

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: P401764

Luminaire Tested: **ENT-SA1E-830-U-SLR**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401764
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-SA1E-830-U-SLR
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 3000K, 1050mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4943 lumens
Efficiency: N/A
Efficacy: 86.4 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): 57.2
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

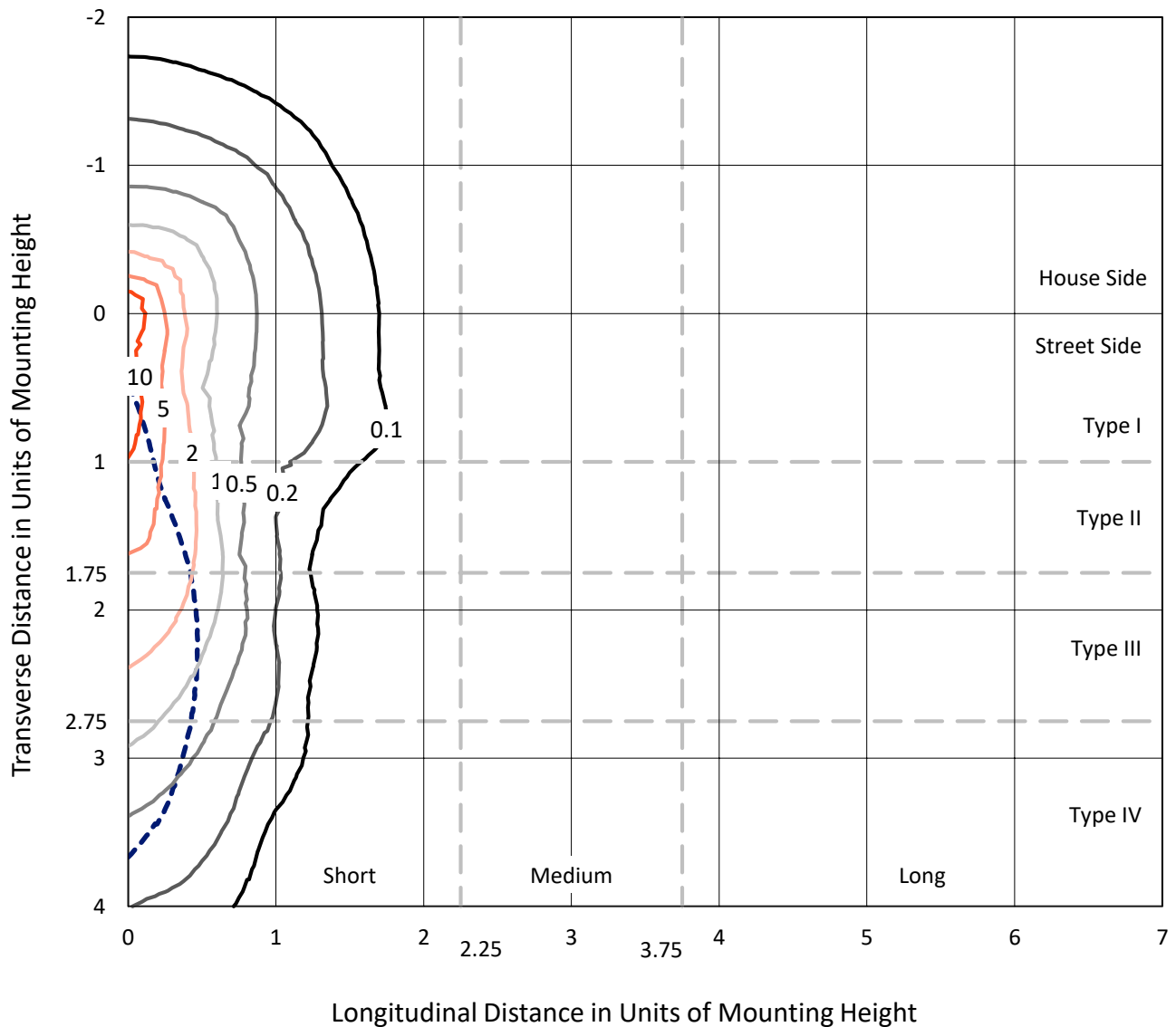


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Iso-Footcandle Lines of Horizontal Illumination

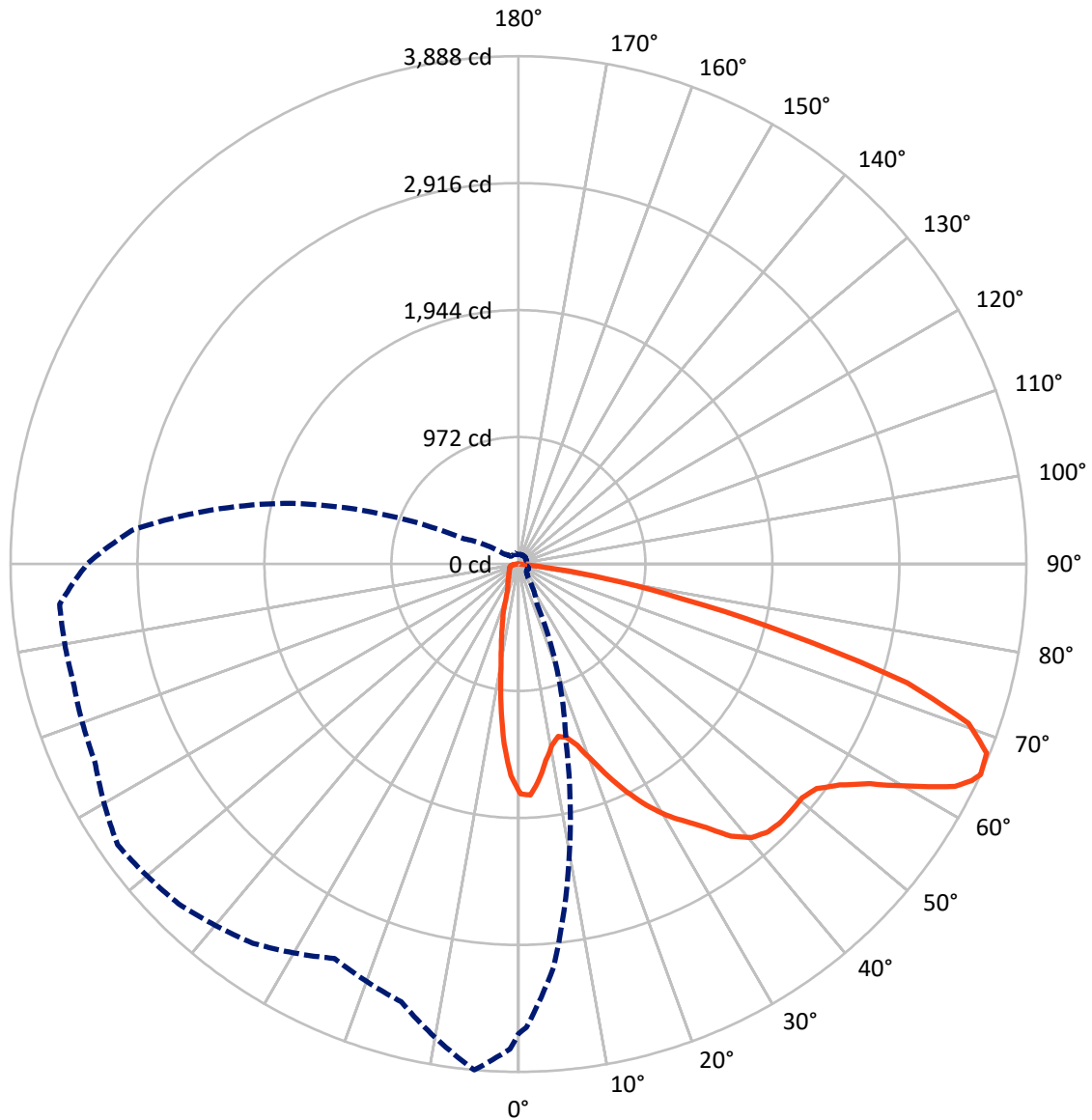
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 17.6 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	1014.2	0.0	1014.2
	% Fixture	20.5	0.0	20.5
Street Side	Lumens	3928.8	0.0	3928.8
	% Fixture	79.5	0.0	79.5
Total	Lumens	4943.0	0.0	4943.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	134.2	2.7
10°-20°	267.3	5.4
20°-30°	370.6	7.5
30°-40°	518.0	10.5
40°-50°	704.9	14.3
50°-60°	964.0	19.5
60°-70°	1178.6	23.8
70°-80°	711.6	14.4
80°-90°	93.8	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°	4943.0	100.0
0°-180°	4943.0	100.0



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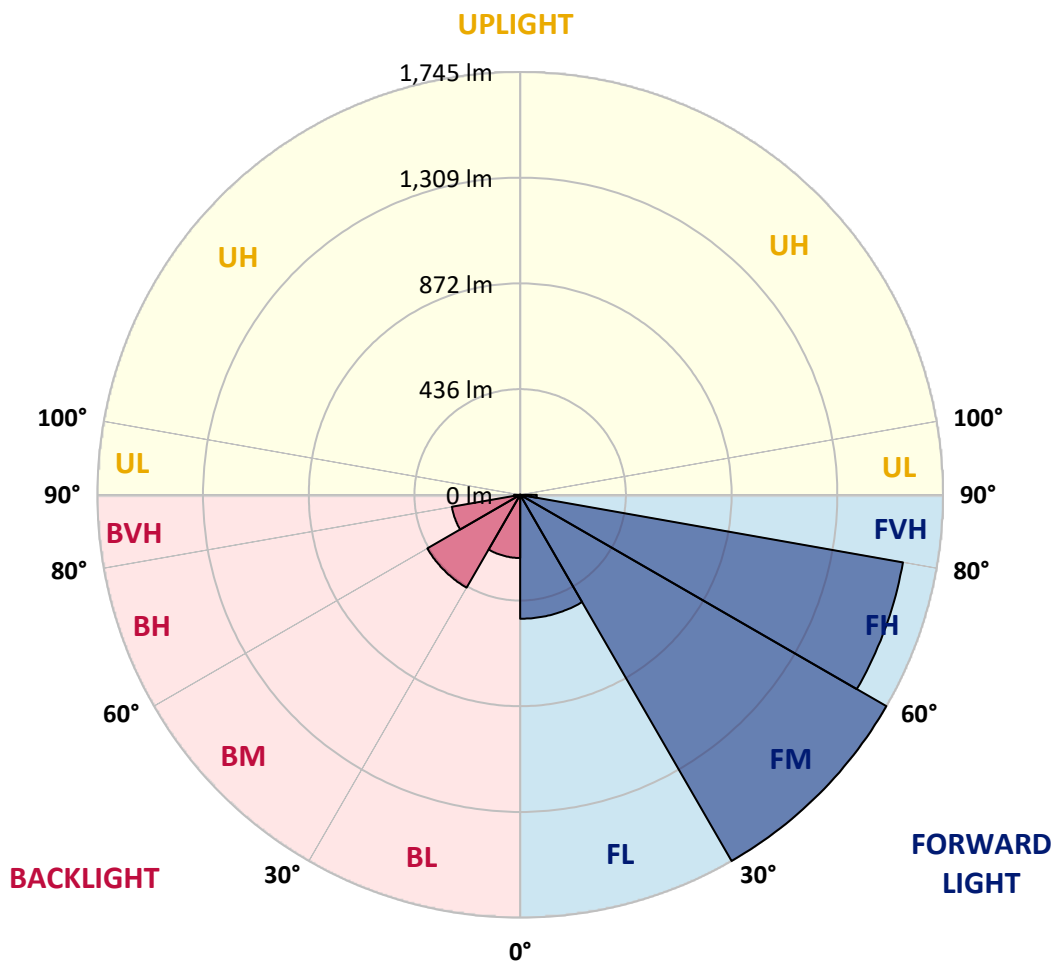
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	511.4	10.3			
FM	(30°-60°)	1744.8	35.3			
FH	(60°-80°)	1604.0	32.4			G1/1800
FVH	(80°-90°)	68.6	1.4			G1/100
BL	(0°-30°)	260.6	5.3	B1/500		
BM	(30°-60°)	442.1	8.9	B1/1000		
BH	(60°-80°)	286.2	5.8	B1/500		G1/500
BVH	(80°-90°)	25.3	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°	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0
2.5°	1754.8	1749.9	1737.5	1704.4	1668.9	1626.7	1619.3	1573.8	1578.8	1565.6	1568.9
5°	1602.8	1596.1	1562.2	1496.1	1406.0	1353.9	1313.4	1289.5	1269.6	1259.7	1272.1
7.5°	1454.8	1445.7	1405.2	1288.6	1188.6	1106.0	1039.8	999.3	959.7	928.3	913.4
10°	1334.9	1331.6	1277.9	1146.5	1020.8	920.0	877.0	834.0	800.1	755.5	719.1
12.5°	1274.6	1264.7	1201.0	1048.1	925.8	863.8	823.3	768.7	722.4	667.9	620.8
15°	1277.1	1265.5	1186.2	1025.8	892.7	817.5	755.5	690.2	622.4	567.0	519.1
17.5°	1348.2	1339.9	1243.2	1046.5	864.6	760.5	663.7	579.4	505.0	435.6	392.6
20°	1468.0	1455.6	1321.7	1071.3	829.1	695.2	563.7	448.0	367.8	306.7	272.8
22.5°	1624.2	1601.1	1433.3	1101.8	793.5	620.8	455.4	326.5	255.4	224.8	215.7
25°	1791.2	1773.0	1568.0	1140.7	755.5	539.8	337.2	237.2	212.4	200.0	193.4
27.5°	1945.0	1915.2	1712.7	1183.7	705.1	458.8	256.2	204.2	187.6	181.8	177.7
30°	2054.9	2029.3	1812.7	1233.3	661.3	374.4	219.0	185.2	171.9	162.8	161.2
32.5°	2159.9	2123.5	1885.4	1256.4	624.9	329.0	202.5	171.9	159.5	150.4	147.1
35°	2283.9	2247.5	1968.9	1259.7	597.6	310.0	186.8	162.0	148.8	140.5	136.4
37.5°	2430.2	2380.6	2063.2	1262.2	570.3	302.5	173.6	153.7	140.5	131.4	128.1
40°	2569.0	2531.0	2159.9	1258.1	552.2	291.8	165.3	144.7	132.3	124.0	119.9
42.5°	2674.0	2633.5	2242.5	1245.7	541.4	273.6	168.6	138.0	126.5	117.4	112.4
45°	2727.7	2691.4	2317.7	1234.1	535.6	257.9	165.3	135.6	122.3	111.6	106.6
47.5°	2768.2	2732.7	2394.6	1229.1	525.7	246.3	152.1	144.7	118.2	105.8	100.8
50°	2833.5	2803.0	2498.8	1257.2	510.0	238.9	139.7	154.6	116.5	100.8	95.1
52.5°	2950.9	2931.1	2670.7	1322.5	493.5	226.5	127.3	148.0	118.2	97.5	90.9
55°	3170.0	3157.6	2907.1	1408.5	477.8	210.8	114.1	133.9	117.4	91.8	86.8
57.5°	3406.4	3403.1	3193.9	1483.7	454.6	184.3	105.8	113.2	111.6	86.8	81.0
60°	3565.1	3554.3	3326.2	1525.9	424.9	152.1	99.2	95.9	114.1	81.8	75.2
62.5°	3619.6	3584.1	3286.5	1510.2	380.2	131.4	91.8	87.6	105.8	76.9	69.4
64°	3616.3	3564.2	3183.2	1450.7	351.3	127.3	87.6	81.8	93.4	73.6	67.0
65°	3597.3	3547.7	3097.2	1404.4	335.6	127.3	85.1	79.4	85.1	71.9	65.3
67.5°	3475.8	3410.5	2803.8	1189.5	295.1	128.9	79.4	72.7	71.1	66.1	61.2
70°	3198.9	3113.7	2401.2	935.7	273.6	129.8	72.7	66.1	63.6	60.3	56.2
72.5°	2569.0	2455.0	1911.1	668.7	251.3	127.3	66.1	60.3	57.9	54.6	50.4
75°	1722.6	1597.8	1408.5	440.6	205.8	114.1	57.0	52.1	51.2	47.9	44.6
77.5°	971.2	919.2	831.5	242.2	142.2	78.5	45.5	42.2	43.0	41.3	38.0
80°	507.5	483.6	444.7	117.4	68.6	38.0	28.9	28.9	33.1	33.1	31.4
82.5°	179.4	180.2	174.4	26.5	14.1	11.6	9.9	14.1	19.0	23.1	23.1
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°	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0
2.5°	1540.8	1545.7	1558.9	1556.5	1569.7	1563.9	1581.3	1590.4	1595.3	1620.9	1633.3
5°	1262.2	1263.9	1311.0	1320.9	1345.7	1332.5	1363.0	1351.5	1376.3	1379.6	1420.9
7.5°	927.4	930.7	953.9	1008.4	1062.2	1084.5	1093.6	1107.6	1096.1	1091.9	1097.7
10°	705.1	707.6	710.0	748.9	796.0	843.1	843.1	843.9	823.3	802.6	798.5
12.5°	602.6	586.9	562.1	562.9	596.0	618.3	635.6	617.5	614.2	624.1	634.8
15°	496.0	480.2	463.7	443.9	444.7	460.4	469.5	468.7	485.2	492.6	515.0
17.5°	385.2	362.9	363.7	352.1	336.4	346.3	348.8	363.7	385.2	395.1	399.2
20°	258.7	258.7	265.3	279.4	271.9	278.6	279.4	291.0	300.9	295.1	300.9
22.5°	214.1	213.3	215.7	224.8	232.3	238.1	239.7	238.9	229.0	224.8	233.1
25°	194.2	193.4	194.2	199.2	207.5	214.9	211.6	206.6	195.1	194.2	195.9
27.5°	177.7	178.5	180.2	183.5	188.5	197.6	194.2	184.3	178.5	176.9	176.9
30°	163.7	163.7	167.0	170.3	176.1	184.3	178.5	170.3	164.5	162.8	162.0
32.5°	149.6	152.1	154.6	157.9	162.8	171.1	166.1	158.7	152.9	149.6	147.1
35°	135.6	137.2	142.2	147.1	151.3	157.9	154.6	148.0	142.2	134.7	131.4
37.5°	127.3	127.3	129.8	137.2	140.5	145.5	143.8	138.0	128.9	123.2	122.3
40°	119.9	119.9	120.7	124.8	130.6	136.4	133.1	124.0	118.2	115.7	114.9
42.5°	112.4	112.4	113.2	113.2	120.7	130.6	122.3	113.2	110.8	109.1	108.3
45°	105.8	105.8	105.8	105.0	109.1	121.5	112.4	105.0	103.3	103.3	102.5
47.5°	100.8	100.0	99.2	97.5	100.0	109.9	102.5	98.4	97.5	98.4	97.5
50°	94.2	93.4	92.6	91.8	93.4	97.5	95.9	91.8	92.6	92.6	93.4
52.5°	88.4	87.6	86.8	86.0	87.6	90.9	90.9	87.6	87.6	88.4	89.3
55°	85.1	83.5	82.7	82.7	83.5	87.6	86.8	84.3	84.3	86.0	86.8
57.5°	80.2	78.5	78.5	77.7	79.4	84.3	83.5	81.0	81.0	81.8	83.5
60°	75.2	74.4	73.6	75.2	76.0	81.0	80.2	78.5	77.7	80.2	80.2
62.5°	69.4	69.4	69.4	71.1	71.9	77.7	76.9	76.0	76.0	76.9	76.0
64°	66.1	66.1	67.0	67.8	69.4	74.4	74.4	74.4	74.4	74.4	73.6
65°	64.5	64.5	66.1	67.0	67.8	73.6	72.7	73.6	74.4	73.6	71.9
67.5°	60.3	60.3	62.8	62.8	63.6	70.3	69.4	71.1	72.7	71.1	69.4
70°	55.4	56.2	58.7	57.9	59.5	67.0	64.5	67.8	71.1	68.6	67.0
72.5°	50.4	51.2	54.6	52.9	53.7	62.8	59.5	62.8	67.8	66.1	64.5
75°	45.5	46.3	48.8	47.9	49.6	57.9	54.6	57.9	62.8	62.8	62.0
77.5°	38.8	40.5	42.2	41.3	44.6	52.1	48.8	51.2	55.4	58.7	57.0
80°	31.4	33.9	34.7	35.5	38.8	44.6	42.2	43.0	47.1	49.6	50.4
82.5°	21.5	25.6	27.3	28.1	33.1	34.7	35.5	34.7	37.2	40.5	38.0
85°	6.6	8.3	15.7	19.8	24.8	24.8	28.9	27.3	28.9	25.6	21.5
87.5°	0.0	0.0	0.0	5.8	14.9	14.9	20.7	19.0	19.8	14.9	13.2
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°	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0
2.5°	1635.8	1649.9	1681.3	1717.6	1737.5	1780.5	1806.9	1835.0	1863.1	1868.9	1878.0
5°	1429.2	1445.7	1481.2	1530.0	1578.8	1635.8	1701.9	1772.2	1849.9	1883.0	1915.2
7.5°	1113.4	1116.7	1167.1	1255.6	1298.6	1379.6	1473.8	1582.1	1701.9	1763.9	1830.1
10°	822.5	856.3	894.4	967.9	1076.2	1169.6	1286.2	1412.6	1537.5	1627.5	1696.2
12.5°	646.4	689.4	752.2	833.2	915.0	1003.5	1138.2	1273.8	1427.5	1508.5	1592.8
15°	532.3	586.9	668.7	753.8	829.9	908.4	1028.3	1194.4	1391.1	1473.8	1549.0
17.5°	421.6	481.9	569.5	658.8	749.7	845.6	984.5	1190.3	1430.0	1525.9	1603.6
20°	323.2	370.3	443.9	534.0	640.6	772.0	949.7	1221.7	1544.9	1664.7	1716.0
22.5°	239.7	267.0	324.8	419.1	544.7	706.7	915.0	1266.3	1687.1	1827.6	1866.4
25°	198.4	205.8	232.3	314.1	443.9	633.2	888.6	1324.2	1829.2	1987.1	2015.2
27.5°	178.5	182.7	195.1	225.7	347.2	572.8	853.9	1391.1	1978.8	2145.0	2142.5
30°	161.2	162.0	169.5	190.9	281.9	519.1	813.4	1465.5	2111.9	2258.2	2250.8
32.5°	145.5	145.5	155.4	171.9	240.5	470.3	764.6	1519.3	2227.6	2350.8	2326.8
35°	131.4	133.9	143.0	159.5	213.3	415.8	719.1	1539.1	2326.8	2462.4	2394.6
37.5°	121.5	124.8	133.9	149.6	190.1	375.3	681.9	1562.2	2449.2	2597.1	2470.7
40°	114.9	117.4	125.6	138.9	171.9	341.4	641.4	1578.0	2570.7	2741.0	2550.8
42.5°	108.3	110.8	119.0	131.4	163.7	301.7	602.6	1587.0	2697.2	2865.8	2617.8
45°	102.5	105.8	114.1	125.6	164.5	266.2	570.3	1583.7	2773.2	2955.9	2669.9
47.5°	98.4	101.7	110.8	125.6	159.5	245.5	543.1	1572.2	2829.4	3014.6	2693.8
50°	94.2	97.5	108.3	138.9	151.3	239.7	522.4	1570.5	2888.1	3026.1	2693.8
52.5°	90.1	95.9	109.1	139.7	138.9	237.2	505.9	1614.3	2969.1	3046.0	2717.8
55°	87.6	92.6	112.4	128.9	121.5	229.0	496.0	1674.7	3105.5	3155.1	2838.5
57.5°	84.3	88.4	110.8	120.7	108.3	210.0	487.7	1732.5	3284.9	3357.6	3079.0
60°	80.2	85.1	107.5	103.3	98.4	178.5	482.7	1780.5	3351.8	3488.2	3337.8
62.5°	76.0	81.8	117.4	90.1	90.9	148.8	473.6	1826.8	3210.5	3456.8	3503.9
64°	73.6	79.4	109.1	84.3	86.8	135.6	464.5	1829.2	3085.6	3382.4	3535.3
65°	71.9	76.9	101.7	81.0	83.5	132.3	456.3	1794.5	2968.3	3303.0	3526.2
67.5°	69.4	72.7	78.5	75.2	77.7	126.5	400.1	1641.6	2718.6	3098.9	3384.9
70°	66.1	68.6	69.4	68.6	72.7	122.3	338.1	1424.2	2445.9	2884.8	3165.0
72.5°	62.8	62.8	62.8	62.0	67.0	116.5	304.2	1150.6	2113.6	2603.7	2891.4
75°	60.3	57.9	57.0	55.4	61.2	113.2	274.4	863.8	1633.3	2169.0	2422.7
77.5°	55.4	52.9	50.4	48.8	54.6	100.8	229.0	610.0	1204.3	1578.0	1869.7
80°	47.9	46.3	43.0	40.5	45.5	79.4	173.6	376.9	881.1	1065.5	1226.7
82.5°	38.8	38.0	34.7	31.4	33.1	57.0	118.2	191.8	587.7	578.6	685.2
85°	24.0	29.8	25.6	20.7	22.3	33.1	47.9	61.2	180.2	108.3	167.8
87.5°	14.1	19.0	15.7	10.7	8.3	14.9	13.2	12.4	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°	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0	1759.0
2.5°	1899.5	1910.2	1916.0	1894.5	1871.4	1850.7	1811.1	1771.4	1750.7	1754.8
5°	1977.2	1995.4	2000.3	1968.9	1903.6	1836.7	1740.0	1656.5	1606.1	1602.8
7.5°	1947.4	2007.0	2016.9	1983.0	1889.6	1764.8	1633.3	1516.8	1466.4	1454.8
10°	1841.6	1932.6	1962.3	1950.7	1859.8	1716.8	1557.3	1409.3	1358.9	1334.9
12.5°	1733.4	1828.4	1846.6	1858.2	1802.8	1682.1	1506.9	1354.8	1294.4	1274.6
15°	1662.3	1727.6	1732.5	1743.3	1731.7	1665.6	1530.0	1377.1	1304.4	1277.1
17.5°	1652.3	1629.2	1613.5	1635.8	1649.9	1666.4	1590.4	1460.6	1382.9	1348.2
20°	1654.0	1582.1	1537.5	1535.8	1596.1	1687.9	1712.7	1601.1	1500.3	1468.0
22.5°	1714.3	1557.3	1482.9	1473.8	1547.4	1724.3	1837.5	1768.1	1667.2	1624.2
25°	1804.4	1542.4	1444.0	1446.5	1520.1	1748.2	1944.1	1935.0	1846.6	1791.2
27.5°	1891.2	1567.2	1439.1	1445.7	1529.2	1763.9	2032.6	2092.1	1992.9	1945.0
30°	1960.7	1622.6	1454.0	1459.8	1557.3	1785.4	2076.4	2231.8	2111.9	2054.9
32.5°	2021.0	1674.7	1476.3	1480.4	1601.9	1816.0	2117.7	2349.2	2227.6	2159.9
35°	2075.6	1719.3	1510.2	1524.2	1659.0	1859.8	2159.9	2476.5	2369.0	2283.9
37.5°	2123.5	1773.9	1577.1	1600.3	1742.4	1923.5	2214.4	2644.2	2526.9	2430.2
40°	2150.8	1822.6	1676.3	1711.0	1850.7	2006.1	2283.9	2753.4	2678.1	2569.0
42.5°	2171.4	1889.6	1835.8	1898.7	2018.5	2083.8	2316.9	2802.1	2767.4	2674.0
45°	2182.2	2021.8	2075.6	2134.2	2207.8	2169.0	2298.7	2818.7	2807.9	2727.7
47.5°	2231.0	2221.0	2353.3	2434.3	2430.2	2297.1	2264.0	2817.0	2834.4	2768.2
50°	2330.1	2453.3	2638.5	2717.8	2687.2	2416.9	2257.4	2814.5	2887.3	2833.5
52.5°	2448.3	2685.6	2946.8	2979.8	2915.4	2538.4	2307.0	2857.5	2986.5	2950.9
55°	2603.7	2903.8	3189.0	3199.7	3108.8	2656.6	2412.8	2984.0	3171.6	3170.0
57.5°	2820.3	3099.7	3392.3	3379.1	3251.0	2820.3	2583.1	3173.3	3377.4	3406.4
60°	3055.9	3306.3	3556.8	3549.4	3413.0	3008.8	2817.0	3453.5	3557.6	3565.1
62.5°	3281.5	3498.1	3715.5	3680.0	3526.2	3203.8	3141.0	3751.0	3675.0	3619.6
64°	3428.7	3562.6	3756.0	3699.8	3553.5	3297.3	3327.8	3847.8	3708.1	3616.3
65°	3526.2	3578.3	3746.9	3679.1	3544.4	3332.0	3469.2	3888.3	3713.9	3597.3
67.5°	3701.5	3488.2	3500.6	3446.9	3326.2	3299.7	3700.6	3865.9	3650.2	3475.8
70°	3652.7	3125.3	2955.0	2921.2	2776.5	2925.3	3671.7	3656.0	3411.3	3198.9
72.5°	3236.1	2509.5	2264.8	2234.3	2033.4	2216.9	3168.3	3113.7	2745.1	2569.0
75°	2666.6	1902.0	1617.6	1643.3	1490.3	1659.8	2520.3	2133.4	1827.6	1722.6
77.5°	2069.8	1344.0	1117.5	1087.0	1056.4	1074.6	1732.5	1281.2	1067.9	971.2
80°	1319.2	844.8	838.2	766.2	741.4	624.9	890.2	681.9	536.5	507.5
82.5°	700.9	486.9	553.0	443.1	356.3	256.2	301.7	202.5	171.1	179.4
85°	191.8	100.8	28.1	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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