

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: P401042

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

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401042
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-SA1A-830-U-SLL
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 350mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT 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 III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

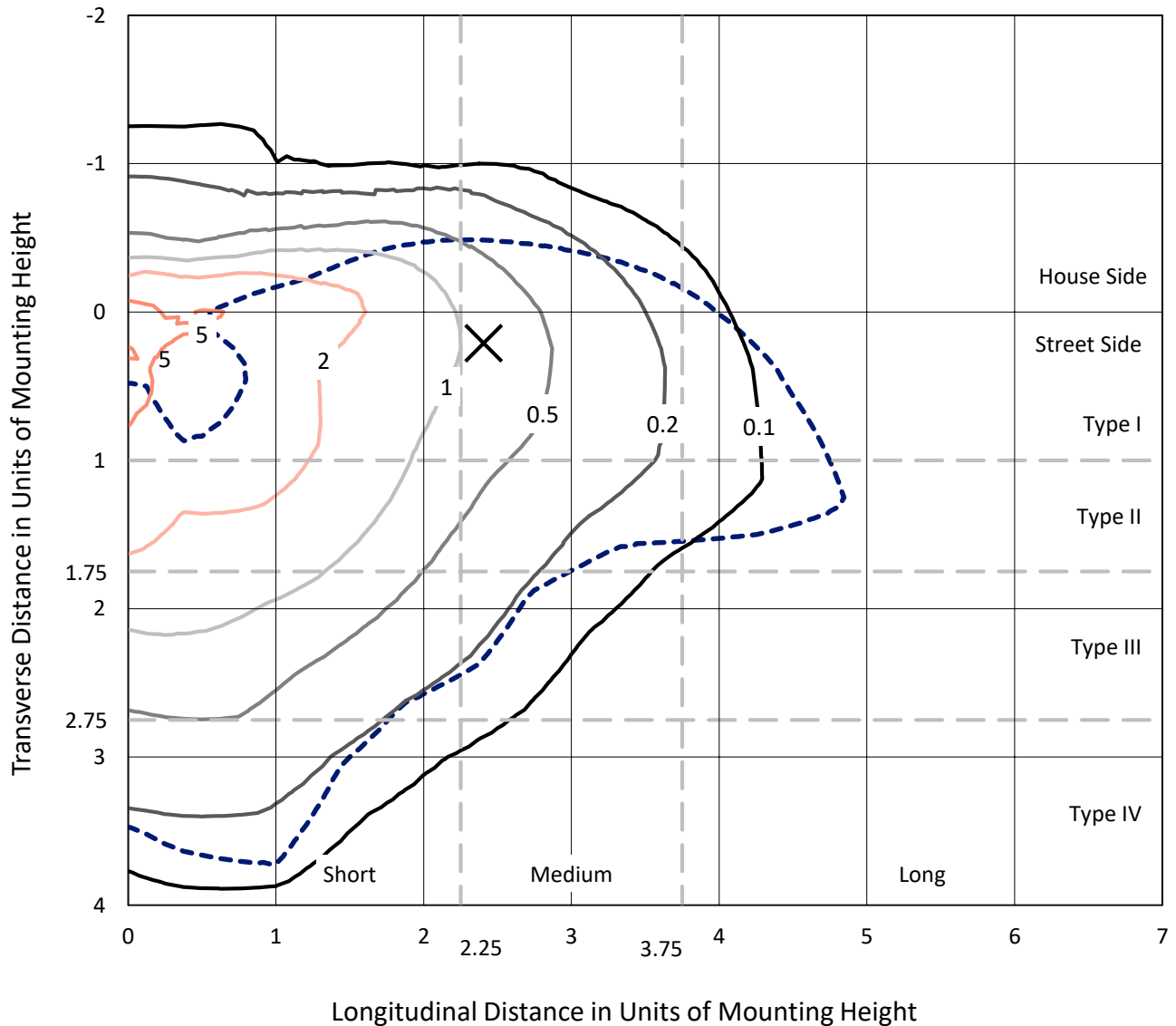
Input Watts (W): 20.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

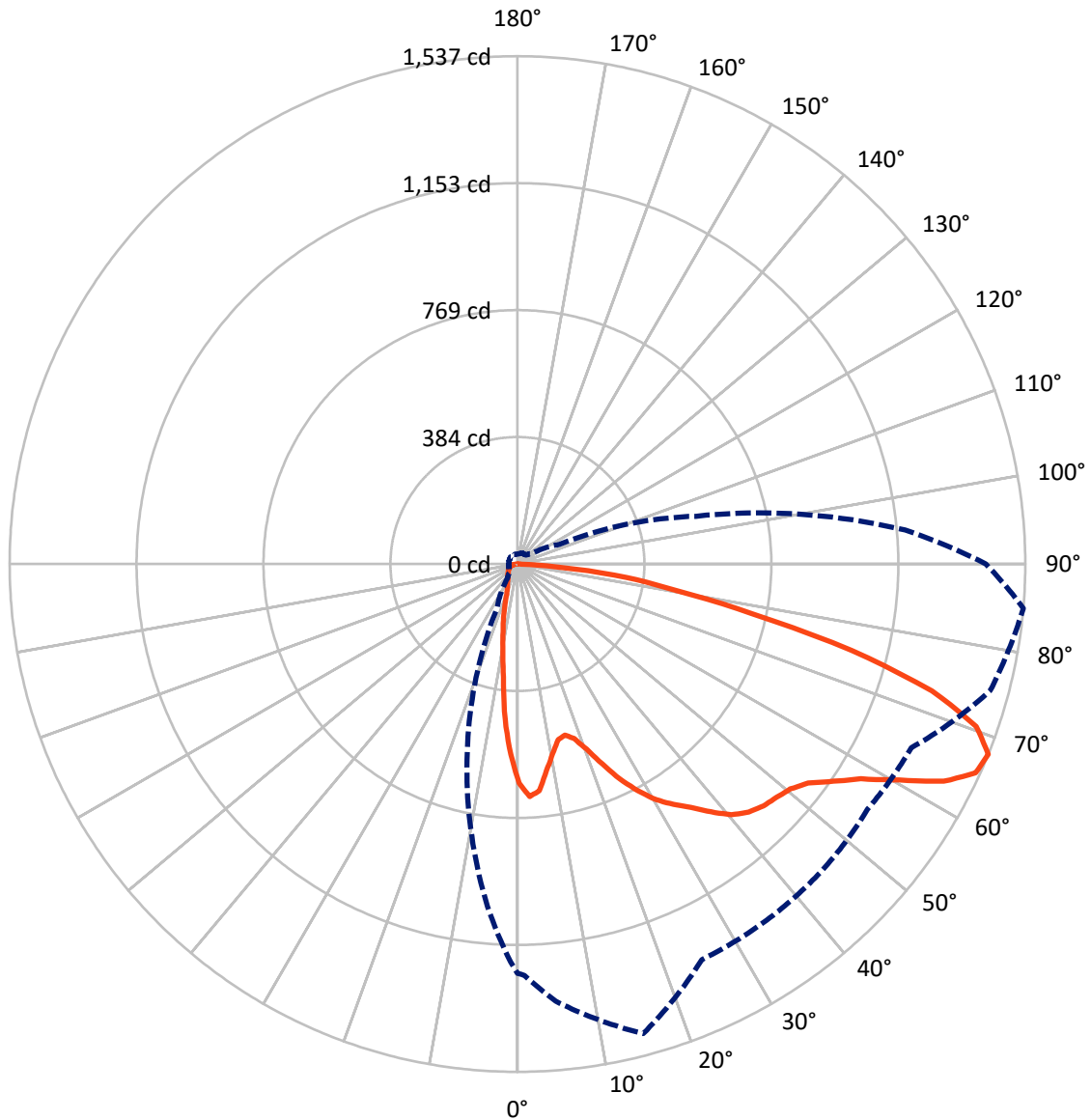
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 7.1 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	387.1	0.0	387.1
	% Fixture	20.1	0.0	20.1
Street Side	Lumens	1534.0	0.0	1534.0
	% Fixture	79.9	0.0	79.9
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°	50.5	2.6
10°-20°	99.5	5.2
20°-30°	139.0	7.2
30°-40°	196.0	10.2
40°-50°	271.6	14.1
50°-60°	381.6	19.9
60°-70°	466.6	24.3
70°-80°	274.2	14.3
80°-90°	42.0	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°	1921.0	100.0
0°-180°	1921.0	100.0



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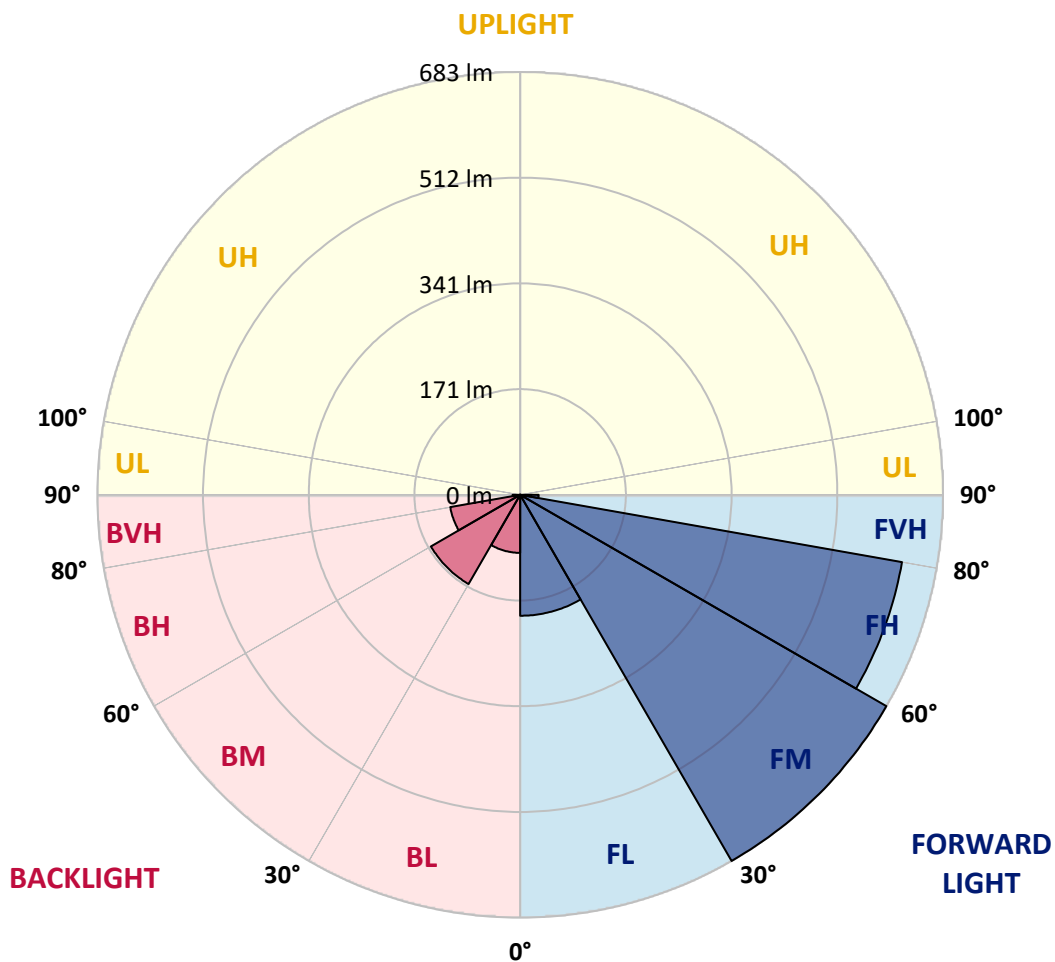
CATALOG NUMBER: ENT-SA1A-830-U-SLL

LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	195.3	10.2			
FM	(30°-60°)	682.8	35.5			
FH	(60°-80°)	626.1	32.6			G0/660
FVH	(80°-90°)	29.7	1.5			G1/100
BL	(0°-30°)	93.7	4.9	B0/110		
BM	(30°-60°)	166.4	8.7	B0/220		
BH	(60°-80°)	114.6	6.0	B1/500		G1/500
BVH	(80°-90°)	12.3	0.6			G1/100
UL	(90°-100°)	0.0	0.0		U0/0	
UH	(100°-180°)	0.0	0.0		U0/0	

BUG Rating: B1-U0-G1

Type III Medium





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7
2.5°	681.9	678.8	689.3	704.7	715.2	722.7	725.1	724.8	722.7	716.8	704.4
5°	651.6	648.8	670.2	704.4	734.4	756.0	762.2	753.5	742.7	719.9	689.6
7.5°	594.2	598.5	625.7	673.9	722.0	756.3	764.7	751.1	728.8	682.2	631.2
10°	550.6	552.8	583.4	641.4	692.7	727.9	742.4	730.4	701.3	642.4	583.4
12.5°	523.8	525.9	555.6	609.3	664.0	691.5	695.8	695.5	671.4	614.3	546.0
15°	527.5	530.3	559.9	604.4	635.3	647.3	647.6	651.0	643.9	600.4	537.1
17.5°	563.3	563.3	591.7	618.6	611.5	602.8	609.3	615.5	627.8	608.7	555.3
20°	619.8	622.3	648.5	643.9	600.7	579.1	571.3	582.1	620.4	633.7	598.2
22.5°	681.0	687.4	714.9	681.0	598.8	556.8	548.2	559.9	621.4	673.2	657.2
25°	748.6	756.6	775.2	724.2	604.4	544.5	538.6	549.7	623.8	709.7	720.8
27.5°	810.4	811.0	829.2	760.6	618.9	545.7	535.8	550.3	630.6	738.4	777.0
30°	854.2	854.2	862.2	779.2	636.8	553.4	538.3	559.6	640.2	754.2	828.0
32.5°	894.4	896.5	892.5	798.6	653.8	564.5	544.2	578.1	655.3	767.1	867.2
35°	945.3	945.0	927.1	814.1	669.5	576.6	558.7	601.6	677.3	786.3	904.6
37.5°	1008.3	1005.2	967.2	828.0	688.7	597.3	586.2	633.7	706.6	808.8	951.8
40°	1065.5	1060.5	1004.0	840.9	703.8	637.4	630.9	673.6	743.7	836.9	997.8
42.5°	1109.9	1102.5	1035.2	850.2	726.7	700.4	706.0	745.2	781.0	861.9	1026.5
45°	1147.3	1139.6	1058.7	854.8	782.0	790.3	801.1	833.8	820.9	868.7	1044.1
47.5°	1174.2	1161.5	1068.9	868.4	856.7	895.3	928.6	930.8	877.1	868.4	1055.0
50°	1189.9	1176.0	1078.4	902.1	943.5	1014.5	1050.0	1033.3	935.4	874.0	1070.4
52.5°	1221.7	1207.2	1118.3	956.7	1032.4	1135.2	1154.4	1127.5	996.0	902.7	1101.3
55°	1301.7	1295.2	1195.5	1030.2	1119.8	1232.8	1241.5	1214.6	1059.3	952.4	1160.3
57.5°	1392.2	1378.0	1299.9	1122.6	1203.5	1309.1	1323.0	1286.0	1125.7	1022.2	1226.0
60°	1417.5	1414.7	1388.2	1230.4	1290.0	1390.6	1391.6	1344.3	1203.2	1105.3	1326.4
62.5°	1380.5	1389.4	1424.9	1330.1	1362.5	1445.3	1437.6	1388.5	1284.4	1237.5	1448.4
65°	1315.9	1328.6	1399.9	1424.3	1379.2	1434.5	1418.1	1386.9	1335.7	1379.8	1524.1
67.5°	1238.4	1245.2	1328.3	1471.3	1320.9	1315.6	1307.9	1293.7	1315.3	1481.1	1537.0
70°	1157.8	1163.7	1240.2	1406.7	1145.7	1085.5	1079.0	1066.7	1151.0	1479.9	1473.4
72.5°	975.9	972.2	1042.9	1174.2	874.9	793.1	848.0	821.2	931.1	1329.5	1312.5
75°	606.2	626.6	715.2	823.3	599.4	543.2	619.2	612.4	756.0	1144.8	1045.1
77.5°	369.4	373.4	423.4	513.3	361.0	376.5	398.1	440.1	560.5	928.0	728.5
80°	193.3	179.7	216.5	281.7	214.3	252.6	291.8	338.2	355.8	605.0	487.0
82.5°	55.9	55.6	73.2	118.0	101.6	124.1	147.3	212.5	233.2	359.8	333.5
85°	0.3	0.3	0.3	0.6	0.9	1.5	6.5	54.7	72.3	166.8	137.1
87.5°	0.0	0.0	0.3	0.6	0.6	1.2	1.9	2.5	3.1	3.7	13.6
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7
2.5°	700.4	695.8	685.9	672.6	663.4	647.3	643.9	633.7	623.5	615.2	615.5
5°	675.1	659.3	635.3	607.5	580.9	557.1	552.5	538.6	534.6	530.6	519.4
7.5°	608.7	590.2	556.5	515.4	482.1	459.5	435.4	420.9	408.0	393.1	396.8
10°	557.7	531.2	484.9	436.7	395.0	364.7	338.2	324.6	305.7	292.2	290.3
12.5°	518.5	489.8	434.2	377.7	338.5	320.9	303.9	282.6	261.6	243.7	234.4
15°	505.5	473.1	408.6	352.4	321.5	300.2	276.4	252.0	226.4	207.2	199.8
17.5°	520.7	482.4	408.3	341.6	303.0	271.8	242.1	214.6	184.4	165.2	159.4
20°	562.4	514.5	416.9	331.4	280.4	238.1	196.4	166.8	135.9	122.3	116.1
22.5°	620.4	558.1	430.2	319.0	255.4	197.0	150.1	112.7	97.6	90.8	89.3
25°	680.0	613.3	449.0	308.5	227.9	156.9	107.8	90.2	83.1	80.0	80.0
27.5°	745.5	668.6	469.4	295.9	199.5	116.7	87.7	79.4	75.7	73.8	73.5
30°	798.6	713.7	492.6	281.0	173.9	95.7	77.8	72.3	68.9	67.9	67.9
32.5°	836.9	747.4	517.0	266.2	150.4	86.5	72.3	67.3	63.6	63.0	63.0
35°	881.7	779.5	528.1	257.9	136.2	80.6	68.3	63.3	59.9	58.4	58.4
37.5°	935.4	817.8	534.3	249.8	130.0	75.0	65.5	59.9	56.5	54.7	54.7
40°	1003.7	861.3	540.8	241.8	126.3	70.4	62.4	56.8	54.0	51.9	51.9
42.5°	1052.5	901.5	545.7	235.0	119.8	68.3	59.9	54.7	51.3	49.4	49.1
45°	1078.1	938.8	547.9	231.0	112.4	70.1	58.1	52.8	48.8	46.9	46.6
47.5°	1095.4	969.7	550.6	227.9	106.5	66.7	57.8	51.0	46.9	44.5	44.5
50°	1122.9	1010.5	557.7	222.0	103.1	62.4	62.4	50.0	44.8	42.6	42.3
52.5°	1172.0	1068.9	576.9	215.6	99.4	58.1	64.2	50.3	43.2	40.8	40.1
55°	1246.1	1161.8	608.7	206.3	94.2	52.8	59.9	50.6	41.7	39.5	38.6
57.5°	1342.5	1274.2	645.8	198.9	85.2	48.5	54.7	49.1	39.8	38.0	37.4
60°	1407.3	1349.3	669.2	189.3	72.6	45.7	46.9	47.6	38.0	35.8	35.5
62.5°	1442.2	1350.5	669.5	176.0	60.8	43.2	42.0	48.5	36.4	33.7	33.4
65°	1444.7	1284.7	635.9	159.0	56.8	40.5	38.6	42.9	34.9	32.1	31.8
67.5°	1417.8	1177.6	559.0	139.6	58.4	38.3	35.8	36.1	33.0	30.6	30.3
70°	1321.5	1038.9	448.4	124.1	58.7	35.5	33.7	32.7	31.2	29.0	28.4
72.5°	1140.2	868.1	339.7	119.2	59.6	33.4	31.2	30.3	29.0	27.2	26.6
75°	860.4	677.3	255.1	111.2	60.2	30.9	28.4	27.8	26.6	24.7	24.4
77.5°	594.5	502.2	177.3	93.9	53.7	28.1	25.6	25.0	24.1	22.2	21.9
80°	401.5	344.3	108.7	70.4	40.8	24.7	22.2	22.2	21.3	19.5	19.5
82.5°	279.5	257.3	62.7	46.0	29.6	20.4	19.5	19.5	18.5	16.7	16.4
85°	116.7	155.6	28.1	25.0	20.7	16.1	16.1	16.4	15.4	13.9	13.6
87.5°	4.0	16.7	11.1	11.7	12.4	11.1	12.4	12.4	12.0	10.8	10.5
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7
2.5°	606.5	602.5	590.2	588.6	579.4	578.7	582.8	576.0	576.6	584.9	583.7
5°	521.9	512.7	512.3	502.2	490.7	487.9	478.1	474.4	472.8	469.4	481.8
7.5°	408.3	403.9	407.7	406.4	395.9	390.0	369.0	353.0	345.0	348.4	349.3
10°	290.3	296.8	306.7	316.2	308.8	289.4	280.4	267.4	265.9	265.0	271.2
12.5°	230.1	222.7	227.3	230.7	223.6	215.3	211.5	206.0	209.1	216.2	220.2
15°	191.2	178.2	172.3	168.3	170.2	165.2	167.1	165.2	167.4	169.5	177.0
17.5°	151.0	146.4	135.3	130.0	130.3	128.2	128.8	128.5	127.2	132.2	138.0
20°	113.6	112.4	109.9	106.2	106.9	105.3	104.4	99.1	97.0	98.5	103.5
22.5°	88.6	90.2	91.7	91.4	93.0	88.9	85.2	80.6	80.0	80.3	81.5
25°	79.4	80.0	81.2	82.8	83.7	80.0	74.7	72.0	71.6	72.3	72.3
27.5°	73.8	73.2	74.7	76.6	77.8	73.2	68.9	66.4	65.8	65.2	64.9
30°	67.9	67.9	69.2	71.0	72.0	67.9	64.2	61.8	60.2	59.3	59.0
32.5°	63.6	63.9	64.5	65.8	67.3	63.3	60.2	58.1	55.3	54.4	53.7
35°	58.7	59.9	60.8	61.1	62.4	59.6	56.5	53.1	50.6	49.7	49.7
37.5°	54.7	55.6	57.1	56.8	57.8	55.9	52.5	48.8	47.6	47.3	46.9
40°	51.6	51.6	52.8	54.0	55.3	51.9	47.9	46.0	45.1	44.5	44.8
42.5°	48.8	48.5	48.5	50.6	52.8	47.9	44.5	43.2	42.9	42.3	42.6
45°	46.3	46.0	45.1	46.0	49.1	43.9	41.7	40.8	40.5	40.5	40.5
47.5°	44.2	43.5	42.3	42.6	44.8	40.8	38.9	38.6	38.3	38.3	38.6
50°	41.7	41.1	40.1	39.8	40.5	38.6	37.1	36.4	36.4	36.4	37.1
52.5°	39.5	39.2	38.0	37.7	38.0	36.8	35.2	34.9	34.9	34.9	35.8
55°	38.0	37.4	36.8	36.1	36.8	35.2	34.0	33.4	33.4	34.0	34.6
57.5°	36.4	35.8	35.5	34.9	35.5	34.0	32.7	32.1	32.4	32.7	32.7
60°	34.9	34.3	34.0	33.4	34.3	32.7	31.5	31.2	31.2	30.9	30.9
62.5°	33.4	33.0	32.4	31.8	33.0	31.2	30.3	29.6	29.3	29.3	29.3
65°	31.5	31.2	30.9	30.6	31.2	29.6	28.7	28.4	27.8	27.5	27.8
67.5°	30.0	30.0	29.3	28.7	29.6	27.8	27.2	26.9	25.9	25.6	25.9
70°	28.1	28.1	27.5	27.2	28.4	25.9	25.3	25.0	24.4	24.1	24.1
72.5°	26.3	26.3	25.6	25.3	26.9	24.1	23.5	23.2	22.2	21.9	21.9
75°	24.4	24.1	23.8	23.5	25.3	22.2	21.3	20.7	19.8	19.5	19.1
77.5°	22.2	21.9	21.3	21.6	22.9	19.8	18.5	18.2	17.3	17.0	16.7
80°	19.5	19.1	18.8	19.5	19.5	17.3	15.8	15.1	14.2	13.6	13.3
82.5°	16.7	16.4	16.4	17.0	16.1	15.1	13.3	12.0	10.5	9.6	9.3
85°	13.6	14.2	13.6	14.2	12.0	12.0	9.3	7.1	4.9	4.0	3.7
87.5°	10.5	10.8	10.5	10.8	8.3	8.0	4.3	2.5	0.3	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°	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7	663.7
2.5°	592.9	593.6	606.8	620.1	628.2	648.2	658.1	669.2	675.1	681.9
5°	475.9	487.6	498.4	525.0	538.6	570.4	593.6	630.6	642.4	651.6
7.5°	359.5	377.1	390.4	423.4	449.0	488.6	529.0	573.2	585.8	594.2
10°	285.7	301.7	326.7	352.7	381.4	429.3	473.1	518.8	541.1	550.6
12.5°	240.0	265.6	294.9	319.0	341.9	377.1	432.7	490.4	513.6	523.8
15°	198.0	226.7	256.6	286.3	314.7	354.5	412.9	487.9	517.3	527.5
17.5°	157.2	180.7	210.9	246.8	288.1	338.8	416.6	514.2	550.0	563.3
20°	111.8	134.6	165.5	209.7	258.8	322.4	425.3	553.7	604.7	619.8
22.5°	84.3	97.0	125.4	168.9	232.5	309.4	438.8	607.8	667.4	681.0
25°	74.1	78.4	93.0	135.0	206.3	297.7	456.8	661.5	733.8	748.6
27.5°	65.8	68.3	75.7	108.4	186.8	285.7	478.1	719.6	790.9	810.4
30°	59.3	62.4	68.6	90.8	168.0	268.4	497.5	771.8	839.4	854.2
32.5°	54.4	57.8	63.3	82.1	151.9	255.4	508.6	810.7	880.8	894.4
35°	51.0	54.0	59.6	74.4	137.7	246.4	512.0	849.3	931.4	945.3
37.5°	47.9	51.0	55.9	66.7	127.9	234.7	517.3	895.3	990.1	1008.3
40°	45.7	48.2	52.8	61.5	114.3	222.0	523.5	949.0	1047.2	1065.5
42.5°	43.5	46.3	50.3	61.8	100.7	211.2	527.5	990.4	1092.6	1109.9
45°	41.7	44.8	49.4	60.5	90.5	201.4	525.6	1025.0	1134.0	1147.3
47.5°	39.8	43.5	51.9	58.1	87.4	192.4	527.2	1058.4	1163.7	1174.2
50°	38.6	43.2	55.6	54.4	88.0	188.4	542.0	1098.2	1185.9	1189.9
52.5°	37.7	44.2	52.5	49.1	88.0	186.5	570.4	1162.4	1224.5	1221.7
55°	36.1	43.9	49.1	44.5	84.3	187.5	597.3	1247.4	1317.1	1301.7
57.5°	34.9	42.0	44.2	41.1	75.7	187.8	637.1	1319.0	1390.0	1392.2
60°	33.4	45.1	38.3	38.3	64.9	186.2	672.3	1317.8	1403.3	1417.5
62.5°	31.8	44.2	34.3	35.5	57.4	180.4	693.6	1240.9	1354.2	1380.5
65°	30.0	34.9	31.5	33.0	54.4	165.8	663.4	1145.4	1287.8	1315.9
67.5°	27.8	28.7	28.7	30.6	53.1	143.9	587.1	1040.1	1204.4	1238.4
70°	25.3	25.6	26.3	29.0	49.4	123.8	478.1	928.0	1114.9	1157.8
72.5°	22.9	23.2	23.2	26.3	46.3	106.9	338.5	735.3	930.8	975.9
75°	20.1	20.4	20.1	22.9	40.5	80.0	201.0	465.1	555.3	606.2
77.5°	17.0	17.0	16.4	17.9	27.8	50.6	109.9	282.6	337.9	369.4
80°	13.9	12.7	10.5	10.8	15.1	29.0	49.1	162.1	185.3	193.3
82.5°	9.3	7.1	4.3	4.0	4.9	8.0	11.4	64.2	59.0	55.9
85°	1.9	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
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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