

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: P401565

Luminaire Tested: **ENT-SA1D-827-U-SLR-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401565
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-827-U-SLR-HSS
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 2700K, 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: 3121 lumens
Efficiency: N/A
Efficacy: 72.4 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

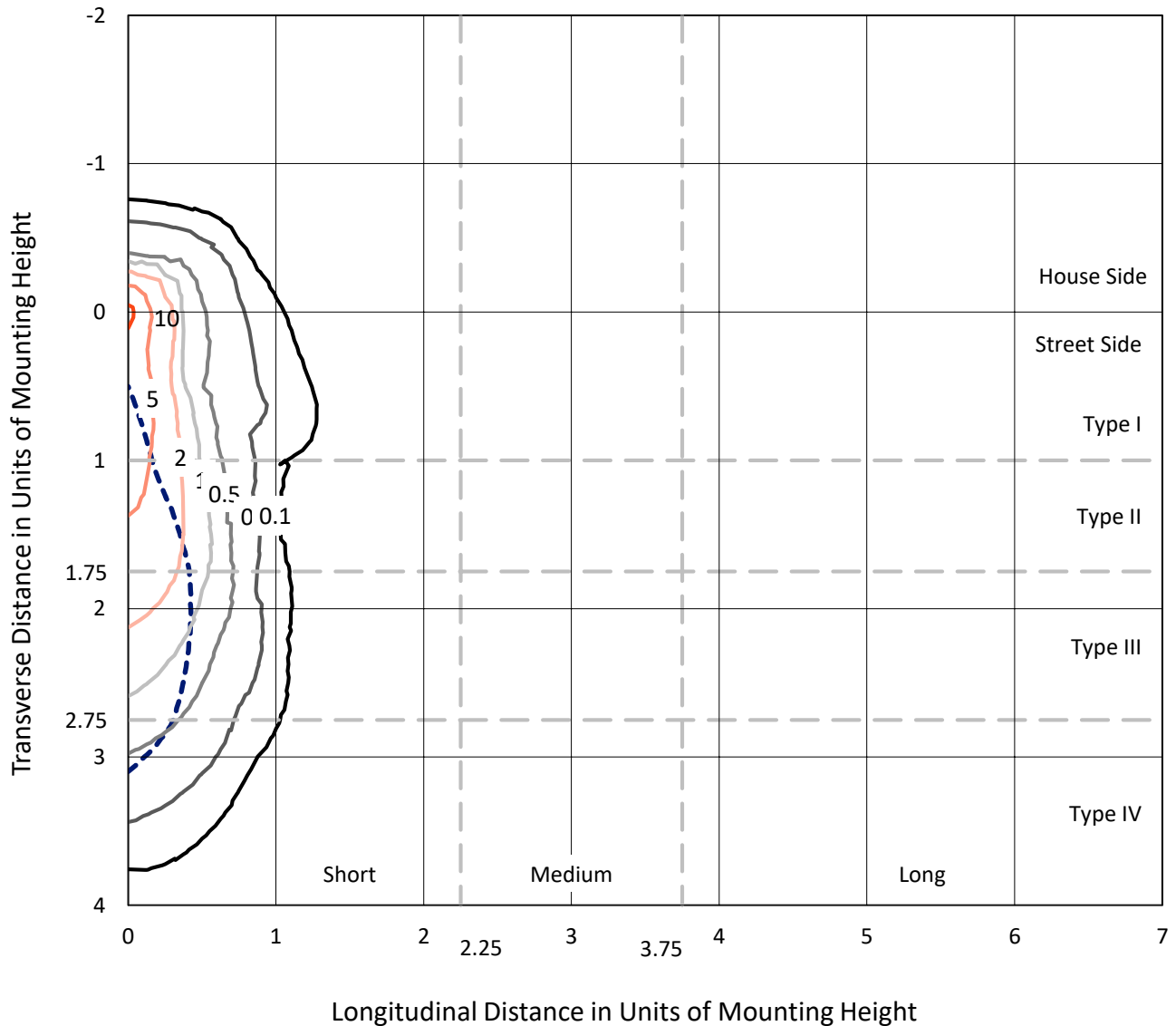


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Iso-Footcandle Lines of Horizontal Illumination

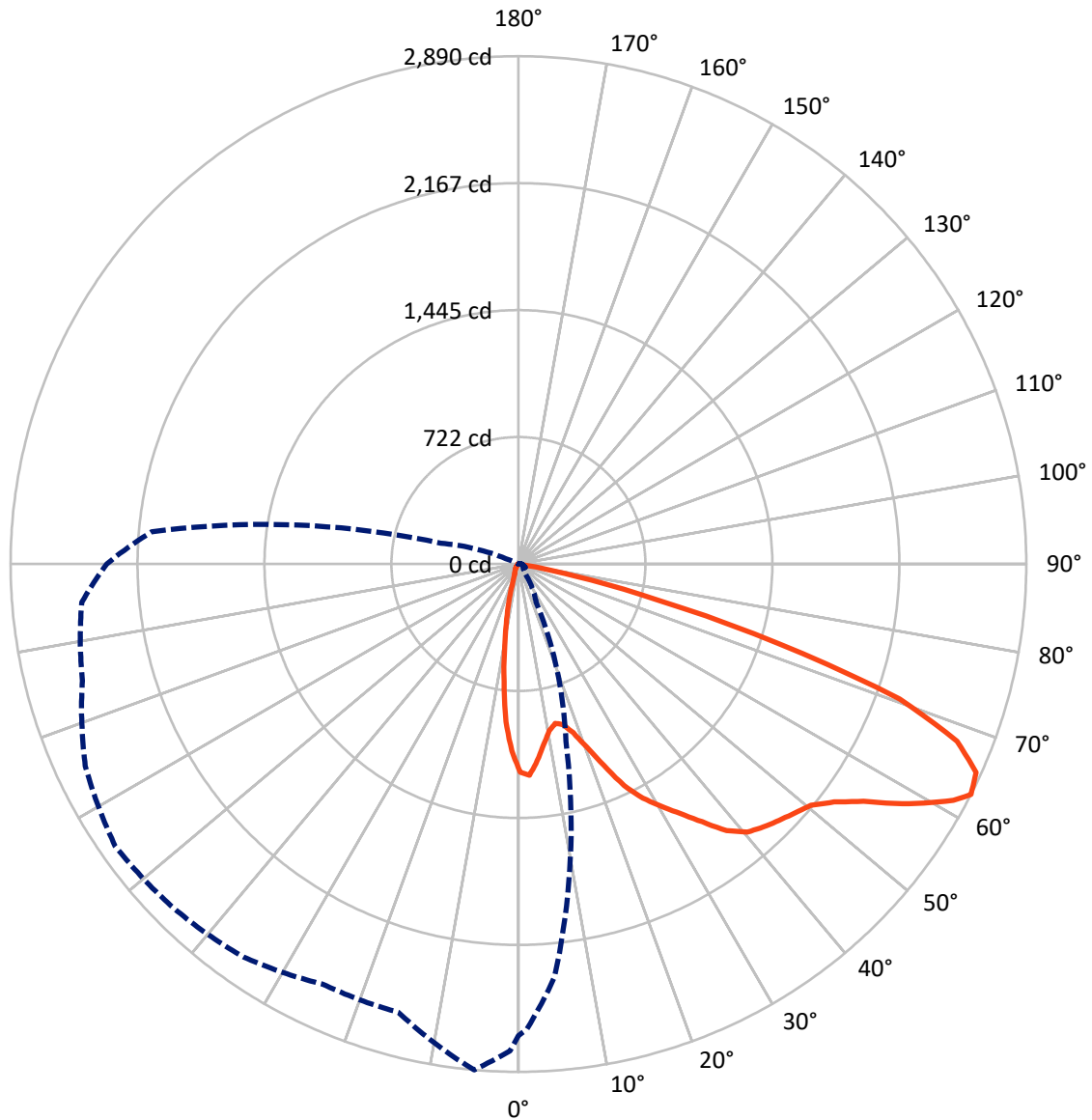
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 11.8 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	439.0	0.0	439.0
	% Fixture	14.1	0.0	14.1
Street Side	Lumens	2682.0	0.0	2682.0
	% Fixture	85.9	0.0	85.9
Total	Lumens	3121.0	0.0	3121.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	88.8	2.8
10°-20°	168.7	5.4
20°-30°	234.8	7.5
30°-40°	339.6	10.9
40°-50°	486.9	15.6
50°-60°	706.4	22.6
60°-70°	764.3	24.5
70°-80°	308.7	9.9
80°-90°	22.9	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°	3121.0	100.0
0°-180°	3121.0	100.0



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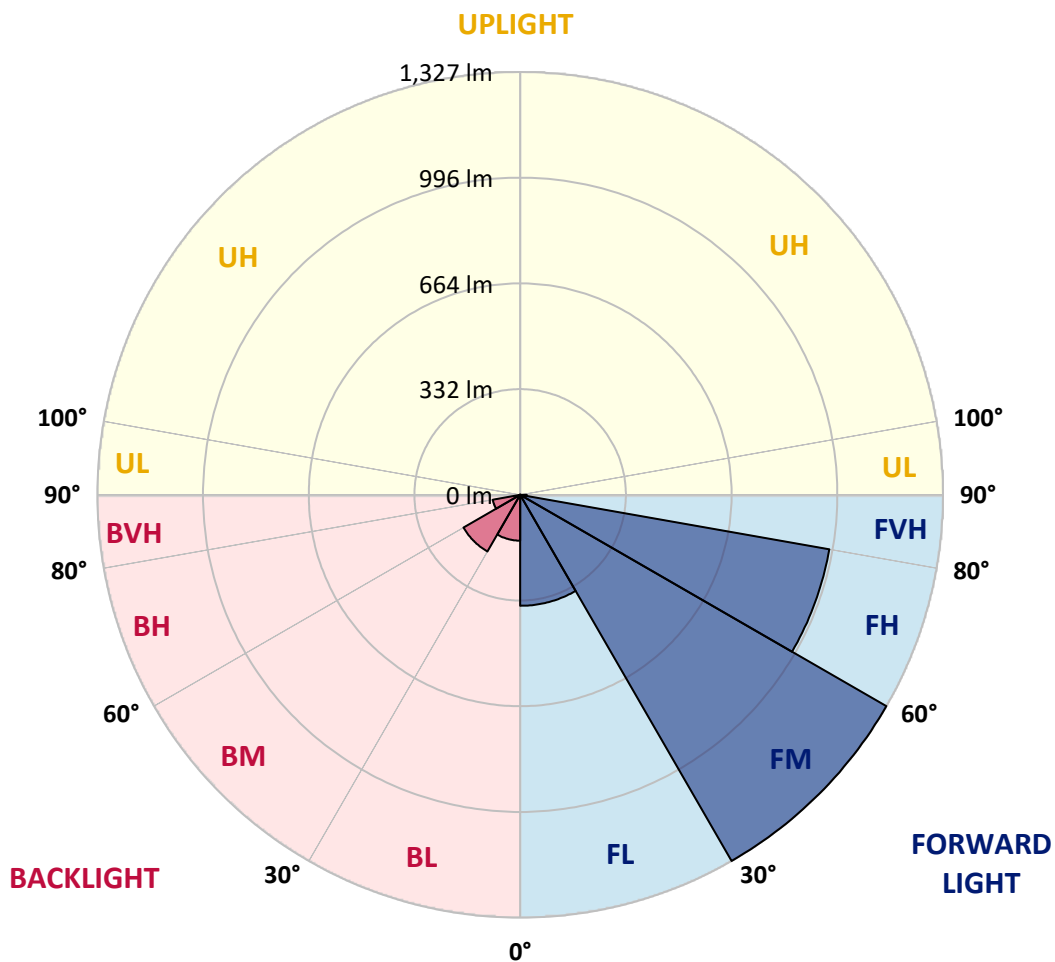
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	348.4	11.2			
FM	(30°-60°)	1327.5	42.5			
FH	(60°-80°)	985.6	31.6			G1/1800
FVH	(80°-90°)	20.5	0.7			G1/100
BL	(0°-30°)	143.9	4.6	B1/500		
BM	(30°-60°)	205.4	6.6	B0/220		
BH	(60°-80°)	87.3	2.8	B0/110		G0/110
BVH	(80°-90°)	2.3	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°	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9
2.5°	1188.8	1183.9	1172.7	1148.7	1114.1	1091.8	1077.6	1059.1	1040.0	1033.8	1021.4
5°	1085.1	1077.0	1061.6	1001.1	946.7	892.4	853.5	816.4	804.1	779.4	794.2
7.5°	985.0	981.3	945.5	867.1	780.6	710.8	666.3	612.0	595.9	570.6	550.2
10°	906.6	903.5	860.3	757.7	664.5	606.4	571.2	536.0	500.8	465.0	436.6
12.5°	867.1	860.3	810.2	699.7	613.2	565.1	528.0	481.1	443.4	395.2	360.7
15°	873.2	867.1	809.6	690.4	588.5	521.8	466.9	411.3	358.2	310.6	276.7
17.5°	922.6	920.2	850.4	698.5	558.9	470.6	397.1	322.4	259.4	208.1	179.1
20°	1019.0	1011.6	910.3	715.8	528.0	411.3	310.6	218.6	166.1	130.9	118.6
22.5°	1138.2	1121.5	1004.8	741.1	498.4	347.7	224.8	147.0	118.6	105.0	96.3
25°	1278.3	1279.0	1122.1	775.0	468.7	288.4	157.5	116.7	100.0	90.2	82.8
27.5°	1392.0	1383.3	1227.7	809.0	436.6	236.5	132.2	101.9	87.7	77.2	72.9
30°	1476.0	1463.0	1297.5	832.5	395.2	200.1	118.6	97.0	82.8	71.0	65.5
32.5°	1562.4	1546.4	1360.5	845.4	370.5	182.8	105.0	84.6	74.1	69.2	61.8
35°	1663.7	1649.5	1430.3	844.2	357.6	172.9	95.1	76.6	63.0	55.0	50.0
37.5°	1776.7	1747.7	1502.5	838.6	348.3	168.0	86.5	71.0	58.7	50.0	43.8
40°	1873.7	1844.6	1569.2	831.2	342.1	163.0	81.5	67.3	55.6	46.3	40.1
42.5°	1949.6	1921.8	1631.6	822.0	339.0	152.5	84.0	64.8	53.1	43.8	37.1
45°	2015.1	1986.7	1705.7	820.7	337.8	145.1	82.8	64.2	51.9	40.8	34.6
47.5°	2091.1	2076.2	1803.3	841.1	332.9	139.6	76.0	69.2	51.3	39.5	32.7
50°	2203.5	2190.5	1931.1	901.6	325.5	134.0	69.2	76.0	51.3	38.3	30.9
52.5°	2360.9	2346.1	2132.4	980.7	318.7	127.8	62.4	73.5	51.9	36.4	29.6
55°	2524.0	2521.5	2322.6	1064.7	312.5	114.2	55.0	66.1	50.6	34.0	27.8
57.5°	2651.8	2649.9	2465.3	1121.5	300.8	92.0	50.0	55.0	46.9	30.9	25.3
60°	2704.3	2688.9	2480.7	1121.5	273.6	76.0	45.7	43.2	47.6	27.8	22.2
61°	2704.3	2684.5	2452.9	1104.8	260.0	72.3	43.2	40.1	48.8	26.6	21.0
62.5°	2683.3	2650.6	2357.8	1044.9	238.4	72.3	39.5	35.8	44.5	25.3	19.1
65°	2590.0	2536.3	2134.9	908.4	216.1	74.1	34.0	30.3	32.1	21.6	16.7
67.5°	2359.7	2299.2	1845.9	718.8	198.2	78.4	28.4	26.6	24.7	19.1	14.8
70°	1944.1	1892.8	1506.2	538.5	184.0	79.7	24.7	22.2	21.0	16.7	13.0
72.5°	1242.5	1157.9	940.5	365.0	147.6	69.2	20.4	21.0	19.1	13.6	10.5
75°	600.3	623.7	547.2	184.0	99.4	45.1	16.1	17.3	15.4	12.4	9.3
77.5°	268.6	263.7	261.2	46.9	25.3	15.4	9.9	11.7	12.4	11.1	8.0
80°	27.8	37.7	22.2	14.2	9.3	6.8	5.6	6.2	7.4	8.0	4.3
82.5°	1.2	0.6	0.6	1.9	1.9	1.2	0.0	0.0	1.2	1.2	0.6
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°	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9
2.5°	1010.3	1027.0	1019.6	1017.7	1027.6	1022.7	1037.5	1038.1	1049.2	1064.1	1073.3
5°	794.2	781.2	807.1	824.4	846.1	839.3	865.2	862.1	876.3	899.8	890.5
7.5°	551.5	553.3	566.9	582.4	640.4	652.1	660.8	667.6	667.0	672.5	682.4
10°	421.8	411.3	402.0	423.6	446.5	471.8	475.5	484.8	459.5	470.0	474.9
12.5°	345.2	332.9	312.5	301.4	306.9	321.7	327.9	333.5	318.7	319.3	330.4
15°	261.8	245.2	237.1	222.3	216.8	215.5	218.6	210.6	208.7	201.9	206.3
17.5°	170.4	165.5	161.2	158.1	153.8	152.5	141.4	122.3	111.2	108.7	108.7
20°	113.6	109.9	109.9	116.1	114.2	109.3	94.5	78.4	70.4	67.9	69.2
22.5°	93.3	90.8	87.1	87.1	89.5	85.8	72.3	60.5	55.0	55.0	55.0
25°	80.9	79.7	76.0	72.3	73.5	70.4	58.7	51.3	47.6	46.9	47.6
27.5°	71.0	70.4	66.1	62.4	62.4	59.9	50.6	43.8	41.4	40.1	40.8
30°	64.2	63.0	58.1	55.0	54.3	51.9	43.2	38.3	35.8	35.2	35.2
32.5°	59.3	56.8	52.5	49.4	47.6	43.8	37.7	32.7	30.3	29.6	29.6
35°	47.6	47.6	45.7	43.8	41.4	35.8	31.5	27.2	24.7	24.1	24.1
37.5°	41.4	38.9	35.8	36.4	35.2	30.3	25.9	21.6	19.8	19.1	19.1
40°	37.7	34.6	30.3	28.4	29.0	26.6	21.6	16.7	14.2	14.8	14.2
42.5°	34.0	31.5	26.6	22.2	21.6	22.2	16.7	11.7	9.9	9.9	9.9
45°	31.5	29.0	23.5	18.5	15.4	17.3	13.0	8.0	6.2	6.2	6.2
47.5°	29.6	27.2	21.0	15.4	11.1	11.7	9.3	4.9	3.7	2.5	3.1
50°	28.4	25.3	19.1	12.4	8.0	6.8	6.2	2.5	0.6	0.6	0.0
52.5°	26.6	24.1	17.3	10.5	6.2	4.3	3.1	0.6	0.0	0.0	0.0
55°	25.3	22.2	15.4	9.3	4.9	2.5	0.6	0.0	0.0	0.0	0.0
57.5°	22.8	20.4	13.6	7.4	3.7	1.2	0.0	0.0	0.0	0.0	0.0
60°	20.4	18.5	11.7	5.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0
61°	19.1	17.3	11.1	4.9	1.9	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	17.9	16.1	9.9	3.7	1.2	0.0	0.0	0.0	0.0	0.0	0.0
65°	15.4	13.6	8.6	2.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	13.6	12.4	7.4	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	11.7	10.5	5.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	9.9	9.3	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	8.6	7.4	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	6.8	6.2	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	3.7	3.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.6	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°	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9
2.5°	1082.0	1103.6	1124.0	1149.9	1164.1	1203.0	1230.8	1254.3	1272.8	1276.5	1291.3
5°	915.2	945.5	965.2	1019.6	1049.9	1114.7	1164.7	1224.0	1277.1	1306.1	1332.7
7.5°	689.2	704.0	738.0	792.3	864.0	920.2	1004.8	1079.5	1175.2	1227.7	1277.1
10°	486.6	500.2	550.2	607.1	672.5	767.0	869.5	967.7	1064.7	1132.0	1190.0
12.5°	342.1	386.6	436.0	508.3	572.5	641.6	751.0	865.8	986.9	1051.1	1114.1
15°	224.8	264.3	332.9	423.6	503.9	571.2	673.1	807.8	961.5	1033.2	1093.1
17.5°	111.2	140.2	200.7	298.3	405.1	511.3	634.2	797.3	994.3	1075.2	1131.4
20°	69.8	78.4	100.7	168.6	291.5	448.3	605.2	818.3	1083.2	1172.7	1209.2
22.5°	56.2	58.7	67.3	89.5	177.9	370.5	579.9	846.7	1180.8	1290.1	1327.8
25°	48.2	50.0	55.0	66.1	103.1	277.9	549.0	896.7	1294.4	1426.6	1435.8
27.5°	41.4	43.2	47.6	56.2	73.5	187.1	504.5	955.4	1430.3	1546.4	1540.2
30°	35.2	37.7	42.0	48.2	58.1	126.6	421.8	1014.6	1530.3	1623.6	1613.7
32.5°	30.3	32.1	35.8	41.4	48.2	87.1	316.8	1053.6	1613.7	1696.4	1674.8
35°	24.7	26.6	29.6	34.6	38.9	61.8	239.6	1054.8	1699.5	1786.6	1732.3
37.5°	19.8	21.0	24.1	28.4	32.1	48.2	176.0	1034.4	1805.7	1903.9	1797.7
40°	14.8	16.7	19.8	23.5	27.2	40.8	131.5	985.0	1909.5	2021.3	1876.8
42.5°	9.9	12.4	15.4	19.1	25.9	32.7	92.6	902.9	1993.5	2125.6	1954.0
45°	6.2	8.0	11.7	16.1	26.6	25.9	61.8	804.7	2053.4	2205.3	2006.4
47.5°	3.1	4.9	8.6	15.4	23.5	19.1	38.3	710.8	2107.7	2251.6	2030.5
50°	0.6	1.9	6.2	19.1	19.8	14.2	25.3	652.1	2136.1	2239.9	2028.1
52.5°	0.0	0.0	4.3	18.5	14.2	11.1	19.8	643.5	2180.6	2255.3	2070.7
55°	0.0	0.0	1.9	8.0	8.0	9.3	17.3	631.8	2259.6	2347.3	2199.1
57.5°	0.0	0.0	0.0	3.7	4.9	7.4	16.1	600.9	2343.0	2444.9	2355.4
60°	0.0	0.0	0.0	1.9	3.1	6.2	14.2	530.5	2266.4	2445.5	2485.1
61°	0.0	0.0	0.0	1.9	2.5	5.6	13.0	505.8	2197.9	2406.0	2501.1
62.5°	0.0	0.0	0.0	0.6	1.9	4.3	11.1	457.0	2095.4	2342.4	2493.7
65°	0.0	0.0	0.0	0.0	0.6	2.5	8.6	369.3	1924.3	2182.5	2408.5
67.5°	0.0	0.0	0.0	0.0	0.0	0.6	5.6	260.0	1678.5	2001.5	2226.3
70°	0.0	0.0	0.0	0.0	0.0	0.0	2.5	150.7	1352.5	1694.6	1907.0
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.2	68.5	877.6	1308.6	1504.4
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	29.0	540.4	945.5	1124.0
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	366.2	629.3	756.5
80°	0.0	1.2	0.6	0.0	0.0	0.0	0.0	4.9	225.4	392.8	426.7
82.5°	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	116.7	277.3	282.8
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	48.8	58.7
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°	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9	1183.9
2.5°	1304.9	1308.6	1311.1	1306.8	1280.2	1265.4	1235.7	1203.0	1191.9	1188.8
5°	1380.9	1401.9	1398.2	1369.7	1323.4	1266.6	1196.2	1123.3	1095.5	1085.1
7.5°	1366.0	1421.0	1431.5	1401.9	1323.4	1224.0	1122.1	1035.6	995.5	985.0
10°	1290.7	1359.9	1393.2	1383.9	1310.5	1195.6	1070.2	964.0	920.2	906.6
12.5°	1217.8	1284.5	1305.5	1312.9	1272.8	1173.4	1044.3	930.0	884.3	867.1
15°	1169.0	1210.4	1209.2	1222.8	1219.7	1164.7	1061.0	947.3	896.1	873.2
17.5°	1153.0	1140.6	1124.6	1135.7	1157.3	1167.2	1115.3	1009.1	949.2	922.6
20°	1162.9	1102.3	1067.1	1066.5	1112.2	1187.6	1195.0	1111.0	1054.8	1019.0
22.5°	1213.5	1083.2	1028.9	1030.1	1086.3	1217.8	1287.0	1244.4	1182.6	1138.2
25°	1288.2	1086.9	1014.0	1021.4	1083.8	1244.4	1386.4	1396.3	1317.3	1278.3
27.5°	1364.2	1119.0	1014.6	1022.7	1094.3	1258.6	1443.2	1508.1	1440.1	1392.0
30°	1417.3	1158.5	1025.8	1034.4	1111.0	1269.7	1464.8	1600.1	1529.7	1476.0
32.5°	1467.3	1199.3	1043.7	1052.3	1144.3	1292.6	1505.6	1692.7	1615.5	1562.4
35°	1516.1	1239.4	1077.0	1092.5	1198.1	1333.9	1547.0	1801.4	1737.2	1663.7
37.5°	1558.1	1283.9	1134.5	1167.2	1270.9	1397.5	1603.2	1924.9	1858.9	1776.7
40°	1593.3	1336.4	1253.0	1289.5	1382.1	1464.8	1665.6	2005.8	1962.0	1873.7
42.5°	1621.7	1429.0	1422.9	1474.1	1539.0	1542.0	1683.5	2044.7	2028.1	1949.6
45°	1669.3	1595.2	1645.8	1729.8	1725.5	1634.7	1678.5	2080.6	2081.8	2015.1
47.5°	1747.1	1803.3	1949.6	2006.4	1977.4	1761.3	1683.5	2115.8	2143.5	2091.1
50°	1858.2	2039.2	2230.6	2306.0	2221.4	1888.5	1727.3	2157.8	2241.7	2203.5
52.5°	1953.3	2217.7	2490.0	2557.3	2441.8	2024.4	1829.8	2248.5	2373.3	2360.9
55°	2089.2	2371.4	2674.6	2726.5	2633.9	2178.1	1967.5	2381.9	2517.8	2524.0
57.5°	2228.2	2510.4	2795.1	2847.6	2777.2	2369.6	2163.3	2573.4	2653.7	2651.8
60°	2382.5	2640.1	2849.4	2878.4	2838.3	2561.0	2373.9	2748.8	2746.9	2704.3
61°	2470.9	2681.4	2845.7	2854.4	2815.5	2617.2	2482.6	2816.1	2760.5	2704.3
62.5°	2568.4	2719.1	2800.0	2771.0	2729.0	2637.0	2640.1	2889.6	2769.8	2683.3
65°	2667.2	2624.6	2589.4	2450.5	2410.9	2455.4	2772.8	2861.8	2713.6	2590.0
67.5°	2498.0	2249.1	2173.2	2033.6	1877.4	2058.9	2646.9	2691.9	2524.0	2359.7
70°	2041.6	1652.6	1562.4	1557.5	1445.1	1644.6	2334.4	2301.6	2094.8	1944.1
72.5°	1600.1	1127.7	1004.8	1033.2	1010.9	1225.9	1909.5	1544.5	1343.2	1242.5
75°	1254.3	801.6	691.7	686.7	662.6	834.9	1398.2	813.9	671.9	600.3
77.5°	827.5	577.4	575.6	531.7	513.2	452.7	627.4	326.1	266.2	268.6
80°	476.8	353.9	415.0	329.2	329.8	265.6	253.8	47.6	38.3	27.8
82.5°	273.6	169.8	128.5	50.6	106.2	106.2	20.4	0.6	0.6	1.2
85°	26.6	8.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	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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