

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: P401584

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

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401584
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-SA1D-830-U-SLR
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 800mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3967 lumens
Efficiency: N/A
Efficacy: 92.0 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): 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

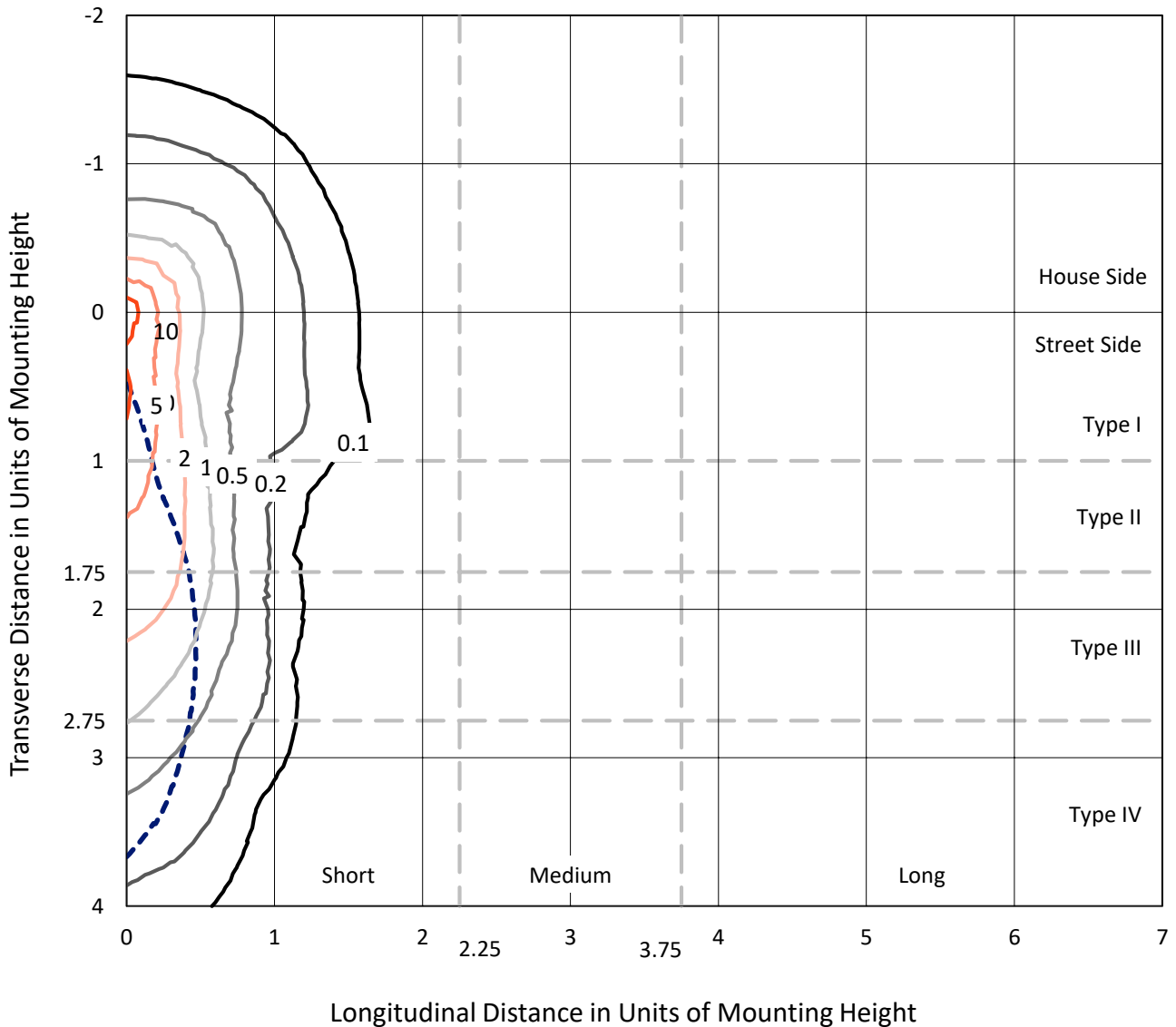


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Iso-Footcandle Lines of Horizontal Illumination

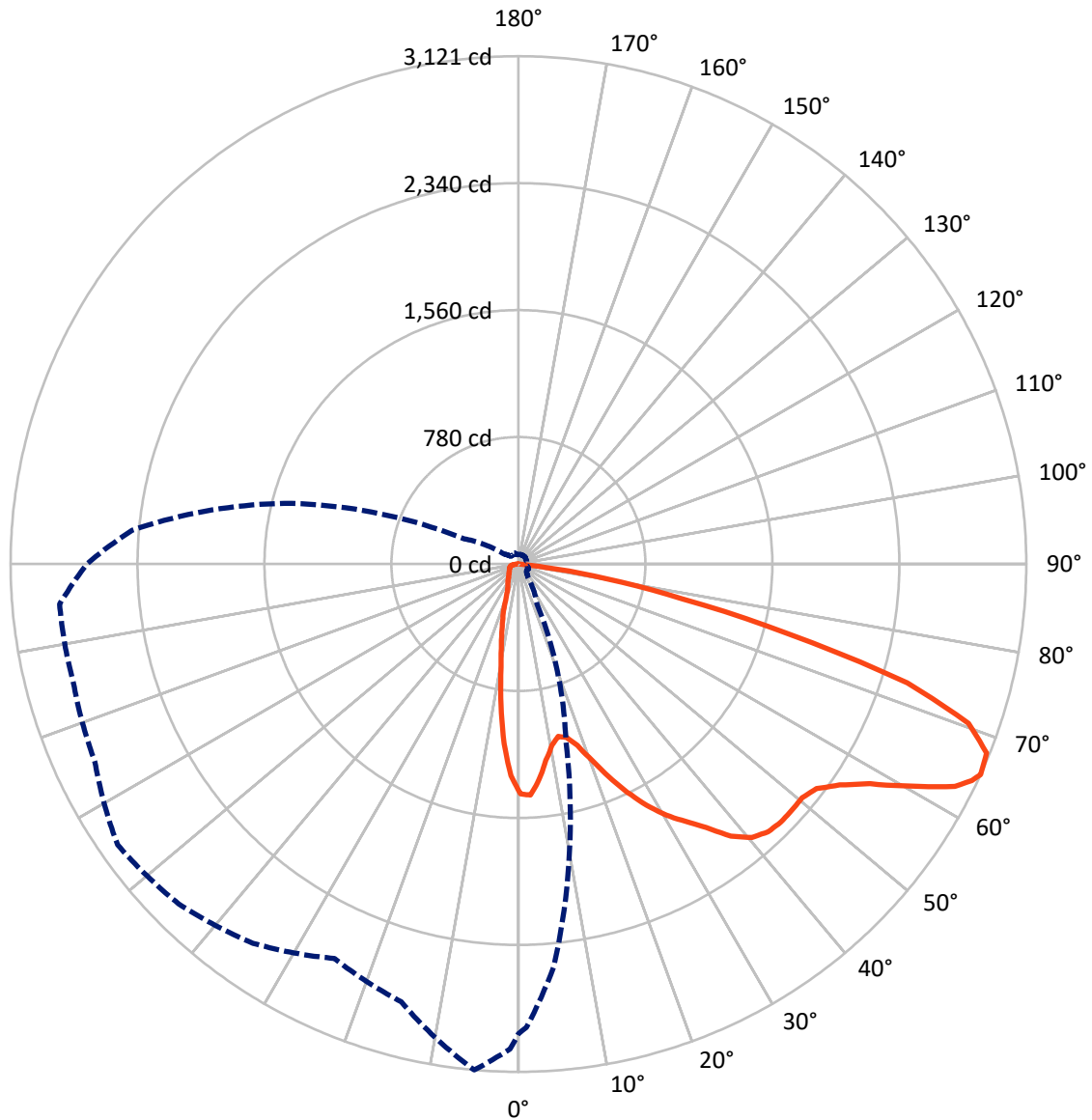
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.1 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	814.0	0.0	814.0
	% Fixture	20.5	0.0	20.5
Street Side	Lumens	3153.0	0.0	3153.0
	% Fixture	79.5	0.0	79.5
Total	Lumens	3967.0	0.0	3967.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.7	2.7
10°-20°	214.5	5.4
20°-30°	297.4	7.5
30°-40°	415.8	10.5
40°-50°	565.7	14.3
50°-60°	773.6	19.5
60°-70°	945.9	23.8
70°-80°	571.1	14.4
80°-90°	75.3	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°	3967.0	100.0
0°-180°	3967.0	100.0



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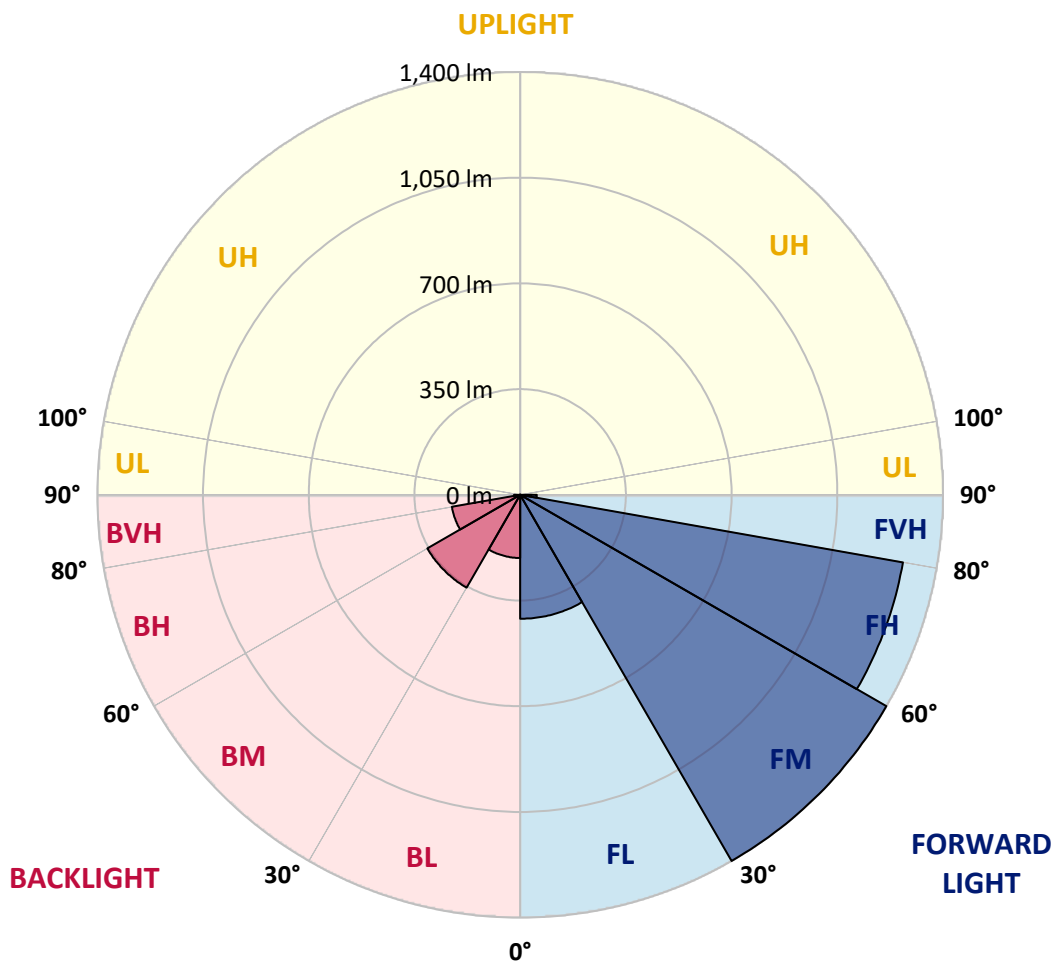
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	410.5	10.3			
FM	(30°-60°)	1400.3	35.3			
FH	(60°-80°)	1287.3	32.4			G1/1800
FVH	(80°-90°)	55.0	1.4			G1/100
BL	(0°-30°)	209.2	5.3	B1/500		
BM	(30°-60°)	354.8	8.9	B1/1000		
BH	(60°-80°)	229.7	5.8	B1/500		G1/500
BVH	(80°-90°)	20.3	0.5			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 IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7
2.5°	1408.3	1404.4	1394.4	1367.9	1339.4	1305.5	1299.6	1263.1	1267.0	1256.4	1259.1
5°	1286.3	1281.0	1253.8	1200.7	1128.4	1086.6	1054.1	1034.9	1018.9	1011.0	1020.9
7.5°	1167.5	1160.2	1127.7	1034.2	953.9	887.6	834.5	802.0	770.2	745.0	733.0
10°	1071.4	1068.7	1025.6	920.1	819.3	738.3	703.8	669.3	642.1	606.3	577.1
12.5°	1022.9	1015.0	963.9	841.2	743.0	693.2	660.7	616.9	579.8	536.0	498.2
15°	1024.9	1015.6	951.9	823.2	716.4	656.1	606.3	553.9	499.5	455.1	416.6
17.5°	1082.0	1075.3	997.7	839.8	693.9	610.3	532.7	465.0	405.3	349.6	315.1
20°	1178.2	1168.2	1060.7	859.7	665.4	557.9	452.4	359.5	295.2	246.1	218.9
22.5°	1303.5	1285.0	1150.3	884.3	636.8	498.2	365.5	262.0	205.0	180.4	173.1
25°	1437.5	1422.9	1258.4	915.5	606.3	433.2	270.7	190.4	170.5	160.5	155.2
27.5°	1560.9	1537.0	1374.5	950.0	565.9	368.2	205.6	163.9	150.6	145.9	142.6
30°	1649.2	1628.6	1454.8	989.8	530.7	300.5	175.8	148.6	138.0	130.7	129.4
32.5°	1733.4	1704.2	1513.2	1008.3	501.5	264.0	162.5	138.0	128.0	120.7	118.1
35°	1832.9	1803.7	1580.2	1011.0	479.6	248.8	149.9	130.0	119.4	112.8	109.5
37.5°	1950.3	1910.5	1655.8	1013.0	457.7	242.8	139.3	123.4	112.8	105.5	102.8
40°	2061.8	2031.3	1733.4	1009.7	443.1	234.2	132.7	116.1	106.1	99.5	96.2
42.5°	2146.0	2113.5	1799.7	999.7	434.5	219.6	135.3	110.8	101.5	94.2	90.2
45°	2189.1	2160.0	1860.1	990.4	429.9	207.0	132.7	108.8	98.2	89.6	85.6
47.5°	2221.6	2193.1	1921.8	986.4	421.9	197.7	122.1	116.1	94.9	84.9	80.9
50°	2274.1	2249.5	2005.4	1009.0	409.3	191.7	112.1	124.1	93.5	80.9	76.3
52.5°	2368.3	2352.3	2143.4	1061.4	396.0	181.8	102.2	118.7	94.9	78.3	73.0
55°	2544.0	2534.1	2333.1	1130.4	383.4	169.2	91.5	107.5	94.2	73.6	69.7
57.5°	2733.8	2731.1	2563.3	1190.8	364.9	147.9	84.9	90.9	89.6	69.7	65.0
60°	2861.1	2852.5	2669.4	1224.6	341.0	122.1	79.6	77.0	91.5	65.7	60.4
62.5°	2904.9	2876.4	2637.6	1212.0	305.2	105.5	73.6	70.3	84.9	61.7	55.7
64°	2902.3	2860.5	2554.7	1164.2	281.9	102.2	70.3	65.7	75.0	59.0	53.7
65°	2887.0	2847.2	2485.7	1127.1	269.3	102.2	68.3	63.7	68.3	57.7	52.4
67.5°	2789.5	2737.1	2250.2	954.6	236.8	103.5	63.7	58.4	57.1	53.1	49.1
70°	2567.3	2498.9	1927.1	750.9	219.6	104.2	58.4	53.1	51.1	48.4	45.1
72.5°	2061.8	1970.2	1533.7	536.7	201.7	102.2	53.1	48.4	46.4	43.8	40.5
75°	1382.5	1282.3	1130.4	353.6	165.2	91.5	45.8	41.8	41.1	38.5	35.8
77.5°	779.5	737.7	667.4	194.4	114.1	63.0	36.5	33.8	34.5	33.2	30.5
80°	407.3	388.1	356.9	94.2	55.1	30.5	23.2	23.2	26.5	26.5	25.2
82.5°	144.0	144.6	140.0	21.2	11.3	9.3	8.0	11.3	15.3	18.6	18.6
85°	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	1.3	2.7	4.6
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°	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7
2.5°	1236.5	1240.5	1251.1	1249.1	1259.8	1255.1	1269.0	1276.3	1280.3	1300.9	1310.8
5°	1013.0	1014.3	1052.1	1060.1	1080.0	1069.4	1093.9	1084.6	1104.5	1107.2	1140.3
7.5°	744.3	747.0	765.5	809.3	852.4	870.3	877.6	888.9	879.6	876.3	881.0
10°	565.9	567.8	569.8	601.0	638.8	676.6	676.6	677.3	660.7	644.1	640.8
12.5°	483.6	471.0	451.1	451.8	478.3	496.2	510.1	495.5	492.9	500.8	509.5
15°	398.0	385.4	372.2	356.2	356.9	369.5	376.8	376.1	389.4	395.4	413.3
17.5°	309.1	291.2	291.9	282.6	270.0	278.0	279.9	291.9	309.1	317.1	320.4
20°	207.6	207.6	212.9	224.2	218.3	223.6	224.2	233.5	241.5	236.8	241.5
22.5°	171.8	171.2	173.1	180.4	186.4	191.1	192.4	191.7	183.8	180.4	187.1
25°	155.9	155.2	155.9	159.9	166.5	172.5	169.8	165.8	156.6	155.9	157.2
27.5°	142.6	143.3	144.6	147.3	151.2	158.5	155.9	147.9	143.3	142.0	142.0
30°	131.3	131.3	134.0	136.7	141.3	147.9	143.3	136.7	132.0	130.7	130.0
32.5°	120.1	122.1	124.1	126.7	130.7	137.3	133.3	127.4	122.7	120.1	118.1
35°	108.8	110.1	114.1	118.1	121.4	126.7	124.1	118.7	114.1	108.1	105.5
37.5°	102.2	102.2	104.2	110.1	112.8	116.8	115.4	110.8	103.5	98.8	98.2
40°	96.2	96.2	96.9	100.2	104.8	109.5	106.8	99.5	94.9	92.9	92.2
42.5°	90.2	90.2	90.9	90.9	96.9	104.8	98.2	90.9	88.9	87.6	86.9
45°	84.9	84.9	84.9	84.2	87.6	97.5	90.2	84.2	82.9	82.9	82.3
47.5°	80.9	80.3	79.6	78.3	80.3	88.2	82.3	78.9	78.3	78.9	78.3
50°	75.6	75.0	74.3	73.6	75.0	78.3	77.0	73.6	74.3	74.3	75.0
52.5°	71.0	70.3	69.7	69.0	70.3	73.0	73.0	70.3	70.3	71.0	71.6
55°	68.3	67.0	66.3	66.3	67.0	70.3	69.7	67.7	67.7	69.0	69.7
57.5°	64.3	63.0	63.0	62.4	63.7	67.7	67.0	65.0	65.0	65.7	67.0
60°	60.4	59.7	59.0	60.4	61.0	65.0	64.3	63.0	62.4	64.3	64.3
62.5°	55.7	55.7	55.7	57.1	57.7	62.4	61.7	61.0	61.0	61.7	61.0
64°	53.1	53.1	53.7	54.4	55.7	59.7	59.7	59.7	59.7	59.7	59.0
65°	51.7	51.7	53.1	53.7	54.4	59.0	58.4	59.0	59.7	59.0	57.7
67.5°	48.4	48.4	50.4	50.4	51.1	56.4	55.7	57.1	58.4	57.1	55.7
70°	44.4	45.1	47.1	46.4	47.8	53.7	51.7	54.4	57.1	55.1	53.7
72.5°	40.5	41.1	43.8	42.5	43.1	50.4	47.8	50.4	54.4	53.1	51.7
75°	36.5	37.1	39.1	38.5	39.8	46.4	43.8	46.4	50.4	50.4	49.8
77.5°	31.2	32.5	33.8	33.2	35.8	41.8	39.1	41.1	44.4	47.1	45.8
80°	25.2	27.2	27.9	28.5	31.2	35.8	33.8	34.5	37.8	39.8	40.5
82.5°	17.2	20.6	21.9	22.6	26.5	27.9	28.5	27.9	29.9	32.5	30.5
85°	5.3	6.6	12.6	15.9	19.9	19.9	23.2	21.9	23.2	20.6	17.2
87.5°	0.0	0.0	0.0	4.6	11.9	11.9	16.6	15.3	15.9	11.9	10.6
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):

	185°	195°	205°	215°	225°	235°	245°	255°	265°	270°	275°
0°	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7
2.5°	1312.8	1324.1	1349.3	1378.5	1394.4	1428.9	1450.1	1472.7	1495.2	1499.9	1507.2
5°	1147.0	1160.2	1188.8	1227.9	1267.0	1312.8	1365.9	1422.3	1484.6	1511.2	1537.0
7.5°	893.6	896.2	936.7	1007.7	1042.2	1107.2	1182.8	1269.7	1365.9	1415.6	1468.7
10°	660.1	687.3	717.8	776.8	863.7	938.7	1032.2	1133.7	1233.9	1306.2	1361.2
12.5°	518.8	553.3	603.7	668.7	734.4	805.3	913.5	1022.3	1145.7	1210.7	1278.3
15°	427.2	471.0	536.7	605.0	666.0	729.1	825.2	958.6	1116.5	1182.8	1243.2
17.5°	338.3	386.7	457.1	528.7	601.7	678.6	790.1	955.3	1147.6	1224.6	1286.9
20°	259.4	297.2	356.2	428.5	514.1	619.6	762.2	980.5	1239.8	1336.0	1377.2
22.5°	192.4	214.3	260.7	336.3	437.2	567.2	734.4	1016.3	1354.0	1466.7	1497.9
25°	159.2	165.2	186.4	252.1	356.2	508.1	713.1	1062.7	1468.1	1594.8	1617.3
27.5°	143.3	146.6	156.6	181.1	278.6	459.7	685.3	1116.5	1588.1	1721.5	1719.5
30°	129.4	130.0	136.0	153.2	226.2	416.6	652.8	1176.2	1694.9	1812.3	1806.4
32.5°	116.8	116.8	124.7	138.0	193.0	377.5	613.6	1219.3	1787.8	1886.6	1867.4
35°	105.5	107.5	114.8	128.0	171.2	333.7	577.1	1235.2	1867.4	1976.2	1921.8
37.5°	97.5	100.2	107.5	120.1	152.6	301.2	547.3	1253.8	1965.6	2084.3	1982.8
40°	92.2	94.2	100.8	111.4	138.0	274.0	514.8	1266.4	2063.1	2199.8	2047.2
42.5°	86.9	88.9	95.5	105.5	131.3	242.1	483.6	1273.7	2164.6	2299.9	2100.9
45°	82.3	84.9	91.5	100.8	132.0	213.6	457.7	1271.0	2225.6	2372.2	2142.7
47.5°	78.9	81.6	88.9	100.8	128.0	197.0	435.8	1261.7	2270.7	2419.3	2161.9
50°	75.6	78.3	86.9	111.4	121.4	192.4	419.3	1260.4	2317.8	2428.6	2161.9
52.5°	72.3	77.0	87.6	112.1	111.4	190.4	406.0	1295.6	2382.8	2444.5	2181.2
55°	70.3	74.3	90.2	103.5	97.5	183.8	398.0	1344.0	2492.3	2532.1	2278.0
57.5°	67.7	71.0	88.9	96.9	86.9	168.5	391.4	1390.4	2636.3	2694.6	2471.1
60°	64.3	68.3	86.2	82.9	78.9	143.3	387.4	1428.9	2690.0	2799.4	2678.7
62.5°	61.0	65.7	94.2	72.3	73.0	119.4	380.1	1466.1	2576.6	2774.2	2812.1
64°	59.0	63.7	87.6	67.7	69.7	108.8	372.8	1468.1	2476.4	2714.5	2837.3
65°	57.7	61.7	81.6	65.0	67.0	106.1	366.2	1440.2	2382.2	2650.9	2830.0
67.5°	55.7	58.4	63.0	60.4	62.4	101.5	321.1	1317.5	2181.8	2487.0	2716.5
70°	53.1	55.1	55.7	55.1	58.4	98.2	271.3	1143.0	1962.9	2315.2	2540.1
72.5°	50.4	50.4	50.4	49.8	53.7	93.5	244.1	923.4	1696.3	2089.6	2320.5
75°	48.4	46.4	45.8	44.4	49.1	90.9	220.2	693.2	1310.8	1740.7	1944.4
77.5°	44.4	42.5	40.5	39.1	43.8	80.9	183.8	489.6	966.5	1266.4	1500.6
80°	38.5	37.1	34.5	32.5	36.5	63.7	139.3	302.5	707.2	855.1	984.4
82.5°	31.2	30.5	27.9	25.2	26.5	45.8	94.9	153.9	471.7	464.4	549.9
85°	19.2	23.9	20.6	16.6	17.9	26.5	38.5	49.1	144.6	86.9	134.7
87.5°	11.3	15.3	12.6	8.6	6.6	11.9	10.6	10.0	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°	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7	1411.7
2.5°	1524.4	1533.1	1537.7	1520.5	1501.9	1485.3	1453.5	1421.6	1405.0	1408.3
5°	1586.8	1601.4	1605.4	1580.2	1527.8	1474.0	1396.4	1329.4	1288.9	1286.3
7.5°	1562.9	1610.7	1618.6	1591.4	1516.5	1416.3	1310.8	1217.3	1176.8	1167.5
10°	1478.0	1551.0	1574.9	1565.6	1492.6	1377.8	1249.8	1131.1	1090.6	1071.4
12.5°	1391.1	1467.4	1482.0	1491.3	1446.8	1350.0	1209.3	1087.3	1038.8	1022.9
15°	1334.0	1386.5	1390.4	1399.1	1389.8	1336.7	1227.9	1105.2	1046.8	1024.9
17.5°	1326.1	1307.5	1294.9	1312.8	1324.1	1337.4	1276.3	1172.2	1109.8	1082.0
20°	1327.4	1269.7	1233.9	1232.6	1281.0	1354.6	1374.5	1285.0	1204.0	1178.2
22.5°	1375.8	1249.8	1190.1	1182.8	1241.8	1383.8	1474.7	1419.0	1338.0	1303.5
25°	1448.1	1237.9	1158.9	1160.9	1219.9	1403.0	1560.3	1553.0	1482.0	1437.5
27.5°	1517.8	1257.8	1154.9	1160.2	1227.2	1415.6	1631.2	1679.0	1599.4	1560.9
30°	1573.5	1302.2	1166.9	1171.5	1249.8	1432.9	1666.4	1791.1	1694.9	1649.2
32.5°	1622.0	1344.0	1184.8	1188.1	1285.6	1457.4	1699.6	1885.3	1787.8	1733.4
35°	1665.7	1379.8	1212.0	1223.3	1331.4	1492.6	1733.4	1987.5	1901.2	1832.9
37.5°	1704.2	1423.6	1265.7	1284.3	1398.4	1543.7	1777.2	2122.1	2027.9	1950.3
40°	1726.1	1462.7	1345.3	1373.2	1485.3	1610.0	1832.9	2209.7	2149.3	2061.8
42.5°	1742.7	1516.5	1473.4	1523.8	1620.0	1672.4	1859.4	2248.8	2221.0	2146.0
45°	1751.3	1622.6	1665.7	1712.8	1771.9	1740.7	1844.8	2262.1	2253.5	2189.1
47.5°	1790.5	1782.5	1888.6	1953.6	1950.3	1843.5	1817.0	2260.8	2274.7	2221.6
50°	1870.1	1968.9	2117.5	2181.2	2156.6	1939.7	1811.7	2258.8	2317.2	2274.1
52.5°	1964.9	2155.3	2364.9	2391.5	2339.7	2037.2	1851.5	2293.3	2396.8	2368.3
55°	2089.6	2330.4	2559.3	2567.9	2495.0	2132.1	1936.4	2394.8	2545.4	2544.0
57.5°	2263.4	2487.7	2722.5	2711.9	2609.1	2263.4	2073.0	2546.7	2710.6	2733.8
60°	2452.5	2653.5	2854.5	2848.5	2739.1	2414.7	2260.8	2771.6	2855.2	2861.1
62.5°	2633.6	2807.4	2981.9	2953.3	2830.0	2571.2	2520.8	3010.4	2949.4	2904.9
64°	2751.7	2859.2	3014.4	2969.3	2851.9	2646.2	2670.8	3088.0	2975.9	2902.3
65°	2830.0	2871.8	3007.1	2952.7	2844.6	2674.1	2784.2	3120.5	2980.5	2887.0
67.5°	2970.6	2799.4	2809.4	2766.3	2669.4	2648.2	2969.9	3102.6	2929.5	2789.5
70°	2931.5	2508.2	2371.6	2344.4	2228.3	2347.7	2946.7	2934.1	2737.8	2567.3
72.5°	2597.1	2014.0	1817.6	1793.1	1631.9	1779.2	2542.7	2498.9	2203.1	2061.8
75°	2140.1	1526.4	1298.2	1318.8	1196.1	1332.1	2022.6	1712.2	1466.7	1382.5
77.5°	1661.1	1078.6	896.9	872.3	847.8	862.4	1390.4	1028.2	857.1	779.5
80°	1058.7	678.0	672.7	614.9	595.0	501.5	714.5	547.3	430.5	407.3
82.5°	562.5	390.7	443.8	355.6	285.9	205.6	242.1	162.5	137.3	144.0
85°	153.9	80.9	22.6	0.0	0.0	0.0	0.0	0.7	0.7	0.7
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	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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