

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: P401504

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

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401504
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G1-2004-754-9)
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
Description: ENTRI LED LUMINAIRE
(1) 70 CRI, 4000K, 800mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4992 lumens
Efficiency: N/A
Efficacy: 115.8 lumens/watt
Luminous Opening: Rectangular (W 0.5' x L: 0.5' x H: 0')
IES Classification: Type IV - Short - Non-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

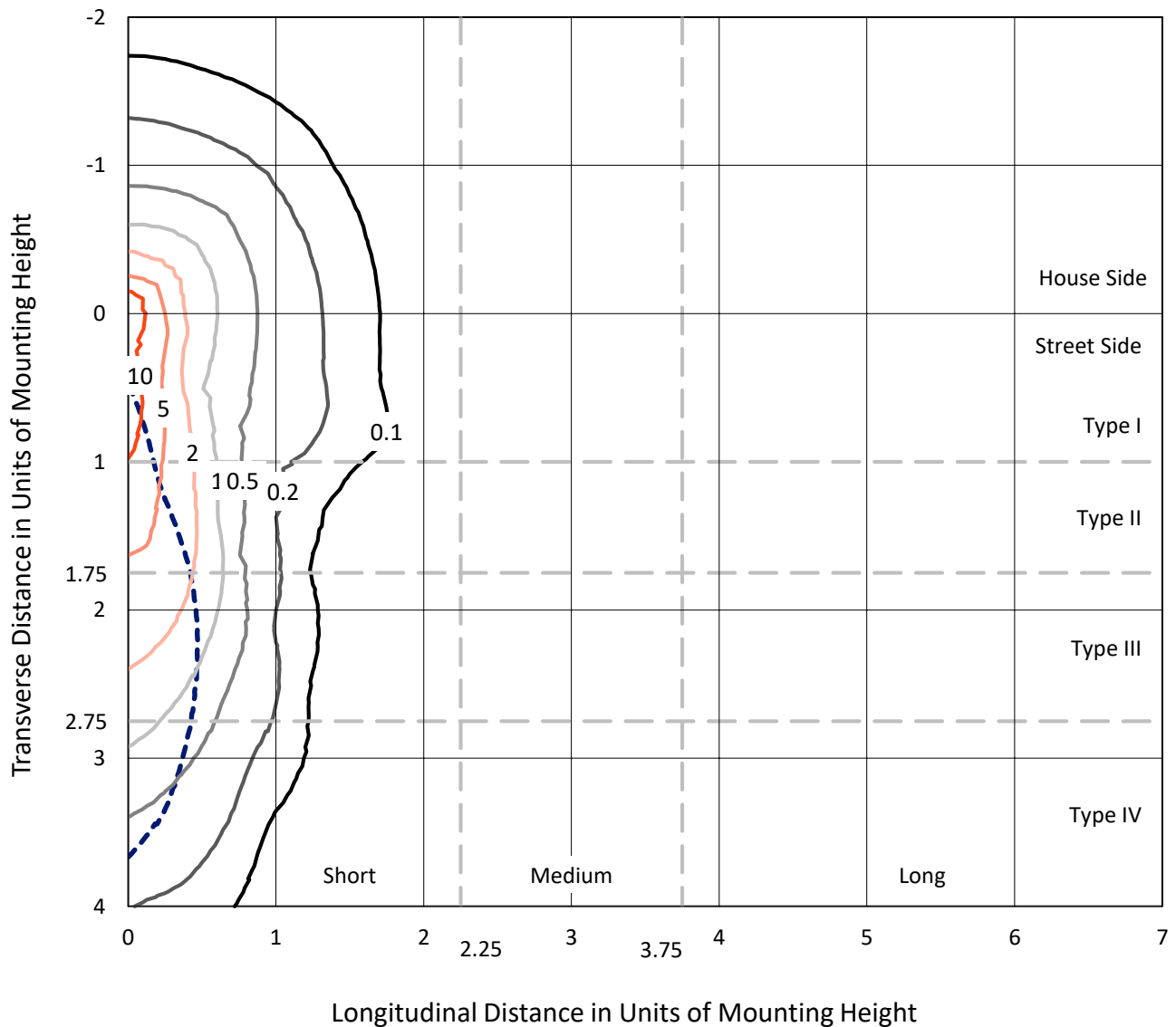


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

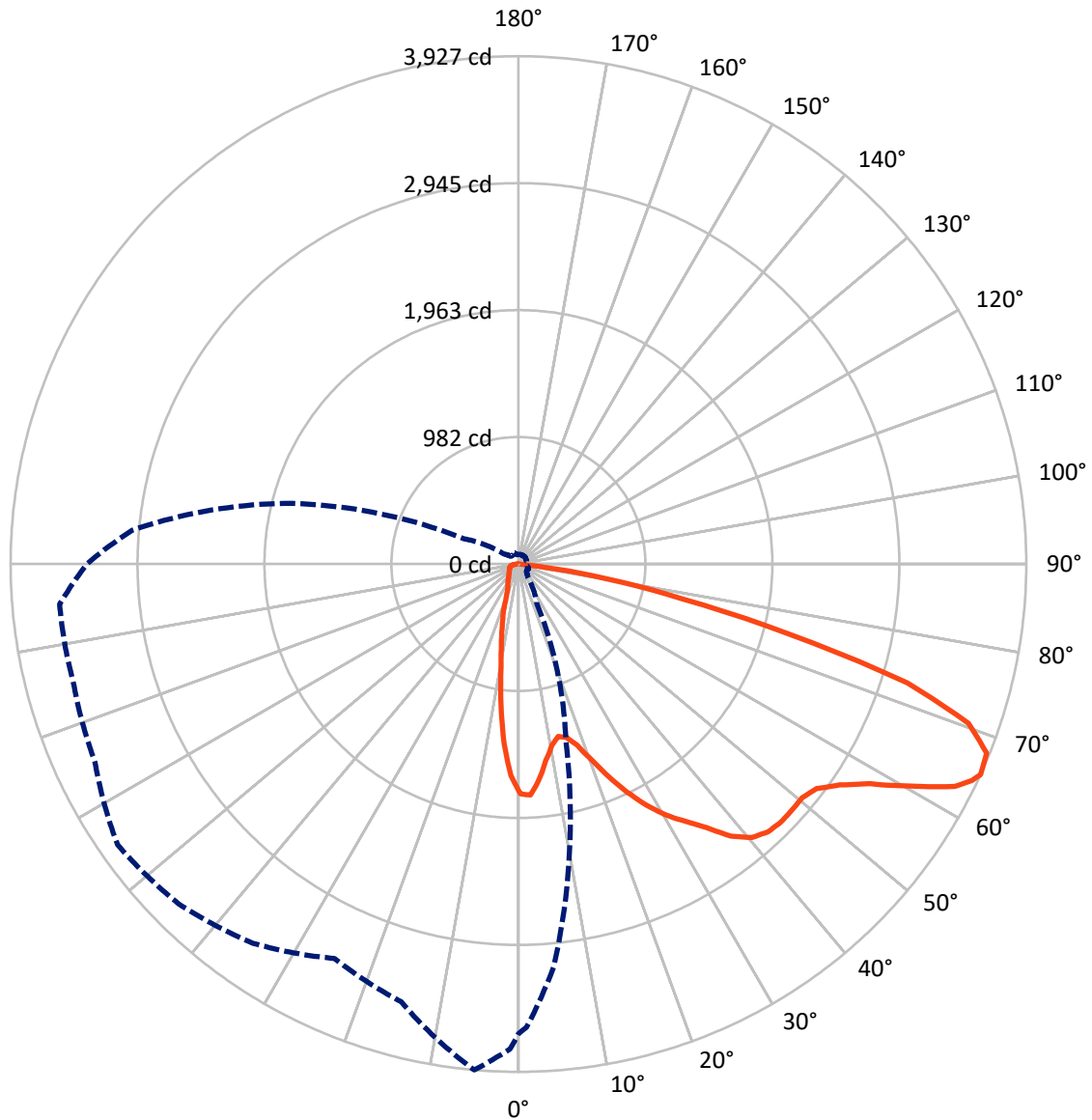


Based on 10 foot mounting height. Maximum calculated value = 17.8 fc
 Type IV - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 355-Deg Lateral - - - Horizontal Cone Through 65-Deg Vertical

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FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	1024.3	0.0	1024.3
	% Fixture	20.5	0.0	20.5
Street Side	Lumens	3967.7	0.0	3967.7
	% Fixture	79.5	0.0	79.5
Total	Lumens	4992.0	0.0	4992.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.5	2.7
10°-20°	269.9	5.4
20°-30°	374.3	7.5
30°-40°	523.2	10.5
40°-50°	711.9	14.3
50°-60°	973.5	19.5
60°-70°	1190.3	23.8
70°-80°	718.6	14.4
80°-90°	94.8	1.9
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°	4992.0	100.0
0°-180°	4992.0	100.0



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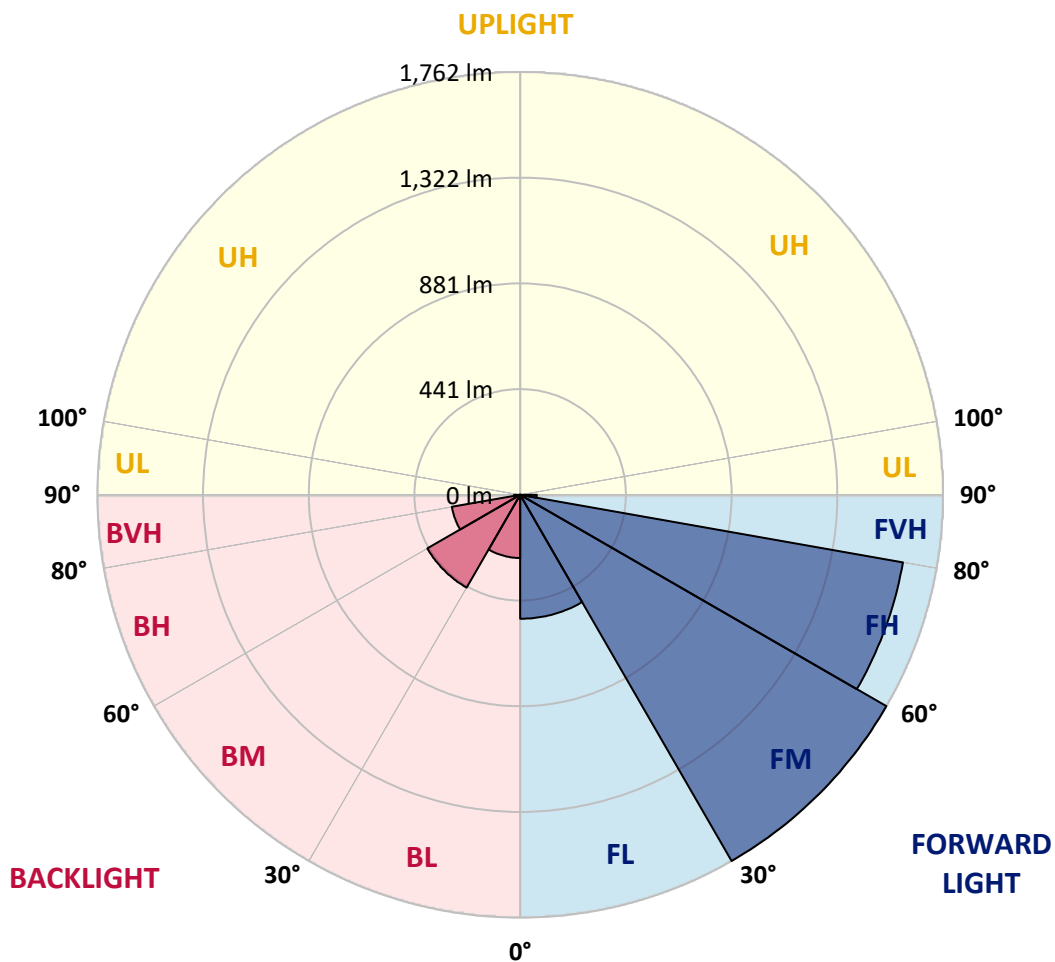
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	516.5	10.3			
FM	(30°-60°)	1762.1	35.3			
FH	(60°-80°)	1619.9	32.4			G1/1800
FVH	(80°-90°)	69.3	1.4			G1/100
BL	(0°-30°)	263.2	5.3	B1/500		
BM	(30°-60°)	446.5	8.9	B1/1000		
BH	(60°-80°)	289.1	5.8	B1/500		G1/500
BVH	(80°-90°)	25.5	0.5			G1/100
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°	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4
2.5°	1772.2	1767.2	1754.7	1721.3	1685.4	1642.8	1635.3	1589.4	1594.4	1581.1	1584.4
5°	1618.6	1612.0	1577.7	1511.0	1420.0	1367.4	1326.5	1302.3	1282.2	1272.2	1284.7
7.5°	1469.2	1460.0	1419.1	1301.4	1200.4	1116.9	1050.2	1009.2	969.2	937.5	922.4
10°	1348.2	1344.8	1290.6	1157.8	1031.0	929.1	885.7	842.3	808.1	763.0	726.3
12.5°	1287.2	1277.2	1212.9	1058.5	935.0	872.3	831.4	776.3	729.6	674.5	626.9
15°	1289.7	1278.0	1197.9	1036.0	901.6	825.6	763.0	697.0	628.6	572.7	524.2
17.5°	1361.5	1353.2	1255.5	1056.8	873.2	768.0	670.3	585.2	510.1	439.9	396.5
20°	1482.6	1470.0	1334.8	1081.9	837.3	702.1	569.3	452.5	371.5	309.7	275.5
22.5°	1640.3	1617.0	1447.5	1112.8	801.4	626.9	460.0	329.7	257.9	227.1	217.9
25°	1809.0	1790.6	1583.6	1152.0	763.0	545.1	340.6	239.6	214.5	202.0	195.3
27.5°	1964.2	1934.2	1729.7	1195.4	712.1	463.3	258.8	206.2	189.5	183.7	179.5
30°	2075.3	2049.4	1830.7	1245.5	667.8	378.2	221.2	187.0	173.6	164.5	162.8
32.5°	2181.3	2144.5	1904.1	1268.9	631.1	332.2	204.5	173.6	161.1	151.9	148.6
35°	2306.5	2269.8	1988.4	1272.2	603.5	313.0	188.7	163.6	150.3	141.9	137.7
37.5°	2454.3	2404.2	2083.6	1274.7	576.0	305.5	175.3	155.3	141.9	132.7	129.4
40°	2594.5	2556.1	2181.3	1270.5	557.6	294.7	167.0	146.1	133.6	125.2	121.0
42.5°	2700.5	2659.6	2264.8	1258.0	546.8	276.3	170.3	139.4	127.7	118.5	113.5
45°	2754.8	2718.0	2340.7	1246.3	540.9	260.5	167.0	136.9	123.5	112.7	107.7
47.5°	2795.7	2759.8	2418.4	1241.3	530.9	248.8	153.6	146.1	119.4	106.9	101.8
50°	2861.6	2830.7	2523.5	1269.7	515.1	241.3	141.1	156.1	117.7	101.8	96.0
52.5°	2980.2	2960.1	2697.2	1335.6	498.4	228.7	128.6	149.4	119.4	98.5	91.8
55°	3201.4	3188.9	2935.9	1422.5	482.5	212.9	115.2	135.2	118.5	92.7	87.7
57.5°	3440.1	3436.8	3225.6	1498.4	459.1	186.2	106.9	114.4	112.7	87.7	81.8
60°	3600.4	3589.6	3359.2	1541.0	429.1	153.6	100.2	96.8	115.2	82.6	76.0
62.5°	3655.5	3619.6	3319.1	1525.1	384.0	132.7	92.7	88.5	106.9	77.6	70.1
64°	3652.2	3599.6	3214.7	1465.0	354.8	128.6	88.5	82.6	94.3	74.3	67.6
65°	3633.0	3582.9	3127.9	1418.3	338.9	128.6	86.0	80.1	86.0	72.6	65.9
67.5°	3510.3	3444.3	2831.6	1201.2	298.0	130.2	80.1	73.5	71.8	66.8	61.8
70°	3230.6	3144.6	2425.0	945.0	276.3	131.1	73.5	66.8	64.3	60.9	56.8
72.5°	2594.5	2479.3	1930.0	675.3	253.8	128.6	66.8	60.9	58.4	55.1	50.9
75°	1739.7	1613.6	1422.5	444.9	207.9	115.2	57.6	52.6	51.8	48.4	45.1
77.5°	980.9	928.3	839.8	244.6	143.6	79.3	45.9	42.6	43.4	41.7	38.4
80°	512.6	488.3	449.1	118.5	69.3	38.4	29.2	29.2	33.4	33.4	31.7
82.5°	181.1	182.0	176.1	26.7	14.2	11.7	10.0	14.2	19.2	23.4	23.4
85°	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	1.7	3.3	5.8
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):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4
2.5°	1556.0	1561.0	1574.4	1571.9	1585.2	1579.4	1596.9	1606.1	1611.1	1637.0	1649.5
5°	1274.7	1276.4	1324.0	1334.0	1359.0	1345.7	1376.6	1364.9	1389.9	1393.2	1435.0
7.5°	936.6	940.0	963.3	1018.4	1072.7	1095.2	1104.4	1118.6	1106.9	1102.7	1108.6
10°	712.1	714.6	717.1	756.3	803.9	851.5	851.5	852.3	831.4	810.6	806.4
12.5°	608.6	592.7	567.7	568.5	601.9	624.4	641.9	623.6	620.2	630.3	641.1
15°	500.9	485.0	468.3	448.3	449.1	465.0	474.2	473.3	490.0	497.5	520.1
17.5°	389.0	366.5	367.3	355.6	339.8	349.8	352.3	367.3	389.0	399.0	403.2
20°	261.3	261.3	268.0	282.2	274.6	281.3	282.2	293.8	303.9	298.0	303.9
22.5°	216.2	215.4	217.9	227.1	234.6	240.4	242.1	241.3	231.2	227.1	235.4
25°	196.2	195.3	196.2	201.2	209.5	217.0	213.7	208.7	197.0	196.2	197.8
27.5°	179.5	180.3	182.0	185.3	190.3	199.5	196.2	186.2	180.3	178.6	178.6
30°	165.3	165.3	168.6	172.0	177.8	186.2	180.3	172.0	166.1	164.5	163.6
32.5°	151.1	153.6	156.1	159.4	164.5	172.8	167.8	160.3	154.4	151.1	148.6
35°	136.9	138.6	143.6	148.6	152.8	159.4	156.1	149.4	143.6	136.1	132.7
37.5°	128.6	128.6	131.1	138.6	141.9	146.9	145.3	139.4	130.2	124.4	123.5
40°	121.0	121.0	121.9	126.1	131.9	137.7	134.4	125.2	119.4	116.9	116.0
42.5°	113.5	113.5	114.4	114.4	121.9	131.9	123.5	114.4	111.9	110.2	109.4
45°	106.9	106.9	106.9	106.0	110.2	122.7	113.5	106.0	104.3	104.3	103.5
47.5°	101.8	101.0	100.2	98.5	101.0	111.0	103.5	99.3	98.5	99.3	98.5
50°	95.2	94.3	93.5	92.7	94.3	98.5	96.8	92.7	93.5	93.5	94.3
52.5°	89.3	88.5	87.7	86.8	88.5	91.8	91.8	88.5	88.5	89.3	90.2
55°	86.0	84.3	83.5	83.5	84.3	88.5	87.7	85.1	85.1	86.8	87.7
57.5°	81.0	79.3	79.3	78.5	80.1	85.1	84.3	81.8	81.8	82.6	84.3
60°	76.0	75.1	74.3	76.0	76.8	81.8	81.0	79.3	78.5	81.0	81.0
62.5°	70.1	70.1	70.1	71.8	72.6	78.5	77.6	76.8	76.8	77.6	76.8
64°	66.8	66.8	67.6	68.5	70.1	75.1	75.1	75.1	75.1	75.1	74.3
65°	65.1	65.1	66.8	67.6	68.5	74.3	73.5	74.3	75.1	74.3	72.6
67.5°	60.9	60.9	63.4	63.4	64.3	71.0	70.1	71.8	73.5	71.8	70.1
70°	55.9	56.8	59.3	58.4	60.1	67.6	65.1	68.5	71.8	69.3	67.6
72.5°	50.9	51.8	55.1	53.4	54.3	63.4	60.1	63.4	68.5	66.8	65.1
75°	45.9	46.7	49.3	48.4	50.1	58.4	55.1	58.4	63.4	63.4	62.6
77.5°	39.2	40.9	42.6	41.7	45.1	52.6	49.3	51.8	55.9	59.3	57.6
80°	31.7	34.2	35.1	35.9	39.2	45.1	42.6	43.4	47.6	50.1	50.9
82.5°	21.7	25.9	27.5	28.4	33.4	35.1	35.9	35.1	37.6	40.9	38.4
85°	6.7	8.3	15.9	20.0	25.0	25.0	29.2	27.5	29.2	25.9	21.7
87.5°	0.0	0.0	0.0	5.8	15.0	15.0	20.9	19.2	20.0	15.0	13.4
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°	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4
2.5°	1652.0	1666.2	1697.9	1734.7	1754.7	1798.1	1824.8	1853.2	1881.6	1887.4	1896.6
5°	1443.3	1460.0	1495.9	1545.2	1594.4	1652.0	1718.8	1789.8	1868.2	1901.6	1934.2
7.5°	1124.4	1127.8	1178.7	1268.0	1311.4	1393.2	1488.4	1597.8	1718.8	1781.4	1848.2
10°	830.6	864.8	903.2	977.5	1086.9	1181.2	1298.9	1426.6	1552.7	1643.7	1713.0
12.5°	652.8	696.2	759.6	841.5	924.1	1013.4	1149.5	1286.4	1441.7	1523.5	1608.6
15°	537.6	592.7	675.3	761.3	838.1	917.4	1038.5	1206.3	1404.9	1488.4	1564.4
17.5°	425.7	486.7	575.2	665.3	757.1	854.0	994.2	1202.1	1444.2	1541.0	1619.5
20°	326.4	374.0	448.3	539.3	647.0	779.7	959.2	1233.8	1560.2	1681.2	1733.0
22.5°	242.1	269.6	328.1	423.2	550.1	713.7	924.1	1278.9	1703.8	1845.7	1884.9
25°	200.3	207.9	234.6	317.2	448.3	639.4	897.4	1337.3	1847.4	2006.8	2035.2
27.5°	180.3	184.5	197.0	227.9	350.6	578.5	862.3	1404.9	1998.5	2166.3	2163.7
30°	162.8	163.6	171.1	192.8	284.7	524.2	821.4	1480.1	2132.9	2280.6	2273.1
32.5°	146.9	146.9	156.9	173.6	242.9	475.0	772.2	1534.3	2249.7	2374.1	2349.9
35°	132.7	135.2	144.4	161.1	215.4	419.9	726.3	1554.4	2349.9	2486.8	2418.4
37.5°	122.7	126.1	135.2	151.1	192.0	379.0	688.7	1577.7	2473.5	2622.9	2495.2
40°	116.0	118.5	126.9	140.2	173.6	344.8	647.8	1593.6	2596.2	2768.1	2576.1
42.5°	109.4	111.9	120.2	132.7	165.3	304.7	608.6	1602.8	2723.9	2894.2	2643.7
45°	103.5	106.9	115.2	126.9	166.1	268.8	576.0	1599.4	2800.7	2985.2	2696.3
47.5°	99.3	102.7	111.9	126.9	161.1	247.9	548.5	1587.8	2857.5	3044.4	2720.5
50°	95.2	98.5	109.4	140.2	152.8	242.1	527.6	1586.1	2916.7	3056.1	2720.5
52.5°	91.0	96.8	110.2	141.1	140.2	239.6	510.9	1630.3	2998.5	3076.2	2744.8
55°	88.5	93.5	113.5	130.2	122.7	231.2	500.9	1691.3	3136.3	3186.4	2866.6
57.5°	85.1	89.3	111.9	121.9	109.4	212.0	492.5	1749.7	3317.4	3390.9	3109.6
60°	81.0	86.0	108.5	104.3	99.3	180.3	487.5	1798.1	3385.0	3522.8	3370.8
62.5°	76.8	82.6	118.5	91.0	91.8	150.3	478.3	1844.9	3242.3	3491.1	3538.6
64°	74.3	80.1	110.2	85.1	87.7	136.9	469.1	1847.4	3116.2	3415.9	3570.4
65°	72.6	77.6	102.7	81.8	84.3	133.6	460.8	1812.3	2997.7	3335.8	3561.2
67.5°	70.1	73.5	79.3	76.0	78.5	127.7	404.0	1657.9	2745.6	3129.6	3418.4
70°	66.8	69.3	70.1	69.3	73.5	123.5	341.4	1438.3	2470.1	2913.4	3196.4
72.5°	63.4	63.4	63.4	62.6	67.6	117.7	307.2	1162.0	2134.5	2629.6	2920.1
75°	60.9	58.4	57.6	55.9	61.8	114.4	277.1	872.3	1649.5	2190.5	2446.7
77.5°	55.9	53.4	50.9	49.3	55.1	101.8	231.2	616.1	1216.3	1593.6	1888.3
80°	48.4	46.7	43.4	40.9	45.9	80.1	175.3	380.7	889.9	1076.0	1238.8
82.5°	39.2	38.4	35.1	31.7	33.4	57.6	119.4	193.7	593.5	584.3	692.0
85°	24.2	30.1	25.9	20.9	22.5	33.4	48.4	61.8	182.0	109.4	169.5
87.5°	14.2	19.2	15.9	10.9	8.3	15.0	13.4	12.5	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°	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4	1776.4
2.5°	1918.3	1929.2	1935.0	1913.3	1889.9	1869.1	1829.0	1788.9	1768.1	1772.2
5°	1996.8	2015.2	2020.2	1988.4	1922.5	1854.9	1757.2	1672.9	1622.0	1618.6
7.5°	1966.7	2026.8	2036.9	2002.6	1908.3	1782.3	1649.5	1531.8	1480.9	1469.2
10°	1859.9	1951.7	1981.8	1970.1	1878.3	1733.8	1572.7	1423.3	1372.4	1348.2
12.5°	1750.5	1846.5	1864.9	1876.6	1820.7	1698.8	1521.8	1368.2	1307.3	1287.2
15°	1678.7	1744.7	1749.7	1760.6	1748.9	1682.1	1545.2	1390.7	1317.3	1289.7
17.5°	1668.7	1645.4	1629.5	1652.0	1666.2	1682.9	1606.1	1475.1	1396.6	1361.5
20°	1670.4	1597.8	1552.7	1551.0	1612.0	1704.6	1729.7	1617.0	1515.1	1482.6
22.5°	1731.3	1572.7	1497.6	1488.4	1562.7	1741.4	1855.7	1785.6	1683.8	1640.3
25°	1822.3	1557.7	1458.4	1460.9	1535.2	1765.6	1963.4	1954.2	1864.9	1809.0
27.5°	1910.0	1582.7	1453.4	1460.0	1544.3	1781.4	2052.7	2112.8	2012.7	1964.2
30°	1980.1	1638.7	1468.4	1474.2	1572.7	1803.1	2097.0	2253.9	2132.9	2075.3
32.5°	2041.0	1691.3	1490.9	1495.1	1617.8	1834.0	2138.7	2372.4	2249.7	2181.3
35°	2096.1	1736.3	1525.1	1539.3	1675.4	1878.3	2181.3	2501.0	2392.5	2306.5
37.5°	2144.5	1791.4	1592.8	1616.1	1759.7	1942.5	2236.4	2670.5	2551.9	2454.3
40°	2172.1	1840.7	1692.9	1728.0	1869.1	2026.0	2306.5	2780.7	2704.7	2594.5
42.5°	2193.0	1908.3	1854.0	1917.5	2038.5	2104.5	2339.9	2829.9	2794.8	2700.5
45°	2203.8	2041.9	2096.1	2155.4	2229.7	2190.5	2321.5	2846.6	2835.7	2754.8
47.5°	2253.1	2243.1	2376.6	2458.4	2454.3	2319.9	2286.5	2844.9	2862.5	2795.7
50°	2353.2	2477.6	2664.6	2744.8	2713.9	2440.9	2279.8	2842.4	2915.9	2861.6
52.5°	2472.6	2712.2	2976.0	3009.4	2944.3	2563.6	2329.9	2885.8	3016.1	2980.2
55°	2629.6	2932.6	3220.6	3231.4	3139.6	2683.0	2436.7	3013.6	3203.1	3201.4
57.5°	2848.3	3130.4	3425.9	3412.6	3283.2	2848.3	2608.7	3204.7	3410.9	3440.1
60°	3086.2	3339.1	3592.1	3584.5	3446.8	3038.6	2844.9	3487.7	3592.9	3600.4
62.5°	3314.1	3532.8	3752.3	3716.4	3561.2	3235.6	3172.2	3788.2	3711.4	3655.5
64°	3462.7	3597.9	3793.2	3736.5	3588.7	3329.9	3360.8	3885.9	3744.8	3652.2
65°	3561.2	3613.8	3784.1	3715.6	3579.5	3365.0	3503.6	3926.8	3750.7	3633.0
67.5°	3738.1	3522.8	3535.3	3481.0	3359.2	3332.4	3737.3	3904.3	3686.4	3510.3
70°	3688.9	3156.3	2984.3	2950.1	2804.0	2954.3	3708.1	3692.2	3445.1	3230.6
72.5°	3268.2	2534.4	2287.3	2256.4	2053.6	2238.9	3199.7	3144.6	2772.3	2594.5
75°	2693.0	1920.8	1633.7	1659.5	1505.1	1676.2	2545.2	2154.6	1845.7	1739.7
77.5°	2090.3	1357.4	1128.6	1097.7	1066.8	1085.2	1749.7	1293.9	1078.5	980.9
80°	1332.3	853.1	846.5	773.8	748.8	631.1	899.1	688.7	541.8	512.6
82.5°	707.9	491.7	558.5	447.4	359.8	258.8	304.7	204.5	172.8	181.1
85°	193.7	101.8	28.4	0.0	0.0	0.0	0.0	0.8	0.8	0.8
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	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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