

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: P401925

Luminaire Tested: **ENT-SA1F-827-U-SLR-HSS**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401925
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-SA1F-827-U-SLR-HSS
Description: ENTRI LED LUMINAIRE
(1) 80 CRI, 2700K, 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: 4303 lumens
Efficiency: N/A
Efficacy: 65.1 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

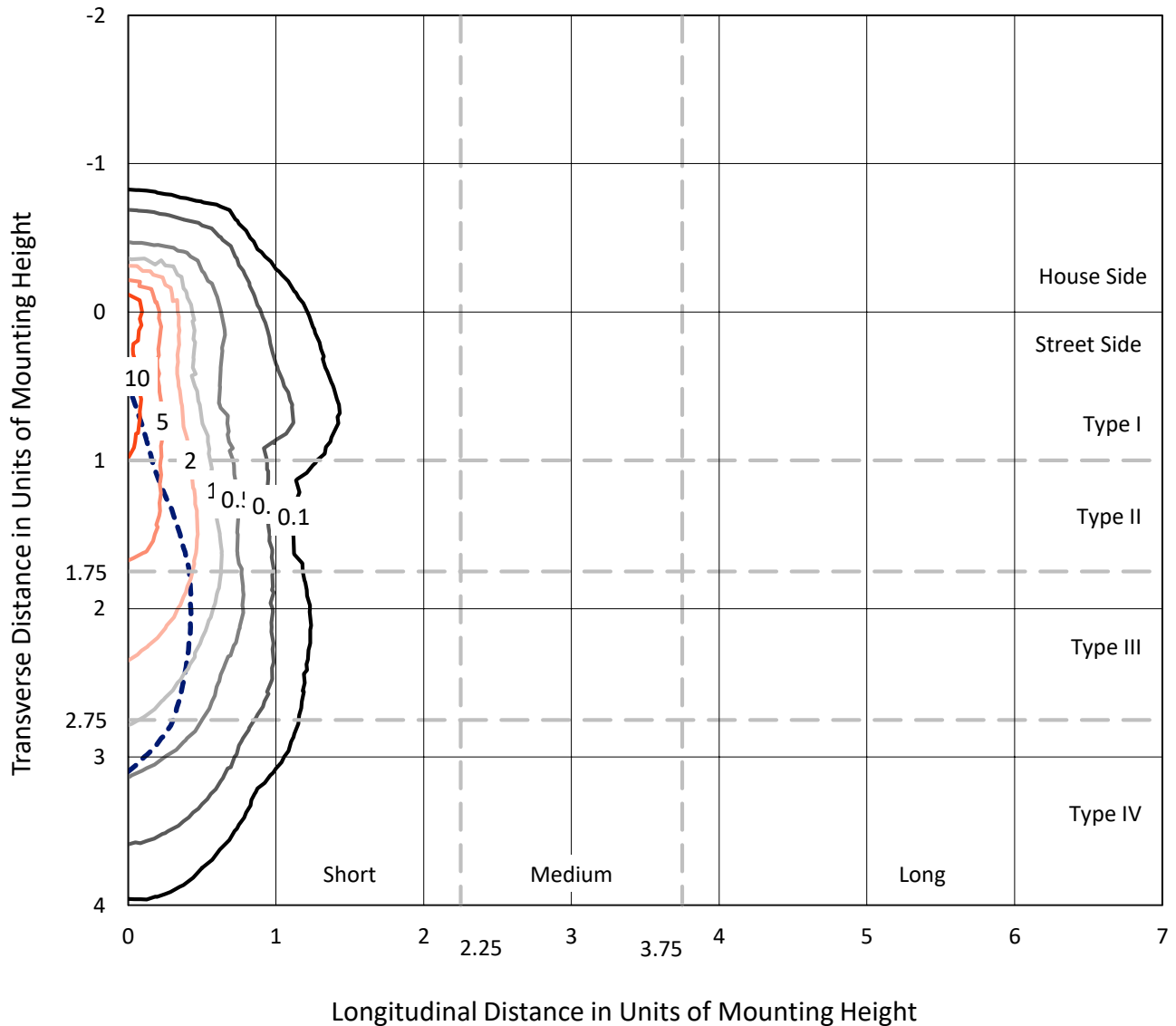


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

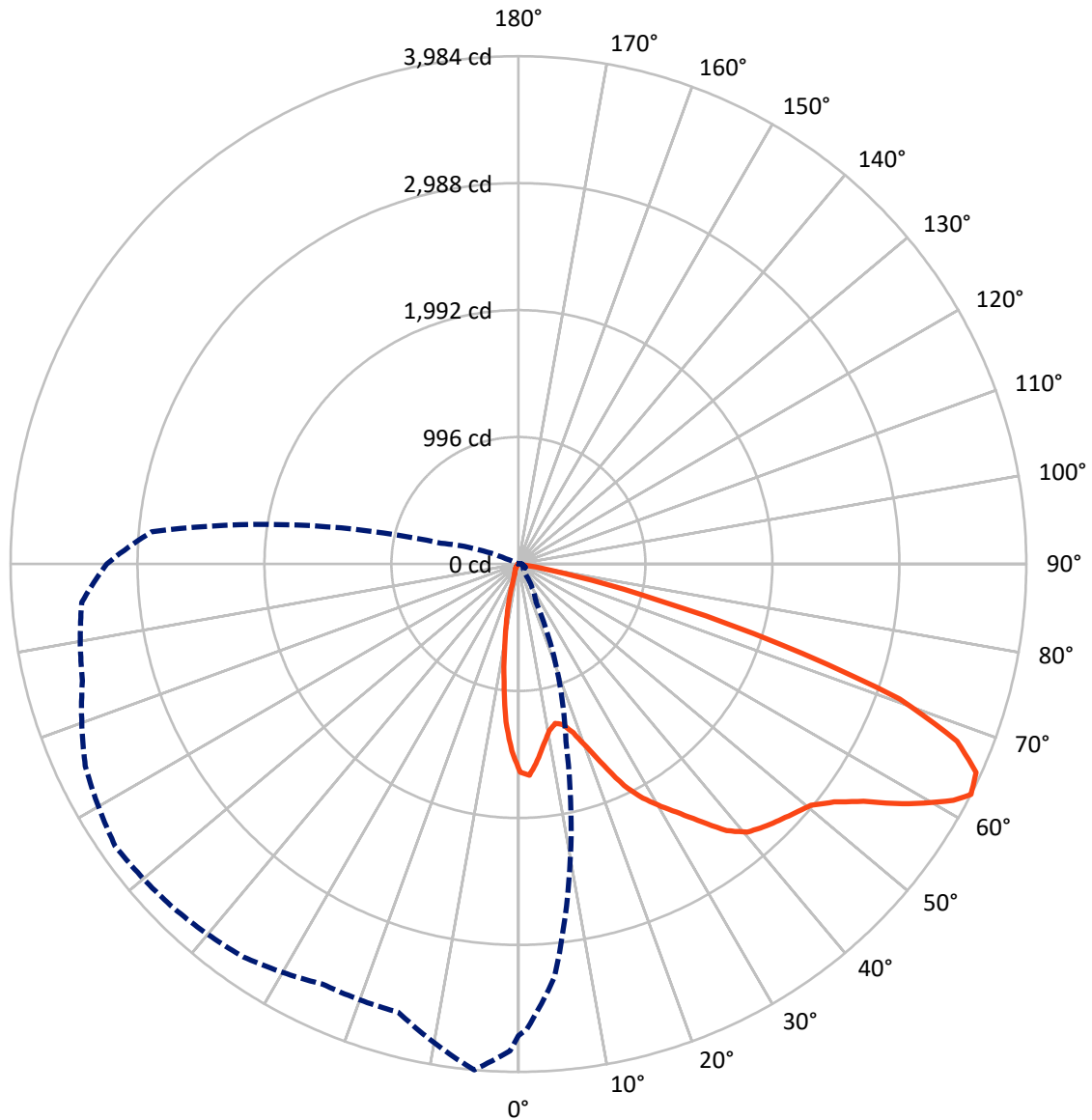


Based on 10 foot mounting height. Maximum calculated value = 16.3 fc
 Type IV - Short - Semi-Cutoff

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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	605.3	0.0	605.3
	% Fixture	14.1	0.0	14.1
Street Side	Lumens	3697.7	0.0	3697.7
	% Fixture	85.9	0.0	85.9
Total	Lumens	4303.0	0.0	4303.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.4	2.8
10°-20°	232.7	5.4
20°-30°	323.7	7.5
30°-40°	468.2	10.9
40°-50°	671.3	15.6
50°-60°	973.9	22.6
60°-70°	1053.7	24.5
70°-80°	425.6	9.9
80°-90°	31.5	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°	4303.0	100.0
0°-180°	4303.0	100.0



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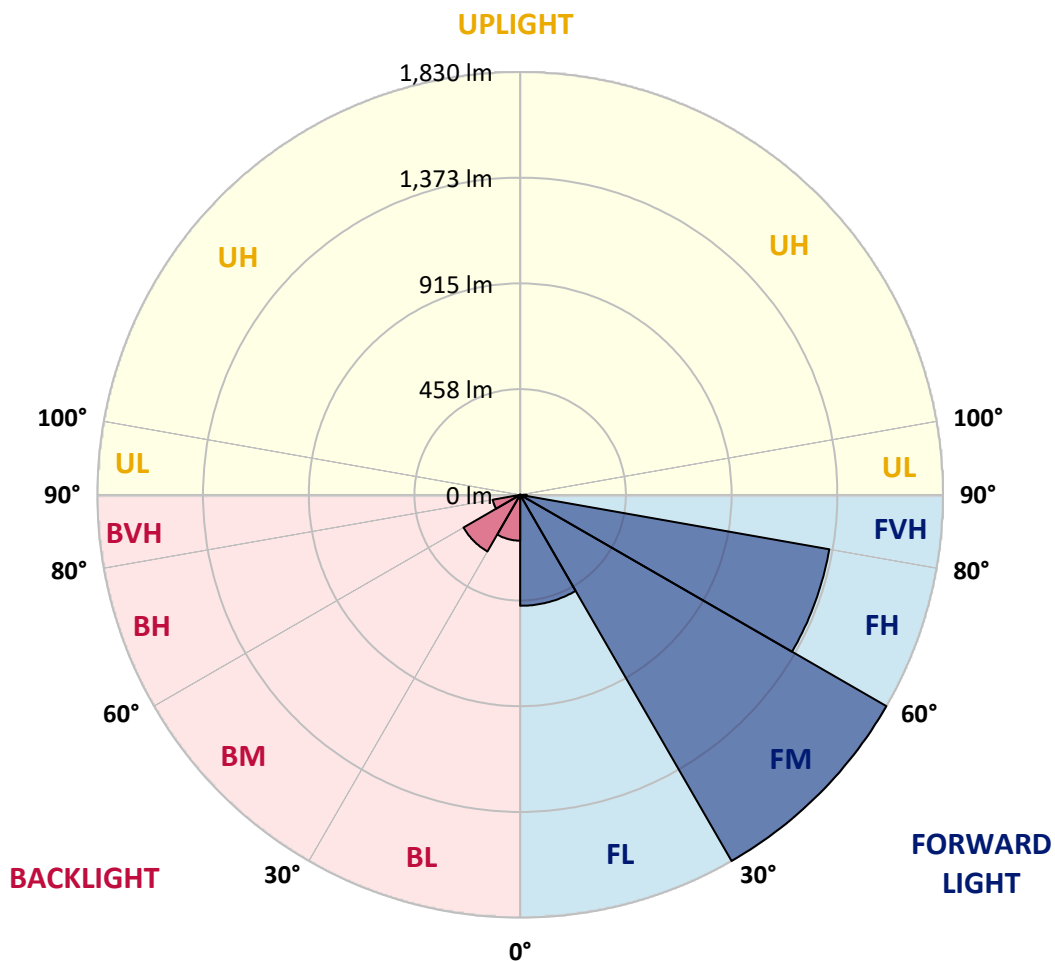
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	480.4	11.2			
FM	(30°-60°)	1830.2	42.5			
FH	(60°-80°)	1358.9	31.6			G1/1800
FVH	(80°-90°)	28.3	0.7			G1/100
BL	(0°-30°)	198.5	4.6	B1/500		
BM	(30°-60°)	283.2	6.6	B1/1000		
BH	(60°-80°)	120.4	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°	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2
2.5°	1639.0	1632.2	1616.9	1583.7	1536.0	1505.4	1485.8	1460.2	1433.8	1425.3	1408.3
5°	1496.0	1484.9	1463.6	1380.2	1305.3	1230.3	1176.7	1125.6	1108.6	1074.5	1095.0
7.5°	1358.1	1352.9	1303.6	1195.4	1076.2	980.0	918.7	843.8	821.6	786.7	758.6
10°	1249.9	1245.7	1186.1	1044.7	916.2	836.1	787.6	739.1	690.5	641.1	602.0
12.5°	1195.4	1186.1	1117.1	964.7	845.5	779.1	728.0	663.3	611.3	544.9	497.2
15°	1203.9	1195.4	1116.2	951.9	811.4	719.5	643.7	567.1	493.8	428.3	381.4
17.5°	1272.1	1268.7	1172.4	963.0	770.6	648.8	547.5	444.5	357.6	286.9	246.9
20°	1404.9	1394.7	1255.0	986.8	728.0	567.1	428.3	301.4	229.0	180.5	163.5
22.5°	1569.2	1546.2	1385.3	1021.7	687.1	479.4	309.9	202.6	163.5	144.7	132.8
25°	1762.5	1763.3	1547.1	1068.6	646.2	397.6	217.1	160.9	137.9	124.3	114.1
27.5°	1919.2	1907.2	1692.7	1115.4	602.0	326.1	182.2	140.5	120.9	106.4	100.5
30°	2035.0	2017.1	1788.9	1147.7	544.9	275.9	163.5	133.7	114.1	97.9	90.3
32.5°	2154.2	2132.0	1875.7	1165.6	510.9	252.0	144.7	116.6	102.2	95.4	85.1
35°	2293.8	2274.2	1971.9	1163.9	493.0	238.4	131.1	105.6	86.8	75.8	69.0
37.5°	2449.6	2409.6	2071.6	1156.3	480.2	231.6	119.2	97.9	80.9	69.0	60.5
40°	2583.3	2543.3	2163.5	1146.0	471.7	224.8	112.4	92.8	76.6	63.9	55.3
42.5°	2688.0	2649.7	2249.5	1133.3	467.4	210.3	115.8	89.4	73.2	60.5	51.1
45°	2778.3	2739.1	2351.7	1131.6	465.7	200.1	114.1	88.6	71.5	56.2	47.7
47.5°	2883.0	2862.6	2486.2	1159.7	458.9	192.4	104.7	95.4	70.7	54.5	45.1
50°	3038.0	3020.1	2662.5	1243.1	448.7	184.8	95.4	104.7	70.7	52.8	42.6
52.5°	3255.1	3234.6	2940.0	1352.1	439.3	176.2	86.0	101.3	71.5	50.2	40.9
55°	3479.9	3476.4	3202.3	1467.9	430.8	157.5	75.8	91.1	69.8	46.8	38.3
57.5°	3656.1	3653.5	3399.0	1546.2	414.7	126.9	69.0	75.8	64.7	42.6	34.9
60°	3728.5	3707.2	3420.2	1546.2	377.2	104.7	63.0	59.6	65.6	38.3	30.7
61°	3728.5	3701.2	3381.9	1523.2	358.5	99.6	59.6	55.3	67.3	36.6	28.9
62.5°	3699.5	3654.4	3250.8	1440.6	328.7	99.6	54.5	49.4	61.3	34.9	26.4
65°	3571.0	3496.9	2943.4	1252.5	298.0	102.2	46.8	41.7	44.3	29.8	23.0
67.5°	3253.4	3169.9	2545.0	991.1	273.3	108.1	39.2	36.6	34.1	26.4	20.4
70°	2680.3	2609.7	2076.7	742.5	253.7	109.8	34.1	30.7	28.9	23.0	17.9
72.5°	1713.1	1596.5	1296.7	503.2	203.5	95.4	28.1	28.9	26.4	18.7	14.5
75°	827.6	860.0	754.4	253.7	137.1	62.2	22.1	23.8	21.3	17.0	12.8
77.5°	370.4	363.6	360.2	64.7	34.9	21.3	13.6	16.2	17.0	15.3	11.1
80°	38.3	51.9	30.7	19.6	12.8	9.4	7.7	8.5	10.2	11.1	6.0
82.5°	1.7	0.9	0.9	2.6	2.6	1.7	0.0	0.0	1.7	1.7	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°	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2
2.5°	1393.0	1416.0	1405.7	1403.2	1416.8	1410.0	1430.4	1431.3	1446.6	1467.0	1479.8
5°	1095.0	1077.1	1112.8	1136.7	1166.5	1157.1	1192.9	1188.6	1208.2	1240.6	1227.8
7.5°	760.3	762.9	781.6	802.9	882.9	899.1	911.0	920.4	919.6	927.2	940.8
10°	581.5	567.1	554.3	584.1	615.6	650.5	655.6	668.4	633.5	647.9	654.8
12.5°	476.0	458.9	430.8	415.5	423.2	443.6	452.1	459.8	439.3	440.2	455.5
15°	361.0	338.0	327.0	306.5	298.9	297.2	301.4	290.3	287.8	278.4	284.4
17.5°	235.0	228.2	222.2	218.0	212.0	210.3	195.0	168.6	153.3	149.9	149.9
20°	156.7	151.6	151.6	160.1	157.5	150.7	130.3	108.1	97.1	93.7	95.4
22.5°	128.6	125.2	120.1	120.1	123.5	118.4	99.6	83.4	75.8	75.8	75.8
25°	111.5	109.8	104.7	99.6	101.3	97.1	80.9	70.7	65.6	64.7	65.6
27.5°	97.9	97.1	91.1	86.0	86.0	82.6	69.8	60.5	57.0	55.3	56.2
30°	88.6	86.8	80.0	75.8	74.9	71.5	59.6	52.8	49.4	48.5	48.5
32.5°	81.7	78.3	72.4	68.1	65.6	60.5	51.9	45.1	41.7	40.9	40.9
35°	65.6	65.6	63.0	60.5	57.0	49.4	43.4	37.5	34.1	33.2	33.2
37.5°	57.0	53.6	49.4	50.2	48.5	41.7	35.8	29.8	27.2	26.4	26.4
40°	51.9	47.7	41.7	39.2	40.0	36.6	29.8	23.0	19.6	20.4	19.6
42.5°	46.8	43.4	36.6	30.7	29.8	30.7	23.0	16.2	13.6	13.6	13.6
45°	43.4	40.0	32.4	25.5	21.3	23.8	17.9	11.1	8.5	8.5	8.5
47.5°	40.9	37.5	28.9	21.3	15.3	16.2	12.8	6.8	5.1	3.4	4.3
50°	39.2	34.9	26.4	17.0	11.1	9.4	8.5	3.4	0.9	0.9	0.0
52.5°	36.6	33.2	23.8	14.5	8.5	6.0	4.3	0.9	0.0	0.0	0.0
55°	34.9	30.7	21.3	12.8	6.8	3.4	0.9	0.0	0.0	0.0	0.0
57.5°	31.5	28.1	18.7	10.2	5.1	1.7	0.0	0.0	0.0	0.0	0.0
60°	28.1	25.5	16.2	7.7	3.4	0.0	0.0	0.0	0.0	0.0	0.0
61°	26.4	23.8	15.3	6.8	2.6	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	24.7	22.1	13.6	5.1	1.7	0.0	0.0	0.0	0.0	0.0	0.0
65°	21.3	18.7	11.9	3.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	18.7	17.0	10.2	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	16.2	14.5	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	13.6	12.8	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	11.9	10.2	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	9.4	8.5	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	5.1	4.3	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°	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2
2.5°	1491.7	1521.5	1549.6	1585.4	1605.0	1658.6	1696.9	1729.3	1754.8	1759.9	1780.4
5°	1261.8	1303.6	1330.8	1405.7	1447.5	1536.9	1605.8	1687.6	1760.8	1800.8	1837.4
7.5°	950.2	970.6	1017.5	1092.4	1191.2	1268.7	1385.3	1488.3	1620.3	1692.7	1760.8
10°	670.9	689.7	758.6	837.0	927.2	1057.5	1198.8	1334.2	1467.9	1560.7	1640.7
12.5°	471.7	533.0	601.1	700.7	789.3	884.7	1035.4	1193.7	1360.6	1449.2	1536.0
15°	309.9	364.4	458.9	584.1	694.8	787.6	928.1	1113.7	1325.7	1424.5	1507.1
17.5°	153.3	193.3	276.7	411.2	558.5	705.0	874.4	1099.2	1370.8	1482.4	1559.8
20°	96.2	108.1	138.8	232.4	401.9	618.1	834.4	1128.2	1493.4	1616.9	1667.1
22.5°	77.5	80.9	92.8	123.5	245.2	510.9	799.5	1167.3	1628.0	1778.7	1830.6
25°	66.4	69.0	75.8	91.1	142.2	383.1	756.9	1236.3	1784.6	1966.8	1979.6
27.5°	57.0	59.6	65.6	77.5	101.3	258.0	695.6	1317.2	1971.9	2132.0	2123.5
30°	48.5	51.9	57.9	66.4	80.0	174.5	581.5	1398.9	2109.9	2238.4	2224.8
32.5°	41.7	44.3	49.4	57.0	66.4	120.1	436.8	1452.6	2224.8	2338.9	2309.1
35°	34.1	36.6	40.9	47.7	53.6	85.1	330.4	1454.3	2343.2	2463.2	2388.3
37.5°	27.2	28.9	33.2	39.2	44.3	66.4	242.7	1426.2	2489.6	2625.0	2478.6
40°	20.4	23.0	27.2	32.4	37.5	56.2	181.4	1358.1	2632.7	2786.8	2587.5
42.5°	13.6	17.0	21.3	26.4	35.8	45.1	127.7	1244.8	2748.5	2930.7	2694.0
45°	8.5	11.1	16.2	22.1	36.6	35.8	85.1	1109.4	2831.1	3040.5	2766.3
47.5°	4.3	6.8	11.9	21.3	32.4	26.4	52.8	980.0	2906.0	3104.4	2799.5
50°	0.9	2.6	8.5	26.4	27.2	19.6	34.9	899.1	2945.1	3088.2	2796.1
52.5°	0.0	0.0	6.0	25.5	19.6	15.3	27.2	887.2	3006.4	3109.5	2854.9
55°	0.0	0.0	2.6	11.1	11.1	12.8	23.8	871.0	3115.4	3236.3	3032.0
57.5°	0.0	0.0	0.0	5.1	6.8	10.2	22.1	828.5	3230.4	3370.9	3247.4
60°	0.0	0.0	0.0	2.6	4.3	8.5	19.6	731.4	3124.8	3371.7	3426.2
61°	0.0	0.0	0.0	2.6	3.4	7.7	17.9	697.3	3030.3	3317.2	3448.3
62.5°	0.0	0.0	0.0	0.9	2.6	6.0	15.3	630.1	2888.9	3229.5	3438.1
65°	0.0	0.0	0.0	0.0	0.9	3.4	11.9	509.2	2653.1	3009.0	3320.6
67.5°	0.0	0.0	0.0	0.0	0.0	0.9	7.7	358.5	2314.2	2759.5	3069.5
70°	0.0	0.0	0.0	0.0	0.0	0.0	3.4	207.8	1864.7	2336.4	2629.3
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	1.7	94.5	1209.9	1804.2	2074.1
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	40.0	745.0	1303.6	1549.6
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	17.9	504.9	867.6	1043.0
80°	0.0	1.7	0.9	0.0	0.0	0.0	0.0	6.8	310.8	541.5	588.3
82.5°	0.0	0.9	0.9	0.0	0.0	0.0	0.0	0.0	160.9	382.3	390.0
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	67.3	80.9
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°	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2	1632.2
2.5°	1799.1	1804.2	1807.6	1801.7	1765.0	1744.6	1703.7	1658.6	1643.3	1639.0
5°	1903.8	1932.8	1927.7	1888.5	1824.6	1746.3	1649.2	1548.8	1510.5	1496.0
7.5°	1883.4	1959.2	1973.6	1932.8	1824.6	1687.6	1547.1	1427.9	1372.5	1358.1
10°	1779.5	1874.9	1920.9	1908.1	1806.8	1648.4	1475.6	1329.1	1268.7	1249.9
12.5°	1679.0	1771.0	1800.0	1810.2	1754.8	1617.7	1439.8	1282.3	1219.3	1195.4
15°	1611.8	1668.8	1667.1	1685.9	1681.6	1605.8	1462.8	1306.1	1235.4	1203.9
17.5°	1589.6	1572.6	1550.5	1565.8	1595.6	1609.2	1537.7	1391.3	1308.7	1272.1
20°	1603.3	1519.8	1471.3	1470.4	1533.5	1637.3	1647.5	1531.7	1454.3	1404.9
22.5°	1673.1	1493.4	1418.5	1420.2	1497.7	1679.0	1774.4	1715.7	1630.5	1569.2
25°	1776.1	1498.5	1398.1	1408.3	1494.3	1715.7	1911.5	1925.1	1816.1	1762.5
27.5°	1880.8	1542.8	1398.9	1410.0	1508.8	1735.2	1989.8	2079.2	1985.6	1919.2
30°	1954.1	1597.3	1414.2	1426.2	1531.7	1750.6	2019.6	2206.1	2109.0	2035.0
32.5°	2023.0	1653.5	1438.9	1450.9	1577.7	1782.1	2075.8	2333.8	2227.4	2154.2
35°	2090.3	1708.8	1484.9	1506.2	1651.8	1839.1	2132.9	2483.7	2395.1	2293.8
37.5°	2148.2	1770.2	1564.1	1609.2	1752.3	1926.8	2210.3	2654.0	2562.8	2449.6
40°	2196.7	1842.5	1727.6	1777.8	1905.5	2019.6	2296.3	2765.5	2705.0	2583.3
42.5°	2235.9	1970.2	1961.7	2032.4	2121.8	2126.1	2321.0	2819.1	2796.1	2688.0
45°	2301.5	2199.3	2269.1	2384.9	2378.9	2253.8	2314.2	2868.5	2870.2	2778.3
47.5°	2408.7	2486.2	2688.0	2766.3	2726.3	2428.3	2321.0	2917.0	2955.4	2883.0
50°	2562.0	2811.5	3075.4	3179.3	3062.6	2603.7	2381.5	2974.9	3090.7	3038.0
52.5°	2693.1	3057.5	3433.0	3525.8	3366.6	2791.0	2522.8	3100.1	3272.1	3255.1
55°	2880.4	3269.5	3687.6	3759.1	3631.4	3003.0	2712.7	3284.0	3471.3	3479.9
57.5°	3072.0	3461.1	3853.6	3926.0	3828.9	3267.0	2982.6	3548.0	3658.7	3656.1
60°	3284.9	3639.9	3928.6	3968.6	3913.2	3530.9	3272.9	3789.8	3787.2	3728.5
61°	3406.6	3697.0	3923.5	3935.4	3881.7	3608.4	3422.8	3882.6	3806.0	3728.5
62.5°	3541.2	3748.9	3860.4	3820.4	3762.5	3635.7	3639.9	3983.9	3818.7	3699.5
65°	3677.4	3618.6	3570.1	3378.5	3324.0	3385.3	3823.0	3945.6	3741.2	3571.0
67.5°	3444.1	3101.0	2996.2	2803.8	2588.4	2838.7	3649.3	3711.4	3479.9	3253.4
70°	2814.9	2278.5	2154.2	2147.3	1992.4	2267.4	3218.5	3173.3	2888.1	2680.3
72.5°	2206.1	1554.7	1385.3	1424.5	1393.8	1690.1	2632.7	2129.5	1851.9	1713.1
75°	1729.3	1105.2	953.6	946.8	913.6	1151.2	1927.7	1122.2	926.4	827.6
77.5°	1140.9	796.1	793.5	733.1	707.5	624.1	865.1	449.6	367.0	370.4
80°	657.3	487.9	572.2	453.8	454.7	366.1	349.9	65.6	52.8	38.3
82.5°	377.2	234.1	177.1	69.8	146.4	146.4	28.1	0.9	0.9	1.7
85°	36.6	11.1	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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