

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: P401564

Luminaire Tested: **ENT-SA1D-827-U-SLL**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401564
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-SA1D-827-U-SLL
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 2700K, 800mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3670 lumens
Efficiency: N/A
Efficacy: 85.2 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

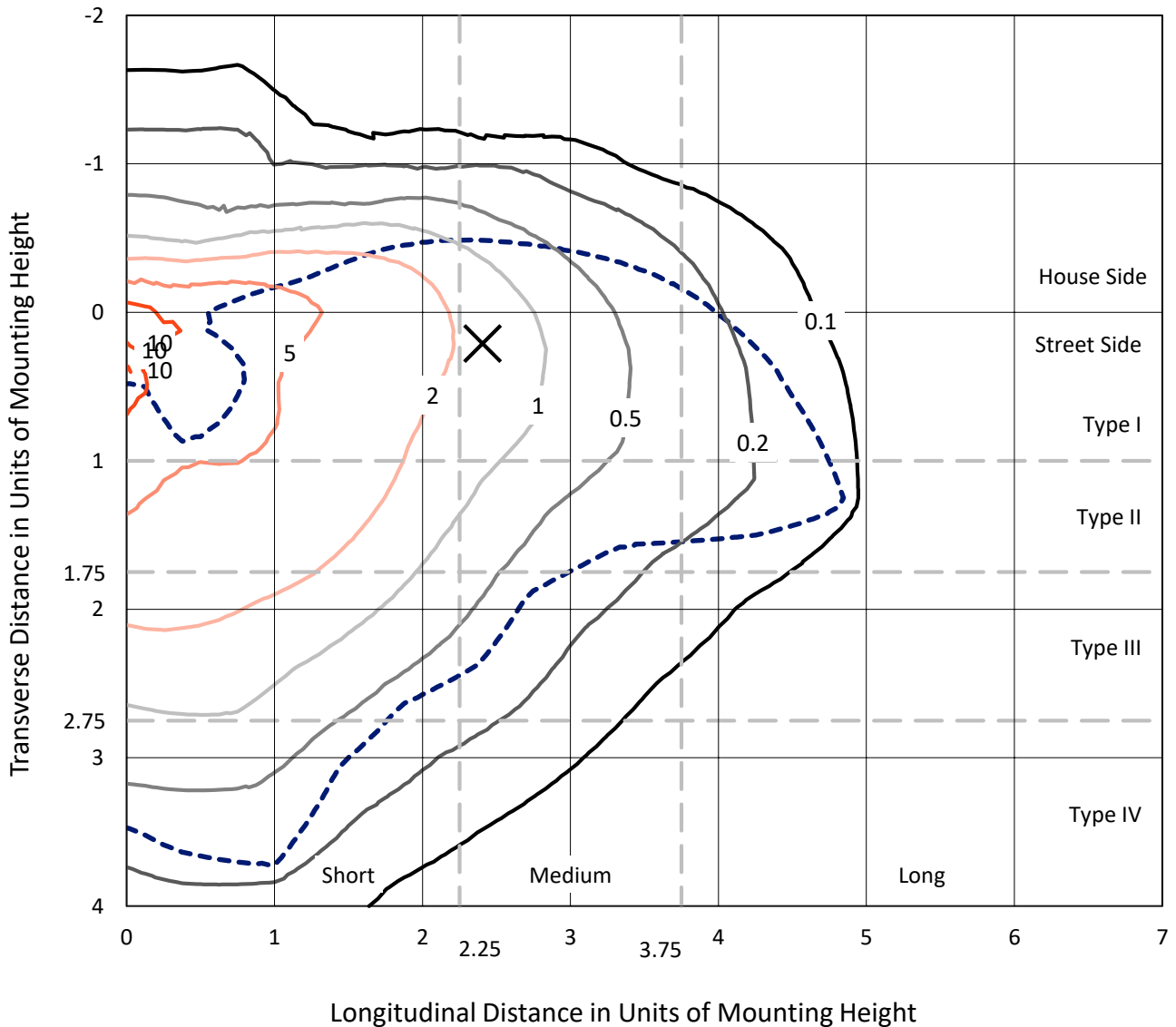
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

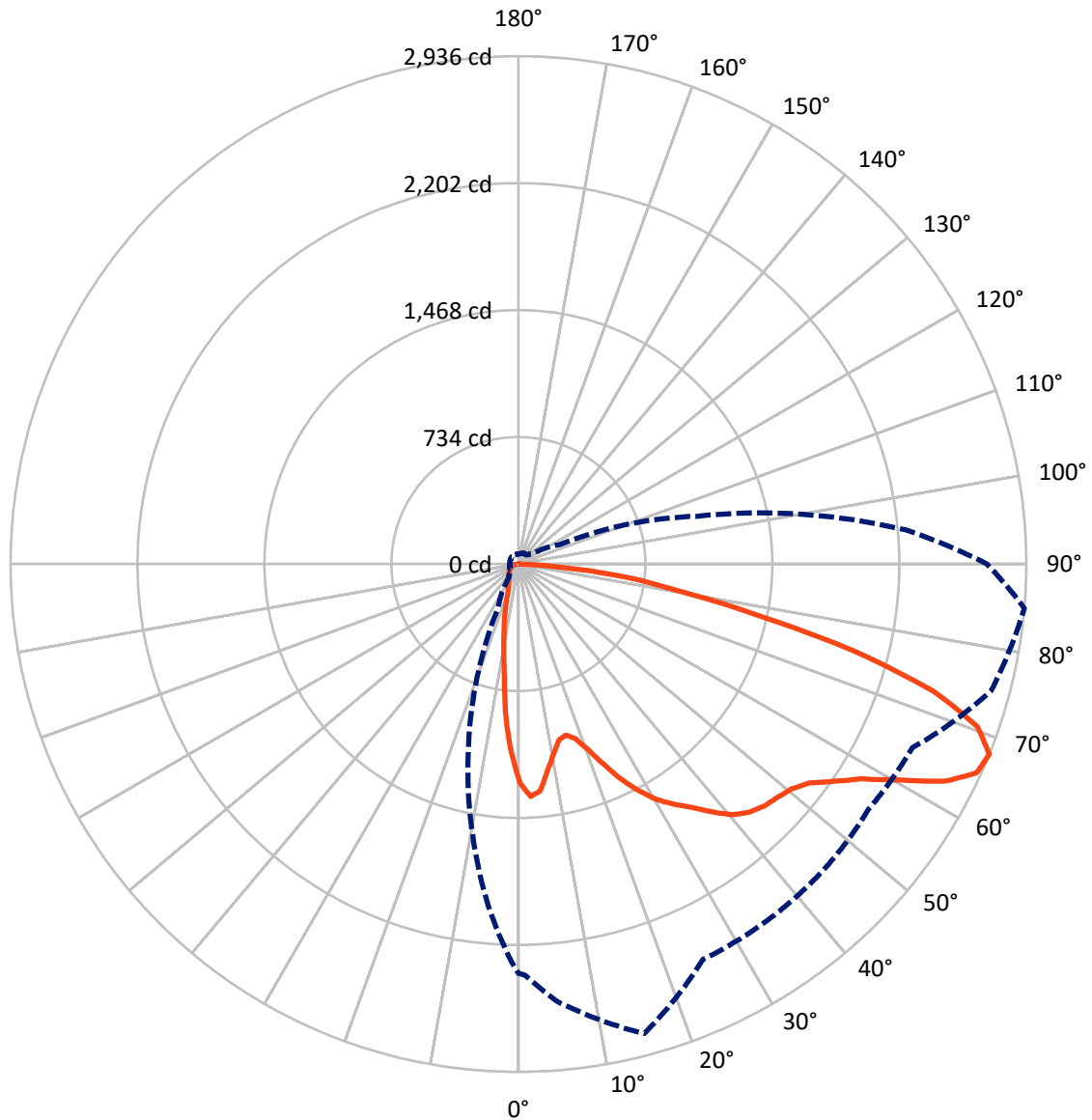
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.5 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	739.5	0.0	739.5
	% Fixture	20.1	0.0	20.1
Street Side	Lumens	2930.6	0.0	2930.6
	% Fixture	79.9	0.0	79.9
Total	Lumens	3670.0	0.0	3670.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	96.4	2.6
10°-20°	190.1	5.2
20°-30°	265.6	7.2
30°-40°	374.5	10.2
40°-50°	518.9	14.1
50°-60°	729.1	19.9
60°-70°	891.3	24.3
70°-80°	523.9	14.3
80°-90°	80.2	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°	3670.0	100.0
0°-180°	3670.0	100.0



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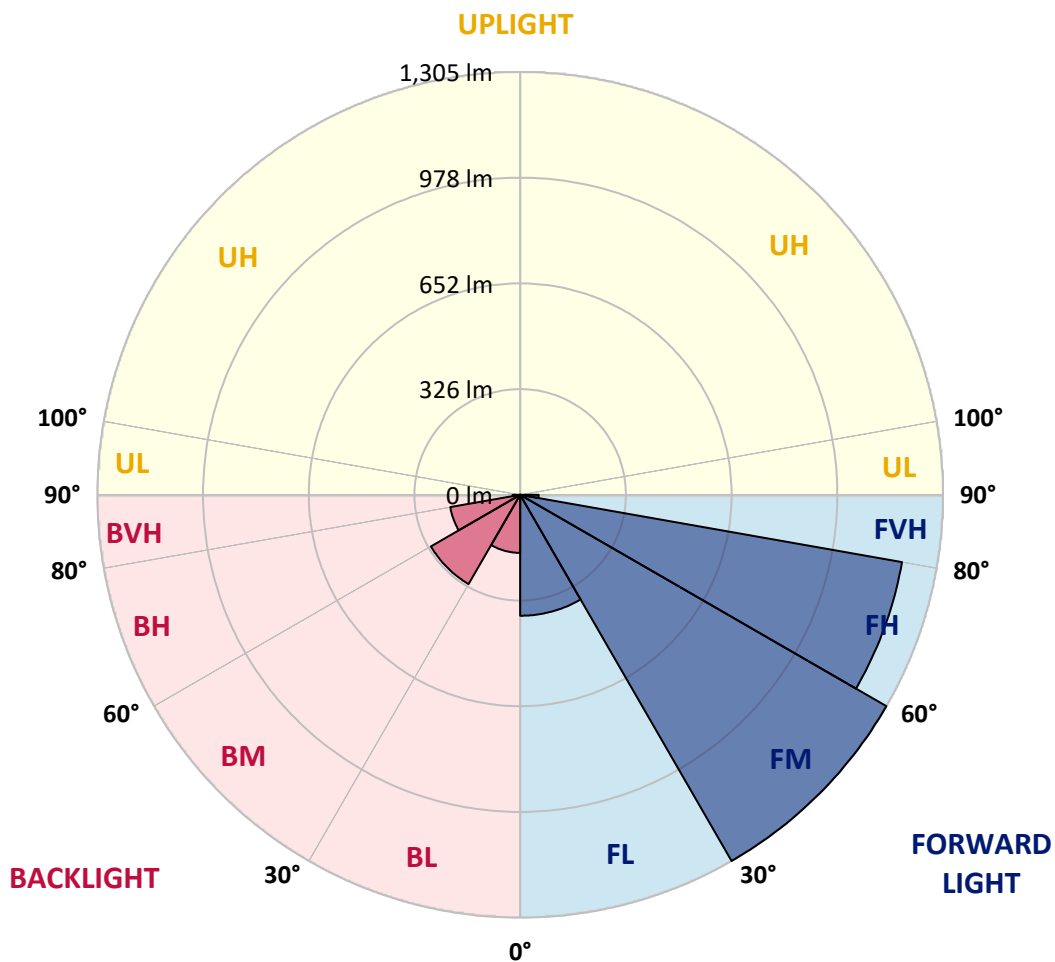
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	373.1	10.2			
FM	(30°-60°)	1304.5	35.5			
FH	(60°-80°)	1196.2	32.6			G1/1800
FVH	(80°-90°)	56.8	1.5			G1/100
BL	(0°-30°)	179.1	4.9	B1/500		
BM	(30°-60°)	317.9	8.7	B1/1000		
BH	(60°-80°)	219.0	6.0	B1/500		G1/500
BVH	(80°-90°)	23.4	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°	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9
2.5°	1302.7	1296.8	1316.9	1346.4	1366.4	1380.6	1385.3	1384.7	1380.6	1369.4	1345.8
5°	1244.9	1239.6	1280.3	1345.8	1403.0	1444.3	1456.1	1439.6	1419.0	1375.3	1317.5
7.5°	1135.2	1143.4	1195.3	1287.4	1379.4	1444.9	1460.8	1434.9	1392.4	1303.3	1206.0
10°	1052.0	1056.1	1114.5	1225.4	1323.4	1390.6	1418.4	1395.4	1339.9	1227.2	1114.5
12.5°	1000.6	1004.8	1061.4	1164.1	1268.5	1321.0	1329.3	1328.7	1282.7	1173.5	1043.1
15°	1007.7	1013.0	1069.7	1154.6	1213.6	1236.6	1237.2	1243.7	1230.2	1147.0	1026.0
17.5°	1076.2	1076.2	1130.4	1181.8	1168.2	1151.7	1164.1	1175.9	1199.5	1162.9	1060.8
20°	1184.1	1188.9	1239.0	1230.2	1147.6	1106.3	1091.5	1112.2	1185.3	1210.7	1142.8
22.5°	1301.0	1313.3	1365.9	1301.0	1144.0	1063.8	1047.3	1069.7	1187.1	1286.2	1255.5
25°	1430.2	1445.5	1480.9	1383.6	1154.6	1040.2	1029.0	1050.2	1191.8	1355.8	1377.1
27.5°	1548.2	1549.3	1584.2	1453.2	1182.4	1042.5	1023.7	1051.4	1204.8	1410.7	1484.4
30°	1631.9	1631.9	1647.3	1488.6	1216.6	1057.3	1028.4	1069.1	1223.1	1440.8	1581.8
32.5°	1708.6	1712.8	1705.1	1525.7	1249.0	1078.5	1039.6	1104.5	1252.0	1465.6	1656.7
35°	1806.0	1805.4	1771.2	1555.2	1279.1	1101.5	1067.3	1149.3	1293.9	1502.1	1728.1
37.5°	1926.4	1920.5	1847.9	1581.8	1315.7	1141.1	1119.8	1210.7	1349.9	1545.2	1818.4
40°	2035.5	2026.1	1918.1	1606.6	1344.6	1217.8	1205.4	1286.8	1420.7	1598.9	1906.3
42.5°	2120.5	2106.3	1977.7	1624.3	1388.3	1338.1	1348.7	1423.7	1492.1	1646.7	1961.2
45°	2191.9	2177.1	2022.5	1633.1	1493.9	1509.8	1530.5	1593.0	1568.2	1659.7	1994.8
47.5°	2243.2	2219.0	2042.0	1659.1	1636.7	1710.4	1774.1	1778.3	1675.6	1659.1	2015.4
50°	2273.3	2246.7	2060.3	1723.4	1802.5	1938.2	2006.0	1974.1	1787.1	1669.7	2044.9
52.5°	2334.1	2306.3	2136.4	1827.8	1972.4	2168.9	2205.4	2154.1	1902.8	1724.6	2103.9
55°	2486.9	2474.5	2283.9	1968.2	2139.3	2355.3	2371.8	2320.5	2023.7	1819.6	2216.6
57.5°	2659.7	2632.6	2483.3	2144.7	2299.2	2501.0	2527.6	2456.8	2150.6	1952.9	2342.3
60°	2708.1	2702.8	2652.1	2350.6	2464.4	2656.8	2658.6	2568.3	2298.7	2111.6	2534.1
62.5°	2637.3	2654.4	2722.3	2541.1	2603.1	2761.2	2746.5	2652.7	2453.8	2364.1	2767.1
65°	2514.0	2538.2	2674.5	2721.1	2635.0	2740.6	2709.3	2649.7	2551.8	2636.1	2911.7
67.5°	2365.9	2378.9	2537.6	2810.8	2523.4	2513.4	2498.7	2471.5	2512.8	2829.7	2936.4
70°	2211.9	2223.1	2369.5	2687.5	2188.9	2073.9	2061.5	2037.9	2198.9	2827.3	2814.9
72.5°	1864.4	1857.3	1992.4	2243.2	1671.5	1515.1	1620.1	1568.8	1778.9	2540.0	2507.5
75°	1158.2	1197.1	1366.4	1572.9	1145.2	1037.8	1183.0	1170.0	1444.3	2187.1	1996.6
77.5°	705.6	713.3	808.9	980.6	689.7	719.2	760.5	840.8	1070.9	1773.0	1391.8
80°	369.3	343.4	413.6	538.1	409.5	482.6	557.6	646.1	679.7	1155.8	930.4
82.5°	106.8	106.2	139.8	225.4	194.1	237.2	281.4	405.9	445.5	687.4	637.2
85°	0.6	0.6	0.6	1.2	1.8	3.0	12.4	104.4	138.1	318.6	262.0
87.5°	0.0	0.0	0.6	1.2	1.2	2.4	3.5	4.7	5.9	7.1	26.0
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°	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9
2.5°	1338.1	1329.3	1310.4	1285.0	1267.3	1236.6	1230.2	1210.7	1191.2	1175.3	1175.9
5°	1289.7	1259.7	1213.6	1160.5	1109.8	1064.4	1055.5	1029.0	1021.3	1013.6	992.4
7.5°	1162.9	1127.5	1063.2	984.7	921.0	877.9	831.9	804.2	779.4	751.1	758.2
10°	1065.5	1014.8	926.3	834.3	754.6	696.8	646.1	620.1	584.1	558.1	554.6
12.5°	990.6	935.7	829.5	721.6	646.6	613.0	580.6	539.9	499.7	465.5	447.8
15°	965.8	903.9	780.6	673.2	614.2	573.5	528.1	481.4	432.5	395.9	381.7
17.5°	994.7	921.6	780.0	652.5	578.8	519.2	462.6	410.1	352.2	315.7	304.4
20°	1074.4	982.9	796.5	633.1	535.7	454.9	375.2	318.6	259.6	233.6	221.8
22.5°	1185.3	1066.1	821.9	609.5	487.9	376.4	286.7	215.4	186.4	173.5	170.5
25°	1299.2	1171.7	857.9	589.4	435.4	299.7	205.9	172.3	158.7	152.8	152.8
27.5°	1424.3	1277.4	896.8	565.2	381.1	223.0	167.6	151.6	144.6	141.0	140.4
30°	1525.7	1363.5	941.1	536.9	332.2	182.9	148.7	138.1	131.6	129.8	129.8
32.5°	1598.9	1427.8	987.7	508.6	287.3	165.2	138.1	128.6	121.5	120.4	120.4
35°	1684.5	1489.2	1008.9	492.7	260.2	154.0	130.4	121.0	114.5	111.5	111.5
37.5°	1787.1	1562.3	1020.7	477.3	248.4	143.4	125.1	114.5	108.0	104.4	104.4
40°	1917.5	1645.5	1033.1	462.0	241.3	134.5	119.2	108.6	103.3	99.1	99.1
42.5°	2010.7	1722.2	1042.5	449.0	228.9	130.4	114.5	104.4	97.9	94.4	93.8
45°	2059.7	1793.6	1046.7	441.3	214.8	133.9	110.9	100.9	93.2	89.7	89.1
47.5°	2092.7	1852.6	1052.0	435.4	203.6	127.4	110.3	97.4	89.7	85.0	85.0
50°	2145.2	1930.5	1065.5	424.2	197.1	119.2	119.2	95.6	85.6	81.4	80.8
52.5°	2239.1	2042.0	1102.1	411.8	190.0	110.9	122.7	96.2	82.6	77.9	76.7
55°	2380.7	2219.6	1162.9	394.1	180.0	100.9	114.5	96.8	79.7	75.5	73.8
57.5°	2564.7	2434.4	1233.7	380.0	162.8	92.6	104.4	93.8	76.1	72.6	71.4
60°	2688.6	2577.7	1278.5	361.7	138.7	87.3	89.7	90.9	72.6	68.4	67.9
62.5°	2755.3	2580.1	1279.1	336.3	116.2	82.6	80.2	92.6	69.6	64.3	63.7
65°	2760.0	2454.4	1214.8	303.9	108.6	77.3	73.8	82.0	66.7	61.4	60.8
67.5°	2708.7	2249.7	1067.9	266.7	111.5	73.2	68.4	69.0	63.1	58.4	57.8
70°	2524.6	1984.8	856.7	237.2	112.1	67.9	64.3	62.5	59.6	55.5	54.3
72.5°	2178.3	1658.5	649.0	227.7	113.9	63.7	59.6	57.8	55.5	51.9	50.7
75°	1643.7	1293.9	487.3	212.4	115.1	59.0	54.3	53.1	50.7	47.2	46.6
77.5°	1135.8	959.3	338.7	179.4	102.7	53.7	49.0	47.8	46.0	42.5	41.9
80°	767.0	657.9	207.7	134.5	77.9	47.2	42.5	42.5	40.7	37.2	37.2
82.5°	534.0	491.5	119.8	87.9	56.6	38.9	37.2	37.2	35.4	31.9	31.3
85°	223.0	297.4	53.7	47.8	39.5	30.7	30.7	31.3	29.5	26.6	26.0
87.5°	7.7	31.9	21.2	22.4	23.6	21.2	23.6	23.6	23.0	20.7	20.1
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°	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9
2.5°	1158.8	1151.1	1127.5	1124.5	1106.8	1105.7	1113.3	1100.4	1101.5	1117.5	1115.1
5°	997.1	979.4	978.8	959.3	937.5	932.2	913.3	906.2	903.3	896.8	920.4
7.5°	780.0	771.7	778.8	776.4	756.4	745.2	705.1	674.4	659.0	665.5	667.3
10°	554.6	567.0	585.9	604.2	590.0	552.8	535.7	510.9	508.0	506.2	518.0
12.5°	439.6	425.4	434.2	440.7	427.2	411.2	404.2	393.5	399.4	413.0	420.7
15°	365.2	340.4	329.2	321.6	325.1	315.7	319.2	315.7	319.8	323.9	338.1
17.5°	288.5	279.7	258.4	248.4	249.0	244.9	246.0	245.4	243.1	252.5	263.7
20°	217.1	214.8	210.0	203.0	204.1	201.2	199.4	189.4	185.3	188.2	197.7
22.5°	169.3	172.3	175.2	174.6	177.6	169.9	162.8	154.0	152.8	153.4	155.8
25°	151.6	152.8	155.2	158.1	159.9	152.8	142.8	137.5	136.9	138.1	138.1
27.5°	141.0	139.8	142.8	146.3	148.7	139.8	131.6	126.9	125.7	124.5	123.9
30°	129.8	129.8	132.2	135.7	137.5	129.8	122.7	118.0	115.1	113.3	112.7
32.5°	121.5	122.1	123.3	125.7	128.6	121.0	115.1	110.9	105.6	103.8	102.7
35°	112.1	114.5	116.2	116.8	119.2	113.9	108.0	101.5	96.8	95.0	95.0
37.5°	104.4	106.2	109.2	108.6	110.3	106.8	100.3	93.2	90.9	90.3	89.7
40°	98.5	98.5	100.9	103.3	105.6	99.1	91.5	87.9	86.1	85.0	85.6
42.5°	93.2	92.6	92.6	96.8	100.9	91.5	85.0	82.6	82.0	80.8	81.4
45°	88.5	87.9	86.1	87.9	93.8	83.8	79.7	77.9	77.3	77.3	77.3
47.5°	84.4	83.2	80.8	81.4	85.6	77.9	74.3	73.8	73.2	73.2	73.8
50°	79.7	78.5	76.7	76.1	77.3	73.8	70.8	69.6	69.6	69.6	70.8
52.5°	75.5	74.9	72.6	72.0	72.6	70.2	67.3	66.7	66.7	66.7	68.4
55°	72.6	71.4	70.2	69.0	70.2	67.3	64.9	63.7	63.7	64.9	66.1
57.5°	69.6	68.4	67.9	66.7	67.9	64.9	62.5	61.4	62.0	62.5	62.5
60°	66.7	65.5	64.9	63.7	65.5	62.5	60.2	59.6	59.6	59.0	59.0
62.5°	63.7	63.1	62.0	60.8	63.1	59.6	57.8	56.6	56.1	56.1	56.1
65°	60.2	59.6	59.0	58.4	59.6	56.6	54.9	54.3	53.1	52.5	53.1
67.5°	57.2	57.2	56.1	54.9	56.6	53.1	51.9	51.3	49.6	49.0	49.6
70°	53.7	53.7	52.5	51.9	54.3	49.6	48.4	47.8	46.6	46.0	46.0
72.5°	50.2	50.2	49.0	48.4	51.3	46.0	44.8	44.3	42.5	41.9	41.9
75°	46.6	46.0	45.4	44.8	48.4	42.5	40.7	39.5	37.8	37.2	36.6
77.5°	42.5	41.9	40.7	41.3	43.7	37.8	35.4	34.8	33.0	32.5	31.9
80°	37.2	36.6	36.0	37.2	37.2	33.0	30.1	28.9	27.1	26.0	25.4
82.5°	31.9	31.3	31.3	32.5	30.7	28.9	25.4	23.0	20.1	18.3	17.7
85°	26.0	27.1	26.0	27.1	23.0	23.0	17.7	13.6	9.4	7.7	7.1
87.5°	20.1	20.7	20.1	20.7	15.9	15.3	8.3	4.7	0.6	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°	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9	1267.9
2.5°	1132.8	1134.0	1159.4	1184.7	1200.1	1238.4	1257.3	1278.5	1289.7	1302.7
5°	909.2	931.6	952.3	1003.0	1029.0	1089.7	1134.0	1204.8	1227.2	1244.9
7.5°	686.8	720.4	745.8	808.9	857.9	933.4	1010.7	1095.0	1119.2	1135.2
10°	545.8	576.4	624.2	673.8	728.7	820.1	903.9	991.2	1033.7	1052.0
12.5°	458.4	507.4	563.5	609.5	653.1	720.4	826.6	936.9	981.2	1000.6
15°	378.2	433.1	490.3	546.9	601.2	677.3	788.8	932.2	988.3	1007.7
17.5°	300.3	345.2	403.0	471.4	550.5	647.2	795.9	982.4	1050.8	1076.2
20°	213.6	257.2	316.2	400.6	494.4	616.0	812.4	1057.9	1155.2	1184.1
22.5°	161.1	185.3	239.5	322.7	444.3	591.2	838.4	1161.1	1275.0	1301.0
25°	141.6	149.9	177.6	257.8	394.1	568.8	872.6	1263.8	1401.8	1430.2
27.5°	125.7	130.4	144.6	207.1	357.0	545.8	913.3	1374.7	1511.0	1548.2
30°	113.3	119.2	131.0	173.5	321.0	512.7	950.5	1474.4	1603.6	1631.9
32.5°	103.8	110.3	121.0	156.9	290.3	487.9	971.7	1548.8	1682.7	1708.6
35°	97.4	103.3	113.9	142.2	263.1	470.8	978.2	1622.5	1779.4	1806.0
37.5°	91.5	97.4	106.8	127.4	244.3	448.4	988.3	1710.4	1891.5	1926.4
40°	87.3	92.0	100.9	117.4	218.3	424.2	1000.1	1813.1	2000.7	2035.5
42.5°	83.2	88.5	96.2	118.0	192.3	403.6	1007.7	1892.1	2087.4	2120.5
45°	79.7	85.6	94.4	115.6	172.9	384.7	1004.2	1958.2	2166.5	2191.9
47.5°	76.1	83.2	99.1	110.9	167.0	367.6	1007.1	2021.9	2223.1	2243.2
50°	73.8	82.6	106.2	103.8	168.2	359.9	1035.5	2098.0	2265.6	2273.3
52.5°	72.0	84.4	100.3	93.8	168.2	356.4	1089.7	2220.8	2339.4	2334.1
55°	69.0	83.8	93.8	85.0	161.1	358.1	1141.1	2383.0	2516.4	2486.9
57.5°	66.7	80.2	84.4	78.5	144.6	358.7	1217.2	2519.9	2655.6	2659.7
60°	63.7	86.1	73.2	73.2	123.9	355.8	1284.4	2517.5	2681.0	2708.1
62.5°	60.8	84.4	65.5	67.9	109.7	344.6	1325.1	2370.6	2587.2	2637.3
65°	57.2	66.7	60.2	63.1	103.8	316.8	1267.3	2188.3	2460.3	2514.0
67.5°	53.1	54.9	54.9	58.4	101.5	274.9	1121.6	1987.1	2301.0	2365.9
70°	48.4	49.0	50.2	55.5	94.4	236.6	913.3	1773.0	2129.9	2211.9
72.5°	43.7	44.3	44.3	50.2	88.5	204.1	646.6	1404.8	1778.3	1864.4
75°	38.4	38.9	38.4	43.7	77.3	152.8	384.1	888.5	1060.8	1158.2
77.5°	32.5	32.5	31.3	34.2	53.1	96.8	210.0	539.9	645.5	705.6
80°	26.6	24.2	20.1	20.7	28.9	55.5	93.8	309.8	354.0	369.3
82.5°	17.7	13.6	8.3	7.7	9.4	15.3	21.8	122.7	112.7	106.8
85°	3.5	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6
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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