

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: P401044

Luminaire Tested: **ENT-SA1A-830-U-SLR**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401044
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-9)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1A-830-U-SLR
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 350mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 1921 lumens
Efficiency: N/A
Efficacy: 95.6 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 20.1
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

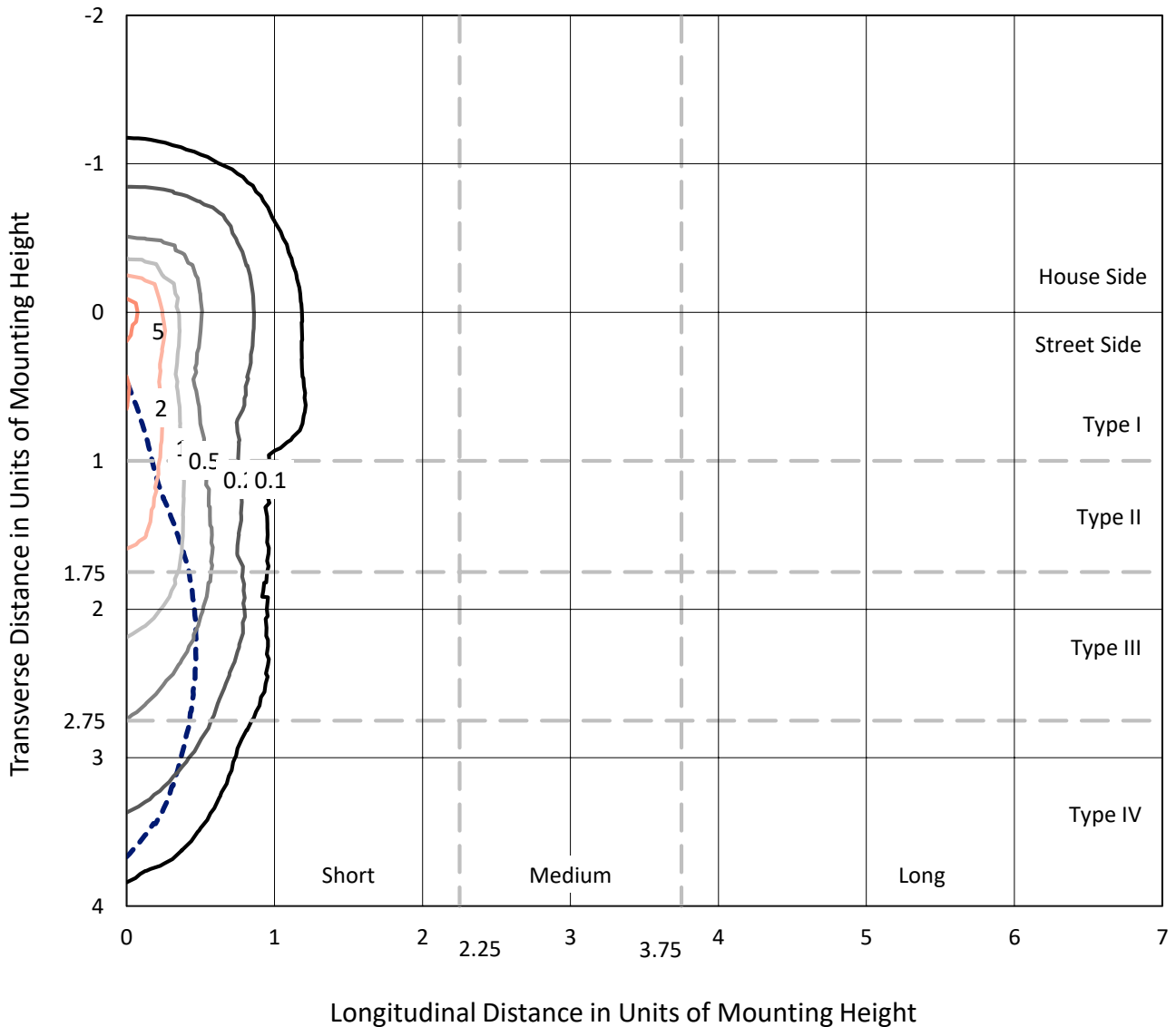


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

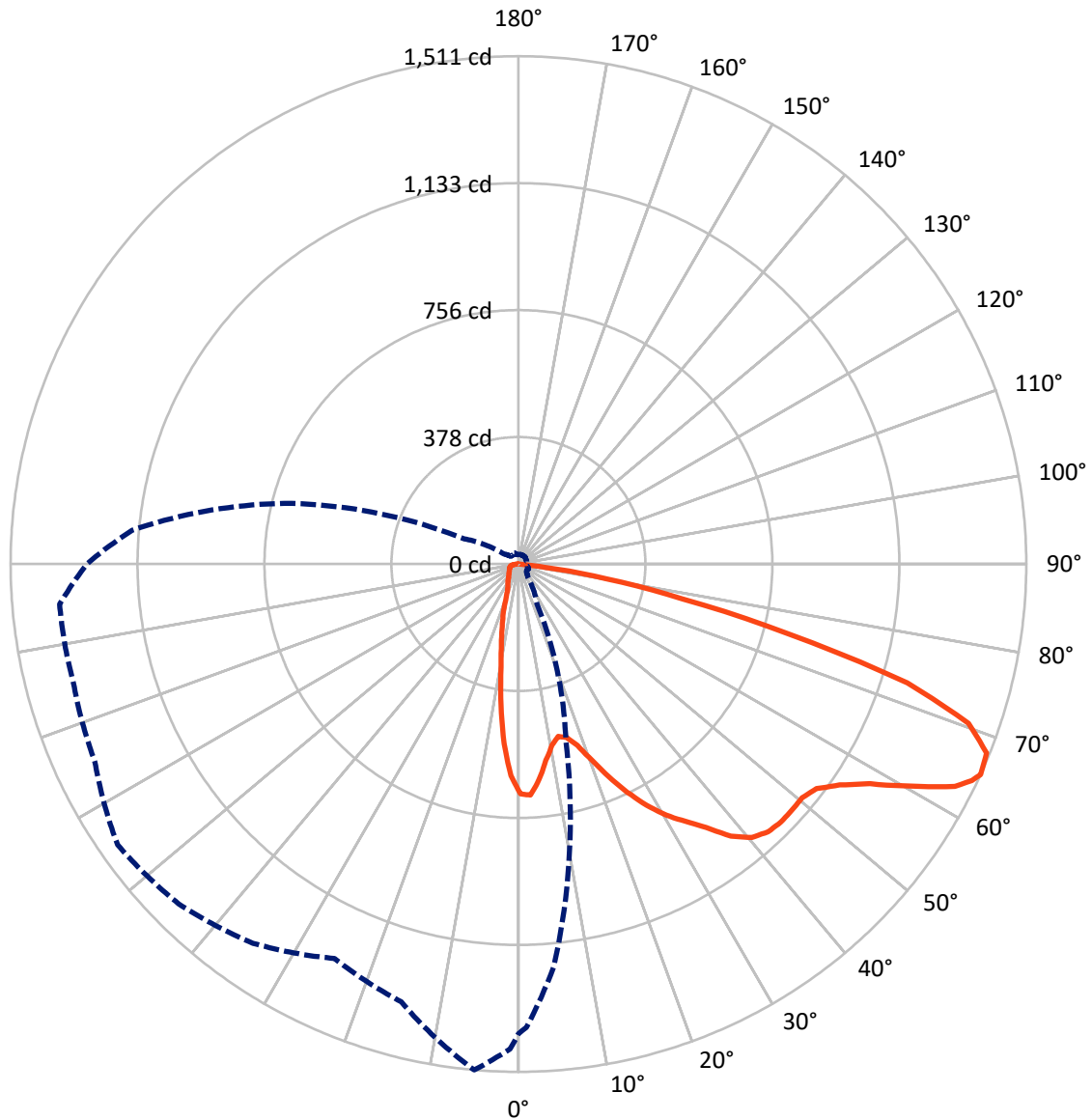


Based on 10 foot mounting height. Maximum calculated value = 6.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	394.2	0.0	394.2
	% Fixture	20.5	0.0	20.5
Street Side	Lumens	1526.8	0.0	1526.8
	% Fixture	79.5	0.0	79.5
Total	Lumens	1921.0	0.0	1921.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.2	2.7
10°-20°	103.9	5.4
20°-30°	144.0	7.5
30°-40°	201.3	10.5
40°-50°	273.9	14.3
50°-60°	374.6	19.5
60°-70°	458.1	23.8
70°-80°	276.5	14.4
80°-90°	36.5	1.9
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°	1921.0	100.0
0°-180°	1921.0	100.0



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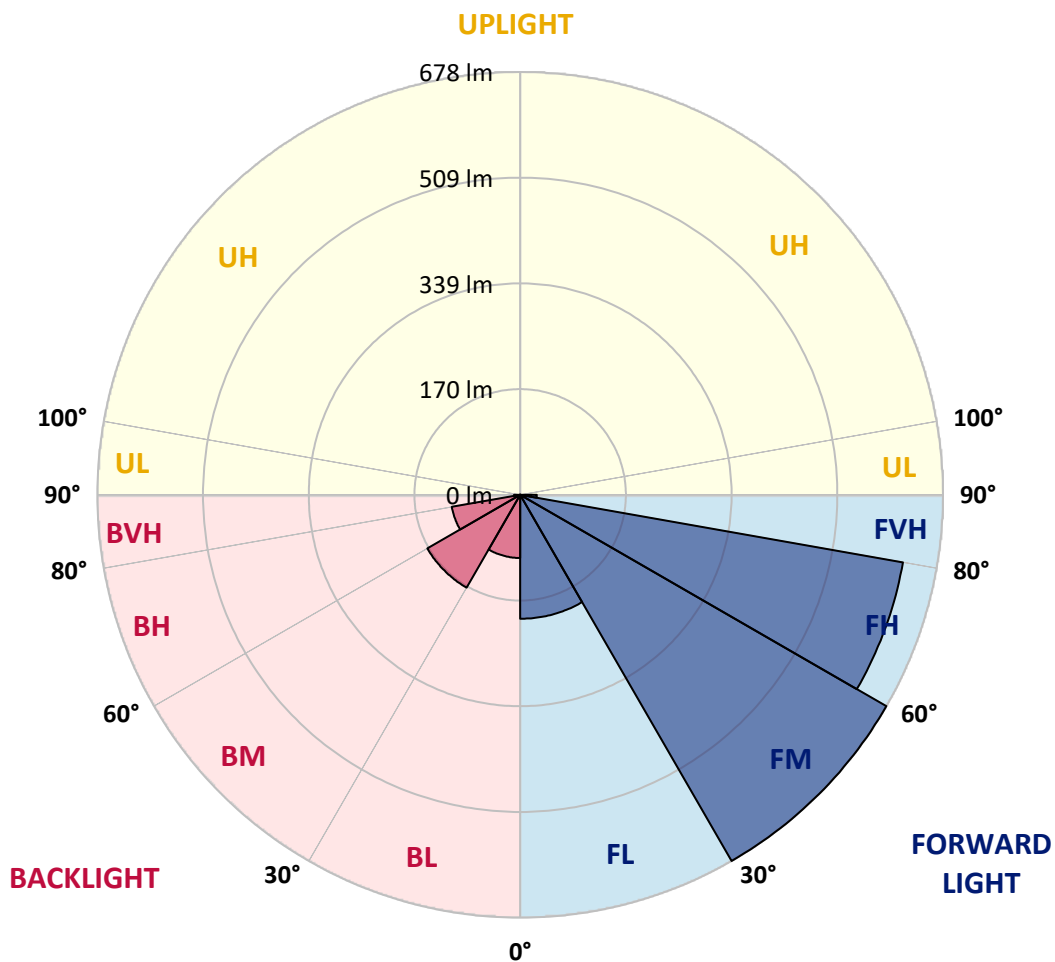
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	198.8	10.3			
FM	(30°-60°)	678.1	35.3			
FH	(60°-80°)	623.3	32.4			G0/660
FVH	(80°-90°)	26.7	1.4			G1/100
BL	(0°-30°)	101.3	5.3	B0/110		
BM	(30°-60°)	171.8	8.9	B0/220		
BH	(60°-80°)	111.2	5.8	B1/500		G1/500
BVH	(80°-90°)	9.8	0.5			G0/10
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6
2.5°	682.0	680.1	675.2	662.4	648.6	632.2	629.3	611.6	613.6	608.4	609.7
5°	622.9	620.3	607.1	581.4	546.4	526.2	510.4	501.1	493.4	489.6	494.4
7.5°	565.4	561.8	546.1	500.8	461.9	429.8	404.1	388.4	373.0	360.7	355.0
10°	518.8	517.5	496.6	445.6	396.7	357.5	340.8	324.1	311.0	293.6	279.5
12.5°	495.3	491.5	466.8	407.3	359.8	335.7	320.0	298.7	280.8	259.6	241.2
15°	496.3	491.8	461.0	398.7	346.9	317.7	293.6	268.2	241.9	220.4	201.7
17.5°	523.9	520.7	483.1	406.7	336.0	295.5	258.0	225.2	196.3	169.3	152.6
20°	570.5	565.7	513.7	416.3	322.2	270.2	219.1	174.1	143.0	119.2	106.0
22.5°	631.2	622.2	557.0	428.2	308.4	241.2	177.0	126.9	99.3	87.4	83.8
25°	696.1	689.1	609.4	443.3	293.6	209.8	131.1	92.2	82.6	77.7	75.2
27.5°	755.9	744.3	665.6	460.0	274.0	178.3	99.6	79.3	72.9	70.7	69.1
30°	798.6	788.6	704.5	479.3	257.0	145.5	85.1	72.0	66.8	63.3	62.6
32.5°	839.4	825.3	732.7	488.3	242.9	127.9	78.7	66.8	62.0	58.5	57.2
35°	887.6	873.4	765.2	489.6	232.3	120.5	72.6	63.0	57.8	54.6	53.0
37.5°	944.4	925.2	801.8	490.5	221.7	117.6	67.5	59.7	54.6	51.1	49.8
40°	998.4	983.6	839.4	488.9	214.6	113.4	64.2	56.2	51.4	48.2	46.6
42.5°	1039.2	1023.5	871.5	484.1	210.4	106.3	65.5	53.6	49.1	45.6	43.7
45°	1060.1	1045.9	900.7	479.6	208.2	100.2	64.2	52.7	47.5	43.4	41.4
47.5°	1075.8	1062.0	930.6	477.7	204.3	95.7	59.1	56.2	45.9	41.1	39.2
50°	1101.2	1089.3	971.1	488.6	198.2	92.8	54.3	60.1	45.3	39.2	36.9
52.5°	1146.8	1139.1	1037.9	514.0	191.8	88.0	49.5	57.5	45.9	37.9	35.3
55°	1231.9	1227.1	1129.8	547.4	185.7	81.9	44.3	52.0	45.6	35.7	33.7
57.5°	1323.8	1322.5	1241.3	576.6	176.7	71.6	41.1	44.0	43.4	33.7	31.5
60°	1385.5	1381.3	1292.7	593.0	165.1	59.1	38.5	37.3	44.3	31.8	29.2
62.5°	1406.7	1392.9	1277.2	586.9	147.8	51.1	35.7	34.1	41.1	29.9	27.0
64°	1405.4	1385.2	1237.1	563.8	136.5	49.5	34.1	31.8	36.3	28.6	26.0
65°	1398.0	1378.7	1203.7	545.8	130.4	49.5	33.1	30.8	33.1	27.9	25.4
67.5°	1350.8	1325.4	1089.6	462.3	114.7	50.1	30.8	28.3	27.6	25.7	23.8
70°	1243.2	1210.1	933.2	363.6	106.3	50.4	28.3	25.7	24.7	23.5	21.8
72.5°	998.4	954.1	742.7	259.9	97.7	49.5	25.7	23.5	22.5	21.2	19.6
75°	669.5	621.0	547.4	171.2	80.0	44.3	22.2	20.2	19.9	18.6	17.3
77.5°	377.5	357.2	323.2	94.1	55.3	30.5	17.7	16.4	16.7	16.1	14.8
80°	197.2	187.9	172.8	45.6	26.7	14.8	11.2	11.2	12.8	12.8	12.2
82.5°	69.7	70.0	67.8	10.3	5.5	4.5	3.9	5.5	7.4	9.0	9.0
85°	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.6	1.3	2.2
87.5°	0.0	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	0.0



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6
2.5°	598.8	600.7	605.9	604.9	610.0	607.8	614.5	618.1	620.0	629.9	634.8
5°	490.5	491.2	509.5	513.3	523.0	517.8	529.7	525.2	534.9	536.1	552.2
7.5°	360.4	361.7	370.7	391.9	412.8	421.5	425.0	430.5	426.0	424.4	426.6
10°	274.0	275.0	275.9	291.0	309.4	327.7	327.7	328.0	320.0	311.9	310.3
12.5°	234.2	228.1	218.4	218.8	231.6	240.3	247.0	240.0	238.7	242.5	246.7
15°	192.7	186.6	180.2	172.5	172.8	178.9	182.5	182.1	188.6	191.5	200.1
17.5°	149.7	141.0	141.3	136.8	130.7	134.6	135.6	141.3	149.7	153.6	155.2
20°	100.5	100.5	103.1	108.6	105.7	108.3	108.6	113.1	116.9	114.7	116.9
22.5°	83.2	82.9	83.8	87.4	90.3	92.5	93.2	92.8	89.0	87.4	90.6
25°	75.5	75.2	75.5	77.4	80.6	83.5	82.2	80.3	75.8	75.5	76.1
27.5°	69.1	69.4	70.0	71.3	73.2	76.8	75.5	71.6	69.4	68.7	68.7
30°	63.6	63.6	64.9	66.2	68.4	71.6	69.4	66.2	63.9	63.3	63.0
32.5°	58.1	59.1	60.1	61.4	63.3	66.5	64.6	61.7	59.4	58.1	57.2
35°	52.7	53.3	55.3	57.2	58.8	61.4	60.1	57.5	55.3	52.4	51.1
37.5°	49.5	49.5	50.4	53.3	54.6	56.5	55.9	53.6	50.1	47.9	47.5
40°	46.6	46.6	46.9	48.5	50.8	53.0	51.7	48.2	45.9	45.0	44.7
42.5°	43.7	43.7	44.0	44.0	46.9	50.8	47.5	44.0	43.0	42.4	42.1
45°	41.1	41.1	41.1	40.8	42.4	47.2	43.7	40.8	40.2	40.2	39.8
47.5°	39.2	38.9	38.5	37.9	38.9	42.7	39.8	38.2	37.9	38.2	37.9
50°	36.6	36.3	36.0	35.7	36.3	37.9	37.3	35.7	36.0	36.0	36.3
52.5°	34.4	34.1	33.7	33.4	34.1	35.3	35.3	34.1	34.1	34.4	34.7
55°	33.1	32.4	32.1	32.1	32.4	34.1	33.7	32.8	32.8	33.4	33.7
57.5°	31.2	30.5	30.5	30.2	30.8	32.8	32.4	31.5	31.5	31.8	32.4
60°	29.2	28.9	28.6	29.2	29.6	31.5	31.2	30.5	30.2	31.2	31.2
62.5°	27.0	27.0	27.0	27.6	27.9	30.2	29.9	29.6	29.6	29.9	29.6
64°	25.7	25.7	26.0	26.3	27.0	28.9	28.9	28.9	28.9	28.9	28.6
65°	25.1	25.1	25.7	26.0	26.3	28.6	28.3	28.6	28.9	28.6	27.9
67.5°	23.5	23.5	24.4	24.4	24.7	27.3	27.0	27.6	28.3	27.6	27.0
70°	21.5	21.8	22.8	22.5	23.1	26.0	25.1	26.3	27.6	26.7	26.0
72.5°	19.6	19.9	21.2	20.6	20.9	24.4	23.1	24.4	26.3	25.7	25.1
75°	17.7	18.0	19.0	18.6	19.3	22.5	21.2	22.5	24.4	24.4	24.1
77.5°	15.1	15.7	16.4	16.1	17.3	20.2	19.0	19.9	21.5	22.8	22.2
80°	12.2	13.2	13.5	13.8	15.1	17.3	16.4	16.7	18.3	19.3	19.6
82.5°	8.4	10.0	10.6	10.9	12.8	13.5	13.8	13.5	14.5	15.7	14.8
85°	2.6	3.2	6.1	7.7	9.6	9.6	11.2	10.6	11.2	10.0	8.4
87.5°	0.0	0.0	0.0	2.2	5.8	5.8	8.0	7.4	7.7	5.8	5.1
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6
2.5°	635.7	641.2	653.4	667.5	675.2	691.9	702.2	713.1	724.1	726.3	729.8
5°	555.4	561.8	575.7	594.6	613.6	635.7	661.4	688.7	718.9	731.8	744.3
7.5°	432.7	434.0	453.6	488.0	504.7	536.1	572.8	614.8	661.4	685.5	711.2
10°	319.6	332.8	347.6	376.2	418.2	454.5	499.8	549.0	597.5	632.5	659.2
12.5°	251.2	267.9	292.3	323.8	355.6	390.0	442.3	495.0	554.8	586.3	619.0
15°	206.9	228.1	259.9	293.0	322.5	353.0	399.6	464.2	540.6	572.8	602.0
17.5°	163.8	187.3	221.3	256.0	291.4	328.6	382.6	462.6	555.7	593.0	623.2
20°	125.6	143.9	172.5	207.5	249.0	300.0	369.1	474.8	600.4	647.0	666.9
22.5°	93.2	103.8	126.2	162.9	211.7	274.7	355.6	492.1	655.6	710.3	725.4
25°	77.1	80.0	90.3	122.1	172.5	246.1	345.3	514.6	710.9	772.3	783.2
27.5°	69.4	71.0	75.8	87.7	134.9	222.6	331.8	540.6	769.0	833.6	832.6
30°	62.6	63.0	65.9	74.2	109.5	201.7	316.1	569.6	820.8	877.6	874.7
32.5°	56.5	56.5	60.4	66.8	93.5	182.8	297.1	590.4	865.7	913.6	904.3
35°	51.1	52.0	55.6	62.0	82.9	161.6	279.5	598.1	904.3	957.0	930.6
37.5°	47.2	48.5	52.0	58.1	73.9	145.8	265.0	607.1	951.8	1009.3	960.2
40°	44.7	45.6	48.8	54.0	66.8	132.7	249.3	613.2	999.0	1065.2	991.3
42.5°	42.1	43.0	46.3	51.1	63.6	117.3	234.2	616.8	1048.2	1113.7	1017.4
45°	39.8	41.1	44.3	48.8	63.9	103.4	221.7	615.5	1077.7	1148.7	1037.6
47.5°	38.2	39.5	43.0	48.8	62.0	95.4	211.1	611.0	1099.6	1171.5	1046.9
50°	36.6	37.9	42.1	54.0	58.8	93.2	203.0	610.3	1122.4	1176.0	1046.9
52.5°	35.0	37.3	42.4	54.3	54.0	92.2	196.6	627.4	1153.9	1183.8	1056.2
55°	34.1	36.0	43.7	50.1	47.2	89.0	192.7	650.8	1206.9	1226.2	1103.1
57.5°	32.8	34.4	43.0	46.9	42.1	81.6	189.5	673.3	1276.6	1304.9	1196.6
60°	31.2	33.1	41.8	40.2	38.2	69.4	187.6	691.9	1302.6	1355.6	1297.2
62.5°	29.6	31.8	45.6	35.0	35.3	57.8	184.1	709.9	1247.7	1343.4	1361.7
64°	28.6	30.8	42.4	32.8	33.7	52.7	180.5	710.9	1199.2	1314.5	1373.9
65°	27.9	29.9	39.5	31.5	32.4	51.4	177.3	697.4	1153.6	1283.7	1370.4
67.5°	27.0	28.3	30.5	29.2	30.2	49.1	155.5	638.0	1056.5	1204.3	1315.5
70°	25.7	26.7	27.0	26.7	28.3	47.5	131.4	553.5	950.5	1121.1	1230.0
72.5°	24.4	24.4	24.4	24.1	26.0	45.3	118.2	447.2	821.4	1011.9	1123.7
75°	23.5	22.5	22.2	21.5	23.8	44.0	106.7	335.7	634.8	842.9	941.5
77.5°	21.5	20.6	19.6	19.0	21.2	39.2	89.0	237.1	468.0	613.2	726.6
80°	18.6	18.0	16.7	15.7	17.7	30.8	67.5	146.5	342.4	414.1	476.7
82.5°	15.1	14.8	13.5	12.2	12.8	22.2	45.9	74.5	228.4	224.9	266.3
85°	9.3	11.6	10.0	8.0	8.7	12.8	18.6	23.8	70.0	42.1	65.2
87.5°	5.5	7.4	6.1	4.2	3.2	5.8	5.1	4.8	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	0.0



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CANDELA DISTRIBUTION (continued):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6	683.6
2.5°	738.2	742.4	744.6	736.3	727.3	719.2	703.8	688.4	680.4	682.0
5°	768.4	775.5	777.4	765.2	739.8	713.8	676.2	643.8	624.2	622.9
7.5°	756.8	780.0	783.8	770.6	734.3	685.8	634.8	589.5	569.9	565.4
10°	715.7	751.1	762.6	758.1	722.8	667.2	605.2	547.7	528.1	518.8
12.5°	673.6	710.6	717.6	722.1	700.6	653.7	585.6	526.5	503.1	495.3
15°	646.0	671.4	673.3	677.5	673.0	647.3	594.6	535.2	506.9	496.3
17.5°	642.2	633.2	627.1	635.7	641.2	647.6	618.1	567.6	537.4	523.9
20°	642.8	614.8	597.5	596.9	620.3	656.0	665.6	622.2	583.0	570.5
22.5°	666.2	605.2	576.3	572.8	601.4	670.1	714.1	687.1	647.9	631.2
25°	701.3	599.4	561.2	562.2	590.8	679.4	755.5	752.0	717.6	696.1
27.5°	735.0	609.1	559.3	561.8	594.3	685.5	789.9	813.0	774.5	755.9
30°	762.0	630.6	565.1	567.3	605.2	693.9	806.9	867.3	820.8	798.6
32.5°	785.4	650.8	573.7	575.3	622.6	705.8	823.0	913.0	865.7	839.4
35°	806.6	668.2	586.9	592.4	644.7	722.8	839.4	962.4	920.7	887.6
37.5°	825.3	689.4	612.9	621.9	677.2	747.5	860.6	1027.6	982.0	944.4
40°	835.9	708.3	651.5	665.0	719.2	779.6	887.6	1070.0	1040.8	998.4
42.5°	843.9	734.3	713.5	737.9	784.5	809.8	900.4	1089.0	1075.5	1039.2
45°	848.1	785.7	806.6	829.4	858.0	842.9	893.4	1095.4	1091.2	1060.1
47.5°	867.0	863.2	914.6	946.0	944.4	892.7	879.9	1094.8	1101.5	1075.8
50°	905.6	953.4	1025.4	1056.2	1044.3	939.3	877.3	1093.8	1122.1	1101.2
52.5°	951.5	1043.7	1145.2	1158.1	1133.0	986.5	896.6	1110.5	1160.6	1146.8
55°	1011.9	1128.5	1239.3	1243.5	1208.2	1032.5	937.7	1159.7	1232.6	1231.9
57.5°	1096.1	1204.6	1318.4	1313.2	1263.4	1096.1	1003.9	1233.2	1312.6	1323.8
60°	1187.6	1284.9	1382.3	1379.4	1326.4	1169.3	1094.8	1342.1	1382.6	1385.5
62.5°	1275.3	1359.5	1444.0	1430.1	1370.4	1245.1	1220.7	1457.8	1428.2	1406.7
64°	1332.5	1384.5	1459.7	1437.9	1381.0	1281.4	1293.3	1495.4	1441.1	1405.4
65°	1370.4	1390.6	1456.2	1429.8	1377.5	1294.9	1348.2	1511.1	1443.3	1398.0
67.5°	1438.5	1355.6	1360.4	1339.6	1292.7	1282.4	1438.2	1502.4	1418.6	1350.8
70°	1419.5	1214.6	1148.4	1135.2	1079.0	1136.9	1426.9	1420.8	1325.7	1243.2
72.5°	1257.6	975.3	880.2	868.3	790.2	861.6	1231.3	1210.1	1066.8	998.4
75°	1036.3	739.2	628.7	638.6	579.2	645.0	979.4	829.1	710.3	669.5
77.5°	804.4	522.3	434.3	422.4	410.5	417.6	673.3	497.9	415.0	377.5
80°	512.7	328.3	325.7	297.8	288.1	242.9	346.0	265.0	208.5	197.2
82.5°	272.4	189.2	214.9	172.2	138.5	99.6	117.3	78.7	66.5	69.7
85°	74.5	39.2	10.9	0.0	0.0	0.0	0.0	0.3	0.3	0.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	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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