

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: P197492

Luminaire Tested: **8WSL-LD2-120-UPL15-UNV-L850-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197492
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28105)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 8WSL-LD2-120-UPL15-UNV-L850-CD2-U
Description: 8FT. Linear Wavestream System, 15% Uplight, L850
Light Source: (476) 5000K CCT, 80 CRI LEDS
EL236N0119D850
Ballast/Driver: OSRAM
OT50W

Summary

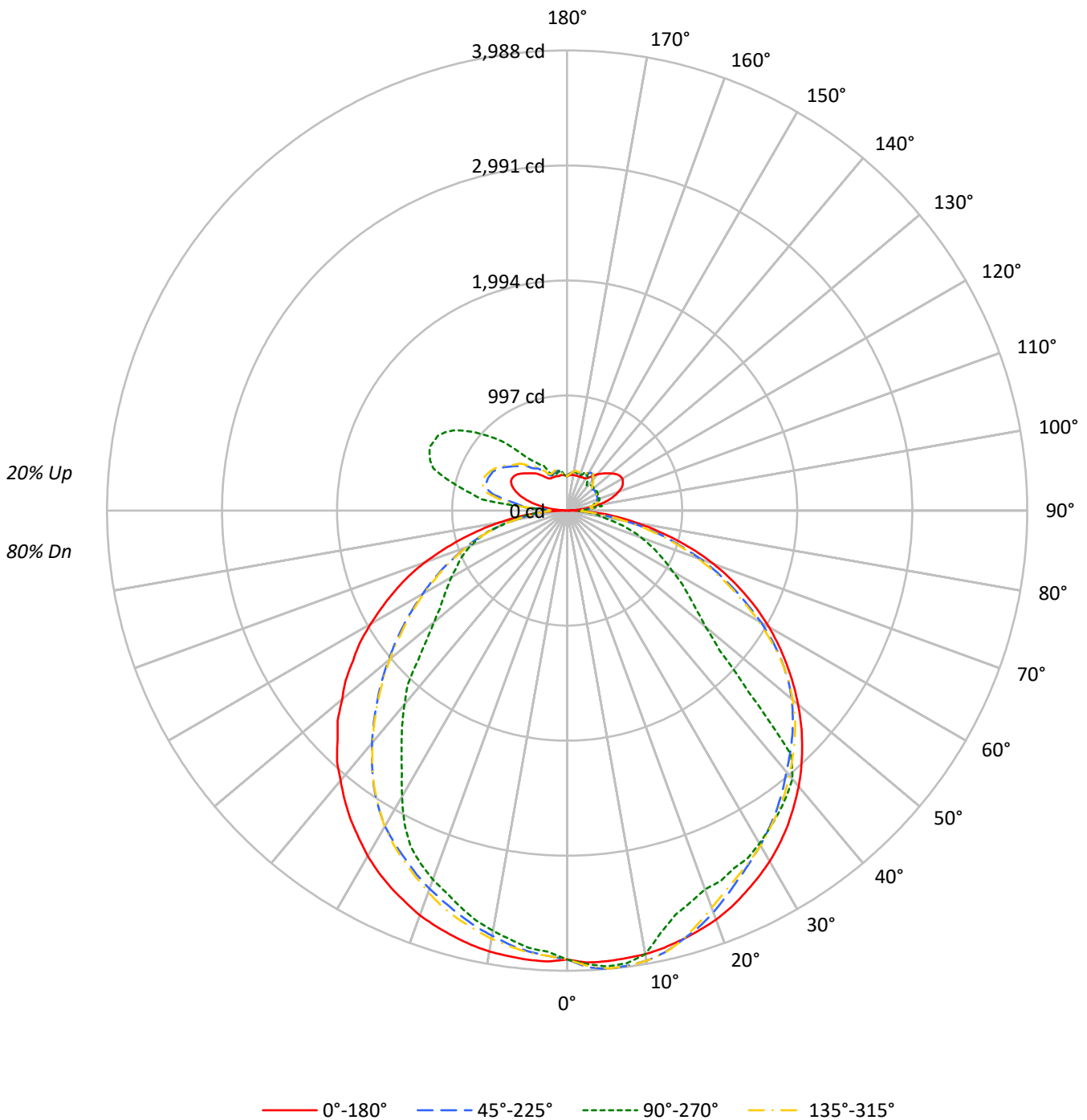
Lumens per Lamp: N/A
Luminaire Lumens: 13765.6 lumens
Efficiency: N/A
Efficacy: 121.3 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 113.5
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	114	114	114	114	109	109	109	109	100	100	100	91	91	91	83	83	83	80
1	104	99	95	91	99	95	91	88	87	84	81	80	77	75	73	71	70	66
2	94	86	80	74	90	83	77	72	76	71	67	70	66	62	64	61	58	55
3	86	76	68	62	82	73	66	60	67	61	56	61	57	53	56	53	49	46
4	79	67	59	52	75	64	57	51	59	53	48	55	49	45	50	46	42	40
5	72	60	51	45	69	58	50	44	53	46	41	49	43	39	45	41	37	34
6	67	54	45	39	64	52	44	38	48	41	36	44	39	34	41	36	32	30
7	62	49	40	34	59	47	39	33	44	37	32	40	35	30	38	33	29	26
8	58	44	36	30	55	43	35	30	40	33	28	37	31	27	34	29	26	24
9	54	41	33	27	51	39	32	27	37	30	26	34	28	24	32	27	23	21
10	50	37	30	25	48	36	29	24	34	27	23	32	26	22	30	25	21	19

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	11018	11018	11018	11018
5°	11149	11276	11111	10819
10°	11226	11226	11162	10635
15°	11289	10634	11197	10437
20°	11375	10527	11254	10258
25°	11417	10691	11278	10035
30°	11481	10896	11306	9363
35°	11520	11057	11304	8648
40°	11542	11229	11295	8108
45°	11539	8927	11270	7299
50°	11512	6888	11217	6632
55°	11468	6351	11181	6440
60°	11435	5996	11132	6578
65°	11344	5807	11045	6884
70°	11169	5659	10873	7360
75°	10654	5376	10313	7820
80°	9980	4881	9688	7794
85°	10013	6386	9289	9289



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	370.2	2.7
10°-20°	1050.5	7.6
20°-30°	1587.5	11.5
30°-40°	1910.5	13.9
40°-50°	1943.0	14.1
50°-60°	1691.2	12.3
60°-70°	1319.2	9.6
70°-80°	815.5	5.9
80°-90°	287.0	2.1
90°-100°	270.2	2.0
100°-110°	523.1	3.8
110°-120°	572.3	4.2
120°-130°	501.8	3.6
130°-140°	375.9	2.7
140°-150°	257.4	1.9
150°-160°	163.9	1.2
160°-170°	95.8	0.7
170°-180°	30.9	0.2
0°-30°	3008.1	21.9
0°-40°	4918.6	35.7
0°-60°	8552.8	62.1
0°-90°	10974.5	79.7
90°-120°	1365.5	9.9
90°-150°	2500.6	18.2
90°-180°	2791.0	20.3
0°-180°	13765.6	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3890	3890	3890	3890	3890	
5°	3921	3966	3908	3805	3921	373
15°	3850	3626	3818	3559	3850	1088
25°	3653	3421	3608	3211	3653	1686
35°	3331	3198	3269	2501	3331	2084
45°	2880	2228	2813	1822	2880	2222
55°	2322	1286	2264	1304	2322	2077
65°	1692	866	1648	1027	1692	1672
75°	974	491	942	714	974	1031
85°	308	196	286	286	308	307
90°	4	125	4	196	4	23
95°	121	205	94	411	121	125
105°	384	254	371	1094	384	400
115°	531	290	531	1313	531	520
125°	540	304	540	1210	540	480
135°	456	304	456	884	456	354
145°	357	304	366	527	357	228
155°	317	366	313	362	317	146
165°	313	330	308	335	313	89
175°	308	322	308	313	308	30
180°	299	299	299	299	299	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3889.6	3889.6	3889.6	3889.6	3889.6	3889.6	3889.6	3889.6	3889.6	3889.6	3889.6
2.5°	3920.9	3903.0	3961.1	3965.6	3934.3	3947.7	3947.7	3898.6	3912.0	3853.9	3862.9
5°	3920.9	3925.4	3987.9	3983.4	3965.6	3970.0	3983.4	3920.9	3907.5	3827.1	3836.1
7.5°	3912.0	3934.3	3979.0	3974.5	3956.6	3961.1	3983.4	3929.8	3894.1	3800.3	3795.9
10°	3903.0	3925.4	3961.1	3938.8	3903.0	3916.4	3961.1	3925.4	3880.7	3769.1	3742.3
12.5°	3880.7	3903.0	3920.9	3809.3	3746.7	3800.3	3925.4	3903.0	3853.9	3724.4	3688.7
15°	3849.5	3876.2	3853.9	3697.6	3626.2	3675.3	3853.9	3871.8	3818.2	3666.4	3621.7
17.5°	3813.7	3845.0	3786.9	3612.8	3559.2	3581.5	3760.1	3831.6	3778.0	3608.3	3554.7
20°	3773.5	3809.3	3706.6	3523.5	3492.2	3510.1	3661.9	3786.9	3733.3	3545.8	3487.7
22.5°	3719.9	3760.1	3612.8	3460.9	3474.3	3460.9	3572.6	3728.9	3670.8	3478.8	3411.8
25°	3653.0	3697.6	3519.0	3407.3	3420.7	3416.3	3496.7	3653.0	3608.3	3398.4	3327.0
27.5°	3586.0	3630.6	3434.1	3371.6	3394.0	3367.2	3425.2	3572.6	3536.9	3313.6	3246.6
30°	3510.1	3559.2	3349.3	3309.1	3331.4	3313.6	3353.8	3492.2	3456.5	3224.3	3157.3
32.5°	3425.2	3474.3	3260.0	3233.2	3264.4	3242.1	3268.9	3402.9	3362.7	3126.0	3045.6
35°	3331.4	3380.6	3166.2	3166.2	3197.5	3170.7	3184.1	3313.6	3268.9	3027.8	2920.6
37.5°	3228.7	3282.3	3063.5	3085.8	3121.5	3094.7	3094.7	3219.8	3166.2	2920.6	2777.7
40°	3121.5	3179.6	2956.3	3005.4	3036.7	3005.4	2996.5	3121.5	3054.6	2813.4	2630.3
42.5°	3005.4	3068.0	2858.1	2916.1	2875.9	2916.1	2893.8	3018.8	2951.8	2697.3	2478.5
45°	2880.4	2960.8	2759.8	2724.1	2228.4	2697.3	2791.1	2911.7	2813.4	2585.7	2326.6
47.5°	2750.9	2835.7	2652.6	2393.6	1790.8	2366.8	2679.4	2795.5	2697.3	2465.1	2174.8
50°	2612.4	2710.7	2541.0	2107.8	1563.0	2081.0	2554.4	2675.0	2545.5	2335.6	2023.0
52.5°	2469.5	2576.7	2416.0	1862.2	1411.2	1835.4	2420.4	2545.5	2420.4	2197.1	1875.6
55°	2322.2	2433.8	2268.6	1634.5	1286.1	1630.0	2264.1	2407.0	2264.1	2058.7	1728.2
57.5°	2174.8	2299.8	2112.3	1469.2	1179.0	1446.9	2090.0	2264.1	2130.2	1915.8	1585.3
60°	2018.5	2134.6	1942.6	1290.6	1058.4	1286.1	1915.8	2116.8	1964.9	1768.4	1446.9
62.5°	1857.7	1987.2	1759.5	1134.3	960.1	1129.8	1728.2	1951.5	1804.2	1616.6	1312.9
65°	1692.5	1817.6	1585.3	1009.3	866.4	1000.3	1554.1	1781.8	1647.9	1464.8	1187.9
67.5°	1522.8	1638.9	1411.2	888.7	772.6	879.7	1375.4	1603.2	1487.1	1308.5	1053.9
70°	1348.6	1455.8	1232.5	772.6	683.3	768.1	1201.3	1420.1	1312.9	1147.7	933.3
72.5°	1165.6	1263.8	1045.0	660.9	589.5	656.5	1018.2	1232.5	1120.9	978.0	826.2
75°	973.5	1067.3	870.8	549.3	491.2	544.8	844.0	1031.6	942.3	821.7	701.1
77.5°	790.4	884.2	692.2	424.2	375.1	415.3	660.9	844.0	768.1	665.4	571.6
80°	611.8	687.7	509.1	317.1	299.2	317.1	495.7	647.5	593.9	522.5	446.6
82.5°	451.0	495.7	343.9	259.0	259.0	259.0	334.9	460.0	437.6	388.5	339.4
85°	308.1	308.1	232.2	196.5	196.5	196.5	227.8	272.4	285.8	259.0	259.0
87.5°	129.5	134.0	120.6	107.2	102.7	107.2	116.1	111.6	111.6	125.0	156.3
90°	4.5	58.1	98.2	120.6	125.0	116.1	89.3	53.6	4.5	75.9	138.4
92.5°	31.3	125.0	116.1	151.8	156.3	142.9	120.6	98.2	17.9	138.4	147.4
95°	120.6	147.4	227.8	232.2	205.4	196.5	223.3	138.4	93.8	187.6	375.1
97.5°	192.0	223.3	205.4	267.9	303.7	267.9	214.4	214.4	178.6	290.3	437.6
100°	263.5	236.7	209.9	232.2	267.9	236.7	201.0	236.7	250.1	339.4	535.9
102.5°	330.5	263.5	263.5	227.8	232.2	223.3	254.5	259.0	312.6	384.1	660.9
105°	384.1	272.4	276.9	259.0	254.5	259.0	276.9	276.9	370.7	424.2	719.0
107.5°	433.2	281.3	272.4	285.8	290.3	285.8	272.4	281.3	424.2	451.0	732.4
110°	473.4	285.8	276.9	285.8	299.2	285.8	276.9	290.3	468.9	477.8	741.3



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	509.1	290.3	285.8	281.3	294.7	281.3	285.8	299.2	504.6	491.2	741.3
115°	531.4	294.7	285.8	285.8	290.3	285.8	290.3	303.7	531.4	495.7	732.4
117.5°	544.8	303.7	290.3	294.7	299.2	294.7	290.3	312.6	549.3	513.6	727.9
120°	553.7	334.9	290.3	299.2	303.7	299.2	290.3	339.4	553.7	522.5	710.1
122.5°	549.3	348.3	294.7	299.2	308.1	299.2	294.7	352.8	549.3	518.0	687.7
125°	540.4	361.7	294.7	294.7	303.7	299.2	299.2	361.7	540.4	509.1	656.5
127.5°	522.5	393.0	294.7	299.2	299.2	299.2	299.2	388.5	522.5	513.6	625.2
130°	500.2	415.3	285.8	303.7	299.2	308.1	294.7	415.3	500.2	500.2	598.4
132.5°	477.8	424.2	285.8	303.7	303.7	308.1	290.3	424.2	477.8	482.3	571.6
135°	455.5	433.2	303.7	299.2	303.7	303.7	308.1	433.2	455.5	464.4	553.7
137.5°	433.2	437.6	326.0	285.8	299.2	290.3	334.9	437.6	437.6	437.6	527.0
140°	410.8	433.2	343.9	276.9	281.3	285.8	352.8	437.6	419.8	424.2	482.3
142.5°	384.1	419.8	357.3	299.2	276.9	308.1	366.2	433.2	393.0	410.8	460.0
145°	357.3	406.4	384.1	330.5	303.7	343.9	397.4	419.8	366.2	401.9	446.6
147.5°	334.9	384.1	388.5	348.3	334.9	361.7	401.9	401.9	339.4	384.1	415.3
150°	321.5	361.7	375.1	361.7	348.3	379.6	393.0	370.7	321.5	370.7	388.5
152.5°	317.1	343.9	343.9	379.6	375.1	397.4	361.7	352.8	312.6	357.3	352.8
155°	317.1	339.4	330.5	348.3	366.2	366.2	343.9	343.9	312.6	357.3	334.9
157.5°	312.6	343.9	330.5	326.0	334.9	343.9	343.9	348.3	312.6	348.3	334.9
160°	312.6	348.3	334.9	321.5	326.0	339.4	348.3	348.3	312.6	348.3	339.4
162.5°	312.6	339.4	339.4	326.0	326.0	343.9	348.3	343.9	312.6	339.4	348.3
165°	312.6	339.4	343.9	334.9	330.5	352.8	348.3	334.9	308.1	334.9	352.8
167.5°	312.6	330.5	348.3	339.4	339.4	352.8	352.8	330.5	308.1	321.5	352.8
170°	312.6	326.0	343.9	339.4	343.9	357.3	343.9	326.0	312.6	317.1	339.4
172.5°	312.6	317.1	334.9	339.4	339.4	348.3	334.9	317.1	312.6	308.1	326.0
175°	308.1	317.1	326.0	326.0	321.5	334.9	321.5	312.6	308.1	303.7	312.6
177.5°	303.7	308.1	317.1	317.1	308.1	317.1	308.1	303.7	303.7	299.2	308.1
180°	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2	299.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3889.6	3889.6	3889.6	3889.6	3889.6	3889.6
2.5°	3858.4	3827.1	3836.1	3862.9	3858.4	3920.9
5°	3818.2	3804.8	3804.8	3845.0	3840.5	3920.9
7.5°	3773.5	3751.2	3764.6	3809.3	3822.7	3912.0
10°	3715.5	3697.6	3702.1	3769.1	3791.4	3903.0
12.5°	3657.4	3639.6	3653.0	3715.5	3746.7	3880.7
15°	3590.4	3559.2	3594.9	3661.9	3702.1	3849.5
17.5°	3510.1	3474.3	3510.1	3599.4	3648.5	3813.7
20°	3438.6	3402.9	3425.2	3519.0	3586.0	3773.5
22.5°	3358.2	3313.6	3331.4	3434.1	3519.0	3719.9
25°	3268.9	3210.9	3237.7	3349.3	3443.1	3653.0
27.5°	3152.8	3054.6	3121.5	3260.0	3349.3	3586.0
30°	2992.0	2862.5	2969.7	3161.7	3264.4	3510.1
32.5°	2804.5	2666.0	2782.1	3041.2	3166.2	3425.2
35°	2621.4	2500.8	2608.0	2916.1	3068.0	3331.4
37.5°	2460.6	2349.0	2447.2	2773.2	2960.8	3228.7
40°	2295.4	2192.7	2290.9	2621.4	2853.6	3121.5
42.5°	2143.5	2045.3	2139.1	2469.5	2737.5	3005.4
45°	1982.8	1822.0	1973.9	2313.2	2612.4	2880.4
47.5°	1813.1	1643.4	1799.7	2161.4	2487.4	2750.9
50°	1656.8	1504.9	1647.9	2005.1	2353.4	2612.4
52.5°	1518.3	1388.8	1513.9	1848.8	2215.0	2469.5
55°	1388.8	1304.0	1393.3	1705.9	2085.5	2322.2
57.5°	1286.1	1228.1	1290.6	1567.5	1942.6	2174.8
60°	1196.8	1161.1	1201.3	1429.0	1790.8	2018.5
62.5°	1098.6	1085.2	1098.6	1295.1	1643.4	1857.7
65°	1013.7	1027.1	1013.7	1174.5	1487.1	1692.5
67.5°	933.3	964.6	937.8	1045.0	1330.8	1522.8
70°	844.0	888.7	848.5	928.9	1170.0	1348.6
72.5°	750.2	803.8	750.2	817.2	1000.3	1165.6
75°	652.0	714.5	656.5	696.7	839.6	973.5
77.5°	544.8	585.0	553.7	567.1	683.3	790.4
80°	433.2	477.8	437.6	446.6	540.4	611.8
82.5°	361.7	393.0	366.2	339.4	401.9	451.0
85°	267.9	285.8	276.9	263.5	276.9	308.1
87.5°	165.2	174.2	165.2	165.2	142.9	129.5
90°	183.1	196.5	183.1	142.9	80.4	4.5
92.5°	187.6	205.4	187.6	156.3	151.8	31.3
95°	419.8	410.8	446.6	406.4	232.2	120.6
97.5°	652.0	745.8	674.3	486.8	312.6	192.0
100°	750.2	839.6	781.5	607.3	357.3	263.5
102.5°	866.4	964.6	902.1	710.1	401.9	330.5
105°	1009.3	1094.1	1040.5	750.2	442.1	384.1
107.5°	1085.2	1214.7	1107.5	768.1	468.9	433.2
110°	1125.4	1263.8	1161.1	772.6	491.2	473.4



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	1156.6	1290.6	1183.4	772.6	500.2	509.1
115°	1156.6	1312.9	1183.4	759.2	513.6	531.4
117.5°	1156.6	1299.5	1183.4	745.8	531.4	544.8
120°	1116.4	1295.1	1152.2	727.9	535.9	553.7
122.5°	1085.2	1259.3	1107.5	705.6	535.9	549.3
125°	1027.1	1210.2	1053.9	678.8	527.0	540.4
127.5°	964.6	1138.8	986.9	647.5	531.4	522.5
130°	906.5	1058.4	919.9	616.3	513.6	500.2
132.5°	830.6	969.1	844.0	593.9	495.7	477.8
135°	759.2	884.2	777.0	576.1	473.4	455.5
137.5°	683.3	794.9	701.1	540.4	451.0	433.2
140°	593.9	683.3	611.8	500.2	437.6	410.8
142.5°	535.9	585.0	553.7	482.3	419.8	384.1
145°	500.2	527.0	513.6	464.4	410.8	357.3
147.5°	464.4	491.2	477.8	428.7	388.5	334.9
150°	451.0	451.0	468.9	397.4	375.1	321.5
152.5°	401.9	437.6	419.8	361.7	366.2	317.1
155°	343.9	361.7	361.7	348.3	366.2	317.1
157.5°	321.5	334.9	339.4	348.3	357.3	312.6
160°	321.5	326.0	339.4	352.8	352.8	312.6
162.5°	330.5	326.0	348.3	361.7	343.9	312.6
165°	339.4	334.9	357.3	366.2	334.9	312.6
167.5°	348.3	348.3	366.2	361.7	326.0	312.6
170°	348.3	357.3	366.2	348.3	321.5	312.6
172.5°	334.9	339.4	348.3	326.0	308.1	312.6
175°	317.1	312.6	326.0	312.6	308.1	308.1
177.5°	308.1	294.7	308.1	303.7	299.2	303.7
180°	299.2	299.2	299.2	299.2	299.2	299.2

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