

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: P401437

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

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401437
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-727-U-SLL-HSS
Description: ENTRI LED LUMINAIRE
(1) 70 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: 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 III - Short - Semi-Cutoff
BUG Rating: B1 - U0 - G1

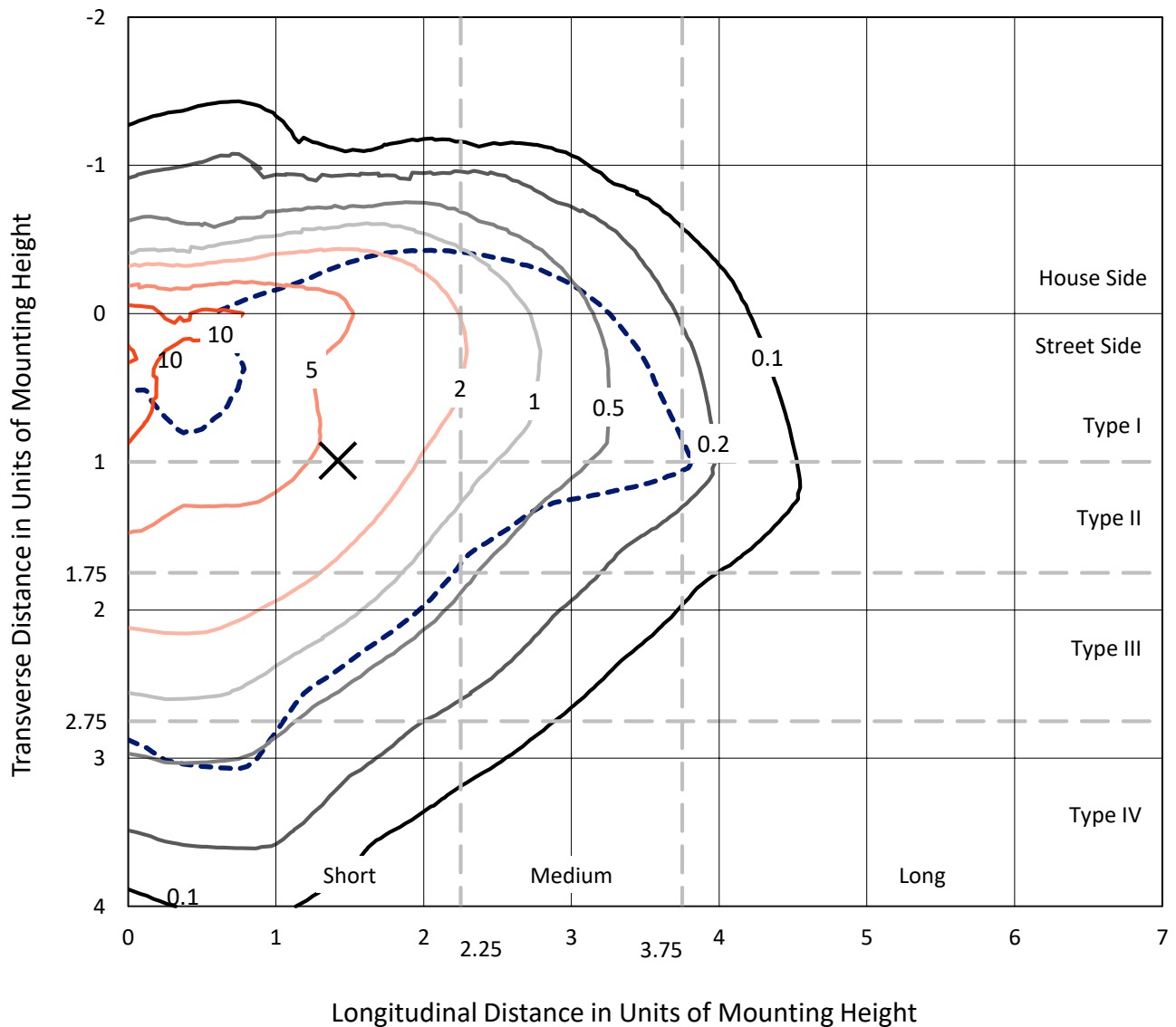
Input Watts (W): 43.1
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Iso-Footcandle Lines of Horizontal Illumination

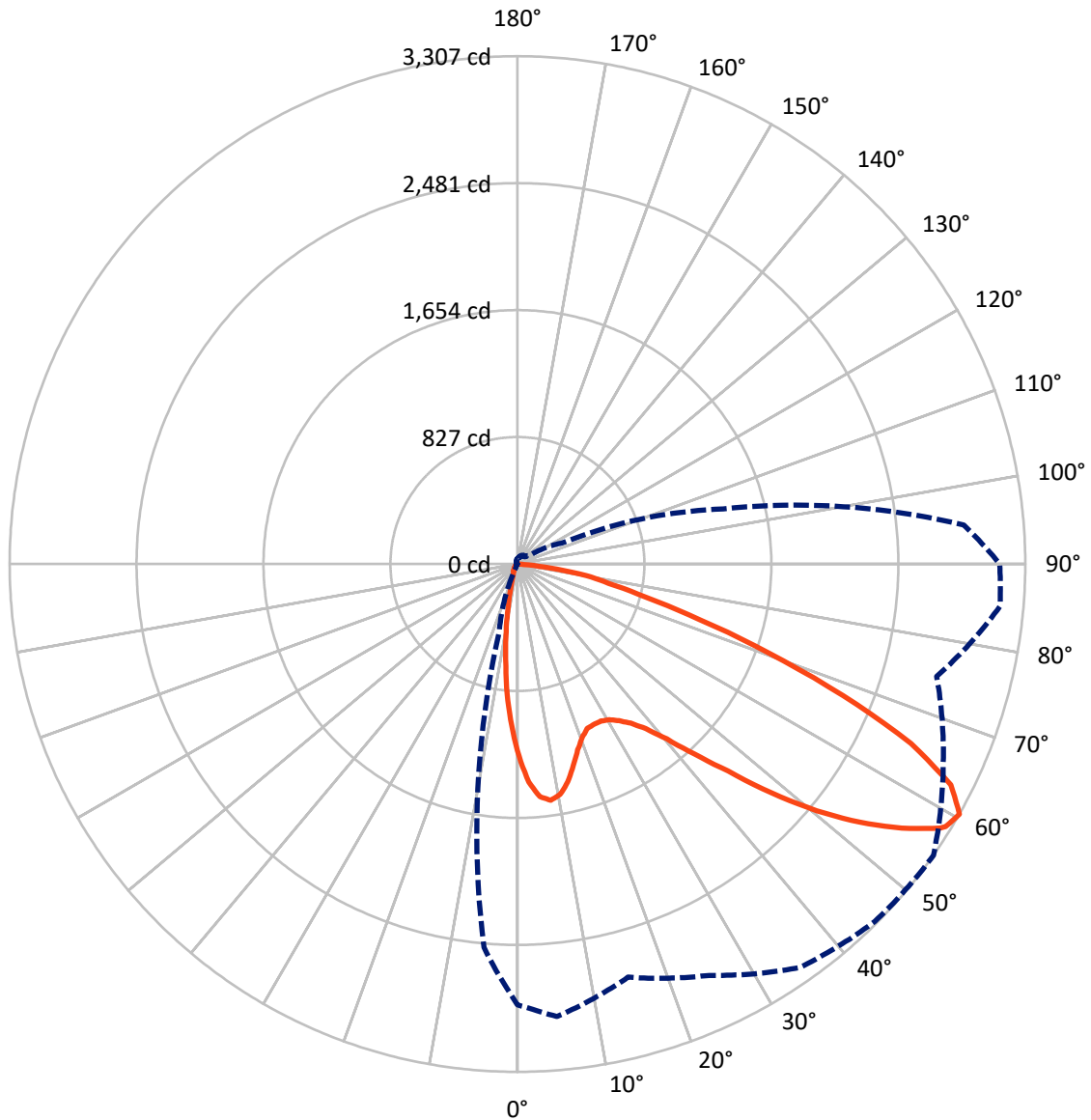
✕ Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 14.8 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
House Side	Lumens	628.7	0.0	628.7
	% Fixture	17.7	0.0	17.7
Street Side	Lumens	2921.3	0.0	2921.3
	% Fixture	82.3	0.0	82.3
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°	94.3	2.7
10°-20°	179.4	5.1
20°-30°	256.0	7.2
30°-40°	375.4	10.6
40°-50°	553.6	15.6
50°-60°	820.1	23.1
60°-70°	873.9	24.6
70°-80°	362.5	10.2
80°-90°	34.8	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°	3550.0	100.0
0°-180°	3550.0	100.0



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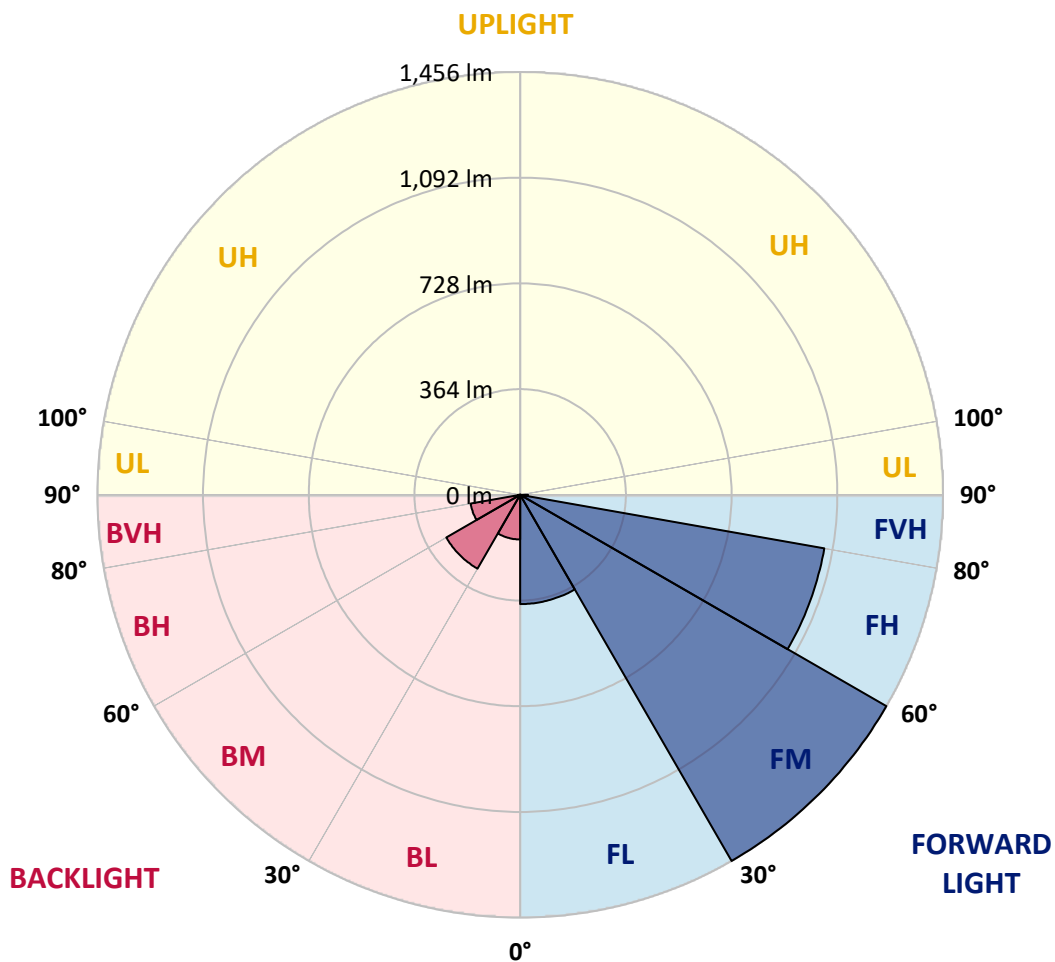
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	376.0	10.6			
FM	(30°-60°)	1455.5	41.0			
FH	(60°-80°)	1063.1	29.9			G1/1800
FVH	(80°-90°)	26.7	0.8			G1/100
BL	(0°-30°)	153.7	4.3	B1/500		
BM	(30°-60°)	293.5	8.3	B1/1000		
BH	(60°-80°)	173.3	4.9	B1/500		G1/500
BVH	(80°-90°)	8.2	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°	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7
2.5°	1309.4	1307.4	1326.2	1365.1	1389.3	1404.0	1406.7	1422.2	1406.7	1398.7	1369.8
5°	1271.1	1270.5	1306.7	1392.0	1461.8	1514.1	1539.6	1522.2	1495.3	1442.3	1377.9
7.5°	1165.1	1165.1	1233.6	1347.7	1464.4	1555.0	1585.9	1553.7	1489.9	1383.2	1267.8
10°	1078.5	1086.6	1152.4	1288.6	1418.1	1517.5	1551.7	1526.9	1443.6	1305.4	1169.8
12.5°	1026.9	1031.6	1104.7	1241.6	1362.4	1443.0	1463.8	1456.4	1396.0	1245.6	1102.0
15°	1031.6	1038.3	1122.2	1234.2	1312.8	1345.0	1352.4	1361.8	1336.9	1221.5	1079.9
17.5°	1105.4	1110.1	1194.6	1267.1	1263.8	1253.7	1256.4	1271.8	1301.4	1241.6	1124.8
20°	1223.5	1235.6	1320.8	1322.2	1238.3	1191.3	1179.2	1204.7	1284.6	1294.6	1220.8
22.5°	1375.2	1379.9	1466.5	1414.8	1240.9	1148.3	1134.2	1163.1	1289.9	1380.5	1353.7
25°	1551.0	1567.8	1614.8	1534.9	1279.9	1142.3	1132.9	1157.1	1309.4	1471.8	1490.6
27.5°	1669.8	1683.2	1728.2	1616.8	1314.8	1145.6	1128.2	1157.7	1332.9	1557.7	1636.9
30°	1775.9	1785.2	1802.0	1659.7	1354.4	1162.4	1134.2	1176.5	1345.6	1575.8	1731.6
32.5°	1875.9	1887.3	1877.2	1711.4	1398.0	1194.0	1145.6	1216.1	1373.2	1612.1	1814.1
35°	2004.7	2005.4	1971.2	1763.1	1447.7	1231.6	1179.2	1272.5	1426.9	1668.5	1902.7
37.5°	2157.7	2159.1	2072.5	1816.1	1504.0	1294.6	1258.4	1359.7	1504.7	1733.6	2029.5
40°	2291.3	2296.7	2181.9	1877.2	1573.2	1417.5	1414.1	1498.0	1604.7	1820.1	2165.8
42.5°	2407.4	2422.8	2282.6	1928.2	1671.2	1606.1	1614.1	1690.6	1726.2	1892.6	2250.3
45°	2524.8	2524.2	2365.1	1979.2	1834.9	1849.0	1925.5	1922.2	1863.8	1931.6	2316.8
47.5°	2598.0	2594.6	2415.5	2062.4	2055.7	2190.6	2271.8	2227.5	2016.1	1973.2	2400.0
50°	2626.2	2624.8	2455.0	2168.5	2280.6	2500.0	2616.1	2527.5	2202.7	2043.0	2499.3
52.5°	2706.1	2699.3	2546.3	2289.3	2483.9	2798.0	2894.0	2795.3	2388.6	2168.5	2614.8
55°	2830.9	2832.9	2703.4	2430.9	2647.0	3008.1	3125.5	3037.6	2578.5	2341.0	2773.2
57.5°	2914.8	2920.8	2877.2	2588.6	2821.5	3155.1	3269.1	3244.3	2831.6	2547.0	2959.1
58°	2922.8	2927.5	2904.7	2618.8	2847.7	3171.8	3288.6	3271.2	2887.3	2612.8	3003.4
60°	2871.2	2885.3	2958.4	2785.3	2955.7	3207.4	3292.0	3307.4	3059.8	2826.2	3155.1
62.5°	2730.9	2735.6	2868.5	2971.8	3029.5	3119.5	3127.5	3167.8	3130.9	3076.5	3290.6
65°	2559.1	2559.1	2702.7	2980.6	2838.3	2823.5	2776.5	2816.8	2923.5	3233.6	3281.2
67.5°	2260.4	2262.4	2445.7	2655.1	2353.0	2302.0	2271.8	2286.6	2514.1	3102.7	3098.7
70°	1826.9	1825.5	2014.1	2149.7	1746.3	1702.7	1738.9	1734.2	2042.3	2757.1	2705.4
72.5°	1292.0	1303.4	1497.3	1660.4	1185.9	1022.2	1181.9	1243.6	1536.3	2324.2	2093.3
75°	727.5	743.0	901.3	1153.7	748.3	691.3	773.2	861.1	1110.7	1850.3	1406.0
77.5°	365.1	371.1	461.7	555.0	453.7	526.8	522.2	606.0	761.7	1248.3	804.0
80°	210.7	222.8	253.7	286.6	253.7	334.2	387.9	456.4	469.1	645.6	448.3
82.5°	84.6	94.6	118.8	134.9	105.4	99.3	67.8	213.4	282.6	312.1	171.8
85°	0.0	0.0	0.7	1.3	2.0	2.0	3.4	37.6	69.1	15.4	28.2
87.5°	0.0	0.0	0.7	0.7	1.3	2.0	2.7	4.7	6.0	7.4	25.5
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°	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7
2.5°	1359.1	1351.7	1326.9	1289.3	1265.8	1229.5	1214.8	1180.5	1163.1	1134.2	1134.2
5°	1345.6	1315.4	1253.0	1171.8	1114.1	1053.7	1034.2	994.0	965.1	930.9	916.8
7.5°	1223.5	1181.2	1083.9	989.3	897.3	836.2	775.8	734.9	696.0	667.8	671.8
10°	1111.4	1051.0	944.3	824.2	728.9	665.1	610.7	563.1	522.8	483.2	477.2
12.5°	1038.3	969.1	841.6	712.8	641.6	594.6	544.3	491.9	442.3	398.7	381.2
15°	1007.4	932.2	789.9	668.5	603.4	543.0	484.6	420.1	363.1	310.7	296.6
17.5°	1040.9	951.0	785.2	638.9	548.3	472.5	391.3	320.8	253.7	216.1	204.7
20°	1132.2	1015.4	800.7	609.4	487.3	389.3	289.9	210.1	172.5	149.7	142.3
22.5°	1264.4	1122.2	826.9	580.5	425.5	289.9	200.0	151.7	129.5	117.5	114.1
25°	1408.1	1259.7	875.2	556.4	363.8	215.4	148.3	124.2	110.7	102.0	98.7
27.5°	1569.8	1396.0	934.2	538.3	306.7	172.5	127.5	109.4	98.7	92.6	89.9
30°	1671.2	1494.0	979.2	506.0	267.8	157.0	121.5	103.4	91.9	87.2	85.2
32.5°	1764.4	1571.2	1022.2	469.1	238.3	138.9	118.1	108.7	95.3	85.9	81.9
35°	1867.1	1650.3	1043.0	447.0	218.8	120.8	97.3	84.6	77.2	75.8	73.8
37.5°	2020.1	1744.3	1056.4	434.9	206.7	110.1	90.6	76.5	67.8	59.7	56.4
40°	2165.1	1841.6	1063.1	423.5	200.7	103.4	86.6	72.5	63.1	55.7	52.3
42.5°	2278.5	1930.2	1067.1	415.4	189.9	99.3	83.2	69.8	59.7	52.3	49.0
45°	2371.2	2032.9	1063.8	412.8	181.2	102.0	81.9	67.8	57.0	49.7	46.3
47.5°	2461.8	2144.3	1076.5	409.4	172.5	98.0	82.6	67.1	55.0	47.7	44.3
50°	2580.6	2279.2	1122.8	400.0	166.4	91.9	89.3	67.8	54.4	46.3	43.6
52.5°	2734.2	2465.8	1206.7	389.9	159.1	86.6	93.3	67.8	53.0	45.0	41.6
55°	2920.8	2675.2	1299.3	375.2	146.3	79.9	89.3	67.8	51.7	44.3	40.3
57.5°	3073.2	2861.8	1372.5	357.7	122.8	71.8	81.9	65.1	48.3	41.6	38.3
58°	3086.6	2883.2	1382.6	353.0	120.1	70.5	79.9	64.4	47.0	40.9	37.6
60°	3141.0	2918.1	1386.6	327.5	100.0	67.1	69.1	62.4	44.3	38.3	35.6
62.5°	3122.2	2802.7	1301.4	282.6	89.3	61.1	57.7	63.8	40.9	34.9	32.2
65°	3028.9	2575.9	1140.3	253.0	89.9	54.4	49.7	55.7	37.6	31.5	28.9
67.5°	2806.7	2231.6	926.2	236.9	94.0	48.3	43.0	41.6	33.6	28.2	26.2
70°	2394.0	1828.9	702.0	222.8	99.3	43.0	39.6	36.9	30.9	26.2	23.5
72.5°	1763.1	1354.4	510.7	208.7	96.6	38.3	36.9	33.6	28.2	23.5	22.1
75°	1100.0	786.6	349.7	170.5	86.6	33.6	34.2	31.5	25.5	22.1	20.1
77.5°	642.3	552.4	172.5	126.8	59.7	29.5	30.2	28.9	26.2	20.8	19.5
80°	384.6	343.6	73.8	54.4	32.9	26.2	25.5	26.8	24.8	19.5	18.1
82.5°	166.4	149.0	35.6	30.2	26.8	22.8	22.1	22.8	21.5	16.1	15.4
85°	9.4	24.8	16.8	22.1	20.1	16.8	16.8	17.4	15.4	12.8	12.8
87.5°	8.7	18.8	10.7	13.4	14.8	12.8	13.4	13.4	12.8	11.4	10.7
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°	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7
2.5°	1118.8	1111.4	1089.3	1081.2	1046.3	1055.0	1057.7	1054.4	1055.7	1058.4	1068.5
5°	926.9	914.8	885.9	867.1	857.1	850.3	818.8	819.5	824.2	806.0	829.5
7.5°	658.4	671.8	674.5	657.1	646.3	623.5	594.6	578.5	551.0	566.4	569.8
10°	471.1	464.4	477.2	471.1	454.4	445.6	414.8	412.1	409.4	407.4	426.8
12.5°	359.1	338.9	324.2	327.5	314.8	293.3	287.9	288.6	291.3	291.3	296.6
15°	284.6	253.7	230.2	216.1	218.1	196.6	190.6	170.5	167.8	161.7	163.1
17.5°	199.3	186.6	172.5	156.4	149.7	130.2	106.7	96.0	87.9	89.3	93.3
20°	137.6	132.2	128.2	120.1	113.4	90.6	75.8	71.1	70.5	71.8	73.2
22.5°	110.7	105.4	101.3	98.7	89.9	73.2	65.1	61.7	61.7	61.7	62.4
25°	95.3	89.9	84.6	84.6	76.5	63.8	57.7	55.0	54.4	53.7	55.0
27.5°	88.6	81.2	75.8	72.5	66.4	56.4	51.0	48.3	47.7	47.7	48.3
30°	81.9	74.5	69.1	64.4	57.7	50.3	45.0	43.0	41.6	41.6	42.3
32.5°	77.9	70.5	63.8	57.7	50.3	44.3	39.6	36.9	35.6	36.2	36.9
35°	69.1	63.1	57.0	51.0	44.3	38.9	34.2	31.5	30.9	30.9	31.5
37.5°	54.4	49.7	48.3	45.0	38.9	33.6	28.9	26.2	25.5	25.5	26.2
40°	49.0	43.0	40.3	38.9	35.6	28.9	23.5	20.8	20.8	20.1	21.5
42.5°	45.0	38.9	34.2	32.9	30.9	24.8	18.8	16.8	16.1	16.1	16.8
45°	42.3	35.6	29.5	26.2	26.2	20.1	15.4	12.8	12.1	12.1	12.8
47.5°	40.9	33.6	26.2	21.5	20.8	16.8	12.1	9.4	8.7	8.7	8.7
50°	39.6	30.9	23.5	18.1	16.1	14.1	9.4	7.4	6.7	6.7	6.7
52.5°	37.6	29.5	21.5	16.1	12.8	10.7	7.4	5.4	4.7	4.0	4.7
55°	36.2	27.5	20.8	14.8	10.7	8.1	5.4	4.0	3.4	3.4	3.4
57.5°	34.2	25.5	18.8	14.1	10.1	6.0	4.0	2.7	2.0	2.0	2.7
58°	33.6	25.5	18.1	13.4	9.4	6.0	4.0	2.7	2.0	2.0	2.7
60°	31.5	23.5	17.4	12.1	8.7	5.4	3.4	2.0	1.3	1.3	2.0
62.5°	29.5	21.5	15.4	10.7	7.4	4.7	2.7	1.3	0.7	0.7	0.7
65°	26.2	19.5	13.4	10.1	6.0	3.4	2.0	0.7	0.0	0.0	0.0
67.5°	23.5	18.1	12.1	8.7	5.4	2.7	1.3	0.0	0.0	0.0	0.0
70°	21.5	16.8	10.7	7.4	4.7	2.0	0.7	0.0	0.0	0.0	0.0
72.5°	20.1	15.4	10.1	6.7	3.4	2.0	0.7	0.0	0.0	0.0	0.0
75°	19.5	14.8	10.1	6.0	3.4	2.0	1.3	0.7	0.0	0.0	0.7
77.5°	18.8	14.8	10.1	6.0	4.0	2.0	2.0	1.3	1.3	0.7	2.0
80°	17.4	13.4	8.7	5.4	3.4	2.7	2.0	1.3	0.0	0.0	0.0
82.5°	14.8	10.7	7.4	5.4	3.4	2.0	0.7	0.0	0.0	0.0	0.0
85°	12.1	8.7	6.0	3.4	2.0	0.7	0.0	0.0	0.0	0.0	0.0
87.5°	10.7	6.7	4.7	2.7	1.3	0.7	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°	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7	1253.7
2.5°	1077.2	1108.1	1120.8	1163.8	1182.6	1221.5	1255.0	1283.9	1298.0	1309.4
5°	835.6	865.1	896.6	960.4	1015.4	1074.5	1148.3	1224.8	1247.0	1271.1
7.5°	583.2	626.8	679.9	736.9	815.4	904.7	1010.7	1105.4	1153.0	1165.1
10°	453.0	504.7	561.1	617.5	682.6	777.9	884.6	1006.7	1057.7	1078.5
12.5°	340.3	409.4	476.5	543.0	599.3	681.9	798.0	943.6	1000.0	1026.9
15°	204.7	282.6	365.1	454.4	532.9	629.5	760.4	930.2	1001.3	1031.6
17.5°	102.0	139.6	215.4	349.7	465.8	585.9	759.7	978.5	1066.4	1105.4
20°	75.8	85.9	114.8	218.1	387.3	549.7	767.8	1061.1	1190.6	1223.5
22.5°	65.1	72.5	82.6	127.5	289.9	516.1	796.0	1170.5	1331.6	1375.2
25°	57.0	63.1	71.1	87.9	198.7	476.5	849.0	1324.8	1491.3	1551.0
27.5°	50.3	55.7	62.4	73.8	132.9	402.0	879.2	1454.4	1620.1	1669.8
30°	44.3	48.3	55.0	63.1	98.0	310.7	907.4	1568.5	1736.9	1775.9
32.5°	38.9	42.3	47.7	53.7	74.5	235.6	908.7	1666.5	1838.9	1875.9
35°	32.9	36.9	40.9	46.3	59.1	183.9	881.2	1763.8	1959.7	2004.7
37.5°	27.5	30.9	35.6	40.3	53.7	142.3	824.2	1877.9	2106.7	2157.7
40°	23.5	26.8	30.9	36.2	47.7	103.4	732.9	1981.2	2244.3	2291.3
42.5°	18.8	22.1	26.8	35.6	39.6	74.5	640.9	2080.5	2363.8	2407.4
45°	14.8	18.8	24.8	34.2	32.9	52.3	561.7	2168.5	2466.5	2524.8
47.5°	10.7	15.4	24.8	30.9	26.8	37.6	521.5	2253.0	2558.4	2598.0
50°	8.1	12.8	26.8	26.2	22.8	32.2	527.5	2347.0	2600.7	2626.2
52.5°	6.0	10.7	20.8	18.8	19.5	28.2	551.0	2471.2	2687.9	2706.1
55°	5.4	8.1	12.8	14.1	17.4	26.8	545.0	2588.6	2799.3	2830.9
57.5°	4.7	6.7	10.1	11.4	15.4	25.5	510.7	2640.3	2871.2	2914.8
58°	4.0	6.7	9.4	11.4	15.4	24.8	502.0	2626.2	2867.8	2922.8
60°	3.4	6.0	8.7	10.1	13.4	22.1	459.7	2506.7	2794.0	2871.2
62.5°	2.7	4.0	6.7	7.4	10.7	18.1	378.5	2313.4	2635.6	2730.9
65°	1.3	2.7	4.0	5.4	7.4	13.4	269.1	2084.6	2465.8	2559.1
67.5°	0.0	1.3	2.7	3.4	4.7	10.1	155.0	1769.1	2186.6	2260.4
70°	0.0	0.7	1.3	2.0	2.7	6.7	81.9	1298.7	1694.0	1826.9
72.5°	0.7	0.7	0.7	0.0	1.3	5.4	36.2	770.5	1155.0	1292.0
75°	0.7	0.7	0.0	0.0	0.0	2.7	15.4	406.0	662.4	727.5
77.5°	2.7	1.3	0.0	0.0	0.0	0.7	7.4	218.8	343.6	365.1
80°	0.7	0.0	0.0	0.0	0.0	0.0	2.7	73.2	206.0	210.7
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.3	88.6	84.6
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)