

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: METALUX

Report Number: P197433

Luminaire Tested: **8WSL-LD2-110-UPL8-UNV-L830-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197433
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28106)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 8WSL-LD2-110-UPL8-UNV-L830-CD2-U
Description: 8FT. Linear Wavestream System, 8% Uplight, L830
Light Source: (476) 3000K CCT, 80 CRI LEDS
EL236N0119D830
Ballast/Driver: OSRAM
OT50W

Summary

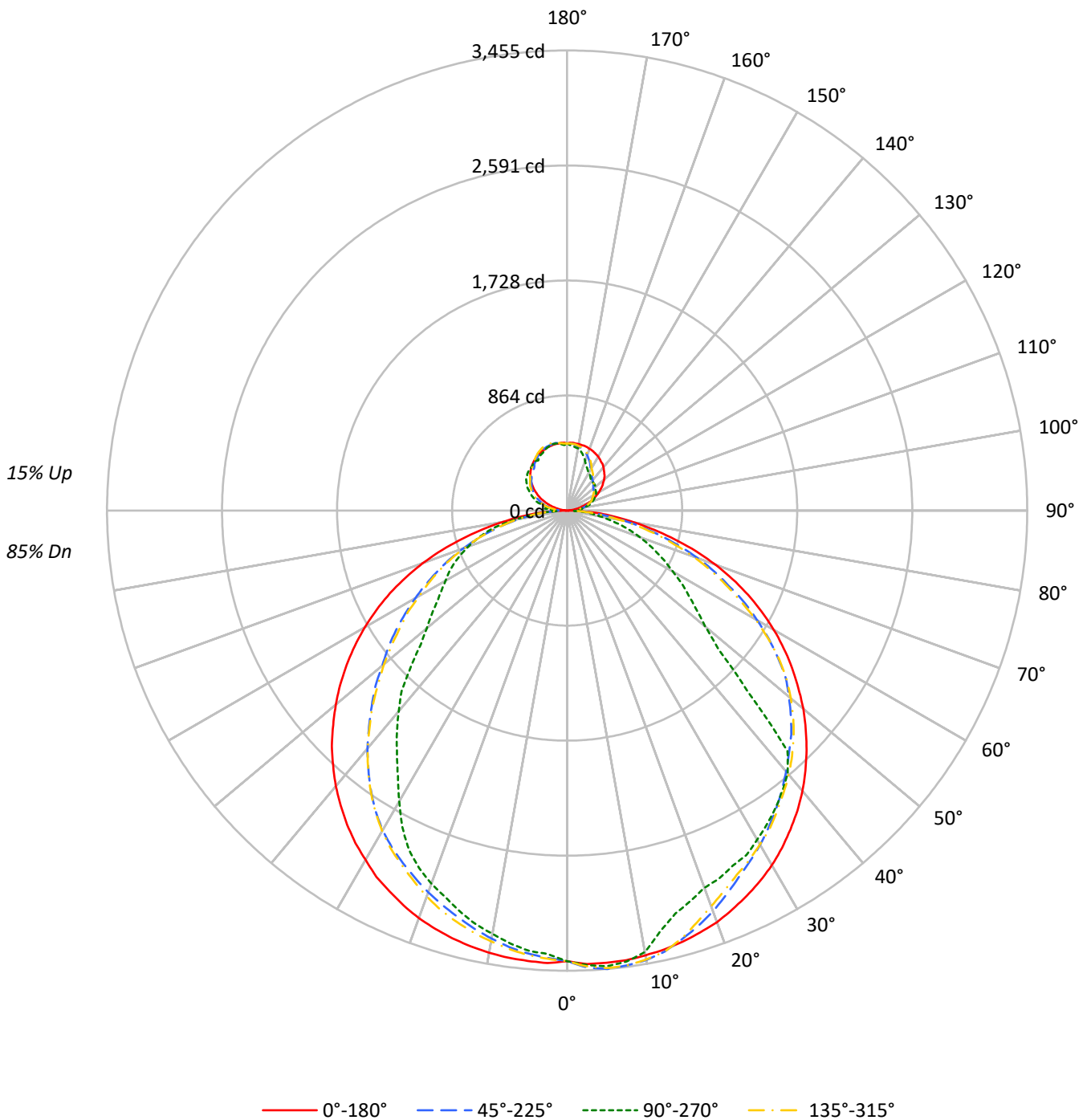
Lumens per Lamp: N/A
Luminaire Lumens: 11220.7 lumens
Efficiency: N/A
Efficacy: 113.5 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.19 / 1.36
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 98.9
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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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	115	115	115	115	111	111	111	111	103	103	103	95	95	95	88	88	88	85
1	105	101	96	92	101	97	93	90	90	87	84	83	81	79	78	76	74	71
2	96	88	81	75	92	84	78	73	78	73	69	73	69	65	68	65	62	59
3	87	77	69	62	83	74	67	61	69	63	58	64	59	55	60	56	52	50
4	80	68	59	53	76	66	58	52	61	55	49	57	52	47	53	49	45	42
5	73	61	52	45	70	59	51	44	55	48	43	51	45	41	48	43	39	37
6	68	55	46	40	65	53	45	39	50	43	37	47	40	36	44	38	34	32
7	63	49	41	35	60	48	40	34	45	38	33	42	36	32	40	35	31	28
8	58	45	37	31	56	44	36	30	41	34	29	39	33	28	37	31	27	25
9	54	41	33	28	52	40	33	27	38	31	26	36	30	26	34	29	25	23
10	51	38	30	25	49	37	30	25	35	28	24	33	27	23	31	26	22	21

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9582	9582	9582	9582
5°	9691	9763	9650	9434
10°	9751	9678	9699	9282
15°	9825	9188	9750	9135
20°	9913	9084	9815	8986
25°	9973	9192	9860	8784
30°	10058	9335	9904	8245
35°	10107	9431	9957	7703
40°	10165	9522	9991	7272
45°	10185	7661	10011	6645
50°	10199	5954	9991	6065
55°	10178	5509	9981	5885
60°	10157	5191	9931	5971
65°	10050	4977	9832	6264
70°	9779	4799	9539	6539
75°	9157	4519	8879	6897
80°	8331	4135	7977	6558
85°	8122	4472	7300	5886



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	321.6	2.9
10°-20°	913.2	8.1
20°-30°	1382.4	12.3
30°-40°	1669.3	14.9
40°-50°	1704.3	15.2
50°-60°	1490.0	13.3
60°-70°	1154.9	10.3
70°-80°	694.3	6.2
80°-90°	214.3	1.9
90°-100°	90.4	0.8
100°-110°	172.8	1.5
110°-120°	234.7	2.1
120°-130°	266.8	2.4
130°-140°	270.7	2.4
140°-150°	249.1	2.2
150°-160°	205.5	1.8
160°-170°	138.2	1.2
170°-180°	48.0	0.4
0°-30°	2617.2	23.3
0°-40°	4286.5	38.2
0°-60°	7480.8	66.7
0°-90°	9544.4	85.1
90°-120°	497.9	4.4
90°-150°	1284.5	11.4
90°-180°	1676.0	14.9
0°-180°	11220.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3383	3383	3383	3383	3383	
5°	3408	3434	3394	3318	3408	325
15°	3350	3133	3325	3115	3350	947
25°	3191	2941	3155	2811	3191	1473
35°	2923	2727	2879	2228	2923	1830
45°	2543	1912	2499	1659	2543	1961
55°	2061	1116	2021	1192	2061	1842
65°	1500	742	1467	934	1500	1480
75°	837	413	811	630	837	888
85°	250	138	225	181	250	252
90°	4	76	4	87	4	16
95°	22	105	22	167	22	28
105°	116	178	112	225	116	124
115°	225	228	221	304	225	222
125°	322	261	315	373	322	286
135°	395	286	391	413	395	305
145°	446	304	442	438	446	280
155°	482	355	478	464	482	222
165°	503	442	500	503	503	142
175°	511	485	511	500	511	49
180°	503	503	503	503	503	



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CATALOG NUMBER: 8WSL-LD2-110-UPL8-UNV-L830-CD2-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3382.9	3382.9	3382.9	3382.9	3382.9	3382.9	3382.9	3382.9	3382.9	3382.9	3382.9
2.5°	3408.2	3390.1	3433.6	3440.8	3415.5	3422.7	3426.3	3386.5	3401.0	3346.7	3361.2
5°	3408.2	3404.6	3455.3	3448.1	3433.6	3437.2	3448.1	3401.0	3393.8	3328.6	3339.4
7.5°	3404.6	3411.9	3444.5	3437.2	3415.5	3426.3	3444.5	3408.2	3386.5	3310.4	3306.8
10°	3390.1	3401.0	3426.3	3404.6	3364.8	3382.9	3422.7	3401.0	3372.0	3281.5	3263.4
12.5°	3375.6	3382.9	3390.1	3299.6	3234.4	3277.8	3390.1	3382.9	3350.3	3248.9	3216.3
15°	3350.3	3361.2	3332.2	3201.8	3133.0	3176.4	3324.9	3353.9	3324.9	3201.8	3161.9
17.5°	3321.3	3332.2	3270.6	3125.7	3075.0	3096.8	3241.6	3317.7	3292.3	3158.3	3107.6
20°	3288.7	3299.6	3201.8	3046.0	3013.4	3031.6	3161.9	3277.8	3256.1	3107.6	3049.7
22.5°	3241.6	3259.7	3122.1	2991.7	2988.1	2988.1	3085.9	3230.8	3209.0	3046.0	2984.5
25°	3190.9	3209.0	3042.4	2941.0	2941.0	2941.0	3017.1	3169.2	3154.7	2980.9	2919.3
27.5°	3136.6	3154.7	2970.0	2904.8	2915.7	2897.5	2959.1	3100.4	3100.4	2915.7	2850.5
30°	3075.0	3093.1	2897.5	2846.8	2854.1	2846.8	2893.9	3027.9	3027.9	2839.6	2770.8
32.5°	3002.6	3020.7	2817.9	2778.0	2792.5	2785.3	2832.4	2955.5	2959.1	2759.9	2676.6
35°	2922.9	2944.6	2734.6	2712.8	2727.3	2716.4	2749.0	2879.4	2879.4	2673.0	2568.0
37.5°	2839.6	2861.3	2647.6	2640.4	2654.9	2644.0	2669.4	2799.8	2792.5	2582.4	2452.0
40°	2749.0	2774.4	2557.1	2557.1	2575.2	2568.0	2589.7	2716.4	2702.0	2491.9	2332.5
42.5°	2647.6	2680.2	2466.5	2470.2	2448.4	2477.4	2499.1	2629.5	2600.5	2390.5	2202.1
45°	2542.6	2582.4	2379.6	2314.4	1912.4	2289.1	2405.0	2542.6	2499.1	2289.1	2075.4
47.5°	2430.3	2481.0	2278.2	2039.1	1539.3	2006.6	2303.5	2433.9	2383.2	2180.4	1952.2
50°	2314.4	2372.4	2173.2	1803.7	1351.0	1767.5	2191.3	2325.3	2267.3	2068.1	1811.0
52.5°	2187.6	2252.8	2071.7	1597.3	1224.2	1564.7	2075.4	2220.2	2147.8	1948.6	1695.1
55°	2060.9	2129.7	1934.1	1419.8	1115.6	1390.8	1941.4	2086.2	2021.0	1825.5	1568.3
57.5°	1930.5	1999.3	1796.5	1264.1	1021.4	1235.1	1789.2	1963.1	1890.6	1698.7	1441.5
60°	1792.9	1861.7	1648.0	1122.8	916.3	1101.1	1633.5	1825.5	1753.0	1568.3	1318.4
62.5°	1648.0	1716.8	1506.7	992.4	829.4	974.3	1463.3	1691.4	1611.8	1430.7	1191.6
65°	1499.5	1550.2	1340.1	869.3	742.5	854.8	1311.1	1524.8	1466.9	1285.8	1072.1
67.5°	1343.7	1394.4	1195.2	760.6	659.2	746.1	1162.6	1376.3	1311.1	1144.5	952.6
70°	1180.8	1224.2	1043.1	655.6	579.5	644.7	1006.9	1209.7	1151.8	996.0	825.8
72.5°	1014.1	1054.0	880.1	557.8	496.2	550.5	843.9	1043.1	985.2	840.3	709.9
75°	836.7	876.5	728.0	460.0	412.9	452.7	695.4	865.6	811.3	691.8	590.4
77.5°	670.1	717.1	575.9	362.2	329.6	354.9	546.9	699.0	644.7	554.2	474.5
80°	510.7	550.5	427.4	275.3	253.5	271.6	398.4	532.4	489.0	427.4	369.4
82.5°	369.4	391.2	293.4	202.8	192.0	199.2	271.6	376.7	354.9	307.9	271.6
85°	249.9	246.3	181.1	141.3	137.6	141.3	163.0	228.2	224.6	206.5	173.9
87.5°	105.0	97.8	83.3	58.0	50.7	54.3	65.2	86.9	83.3	86.9	83.3
90°	3.6	36.2	58.0	72.4	76.1	72.4	58.0	36.2	3.6	39.8	65.2
92.5°	7.2	47.1	68.8	79.7	86.9	79.7	65.2	47.1	7.2	61.6	65.2
95°	21.7	65.2	79.7	97.8	105.0	97.8	79.7	61.6	21.7	54.3	97.8
97.5°	43.5	83.3	94.2	108.7	112.3	105.0	90.5	83.3	39.8	97.8	101.4
100°	65.2	105.0	123.1	123.1	126.8	123.1	119.5	101.4	61.6	108.7	123.1
102.5°	90.5	119.5	141.3	152.1	152.1	152.1	141.3	119.5	83.3	134.0	170.2
105°	115.9	130.4	155.7	170.2	177.5	170.2	155.7	134.0	112.3	155.7	181.1
107.5°	144.9	141.3	170.2	184.7	192.0	184.7	170.2	144.9	137.6	173.9	202.8
110°	173.9	155.7	184.7	199.2	202.8	199.2	184.7	155.7	166.6	195.6	224.6



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CATALOG NUMBER: 8WSL-LD2-110-UPL8-UNV-L830-CD2-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	199.2	166.6	199.2	213.7	217.3	213.7	199.2	170.2	192.0	210.1	246.3
115°	224.6	177.5	206.5	224.6	228.2	224.6	206.5	181.1	220.9	228.2	264.4
117.5°	249.9	192.0	213.7	235.4	239.0	235.4	217.3	195.6	246.3	249.9	282.5
120°	275.3	210.1	224.6	242.7	249.9	246.3	224.6	213.7	268.0	268.0	297.0
122.5°	297.0	224.6	235.4	249.9	257.2	249.9	235.4	231.8	293.4	286.1	315.1
125°	322.4	239.0	242.7	257.2	260.8	257.2	246.3	242.7	315.1	300.6	326.0
127.5°	340.5	257.2	249.9	264.4	268.0	264.4	253.5	260.8	336.8	329.6	336.8
130°	362.2	275.3	257.2	271.6	275.3	275.3	257.2	282.5	354.9	351.3	351.3
132.5°	380.3	293.4	264.4	278.9	282.5	282.5	268.0	297.0	373.1	369.4	362.2
135°	394.8	318.7	278.9	278.9	286.1	286.1	282.5	322.4	391.2	387.5	380.3
137.5°	409.3	340.5	289.8	282.5	286.1	286.1	297.0	344.1	405.7	405.7	391.2
140°	423.8	362.2	297.0	289.8	289.8	297.0	307.9	365.8	420.1	420.1	394.8
142.5°	438.3	380.3	307.9	300.6	293.4	307.9	318.7	387.5	431.0	434.6	405.7
145°	445.5	398.4	322.4	311.5	304.2	322.4	336.8	405.7	441.9	449.1	427.4
147.5°	456.4	416.5	340.5	318.7	318.7	329.6	351.3	420.1	452.7	460.0	438.3
150°	467.2	431.0	354.9	329.6	322.4	340.5	365.8	434.6	463.6	470.9	452.7
152.5°	474.5	445.5	376.7	344.1	336.8	358.6	391.2	445.5	470.9	478.1	467.2
155°	481.7	456.4	402.0	358.6	354.9	373.1	412.9	456.4	478.1	485.3	478.1
157.5°	489.0	467.2	420.1	380.3	365.8	394.8	431.0	470.9	485.3	492.6	489.0
160°	492.6	474.5	441.9	402.0	394.8	420.1	449.1	474.5	489.0	499.8	496.2
162.5°	499.8	481.7	456.4	427.4	420.1	441.9	463.6	485.3	496.2	503.4	503.4
165°	503.4	489.0	470.9	449.1	441.9	463.6	474.5	492.6	499.8	503.4	507.1
167.5°	503.4	496.2	481.7	463.6	460.0	478.1	489.0	499.8	503.4	503.4	510.7
170°	507.1	499.8	489.0	478.1	474.5	489.0	492.6	503.4	507.1	503.4	514.3
172.5°	507.1	503.4	496.2	485.3	478.1	496.2	499.8	503.4	507.1	503.4	510.7
175°	510.7	503.4	503.4	496.2	485.3	503.4	503.4	503.4	510.7	503.4	507.1
177.5°	510.7	503.4	503.4	499.8	492.6	503.4	503.4	503.4	510.7	503.4	507.1
180°	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4	503.4



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CATALOG NUMBER: 8WSL-LD2-110-UPL8-UNV-L830-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3382.9	3382.9	3382.9	3382.9	3382.9	3382.9
2.5°	3357.5	3332.2	3339.4	3368.4	3357.5	3408.2
5°	3332.2	3317.7	3317.7	3350.3	3346.7	3408.2
7.5°	3292.3	3277.8	3285.1	3321.3	3328.6	3404.6
10°	3245.3	3227.1	3234.4	3285.1	3303.2	3390.1
12.5°	3194.5	3180.1	3187.3	3245.3	3270.6	3375.6
15°	3136.6	3114.9	3136.6	3198.2	3230.8	3350.3
17.5°	3071.4	3042.4	3067.8	3147.5	3187.3	3321.3
20°	3006.2	2980.9	2995.3	3082.3	3140.2	3288.7
22.5°	2941.0	2904.8	2919.3	3009.8	3082.3	3241.6
25°	2864.9	2810.6	2839.6	2937.4	3020.7	3190.9
27.5°	2763.5	2680.2	2741.8	2864.9	2948.3	3136.6
30°	2629.5	2520.9	2611.4	2778.0	2872.2	3075.0
32.5°	2481.0	2365.1	2466.5	2680.2	2792.5	3002.6
35°	2332.5	2227.5	2318.0	2571.6	2709.2	2922.9
37.5°	2191.3	2100.7	2184.0	2455.7	2622.3	2839.6
40°	2057.3	1966.7	2053.6	2328.9	2528.1	2749.0
42.5°	1923.2	1839.9	1923.2	2194.9	2430.3	2647.6
45°	1789.2	1658.8	1782.0	2064.5	2325.3	2542.6
47.5°	1644.4	1492.2	1633.5	1923.2	2213.0	2430.3
50°	1506.7	1376.3	1499.5	1792.9	2097.1	2314.4
52.5°	1387.2	1282.2	1380.0	1658.8	1977.6	2187.6
55°	1274.9	1191.6	1274.9	1528.5	1850.8	2060.9
57.5°	1173.5	1119.2	1177.1	1416.2	1720.4	1930.5
60°	1086.6	1054.0	1090.2	1278.5	1590.0	1792.9
62.5°	1003.3	999.7	1006.9	1169.9	1452.4	1648.0
65°	916.3	934.5	916.3	1054.0	1314.8	1499.5
67.5°	829.4	865.6	836.7	938.1	1166.3	1343.7
70°	749.7	789.6	749.7	818.6	1017.8	1180.8
72.5°	659.2	709.9	659.2	706.3	862.0	1014.1
75°	572.3	630.2	575.9	590.4	713.5	836.7
77.5°	478.1	532.4	489.0	478.1	575.9	670.1
80°	380.3	402.0	380.3	376.7	445.5	510.7
82.5°	264.4	282.5	264.4	275.3	326.0	369.4
85°	173.9	181.1	173.9	177.5	217.3	249.9
87.5°	72.4	72.4	72.4	90.5	97.8	105.0
90°	79.7	86.9	79.7	65.2	39.8	3.6
92.5°	83.3	90.5	83.3	72.4	47.1	7.2
95°	148.5	166.6	141.3	90.5	76.1	21.7
97.5°	119.5	130.4	123.1	105.0	94.2	43.5
100°	141.3	152.1	141.3	148.5	115.9	65.2
102.5°	166.6	173.9	170.2	173.9	141.3	90.5
105°	217.3	224.6	217.3	188.3	163.0	115.9
107.5°	231.8	249.9	235.4	210.1	184.7	144.9
110°	249.9	264.4	253.5	231.8	202.8	173.9



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	268.0	286.1	275.3	257.2	217.3	199.2
115°	289.8	304.2	297.0	275.3	239.0	224.6
117.5°	311.5	322.4	315.1	289.8	260.8	249.9
120°	329.6	344.1	336.8	307.9	278.9	275.3
122.5°	344.1	358.6	351.3	326.0	297.0	297.0
125°	358.6	373.1	365.8	340.5	311.5	322.4
127.5°	369.4	387.5	380.3	351.3	344.1	340.5
130°	383.9	394.8	391.2	362.2	362.2	362.2
132.5°	391.2	405.7	398.4	376.7	383.9	380.3
135°	394.8	412.9	405.7	394.8	402.0	394.8
137.5°	402.0	416.5	412.9	405.7	420.1	409.3
140°	412.9	420.1	423.8	412.9	434.6	423.8
142.5°	423.8	427.4	434.6	423.8	449.1	438.3
145°	431.0	438.3	445.5	445.5	460.0	445.5
147.5°	431.0	441.9	441.9	452.7	474.5	456.4
150°	441.9	434.6	456.4	467.2	481.7	467.2
152.5°	456.4	452.7	470.9	481.7	489.0	474.5
155°	460.0	463.6	474.5	492.6	496.2	481.7
157.5°	474.5	470.9	489.0	503.4	503.4	489.0
160°	485.3	485.3	503.4	510.7	507.1	492.6
162.5°	496.2	496.2	514.3	514.3	510.7	499.8
165°	503.4	503.4	521.6	517.9	510.7	503.4
167.5°	507.1	510.7	525.2	521.6	510.7	503.4
170°	510.7	510.7	525.2	517.9	510.7	507.1
172.5°	510.7	507.1	521.6	514.3	507.1	507.1
175°	507.1	499.8	514.3	507.1	507.1	510.7
177.5°	503.4	492.6	503.4	503.4	507.1	510.7
180°	503.4	503.4	503.4	503.4	503.4	503.4

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