

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: P401502

Luminaire Tested: **ENT-SA1D-740-U-SLR-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401502
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-740-U-SLR-HSS
Description: ENTRI LED LUMINAIRE
(1) 70 CRI, 4000K, 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: 4245 lumens
Efficiency: N/A
Efficacy: 98.5 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

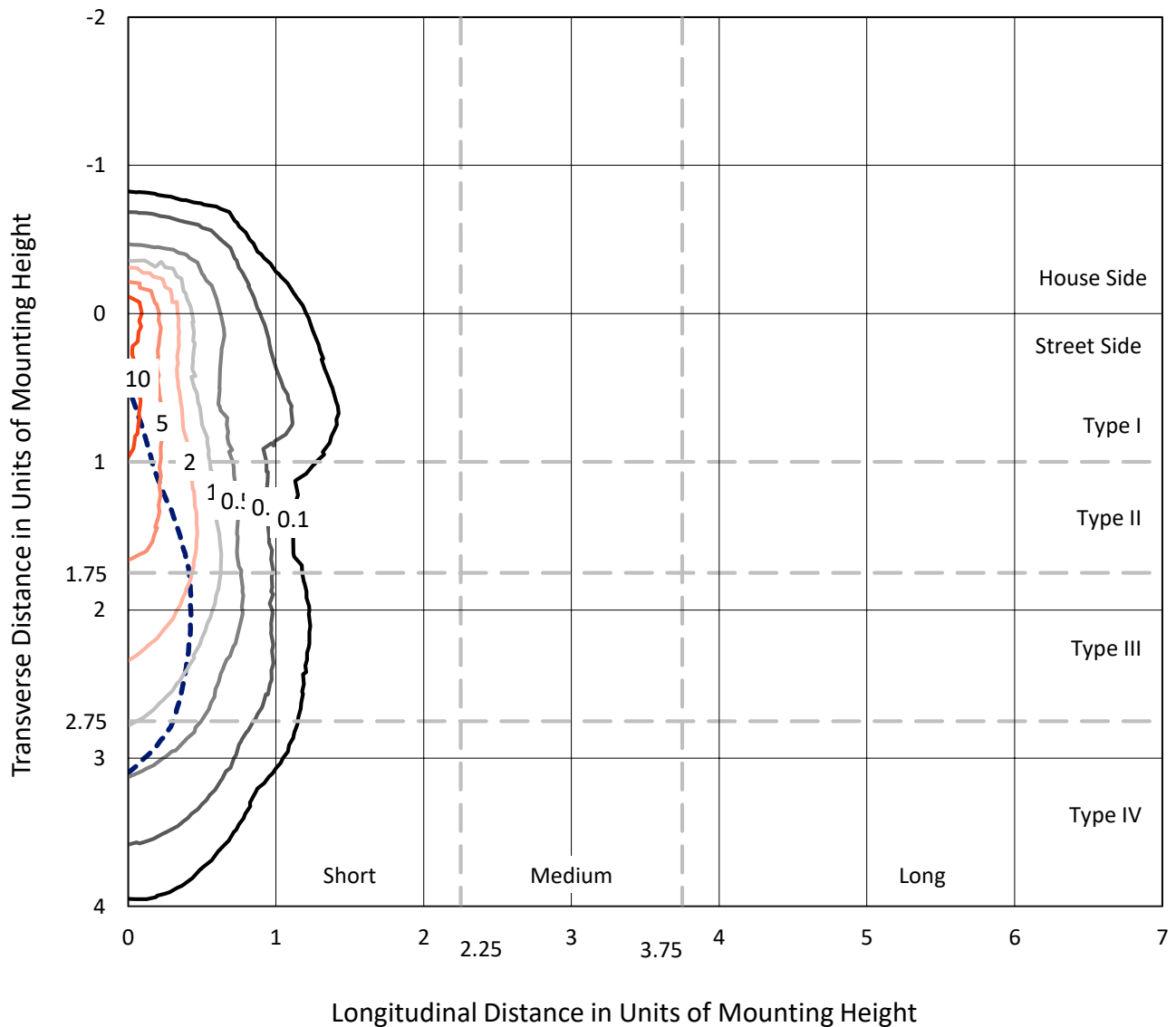


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Iso-Footcandle Lines of Horizontal Illumination

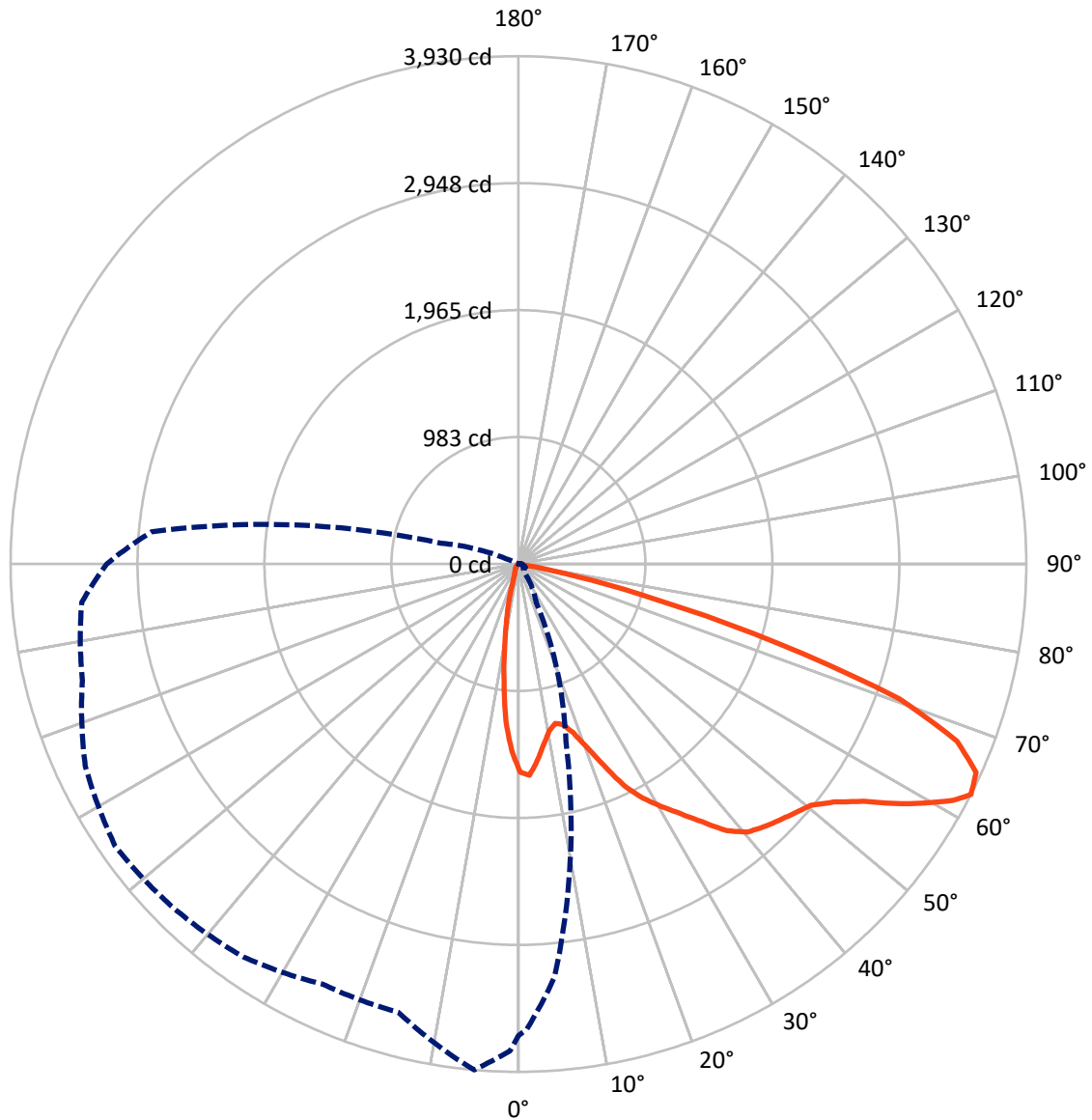
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 16.1 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	597.1	0.0	597.1
	% Fixture	14.1	0.0	14.1
Street Side	Lumens	3647.9	0.0	3647.9
	% Fixture	85.9	0.0	85.9
Total	Lumens	4245.0	0.0	4245.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	120.8	2.8
10°-20°	229.5	5.4
20°-30°	319.4	7.5
30°-40°	461.9	10.9
40°-50°	662.3	15.6
50°-60°	960.8	22.6
60°-70°	1039.5	24.5
70°-80°	419.8	9.9
80°-90°	31.1	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°	4245.0	100.0
0°-180°	4245.0	100.0



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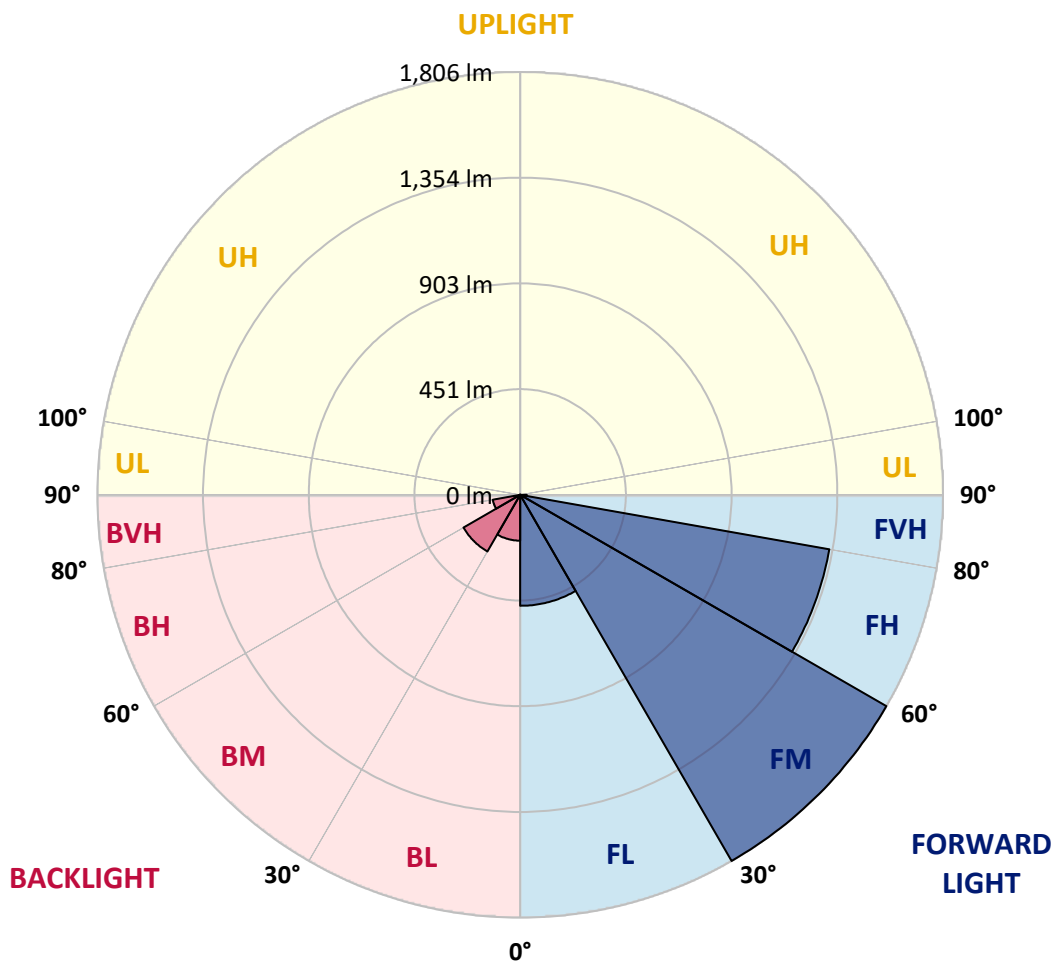
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	473.9	11.2			
FM	(30°-60°)	1805.5	42.5			
FH	(60°-80°)	1340.6	31.6			G1/1800
FVH	(80°-90°)	27.9	0.7			G1/100
BL	(0°-30°)	195.8	4.6	B1/500		
BM	(30°-60°)	279.4	6.6	B1/1000		
BH	(60°-80°)	118.8	2.8	B1/500		G1/500
BVH	(80°-90°)	3.2	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°	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2
2.5°	1616.9	1610.2	1595.1	1562.3	1515.3	1485.1	1465.7	1440.5	1414.5	1406.1	1389.3
5°	1475.8	1464.9	1443.9	1361.6	1287.7	1213.8	1160.8	1110.4	1093.6	1060.0	1080.2
7.5°	1339.7	1334.7	1286.0	1179.3	1061.7	966.8	906.3	832.4	810.6	776.1	748.4
10°	1233.1	1228.9	1170.1	1030.6	903.8	824.8	777.0	729.1	681.2	632.5	593.9
12.5°	1179.3	1170.1	1102.0	951.7	834.1	768.6	718.2	654.3	603.1	537.6	490.5
15°	1187.7	1179.3	1101.2	939.1	800.5	709.8	635.0	559.4	487.2	422.5	376.3
17.5°	1254.9	1251.6	1156.6	950.0	760.2	640.1	540.1	438.5	352.8	283.1	243.6
20°	1385.9	1375.9	1238.1	973.5	718.2	559.4	422.5	297.3	226.0	178.1	161.3
22.5°	1548.1	1525.4	1366.6	1008.0	677.9	472.9	305.7	199.9	161.3	142.8	131.0
25°	1738.7	1739.6	1526.2	1054.2	637.5	392.3	214.2	158.8	136.1	122.6	112.6
27.5°	1893.3	1881.5	1669.9	1100.4	593.9	321.7	179.8	138.6	119.3	105.0	99.1
30°	2007.5	1989.9	1764.8	1132.3	537.6	272.1	161.3	131.9	112.6	96.6	89.0
32.5°	2125.1	2103.3	1850.4	1149.9	504.0	248.6	142.8	115.1	100.8	94.1	84.0
35°	2262.9	2243.6	1945.4	1148.2	486.3	235.2	129.4	104.2	85.7	74.8	68.0
37.5°	2416.6	2377.1	2043.6	1140.7	473.7	228.5	117.6	96.6	79.8	68.0	59.6
40°	2548.5	2509.0	2134.4	1130.6	465.3	221.8	110.9	91.6	75.6	63.0	54.6
42.5°	2651.8	2614.0	2219.2	1118.0	461.1	207.5	114.2	88.2	72.2	59.6	50.4
45°	2740.8	2702.2	2320.0	1116.3	459.5	197.4	112.6	87.4	70.6	55.4	47.0
47.5°	2844.1	2824.0	2452.7	1144.0	452.7	189.8	103.3	94.1	69.7	53.8	44.5
50°	2997.0	2979.4	2626.6	1226.4	442.7	182.3	94.1	103.3	69.7	52.1	42.0
52.5°	3211.2	3191.0	2900.4	1333.9	433.4	173.9	84.8	100.0	70.6	49.6	40.3
55°	3432.9	3429.6	3159.1	1448.1	425.0	155.4	74.8	89.9	68.9	46.2	37.8
57.5°	3606.8	3604.3	3353.1	1525.4	409.1	125.2	68.0	74.8	63.8	42.0	34.4
60°	3678.2	3657.2	3374.1	1525.4	372.1	103.3	62.2	58.8	64.7	37.8	30.2
61°	3678.2	3651.3	3336.3	1502.7	353.6	98.3	58.8	54.6	66.4	36.1	28.6
62.5°	3649.7	3605.1	3207.0	1421.2	324.2	98.3	53.8	48.7	60.5	34.4	26.0
65°	3522.8	3449.7	2903.8	1235.6	294.0	100.8	46.2	41.2	43.7	29.4	22.7
67.5°	3209.5	3127.2	2510.7	977.7	269.6	106.7	38.6	36.1	33.6	26.0	20.2
70°	2644.2	2574.5	2048.7	732.5	250.3	108.4	33.6	30.2	28.6	22.7	17.6
72.5°	1690.0	1574.9	1279.3	496.4	200.8	94.1	27.7	28.6	26.0	18.5	14.3
75°	816.4	848.4	744.2	250.3	135.2	61.3	21.8	23.5	21.0	16.8	12.6
77.5°	365.4	358.7	355.3	63.8	34.4	21.0	13.4	16.0	16.8	15.1	10.9
80°	37.8	51.2	30.2	19.3	12.6	9.2	7.6	8.4	10.1	10.9	5.9
82.5°	1.7	0.8	0.8	2.5	2.5	1.7	0.0	0.0	1.7	1.7	0.8
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°	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2
2.5°	1374.2	1396.9	1386.8	1384.3	1397.7	1391.0	1411.1	1412.0	1427.1	1447.3	1459.9
5°	1080.2	1062.6	1097.8	1121.4	1150.8	1141.5	1176.8	1172.6	1191.9	1223.8	1211.2
7.5°	750.1	752.6	771.1	792.1	871.0	887.0	898.8	908.0	907.2	914.7	928.2
10°	573.7	559.4	546.8	576.2	607.3	641.7	646.8	659.4	624.9	639.2	645.9
12.5°	469.5	452.7	425.0	409.9	417.5	437.6	446.0	453.6	433.4	434.3	449.4
15°	356.1	333.5	322.5	302.4	294.8	293.1	297.3	286.4	283.9	274.7	280.5
17.5°	231.8	225.1	219.2	215.0	209.2	207.5	192.4	166.3	151.2	147.8	147.8
20°	154.6	149.5	149.5	157.9	155.4	148.7	128.5	106.7	95.8	92.4	94.1
22.5°	126.8	123.5	118.4	118.4	121.8	116.8	98.3	82.3	74.8	74.8	74.8
25°	110.0	108.4	103.3	98.3	100.0	95.8	79.8	69.7	64.7	63.8	64.7
27.5°	96.6	95.8	89.9	84.8	84.8	81.5	68.9	59.6	56.3	54.6	55.4
30°	87.4	85.7	79.0	74.8	73.9	70.6	58.8	52.1	48.7	47.9	47.9
32.5°	80.6	77.3	71.4	67.2	64.7	59.6	51.2	44.5	41.2	40.3	40.3
35°	64.7	64.7	62.2	59.6	56.3	48.7	42.8	37.0	33.6	32.8	32.8
37.5°	56.3	52.9	48.7	49.6	47.9	41.2	35.3	29.4	26.9	26.0	26.0
40°	51.2	47.0	41.2	38.6	39.5	36.1	29.4	22.7	19.3	20.2	19.3
42.5°	46.2	42.8	36.1	30.2	29.4	30.2	22.7	16.0	13.4	13.4	13.4
45°	42.8	39.5	31.9	25.2	21.0	23.5	17.6	10.9	8.4	8.4	8.4
47.5°	40.3	37.0	28.6	21.0	15.1	16.0	12.6	6.7	5.0	3.4	4.2
50°	38.6	34.4	26.0	16.8	10.9	9.2	8.4	3.4	0.8	0.8	0.0
52.5°	36.1	32.8	23.5	14.3	8.4	5.9	4.2	0.8	0.0	0.0	0.0
55°	34.4	30.2	21.0	12.6	6.7	3.4	0.8	0.0	0.0	0.0	0.0
57.5°	31.1	27.7	18.5	10.1	5.0	1.7	0.0	0.0	0.0	0.0	0.0
60°	27.7	25.2	16.0	7.6	3.4	0.0	0.0	0.0	0.0	0.0	0.0
61°	26.0	23.5	15.1	6.7	2.5	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	24.4	21.8	13.4	5.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
65°	21.0	18.5	11.8	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	18.5	16.8	10.1	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	16.0	14.3	7.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	13.4	12.6	5.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	11.8	10.1	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	9.2	8.4	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	5.0	4.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.8	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°	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2
2.5°	1471.6	1501.0	1528.7	1564.0	1583.3	1636.3	1674.1	1706.0	1731.2	1736.2	1756.4
5°	1244.8	1286.0	1312.9	1386.8	1427.9	1516.1	1584.2	1664.8	1737.1	1776.5	1812.6
7.5°	937.4	957.6	1003.8	1077.7	1175.1	1251.6	1366.6	1468.3	1598.5	1669.9	1737.1
10°	661.9	680.4	748.4	825.7	914.7	1043.2	1182.7	1316.2	1448.1	1539.7	1618.6
12.5°	465.3	525.8	593.0	691.3	778.6	872.7	1021.4	1177.6	1342.3	1429.6	1515.3
15°	305.7	359.5	452.7	576.2	685.4	777.0	915.6	1098.7	1307.8	1405.3	1486.7
17.5°	151.2	190.7	273.0	405.7	551.0	695.5	862.6	1084.4	1352.3	1462.4	1538.8
20°	94.9	106.7	136.9	229.3	396.5	609.8	823.2	1113.0	1473.3	1595.1	1644.7
22.5°	76.4	79.8	91.6	121.8	241.9	504.0	788.7	1151.6	1606.0	1754.7	1805.9
25°	65.5	68.0	74.8	89.9	140.3	378.0	746.7	1219.6	1760.6	1940.3	1952.9
27.5°	56.3	58.8	64.7	76.4	100.0	254.5	686.3	1299.4	1945.4	2103.3	2094.9
30°	47.9	51.2	57.1	65.5	79.0	172.2	573.7	1380.1	2081.4	2208.3	2194.8
32.5°	41.2	43.7	48.7	56.3	65.5	118.4	430.9	1433.0	2194.8	2307.4	2278.0
35°	33.6	36.1	40.3	47.0	52.9	84.0	325.9	1434.7	2311.6	2430.0	2356.1
37.5°	26.9	28.6	32.8	38.6	43.7	65.5	239.4	1406.9	2456.1	2589.6	2445.1
40°	20.2	22.7	26.9	31.9	37.0	55.4	178.9	1339.7	2597.2	2749.2	2552.7
42.5°	13.4	16.8	21.0	26.0	35.3	44.5	126.0	1228.0	2711.4	2891.2	2657.7
45°	8.4	10.9	16.0	21.8	36.1	35.3	84.0	1094.5	2792.9	2999.5	2729.1
47.5°	4.2	6.7	11.8	21.0	31.9	26.0	52.1	966.8	2866.8	3062.5	2761.8
50°	0.8	2.5	8.4	26.0	26.9	19.3	34.4	887.0	2905.4	3046.6	2758.5
52.5°	0.0	0.0	5.9	25.2	19.3	15.1	26.9	875.2	2965.9	3067.6	2816.4
55°	0.0	0.0	2.5	10.9	10.9	12.6	23.5	859.3	3073.4	3192.7	2991.1
57.5°	0.0	0.0	0.0	5.0	6.7	10.1	21.8	817.3	3186.8	3325.4	3203.6
60°	0.0	0.0	0.0	2.5	4.2	8.4	19.3	721.5	3082.7	3326.3	3380.0
61°	0.0	0.0	0.0	2.5	3.4	7.6	17.6	687.9	2989.4	3272.5	3401.9
62.5°	0.0	0.0	0.0	0.8	2.5	5.9	15.1	621.6	2850.0	3186.0	3391.8
65°	0.0	0.0	0.0	0.0	0.8	3.4	11.8	502.3	2617.3	2968.4	3275.9
67.5°	0.0	0.0	0.0	0.0	0.0	0.8	7.6	353.6	2283.0	2722.3	3028.1
70°	0.0	0.0	0.0	0.0	0.0	0.0	3.4	205.0	1839.5	2304.9	2593.8
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	93.2	1193.6	1779.9	2046.2
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	39.5	735.0	1286.0	1528.7
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.6	498.1	855.9	1029.0
80°	0.0	1.7	0.8	0.0	0.0	0.0	0.0	6.7	306.6	534.2	580.4
82.5°	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	158.8	377.1	384.7
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.4	79.8
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°	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2	1610.2
2.5°	1774.9	1779.9	1783.3	1777.4	1741.3	1721.1	1680.8	1636.3	1621.1	1616.9
5°	1878.2	1906.7	1901.7	1863.0	1800.0	1722.8	1627.0	1527.9	1490.1	1475.8
7.5°	1858.0	1932.8	1947.0	1906.7	1800.0	1664.8	1526.2	1408.6	1354.0	1339.7
10°	1755.5	1849.6	1895.0	1882.4	1782.4	1626.2	1455.7	1311.2	1251.6	1233.1
12.5°	1656.4	1747.1	1775.7	1785.8	1731.2	1595.9	1420.4	1265.0	1202.8	1179.3
15°	1590.1	1646.3	1644.7	1663.1	1658.9	1584.2	1443.1	1288.5	1218.8	1187.7
17.5°	1568.2	1551.4	1529.6	1544.7	1574.1	1587.5	1517.0	1372.5	1291.0	1254.9
20°	1581.7	1499.3	1451.5	1450.6	1512.8	1615.3	1625.3	1511.1	1434.7	1385.9
22.5°	1650.5	1473.3	1399.4	1401.1	1477.5	1656.4	1750.5	1692.5	1608.5	1548.1
25°	1752.2	1478.3	1379.2	1389.3	1474.1	1692.5	1885.7	1899.2	1791.6	1738.7
27.5°	1855.5	1522.0	1380.1	1391.0	1488.4	1711.9	1963.0	2051.2	1958.8	1893.3
30°	1927.7	1575.8	1395.2	1406.9	1511.1	1727.0	1992.4	2176.4	2080.6	2007.5
32.5°	1995.8	1631.2	1419.5	1431.3	1556.5	1758.1	2047.8	2302.4	2197.4	2125.1
35°	2062.1	1685.8	1464.9	1485.9	1629.5	1814.3	2104.1	2450.2	2362.8	2262.9
37.5°	2119.2	1746.3	1543.0	1587.5	1728.7	1900.8	2180.6	2618.2	2528.3	2416.6
40°	2167.1	1817.7	1704.3	1753.9	1879.8	1992.4	2265.4	2728.2	2668.6	2548.5
42.5°	2205.8	1943.7	1935.3	2005.0	2093.2	2097.4	2289.8	2781.1	2758.5	2651.8
45°	2270.4	2169.6	2238.5	2352.7	2346.9	2223.4	2283.0	2829.8	2831.5	2740.8
47.5°	2376.3	2452.7	2651.8	2729.1	2689.6	2395.6	2289.8	2877.7	2915.5	2844.1
50°	2527.5	2773.6	3034.0	3136.4	3021.4	2568.6	2349.4	2934.8	3049.1	2997.0
52.5°	2656.8	3016.3	3386.7	3478.3	3321.2	2753.4	2488.8	3058.3	3228.0	3211.2
55°	2841.6	3225.5	3637.9	3708.5	3582.5	2962.6	2676.1	3239.8	3424.5	3432.9
57.5°	3030.6	3414.5	3801.7	3873.1	3777.3	3223.0	2942.4	3500.1	3609.3	3606.8
60°	3240.6	3590.9	3875.6	3915.1	3860.5	3483.3	3228.8	3738.7	3736.2	3678.2
61°	3360.7	3647.1	3870.6	3882.3	3829.4	3559.8	3376.7	3830.3	3754.7	3678.2
62.5°	3493.4	3698.4	3808.4	3768.9	3711.8	3586.7	3590.9	3930.2	3767.3	3649.7
65°	3627.8	3569.9	3522.0	3333.0	3279.2	3339.7	3771.5	3892.4	3690.8	3522.8
67.5°	3397.7	3059.2	2955.8	2766.0	2553.5	2800.5	3600.1	3661.4	3432.9	3209.5
70°	2776.9	2247.8	2125.1	2118.4	1965.5	2236.8	3175.1	3130.6	2849.2	2644.2
72.5°	2176.4	1533.8	1366.6	1405.3	1375.0	1667.3	2597.2	2100.8	1826.9	1690.0
75°	1706.0	1090.3	940.8	934.0	901.3	1135.6	1901.7	1107.1	913.9	816.4
77.5°	1125.6	785.4	782.8	723.2	698.0	615.7	853.4	443.5	362.0	365.4
80°	648.5	481.3	564.5	447.7	448.5	361.2	345.2	64.7	52.1	37.8
82.5°	372.1	231.0	174.7	68.9	144.5	144.5	27.7	0.8	0.8	1.7
85°	36.1	10.9	0.0	0.0	0.0	0.0	0.0	0.0	0.8	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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