

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: P677513

Luminaire Tested: **CCW-SA-2E-850-U-SLR-HSS**

Issue Date: 04/25/2023



Test Information

Test Method: LM-79-08
Report Number: P677513
Test Lab: INNOVATION CENTER(G1)
Issue Date: 04/25/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: INVUE
Catalog Number: CCW-SA-2E-850-U-SLR-HSS
Description: INVUE CLEAR CURVE Wall Pack MOUNT Light Square Luminaire @1050mA w/
SLR distribution lens and House Side Shield
Light Source: (32) 5000K CCT, 80 CRI LEDs
Ballast/Driver: ELECTRONIC DRIVER

Summary

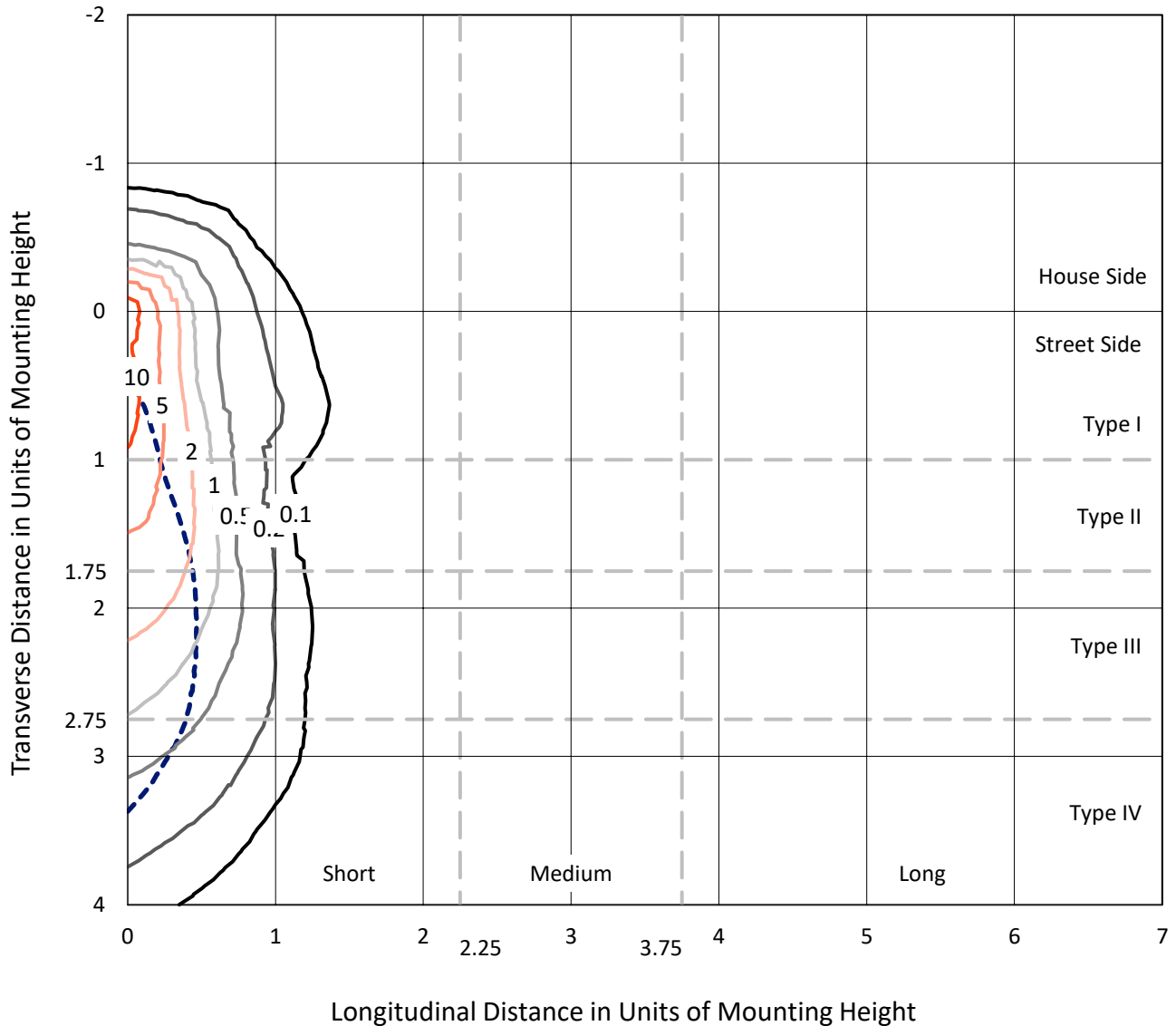
Lumens per Lamp: N/A
Luminaire Lumens: 8574.1 lumens
Efficiency: N/A
Efficacy: 80.4 lumens/watt
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
IES Classification: Type IV - Short
BUG Rating: B1 - U0 - G2

Input Watts (W): 106.6
Input Voltage (V): 120
Input Current (A_{in}): 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

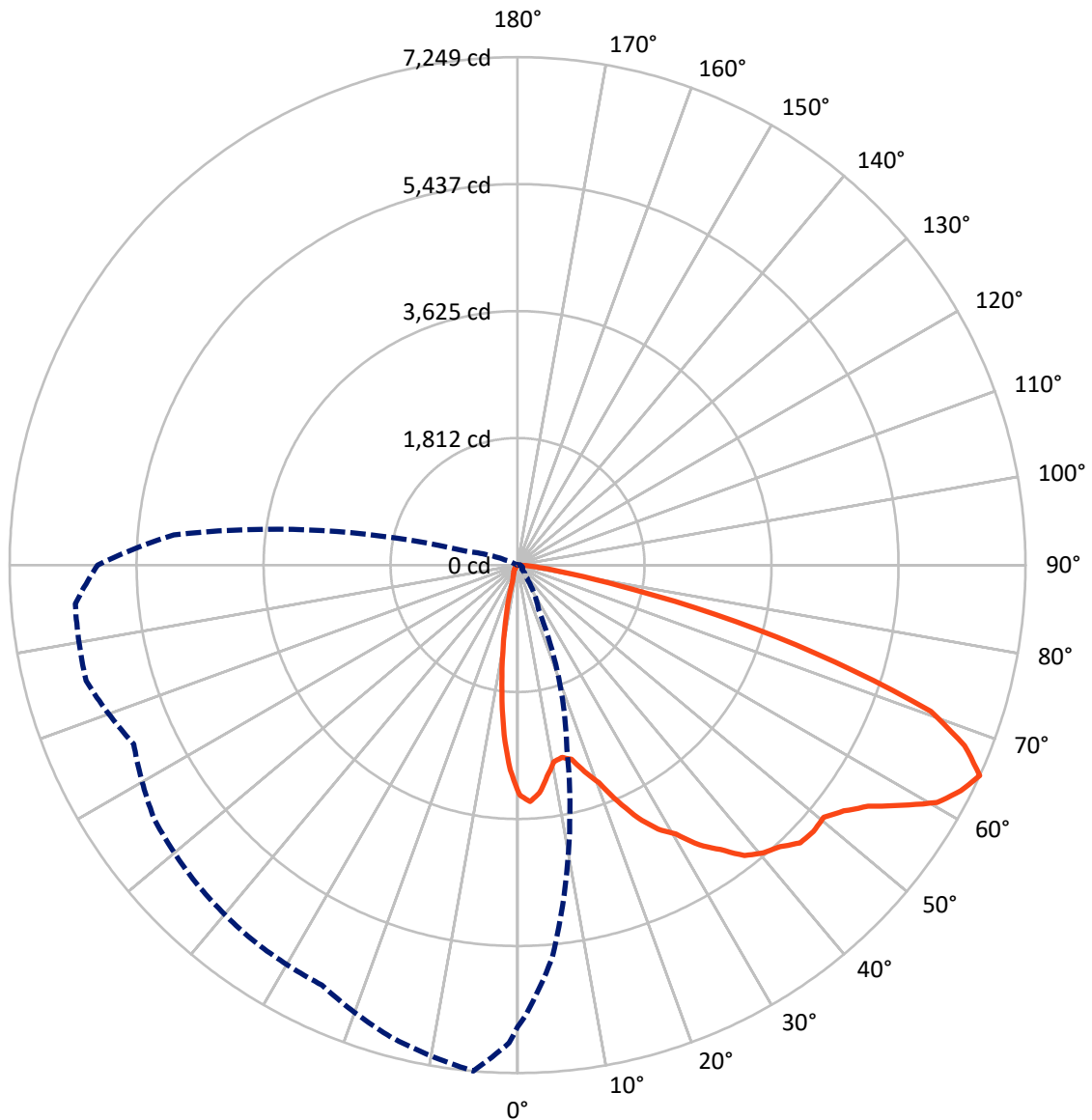
× Max cd
 - - - 1/2 Max cd



Based on 15 foot mounting height. Maximum calculated value = 14.6 fc
 Type IV - Short - N/A

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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	1113.2	0.0	1113.2
	% Fixture	13.0	0.0	13.0
Street Side	Lumens	7460.8	0.0	7460.8
	% Fixture	87.0	0.0	87.0
Total	Lumens	8574.1	0.0	8574.1
	% Fixture	100.0	0.0	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	248.3	2.9
10°-20°	480.8	5.6
20°-30°	669.6	7.8
30°-40°	951.5	11.1
40°-50°	1319.4	15.4
50°-60°	1797.8	21.0
60°-70°	1976.5	23.1
70°-80°	971.5	11.3
80°-90°	158.6	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°	8574.1	100.0
0°-180°	8574.1	100.0



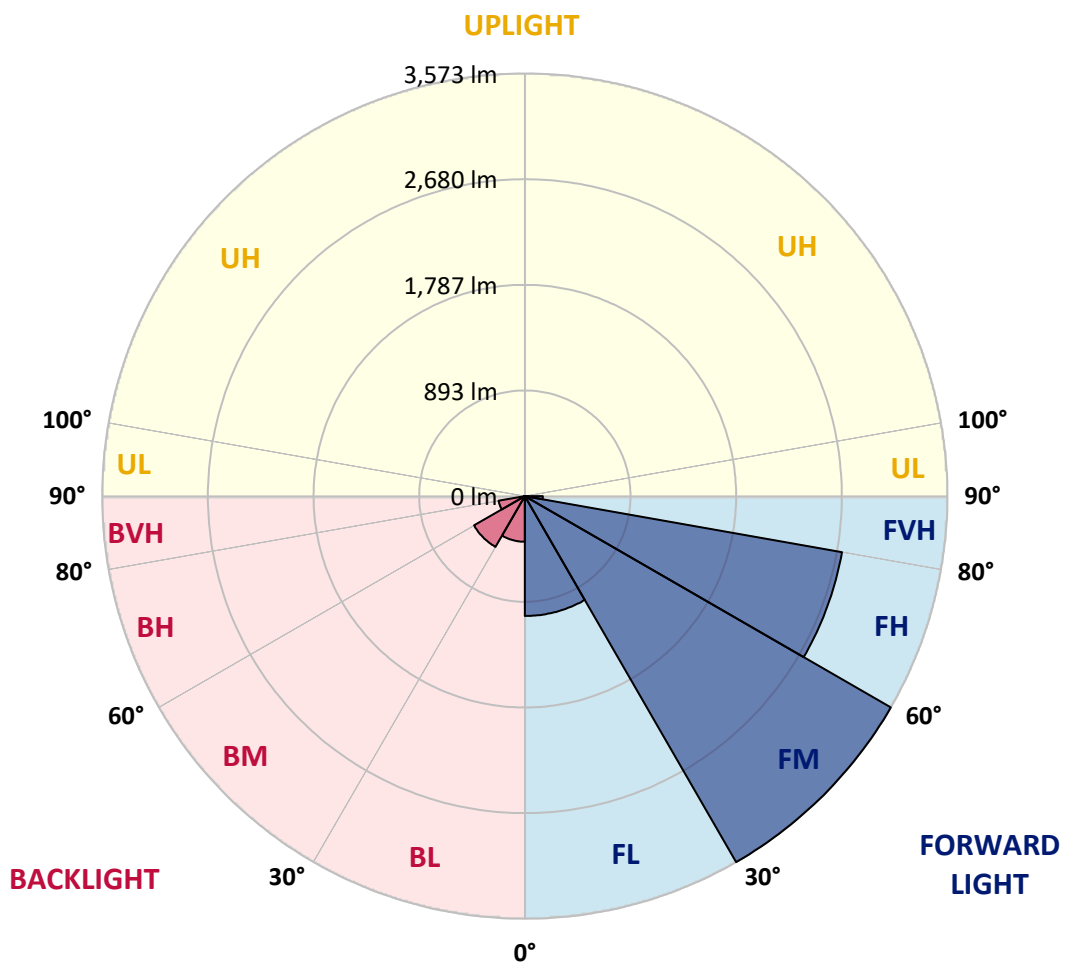
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	1013.3	11.8			
FM (30°-60°)	3573.1	41.7			
FH (60°-80°)	2723.0	31.8			G2/5000
FVH (80°-90°)	151.5	1.8			G2/225
BL (0°-30°)	385.5	4.5	B1/500		
BM (30°-60°)	495.6	5.8	B1/1000		
BH (60°-80°)	225.0	2.6	B1/500		G1/500
BVH (80°-90°)	7.1	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-G2

Type IV Short





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CANDELA DISTRIBUTION (FULL):

	0°	1°	5°	15°	25°	35°	45°	55°	65°	75°	85°
0°	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9
2.5°	3344.9	3384.2	3347.2	3217.8	3194.6	3132.2	3037.5	3030.5	2931.1	2942.7	2889.5
5°	3143.8	3183.1	3104.5	2933.4	2773.9	2646.8	2570.5	2434.1	2404.1	2337.0	2337.0
7.5°	2938.1	2935.7	2801.7	2658.4	2420.3	2186.8	2080.4	1884.0	1768.4	1706.0	1645.9
10°	2767.0	2730.0	2646.8	2350.9	2092.0	1849.3	1717.5	1588.1	1467.9	1363.9	1259.8
12.5°	2646.8	2669.9	2538.1	2216.8	1881.7	1712.9	1571.9	1435.5	1292.2	1174.3	1058.7
15°	2709.2	2672.2	2517.3	2186.8	1847.0	1615.8	1428.6	1262.1	1102.6	947.8	859.9
17.5°	2903.4	2808.6	2626.0	2186.8	1775.3	1467.9	1241.3	1044.8	873.8	735.1	626.4
20°	3164.6	3055.9	2859.5	2267.7	1722.1	1359.2	1049.5	802.1	624.1	494.7	411.5
22.5°	3432.7	3347.2	3051.3	2300.1	1659.7	1213.6	827.6	580.2	416.1	332.9	291.3
25°	3754.1	3633.9	3310.2	2429.5	1567.3	1072.6	651.9	404.5	309.8	265.8	240.4
27.5°	4010.6	3989.8	3552.9	2508.1	1497.9	957.0	515.5	321.3	256.6	224.2	208.0
30°	4334.3	4221.0	3848.8	2665.3	1419.3	825.2	430.0	289.0	235.8	201.1	189.6
32.5°	4528.4	4475.3	4003.7	2753.1	1331.5	716.6	369.9	254.3	215.0	189.6	178.0
35°	4810.5	4704.1	4225.6	2808.6	1285.3	654.2	332.9	231.2	180.3	154.9	141.0
37.5°	5124.8	5085.5	4491.5	2806.3	1218.2	617.2	307.4	215.0	171.1	143.3	127.1
40°	5446.2	5286.7	4653.3	2871.0	1183.5	589.5	289.0	205.7	161.8	136.4	115.6
42.5°	5686.6	5503.9	4840.5	2847.9	1141.9	540.9	282.0	191.9	154.9	124.8	106.3
45°	5751.3	5686.6	5009.3	2841.0	1111.9	501.6	270.5	189.6	150.3	117.9	99.4
47.5°	5876.1	5832.2	5217.3	2852.5	1088.8	471.6	242.7	194.2	143.3	111.0	94.8
50°	5931.6	5853.0	5386.1	2880.3	1035.6	434.6	217.3	203.4	141.0	108.6	90.2
52.5°	6160.4	6091.1	5617.2	2958.9	991.7	386.0	191.9	194.2	145.6	101.7	85.5
55°	6384.7	6306.1	5973.2	3139.2	929.3	346.7	164.1	171.1	138.7	92.5	76.3
57.5°	6692.1	6562.7	6211.3	3213.1	873.8	293.6	145.6	141.0	129.5	83.2	67.0
60°	6738.3	6791.5	6176.6	3166.9	816.0	258.9	127.1	108.6	138.7	74.0	57.8
62.5°	6893.2	6671.3	6014.8	3060.6	774.4	238.1	113.3	90.2	120.2	64.7	48.5
65°	6595.0	6430.9	5635.7	2718.5	721.2	240.4	99.4	74.0	76.3	53.2	39.3
67.5°	6158.1	6028.7	5006.9	2346.3	668.1	235.8	87.8	64.7	57.8	46.2	34.7
70°	5404.5	5124.8	4253.4	1904.8	589.5	219.6	74.0	57.8	48.5	37.0	25.4
72.5°	3932.0	3818.8	3051.3	1472.5	529.4	198.8	69.3	48.5	41.6	27.7	20.8
75°	2646.8	2459.6	1925.6	966.3	425.3	173.4	57.8	43.9	32.4	20.8	16.2
77.5°	1398.5	1322.2	1091.1	460.0	235.8	80.9	32.4	25.4	18.5	16.2	9.2
80°	605.6	538.6	471.6	187.2	83.2	37.0	20.8	13.9	11.6	9.2	4.6
82.5°	309.8	295.9	245.0	80.9	48.5	27.7	11.6	9.2	6.9	4.6	2.3
85°	152.6	157.2	129.5	25.4	27.7	16.2	2.3	2.3	0.0	0.0	0.0
87.5°	11.6	11.6	9.2	4.6	6.9	2.3	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°	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9
2.5°	2868.7	2901.1	2845.6	2880.3	2864.1	2871.0	2878.0	2859.5	2864.1	2928.8	2931.1
5°	2297.7	2360.2	2337.0	2369.4	2424.9	2397.1	2422.6	2417.9	2422.6	2431.8	2473.4
7.5°	1638.9	1620.4	1664.4	1749.9	1849.3	1909.4	1879.3	1863.2	1853.9	1830.8	1858.5
10°	1236.7	1227.5	1215.9	1241.3	1306.1	1373.1	1410.1	1347.7	1313.0	1269.1	1252.9
12.5°	1026.4	968.6	936.2	896.9	915.4	975.5	977.8	917.7	862.2	839.1	864.5
15°	809.1	769.8	712.0	656.5	628.8	675.0	635.7	577.9	506.2	497.0	494.7
17.5°	577.9	554.8	513.2	490.1	457.7	446.1	404.5	316.7	265.8	252.0	256.6
20°	393.0	374.5	372.2	351.4	337.5	328.2	261.2	203.4	187.2	189.6	191.9
22.5°	291.3	282.0	270.5	268.1	256.6	245.0	191.9	171.1	159.5	159.5	166.4
25°	238.1	233.5	221.9	217.3	212.7	196.5	161.8	145.6	141.0	136.4	143.3
27.5°	203.4	201.1	194.2	187.2	182.6	166.4	141.0	127.1	122.5	122.5	122.5
30°	182.6	182.6	173.4	159.5	159.5	141.0	120.2	111.0	106.3	106.3	104.0
32.5°	171.1	166.4	154.9	145.6	138.7	120.2	106.3	97.1	90.2	90.2	92.5
35°	138.7	138.7	136.4	129.5	120.2	101.7	90.2	80.9	76.3	74.0	76.3
37.5°	122.5	115.6	106.3	108.6	104.0	87.8	76.3	69.3	62.4	62.4	62.4
40°	111.0	104.0	94.8	87.8	85.5	78.6	67.0	55.5	48.5	46.2	46.2
42.5°	99.4	94.8	80.9	69.3	67.0	67.0	50.9	41.6	34.7	34.7	34.7
45°	92.5	85.5	74.0	60.1	48.5	50.9	41.6	30.1	25.4	23.1	23.1
47.5°	87.8	80.9	64.7	50.9	37.0	37.0	30.1	20.8	16.2	13.9	13.9
50°	80.9	74.0	57.8	41.6	27.7	23.1	18.5	11.6	6.9	4.6	4.6
52.5°	76.3	69.3	50.9	34.7	23.1	16.2	11.6	2.3	0.0	0.0	0.0
55°	69.3	60.1	43.9	27.7	18.5	9.2	2.3	0.0	0.0	0.0	0.0
57.5°	60.1	53.2	34.7	20.8	11.6	2.3	0.0	0.0	0.0	0.0	0.0
60°	50.9	43.9	27.7	16.2	4.6	0.0	0.0	0.0	0.0	0.0	0.0
62.5°	41.6	37.0	20.8	9.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
65°	34.7	27.7	16.2	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
67.5°	30.1	23.1	11.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
70°	23.1	16.2	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
72.5°	16.2	11.6	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
75°	11.6	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
77.5°	6.9	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
80°	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
82.5°	0.0	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°	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9
2.5°	2940.4	3009.7	3074.4	3092.9	3143.8	3284.8	3284.8	3351.8	3472.0	3516.0	3525.2
5°	2480.4	2554.3	2568.2	2711.5	2778.6	2921.9	3016.7	3243.2	3379.6	3465.1	3518.3
7.5°	1886.3	1911.7	1964.9	2098.9	2230.7	2404.1	2584.4	2873.3	3113.7	3210.8	3391.1
10°	1296.8	1373.1	1488.7	1608.9	1814.6	2006.5	2240.0	2512.7	2808.6	2928.8	3083.7
12.5°	873.8	980.1	1165.1	1336.1	1525.7	1719.8	1941.8	2307.0	2642.2	2808.6	2963.5
15°	510.9	640.3	799.8	1077.2	1329.2	1546.5	1768.4	2138.2	2545.1	2760.1	2949.6
17.5°	258.9	298.2	430.0	670.4	1003.2	1359.2	1689.8	2161.4	2619.1	2882.6	3039.8
20°	194.2	205.7	242.7	356.0	686.5	1123.4	1615.8	2196.0	2824.8	3146.1	3231.6
22.5°	168.7	178.0	194.2	231.2	386.0	859.9	1511.8	2281.6	3104.5	3407.3	3587.6
25°	143.3	152.6	166.4	189.6	247.3	584.8	1384.7	2371.7	3354.1	3735.6	3904.3
27.5°	124.8	131.8	145.6	164.1	201.1	372.2	1165.1	2491.9	3735.6	4133.2	4177.1
30°	106.3	113.3	124.8	145.6	171.1	263.5	855.3	2508.1	3945.9	4306.5	4429.0
32.5°	92.5	94.8	108.6	127.1	143.3	208.0	601.0	2524.3	4100.8	4530.8	4556.2
35°	76.3	80.9	94.8	106.3	124.8	164.1	455.4	2443.4	4301.9	4761.9	4755.0
37.5°	62.4	69.3	78.6	87.8	101.7	138.7	362.9	2293.1	4553.9	5120.2	4902.9
40°	48.5	55.5	64.7	76.3	85.5	124.8	272.8	2066.6	4817.4	5295.9	5064.7
42.5°	34.7	39.3	48.5	60.1	76.3	104.0	196.5	1798.4	4921.4	5501.6	5258.9
45°	25.4	30.1	37.0	50.9	78.6	83.2	136.4	1553.4	5032.4	5591.8	5215.0
47.5°	13.9	18.5	27.7	43.9	69.3	62.4	97.1	1333.8	5159.5	5672.7	5249.7
50°	4.6	6.9	16.2	46.2	55.5	48.5	76.3	1215.9	5284.3	5688.9	5319.0
52.5°	0.0	0.0	9.2	48.5	41.6	37.0	67.0	1169.7	5252.0	5739.7	5275.1
55°	0.0	0.0	2.3	20.8	23.1	27.7	55.5	1167.4	5480.8	5755.9	5515.5
57.5°	0.0	0.0	0.0	6.9	13.9	23.1	48.5	1093.4	5626.5	6158.1	5839.1
60°	0.0	0.0	0.0	2.3	9.2	16.2	37.0	1028.7	5774.4	6338.4	6185.9
62.5°	0.0	0.0	0.0	0.0	2.3	6.9	25.4	929.3	5476.2	6324.6	6521.1
65°	0.0	0.0	0.0	0.0	0.0	0.0	16.2	735.1	4926.0	5994.0	6336.1
67.5°	0.0	0.0	0.0	0.0	0.0	0.0	9.2	508.6	4313.5	5577.9	5996.3
70°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	307.4	3481.3	4891.4	5085.5
72.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	131.8	2485.0	3883.5	4172.5
75°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	53.2	1537.2	2838.7	3194.6
77.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.8	996.3	2149.8	2424.9
80°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.6	531.7	1347.7	1567.3
82.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	231.2	818.3	943.1
85°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	74.0	497.0	566.3
87.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	76.3	101.7
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°	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9	3277.9
2.5°	3529.8	3596.9	3622.3	3583.0	3587.6	3506.7	3495.2	3381.9	3335.7	3344.9
5°	3691.6	3788.7	3841.9	3798.0	3698.6	3543.7	3402.7	3268.6	3185.4	3143.8
7.5°	3654.7	3763.3	3830.3	3871.9	3758.7	3509.0	3294.0	3042.1	2935.7	2938.1
10°	3451.2	3677.8	3814.2	3761.0	3707.8	3458.2	3125.3	2852.5	2757.8	2767.0
12.5°	3287.1	3539.1	3620.0	3661.6	3552.9	3354.1	3129.9	2817.9	2711.5	2646.8
15°	3185.4	3372.6	3377.3	3442.0	3398.1	3398.1	3178.5	2873.3	2780.9	2709.2
17.5°	3185.4	3227.0	3222.4	3245.5	3319.5	3407.3	3301.0	3097.6	2914.9	2903.4
20°	3257.1	3127.6	3097.6	3106.8	3169.2	3430.4	3571.4	3317.2	3201.6	3164.6
22.5°	3423.5	3139.2	2956.5	2924.2	3116.1	3428.1	3744.8	3663.9	3462.8	3432.7
25°	3652.3	3118.4	2919.6	2878.0	3023.6	3511.3	3982.9	3999.1	3816.5	3754.1
27.5°	3869.6	3210.8	2914.9	2905.7	3097.6	3492.8	4147.0	4267.2	4061.5	4010.6
30°	3943.6	3303.3	3000.5	2878.0	3125.3	3559.9	4142.4	4456.8	4322.7	4334.3
32.5°	4031.4	3395.8	3009.7	2961.2	3243.2	3668.5	4274.2	4761.9	4664.8	4528.4
35°	4160.9	3520.6	3097.6	3053.6	3326.4	3765.6	4301.9	4986.1	4970.0	4810.5
37.5°	4271.9	3643.1	3280.2	3287.1	3580.7	3922.8	4424.4	5261.2	5233.5	5124.8
40°	4350.5	3814.2	3564.5	3583.0	3802.6	4098.5	4641.7	5399.9	5605.7	5446.2
42.5°	4362.0	3966.7	3890.4	4038.4	4244.1	4371.3	4729.6	5494.7	5790.6	5686.6
45°	4405.9	4209.4	4422.1	4530.8	4699.5	4611.7	4724.9	5656.5	5804.5	5751.3
47.5°	4577.0	4651.0	4919.1	5249.7	5309.8	5020.8	4835.9	5681.9	5883.0	5876.1
50°	4755.0	5124.8	5501.6	5721.2	5797.5	5302.8	4939.9	5661.1	5987.1	5931.6
52.5°	4953.8	5536.3	6079.5	6350.0	6308.4	5614.9	5057.8	5829.9	6178.9	6160.4
55°	5078.6	5721.2	6451.7	6828.5	6796.1	5964.0	5432.3	6072.6	6430.9	6384.7
57.5°	5409.2	6021.7	6821.6	6997.2	7082.8	6421.7	5693.5	6470.2	6641.3	6692.1
60°	5681.9	6218.2	6918.6	7172.9	7203.0	6694.4	6151.2	6879.4	6909.4	6738.3
62.5°	6081.8	6294.5	6712.9	6941.8	7096.6	6849.3	6562.7	7099.0	6904.8	6893.2
65°	6375.4	6044.9	6329.2	6456.3	6555.7	6613.5	6976.4	7249.2	6819.3	6595.0
67.5°	6211.3	5573.3	5520.1	5527.1	5557.1	5906.2	6837.7	6881.7	6343.1	6158.1
70°	5467.0	4572.4	4500.7	4556.2	4405.9	4826.6	6276.0	6255.2	5596.4	5404.5
72.5°	4422.1	3333.3	3210.8	3287.1	3321.8	3767.9	5279.7	4743.4	4082.3	3932.0
75°	3513.6	2443.4	2062.0	2246.9	2364.8	2743.9	4123.9	3222.4	2850.2	2646.8
77.5°	2760.1	1849.3	1604.3	1530.3	1638.9	1994.9	3000.5	1692.1	1493.3	1398.5
80°	1749.9	1359.2	1474.8	1368.5	1414.7	1424.0	1562.6	769.8	612.6	605.6
82.5°	1054.1	929.3	1104.9	608.0	1107.3	989.4	649.6	349.1	309.8	309.8
85°	746.7	575.6	381.4	247.3	492.4	543.2	252.0	180.3	157.2	152.6
87.5°	374.5	178.0	85.5	55.5	62.4	101.7	30.1	13.9	13.9	11.6
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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