

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: P401908

Luminaire Tested: **ENT-SA1F-760-U-SLR**

Issue Date: 5/20/2020

Test Information

Test Method: LM-79-08
Report Number: P401908
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-SA1F-760-U-SLR
Description: ENTRI LED LUMINAIRE
(1) 70 CRI, 5700K, 1200mA LIGHTSQUARE WITH 16 LEDS AND SPILL LIGHT ELIMINATOR RIGHT OPTICS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6885 lumens
Efficiency: N/A
Efficacy: 104.2 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 - G2

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

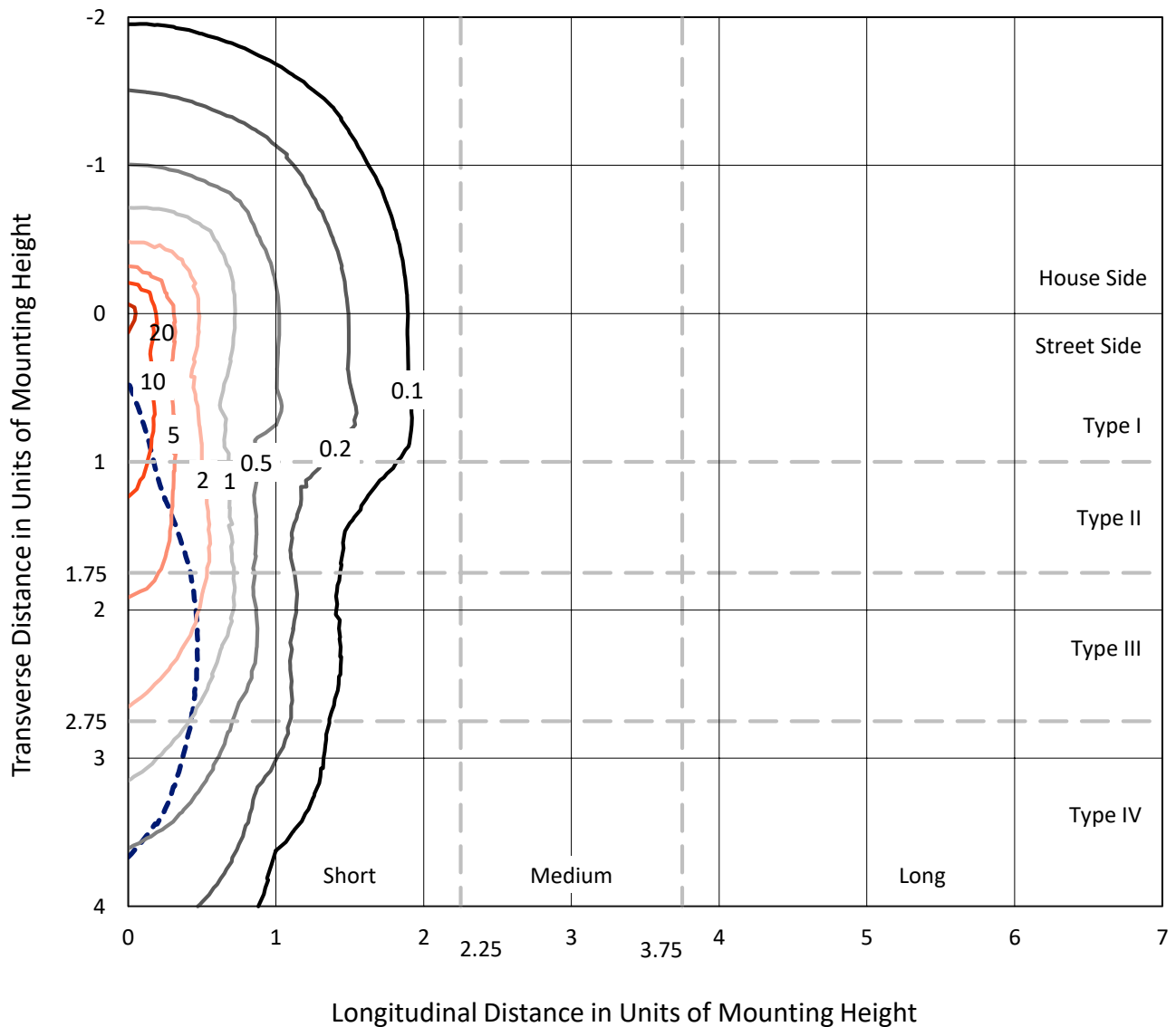


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Iso-Footcandle Lines of Horizontal Illumination

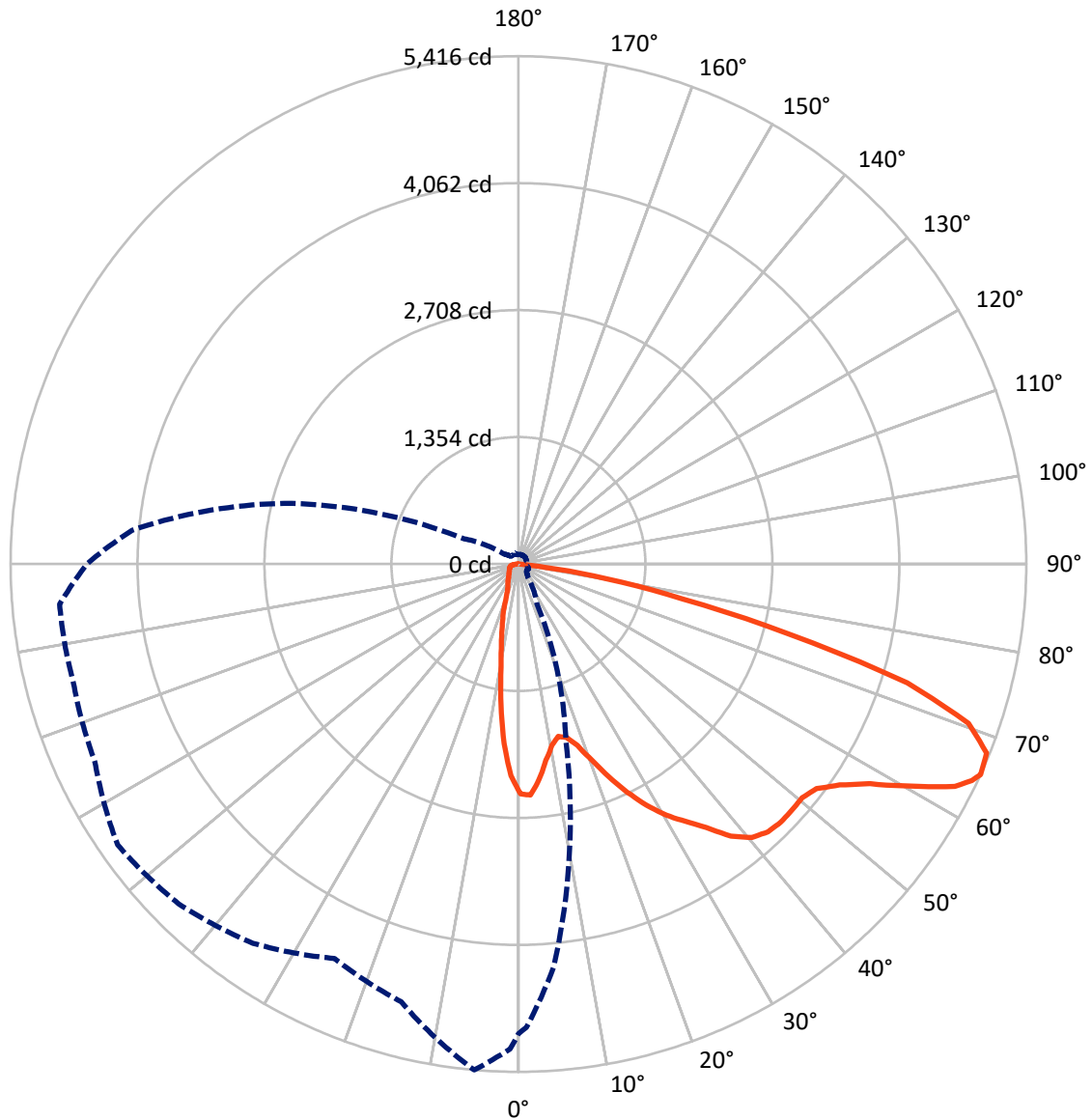
× Max cd
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 24.5 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	1412.7	0.0	1412.7
	% Fixture	20.5	0.0	20.5
Street Side	Lumens	5472.3	0.0	5472.3
	% Fixture	79.5	0.0	79.5
Total	Lumens	6885.0	0.0	6885.0
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.9	2.7
10°-20°	372.3	5.4
20°-30°	516.2	7.5
30°-40°	721.6	10.5
40°-50°	981.9	14.3
50°-60°	1342.7	19.5
60°-70°	1641.7	23.8
70°-80°	991.1	14.4
80°-90°	130.7	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°	6885.0	100.0
0°-180°	6885.0	100.0



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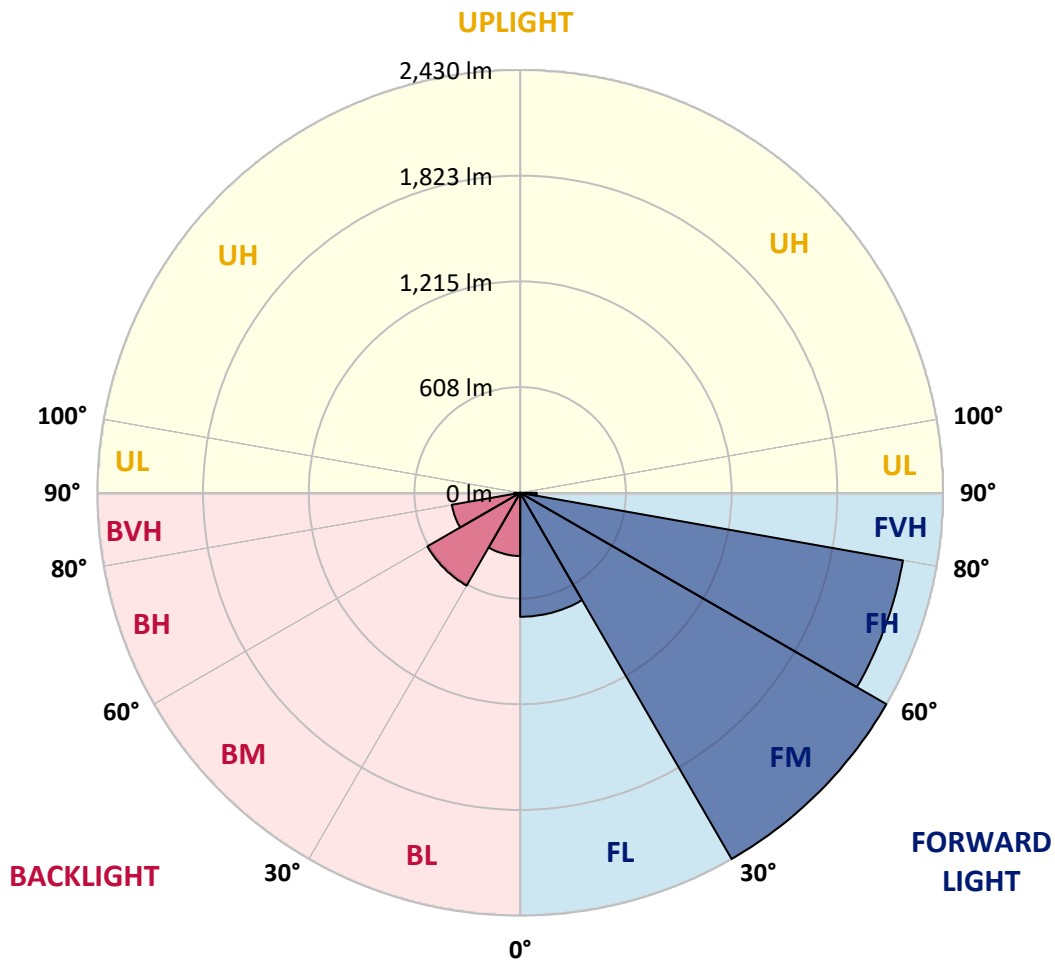
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	712.4	10.3			
FM	(30°-60°)	2430.3	35.3			
FH	(60°-80°)	2234.1	32.4			G2/5000
FVH	(80°-90°)	95.5	1.4			G1/100
BL	(0°-30°)	363.0	5.3	B1/500		
BM	(30°-60°)	615.8	8.9	B1/1000		
BH	(60°-80°)	398.7	5.8	B1/500		G1/500
BVH	(80°-90°)	35.2	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0
2.5°	2444.3	2437.4	2420.1	2374.1	2324.5	2265.8	2255.5	2192.1	2199.0	2180.6	2185.2
5°	2232.4	2223.2	2176.0	2083.9	1958.4	1885.9	1829.5	1796.1	1768.4	1754.6	1771.9
7.5°	2026.3	2013.7	1957.3	1794.9	1655.6	1540.5	1448.4	1392.0	1336.7	1292.9	1272.2
10°	1859.4	1854.8	1780.0	1596.9	1421.9	1281.4	1221.6	1161.7	1114.5	1052.3	1001.7
12.5°	1775.4	1761.5	1672.9	1459.9	1289.5	1203.1	1146.7	1070.7	1006.3	930.3	864.7
15°	1778.8	1762.7	1652.2	1428.8	1243.4	1138.7	1052.3	961.4	867.0	789.8	723.0
17.5°	1877.8	1866.3	1731.6	1457.6	1204.3	1059.2	924.5	807.1	703.5	606.8	546.9
20°	2044.8	2027.5	1841.0	1492.1	1154.8	968.3	785.2	624.0	512.3	427.1	379.9
22.5°	2262.4	2230.1	1996.4	1534.7	1105.3	864.7	634.4	454.8	355.8	313.2	300.5
25°	2494.9	2469.6	2184.1	1588.8	1052.3	751.8	469.7	330.4	295.9	278.6	269.4
27.5°	2709.1	2667.6	2385.6	1648.7	982.1	639.0	356.9	284.4	261.4	253.3	247.5
30°	2862.2	2826.5	2524.9	1717.8	921.1	521.6	305.1	257.9	239.5	226.8	224.5
32.5°	3008.4	2957.8	2626.2	1750.0	870.4	458.2	282.1	239.5	222.2	209.5	204.9
35°	3181.1	3130.5	2742.5	1754.6	832.4	431.8	260.2	225.7	207.2	195.7	190.0
37.5°	3384.9	3315.8	2873.7	1758.1	794.4	421.4	241.8	214.1	195.7	183.1	178.5
40°	3578.3	3525.4	3008.4	1752.3	769.1	406.4	230.3	201.5	184.2	172.7	166.9
42.5°	3724.6	3668.2	3123.6	1735.1	754.1	381.1	234.9	192.3	176.2	163.5	156.6
45°	3799.4	3748.7	3228.3	1718.9	746.1	359.2	230.3	188.8	170.4	155.4	148.5
47.5°	3855.8	3806.3	3335.4	1712.0	732.2	343.1	211.8	201.5	164.6	147.4	140.5
50°	3946.8	3904.2	3480.5	1751.2	710.4	332.7	194.6	215.3	162.3	140.5	132.4
52.5°	4110.3	4082.6	3720.0	1842.1	687.3	315.5	177.3	206.1	164.6	135.9	126.6
55°	4415.4	4398.1	4049.2	1961.9	665.5	293.6	158.9	186.5	163.5	127.8	120.9
57.5°	4744.6	4740.0	4448.8	2066.6	633.2	256.7	147.4	157.7	155.4	120.9	112.8
60°	4965.7	4950.7	4633.0	2125.4	591.8	211.8	138.2	133.6	158.9	114.0	104.8
62.5°	5041.7	4992.2	4577.7	2103.5	529.6	183.1	127.8	122.0	147.4	107.1	96.7
64°	5037.1	4964.6	4433.8	2020.6	489.3	177.3	122.0	114.0	130.1	102.5	93.3
65°	5010.6	4941.5	4314.0	1956.1	467.4	177.3	118.6	110.5	118.6	100.2	91.0
67.5°	4841.4	4750.4	3905.3	1656.8	411.0	179.6	110.5	101.3	99.0	92.1	85.2
70°	4455.7	4337.1	3344.6	1303.3	381.1	180.8	101.3	92.1	88.7	84.0	78.3
72.5°	3578.3	3419.5	2661.9	931.4	350.0	177.3	92.1	84.0	80.6	76.0	70.2
75°	2399.4	2225.5	1961.9	613.7	286.7	158.9	79.4	72.5	71.4	66.8	62.2
77.5°	1352.8	1280.3	1158.2	337.3	198.0	109.4	63.3	58.7	59.9	57.6	53.0
80°	706.9	673.5	619.4	163.5	95.6	53.0	40.3	40.3	46.1	46.1	43.8
82.5°	249.8	251.0	242.9	36.8	19.6	16.1	13.8	19.6	26.5	32.2	32.2
85°	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.0	2.3	4.6	8.1
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°	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0
2.5°	2146.1	2153.0	2171.4	2168.0	2186.4	2178.3	2202.5	2215.2	2222.1	2257.8	2275.0
5°	1758.1	1760.4	1826.0	1839.8	1874.4	1856.0	1898.6	1882.4	1917.0	1921.6	1979.1
7.5°	1291.8	1296.4	1328.6	1404.6	1479.5	1510.6	1523.2	1542.8	1526.7	1520.9	1529.0
10°	982.1	985.5	989.0	1043.1	1108.7	1174.4	1174.4	1175.5	1146.7	1117.9	1112.2
12.5°	839.3	817.4	782.9	784.1	830.1	861.2	885.4	860.0	855.4	869.3	884.2
15°	690.8	668.9	645.9	618.3	619.4	641.3	654.0	652.8	675.8	686.2	717.3
17.5°	536.5	505.4	506.6	490.5	468.6	482.4	485.9	506.6	536.5	550.3	556.1
20°	360.4	360.4	369.6	389.2	378.8	388.0	389.2	405.3	419.1	411.0	419.1
22.5°	298.2	297.0	300.5	313.2	323.5	331.6	333.9	332.7	318.9	313.2	324.7
25°	270.6	269.4	270.6	277.5	289.0	299.3	294.7	287.8	271.7	270.6	272.9
27.5°	247.5	248.7	251.0	255.6	262.5	275.2	270.6	256.7	248.7	246.4	246.4
30°	228.0	228.0	232.6	237.2	245.2	256.7	248.7	237.2	229.1	226.8	225.7
32.5°	208.4	211.8	215.3	219.9	226.8	238.3	231.4	221.1	213.0	208.4	204.9
35°	188.8	191.1	198.0	204.9	210.7	219.9	215.3	206.1	198.0	187.7	183.1
37.5°	177.3	177.3	180.8	191.1	195.7	202.6	200.3	192.3	179.6	171.5	170.4
40°	166.9	166.9	168.1	173.9	181.9	190.0	185.4	172.7	164.6	161.2	160.0
42.5°	156.6	156.6	157.7	157.7	168.1	181.9	170.4	157.7	154.3	152.0	150.8
45°	147.4	147.4	147.4	146.2	152.0	169.2	156.6	146.2	143.9	143.9	142.8
47.5°	140.5	139.3	138.2	135.9	139.3	153.1	142.8	137.0	135.9	137.0	135.9
50°	131.3	130.1	128.9	127.8	130.1	135.9	133.6	127.8	128.9	128.9	130.1
52.5°	123.2	122.0	120.9	119.7	122.0	126.6	126.6	122.0	122.0	123.2	124.3
55°	118.6	116.3	115.1	115.1	116.3	122.0	120.9	117.4	117.4	119.7	120.9
57.5°	111.7	109.4	109.4	108.2	110.5	117.4	116.3	112.8	112.8	114.0	116.3
60°	104.8	103.6	102.5	104.8	105.9	112.8	111.7	109.4	108.2	111.7	111.7
62.5°	96.7	96.7	96.7	99.0	100.2	108.2	107.1	105.9	105.9	107.1	105.9
64°	92.1	92.1	93.3	94.4	96.7	103.6	103.6	103.6	103.6	103.6	102.5
65°	89.8	89.8	92.1	93.3	94.4	102.5	101.3	102.5	103.6	102.5	100.2
67.5°	84.0	84.0	87.5	87.5	88.7	97.9	96.7	99.0	101.3	99.0	96.7
70°	77.1	78.3	81.7	80.6	82.9	93.3	89.8	94.4	99.0	95.6	93.3
72.5°	70.2	71.4	76.0	73.7	74.8	87.5	82.9	87.5	94.4	92.1	89.8
75°	63.3	64.5	67.9	66.8	69.1	80.6	76.0	80.6	87.5	87.5	86.4
77.5°	54.1	56.4	58.7	57.6	62.2	72.5	67.9	71.4	77.1	81.7	79.4
80°	43.8	47.2	48.4	49.5	54.1	62.2	58.7	59.9	65.6	69.1	70.2
82.5°	29.9	35.7	38.0	39.1	46.1	48.4	49.5	48.4	51.8	56.4	53.0
85°	9.2	11.5	21.9	27.6	34.5	34.5	40.3	38.0	40.3	35.7	29.9
87.5°	0.0	0.0	0.0	8.1	20.7	20.7	28.8	26.5	27.6	20.7	18.4
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°	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0
2.5°	2278.5	2298.1	2341.8	2392.5	2420.1	2480.0	2516.8	2556.0	2595.1	2603.2	2615.8
5°	1990.7	2013.7	2063.2	2131.1	2199.0	2278.5	2370.6	2468.5	2576.7	2622.7	2667.6
7.5°	1550.8	1555.5	1625.7	1748.9	1808.7	1921.6	2052.8	2203.7	2370.6	2456.9	2549.1
10°	1145.6	1192.8	1245.7	1348.2	1499.0	1629.1	1791.5	1967.6	2141.5	2267.0	2362.5
12.5°	900.3	960.2	1047.7	1160.5	1274.5	1397.7	1585.4	1774.2	1988.4	2101.2	2218.6
15°	741.5	817.4	931.4	1050.0	1155.9	1265.3	1432.3	1663.7	1937.7	2052.8	2157.6
17.5°	587.2	671.2	793.3	917.6	1044.3	1177.8	1371.2	1657.9	1991.8	2125.4	2233.6
20°	450.2	515.8	618.3	743.8	892.3	1075.3	1322.9	1701.7	2151.8	2318.8	2390.2
22.5°	333.9	371.9	452.5	583.7	758.7	984.4	1274.5	1763.8	2349.9	2545.6	2599.7
25°	276.3	286.7	323.5	437.5	618.3	881.9	1237.7	1844.4	2547.9	2767.8	2807.0
27.5°	248.7	254.4	271.7	314.3	483.6	797.9	1189.3	1937.7	2756.3	2987.7	2984.3
30°	224.5	225.7	236.0	266.0	392.6	723.0	1132.9	2041.3	2941.7	3145.4	3135.1
32.5°	202.6	202.6	216.5	239.5	335.0	655.1	1065.0	2116.2	3102.8	3274.4	3241.0
35°	183.1	186.5	199.2	222.2	297.0	579.1	1001.7	2143.8	3241.0	3429.8	3335.4
37.5°	169.2	173.9	186.5	208.4	264.8	522.7	949.9	2176.0	3411.4	3617.5	3441.3
40°	160.0	163.5	175.0	193.4	239.5	475.5	893.4	2197.9	3580.6	3817.8	3553.0
42.5°	150.8	154.3	165.8	183.1	228.0	420.2	839.3	2210.6	3756.8	3991.7	3646.3
45°	142.8	147.4	158.9	175.0	229.1	370.7	794.4	2206.0	3862.7	4117.2	3718.8
47.5°	137.0	141.6	154.3	175.0	222.2	341.9	756.4	2189.8	3941.0	4198.9	3752.2
50°	131.3	135.9	150.8	193.4	210.7	333.9	727.6	2187.5	4022.8	4215.0	3752.2
52.5°	125.5	133.6	152.0	194.6	193.4	330.4	704.6	2248.6	4135.6	4242.7	3785.6
55°	122.0	128.9	156.6	179.6	169.2	318.9	690.8	2332.6	4325.6	4394.6	3953.7
57.5°	117.4	123.2	154.3	168.1	150.8	292.4	679.3	2413.2	4575.4	4676.7	4288.7
60°	111.7	118.6	149.7	143.9	137.0	248.7	672.4	2480.0	4668.7	4858.6	4649.1
62.5°	105.9	114.0	163.5	125.5	126.6	207.2	659.7	2544.4	4471.8	4814.9	4880.5
64°	102.5	110.5	152.0	117.4	120.9	188.8	647.0	2547.9	4297.9	4711.3	4924.3
65°	100.2	107.1	141.6	112.8	116.3	184.2	635.5	2499.5	4134.4	4600.7	4911.6
67.5°	96.7	101.3	109.4	104.8	108.2	176.2	557.2	2286.5	3786.7	4316.4	4714.7
70°	92.1	95.6	96.7	95.6	101.3	170.4	470.9	1983.7	3406.8	4018.2	4408.5
72.5°	87.5	87.5	87.5	86.4	93.3	162.3	423.7	1602.7	2944.0	3626.7	4027.4
75°	84.0	80.6	79.4	77.1	85.2	157.7	382.2	1203.1	2275.0	3021.1	3374.6
77.5°	77.1	73.7	70.2	67.9	76.0	140.5	318.9	849.7	1677.5	2197.9	2604.3
80°	66.8	64.5	59.9	56.4	63.3	110.5	241.8	525.0	1227.3	1484.1	1708.6
82.5°	54.1	53.0	48.4	43.8	46.1	79.4	164.6	267.1	818.6	805.9	954.5
85°	33.4	41.4	35.7	28.8	31.1	46.1	66.8	85.2	251.0	150.8	233.7
87.5°	19.6	26.5	21.9	15.0	11.5	20.7	18.4	17.3	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°	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0	2450.0
2.5°	2645.8	2660.7	2668.8	2638.9	2606.6	2577.8	2522.6	2467.3	2438.5	2444.3
5°	2754.0	2779.3	2786.2	2742.5	2651.5	2558.3	2423.6	2307.3	2237.0	2232.4
7.5°	2712.5	2795.4	2809.3	2762.1	2632.0	2458.1	2275.0	2112.7	2042.5	2026.3
10°	2565.2	2691.8	2733.3	2717.1	2590.5	2391.3	2169.1	1963.0	1892.8	1859.4
12.5°	2414.3	2546.8	2572.1	2588.2	2511.1	2343.0	2098.9	1887.0	1803.0	1775.4
15°	2315.3	2406.3	2413.2	2428.2	2412.0	2319.9	2131.1	1918.1	1816.8	1778.8
17.5°	2301.5	2269.3	2247.4	2278.5	2298.1	2321.1	2215.2	2034.4	1926.2	1877.8
20°	2303.8	2203.7	2141.5	2139.2	2223.2	2351.0	2385.6	2230.1	2089.7	2044.8
22.5°	2387.9	2169.1	2065.5	2052.8	2155.3	2401.7	2559.4	2462.7	2322.2	2262.4
25°	2513.4	2148.4	2011.4	2014.8	2117.3	2435.1	2707.9	2695.3	2572.1	2494.9
27.5°	2634.3	2182.9	2004.5	2013.7	2130.0	2456.9	2831.1	2914.0	2775.9	2709.1
30°	2731.0	2260.1	2025.2	2033.3	2169.1	2486.9	2892.2	3108.6	2941.7	2862.2
32.5°	2815.0	2332.6	2056.3	2062.0	2231.3	2529.5	2949.7	3272.1	3102.8	3008.4
35°	2891.0	2394.8	2103.5	2123.1	2310.7	2590.5	3008.4	3449.4	3299.7	3181.1
37.5°	2957.8	2470.8	2196.7	2229.0	2427.0	2679.2	3084.4	3683.1	3519.6	3384.9
40°	2995.8	2538.7	2334.9	2383.3	2577.8	2794.3	3181.1	3835.1	3730.3	3578.3
42.5°	3024.6	2632.0	2557.1	2644.6	2811.6	2902.5	3227.2	3903.0	3854.7	3724.6
45°	3039.5	2816.2	2891.0	2972.7	3075.2	3021.1	3201.9	3926.0	3911.1	3799.4
47.5°	3107.5	3093.6	3277.8	3390.7	3384.9	3199.6	3153.5	3923.7	3947.9	3855.8
50°	3245.6	3417.2	3675.1	3785.6	3743.0	3366.5	3144.3	3920.3	4021.6	3946.8
52.5°	3410.3	3740.7	4104.5	4150.6	4060.8	3535.7	3213.4	3980.2	4159.8	4110.3
55°	3626.7	4044.6	4441.8	4456.8	4330.2	3700.4	3360.7	4156.3	4417.7	4415.4
57.5°	3928.4	4317.5	4725.1	4706.7	4528.2	3928.4	3597.9	4420.0	4704.4	4744.6
60°	4256.5	4605.3	4954.2	4943.8	4753.9	4190.9	3923.7	4810.3	4955.3	4965.7
62.5°	4570.8	4872.4	5175.2	5125.7	4911.6	4462.6	4375.1	5224.8	5118.8	5041.7
64°	4775.7	4962.3	5231.7	5153.4	4949.6	4592.7	4635.3	5359.5	5164.9	5037.1
65°	4911.6	4984.1	5219.0	5124.6	4936.9	4641.0	4832.1	5415.9	5172.9	5010.6
67.5°	5155.7	4858.6	4875.9	4801.1	4633.0	4596.1	5154.5	5384.8	5084.3	4841.4
70°	5087.7	4353.2	4116.0	4068.8	3867.3	4074.6	5114.2	5092.4	4751.6	4455.7
72.5°	4507.5	3495.5	3154.7	3112.1	2832.3	3087.9	4413.1	4337.1	3823.6	3578.3
75°	3714.2	2649.2	2253.2	2288.9	2075.9	2311.9	3510.4	2971.6	2545.6	2399.4
77.5°	2882.9	1872.1	1556.6	1514.0	1471.4	1496.7	2413.2	1784.6	1487.5	1352.8
80°	1837.5	1176.7	1167.5	1067.3	1032.7	870.4	1240.0	949.9	747.2	706.9
82.5°	976.3	678.1	770.2	617.1	496.2	356.9	420.2	282.1	238.3	249.8
85°	267.1	140.5	39.1	0.0	0.0	0.0	0.0	1.2	1.2	1.2
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.2	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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