

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: P401563

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

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401563  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-8)  
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-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 2700K, 800mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR LEFT 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 III - Short - Semi-Cutoff  
BUG Rating: B1 - U0 - G1

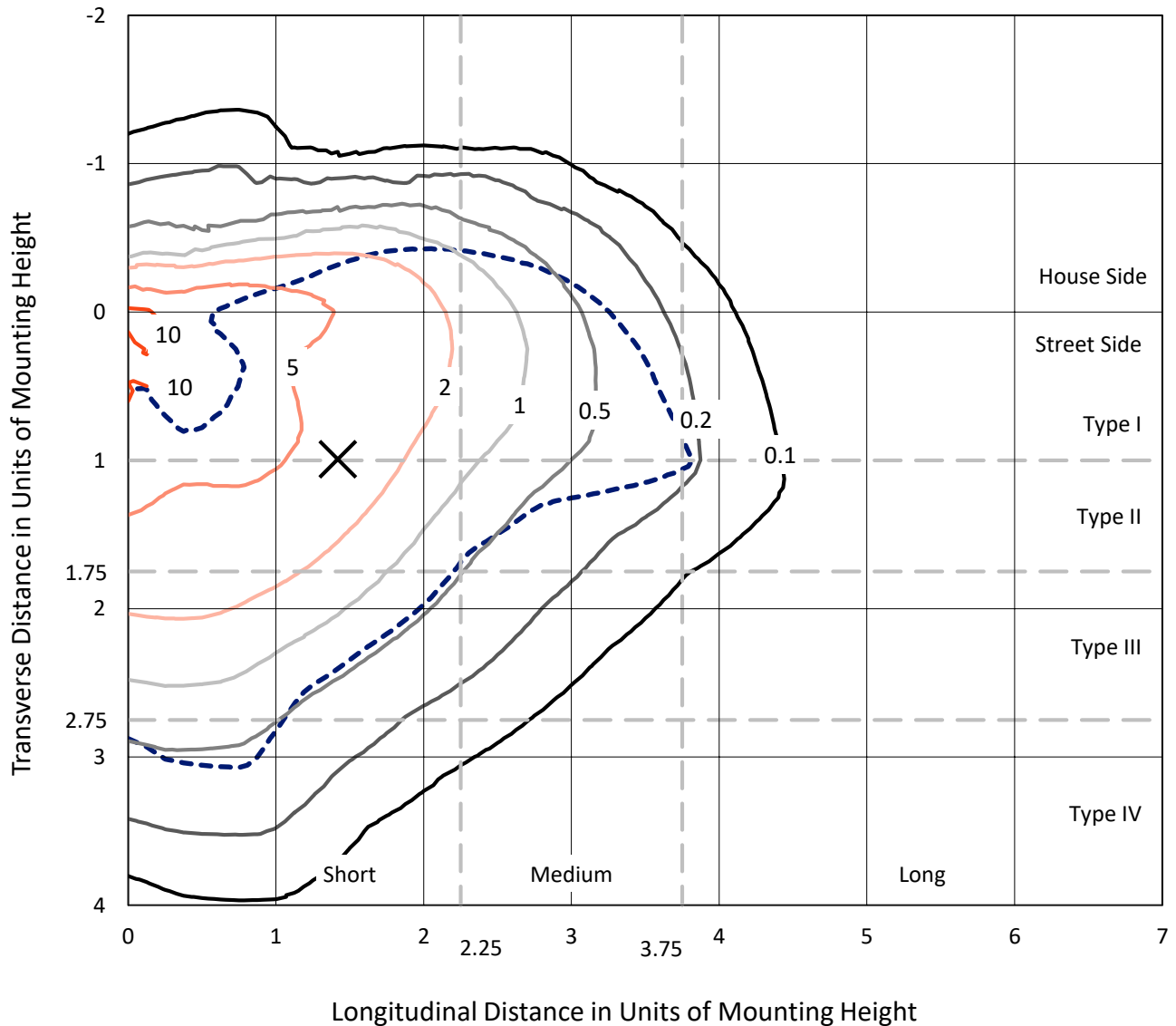
Input Watts (W): 43.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

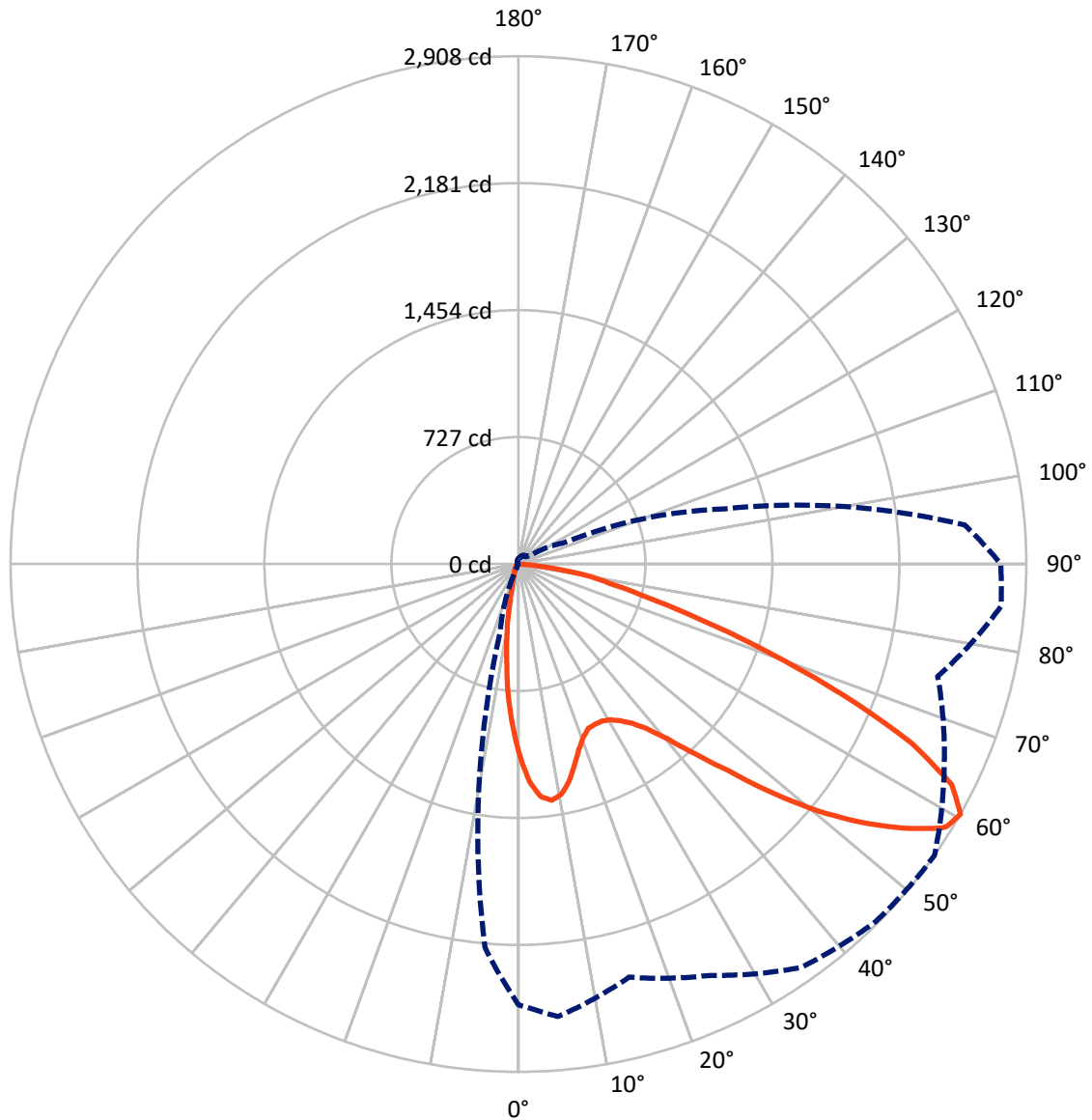
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 13 fc  
 Type III - Short - Semi-Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 55-Deg Lateral      - - - Horizontal Cone Through 60-Deg Vertical

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**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	552.7	0.0	552.7
	% Fixture	17.7	0.0	17.7
<b>Street Side</b>	Lumens	2568.3	0.0	2568.3
	% Fixture	82.3	0.0	82.3
<b>Total</b>	Lumens	3121.0	0.0	3121.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	82.9	2.7
10°-20°	157.7	5.1
20°-30°	225.0	7.2
30°-40°	330.1	10.6
40°-50°	486.7	15.6
50°-60°	721.0	23.1
60°-70°	768.3	24.6
70°-80°	318.7	10.2
80°-90°	30.6	1.0
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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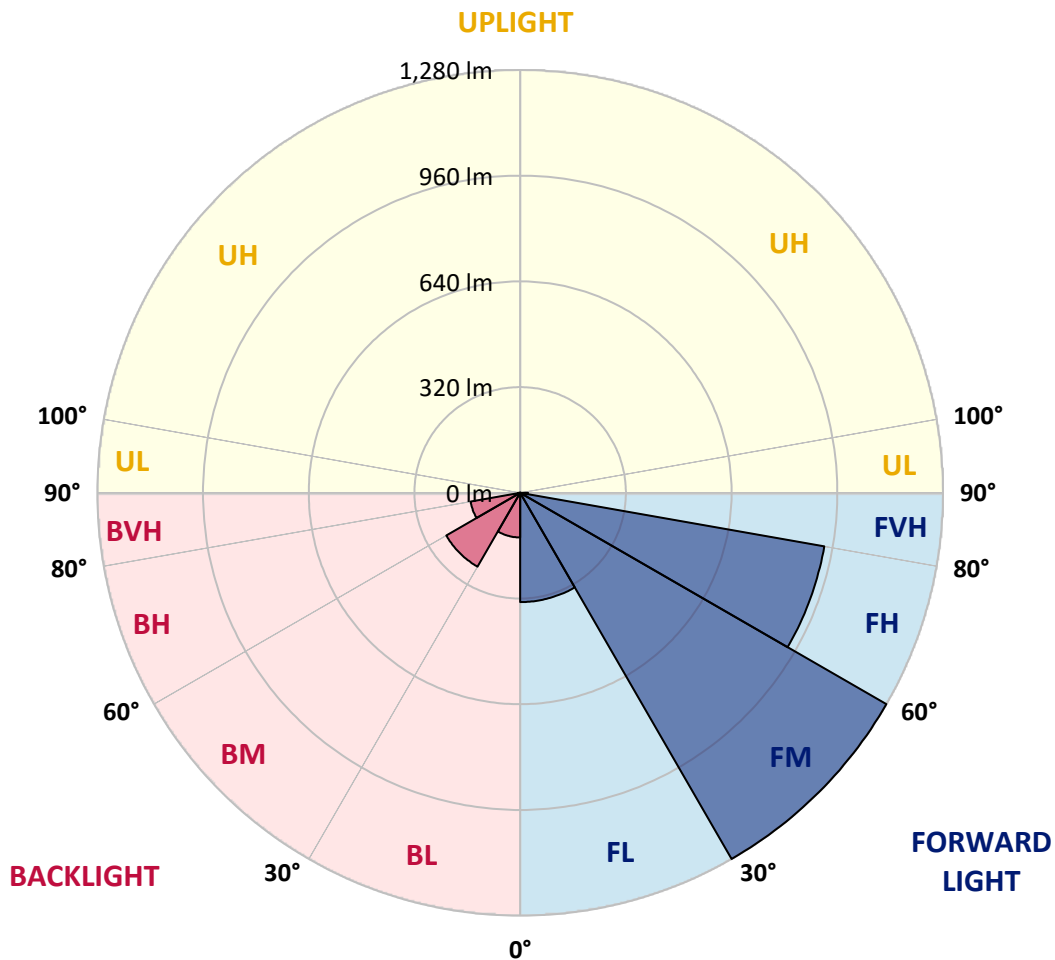
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**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	330.6	10.6			
FM	(30°-60°)	1279.6	41.0			
FH	(60°-80°)	934.6	29.9			G1/1800
FVH	(80°-90°)	23.5	0.8			G1/100
BL	(0°-30°)	135.1	4.3	B1/500		
BM	(30°-60°)	258.0	8.3	B1/1000		
BH	(60°-80°)	152.4	4.9	B1/500		G1/500
BVH	(80°-90°)	7.2	0.2			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 III Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2
2.5°	1151.2	1149.4	1165.9	1200.1	1221.4	1234.4	1236.7	1250.3	1236.7	1229.6	1204.3
5°	1117.5	1116.9	1148.8	1223.7	1285.1	1331.1	1353.6	1338.2	1314.6	1268.0	1211.4
7.5°	1024.3	1024.3	1084.5	1184.8	1287.5	1367.1	1394.3	1365.9	1309.9	1216.1	1114.6
10°	948.2	955.3	1013.1	1132.9	1246.8	1334.1	1364.2	1342.3	1269.2	1147.6	1028.4
12.5°	902.8	906.9	971.2	1091.6	1197.8	1268.6	1286.9	1280.4	1227.3	1095.1	968.8
15°	906.9	912.8	986.5	1085.1	1154.1	1182.4	1188.9	1197.2	1175.4	1073.9	949.4
17.5°	971.8	975.9	1050.3	1114.0	1111.0	1102.2	1104.6	1118.1	1144.1	1091.6	988.9
20°	1075.6	1086.3	1161.2	1162.4	1088.6	1047.3	1036.7	1059.1	1129.3	1138.2	1073.3
22.5°	1209.0	1213.1	1289.2	1243.8	1091.0	1009.6	997.2	1022.5	1134.1	1213.7	1190.1
25°	1363.6	1378.3	1419.6	1349.4	1125.2	1004.2	996.0	1017.2	1151.2	1294.0	1310.5
27.5°	1468.0	1479.8	1519.4	1421.4	1155.9	1007.2	991.9	1017.8	1171.8	1369.5	1439.1
30°	1561.2	1569.5	1584.3	1459.2	1190.7	1022.0	997.2	1034.3	1183.0	1385.4	1522.3
32.5°	1649.2	1659.2	1650.3	1504.6	1229.1	1049.7	1007.2	1069.2	1207.2	1417.3	1594.9
35°	1762.5	1763.0	1732.9	1550.0	1272.7	1082.7	1036.7	1118.7	1254.4	1466.8	1672.8
37.5°	1897.0	1898.2	1822.0	1596.6	1322.3	1138.2	1106.3	1195.4	1322.9	1524.1	1784.3
40°	2014.4	2019.1	1918.2	1650.3	1383.1	1246.2	1243.2	1317.0	1410.8	1600.2	1904.1
42.5°	2116.5	2130.0	2006.7	1695.2	1469.2	1412.0	1419.0	1486.3	1517.6	1663.9	1978.4
45°	2219.7	2219.1	2079.3	1740.0	1613.2	1625.6	1692.8	1689.9	1638.5	1698.1	2036.8
47.5°	2284.0	2281.1	2123.6	1813.2	1807.3	1925.9	1997.3	1958.3	1772.5	1734.7	2110.0
50°	2308.8	2307.6	2158.4	1906.4	2005.0	2197.9	2300.0	2222.1	1936.5	1796.1	2197.3
52.5°	2379.0	2373.1	2238.6	2012.6	2183.7	2459.9	2544.3	2457.5	2100.0	1906.4	2298.8
55°	2488.8	2490.6	2376.7	2137.1	2327.1	2644.6	2747.8	2670.5	2266.9	2058.1	2438.0
57.5°	2562.5	2567.9	2529.5	2275.8	2480.5	2773.8	2874.1	2852.3	2489.4	2239.2	2601.5
58°	2569.6	2573.8	2553.7	2302.3	2503.5	2788.5	2891.2	2875.9	2538.4	2297.0	2640.4
60°	2524.2	2536.6	2600.9	2448.7	2598.5	2819.8	2894.1	2907.7	2690.0	2484.7	2773.8
62.5°	2400.9	2405.0	2521.8	2612.7	2663.4	2742.5	2749.6	2785.0	2752.5	2704.7	2893.0
65°	2249.8	2249.8	2376.1	2620.4	2495.3	2482.3	2441.0	2476.4	2570.2	2842.8	2884.7
67.5°	1987.3	1989.0	2150.1	2334.2	2068.7	2023.8	1997.3	2010.3	2210.3	2727.8	2724.2
70°	1606.1	1604.9	1770.7	1889.9	1535.3	1496.9	1528.8	1524.7	1795.5	2423.9	2378.5
72.5°	1135.8	1145.9	1316.4	1459.8	1042.6	898.6	1039.1	1093.3	1350.6	2043.3	1840.3
75°	639.6	653.2	792.4	1014.3	657.9	607.7	679.7	757.0	976.5	1626.7	1236.1
77.5°	321.0	326.3	405.9	488.0	398.9	463.2	459.1	532.8	669.7	1097.5	706.9
80°	185.3	195.9	223.0	251.9	223.0	293.8	341.0	401.2	412.4	567.6	394.1
82.5°	74.3	83.2	104.4	118.6	92.6	87.3	59.6	187.6	248.4	274.4	151.1
85°	0.0	0.0	0.6	1.2	1.8	1.8	3.0	33.0	60.8	13.6	24.8
87.5°	0.0	0.0	0.6	0.6	1.2	1.8	2.4	4.1	5.3	6.5	22.4
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°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2
2.5°	1194.8	1188.3	1166.5	1133.5	1112.8	1081.0	1068.0	1037.9	1022.5	997.2	997.2
5°	1183.0	1156.5	1101.6	1030.2	979.5	926.4	909.3	873.9	848.5	818.4	806.0
7.5°	1075.6	1038.5	952.9	869.7	788.9	735.2	682.1	646.1	611.9	587.1	590.6
10°	977.1	924.0	830.2	724.6	640.8	584.7	536.9	495.0	459.6	424.8	419.5
12.5°	912.8	852.0	739.9	626.6	564.1	522.8	478.5	432.5	388.8	350.5	335.1
15°	885.7	819.6	694.5	587.7	530.4	477.3	426.0	369.4	319.2	273.2	260.8
17.5°	915.2	836.1	690.3	561.7	482.1	415.4	344.0	282.0	223.0	190.0	180.0
20°	995.4	892.7	703.9	535.8	428.4	342.2	254.9	184.7	151.6	131.6	125.1
22.5°	1111.6	986.5	726.9	510.4	374.1	254.9	175.8	133.3	113.9	103.3	100.3
25°	1237.9	1107.5	769.4	489.1	319.8	189.4	130.4	109.2	97.4	89.7	86.7
27.5°	1380.1	1227.3	821.3	473.2	269.6	151.6	112.1	96.2	86.7	81.4	79.1
30°	1469.2	1313.4	860.9	444.9	235.4	138.1	106.8	90.9	80.8	76.7	74.9
32.5°	1551.2	1381.3	898.6	412.4	209.5	122.1	103.8	95.6	83.8	75.5	72.0
35°	1641.5	1450.9	916.9	393.0	192.4	106.2	85.6	74.3	67.9	66.7	64.9
37.5°	1776.0	1533.5	928.7	382.3	181.7	96.8	79.7	67.3	59.6	52.5	49.6
40°	1903.5	1619.1	934.6	372.3	176.4	90.9	76.1	63.7	55.5	49.0	46.0
42.5°	2003.2	1697.0	938.2	365.2	167.0	87.3	73.2	61.4	52.5	46.0	43.1
45°	2084.6	1787.2	935.2	362.9	159.3	89.7	72.0	59.6	50.2	43.7	40.7
47.5°	2164.3	1885.2	946.4	359.9	151.6	86.1	72.6	59.0	48.4	41.9	38.9
50°	2268.7	2003.8	987.1	351.7	146.3	80.8	78.5	59.6	47.8	40.7	38.4
52.5°	2403.8	2167.8	1060.9	342.8	139.8	76.1	82.0	59.6	46.6	39.5	36.6
55°	2567.9	2351.9	1142.3	329.8	128.6	70.2	78.5	59.6	45.4	38.9	35.4
57.5°	2701.8	2515.9	1206.6	314.5	108.0	63.1	72.0	57.2	42.5	36.6	33.6
58°	2713.6	2534.8	1215.5	310.4	105.6	62.0	70.2	56.6	41.3	36.0	33.0
60°	2761.4	2565.5	1219.0	287.9	87.9	59.0	60.8	54.9	38.9	33.6	31.3
62.5°	2744.9	2464.0	1144.1	248.4	78.5	53.7	50.7	56.1	36.0	30.7	28.3
65°	2662.9	2264.6	1002.5	222.4	79.1	47.8	43.7	49.0	33.0	27.7	25.4
67.5°	2467.5	1961.9	814.3	208.3	82.6	42.5	37.8	36.6	29.5	24.8	23.0
70°	2104.7	1607.9	617.2	195.9	87.3	37.8	34.8	32.5	27.1	23.0	20.7
72.5°	1550.0	1190.7	449.0	183.5	85.0	33.6	32.5	29.5	24.8	20.7	19.5
75°	967.1	691.5	307.4	149.9	76.1	29.5	30.1	27.7	22.4	19.5	17.7
77.5°	564.7	485.6	151.6	111.5	52.5	26.0	26.6	25.4	23.0	18.3	17.1
80°	338.1	302.1	64.9	47.8	28.9	23.0	22.4	23.6	21.8	17.1	15.9
82.5°	146.3	131.0	31.3	26.6	23.6	20.1	19.5	20.1	18.9	14.2	13.6
85°	8.3	21.8	14.8	19.5	17.7	14.8	14.8	15.3	13.6	11.2	11.2
87.5°	7.7	16.5	9.4	11.8	13.0	11.2	11.8	11.8	11.2	10.0	9.4
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°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2
2.5°	983.6	977.1	957.6	950.6	919.9	927.5	929.9	927.0	928.1	930.5	939.3
5°	814.8	804.2	778.9	762.3	753.5	747.6	719.8	720.4	724.6	708.6	729.3
7.5°	578.8	590.6	593.0	577.6	568.2	548.1	522.8	508.6	484.4	498.0	500.9
10°	414.2	408.3	419.5	414.2	399.5	391.8	364.6	362.3	359.9	358.2	375.3
12.5°	315.7	298.0	285.0	287.9	276.7	257.8	253.1	253.7	256.1	256.1	260.8
15°	250.2	223.0	202.4	190.0	191.8	172.9	167.6	149.9	147.5	142.2	143.4
17.5°	175.2	164.0	151.6	137.5	131.6	114.5	93.8	84.4	77.3	78.5	82.0
20°	121.0	116.2	112.7	105.6	99.7	79.7	66.7	62.5	62.0	63.1	64.3
22.5°	97.4	92.6	89.1	86.7	79.1	64.3	57.2	54.3	54.3	54.3	54.9
25°	83.8	79.1	74.3	74.3	67.3	56.1	50.7	48.4	47.8	47.2	48.4
27.5°	77.9	71.4	66.7	63.7	58.4	49.6	44.8	42.5	41.9	41.9	42.5
30°	72.0	65.5	60.8	56.6	50.7	44.3	39.5	37.8	36.6	36.6	37.2
32.5°	68.4	62.0	56.1	50.7	44.3	38.9	34.8	32.5	31.3	31.9	32.5
35°	60.8	55.5	50.2	44.8	38.9	34.2	30.1	27.7	27.1	27.1	27.7
37.5°	47.8	43.7	42.5	39.5	34.2	29.5	25.4	23.0	22.4	22.4	23.0
40°	43.1	37.8	35.4	34.2	31.3	25.4	20.7	18.3	18.3	17.7	18.9
42.5°	39.5	34.2	30.1	28.9	27.1	21.8	16.5	14.8	14.2	14.2	14.8
45°	37.2	31.3	26.0	23.0	23.0	17.7	13.6	11.2	10.6	10.6	11.2
47.5°	36.0	29.5	23.0	18.9	18.3	14.8	10.6	8.3	7.7	7.7	7.7
50°	34.8	27.1	20.7	15.9	14.2	12.4	8.3	6.5	5.9	5.9	5.9
52.5°	33.0	26.0	18.9	14.2	11.2	9.4	6.5	4.7	4.1	3.5	4.1
55°	31.9	24.2	18.3	13.0	9.4	7.1	4.7	3.5	3.0	3.0	3.0
57.5°	30.1	22.4	16.5	12.4	8.9	5.3	3.5	2.4	1.8	1.8	2.4
58°	29.5	22.4	15.9	11.8	8.3	5.3	3.5	2.4	1.8	1.8	2.4
60°	27.7	20.7	15.3	10.6	7.7	4.7	3.0	1.8	1.2	1.2	1.8
62.5°	26.0	18.9	13.6	9.4	6.5	4.1	2.4	1.2	0.6	0.6	0.6
65°	23.0	17.1	11.8	8.9	5.3	3.0	1.8	0.6	0.0	0.0	0.0
67.5°	20.7	15.9	10.6	7.7	4.7	2.4	1.2	0.0	0.0	0.0	0.0
70°	18.9	14.8	9.4	6.5	4.1	1.8	0.6	0.0	0.0	0.0	0.0
72.5°	17.7	13.6	8.9	5.9	3.0	1.8	0.6	0.0	0.0	0.0	0.0
75°	17.1	13.0	8.9	5.3	3.0	1.8	1.2	0.6	0.0	0.0	0.6
77.5°	16.5	13.0	8.9	5.3	3.5	1.8	1.8	1.2	1.2	0.6	1.8
80°	15.3	11.8	7.7	4.7	3.0	2.4	1.8	1.2	0.0	0.0	0.0
82.5°	13.0	9.4	6.5	4.7	3.0	1.8	0.6	0.0	0.0	0.0	0.0
85°	10.6	7.7	5.3	3.0	1.8	0.6	0.0	0.0	0.0	0.0	0.0
87.5°	9.4	5.9	4.1	2.4	1.2	0.6	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°	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2	1102.2
2.5°	947.0	974.2	985.4	1023.1	1039.7	1073.9	1103.4	1128.7	1141.1	1151.2
5°	734.6	760.6	788.3	844.3	892.7	944.7	1009.6	1076.8	1096.3	1117.5
7.5°	512.7	551.1	597.7	647.9	716.9	795.4	888.6	971.8	1013.7	1024.3
10°	398.3	443.7	493.3	542.8	600.1	683.9	777.7	885.1	929.9	948.2
12.5°	299.2	359.9	418.9	477.3	526.9	599.5	701.6	829.6	879.2	902.8
15°	180.0	248.4	321.0	399.5	468.5	553.5	668.5	817.8	880.3	906.9
17.5°	89.7	122.7	189.4	307.4	409.5	515.1	667.9	860.3	937.6	971.8
20°	66.7	75.5	100.9	191.8	340.5	483.2	675.0	932.9	1046.7	1075.6
22.5°	57.2	63.7	72.6	112.1	254.9	453.7	699.8	1029.0	1170.6	1209.0
25°	50.2	55.5	62.5	77.3	174.7	418.9	746.4	1164.7	1311.1	1363.6
27.5°	44.3	49.0	54.9	64.9	116.8	353.4	773.0	1278.6	1424.4	1468.0
30°	38.9	42.5	48.4	55.5	86.1	273.2	797.7	1378.9	1527.0	1561.2
32.5°	34.2	37.2	41.9	47.2	65.5	207.1	798.9	1465.1	1616.7	1649.2
35°	28.9	32.5	36.0	40.7	51.9	161.7	774.7	1550.6	1722.9	1762.5
37.5°	24.2	27.1	31.3	35.4	47.2	125.1	724.6	1650.9	1852.1	1897.0
40°	20.7	23.6	27.1	31.9	41.9	90.9	644.3	1741.8	1973.1	2014.4
42.5°	16.5	19.5	23.6	31.3	34.8	65.5	563.5	1829.1	2078.1	2116.5
45°	13.0	16.5	21.8	30.1	28.9	46.0	493.9	1906.4	2168.4	2219.7
47.5°	9.4	13.6	21.8	27.1	23.6	33.0	458.5	1980.8	2249.2	2284.0
50°	7.1	11.2	23.6	23.0	20.1	28.3	463.8	2063.4	2286.4	2308.8
52.5°	5.3	9.4	18.3	16.5	17.1	24.8	484.4	2172.5	2363.1	2379.0
55°	4.7	7.1	11.2	12.4	15.3	23.6	479.1	2275.8	2461.1	2488.8
57.5°	4.1	5.9	8.9	10.0	13.6	22.4	449.0	2321.2	2524.2	2562.5
58°	3.5	5.9	8.3	10.0	13.6	21.8	441.4	2308.8	2521.2	2569.6
60°	3.0	5.3	7.7	8.9	11.8	19.5	404.2	2203.8	2456.3	2524.2
62.5°	2.4	3.5	5.9	6.5	9.4	15.9	332.8	2033.9	2317.1	2400.9
65°	1.2	2.4	3.5	4.7	6.5	11.8	236.6	1832.7	2167.8	2249.8
67.5°	0.0	1.2	2.4	3.0	4.1	8.9	136.3	1555.3	1922.4	1987.3
70°	0.0	0.6	1.2	1.8	2.4	5.9	72.0	1141.7	1489.3	1606.1
72.5°	0.6	0.6	0.6	0.0	1.2	4.7	31.9	677.4	1015.5	1135.8
75°	0.6	0.6	0.0	0.0	0.0	2.4	13.6	357.0	582.4	639.6
77.5°	2.4	1.2	0.0	0.0	0.0	0.6	6.5	192.4	302.1	321.0
80°	0.6	0.0	0.0	0.0	0.0	0.0	2.4	64.3	181.1	185.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	77.9	74.3
85°	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
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)