	192.7	35.5			
FH	(60°-80°)	176.7	32.6			G0/660
FVH	(80°-90°)	8.4	1.5			G0/10
BL	(0°-30°)	26.4	4.9	B0/110		
BM	(30°-60°)	46.9	8.7	B0/220		
BH	(60°-80°)	32.3	6.0	B0/110		G0/110
BVH	(80°-90°)	3.5	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-G0

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3
2.5°	192.4	191.5	194.5	198.8	201.8	203.9	204.6	204.5	203.9	202.2	198.8
5°	183.9	183.1	189.1	198.8	207.2	213.3	215.0	212.6	209.6	203.1	194.6
7.5°	167.6	168.9	176.5	190.1	203.7	213.4	215.7	211.9	205.6	192.5	178.1
10°	155.4	156.0	164.6	181.0	195.4	205.4	209.5	206.1	197.9	181.2	164.6
12.5°	147.8	148.4	156.8	171.9	187.3	195.1	196.3	196.2	189.4	173.3	154.1
15°	148.8	149.6	158.0	170.5	179.2	182.6	182.7	183.7	181.7	169.4	151.5
17.5°	158.9	158.9	166.9	174.5	172.5	170.1	171.9	173.7	177.1	171.7	156.7
20°	174.9	175.6	183.0	181.7	169.5	163.4	161.2	164.2	175.1	178.8	168.8
22.5°	192.1	194.0	201.7	192.1	169.0	157.1	154.7	158.0	175.3	190.0	185.4
25°	211.2	213.5	218.7	204.3	170.5	153.6	152.0	155.1	176.0	200.2	203.4
27.5°	228.6	228.8	234.0	214.6	174.6	154.0	151.2	155.3	177.9	208.3	219.2
30°	241.0	241.0	243.3	219.8	179.7	156.1	151.9	157.9	180.6	212.8	233.6
32.5°	252.3	252.9	251.8	225.3	184.5	159.3	153.5	163.1	184.9	216.4	244.7
35°	266.7	266.6	261.6	229.7	188.9	162.7	157.6	169.7	191.1	221.8	255.2
37.5°	284.5	283.6	272.9	233.6	194.3	168.5	165.4	178.8	199.4	228.2	268.5
40°	300.6	299.2	283.3	237.3	198.6	179.8	178.0	190.0	209.8	236.1	281.5
42.5°	313.2	311.1	292.1	239.9	205.0	197.6	199.2	210.3	220.4	243.2	289.6
45°	323.7	321.5	298.7	241.2	220.6	223.0	226.0	235.3	231.6	245.1	294.6
47.5°	331.3	327.7	301.6	245.0	241.7	252.6	262.0	262.6	247.5	245.0	297.6
50°	335.7	331.8	304.3	254.5	266.2	286.2	296.3	291.6	263.9	246.6	302.0
52.5°	344.7	340.6	315.5	269.9	291.3	320.3	325.7	318.1	281.0	254.7	310.7
55°	367.3	365.4	337.3	290.7	315.9	347.8	350.3	342.7	298.9	268.7	327.4
57.5°	392.8	388.8	366.7	316.7	339.6	369.4	373.3	362.8	317.6	288.4	345.9
60°	399.9	399.2	391.7	347.1	364.0	392.4	392.6	379.3	339.5	311.9	374.2
62.5°	389.5	392.0	402.0	375.3	384.4	407.8	405.6	391.8	362.4	349.1	408.7
65°	371.3	374.9	395.0	401.9	389.1	404.7	400.1	391.3	376.9	389.3	430.0
67.5°	349.4	351.3	374.8	415.1	372.7	371.2	369.0	365.0	371.1	417.9	433.7
70°	326.7	328.3	349.9	396.9	323.3	306.3	304.4	301.0	324.7	417.5	415.7
72.5°	275.3	274.3	294.3	331.3	246.9	223.8	239.3	231.7	262.7	375.1	370.3
75°	171.0	176.8	201.8	232.3	169.1	153.3	174.7	172.8	213.3	323.0	294.9
77.5°	104.2	105.3	119.5	144.8	101.9	106.2	112.3	124.2	158.1	261.8	205.5
80°	54.5	50.7	61.1	79.5	60.5	71.3	82.3	95.4	100.4	170.7	137.4
82.5°	15.8	15.7	20.7	33.3	28.7	35.0	41.6	59.9	65.8	101.5	94.1
85°	0.1	0.1	0.1	0.2	0.3	0.4	1.8	15.4	20.4	47.1	38.7
87.5°	0.0	0.0	0.1	0.2	0.2	0.3	0.5	0.7	0.9	1.0	3.8
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°	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3
2.5°	197.6	196.3	193.5	189.8	187.2	182.6	181.7	178.8	175.9	173.6	173.7
5°	190.5	186.0	179.2	171.4	163.9	157.2	155.9	152.0	150.8	149.7	146.6
7.5°	171.7	166.5	157.0	145.4	136.0	129.7	122.9	118.8	115.1	110.9	112.0
10°	157.4	149.9	136.8	123.2	111.4	102.9	95.4	91.6	86.3	82.4	81.9
12.5°	146.3	138.2	122.5	106.6	95.5	90.5	85.7	79.7	73.8	68.7	66.1
15°	142.6	133.5	115.3	99.4	90.7	84.7	78.0	71.1	63.9	58.5	56.4
17.5°	146.9	136.1	115.2	96.4	85.5	76.7	68.3	60.6	52.0	46.6	45.0
20°	158.7	145.2	117.6	93.5	79.1	67.2	55.4	47.1	38.3	34.5	32.8
22.5°	175.1	157.5	121.4	90.0	72.1	55.6	42.3	31.8	27.5	25.6	25.2
25°	191.9	173.0	126.7	87.0	64.3	44.3	30.4	25.4	23.4	22.6	22.6
27.5°	210.3	188.6	132.4	83.5	56.3	32.9	24.7	22.4	21.3	20.8	20.7
30°	225.3	201.4	139.0	79.3	49.1	27.0	22.0	20.4	19.4	19.2	19.2
32.5°	236.1	210.9	145.9	75.1	42.4	24.4	20.4	19.0	17.9	17.8	17.8
35°	248.8	219.9	149.0	72.8	38.4	22.7	19.3	17.9	16.9	16.5	16.5
37.5°	263.9	230.7	150.7	70.5	36.7	21.2	18.5	16.9	15.9	15.4	15.4
40°	283.2	243.0	152.6	68.2	35.6	19.9	17.6	16.0	15.2	14.6	14.6
42.5°	297.0	254.3	154.0	66.3	33.8	19.3	16.9	15.4	14.5	13.9	13.9
45°	304.2	264.9	154.6	65.2	31.7	19.8	16.4	14.9	13.8	13.2	13.2
47.5°	309.1	273.6	155.4	64.3	30.1	18.8	16.3	14.4	13.2	12.5	12.5
50°	316.8	285.1	157.4	62.6	29.1	17.6	17.6	14.1	12.6	12.0	11.9
52.5°	330.7	301.6	162.8	60.8	28.1	16.4	18.1	14.2	12.2	11.5	11.3
55°	351.6	327.8	171.7	58.2	26.6	14.9	16.9	14.3	11.8	11.2	10.9
57.5°	378.8	359.5	182.2	56.1	24.0	13.7	15.4	13.9	11.2	10.7	10.5
60°	397.1	380.7	188.8	53.4	20.5	12.9	13.2	13.4	10.7	10.1	10.0
62.5°	406.9	381.0	188.9	49.7	17.2	12.2	11.9	13.7	10.3	9.5	9.4
65°	407.6	362.5	179.4	44.9	16.0	11.4	10.9	12.1	9.8	9.1	9.0
67.5°	400.0	332.2	157.7	39.4	16.5	10.8	10.1	10.2	9.3	8.6	8.5
70°	372.8	293.1	126.5	35.0	16.6	10.0	9.5	9.2	8.8	8.2	8.0
72.5°	321.7	244.9	95.8	33.6	16.8	9.4	8.8	8.5	8.2	7.7	7.5
75°	242.8	191.1	72.0	31.4	17.0	8.7	8.0	7.8	7.5	7.0	6.9
77.5°	167.7	141.7	50.0	26.5	15.2	7.9	7.2	7.1	6.8	6.3	6.2
80°	113.3	97.2	30.7	19.9	11.5	7.0	6.3	6.3	6.0	5.5	5.5
82.5°	78.9	72.6	17.7	13.0	8.4	5.8	5.5	5.5	5.2	4.7	4.6
85°	32.9	43.9	7.9	7.1	5.8	4.5	4.5	4.6	4.4	3.9	3.8
87.5°	1.1	4.7	3.1	3.3	3.5	3.1	3.5	3.5	3.4	3.0	3.0
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°	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3
2.5°	171.1	170.0	166.5	166.1	163.5	163.3	164.4	162.5	162.7	165.0	164.7
5°	147.3	144.6	144.6	141.7	138.5	137.7	134.9	133.8	133.4	132.4	135.9
7.5°	115.2	114.0	115.0	114.7	111.7	110.1	104.1	99.6	97.3	98.3	98.5
10°	81.9	83.7	86.5	89.2	87.1	81.6	79.1	75.5	75.0	74.8	76.5
12.5°	64.9	62.8	64.1	65.1	63.1	60.7	59.7	58.1	59.0	61.0	62.1
15°	53.9	50.3	48.6	47.5	48.0	46.6	47.1	46.6	47.2	47.8	49.9
17.5°	42.6	41.3	38.2	36.7	36.8	36.2	36.3	36.2	35.9	37.3	38.9
20°	32.1	31.7	31.0	30.0	30.1	29.7	29.5	28.0	27.4	27.8	29.2
22.5°	25.0	25.4	25.9	25.8	26.2	25.1	24.0	22.7	22.6	22.7	23.0
25°	22.4	22.6	22.9	23.4	23.6	22.6	21.1	20.3	20.2	20.4	20.4
27.5°	20.8	20.7	21.1	21.6	22.0	20.7	19.4	18.7	18.6	18.4	18.3
30°	19.2	19.2	19.5	20.0	20.3	19.2	18.1	17.4	17.0	16.7	16.6
32.5°	17.9	18.0	18.2	18.6	19.0	17.9	17.0	16.4	15.6	15.3	15.2
35°	16.6	16.9	17.2	17.3	17.6	16.8	15.9	15.0	14.3	14.0	14.0
37.5°	15.4	15.7	16.1	16.0	16.3	15.8	14.8	13.8	13.4	13.3	13.2
40°	14.6	14.6	14.9	15.2	15.6	14.6	13.5	13.0	12.7	12.5	12.6
42.5°	13.8	13.7	13.7	14.3	14.9	13.5	12.5	12.2	12.1	11.9	12.0
45°	13.1	13.0	12.7	13.0	13.9	12.4	11.8	11.5	11.4	11.4	11.4
47.5°	12.5	12.3	11.9	12.0	12.6	11.5	11.0	10.9	10.8	10.8	10.9
50°	11.8	11.6	11.3	11.2	11.4	10.9	10.5	10.3	10.3	10.3	10.5
52.5°	11.2	11.1	10.7	10.6	10.7	10.4	9.9	9.8	9.8	9.8	10.1
55°	10.7	10.5	10.4	10.2	10.4	9.9	9.6	9.4	9.4	9.6	9.8
57.5°	10.3	10.1	10.0	9.8	10.0	9.6	9.2	9.1	9.1	9.2	9.2
60°	9.8	9.7	9.6	9.4	9.7	9.2	8.9	8.8	8.8	8.7	8.7
62.5°	9.4	9.3	9.1	9.0	9.3	8.8	8.5	8.4	8.3	8.3	8.3
65°	8.9	8.8	8.7	8.6	8.8	8.4	8.1	8.0	7.8	7.8	7.8
67.5°	8.5	8.5	8.3	8.1	8.4	7.8	7.7	7.6	7.3	7.2	7.3
70°	7.9	7.9	7.8	7.7	8.0	7.3	7.1	7.1	6.9	6.8	6.8
72.5°	7.4	7.4	7.2	7.1	7.6	6.8	6.6	6.5	6.3	6.2	6.2
75°	6.9	6.8	6.7	6.6	7.1	6.3	6.0	5.8	5.6	5.5	5.4
77.5°	6.3	6.2	6.0	6.1	6.4	5.6	5.2	5.1	4.9	4.8	4.7
80°	5.5	5.4	5.3	5.5	5.5	4.9	4.4	4.3	4.0	3.8	3.7
82.5°	4.7	4.6	4.6	4.8	4.5	4.3	3.7	3.4	3.0	2.7	2.6
85°	3.8	4.0	3.8	4.0	3.4	3.4	2.6	2.0	1.4	1.1	1.0
87.5°	3.0	3.0	3.0	3.0	2.4	2.3	1.2	0.7	0.1	0.0	0.0
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°	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3	187.3
2.5°	167.3	167.5	171.2	175.0	177.2	182.9	185.7	188.8	190.5	192.4
5°	134.3	137.6	140.6	148.1	152.0	160.9	167.5	177.9	181.2	183.9
7.5°	101.4	106.4	110.1	119.5	126.7	137.8	149.3	161.7	165.3	167.6
10°	80.6	85.1	92.2	99.5	107.6	121.1	133.5	146.4	152.7	155.4
12.5°	67.7	74.9	83.2	90.0	96.5	106.4	122.1	138.4	144.9	147.8
15°	55.9	64.0	72.4	80.8	88.8	100.0	116.5	137.7	145.9	148.8
17.5°	44.4	51.0	59.5	69.6	81.3	95.6	117.5	145.1	155.2	158.9
20°	31.5	38.0	46.7	59.2	73.0	91.0	120.0	156.2	170.6	174.9
22.5°	23.8	27.4	35.4	47.7	65.6	87.3	123.8	171.5	188.3	192.1
25°	20.9	22.1	26.2	38.1	58.2	84.0	128.9	186.6	207.0	211.2
27.5°	18.6	19.3	21.3	30.6	52.7	80.6	134.9	203.0	223.1	228.6
30°	16.7	17.6	19.3	25.6	47.4	75.7	140.4	217.7	236.8	241.0
32.5°	15.3	16.3	17.9	23.2	42.9	72.1	143.5	228.7	248.5	252.3
35°	14.4	15.2	16.8	21.0	38.9	69.5	144.5	239.6	262.8	266.7
37.5°	13.5	14.4	15.8	18.8	36.1	66.2	145.9	252.6	279.4	284.5
40°	12.9	13.6	14.9	17.3	32.2	62.6	147.7	267.8	295.5	300.6
42.5°	12.3	13.1	14.2	17.4	28.4	59.6	148.8	279.4	308.3	313.2
45°	11.8	12.6	13.9	17.1	25.5	56.8	148.3	289.2	320.0	323.7
47.5°	11.2	12.3	14.6	16.4	24.7	54.3	148.7	298.6	328.3	331.3
50°	10.9	12.2	15.7	15.3	24.8	53.2	152.9	309.8	334.6	335.7
52.5°	10.6	12.5	14.8	13.9	24.8	52.6	160.9	328.0	345.5	344.7
55°	10.2	12.4	13.9	12.5	23.8	52.9	168.5	351.9	371.6	367.3
57.5°	9.8	11.9	12.5	11.6	21.3	53.0	179.8	372.1	392.2	392.8
60°	9.4	12.7	10.8	10.8	18.3	52.5	189.7	371.8	395.9	399.9
62.5°	9.0	12.5	9.7	10.0	16.2	50.9	195.7	350.1	382.1	389.5
65°	8.5	9.8	8.9	9.3	15.3	46.8	187.2	323.2	363.3	371.3
67.5°	7.8	8.1	8.1	8.6	15.0	40.6	165.6	293.5	339.8	349.4
70°	7.1	7.2	7.4	8.2	13.9	34.9	134.9	261.8	314.6	326.7
72.5°	6.4	6.5	6.5	7.4	13.1	30.1	95.5	207.5	262.6	275.3
75°	5.7	5.8	5.7	6.4	11.4	22.6	56.7	131.2	156.7	171.0
77.5°	4.8	4.8	4.6	5.1	7.8	14.3	31.0	79.7	95.3	104.2
80°	3.9	3.6	3.0	3.0	4.3	8.2	13.9	45.7	52.3	54.5
82.5°	2.6	2.0	1.2	1.1	1.4	2.3	3.2	18.1	16.6	15.8
85°	0.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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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