

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: P401583

Luminaire Tested: **ENT-SA1D-830-U-SLR-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401583
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-10)
Test Lab: INNOVATION CENTER
Issue Date: 5/20/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: ENT-SA1D-830-U-SLR-HSS
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT
ELIMINATOR RIGHT OPTICS WITH HOUSE SIDE SHIELD
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3373 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

Input Watts (W): 43.1
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

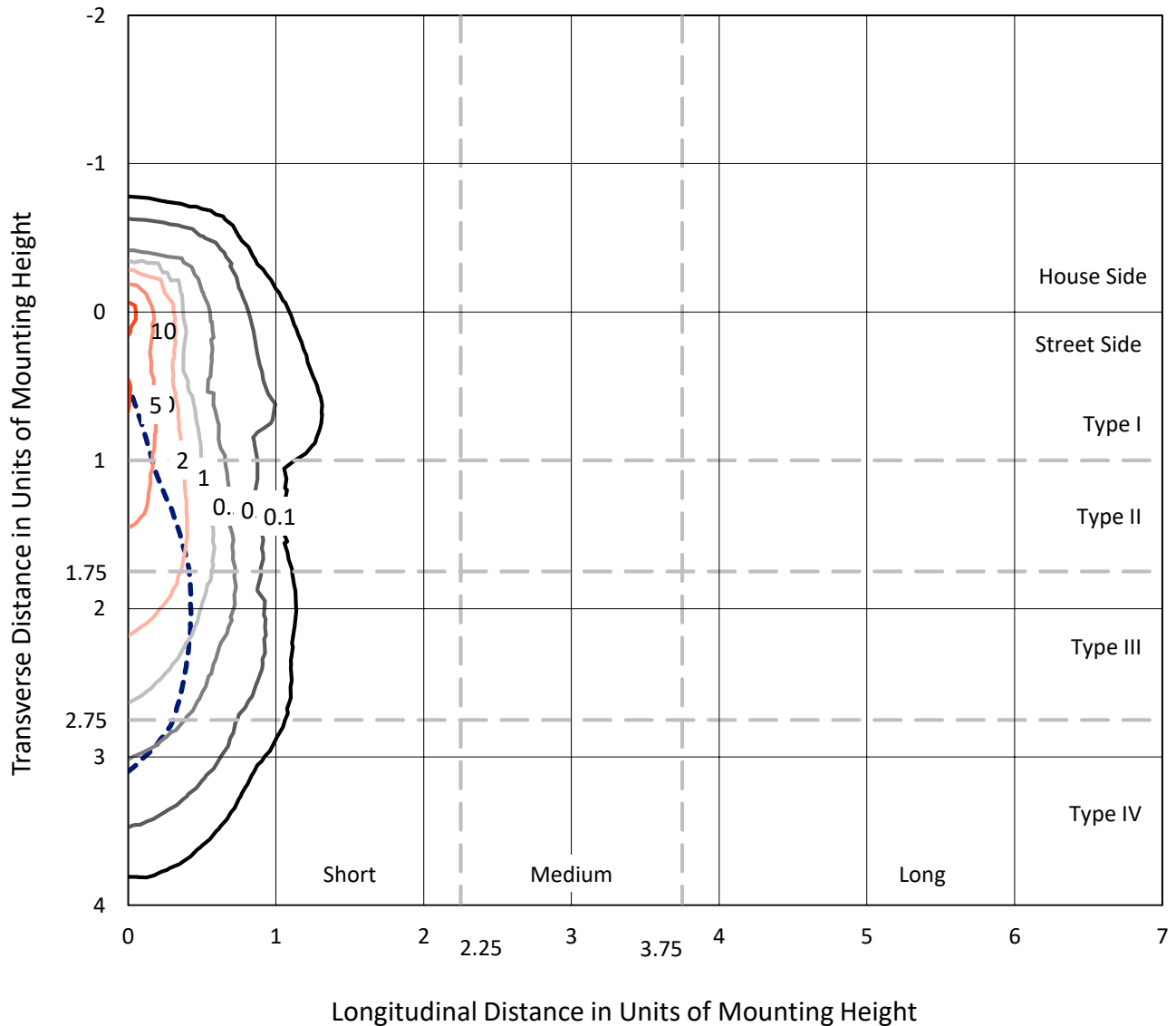


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Iso-Footcandle Lines of Horizontal Illumination

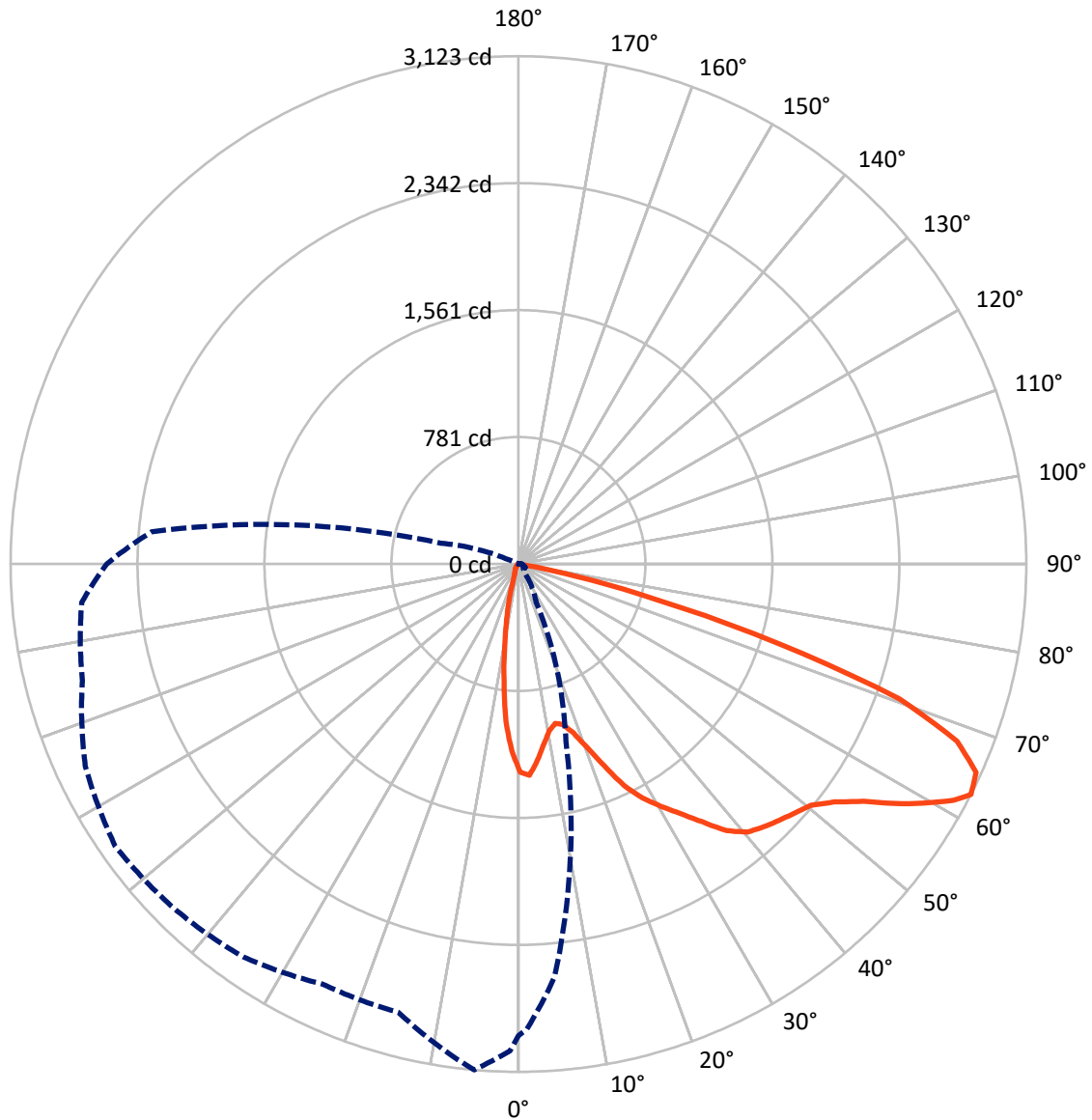
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 12.8 fc
 Type IV - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 62.5-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	474.5	0.0	474.5
	% Fixture	14.1	0.0	14.1
Street Side	Lumens	2898.5	0.0	2898.5
	% Fixture	85.9	0.0	85.9
Total	Lumens	3373.0	0.0	3373.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	95.9	2.8
10°-20°	182.4	5.4
20°-30°	253.8	7.5
30°-40°	367.0	10.9
40°-50°	526.2	15.6
50°-60°	763.4	22.6
60°-70°	826.0	24.5
70°-80°	333.6	9.9
80°-90°	24.7	0.7
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°	3373.0	100.0
0°-180°	3373.0	100.0



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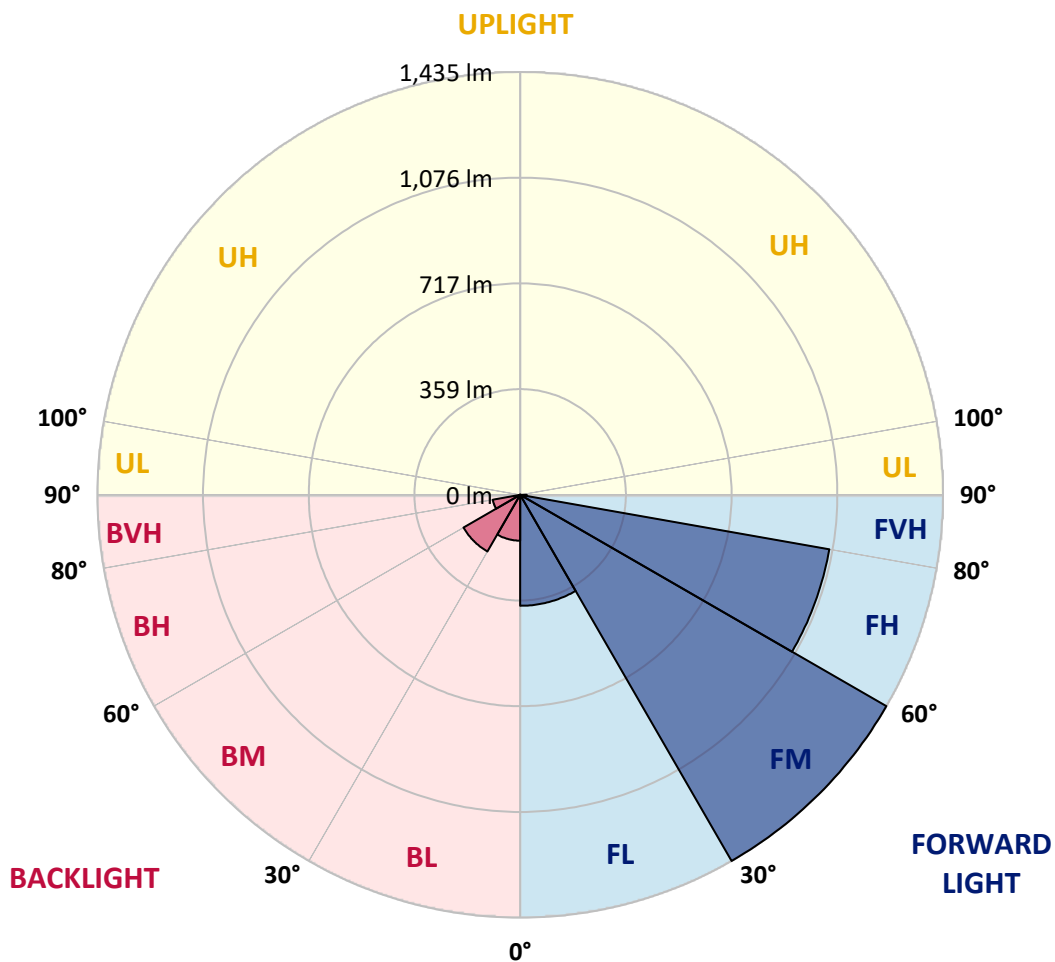
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	376.5	11.2			
FM	(30°-60°)	1434.6	42.5			
FH	(60°-80°)	1065.2	31.6			G1/1800
FVH	(80°-90°)	22.2	0.7			G1/100
BL	(0°-30°)	155.6	4.6	B1/500		
BM	(30°-60°)	222.0	6.6	B1/1000		
BH	(60°-80°)	94.4	2.8	B0/110		G0/110
BVH	(80°-90°)	2.5	0.1			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°	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4
2.5°	1284.8	1279.4	1267.4	1241.4	1204.0	1180.0	1164.7	1144.6	1123.9	1117.3	1103.9
5°	1172.7	1164.0	1147.3	1081.9	1023.2	964.4	922.4	882.3	869.0	842.3	858.3
7.5°	1064.5	1060.5	1021.8	937.1	843.6	768.2	720.1	661.4	644.1	616.7	594.7
10°	979.8	976.4	929.7	818.9	718.1	655.4	617.4	579.3	541.3	502.6	471.9
12.5°	937.1	929.7	875.7	756.2	662.8	610.7	570.6	519.9	479.2	427.2	389.8
15°	943.7	937.1	875.0	746.2	636.1	564.0	504.6	444.5	387.1	335.7	299.0
17.5°	997.1	994.5	919.0	754.9	604.0	508.6	429.2	348.4	280.3	224.9	193.6
20°	1101.2	1093.2	983.8	773.5	570.6	444.5	335.7	236.3	179.5	141.5	128.1
22.5°	1230.1	1212.0	1085.9	800.9	538.6	375.8	242.9	158.8	128.1	113.5	104.1
25°	1381.6	1382.2	1212.7	837.6	506.6	311.7	170.2	126.1	108.1	97.4	89.4
27.5°	1504.4	1495.0	1326.8	874.3	471.9	255.6	142.8	110.1	94.8	83.4	78.8
30°	1595.1	1581.1	1402.3	899.7	427.2	216.2	128.1	104.8	89.4	76.8	70.7
32.5°	1688.6	1671.2	1470.3	913.7	400.5	197.6	113.5	91.4	80.1	74.8	66.7
35°	1798.0	1782.7	1545.8	912.4	386.4	186.9	102.8	82.8	68.1	59.4	54.1
37.5°	1920.2	1888.8	1623.8	906.4	376.4	181.5	93.4	76.8	63.4	54.1	47.4
40°	2025.0	1993.6	1695.9	898.4	369.8	176.2	88.1	72.7	60.1	50.1	43.4
42.5°	2107.1	2077.0	1763.3	888.3	366.4	164.9	90.8	70.1	57.4	47.4	40.0
45°	2177.8	2147.1	1843.4	887.0	365.1	156.8	89.4	69.4	56.1	44.0	37.4
47.5°	2259.9	2243.9	1948.9	909.0	359.7	150.8	82.1	74.8	55.4	42.7	35.4
50°	2381.4	2367.3	2087.0	974.4	351.7	144.8	74.8	82.1	55.4	41.4	33.4
52.5°	2551.6	2535.5	2304.6	1059.9	344.4	138.2	67.4	79.4	56.1	39.4	32.0
55°	2727.8	2725.1	2510.2	1150.6	337.7	123.5	59.4	71.4	54.7	36.7	30.0
57.5°	2865.9	2863.9	2664.4	1212.0	325.0	99.4	54.1	59.4	50.7	33.4	27.4
60°	2922.6	2906.0	2681.0	1212.0	295.7	82.1	49.4	46.7	51.4	30.0	24.0
61°	2922.6	2901.3	2651.0	1194.0	281.0	78.1	46.7	43.4	52.7	28.7	22.7
62.5°	2900.0	2864.6	2548.2	1129.3	257.6	78.1	42.7	38.7	48.1	27.4	20.7
65°	2799.2	2741.1	2307.3	981.8	233.6	80.1	36.7	32.7	34.7	23.4	18.0
67.5°	2550.2	2484.8	1994.9	776.9	214.2	84.8	30.7	28.7	26.7	20.7	16.0
70°	2101.0	2045.7	1627.8	582.0	198.9	86.1	26.7	24.0	22.7	18.0	14.0
72.5°	1342.9	1251.4	1016.5	394.4	159.5	74.8	22.0	22.7	20.7	14.7	11.3
75°	648.7	674.1	591.3	198.9	107.5	48.7	17.4	18.7	16.7	13.3	10.0
77.5°	290.3	285.0	282.3	50.7	27.4	16.7	10.7	12.7	13.3	12.0	8.7
80°	30.0	40.7	24.0	15.4	10.0	7.3	6.0	6.7	8.0	8.7	4.7
82.5°	1.3	0.7	0.7	2.0	2.0	1.3	0.0	0.0	1.3	1.3	0.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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°	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4
2.5°	1091.9	1109.9	1101.9	1099.9	1110.6	1105.3	1121.3	1121.9	1134.0	1150.0	1160.0
5°	858.3	844.3	872.3	891.0	914.4	907.0	935.1	931.7	947.1	972.4	962.4
7.5°	596.0	598.0	612.7	629.4	692.1	704.8	714.1	721.5	720.8	726.8	737.5
10°	455.8	444.5	434.5	457.9	482.5	509.9	513.9	523.9	496.6	507.9	513.2
12.5°	373.1	359.7	337.7	325.7	331.7	347.7	354.4	360.4	344.4	345.1	357.1
15°	283.0	265.0	256.3	240.3	234.3	232.9	236.3	227.6	225.6	218.2	222.9
17.5°	184.2	178.9	174.2	170.9	166.2	164.9	152.8	132.1	120.1	117.5	117.5
20°	122.8	118.8	118.8	125.5	123.5	118.1	102.1	84.8	76.1	73.4	74.8
22.5°	100.8	98.1	94.1	94.1	96.8	92.8	78.1	65.4	59.4	59.4	59.4
25°	87.4	86.1	82.1	78.1	79.4	76.1	63.4	55.4	51.4	50.7	51.4
27.5°	76.8	76.1	71.4	67.4	67.4	64.7	54.7	47.4	44.7	43.4	44.0
30°	69.4	68.1	62.7	59.4	58.7	56.1	46.7	41.4	38.7	38.0	38.0
32.5°	64.1	61.4	56.7	53.4	51.4	47.4	40.7	35.4	32.7	32.0	32.0
35°	51.4	51.4	49.4	47.4	44.7	38.7	34.0	29.4	26.7	26.0	26.0
37.5°	44.7	42.0	38.7	39.4	38.0	32.7	28.0	23.4	21.4	20.7	20.7
40°	40.7	37.4	32.7	30.7	31.4	28.7	23.4	18.0	15.4	16.0	15.4
42.5°	36.7	34.0	28.7	24.0	23.4	24.0	18.0	12.7	10.7	10.7	10.7
45°	34.0	31.4	25.4	20.0	16.7	18.7	14.0	8.7	6.7	6.7	6.7
47.5°	32.0	29.4	22.7	16.7	12.0	12.7	10.0	5.3	4.0	2.7	3.3
50°	30.7	27.4	20.7	13.3	8.7	7.3	6.7	2.7	0.7	0.7	0.0
52.5°	28.7	26.0	18.7	11.3	6.7	4.7	3.3	0.7	0.0	0.0	0.0
55°	27.4	24.0	16.7	10.0	5.3	2.7	0.7	0.0	0.0	0.0	0.0
57.5°	24.7	22.0	14.7	8.0	4.0	1.3	0.0	0.0	0.0	0.0	0.0
60°	22.0	20.0	12.7	6.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
61°	20.7	18.7	12.0	5.3	2.0	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	19.4	17.4	10.7	4.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
65°	16.7	14.7	9.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	14.7	13.3	8.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	12.7	11.3	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	10.7	10.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	9.3	8.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	7.3	6.7	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	4.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4
2.5°	1169.3	1192.7	1214.7	1242.7	1258.1	1300.1	1330.2	1355.5	1375.6	1379.6	1395.6
5°	989.1	1021.8	1043.2	1101.9	1134.6	1204.7	1258.8	1322.8	1380.2	1411.6	1440.3
7.5°	744.8	760.9	797.6	856.3	933.7	994.5	1085.9	1166.7	1270.1	1326.8	1380.2
10°	525.9	540.6	594.7	656.1	726.8	828.9	939.7	1045.9	1150.6	1223.4	1286.1
12.5°	369.8	417.8	471.2	549.3	618.7	693.5	811.6	935.7	1066.5	1136.0	1204.0
15°	242.9	285.7	359.7	457.9	544.6	617.4	727.5	873.0	1039.2	1116.6	1181.3
17.5°	120.1	151.5	216.9	322.4	437.8	552.6	685.4	861.6	1074.6	1162.0	1222.7
20°	75.4	84.8	108.8	182.2	315.0	484.5	654.1	884.3	1170.7	1267.4	1306.8
22.5°	60.7	63.4	72.7	96.8	192.2	400.5	626.7	915.0	1276.1	1394.2	1435.0
25°	52.1	54.1	59.4	71.4	111.5	300.3	593.3	969.1	1398.9	1541.7	1551.8
27.5°	44.7	46.7	51.4	60.7	79.4	202.2	545.3	1032.5	1545.8	1671.2	1664.6
30°	38.0	40.7	45.4	52.1	62.7	136.8	455.8	1096.6	1653.9	1754.7	1744.0
32.5°	32.7	34.7	38.7	44.7	52.1	94.1	342.4	1138.6	1744.0	1833.4	1810.1
35°	26.7	28.7	32.0	37.4	42.0	66.7	259.0	1140.0	1836.7	1930.9	1872.1
37.5°	21.4	22.7	26.0	30.7	34.7	52.1	190.2	1117.9	1951.5	2057.7	1942.9
40°	16.0	18.0	21.4	25.4	29.4	44.0	142.2	1064.5	2063.7	2184.5	2028.3
42.5°	10.7	13.3	16.7	20.7	28.0	35.4	100.1	975.8	2154.4	2297.3	2111.7
45°	6.7	8.7	12.7	17.4	28.7	28.0	66.7	869.7	2219.2	2383.4	2168.5
47.5°	3.3	5.3	9.3	16.7	25.4	20.7	41.4	768.2	2277.9	2433.4	2194.5
50°	0.7	2.0	6.7	20.7	21.4	15.4	27.4	704.8	2308.6	2420.7	2191.8
52.5°	0.0	0.0	4.7	20.0	15.4	12.0	21.4	695.5	2356.7	2437.4	2237.9
55°	0.0	0.0	2.0	8.7	8.7	10.0	18.7	682.8	2442.1	2536.9	2376.7
57.5°	0.0	0.0	0.0	4.0	5.3	8.0	17.4	649.4	2532.2	2642.3	2545.6
60°	0.0	0.0	0.0	2.0	3.3	6.7	15.4	573.3	2449.4	2643.0	2685.7
61°	0.0	0.0	0.0	2.0	2.7	6.0	14.0	546.6	2375.4	2600.3	2703.1
62.5°	0.0	0.0	0.0	0.7	2.0	4.7	12.0	493.9	2264.6	2531.5	2695.1
65°	0.0	0.0	0.0	0.0	0.7	2.7	9.3	399.1	2079.7	2358.7	2602.9
67.5°	0.0	0.0	0.0	0.0	0.0	0.7	6.0	281.0	1814.1	2163.1	2406.1
70°	0.0	0.0	0.0	0.0	0.0	0.0	2.7	162.9	1461.7	1831.4	2061.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.3	74.1	948.4	1414.3	1625.8
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	31.4	584.0	1021.8	1214.7
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.0	395.8	680.1	817.6
80°	0.0	1.3	0.7	0.0	0.0	0.0	0.0	5.3	243.6	424.5	461.2
82.5°	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	126.1	299.7	305.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.7	63.4
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):

	285°	295°	305°	315°	325°	335°	345°	355°	359°	360°
0°	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4	1279.4
2.5°	1410.3	1414.3	1416.9	1412.3	1383.6	1367.5	1335.5	1300.1	1288.1	1284.8
5°	1492.4	1515.0	1511.0	1480.3	1430.3	1368.9	1292.8	1214.0	1184.0	1172.7
7.5°	1476.3	1535.7	1547.1	1515.0	1430.3	1322.8	1212.7	1119.3	1075.9	1064.5
10°	1394.9	1469.7	1505.7	1495.7	1416.3	1292.1	1156.6	1041.8	994.5	979.8
12.5°	1316.2	1388.2	1410.9	1418.9	1375.6	1268.1	1128.6	1005.1	955.7	937.1
15°	1263.4	1308.1	1306.8	1321.5	1318.2	1258.8	1146.6	1023.8	968.4	943.7
17.5°	1246.1	1232.7	1215.4	1227.4	1250.8	1261.4	1205.4	1090.6	1025.8	997.1
20°	1256.8	1191.3	1153.3	1152.6	1202.0	1283.5	1291.5	1200.7	1140.0	1101.2
22.5°	1311.5	1170.7	1111.9	1113.3	1174.0	1316.2	1390.9	1344.9	1278.1	1230.1
25°	1392.2	1174.7	1095.9	1103.9	1171.3	1344.9	1498.4	1509.0	1423.6	1381.6
27.5°	1474.3	1209.4	1096.6	1105.3	1182.7	1360.2	1559.8	1629.8	1556.4	1504.4
30°	1531.7	1252.1	1108.6	1117.9	1200.7	1372.2	1583.1	1729.3	1653.2	1595.1
32.5°	1585.8	1296.1	1127.9	1137.3	1236.7	1396.9	1627.2	1829.4	1746.0	1688.6
35°	1638.5	1339.5	1164.0	1180.7	1294.8	1441.6	1671.9	1946.9	1877.5	1798.0
37.5°	1683.9	1387.6	1226.1	1261.4	1373.6	1510.4	1732.6	2080.4	2008.9	1920.2
40°	1722.0	1444.3	1354.2	1393.6	1493.7	1583.1	1800.0	2167.8	2120.4	2025.0
42.5°	1752.7	1544.4	1537.7	1593.1	1663.2	1666.6	1819.4	2209.8	2191.8	2107.1
45°	1804.0	1724.0	1778.7	1869.5	1864.8	1766.7	1814.1	2248.5	2249.9	2177.8
47.5°	1888.1	1948.9	2107.1	2168.5	2137.1	1903.5	1819.4	2286.6	2316.6	2259.9
50°	2008.3	2203.8	2410.7	2492.2	2400.7	2041.0	1866.8	2332.0	2422.7	2381.4
52.5°	2111.1	2396.7	2691.0	2763.8	2639.0	2187.8	1977.6	2430.1	2564.9	2551.6
55°	2257.9	2562.9	2890.6	2946.7	2846.6	2354.0	2126.4	2574.2	2721.1	2727.8
57.5°	2408.1	2713.1	3020.8	3077.5	3001.4	2560.9	2338.0	2781.2	2867.9	2865.9
60°	2574.9	2853.2	3079.5	3110.9	3067.5	2767.8	2565.6	2970.7	2968.7	2922.6
61°	2670.4	2897.9	3075.5	3084.8	3042.8	2828.5	2683.0	3043.4	2983.4	2922.6
62.5°	2775.8	2938.7	3026.1	2994.7	2949.3	2849.9	2853.2	3122.9	2993.4	2900.0
65°	2882.6	2836.5	2798.5	2648.3	2605.6	2653.7	2996.7	3092.8	2932.7	2799.2
67.5°	2699.7	2430.8	2348.7	2197.8	2029.0	2225.2	2860.6	2909.3	2727.8	2550.2
70°	2206.5	1786.0	1688.6	1683.2	1561.8	1777.3	2522.9	2487.5	2263.9	2101.0
72.5°	1729.3	1218.7	1085.9	1116.6	1092.6	1324.8	2063.7	1669.2	1451.6	1342.9
75°	1355.5	866.3	747.5	742.2	716.1	902.4	1511.0	879.7	726.2	648.7
77.5°	894.3	624.0	622.0	574.7	554.6	489.2	678.1	352.4	287.7	290.3
80°	515.3	382.4	448.5	355.7	356.4	287.0	274.3	51.4	41.4	30.0
82.5°	295.7	183.5	138.8	54.7	114.8	114.8	22.0	0.7	0.7	1.3
85°	28.7	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
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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