

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: P401582

Luminaire Tested: **ENV-SA1D-830-U-SLL**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401582
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: ENV-SA1D-830-U-SLL
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 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: 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 III - Medium - Non-Cutoff
BUG Rating: B1 - U0 - G1

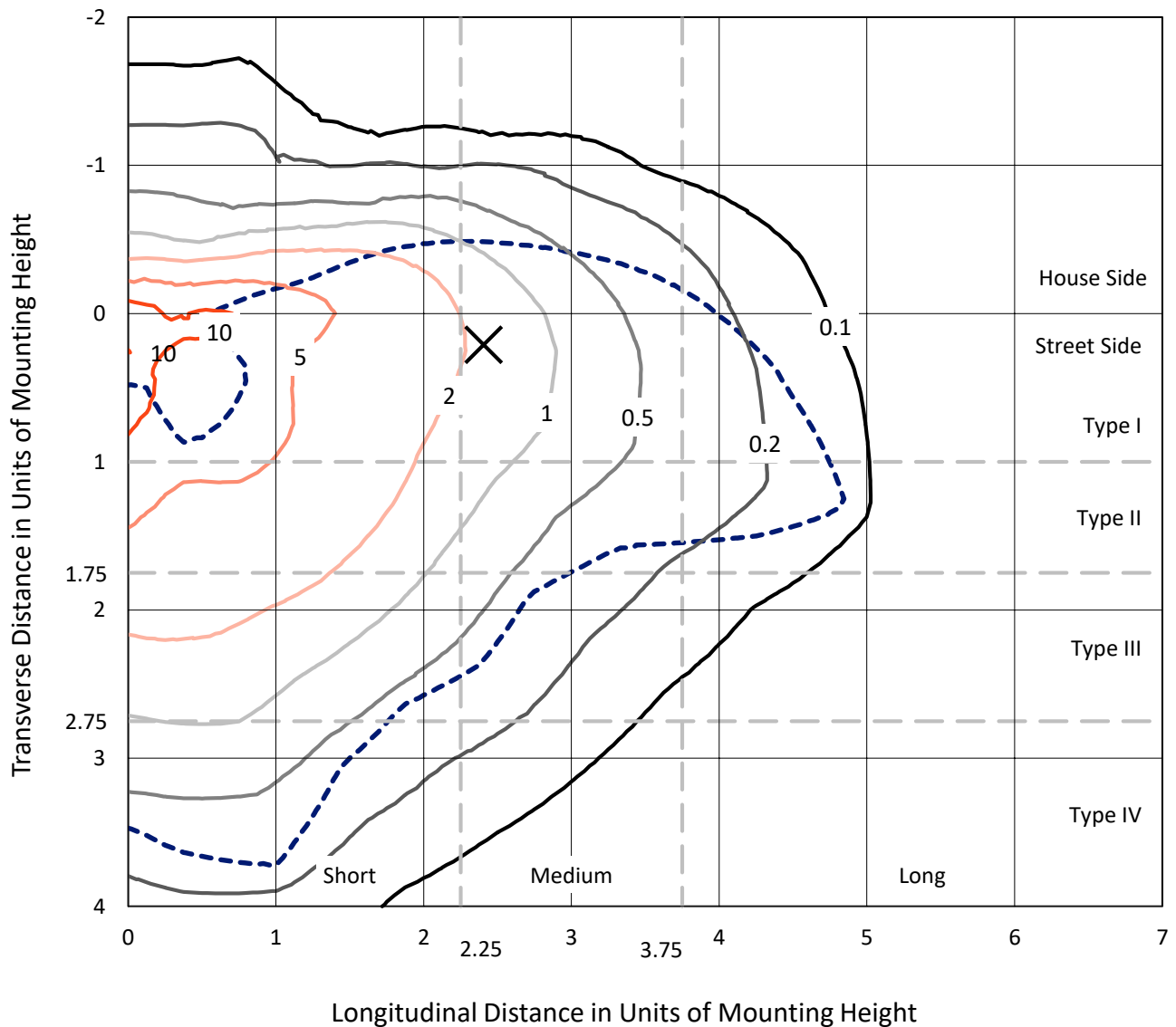
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

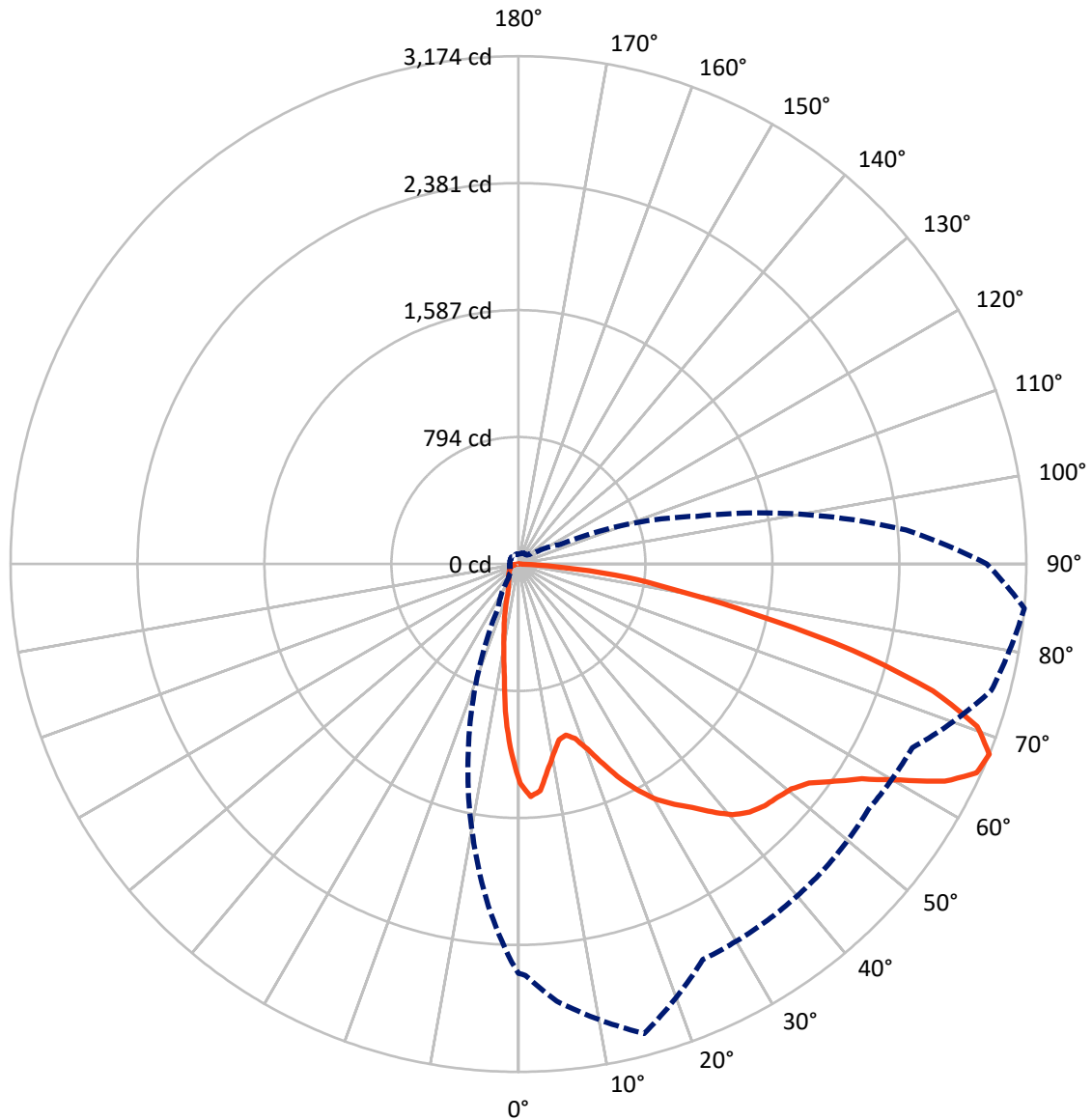
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.6 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	799.3	0.0	799.3
	% Fixture	20.1	0.0	20.1
Street Side	Lumens	3167.7	0.0	3167.7
	% Fixture	79.9	0.0	79.9
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°	104.2	2.6
10°-20°	205.5	5.2
20°-30°	287.1	7.2
30°-40°	404.8	10.2
40°-50°	560.9	14.1
50°-60°	788.1	19.9
60°-70°	963.5	24.3
70°-80°	566.2	14.3
80°-90°	86.7	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°	3967.0	100.0
0°-180°	3967.0	100.0



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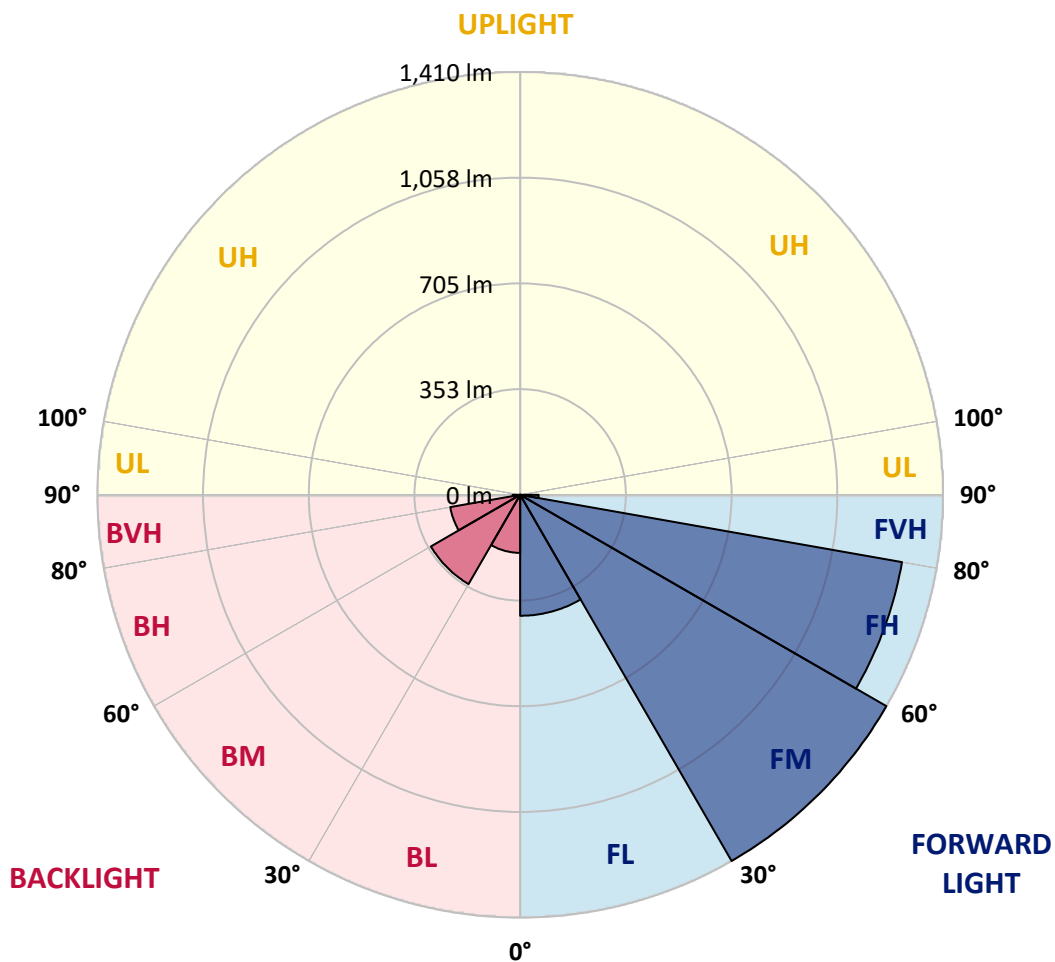
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	403.3	10.2			
FM	(30°-60°)	1410.1	35.5			
FH	(60°-80°)	1293.0	32.6			G1/1800
FVH	(80°-90°)	61.4	1.5			G1/100
BL	(0°-30°)	193.6	4.9	B1/500		
BM	(30°-60°)	343.6	8.7	B1/1000		
BH	(60°-80°)	236.8	6.0	B1/500		G1/500
BVH	(80°-90°)	25.3	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°	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5
2.5°	1408.2	1401.8	1423.5	1455.3	1477.0	1492.3	1497.4	1496.8	1492.3	1480.2	1454.7
5°	1345.7	1339.9	1383.9	1454.7	1516.6	1561.2	1574.0	1556.1	1533.8	1486.6	1424.1
7.5°	1227.0	1236.0	1292.1	1391.6	1491.1	1561.8	1579.1	1551.0	1505.1	1408.8	1303.6
10°	1137.1	1141.6	1204.7	1324.6	1430.5	1503.2	1533.1	1508.3	1448.3	1326.5	1204.7
12.5°	1081.6	1086.1	1147.3	1258.3	1371.2	1427.9	1436.8	1436.2	1386.5	1268.5	1127.5
15°	1089.3	1095.0	1156.2	1248.1	1311.9	1336.7	1337.4	1344.4	1329.7	1239.8	1109.0
17.5°	1163.3	1163.3	1221.9	1277.4	1262.7	1244.9	1258.3	1271.0	1296.5	1257.0	1146.7
20°	1280.0	1285.1	1339.3	1329.7	1240.4	1195.8	1179.8	1202.2	1281.2	1308.7	1235.3
22.5°	1406.2	1419.6	1476.4	1406.2	1236.6	1149.9	1132.0	1156.2	1283.2	1390.3	1357.1
25°	1545.9	1562.5	1600.8	1495.5	1248.1	1124.4	1112.2	1135.2	1288.3	1465.5	1488.5
27.5°	1673.5	1674.7	1712.4	1570.8	1278.1	1126.9	1106.5	1136.5	1302.3	1524.9	1604.6
30°	1764.0	1764.0	1780.6	1609.0	1315.0	1142.8	1111.6	1155.6	1322.1	1557.4	1709.8
32.5°	1846.9	1851.4	1843.1	1649.2	1350.1	1165.8	1123.7	1193.9	1353.3	1584.2	1790.8
35°	1952.2	1951.5	1914.5	1681.1	1382.6	1190.7	1153.7	1242.3	1398.6	1623.7	1868.0
37.5°	2082.3	2075.9	1997.4	1709.8	1422.2	1233.4	1210.4	1308.7	1459.2	1670.3	1965.5
40°	2200.2	2190.0	2073.3	1736.6	1453.4	1316.3	1302.9	1390.9	1535.7	1728.3	2060.6
42.5°	2292.1	2276.8	2137.7	1755.7	1500.6	1446.4	1457.9	1538.9	1612.9	1780.0	2119.9
45°	2369.2	2353.3	2186.2	1765.3	1614.8	1632.0	1654.3	1721.9	1695.1	1794.0	2156.2
47.5°	2424.7	2398.6	2207.3	1793.4	1769.1	1848.8	1917.7	1922.2	1811.2	1793.4	2178.6
50°	2457.2	2428.6	2227.0	1862.9	1948.3	2095.0	2168.3	2133.9	1931.7	1804.8	2210.4
52.5°	2522.9	2493.0	2309.3	1975.7	2132.0	2344.4	2383.9	2328.4	2056.7	1864.1	2274.2
55°	2688.1	2674.7	2468.7	2127.5	2312.5	2545.9	2563.8	2508.3	2187.5	1966.8	2396.0
57.5°	2875.0	2845.6	2684.3	2318.2	2485.3	2703.4	2732.1	2655.6	2324.6	2111.0	2531.9
60°	2927.3	2921.5	2866.7	2540.8	2663.9	2871.8	2873.7	2776.1	2484.7	2282.5	2739.1
62.5°	2850.7	2869.2	2942.6	2746.8	2813.8	2984.7	2968.7	2867.3	2652.4	2555.5	2991.0
65°	2717.5	2743.6	2890.9	2941.3	2848.2	2962.3	2928.5	2864.1	2758.3	2849.5	3147.3
67.5°	2557.4	2571.4	2743.0	3038.2	2727.7	2716.8	2700.9	2671.5	2716.2	3058.6	3174.1
70°	2390.9	2403.0	2561.2	2904.9	2366.1	2241.7	2228.3	2202.8	2376.9	3056.1	3042.7
72.5°	2015.3	2007.6	2153.7	2424.7	1806.7	1637.7	1751.3	1695.8	1922.8	2745.5	2710.4
75°	1251.9	1294.0	1477.0	1700.2	1237.9	1121.8	1278.7	1264.7	1561.2	2364.1	2158.1
77.5°	762.7	771.0	874.4	1059.9	745.5	777.4	822.1	908.8	1157.5	1916.4	1504.5
80°	399.2	371.2	447.1	581.6	442.6	521.7	602.7	698.3	734.7	1249.4	1005.7
82.5°	115.4	114.8	151.1	243.6	209.8	256.4	304.2	438.8	481.5	743.0	688.8
85°	0.6	0.6	0.6	1.3	1.9	3.2	13.4	112.9	149.2	344.4	283.2
87.5°	0.0	0.0	0.6	1.3	1.3	2.6	3.8	5.1	6.4	7.7	28.1
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5
2.5°	1446.4	1436.8	1416.4	1389.0	1369.9	1336.7	1329.7	1308.7	1287.6	1270.4	1271.0
5°	1394.1	1361.6	1311.9	1254.5	1199.6	1150.5	1140.9	1112.2	1103.9	1095.7	1072.7
7.5°	1257.0	1218.7	1149.2	1064.4	995.5	949.0	899.2	869.3	842.5	811.9	819.5
10°	1151.8	1096.9	1001.3	901.8	815.7	753.2	698.3	670.3	631.4	603.3	599.5
12.5°	1070.8	1011.5	896.7	780.0	699.0	662.6	627.5	583.5	540.2	503.2	484.1
15°	1044.0	977.0	843.7	727.7	663.9	619.9	570.8	520.4	467.5	427.9	412.6
17.5°	1075.2	996.2	843.1	705.4	625.6	561.2	500.0	443.2	380.7	341.2	329.1
20°	1161.3	1062.5	861.0	684.3	579.1	491.7	405.6	344.4	280.6	252.5	239.8
22.5°	1281.2	1152.4	888.4	658.8	527.4	406.9	309.9	232.8	201.5	187.5	184.3
25°	1404.3	1266.6	927.3	637.1	470.7	324.0	222.6	186.2	171.6	165.2	165.2
27.5°	1539.5	1380.7	969.4	611.0	412.0	241.1	181.1	163.9	156.2	152.4	151.8
30°	1649.2	1473.8	1017.2	580.4	359.1	197.7	160.7	149.2	142.2	140.3	140.3
32.5°	1728.3	1543.4	1067.6	549.7	310.6	178.6	149.2	139.0	131.4	130.1	130.1
35°	1820.8	1609.7	1090.6	532.5	281.2	166.5	140.9	130.7	123.7	120.5	120.5
37.5°	1931.7	1688.8	1103.3	515.9	268.5	155.0	135.2	123.7	116.7	112.9	112.9
40°	2072.7	1778.7	1116.7	499.4	260.8	145.4	128.8	117.3	111.6	107.1	107.1
42.5°	2173.5	1861.6	1126.9	485.3	247.4	140.9	123.7	112.9	105.9	102.0	101.4
45°	2226.4	1938.8	1131.4	477.0	232.1	144.8	119.9	109.1	100.8	96.9	96.3
47.5°	2262.1	2002.5	1137.1	470.7	220.0	137.8	119.3	105.2	96.9	91.8	91.8
50°	2318.9	2086.7	1151.8	458.5	213.0	128.8	128.8	103.3	92.5	88.0	87.4
52.5°	2420.3	2207.3	1191.3	445.1	205.4	119.9	132.7	104.0	89.3	84.2	82.9
55°	2573.3	2399.2	1257.0	426.0	194.5	109.1	123.7	104.6	86.1	81.6	79.7
57.5°	2772.3	2631.4	1333.5	410.7	176.0	100.1	112.9	101.4	82.3	78.4	77.2
60°	2906.2	2786.3	1382.0	390.9	149.9	94.4	96.9	98.2	78.4	74.0	73.3
62.5°	2978.3	2788.9	1382.6	363.5	125.6	89.3	86.7	100.1	75.3	69.5	68.9
65°	2983.4	2653.0	1313.1	328.4	117.3	83.5	79.7	88.6	72.1	66.3	65.7
67.5°	2927.9	2431.7	1154.3	288.3	120.5	79.1	74.0	74.6	68.2	63.1	62.5
70°	2728.9	2145.4	926.0	256.4	121.2	73.3	69.5	67.6	64.4	59.9	58.7
72.5°	2354.6	1792.7	701.5	246.2	123.1	68.9	64.4	62.5	59.9	56.1	54.8
75°	1776.8	1398.6	526.8	229.6	124.4	63.8	58.7	57.4	54.8	51.0	50.4
77.5°	1227.7	1037.0	366.1	193.9	111.0	58.0	52.9	51.7	49.7	45.9	45.3
80°	829.1	711.1	224.5	145.4	84.2	51.0	45.9	45.9	44.0	40.2	40.2
82.5°	577.2	531.2	129.5	95.0	61.2	42.1	40.2	40.2	38.3	34.4	33.8
85°	241.1	321.4	58.0	51.7	42.7	33.2	33.2	33.8	31.9	28.7	28.1
87.5°	8.3	34.4	23.0	24.2	25.5	23.0	25.5	25.5	24.9	22.3	21.7
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°	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5
2.5°	1252.5	1244.2	1218.7	1215.6	1196.4	1195.1	1203.4	1189.4	1190.7	1207.9	1205.3
5°	1077.8	1058.7	1058.0	1037.0	1013.4	1007.6	987.2	979.6	976.4	969.4	994.9
7.5°	843.1	834.2	841.8	839.3	817.6	805.5	762.1	728.9	712.4	719.4	721.3
10°	599.5	612.9	633.3	653.1	637.7	597.6	579.1	552.3	549.1	547.2	559.9
12.5°	475.1	459.8	469.4	476.4	461.7	444.5	436.9	425.4	431.8	446.4	454.7
15°	394.8	368.0	355.9	347.6	351.4	341.2	345.0	341.2	345.7	350.1	365.4
17.5°	311.9	302.3	279.3	268.5	269.1	264.7	265.9	265.3	262.8	273.0	285.1
20°	234.7	232.1	227.0	219.4	220.7	217.5	215.6	204.7	200.3	203.4	213.6
22.5°	183.0	186.2	189.4	188.8	192.0	183.7	176.0	166.5	165.2	165.8	168.4
25°	163.9	165.2	167.7	170.9	172.8	165.2	154.3	148.6	148.0	149.2	149.2
27.5°	152.4	151.1	154.3	158.2	160.7	151.1	142.2	137.1	135.8	134.6	133.9
30°	140.3	140.3	142.9	146.7	148.6	140.3	132.7	127.5	124.4	122.4	121.8
32.5°	131.4	132.0	133.3	135.8	139.0	130.7	124.4	119.9	114.2	112.2	111.0
35°	121.2	123.7	125.6	126.3	128.8	123.1	116.7	109.7	104.6	102.7	102.7
37.5°	112.9	114.8	118.0	117.3	119.3	115.4	108.4	100.8	98.2	97.6	96.9
40°	106.5	106.5	109.1	111.6	114.2	107.1	98.9	95.0	93.1	91.8	92.5
42.5°	100.8	100.1	100.1	104.6	109.1	98.9	91.8	89.3	88.6	87.4	88.0
45°	95.7	95.0	93.1	95.0	101.4	90.6	86.1	84.2	83.5	83.5	83.5
47.5°	91.2	89.9	87.4	88.0	92.5	84.2	80.4	79.7	79.1	79.1	79.7
50°	86.1	84.8	82.9	82.3	83.5	79.7	76.5	75.3	75.3	75.3	76.5
52.5°	81.6	81.0	78.4	77.8	78.4	75.9	72.7	72.1	72.1	72.1	74.0
55°	78.4	77.2	75.9	74.6	75.9	72.7	70.2	68.9	68.9	70.2	71.4
57.5°	75.3	74.0	73.3	72.1	73.3	70.2	67.6	66.3	67.0	67.6	67.6
60°	72.1	70.8	70.2	68.9	70.8	67.6	65.1	64.4	64.4	63.8	63.8
62.5°	68.9	68.2	67.0	65.7	68.2	64.4	62.5	61.2	60.6	60.6	60.6
65°	65.1	64.4	63.8	63.1	64.4	61.2	59.3	58.7	57.4	56.8	57.4
67.5°	61.9	61.9	60.6	59.3	61.2	57.4	56.1	55.5	53.6	52.9	53.6
70°	58.0	58.0	56.8	56.1	58.7	53.6	52.3	51.7	50.4	49.7	49.7
72.5°	54.2	54.2	52.9	52.3	55.5	49.7	48.5	47.8	45.9	45.3	45.3
75°	50.4	49.7	49.1	48.5	52.3	45.9	44.0	42.7	40.8	40.2	39.5
77.5°	45.9	45.3	44.0	44.6	47.2	40.8	38.3	37.6	35.7	35.1	34.4
80°	40.2	39.5	38.9	40.2	40.2	35.7	32.5	31.2	29.3	28.1	27.4
82.5°	34.4	33.8	33.8	35.1	33.2	31.2	27.4	24.9	21.7	19.8	19.1
85°	28.1	29.3	28.1	29.3	24.9	24.9	19.1	14.7	10.2	8.3	7.7
87.5°	21.7	22.3	21.7	22.3	17.2	16.6	8.9	5.1	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°	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5	1370.5
2.5°	1224.5	1225.8	1253.2	1280.6	1297.2	1338.6	1359.0	1382.0	1394.1	1408.2
5°	982.8	1007.0	1029.3	1084.2	1112.2	1177.9	1225.8	1302.3	1326.5	1345.7
7.5°	742.3	778.7	806.1	874.4	927.3	1008.9	1092.5	1183.7	1209.8	1227.0
10°	589.9	623.1	674.7	728.3	787.6	886.5	977.0	1071.4	1117.3	1137.1
12.5°	495.5	548.5	609.1	658.8	706.0	778.7	893.5	1012.7	1060.6	1081.6
15°	408.8	468.1	530.0	591.2	649.9	732.1	852.7	1007.6	1068.2	1089.3
17.5°	324.6	373.1	435.6	509.6	595.0	699.6	860.3	1061.9	1135.8	1163.3
20°	230.9	278.1	341.8	433.0	534.4	665.8	878.2	1143.5	1248.7	1280.0
22.5°	174.1	200.3	258.9	348.8	480.2	639.0	906.2	1255.1	1378.2	1406.2
25°	153.1	162.0	192.0	278.7	426.0	614.8	943.2	1366.1	1515.3	1545.9
27.5°	135.8	140.9	156.2	223.9	385.8	589.9	987.2	1486.0	1633.3	1673.5
30°	122.4	128.8	141.6	187.5	346.9	554.2	1027.4	1593.7	1733.4	1764.0
32.5°	112.2	119.3	130.7	169.6	313.8	527.4	1050.4	1674.1	1818.9	1846.9
35°	105.2	111.6	123.1	153.7	284.4	508.9	1057.4	1753.8	1923.5	1952.2
37.5°	98.9	105.2	115.4	137.8	264.0	484.7	1068.2	1848.8	2044.6	2082.3
40°	94.4	99.5	109.1	126.9	236.0	458.5	1081.0	1959.8	2162.6	2200.2
42.5°	89.9	95.7	104.0	127.5	207.9	436.2	1089.3	2045.3	2256.4	2292.1
45°	86.1	92.5	102.0	125.0	186.9	415.8	1085.4	2116.7	2341.8	2369.2
47.5°	82.3	89.9	107.1	119.9	180.5	397.3	1088.6	2185.6	2403.0	2424.7
50°	79.7	89.3	114.8	112.2	181.8	389.0	1119.3	2267.8	2449.0	2457.2
52.5°	77.8	91.2	108.4	101.4	181.8	385.2	1177.9	2400.5	2528.7	2522.9
55°	74.6	90.6	101.4	91.8	174.1	387.1	1233.4	2575.9	2720.0	2688.1
57.5°	72.1	86.7	91.2	84.8	156.2	387.8	1315.7	2723.8	2870.5	2875.0
60°	68.9	93.1	79.1	79.1	133.9	384.6	1388.4	2721.3	2897.9	2927.3
62.5°	65.7	91.2	70.8	73.3	118.6	372.4	1432.4	2562.5	2796.5	2850.7
65°	61.9	72.1	65.1	68.2	112.2	342.5	1369.9	2365.4	2659.4	2717.5
67.5°	57.4	59.3	59.3	63.1	109.7	297.2	1212.4	2147.9	2487.2	2557.4
70°	52.3	52.9	54.2	59.9	102.0	255.7	987.2	1916.4	2302.3	2390.9
72.5°	47.2	47.8	47.8	54.2	95.7	220.7	699.0	1518.5	1922.2	2015.3
75°	41.5	42.1	41.5	47.2	83.5	165.2	415.2	960.5	1146.7	1251.9
77.5°	35.1	35.1	33.8	37.0	57.4	104.6	227.0	583.5	697.7	762.7
80°	28.7	26.1	21.7	22.3	31.2	59.9	101.4	334.8	382.6	399.2
82.5°	19.1	14.7	8.9	8.3	10.2	16.6	23.6	132.7	121.8	115.4
85°	3.8	1.3	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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