

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: P401439

Luminaire Tested: **ENT-SA1D-727-U-SLR-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401439
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-727-U-SLR-HSS
Description: ENTRI LED LUMINAIRE
(1) 70 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: 3550 lumens
Efficiency: N/A
Efficacy: 82.4 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

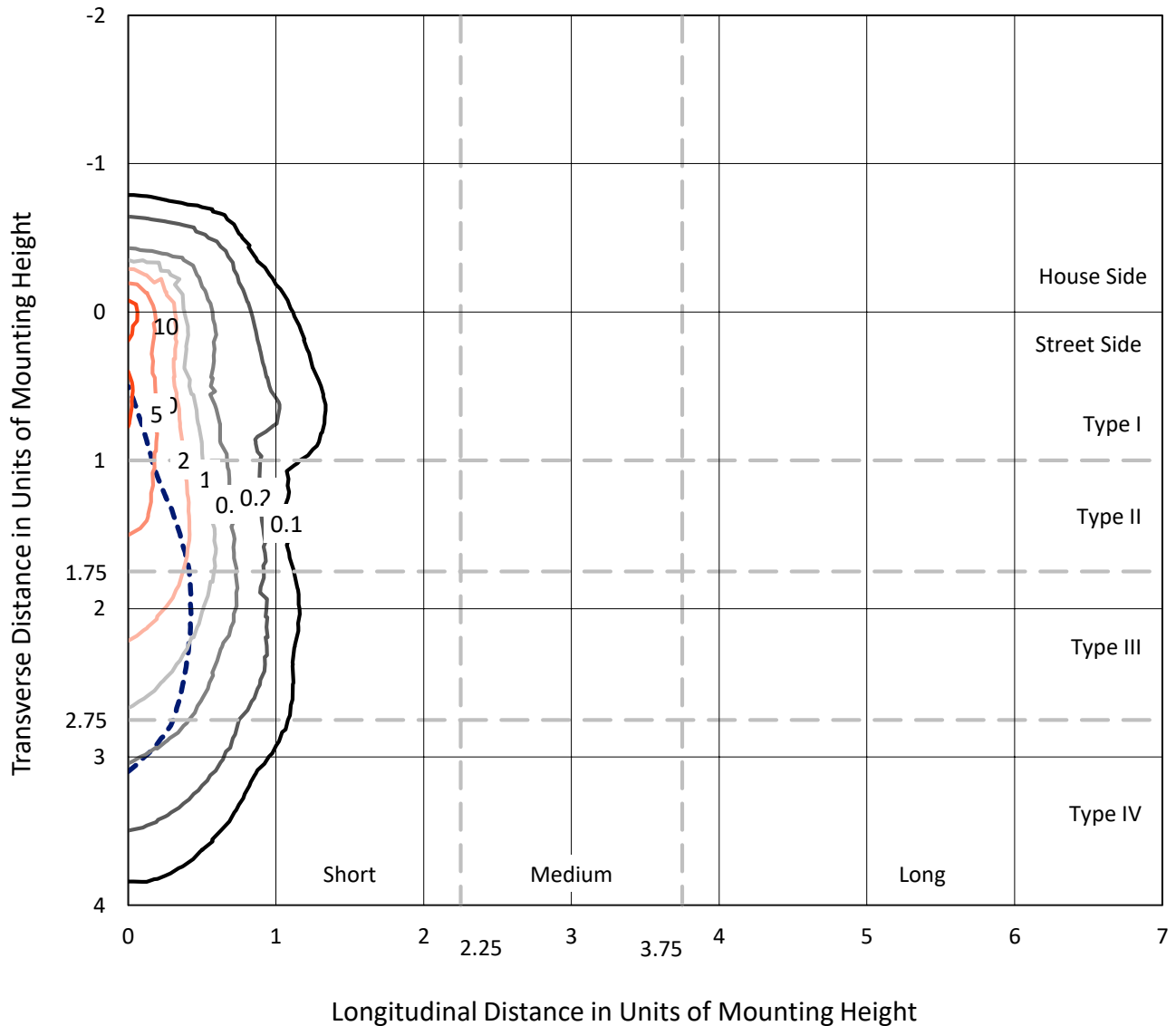


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Iso-Footcandle Lines of Horizontal Illumination

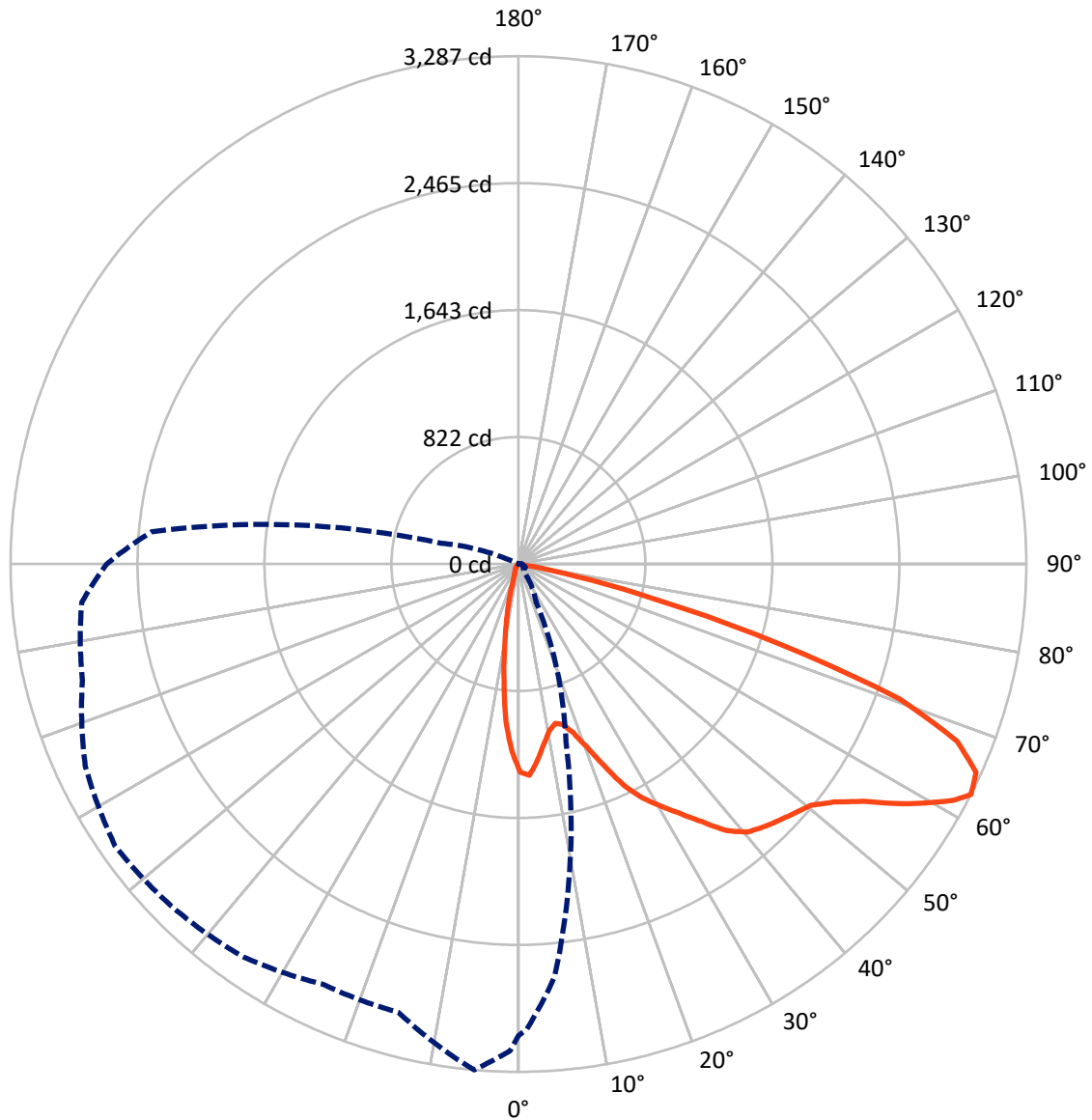
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13.5 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	499.3	0.0	499.3
	% Fixture	14.1	0.0	14.1
Street Side	Lumens	3050.6	0.0	3050.6
	% Fixture	85.9	0.0	85.9
Total	Lumens	3550.0	0.0	3550.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	101.0	2.8
10°-20°	191.9	5.4
20°-30°	267.1	7.5
30°-40°	386.3	10.9
40°-50°	553.8	15.6
50°-60°	803.5	22.6
60°-70°	869.3	24.5
70°-80°	351.1	9.9
80°-90°	26.0	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°	3550.0	100.0
0°-180°	3550.0	100.0



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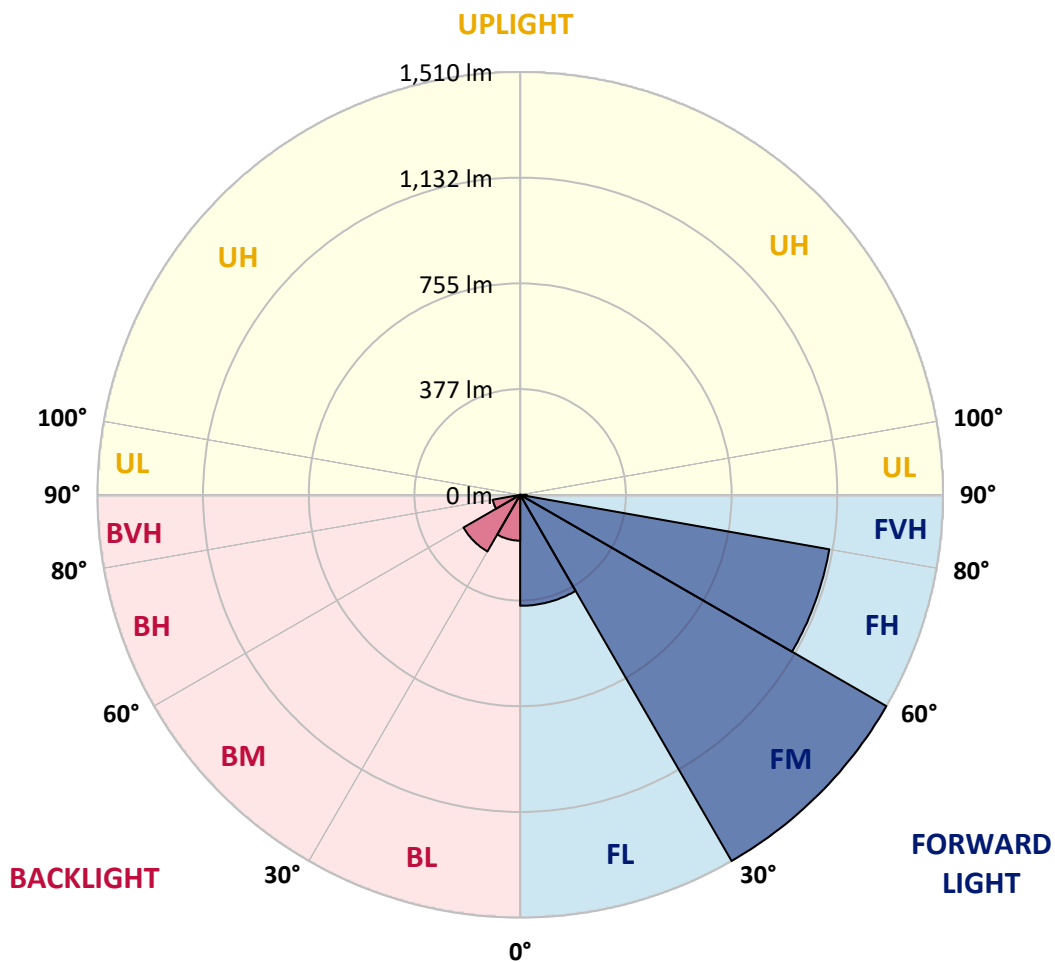
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	396.3	11.2			
FM	(30°-60°)	1509.9	42.5			
FH	(60°-80°)	1121.1	31.6			G1/1800
FVH	(80°-90°)	23.4	0.7			G1/100
BL	(0°-30°)	163.7	4.6	B1/500		
BM	(30°-60°)	233.7	6.6	B1/1000		
BH	(60°-80°)	99.3	2.8	B0/110		G0/110
BVH	(80°-90°)	2.7	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°	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6
2.5°	1352.2	1346.6	1333.9	1306.5	1267.2	1241.9	1225.8	1204.7	1182.9	1175.9	1161.8
5°	1234.2	1225.1	1207.5	1138.7	1076.8	1015.0	970.8	928.6	914.6	886.5	903.3
7.5°	1120.4	1116.2	1075.4	986.2	887.9	808.5	757.9	696.1	677.9	649.1	625.9
10°	1031.2	1027.7	978.5	861.9	755.8	689.8	649.8	609.7	569.7	528.9	496.6
12.5°	986.2	978.5	921.6	795.9	697.5	642.7	600.6	547.2	504.4	449.6	410.2
15°	993.3	986.2	920.9	785.3	669.4	593.6	531.0	467.8	407.4	353.3	314.7
17.5°	1049.5	1046.6	967.3	794.5	635.7	535.3	451.7	366.7	295.0	236.7	203.7
20°	1159.0	1150.6	1035.4	814.1	600.6	467.8	353.3	248.7	189.0	148.9	134.9
22.5°	1294.6	1275.6	1142.9	842.9	566.9	395.5	255.7	167.2	134.9	119.4	109.6
25°	1454.1	1454.8	1276.3	881.6	533.2	328.0	179.1	132.8	113.8	102.6	94.1
27.5°	1583.3	1573.5	1396.5	920.2	496.6	269.0	150.3	115.9	99.7	87.8	82.9
30°	1678.8	1664.1	1475.8	946.9	449.6	227.6	134.9	110.3	94.1	80.8	74.5
32.5°	1777.2	1758.9	1547.5	961.6	421.5	207.9	119.4	96.2	84.3	78.7	70.2
35°	1892.4	1876.2	1626.9	960.2	406.7	196.7	108.2	87.1	71.6	62.5	56.9
37.5°	2020.9	1987.9	1709.1	953.9	396.2	191.1	98.3	80.8	66.7	56.9	49.9
40°	2131.2	2098.2	1784.9	945.5	389.2	185.4	92.7	76.6	63.2	52.7	45.7
42.5°	2217.6	2186.0	1855.9	935.0	385.6	173.5	95.5	73.8	60.4	49.9	42.1
45°	2292.1	2259.8	1940.2	933.6	384.2	165.1	94.1	73.1	59.0	46.4	39.3
47.5°	2378.5	2361.6	2051.1	956.7	378.6	158.8	86.4	78.7	58.3	45.0	37.2
50°	2506.3	2491.6	2196.5	1025.6	370.2	152.4	78.7	86.4	58.3	43.6	35.1
52.5°	2685.5	2668.6	2425.5	1115.5	362.5	145.4	70.9	83.6	59.0	41.4	33.7
55°	2870.9	2868.1	2641.9	1211.0	355.4	130.0	62.5	75.2	57.6	38.6	31.6
57.5°	3016.3	3014.2	2804.2	1275.6	342.1	104.7	56.9	62.5	53.4	35.1	28.8
60°	3076.0	3058.5	2821.7	1275.6	311.2	86.4	52.0	49.2	54.1	31.6	25.3
61°	3076.0	3053.5	2790.1	1256.7	295.7	82.2	49.2	45.7	55.5	30.2	23.9
62.5°	3052.1	3014.9	2681.9	1188.5	271.1	82.2	45.0	40.7	50.6	28.8	21.8
65°	2946.1	2884.9	2428.4	1033.3	245.9	84.3	38.6	34.4	36.5	24.6	19.0
67.5°	2684.0	2615.2	2099.6	817.6	225.5	89.2	32.3	30.2	28.1	21.8	16.9
70°	2211.3	2153.0	1713.3	612.5	209.3	90.6	28.1	25.3	23.9	19.0	14.8
72.5°	1413.3	1317.1	1069.8	415.1	167.9	78.7	23.2	23.9	21.8	15.5	11.9
75°	682.8	709.5	622.4	209.3	113.1	51.3	18.3	19.7	17.6	14.0	10.5
77.5°	305.6	299.9	297.1	53.4	28.8	17.6	11.2	13.3	14.0	12.6	9.1
80°	31.6	42.8	25.3	16.2	10.5	7.7	6.3	7.0	8.4	9.1	4.9
82.5°	1.4	0.7	0.7	2.1	2.1	1.4	0.0	0.0	1.4	1.4	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°	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6
2.5°	1149.2	1168.2	1159.7	1157.6	1168.9	1163.3	1180.1	1180.8	1193.5	1210.3	1220.9
5°	903.3	888.6	918.1	937.8	962.4	954.6	984.1	980.6	996.8	1023.5	1012.9
7.5°	627.3	629.4	644.8	662.4	728.4	741.8	751.6	759.3	758.6	765.0	776.2
10°	479.8	467.8	457.3	481.9	507.9	536.7	540.9	551.4	522.6	534.6	540.2
12.5°	392.7	378.6	355.4	342.8	349.1	366.0	373.0	379.3	362.5	363.2	375.8
15°	297.8	278.9	269.7	252.9	246.6	245.2	248.7	239.5	237.4	229.7	234.6
17.5°	193.9	188.3	183.3	179.8	174.9	173.5	160.9	139.1	126.4	123.6	123.6
20°	129.3	125.0	125.0	132.1	130.0	124.3	107.5	89.2	80.1	77.3	78.7
22.5°	106.1	103.3	99.0	99.0	101.9	97.6	82.2	68.8	62.5	62.5	62.5
25°	92.0	90.6	86.4	82.2	83.6	80.1	66.7	58.3	54.1	53.4	54.1
27.5°	80.8	80.1	75.2	70.9	70.9	68.1	57.6	49.9	47.1	45.7	46.4
30°	73.1	71.6	66.0	62.5	61.8	59.0	49.2	43.6	40.7	40.0	40.0
32.5°	67.4	64.6	59.7	56.2	54.1	49.9	42.8	37.2	34.4	33.7	33.7
35°	54.1	54.1	52.0	49.9	47.1	40.7	35.8	30.9	28.1	27.4	27.4
37.5°	47.1	44.3	40.7	41.4	40.0	34.4	29.5	24.6	22.5	21.8	21.8
40°	42.8	39.3	34.4	32.3	33.0	30.2	24.6	19.0	16.2	16.9	16.2
42.5°	38.6	35.8	30.2	25.3	24.6	25.3	19.0	13.3	11.2	11.2	11.2
45°	35.8	33.0	26.7	21.1	17.6	19.7	14.8	9.1	7.0	7.0	7.0
47.5°	33.7	30.9	23.9	17.6	12.6	13.3	10.5	5.6	4.2	2.8	3.5
50°	32.3	28.8	21.8	14.0	9.1	7.7	7.0	2.8	0.7	0.7	0.0
52.5°	30.2	27.4	19.7	11.9	7.0	4.9	3.5	0.7	0.0	0.0	0.0
55°	28.8	25.3	17.6	10.5	5.6	2.8	0.7	0.0	0.0	0.0	0.0
57.5°	26.0	23.2	15.5	8.4	4.2	1.4	0.0	0.0	0.0	0.0	0.0
60°	23.2	21.1	13.3	6.3	2.8	0.0	0.0	0.0	0.0	0.0	0.0
61°	21.8	19.7	12.6	5.6	2.1	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	20.4	18.3	11.2	4.2	1.4	0.0	0.0	0.0	0.0	0.0	0.0
65°	17.6	15.5	9.8	2.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	15.5	14.0	8.4	1.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	13.3	11.9	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	11.2	10.5	4.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	9.8	8.4	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	7.7	7.0	3.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	4.2	3.5	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°	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6
2.5°	1230.7	1255.3	1278.5	1308.0	1324.1	1368.4	1400.0	1426.7	1447.7	1452.0	1468.8
5°	1041.0	1075.4	1097.9	1159.7	1194.2	1267.9	1324.8	1392.2	1452.7	1485.7	1515.9
7.5°	783.9	800.8	839.4	901.2	982.7	1046.6	1142.9	1227.9	1336.8	1396.5	1452.7
10°	553.5	569.0	625.9	690.5	765.0	872.4	989.0	1100.7	1211.0	1287.6	1353.6
12.5°	389.2	439.7	495.9	578.1	651.2	729.8	854.2	984.8	1122.5	1195.6	1267.2
15°	255.7	300.6	378.6	481.9	573.2	649.8	765.7	918.8	1093.7	1175.2	1243.3
17.5°	126.4	159.5	228.3	339.3	460.8	581.6	721.4	906.9	1130.9	1223.0	1286.9
20°	79.4	89.2	114.5	191.8	331.6	510.0	688.4	930.7	1232.1	1333.9	1375.4
22.5°	63.9	66.7	76.6	101.9	202.3	421.5	659.6	963.1	1343.1	1467.4	1510.3
25°	54.8	56.9	62.5	75.2	117.3	316.1	624.5	1020.0	1472.3	1622.7	1633.2
27.5°	47.1	49.2	54.1	63.9	83.6	212.8	573.9	1086.7	1626.9	1758.9	1751.9
30°	40.0	42.8	47.8	54.8	66.0	144.0	479.8	1154.1	1740.7	1846.7	1835.5
32.5°	34.4	36.5	40.7	47.1	54.8	99.0	360.4	1198.4	1835.5	1929.6	1905.0
35°	28.1	30.2	33.7	39.3	44.3	70.2	272.5	1199.8	1933.1	2032.2	1970.4
37.5°	22.5	23.9	27.4	32.3	36.5	54.8	200.2	1176.6	2054.0	2165.6	2044.8
40°	16.9	19.0	22.5	26.7	30.9	46.4	149.6	1120.4	2172.0	2299.1	2134.7
42.5°	11.2	14.0	17.6	21.8	29.5	37.2	105.4	1027.0	2267.5	2417.8	2222.5
45°	7.0	9.1	13.3	18.3	30.2	29.5	70.2	915.3	2335.6	2508.4	2282.2
47.5°	3.5	5.6	9.8	17.6	26.7	21.8	43.6	808.5	2397.4	2561.1	2309.6
50°	0.7	2.1	7.0	21.8	22.5	16.2	28.8	741.8	2429.8	2547.8	2306.8
52.5°	0.0	0.0	4.9	21.1	16.2	12.6	22.5	731.9	2480.3	2565.3	2355.3
55°	0.0	0.0	2.1	9.1	9.1	10.5	19.7	718.6	2570.3	2670.0	2501.4
57.5°	0.0	0.0	0.0	4.2	5.6	8.4	18.3	683.5	2665.1	2781.0	2679.1
60°	0.0	0.0	0.0	2.1	3.5	7.0	16.2	603.4	2578.0	2781.7	2826.6
61°	0.0	0.0	0.0	2.1	2.8	6.3	14.8	575.3	2500.0	2736.7	2844.9
62.5°	0.0	0.0	0.0	0.7	2.1	4.9	12.6	519.8	2383.4	2664.4	2836.5
65°	0.0	0.0	0.0	0.0	0.7	2.8	9.8	420.1	2188.8	2482.4	2739.5
67.5°	0.0	0.0	0.0	0.0	0.0	0.7	6.3	295.7	1909.2	2276.6	2532.3
70°	0.0	0.0	0.0	0.0	0.0	0.0	2.8	171.4	1538.4	1927.5	2169.2
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.4	78.0	998.2	1488.5	1711.2
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	33.0	614.6	1075.4	1278.5
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	416.6	715.8	860.5
80°	0.0	1.4	0.7	0.0	0.0	0.0	0.0	5.6	256.4	446.8	485.4
82.5°	0.0	0.7	0.7	0.0	0.0	0.0	0.0	0.0	132.8	315.4	321.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	55.5	66.7
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°	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6	1346.6
2.5°	1484.3	1488.5	1491.3	1486.4	1456.2	1439.3	1405.6	1368.4	1355.7	1352.2
5°	1570.7	1594.6	1590.3	1558.0	1505.3	1440.7	1360.6	1277.7	1246.1	1234.2
7.5°	1553.8	1616.3	1628.3	1594.6	1505.3	1392.2	1276.3	1178.0	1132.3	1120.4
10°	1468.1	1546.8	1584.7	1574.2	1490.6	1359.9	1217.3	1096.5	1046.6	1031.2
12.5°	1385.2	1461.1	1485.0	1493.4	1447.7	1334.6	1187.8	1057.9	1005.9	986.2
15°	1329.7	1376.8	1375.4	1390.8	1387.3	1324.8	1206.8	1077.6	1019.2	993.3
17.5°	1311.5	1297.4	1279.2	1291.8	1316.4	1327.6	1268.6	1147.8	1079.7	1049.5
20°	1322.7	1253.9	1213.8	1213.1	1265.1	1350.8	1359.2	1263.7	1199.8	1159.0
22.5°	1380.3	1232.1	1170.3	1171.7	1235.6	1385.2	1463.9	1415.4	1345.2	1294.6
25°	1465.3	1236.3	1153.4	1161.8	1232.8	1415.4	1577.0	1588.2	1498.3	1454.1
27.5°	1551.7	1272.8	1154.1	1163.3	1244.7	1431.6	1641.6	1715.4	1638.1	1583.3
30°	1612.1	1317.8	1166.8	1176.6	1263.7	1444.2	1666.2	1820.0	1740.0	1678.8
32.5°	1669.0	1364.2	1187.1	1197.0	1301.6	1470.2	1712.6	1925.4	1837.6	1777.2
35°	1724.5	1409.8	1225.1	1242.6	1362.7	1517.3	1759.6	2049.0	1976.0	1892.4
37.5°	1772.3	1460.4	1290.4	1327.6	1445.6	1589.6	1823.5	2189.5	2114.4	2020.9
40°	1812.3	1520.1	1425.3	1466.7	1572.1	1666.2	1894.5	2281.5	2231.7	2131.2
42.5°	1844.6	1625.5	1618.4	1676.7	1750.5	1754.0	1914.9	2325.8	2306.8	2217.6
45°	1898.7	1814.4	1872.0	1967.6	1962.6	1859.4	1909.2	2366.5	2367.9	2292.1
47.5°	1987.2	2051.1	2217.6	2282.2	2249.2	2003.4	1914.9	2406.6	2438.2	2378.5
50°	2113.7	2319.5	2537.2	2622.9	2526.7	2148.1	1964.7	2454.3	2549.9	2506.3
52.5°	2221.8	2522.5	2832.3	2908.8	2777.5	2302.6	2081.3	2557.6	2699.5	2685.5
55°	2376.4	2697.4	3042.3	3101.3	2995.9	2477.5	2238.0	2709.3	2863.9	2870.9
57.5°	2534.4	2855.4	3179.3	3239.0	3158.9	2695.3	2460.7	2927.1	3018.4	3016.3
60°	2710.0	3003.0	3241.1	3274.1	3228.4	2913.0	2700.2	3126.6	3124.5	3076.0
61°	2810.5	3050.0	3236.9	3246.7	3202.5	2977.0	2823.8	3203.2	3139.9	3076.0
62.5°	2921.5	3092.9	3184.9	3151.9	3104.1	2999.4	3003.0	3286.7	3150.5	3052.1
65°	3033.9	2985.4	2945.4	2787.3	2742.3	2792.9	3154.0	3255.1	3086.5	2946.1
67.5°	2841.4	2558.3	2471.9	2313.2	2135.4	2342.0	3010.7	3062.0	2870.9	2684.0
70°	2322.3	1879.7	1777.2	1771.6	1643.7	1870.6	2655.2	2618.0	2382.7	2211.3
72.5°	1820.0	1282.7	1142.9	1175.2	1149.9	1394.4	2172.0	1756.8	1527.8	1413.3
75°	1426.7	911.8	786.7	781.1	753.7	949.7	1590.3	925.8	764.3	682.8
77.5°	941.3	656.8	654.7	604.8	583.7	514.9	713.7	370.9	302.8	305.6
80°	542.3	402.5	472.0	374.4	375.1	302.1	288.7	54.1	43.6	31.6
82.5°	311.2	193.2	146.1	57.6	120.8	120.8	23.2	0.7	0.7	1.4
85°	30.2	9.1	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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