

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: P401943

Luminaire Tested: **ENV-SA1F-830-U-SLR-HSS**

Issue Date: 5/20/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P401943  
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: ENV-SA1F-830-U-SLR-HSS  
Description: ENTRI LED LUMINAIRE  
(1) 80 CRI, 3000K, 1200mA 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: 4652 lumens  
Efficiency: N/A  
Efficacy: 70.4 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

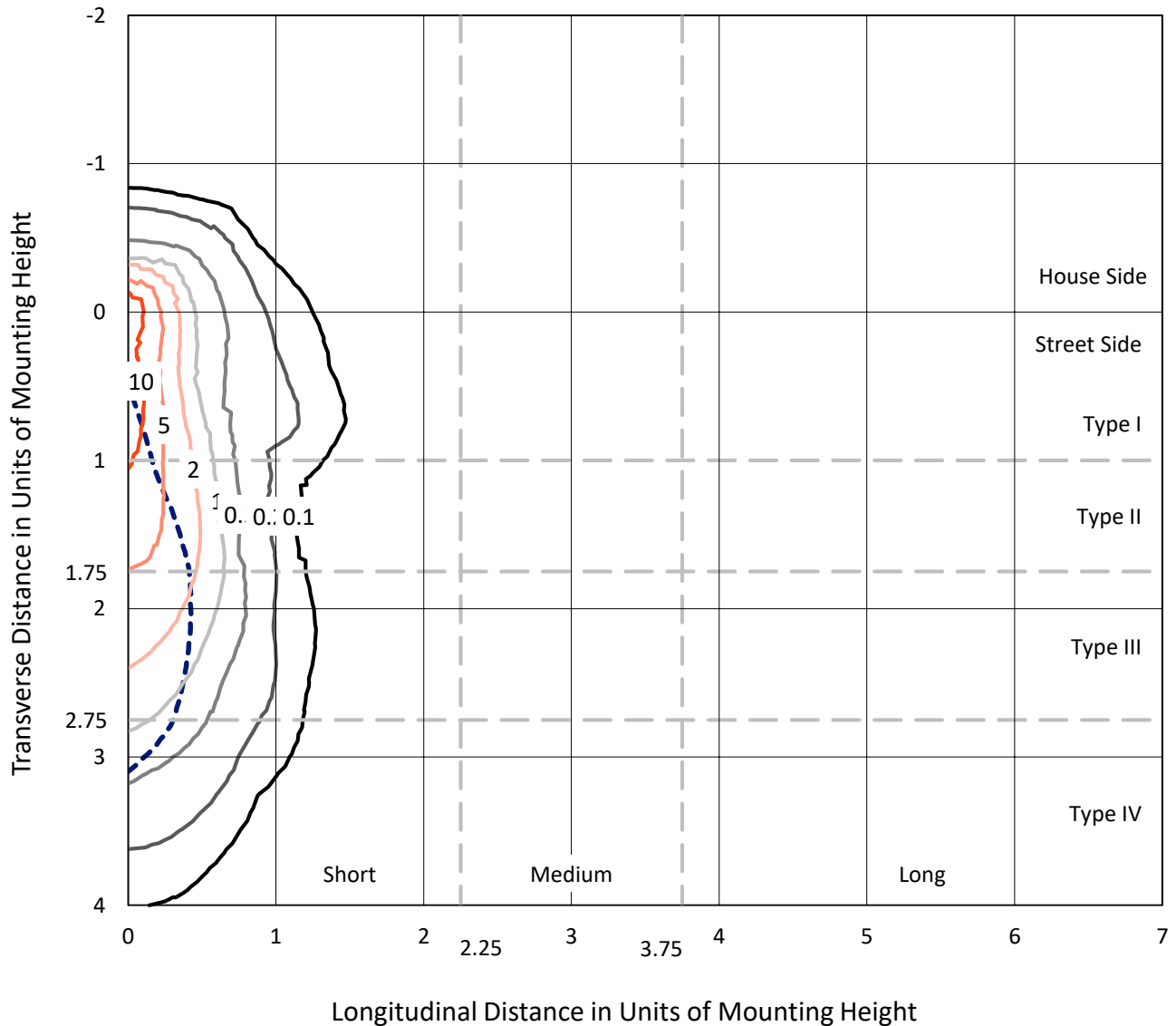
Input Watts (W): 66.1  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Iso-Footcandle Lines of Horizontal Illumination

× Max cd  
 - - - 1/2 Max cd

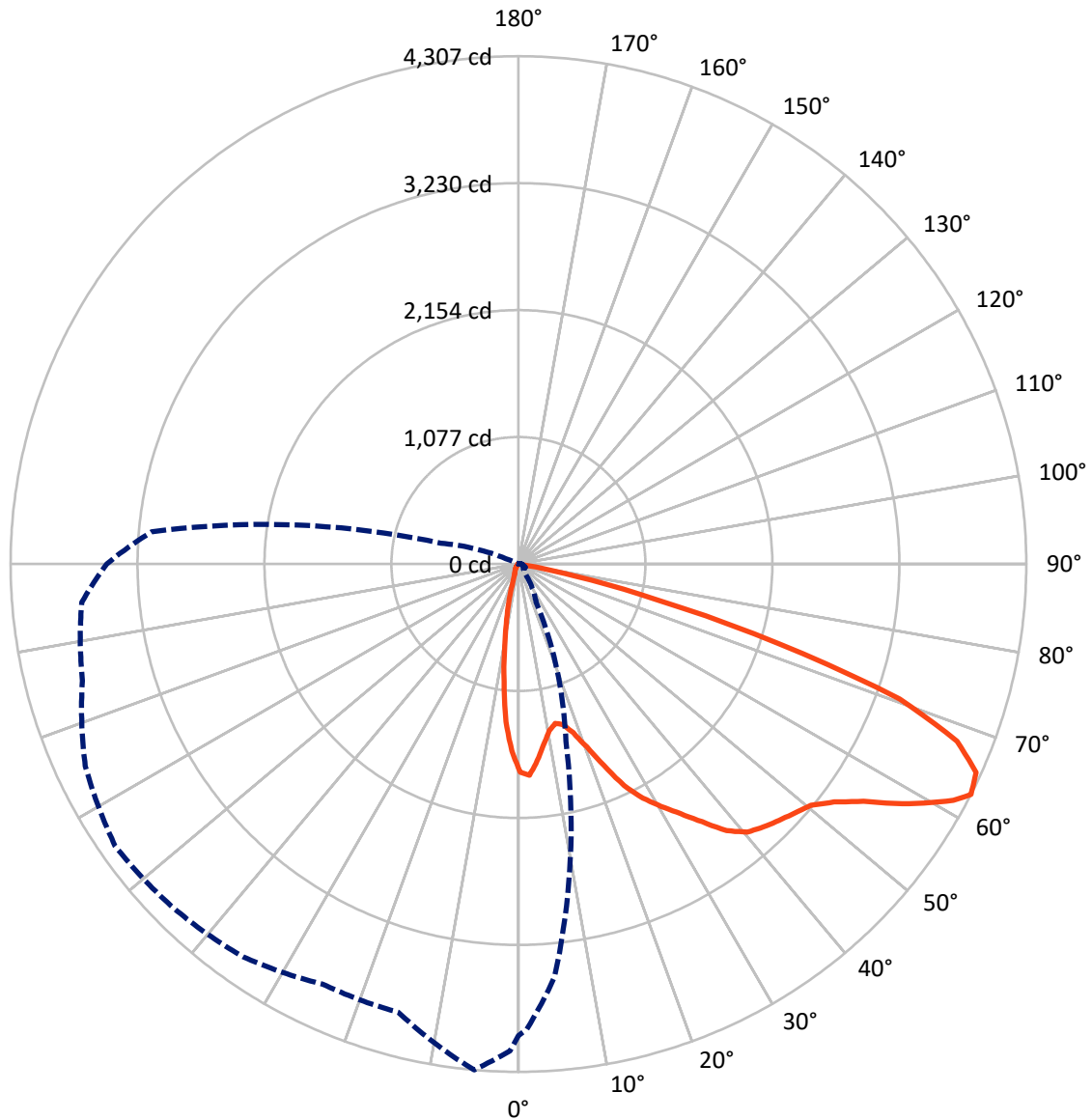


Based on 10 foot mounting height. Maximum calculated value = 17.6 fc  
 Type IV - Short - Semi-Cutoff

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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
<b>House Side</b>	Lumens	654.4	0.0	654.4
	% Fixture	14.1	0.0	14.1
<b>Street Side</b>	Lumens	3997.6	0.0	3997.6
	% Fixture	85.9	0.0	85.9
<b>Total</b>	Lumens	4652.0	0.0	4652.0
	% Fixture	100.0	0.0	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	132.3	2.8
10°-20°	251.5	5.4
20°-30°	350.0	7.5
30°-40°	506.2	10.9
40°-50°	725.8	15.6
50°-60°	1052.9	22.6
60°-70°	1139.2	24.5
70°-80°	460.1	9.9
80°-90°	34.1	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°	4652.0	100.0
0°-180°	4652.0	100.0



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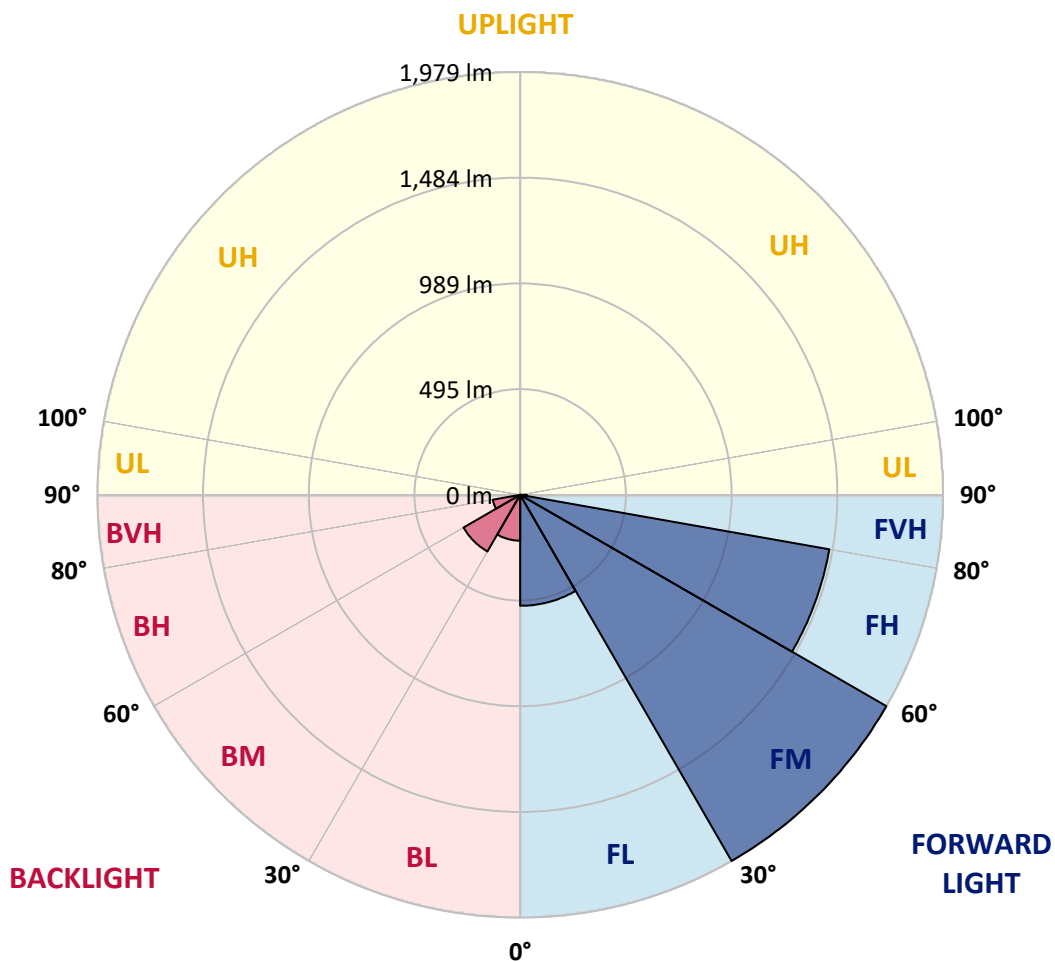
CATALOG NUMBER: ENV-SA1F-830-U-SLR-HSS

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	519.3	11.2			
FM	(30°-60°)	1978.6	42.5			
FH	(60°-80°)	1469.1	31.6			G1/1800
FVH	(80°-90°)	30.6	0.7			G1/100
BL	(0°-30°)	214.5	4.6	B1/500		
BM	(30°-60°)	306.2	6.6	B1/1000		
BH	(60°-80°)	130.1	2.8	B1/500		G1/500
BVH	(80°-90°)	3.5	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°	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6
2.5°	1772.0	1764.6	1748.0	1712.1	1660.6	1627.4	1606.3	1578.7	1550.1	1540.9	1522.5
5°	1617.3	1605.4	1582.3	1492.1	1411.1	1330.1	1272.1	1216.9	1198.5	1161.7	1183.8
7.5°	1468.2	1462.7	1409.3	1292.4	1163.5	1059.5	993.2	912.2	888.3	850.5	820.2
10°	1351.3	1346.7	1282.3	1129.5	990.5	903.9	851.5	799.0	746.5	693.1	650.8
12.5°	1292.4	1282.3	1207.7	1042.9	914.1	842.3	787.0	717.1	660.9	589.1	537.6
15°	1301.6	1292.4	1206.8	1029.1	877.2	777.8	695.9	613.1	533.9	463.0	412.4
17.5°	1375.2	1371.5	1267.5	1041.1	833.1	701.4	591.9	480.5	386.6	310.2	266.9
20°	1518.8	1507.8	1356.8	1066.9	787.0	613.1	463.0	325.9	247.6	195.1	176.7
22.5°	1696.5	1671.6	1497.7	1104.6	742.8	518.2	335.1	219.1	176.7	156.5	143.6
25°	1905.4	1906.4	1672.6	1155.2	698.7	429.9	234.7	174.0	149.1	134.4	123.3
27.5°	2074.8	2061.9	1830.0	1205.9	650.8	352.6	197.0	151.9	130.7	115.1	108.6
30°	2200.0	2180.7	1934.0	1240.8	589.1	298.2	176.7	144.5	123.3	105.9	97.6
32.5°	2328.9	2304.9	2027.9	1260.2	552.3	272.5	156.5	126.1	110.5	103.1	92.1
35°	2479.8	2458.7	2131.9	1258.3	533.0	257.7	141.8	114.1	93.9	81.9	74.6
37.5°	2648.3	2605.0	2239.6	1250.0	519.2	250.4	128.9	105.9	87.4	74.6	65.4
40°	2792.8	2749.5	2339.0	1239.0	510.0	243.0	121.5	100.3	82.8	69.0	59.8
42.5°	2906.0	2864.6	2432.0	1225.2	505.4	227.4	125.2	96.7	79.2	65.4	55.2
45°	3003.6	2961.3	2542.4	1223.3	503.5	216.3	123.3	95.7	77.3	60.8	51.5
47.5°	3116.8	3094.7	2687.9	1253.7	496.2	208.0	113.2	103.1	76.4	58.9	48.8
50°	3284.3	3265.0	2878.4	1343.9	485.1	199.7	103.1	113.2	76.4	57.1	46.0
52.5°	3519.1	3497.0	3178.5	1461.8	475.0	190.5	93.0	109.5	77.3	54.3	44.2
55°	3762.1	3758.4	3462.0	1586.9	465.8	170.3	81.9	98.5	75.5	50.6	41.4
57.5°	3952.6	3949.9	3674.6	1671.6	448.3	137.2	74.6	81.9	70.0	46.0	37.7
60°	4030.9	4007.9	3697.7	1671.6	407.8	113.2	68.1	64.4	70.9	41.4	33.1
61°	4030.9	4001.4	3656.2	1646.8	387.5	107.7	64.4	59.8	72.7	39.6	31.3
62.5°	3999.6	3950.8	3514.5	1557.5	355.3	107.7	58.9	53.4	66.3	37.7	28.5
65°	3860.6	3780.5	3182.2	1354.1	322.2	110.5	50.6	45.1	47.9	32.2	24.9
67.5°	3517.2	3427.0	2751.4	1071.5	295.5	116.9	42.3	39.6	36.8	28.5	22.1
70°	2897.7	2821.3	2245.1	802.7	274.3	118.7	36.8	33.1	31.3	24.9	19.3
72.5°	1852.0	1725.9	1401.9	544.0	220.0	103.1	30.4	31.3	28.5	20.3	15.6
75°	894.7	929.7	815.6	274.3	148.2	67.2	23.9	25.8	23.0	18.4	13.8
77.5°	400.4	393.1	389.4	70.0	37.7	23.0	14.7	17.5	18.4	16.6	12.0
80°	41.4	56.2	33.1	21.2	13.8	10.1	8.3	9.2	11.0	12.0	6.4
82.5°	1.8	0.9	0.9	2.8	2.8	1.8	0.0	0.0	1.8	1.8	0.9
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°	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6
2.5°	1505.9	1530.8	1519.7	1517.0	1531.7	1524.3	1546.4	1547.4	1563.9	1586.0	1599.8
5°	1183.8	1164.4	1203.1	1228.9	1261.1	1251.0	1289.6	1285.0	1306.2	1341.2	1327.4
7.5°	822.0	824.8	845.0	868.0	954.6	972.0	984.9	995.1	994.1	1002.4	1017.2
10°	628.7	613.1	599.2	631.5	665.5	703.3	708.8	722.6	684.9	700.5	707.9
12.5°	514.6	496.2	465.8	449.2	457.5	479.6	488.8	497.1	475.0	475.9	492.5
15°	390.3	365.4	353.5	331.4	323.1	321.3	325.9	313.9	311.1	301.0	307.4
17.5°	254.1	246.7	240.3	235.6	229.2	227.4	210.8	182.3	165.7	162.0	162.0
20°	169.4	163.8	163.8	173.1	170.3	162.9	140.8	116.9	104.9	101.3	103.1
22.5°	139.0	135.3	129.8	129.8	133.5	127.9	107.7	90.2	81.9	81.9	81.9
25°	120.6	118.7	113.2	107.7	109.5	104.9	87.4	76.4	70.9	70.0	70.9
27.5°	105.9	104.9	98.5	93.0	93.0	89.3	75.5	65.4	61.7	59.8	60.8
30°	95.7	93.9	86.5	81.9	81.0	77.3	64.4	57.1	53.4	52.5	52.5
32.5°	88.4	84.7	78.2	73.6	70.9	65.4	56.2	48.8	45.1	44.2	44.2
35°	70.9	70.9	68.1	65.4	61.7	53.4	46.9	40.5	36.8	35.9	35.9
37.5°	61.7	58.0	53.4	54.3	52.5	45.1	38.7	32.2	29.5	28.5	28.5
40°	56.2	51.5	45.1	42.3	43.3	39.6	32.2	24.9	21.2	22.1	21.2
42.5°	50.6	46.9	39.6	33.1	32.2	33.1	24.9	17.5	14.7	14.7	14.7
45°	46.9	43.3	35.0	27.6	23.0	25.8	19.3	12.0	9.2	9.2	9.2
47.5°	44.2	40.5	31.3	23.0	16.6	17.5	13.8	7.4	5.5	3.7	4.6
50°	42.3	37.7	28.5	18.4	12.0	10.1	9.2	3.7	0.9	0.9	0.0
52.5°	39.6	35.9	25.8	15.6	9.2	6.4	4.6	0.9	0.0	0.0	0.0
55°	37.7	33.1	23.0	13.8	7.4	3.7	0.9	0.0	0.0	0.0	0.0
57.5°	34.1	30.4	20.3	11.0	5.5	1.8	0.0	0.0	0.0	0.0	0.0
60°	30.4	27.6	17.5	8.3	3.7	0.0	0.0	0.0	0.0	0.0	0.0
61°	28.5	25.8	16.6	7.4	2.8	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	26.7	23.9	14.7	5.5	1.8	0.0	0.0	0.0	0.0	0.0	0.0
65°	23.0	20.3	12.9	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	20.3	18.4	11.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	17.5	15.6	8.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	14.7	13.8	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	12.9	11.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	10.1	9.2	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	5.5	4.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.9	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°	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6
2.5°	1612.7	1644.9	1675.3	1714.0	1735.1	1793.1	1834.6	1869.5	1897.2	1902.7	1924.8
5°	1364.2	1409.3	1438.7	1519.7	1564.9	1661.5	1736.1	1824.4	1903.6	1946.9	1986.4
7.5°	1027.3	1049.4	1100.0	1181.0	1287.8	1371.5	1497.7	1609.0	1751.7	1830.0	1903.6
10°	725.4	745.6	820.2	904.9	1002.4	1143.3	1296.1	1442.4	1586.9	1687.3	1773.8
12.5°	510.0	576.2	649.9	757.6	853.3	956.4	1119.3	1290.5	1471.0	1566.7	1660.6
15°	335.1	394.0	496.2	631.5	751.1	851.5	1003.3	1204.0	1433.2	1540.0	1629.3
17.5°	165.7	209.0	299.2	444.6	603.8	762.2	945.4	1188.4	1482.0	1602.6	1686.4
20°	104.0	116.9	150.0	251.3	434.5	668.3	902.1	1219.7	1614.6	1748.0	1802.3
22.5°	83.8	87.4	100.3	133.5	265.1	552.3	864.4	1262.0	1760.0	1922.9	1979.1
25°	71.8	74.6	81.9	98.5	153.7	414.2	818.3	1336.6	1929.4	2126.4	2140.2
27.5°	61.7	64.4	70.9	83.8	109.5	278.9	752.0	1424.0	2131.9	2304.9	2295.7
30°	52.5	56.2	62.6	71.8	86.5	188.7	628.7	1512.4	2281.0	2420.0	2405.3
32.5°	45.1	47.9	53.4	61.7	71.8	129.8	472.2	1570.4	2405.3	2528.6	2496.4
35°	36.8	39.6	44.2	51.5	58.0	92.1	357.2	1572.2	2533.2	2663.0	2582.0
37.5°	29.5	31.3	35.9	42.3	47.9	71.8	262.3	1541.8	2691.5	2837.9	2679.6
40°	22.1	24.9	29.5	35.0	40.5	60.8	196.1	1468.2	2846.2	3012.8	2797.4
42.5°	14.7	18.4	23.0	28.5	38.7	48.8	138.1	1345.8	2971.4	3168.4	2912.5
45°	9.2	12.0	17.5	23.9	39.6	38.7	92.1	1199.4	3060.7	3287.1	2990.7
47.5°	4.6	7.4	12.9	23.0	35.0	28.5	57.1	1059.5	3141.7	3356.1	3026.6
50°	0.9	2.8	9.2	28.5	29.5	21.2	37.7	972.0	3184.0	3338.7	3022.9
52.5°	0.0	0.0	6.4	27.6	21.2	16.6	29.5	959.2	3250.3	3361.7	3086.4
55°	0.0	0.0	2.8	12.0	12.0	13.8	25.8	941.7	3368.1	3498.8	3277.9
57.5°	0.0	0.0	0.0	5.5	7.4	11.0	23.9	895.6	3492.4	3644.3	3510.8
60°	0.0	0.0	0.0	2.8	4.6	9.2	21.2	790.7	3378.2	3645.2	3704.1
61°	0.0	0.0	0.0	2.8	3.7	8.3	19.3	753.9	3276.1	3586.3	3728.0
62.5°	0.0	0.0	0.0	0.9	2.8	6.4	16.6	681.2	3123.3	3491.5	3717.0
65°	0.0	0.0	0.0	0.0	0.9	3.7	12.9	550.5	2868.3	3253.1	3590.0
67.5°	0.0	0.0	0.0	0.0	0.0	0.9	8.3	387.5	2501.9	2983.3	3318.4
70°	0.0	0.0	0.0	0.0	0.0	0.0	3.7	224.6	2015.9	2525.9	2842.5
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.8	102.2	1308.0	1950.5	2242.3
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.3	805.4	1409.3	1675.3
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	19.3	545.9	938.0	1127.6
80°	0.0	1.8	0.9	0.0	0.0	0.0	0.0	7.4	336.0	585.4	636.1
82.5°	0.0	0.9	0.9	0.0	0.0	0.0	0.0	0.0	174.0	413.3	421.6
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.7	87.4
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°	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6	1764.6
2.5°	1945.0	1950.5	1954.2	1947.8	1908.2	1886.1	1841.9	1793.1	1776.6	1772.0
5°	2058.2	2089.5	2084.0	2041.7	1972.6	1887.9	1783.0	1674.4	1633.0	1617.3
7.5°	2036.1	2118.1	2133.7	2089.5	1972.6	1824.4	1672.6	1543.7	1483.8	1468.2
10°	1923.8	2026.9	2076.7	2062.8	1953.3	1782.1	1595.2	1436.9	1371.5	1351.3
12.5°	1815.2	1914.6	1945.9	1957.0	1897.2	1749.0	1556.6	1386.3	1318.2	1292.4
15°	1742.5	1804.2	1802.3	1822.6	1818.0	1736.1	1581.4	1412.0	1335.6	1301.6
17.5°	1718.6	1700.2	1676.2	1692.8	1725.0	1739.7	1662.4	1504.1	1414.8	1375.2
20°	1733.3	1643.1	1590.6	1589.7	1657.8	1770.1	1781.2	1656.0	1572.2	1518.8
22.5°	1808.8	1614.6	1533.6	1535.4	1619.2	1815.2	1918.3	1854.8	1762.8	1696.5
25°	1920.2	1620.1	1511.5	1522.5	1615.5	1854.8	2066.5	2081.3	1963.4	1905.4
27.5°	2033.4	1667.9	1512.4	1524.3	1631.1	1876.0	2151.2	2247.9	2146.6	2074.8
30°	2112.6	1726.9	1529.0	1541.8	1656.0	1892.6	2183.4	2385.0	2280.1	2200.0
32.5°	2187.1	1787.6	1555.6	1568.5	1705.7	1926.6	2244.2	2523.1	2408.0	2328.9
35°	2259.8	1847.4	1605.4	1628.4	1785.8	1988.3	2305.9	2685.1	2589.4	2479.8
37.5°	2322.4	1913.7	1691.0	1739.7	1894.4	2083.1	2389.6	2869.2	2770.7	2648.3
40°	2374.9	1992.0	1867.7	1922.0	2060.1	2183.4	2482.6	2989.8	2924.4	2792.8
42.5°	2417.2	2130.0	2120.8	2197.2	2293.9	2298.5	2509.3	3047.8	3022.9	2906.0
45°	2488.1	2377.7	2453.1	2578.3	2571.9	2436.6	2501.9	3101.2	3103.0	3003.6
47.5°	2604.1	2687.9	2906.0	2990.7	2947.4	2625.3	2509.3	3153.6	3195.1	3116.8
50°	2769.8	3039.5	3324.9	3437.2	3311.0	2814.9	2574.6	3216.2	3341.4	3284.3
52.5°	2911.5	3305.5	3711.5	3811.8	3639.7	3017.4	2727.4	3351.5	3537.5	3519.1
55°	3114.1	3534.7	3986.7	4064.0	3925.9	3246.6	2932.7	3550.4	3752.9	3762.1
57.5°	3321.2	3741.8	4166.2	4244.4	4139.5	3532.0	3224.5	3835.7	3955.4	3952.6
60°	3551.3	3935.1	4247.2	4290.5	4230.6	3817.3	3538.4	4097.2	4094.4	4030.9
61°	3682.9	3996.8	4241.7	4254.6	4196.6	3901.1	3700.4	4197.5	4114.6	4030.9
62.5°	3828.4	4053.0	4173.6	4130.3	4067.7	3930.5	3935.1	4307.0	4128.4	3999.6
65°	3975.6	3912.1	3859.7	3652.5	3593.6	3659.9	4133.1	4265.6	4044.7	3860.6
67.5°	3723.4	3352.5	3239.2	3031.2	2798.3	3069.0	3945.3	4012.5	3762.1	3517.2
70°	3043.2	2463.3	2328.9	2321.5	2154.0	2451.3	3479.5	3430.7	3122.3	2897.7
72.5°	2385.0	1680.8	1497.7	1540.0	1506.9	1827.2	2846.2	2302.2	2002.1	1852.0
75°	1869.5	1194.8	1031.0	1023.6	987.7	1244.5	2084.0	1213.2	1001.5	894.7
77.5°	1233.5	860.7	857.9	792.6	764.9	674.7	935.2	486.0	396.7	400.4
80°	710.6	527.4	618.6	490.6	491.5	395.8	378.3	70.9	57.1	41.4
82.5°	407.8	253.1	191.5	75.5	158.3	158.3	30.4	0.9	0.9	1.8
85°	39.6	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	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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