

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: P197479

Luminaire Tested: **8WSL-LD2-90-UPL15-UNV-L840-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197479
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-LD2-90-UPL15-UNV-L840-CD2-U
Description: 8FT. Linear Wavestream System, 15% Uplight, L840
Light Source: (476) 4000K CCT, 80 CRI LEDS
EL236N0119D840
Ballast/Driver: OSRAM
OT50W

Summary

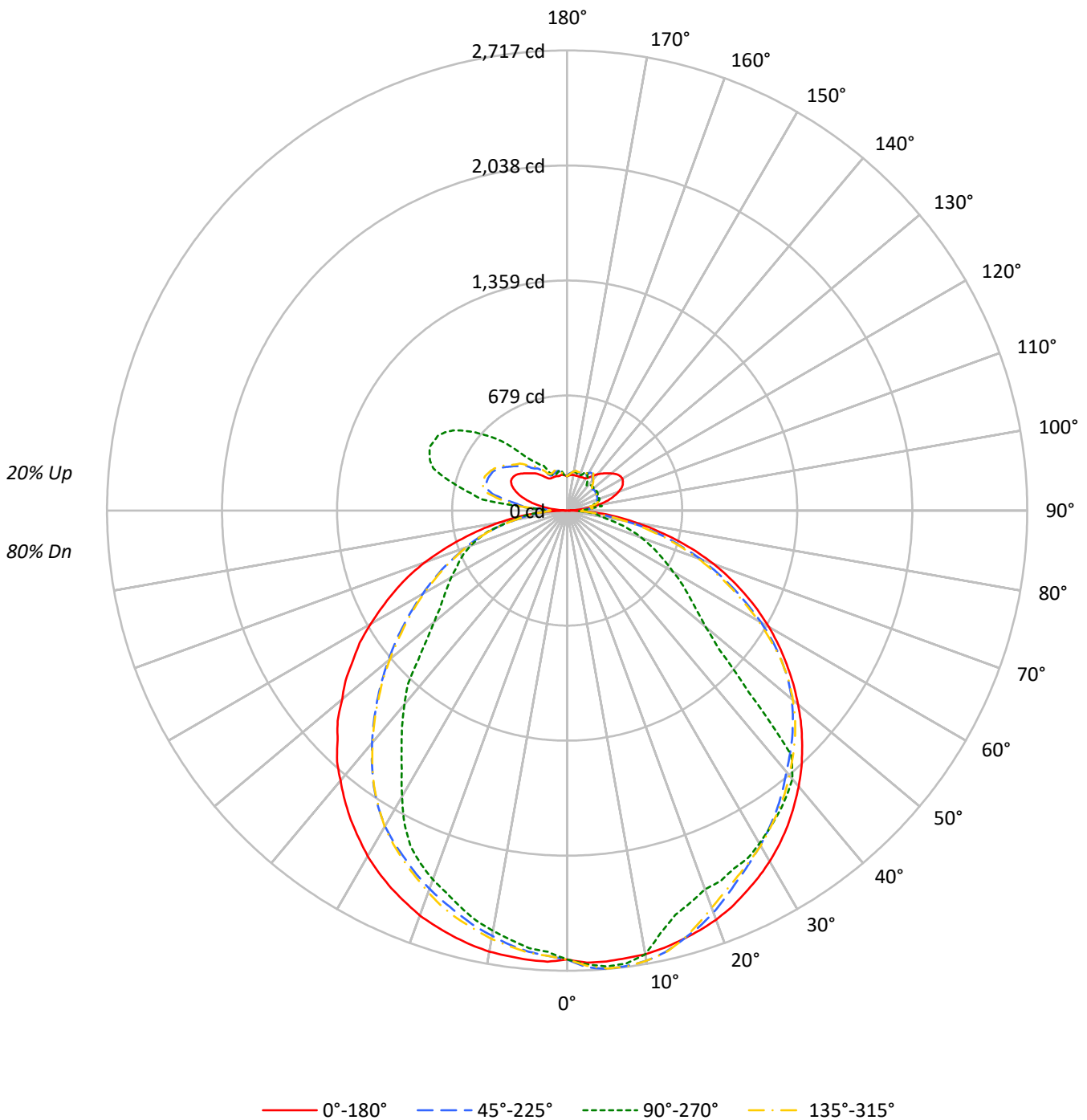
Lumens per Lamp: N/A
Luminaire Lumens: 9380.2 lumens
Efficiency: N/A
Efficacy: 116.4 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 80.6
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

TEST NUMBER: P197479

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L840-CD2-U

Luminous Intensity Polar Plot





TEST NUMBER: P197479

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L840-CD2-U

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°	7508	7508	7508	7508
5°	7597	7684	7571	7372
10°	7650	7650	7606	7247
15°	7692	7246	7630	7112
20°	7751	7173	7669	6990
25°	7780	7285	7685	6838
30°	7823	7425	7704	6380
35°	7850	7534	7703	5893
40°	7865	7652	7696	5525
45°	7862	6083	7680	4974
50°	7845	4694	7644	4519
55°	7815	4328	7619	4388
60°	7792	4086	7585	4482
65°	7730	3957	7526	4691
70°	7611	3856	7409	5016
75°	7260	3663	7027	5329
80°	6801	3326	6602	5311
85°	6825	4352	6331	6331



TEST NUMBER: P197479

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L840-CD2-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	252.2	2.7
10°-20°	715.8	7.6
20°-30°	1081.7	11.5
30°-40°	1301.9	13.9
40°-50°	1324.0	14.1
50°-60°	1152.4	12.3
60°-70°	898.9	9.6
70°-80°	555.7	5.9
80°-90°	195.5	2.1
90°-100°	184.1	2.0
100°-110°	356.4	3.8
110°-120°	390.0	4.2
120°-130°	341.9	3.6
130°-140°	256.2	2.7
140°-150°	175.4	1.9
150°-160°	111.7	1.2
160°-170°	65.3	0.7
170°-180°	21.1	0.2
0°-30°	2049.8	21.9
0°-40°	3351.6	35.7
0°-60°	5828.0	62.1
0°-90°	7478.2	79.7
90°-120°	930.5	9.9
90°-150°	1703.9	18.2
90°-180°	1902.0	20.3
0°-180°	9380.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2650	2650	2650	2650	2650	
5°	2672	2702	2663	2593	2672	255
15°	2623	2471	2602	2425	2623	742
25°	2489	2331	2459	2188	2489	1149
35°	2270	2179	2228	1704	2270	1420
45°	1963	1518	1917	1242	1963	1514
55°	1582	876	1543	889	1582	1415
65°	1153	590	1123	700	1153	1140
75°	663	335	642	487	663	703
85°	210	134	195	195	210	209
90°	3	85	3	134	3	16
95°	82	140	64	280	82	85
105°	262	174	253	746	262	273
115°	362	198	362	895	362	355
125°	368	207	368	825	368	327
135°	310	207	310	602	310	241
145°	243	207	250	359	243	155
155°	216	250	213	246	216	100
165°	213	225	210	228	213	60
175°	210	219	210	213	210	20
180°	204	204	204	204	204	



TEST NUMBER: P197479

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L840-CD2-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5
2.5°	2671.8	2659.6	2699.2	2702.2	2680.9	2690.0	2690.0	2656.6	2665.7	2626.1	2632.2
5°	2671.8	2674.8	2717.4	2714.4	2702.2	2705.2	2714.4	2671.8	2662.6	2607.9	2614.0
7.5°	2665.7	2680.9	2711.3	2708.3	2696.1	2699.2	2714.4	2677.9	2653.5	2589.6	2586.6
10°	2659.6	2674.8	2699.2	2683.9	2659.6	2668.7	2699.2	2674.8	2644.4	2568.3	2550.1
12.5°	2644.4	2659.6	2671.8	2595.7	2553.1	2589.6	2674.8	2659.6	2626.1	2537.9	2513.5
15°	2623.1	2641.3	2626.1	2519.6	2470.9	2504.4	2626.1	2638.3	2601.8	2498.3	2467.9
17.5°	2598.7	2620.0	2580.5	2461.8	2425.3	2440.5	2562.2	2610.9	2574.4	2458.8	2422.2
20°	2571.4	2595.7	2525.7	2400.9	2379.6	2391.8	2495.3	2580.5	2544.0	2416.2	2376.6
22.5°	2534.8	2562.2	2461.8	2358.3	2367.5	2358.3	2434.4	2540.9	2501.4	2370.5	2324.9
25°	2489.2	2519.6	2397.9	2321.8	2331.0	2327.9	2382.7	2489.2	2458.8	2315.7	2267.1
27.5°	2443.5	2474.0	2340.1	2297.5	2312.7	2294.4	2334.0	2434.4	2410.1	2257.9	2212.3
30°	2391.8	2425.3	2282.3	2254.9	2270.1	2257.9	2285.3	2379.6	2355.3	2197.1	2151.4
32.5°	2334.0	2367.5	2221.4	2203.1	2224.4	2209.2	2227.5	2318.8	2291.4	2130.1	2075.3
35°	2270.1	2303.6	2157.5	2157.5	2178.8	2160.5	2169.7	2257.9	2227.5	2063.2	1990.1
37.5°	2200.1	2236.6	2087.5	2102.7	2127.1	2108.8	2108.8	2194.0	2157.5	1990.1	1892.8
40°	2127.1	2166.6	2014.5	2048.0	2069.3	2048.0	2041.9	2127.1	2081.4	1917.1	1792.3
42.5°	2048.0	2090.6	1947.5	1987.1	1959.7	1987.1	1971.9	2057.1	2011.4	1838.0	1688.9
45°	1962.7	2017.5	1880.6	1856.2	1518.5	1838.0	1901.9	1984.0	1917.1	1761.9	1585.4
47.5°	1874.5	1932.3	1807.6	1631.1	1220.3	1612.8	1825.8	1904.9	1838.0	1679.7	1482.0
50°	1780.2	1847.1	1731.5	1436.3	1065.1	1418.0	1740.6	1822.8	1734.5	1591.5	1378.5
52.5°	1682.8	1755.8	1646.3	1268.9	961.6	1250.7	1649.3	1734.5	1649.3	1497.2	1278.1
55°	1582.4	1658.4	1545.9	1113.7	876.4	1110.7	1542.8	1640.2	1542.8	1402.8	1177.6
57.5°	1482.0	1567.2	1439.3	1001.2	803.4	985.9	1424.1	1542.8	1451.5	1305.5	1080.3
60°	1375.4	1454.6	1323.7	879.4	721.2	876.4	1305.5	1442.4	1338.9	1205.0	985.9
62.5°	1265.9	1354.1	1199.0	772.9	654.2	769.9	1177.6	1329.8	1229.4	1101.6	894.6
65°	1153.3	1238.5	1080.3	687.7	590.3	681.6	1059.0	1214.2	1122.9	998.1	809.4
67.5°	1037.7	1116.8	961.6	605.6	526.4	599.5	937.3	1092.4	1013.3	891.6	718.2
70°	919.0	992.0	839.9	526.4	465.6	523.4	818.6	967.7	894.6	782.1	636.0
72.5°	794.2	861.2	712.1	450.4	401.7	447.3	693.8	839.9	763.8	666.4	563.0
75°	663.4	727.3	593.4	374.3	334.7	371.2	575.1	702.9	642.1	559.9	477.8
77.5°	538.6	602.5	471.7	289.1	255.6	283.0	450.4	575.1	523.4	453.4	389.5
80°	416.9	468.6	346.9	216.1	203.9	216.1	337.8	441.2	404.7	356.0	304.3
82.5°	307.3	337.8	234.3	176.5	176.5	176.5	228.2	313.4	298.2	264.7	231.3
85°	210.0	210.0	158.2	133.9	133.9	133.9	155.2	185.6	194.8	176.5	176.5
87.5°	88.2	91.3	82.2	73.0	70.0	73.0	79.1	76.1	76.1	85.2	106.5
90°	3.0	39.6	66.9	82.2	85.2	79.1	60.9	36.5	3.0	51.7	94.3
92.5°	21.3	85.2	79.1	103.5	106.5	97.4	82.2	66.9	12.2	94.3	100.4
95°	82.2	100.4	155.2	158.2	140.0	133.9	152.2	94.3	63.9	127.8	255.6
97.5°	130.8	152.2	140.0	182.6	206.9	182.6	146.1	146.1	121.7	197.8	298.2
100°	179.5	161.3	143.0	158.2	182.6	161.3	136.9	161.3	170.4	231.3	365.2
102.5°	225.2	179.5	179.5	155.2	158.2	152.2	173.5	176.5	213.0	261.7	450.4
105°	261.7	185.6	188.7	176.5	173.5	176.5	188.7	188.7	252.6	289.1	489.9
107.5°	295.2	191.7	185.6	194.8	197.8	194.8	185.6	191.7	289.1	307.3	499.1
110°	322.6	194.8	188.7	194.8	203.9	194.8	188.7	197.8	319.5	325.6	505.1



TEST NUMBER: P197479

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	346.9	197.8	194.8	191.7	200.8	191.7	194.8	203.9	343.9	334.7	505.1
115°	362.1	200.8	194.8	194.8	197.8	194.8	197.8	206.9	362.1	337.8	499.1
117.5°	371.2	206.9	197.8	200.8	203.9	200.8	197.8	213.0	374.3	349.9	496.0
120°	377.3	228.2	197.8	203.9	206.9	203.9	197.8	231.3	377.3	356.0	483.8
122.5°	374.3	237.4	200.8	203.9	210.0	203.9	200.8	240.4	374.3	353.0	468.6
125°	368.2	246.5	200.8	200.8	206.9	203.9	203.9	246.5	368.2	346.9	447.3
127.5°	356.0	267.8	200.8	203.9	203.9	203.9	203.9	264.7	356.0	349.9	426.0
130°	340.8	283.0	194.8	206.9	203.9	210.0	200.8	283.0	340.8	340.8	407.8
132.5°	325.6	289.1	194.8	206.9	206.9	210.0	197.8	289.1	325.6	328.6	389.5
135°	310.4	295.2	206.9	203.9	206.9	206.9	210.0	295.2	310.4	316.5	377.3
137.5°	295.2	298.2	222.1	194.8	203.9	197.8	228.2	298.2	298.2	298.2	359.1
140°	280.0	295.2	234.3	188.7	191.7	194.8	240.4	298.2	286.0	289.1	328.6
142.5°	261.7	286.0	243.4	203.9	188.7	210.0	249.5	295.2	267.8	280.0	313.4
145°	243.4	276.9	261.7	225.2	206.9	234.3	270.8	286.0	249.5	273.9	304.3
147.5°	228.2	261.7	264.7	237.4	228.2	246.5	273.9	273.9	231.3	261.7	283.0
150°	219.1	246.5	255.6	246.5	237.4	258.7	267.8	252.6	219.1	252.6	264.7
152.5°	216.1	234.3	234.3	258.7	255.6	270.8	246.5	240.4	213.0	243.4	240.4
155°	216.1	231.3	225.2	237.4	249.5	249.5	234.3	234.3	213.0	243.4	228.2
157.5°	213.0	234.3	225.2	222.1	228.2	234.3	234.3	237.4	213.0	237.4	228.2
160°	213.0	237.4	228.2	219.1	222.1	231.3	237.4	237.4	213.0	237.4	231.3
162.5°	213.0	231.3	231.3	222.1	222.1	234.3	237.4	234.3	213.0	231.3	237.4
165°	213.0	231.3	234.3	228.2	225.2	240.4	237.4	228.2	210.0	228.2	240.4
167.5°	213.0	225.2	237.4	231.3	231.3	240.4	240.4	225.2	210.0	219.1	240.4
170°	213.0	222.1	234.3	231.3	234.3	243.4	234.3	222.1	213.0	216.1	231.3
172.5°	213.0	216.1	228.2	231.3	231.3	237.4	228.2	216.1	213.0	210.0	222.1
175°	210.0	216.1	222.1	222.1	219.1	228.2	219.1	213.0	210.0	206.9	213.0
177.5°	206.9	210.0	216.1	216.1	210.0	216.1	210.0	206.9	206.9	203.9	210.0
180°	203.9	203.9	203.9	203.9	203.9	203.9	203.9	203.9	203.9	203.9	203.9



TEST NUMBER: P197479

CATALOG NUMBER: 8WSL-LD2-90-UPL15-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2650.5	2650.5	2650.5	2650.5	2650.5	2650.5
2.5°	2629.2	2607.9	2614.0	2632.2	2629.2	2671.8
5°	2601.8	2592.7	2592.7	2620.0	2617.0	2671.8
7.5°	2571.4	2556.1	2565.3	2595.7	2604.8	2665.7
10°	2531.8	2519.6	2522.7	2568.3	2583.5	2659.6
12.5°	2492.2	2480.1	2489.2	2531.8	2553.1	2644.4
15°	2446.6	2425.3	2449.6	2495.3	2522.7	2623.1
17.5°	2391.8	2367.5	2391.8	2452.7	2486.1	2598.7
20°	2343.1	2318.8	2334.0	2397.9	2443.5	2571.4
22.5°	2288.4	2257.9	2270.1	2340.1	2397.9	2534.8
25°	2227.5	2187.9	2206.2	2282.3	2346.2	2489.2
27.5°	2148.4	2081.4	2127.1	2221.4	2282.3	2443.5
30°	2038.8	1950.6	2023.6	2154.5	2224.4	2391.8
32.5°	1911.0	1816.7	1895.8	2072.3	2157.5	2334.0
35°	1786.3	1704.1	1777.1	1987.1	2090.6	2270.1
37.5°	1676.7	1600.6	1667.6	1889.7	2017.5	2200.1
40°	1564.1	1494.1	1561.1	1786.3	1944.5	2127.1
42.5°	1460.7	1393.7	1457.6	1682.8	1865.4	2048.0
45°	1351.1	1241.6	1345.0	1576.3	1780.2	1962.7
47.5°	1235.5	1119.8	1226.3	1472.8	1695.0	1874.5
50°	1129.0	1025.5	1122.9	1366.3	1603.7	1780.2
52.5°	1034.6	946.4	1031.6	1259.8	1509.3	1682.8
55°	946.4	888.6	949.4	1162.4	1421.1	1582.4
57.5°	876.4	836.8	879.4	1068.1	1323.7	1482.0
60°	815.5	791.2	818.6	973.8	1220.3	1375.4
62.5°	748.6	739.5	748.6	882.5	1119.8	1265.9
65°	690.8	699.9	690.8	800.3	1013.3	1153.3
67.5°	636.0	657.3	639.0	712.1	906.8	1037.7
70°	575.1	605.6	578.2	632.9	797.3	919.0
72.5°	511.2	547.7	511.2	556.9	681.6	794.2
75°	444.3	486.9	447.3	474.7	572.1	663.4
77.5°	371.2	398.6	377.3	386.5	465.6	538.6
80°	295.2	325.6	298.2	304.3	368.2	416.9
82.5°	246.5	267.8	249.5	231.3	273.9	307.3
85°	182.6	194.8	188.7	179.5	188.7	210.0
87.5°	112.6	118.7	112.6	112.6	97.4	88.2
90°	124.8	133.9	124.8	97.4	54.8	3.0
92.5°	127.8	140.0	127.8	106.5	103.5	21.3
95°	286.0	280.0	304.3	276.9	158.2	82.2
97.5°	444.3	508.2	459.5	331.7	213.0	130.8
100°	511.2	572.1	532.5	413.9	243.4	179.5
102.5°	590.3	657.3	614.7	483.8	273.9	225.2
105°	687.7	745.5	709.0	511.2	301.3	261.7
107.5°	739.5	827.7	754.7	523.4	319.5	295.2
110°	766.8	861.2	791.2	526.4	334.7	322.6



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	788.1	879.4	806.4	526.4	340.8	346.9
115°	788.1	894.6	806.4	517.3	349.9	362.1
117.5°	788.1	885.5	806.4	508.2	362.1	371.2
120°	760.8	882.5	785.1	496.0	365.2	377.3
122.5°	739.5	858.1	754.7	480.8	365.2	374.3
125°	699.9	824.7	718.2	462.5	359.1	368.2
127.5°	657.3	776.0	672.5	441.2	362.1	356.0
130°	617.7	721.2	626.9	419.9	349.9	340.8
132.5°	566.0	660.3	575.1	404.7	337.8	325.6
135°	517.3	602.5	529.5	392.5	322.6	310.4
137.5°	465.6	541.7	477.8	368.2	307.3	295.2
140°	404.7	465.6	416.9	340.8	298.2	280.0
142.5°	365.2	398.6	377.3	328.6	286.0	261.7
145°	340.8	359.1	349.9	316.5	280.0	243.4
147.5°	316.5	334.7	325.6	292.1	264.7	228.2
150°	307.3	307.3	319.5	270.8	255.6	219.1
152.5°	273.9	298.2	286.0	246.5	249.5	216.1
155°	234.3	246.5	246.5	237.4	249.5	216.1
157.5°	219.1	228.2	231.3	237.4	243.4	213.0
160°	219.1	222.1	231.3	240.4	240.4	213.0
162.5°	225.2	222.1	237.4	246.5	234.3	213.0
165°	231.3	228.2	243.4	249.5	228.2	213.0
167.5°	237.4	237.4	249.5	246.5	222.1	213.0
170°	237.4	243.4	249.5	237.4	219.1	213.0
172.5°	228.2	231.3	237.4	222.1	210.0	213.0
175°	216.1	213.0	222.1	213.0	210.0	210.0
177.5°	210.0	200.8	210.0	206.9	203.9	206.9
180°	203.9	203.9	203.9	203.9	203.9	203.9

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