

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: P197415

Luminaire Tested: **8WSL-LD2-70-UPL8-UNV-L840-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197415
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-LD2-70-UPL8-UNV-L840-CD1-U
Description: 8FT. Linear Wavestream System, 8% Uplight, L840
Light Source: (476) 4000K CCT, 80 CRI LEDS
EL236N0119D840
Ballast/Driver: OSRAM
OT85W1202772A0DIML

Summary

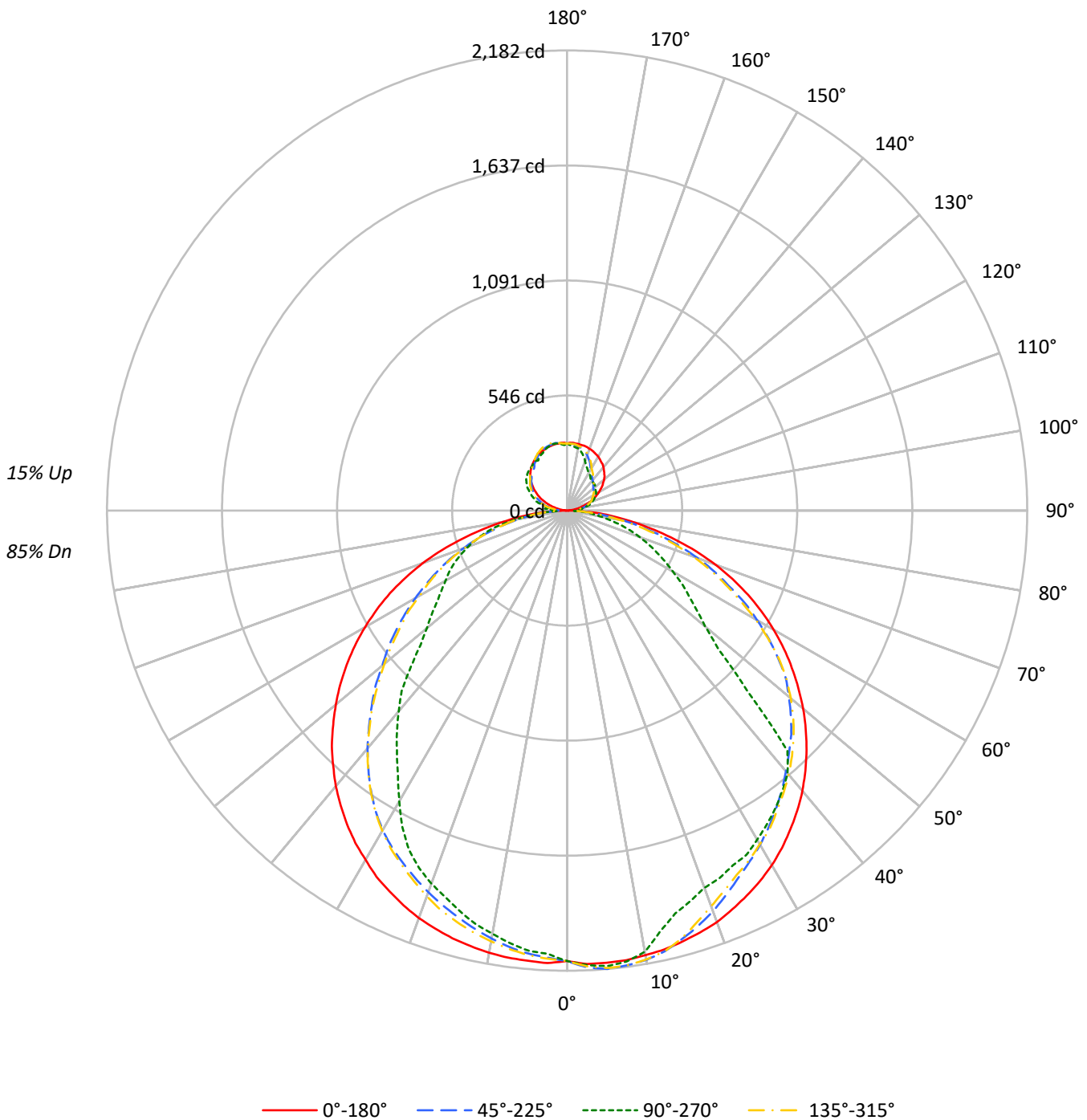
Lumens per Lamp: N/A
Luminaire Lumens: 7085.4 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.19 / 1.36
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 63.6
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

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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°	6051	6051	6051	6051
5°	6120	6165	6093	5957
10°	6157	6111	6125	5861
15°	6204	5801	6157	5768
20°	6260	5736	6198	5674
25°	6297	5804	6226	5547
30°	6351	5895	6254	5206
35°	6382	5955	6287	4864
40°	6419	6013	6309	4592
45°	6431	4838	6322	4196
50°	6440	3759	6309	3830
55°	6427	3479	6303	3716
60°	6414	3278	6271	3770
65°	6347	3143	6209	3955
70°	6175	3030	6023	4129
75°	5782	2853	5607	4356
80°	5261	2612	5037	4142
85°	5129	2824	4609	3718



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	203.1	2.9
10°-20°	576.7	8.1
20°-30°	873.0	12.3
30°-40°	1054.1	14.9
40°-50°	1076.2	15.2
50°-60°	940.9	13.3
60°-70°	729.3	10.3
70°-80°	438.4	6.2
80°-90°	135.4	1.9
90°-100°	57.1	0.8
100°-110°	109.1	1.5
110°-120°	148.2	2.1
120°-130°	168.5	2.4
130°-140°	170.9	2.4
140°-150°	157.3	2.2
150°-160°	129.8	1.8
160°-170°	87.3	1.2
170°-180°	30.3	0.4
0°-30°	1652.7	23.3
0°-40°	2706.8	38.2
0°-60°	4723.8	66.7
0°-90°	6026.9	85.1
90°-120°	314.4	4.4
90°-150°	811.1	11.4
90°-180°	1059.0	14.9
0°-180°	7085.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2136	2136	2136	2136	2136	
5°	2152	2168	2143	2095	2152	205
15°	2116	1978	2100	1967	2116	598
25°	2015	1857	1992	1775	2015	930
35°	1846	1722	1818	1407	1846	1156
45°	1606	1208	1578	1048	1606	1238
55°	1301	704	1276	752	1301	1163
65°	947	469	926	590	947	934
75°	528	261	512	398	528	561
85°	158	87	142	114	158	159
90°	2	48	2	55	2	10
95°	14	66	14	105	14	17
105°	73	112	71	142	73	78
115°	142	144	140	192	142	140
125°	204	165	199	236	204	181
135°	249	181	247	261	249	192
145°	281	192	279	277	281	177
155°	304	224	302	293	304	140
165°	318	279	316	318	318	90
175°	322	306	322	316	322	31
180°	318	318	318	318	318	



TEST NUMBER: P197415

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2136.1	2136.1	2136.1	2136.1	2136.1	2136.1	2136.1	2136.1	2136.1	2136.1	2136.1
2.5°	2152.2	2140.7	2168.2	2172.7	2156.7	2161.3	2163.6	2138.4	2147.6	2113.3	2122.4
5°	2152.2	2149.9	2181.9	2177.3	2168.2	2170.5	2177.3	2147.6	2143.0	2101.8	2108.7
7.5°	2149.9	2154.4	2175.0	2170.5	2156.7	2163.6	2175.0	2152.2	2138.4	2090.4	2088.1
10°	2140.7	2147.6	2163.6	2149.9	2124.7	2136.1	2161.3	2147.6	2129.3	2072.1	2060.7
12.5°	2131.6	2136.1	2140.7	2083.5	2042.4	2069.8	2140.7	2136.1	2115.6	2051.5	2030.9
15°	2115.6	2122.4	2104.1	2021.8	1978.3	2005.8	2099.6	2117.9	2099.6	2021.8	1996.6
17.5°	2097.3	2104.1	2065.2	1973.8	1941.7	1955.5	2047.0	2095.0	2079.0	1994.3	1962.3
20°	2076.7	2083.5	2021.8	1923.4	1902.9	1914.3	1996.6	2069.8	2056.1	1962.3	1925.7
22.5°	2047.0	2058.4	1971.5	1889.1	1886.9	1886.9	1948.6	2040.1	2026.4	1923.4	1884.6
25°	2014.9	2026.4	1921.2	1857.1	1857.1	1857.1	1905.2	2001.2	1992.1	1882.3	1843.4
27.5°	1980.6	1992.1	1875.4	1834.3	1841.1	1829.7	1868.6	1957.8	1957.8	1841.1	1799.9
30°	1941.7	1953.2	1829.7	1797.7	1802.2	1797.7	1827.4	1912.0	1912.0	1793.1	1749.6
32.5°	1896.0	1907.4	1779.4	1754.2	1763.4	1758.8	1788.5	1866.3	1868.6	1742.8	1690.2
35°	1845.7	1859.4	1726.8	1713.0	1722.2	1715.3	1735.9	1818.2	1818.2	1687.9	1621.6
37.5°	1793.1	1806.8	1671.9	1667.3	1676.4	1669.6	1685.6	1767.9	1763.4	1630.7	1548.4
40°	1735.9	1751.9	1614.7	1614.7	1626.1	1621.6	1635.3	1715.3	1706.2	1573.5	1472.9
42.5°	1671.9	1692.5	1557.5	1559.8	1546.1	1564.4	1578.1	1660.4	1642.1	1509.5	1390.6
45°	1605.5	1630.7	1502.6	1461.5	1207.6	1445.4	1518.6	1605.5	1578.1	1445.4	1310.5
47.5°	1534.6	1566.7	1438.6	1287.6	972.0	1267.1	1454.6	1536.9	1504.9	1376.8	1232.7
50°	1461.5	1498.0	1372.3	1139.0	853.1	1116.1	1383.7	1468.3	1431.7	1305.9	1143.5
52.5°	1381.4	1422.6	1308.2	1008.6	773.0	988.0	1310.5	1402.0	1356.2	1230.5	1070.4
55°	1301.4	1344.8	1221.3	896.5	704.4	878.2	1225.9	1317.4	1276.2	1152.7	990.3
57.5°	1219.0	1262.5	1134.4	798.2	645.0	779.9	1129.8	1239.6	1193.9	1072.6	910.3
60°	1132.1	1175.6	1040.6	709.0	578.6	695.3	1031.5	1152.7	1107.0	990.3	832.5
62.5°	1040.6	1084.1	951.4	626.7	523.7	615.2	924.0	1068.1	1017.8	903.4	752.5
65°	946.9	978.9	846.2	548.9	468.9	539.8	827.9	962.9	926.3	811.9	677.0
67.5°	848.5	880.5	754.7	480.3	416.3	471.1	734.2	869.1	827.9	722.7	601.5
70°	745.6	773.0	658.7	414.0	365.9	407.1	635.8	763.9	727.3	629.0	521.5
72.5°	640.4	665.5	555.8	352.2	313.3	347.6	532.9	658.7	622.1	530.6	448.3
75°	528.3	553.5	459.7	290.5	260.7	285.9	439.1	546.6	512.3	436.8	372.8
77.5°	423.1	452.8	363.6	228.7	208.1	224.1	345.4	441.4	407.1	349.9	299.6
80°	322.5	347.6	269.9	173.8	160.1	171.5	251.6	336.2	308.8	269.9	233.3
82.5°	233.3	247.0	185.3	128.1	121.2	125.8	171.5	237.9	224.1	194.4	171.5
85°	157.8	155.5	114.4	89.2	86.9	89.2	102.9	144.1	141.8	130.4	109.8
87.5°	66.3	61.8	52.6	36.6	32.0	34.3	41.2	54.9	52.6	54.9	52.6
90°	2.3	22.9	36.6	45.7	48.0	45.7	36.6	22.9	2.3	25.2	41.2
92.5°	4.6	29.7	43.5	50.3	54.9	50.3	41.2	29.7	4.6	38.9	41.2
95°	13.7	41.2	50.3	61.8	66.3	61.8	50.3	38.9	13.7	34.3	61.8
97.5°	27.4	52.6	59.5	68.6	70.9	66.3	57.2	52.6	25.2	61.8	64.0
100°	41.2	66.3	77.8	77.8	80.0	77.8	75.5	64.0	38.9	68.6	77.8
102.5°	57.2	75.5	89.2	96.1	96.1	96.1	89.2	75.5	52.6	84.6	107.5
105°	73.2	82.3	98.3	107.5	112.1	107.5	98.3	84.6	70.9	98.3	114.4
107.5°	91.5	89.2	107.5	116.6	121.2	116.6	107.5	91.5	86.9	109.8	128.1
110°	109.8	98.3	116.6	125.8	128.1	125.8	116.6	98.3	105.2	123.5	141.8



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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°	125.8	105.2	125.8	134.9	137.2	134.9	125.8	107.5	121.2	132.7	155.5
115°	141.8	112.1	130.4	141.8	144.1	141.8	130.4	114.4	139.5	144.1	167.0
117.5°	157.8	121.2	134.9	148.7	150.9	148.7	137.2	123.5	155.5	157.8	178.4
120°	173.8	132.7	141.8	153.2	157.8	155.5	141.8	134.9	169.2	169.2	187.5
122.5°	187.5	141.8	148.7	157.8	162.4	157.8	148.7	146.4	185.3	180.7	199.0
125°	203.6	150.9	153.2	162.4	164.7	162.4	155.5	153.2	199.0	189.8	205.8
127.5°	215.0	162.4	157.8	167.0	169.2	167.0	160.1	164.7	212.7	208.1	212.7
130°	228.7	173.8	162.4	171.5	173.8	173.8	162.4	178.4	224.1	221.8	221.8
132.5°	240.1	185.3	167.0	176.1	178.4	178.4	169.2	187.5	235.6	233.3	228.7
135°	249.3	201.3	176.1	176.1	180.7	180.7	178.4	203.6	247.0	244.7	240.1
137.5°	258.4	215.0	183.0	178.4	180.7	180.7	187.5	217.3	256.2	256.2	247.0
140°	267.6	228.7	187.5	183.0	183.0	187.5	194.4	231.0	265.3	265.3	249.3
142.5°	276.7	240.1	194.4	189.8	185.3	194.4	201.3	244.7	272.2	274.5	256.2
145°	281.3	251.6	203.6	196.7	192.1	203.6	212.7	256.2	279.0	283.6	269.9
147.5°	288.2	263.0	215.0	201.3	201.3	208.1	221.8	265.3	285.9	290.5	276.7
150°	295.0	272.2	224.1	208.1	203.6	215.0	231.0	274.5	292.7	297.3	285.9
152.5°	299.6	281.3	237.9	217.3	212.7	226.4	247.0	281.3	297.3	301.9	295.0
155°	304.2	288.2	253.9	226.4	224.1	235.6	260.7	288.2	301.9	306.5	301.9
157.5°	308.8	295.0	265.3	240.1	231.0	249.3	272.2	297.3	306.5	311.0	308.8
160°	311.0	299.6	279.0	253.9	249.3	265.3	283.6	299.6	308.8	315.6	313.3
162.5°	315.6	304.2	288.2	269.9	265.3	279.0	292.7	306.5	313.3	317.9	317.9
165°	317.9	308.8	297.3	283.6	279.0	292.7	299.6	311.0	315.6	317.9	320.2
167.5°	317.9	313.3	304.2	292.7	290.5	301.9	308.8	315.6	317.9	317.9	322.5
170°	320.2	315.6	308.8	301.9	299.6	308.8	311.0	317.9	320.2	317.9	324.8
172.5°	320.2	317.9	313.3	306.5	301.9	313.3	315.6	317.9	320.2	317.9	322.5
175°	322.5	317.9	317.9	313.3	306.5	317.9	317.9	317.9	322.5	317.9	320.2
177.5°	322.5	317.9	317.9	315.6	311.0	317.9	317.9	317.9	322.5	317.9	320.2
180°	317.9	317.9	317.9	317.9	317.9	317.9	317.9	317.9	317.9	317.9	317.9



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CATALOG NUMBER: 8WSL-LD2-70-UPL8-UNV-L840-CD1-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2136.1	2136.1	2136.1	2136.1	2136.1	2136.1
2.5°	2120.1	2104.1	2108.7	2127.0	2120.1	2152.2
5°	2104.1	2095.0	2095.0	2115.6	2113.3	2152.2
7.5°	2079.0	2069.8	2074.4	2097.3	2101.8	2149.9
10°	2049.2	2037.8	2042.4	2074.4	2085.8	2140.7
12.5°	2017.2	2008.1	2012.6	2049.2	2065.2	2131.6
15°	1980.6	1966.9	1980.6	2019.5	2040.1	2115.6
17.5°	1939.5	1921.2	1937.2	1987.5	2012.6	2097.3
20°	1898.3	1882.3	1891.4	1946.3	1982.9	2076.7
22.5°	1857.1	1834.3	1843.4	1900.6	1946.3	2047.0
25°	1809.1	1774.8	1793.1	1854.8	1907.4	2014.9
27.5°	1745.1	1692.5	1731.3	1809.1	1861.7	1980.6
30°	1660.4	1591.8	1649.0	1754.2	1813.7	1941.7
32.5°	1566.7	1493.5	1557.5	1692.5	1763.4	1896.0
35°	1472.9	1406.6	1463.7	1623.8	1710.7	1845.7
37.5°	1383.7	1326.5	1379.1	1550.7	1655.9	1793.1
40°	1299.1	1241.9	1296.8	1470.6	1596.4	1735.9
42.5°	1214.4	1161.8	1214.4	1386.0	1534.6	1671.9
45°	1129.8	1047.5	1125.3	1303.6	1468.3	1605.5
47.5°	1038.3	942.3	1031.5	1214.4	1397.4	1534.6
50°	951.4	869.1	946.9	1132.1	1324.2	1461.5
52.5°	876.0	809.6	871.4	1047.5	1248.8	1381.4
55°	805.1	752.5	805.1	965.2	1168.7	1301.4
57.5°	741.0	706.7	743.3	894.3	1086.4	1219.0
60°	686.1	665.5	688.4	807.3	1004.0	1132.1
62.5°	633.5	631.2	635.8	738.7	917.1	1040.6
65°	578.6	590.1	578.6	665.5	830.2	946.9
67.5°	523.7	546.6	528.3	592.4	736.4	848.5
70°	473.4	498.6	473.4	516.9	642.7	745.6
72.5°	416.3	448.3	416.3	446.0	544.3	640.4
75°	361.4	398.0	363.6	372.8	450.6	528.3
77.5°	301.9	336.2	308.8	301.9	363.6	423.1
80°	240.1	253.9	240.1	237.9	281.3	322.5
82.5°	167.0	178.4	167.0	173.8	205.8	233.3
85°	109.8	114.4	109.8	112.1	137.2	157.8
87.5°	45.7	45.7	45.7	57.2	61.8	66.3
90°	50.3	54.9	50.3	41.2	25.2	2.3
92.5°	52.6	57.2	52.6	45.7	29.7	4.6
95°	93.8	105.2	89.2	57.2	48.0	13.7
97.5°	75.5	82.3	77.8	66.3	59.5	27.4
100°	89.2	96.1	89.2	93.8	73.2	41.2
102.5°	105.2	109.8	107.5	109.8	89.2	57.2
105°	137.2	141.8	137.2	118.9	102.9	73.2
107.5°	146.4	157.8	148.7	132.7	116.6	91.5
110°	157.8	167.0	160.1	146.4	128.1	109.8



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	169.2	180.7	173.8	162.4	137.2	125.8
115°	183.0	192.1	187.5	173.8	150.9	141.8
117.5°	196.7	203.6	199.0	183.0	164.7	157.8
120°	208.1	217.3	212.7	194.4	176.1	173.8
122.5°	217.3	226.4	221.8	205.8	187.5	187.5
125°	226.4	235.6	231.0	215.0	196.7	203.6
127.5°	233.3	244.7	240.1	221.8	217.3	215.0
130°	242.4	249.3	247.0	228.7	228.7	228.7
132.5°	247.0	256.2	251.6	237.9	242.4	240.1
135°	249.3	260.7	256.2	249.3	253.9	249.3
137.5°	253.9	263.0	260.7	256.2	265.3	258.4
140°	260.7	265.3	267.6	260.7	274.5	267.6
142.5°	267.6	269.9	274.5	267.6	283.6	276.7
145°	272.2	276.7	281.3	281.3	290.5	281.3
147.5°	272.2	279.0	279.0	285.9	299.6	288.2
150°	279.0	274.5	288.2	295.0	304.2	295.0
152.5°	288.2	285.9	297.3	304.2	308.8	299.6
155°	290.5	292.7	299.6	311.0	313.3	304.2
157.5°	299.6	297.3	308.8	317.9	317.9	308.8
160°	306.5	306.5	317.9	322.5	320.2	311.0
162.5°	313.3	313.3	324.8	324.8	322.5	315.6
165°	317.9	317.9	329.3	327.1	322.5	317.9
167.5°	320.2	322.5	331.6	329.3	322.5	317.9
170°	322.5	322.5	331.6	327.1	322.5	320.2
172.5°	322.5	320.2	329.3	324.8	320.2	320.2
175°	320.2	315.6	324.8	320.2	320.2	322.5
177.5°	317.9	311.0	317.9	317.9	320.2	322.5
180°	317.9	317.9	317.9	317.9	317.9	317.9

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