

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: P197475

Luminaire Tested: **8WSL-LD2-80-UPL15-UNV-L840-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197475
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-LD2-80-UPL15-UNV-L840-CD1-U
Description: 8FT. Linear Wavestream System, 15% Uplight, L840
Light Source: (476) 4000K CCT, 80 CRI LEDS
EL236N0119D840
Ballast/Driver: OSRAM
OT85W1202772A0DIML

Summary

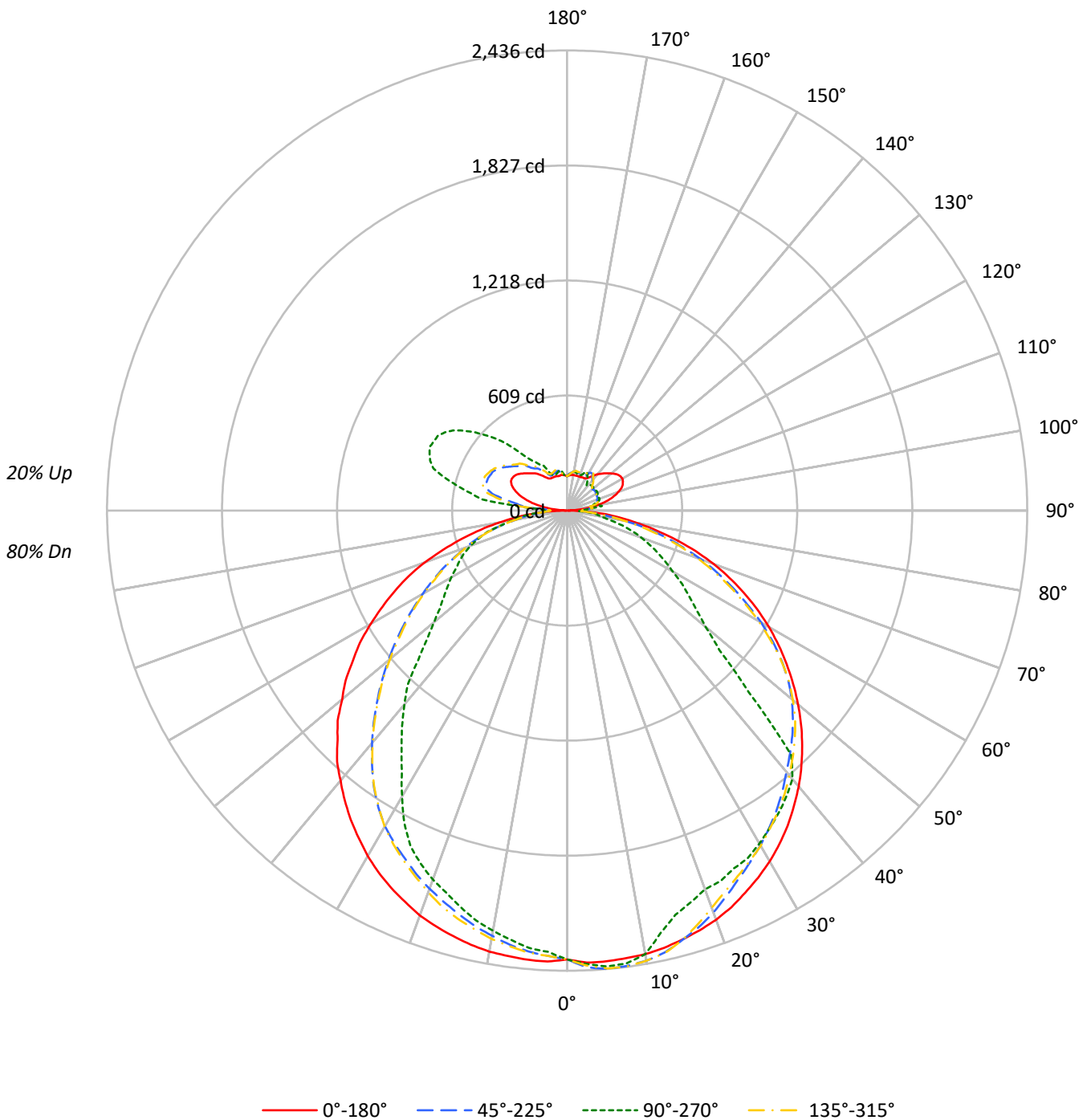
Lumens per Lamp: N/A
Luminaire Lumens: 8409.2 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 73.1
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°	6731	6731	6731	6731
5°	6811	6888	6787	6609
10°	6858	6858	6819	6497
15°	6896	6496	6840	6376
20°	6949	6431	6875	6266
25°	6974	6531	6889	6131
30°	7013	6656	6906	5720
35°	7037	6754	6905	5283
40°	7051	6860	6900	4953
45°	7049	5453	6885	4459
50°	7033	4208	6853	4051
55°	7006	3880	6830	3934
60°	6986	3663	6800	4018
65°	6930	3547	6747	4205
70°	6824	3457	6642	4496
75°	6509	3284	6300	4777
80°	6096	2982	5918	4762
85°	6117	3900	5675	5675



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	226.1	2.7
10°-20°	641.7	7.6
20°-30°	969.7	11.5
30°-40°	1167.1	13.9
40°-50°	1186.9	14.1
50°-60°	1033.1	12.3
60°-70°	805.9	9.6
70°-80°	498.2	5.9
80°-90°	175.3	2.1
90°-100°	165.0	2.0
100°-110°	319.5	3.8
110°-120°	349.6	4.2
120°-130°	306.5	3.6
130°-140°	229.6	2.7
140°-150°	157.2	1.9
150°-160°	100.1	1.2
160°-170°	58.5	0.7
170°-180°	18.9	0.2
0°-30°	1837.6	21.9
0°-40°	3004.7	35.7
0°-60°	5224.7	62.1
0°-90°	6704.1	79.7
90°-120°	834.2	9.9
90°-150°	1527.6	18.2
90°-180°	1705.0	20.3
0°-180°	8409.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2376	2376	2376	2376	2376	
5°	2395	2422	2387	2324	2395	228
15°	2352	2215	2332	2174	2352	665
25°	2232	2090	2204	1962	2232	1030
35°	2035	1953	1997	1528	2035	1273
45°	1760	1361	1719	1113	1760	1357
55°	1419	786	1383	797	1419	1269
65°	1034	529	1007	627	1034	1022
75°	595	300	576	436	595	630
85°	188	120	175	175	188	188
90°	3	76	3	120	3	14
95°	74	126	57	251	74	76
105°	235	156	226	668	235	244
115°	325	177	325	802	325	318
125°	330	186	330	739	330	293
135°	278	186	278	540	278	216
145°	218	186	224	322	218	139
155°	194	224	191	221	194	89
165°	191	202	188	205	191	54
175°	188	196	188	191	188	18
180°	183	183	183	183	183	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2376.1	2376.1	2376.1	2376.1	2376.1	2376.1	2376.1	2376.1	2376.1	2376.1	2376.1
2.5°	2395.2	2384.3	2419.8	2422.5	2403.4	2411.6	2411.6	2381.6	2389.8	2354.3	2359.8
5°	2395.2	2397.9	2436.1	2433.4	2422.5	2425.2	2433.4	2395.2	2387.0	2337.9	2343.4
7.5°	2389.8	2403.4	2430.7	2428.0	2417.0	2419.8	2433.4	2400.7	2378.9	2321.6	2318.8
10°	2384.3	2397.9	2419.8	2406.1	2384.3	2392.5	2419.8	2397.9	2370.7	2302.5	2286.1
12.5°	2370.7	2384.3	2395.2	2327.0	2288.8	2321.6	2397.9	2384.3	2354.3	2275.2	2253.4
15°	2351.6	2367.9	2354.3	2258.8	2215.2	2245.2	2354.3	2365.2	2332.5	2239.7	2212.4
17.5°	2329.7	2348.8	2313.4	2207.0	2174.2	2187.9	2297.0	2340.7	2307.9	2204.3	2171.5
20°	2305.2	2327.0	2264.3	2152.4	2133.3	2144.2	2237.0	2313.4	2280.6	2166.1	2130.6
22.5°	2272.5	2297.0	2207.0	2114.2	2122.4	2114.2	2182.4	2277.9	2242.4	2125.1	2084.2
25°	2231.5	2258.8	2149.7	2081.5	2089.7	2087.0	2136.1	2231.5	2204.3	2076.0	2032.4
27.5°	2190.6	2217.9	2097.9	2059.7	2073.3	2056.9	2092.4	2182.4	2160.6	2024.2	1983.3
30°	2144.2	2174.2	2046.0	2021.5	2035.1	2024.2	2048.8	2133.3	2111.5	1969.6	1928.7
32.5°	2092.4	2122.4	1991.5	1975.1	1994.2	1980.6	1996.9	2078.8	2054.2	1909.6	1860.5
35°	2035.1	2065.1	1934.2	1934.2	1953.3	1936.9	1945.1	2024.2	1996.9	1849.6	1784.1
37.5°	1972.4	2005.1	1871.4	1885.1	1906.9	1890.5	1890.5	1966.9	1934.2	1784.1	1696.8
40°	1906.9	1942.4	1806.0	1836.0	1855.1	1836.0	1830.5	1906.9	1866.0	1718.7	1606.8
42.5°	1836.0	1874.2	1745.9	1781.4	1756.9	1781.4	1767.8	1844.2	1803.2	1647.7	1514.1
45°	1759.6	1808.7	1685.9	1664.1	1361.3	1647.7	1705.0	1778.7	1718.7	1579.5	1421.3
47.5°	1680.5	1732.3	1620.5	1462.2	1093.9	1445.9	1636.8	1707.8	1647.7	1505.9	1328.6
50°	1595.9	1655.9	1552.3	1287.6	954.8	1271.3	1560.4	1634.1	1555.0	1426.8	1235.8
52.5°	1508.6	1574.1	1475.9	1137.6	862.1	1121.2	1478.6	1555.0	1478.6	1342.2	1145.8
55°	1418.6	1486.8	1385.8	998.5	785.7	995.7	1383.1	1470.4	1383.1	1257.6	1055.8
57.5°	1328.6	1404.9	1290.4	897.5	720.2	883.9	1276.7	1383.1	1301.3	1170.3	968.5
60°	1233.1	1304.0	1186.7	788.4	646.5	785.7	1170.3	1293.1	1200.3	1080.3	883.9
62.5°	1134.9	1214.0	1074.8	692.9	586.5	690.2	1055.8	1192.2	1102.1	987.6	802.0
65°	1033.9	1110.3	968.5	616.5	529.2	611.1	949.4	1088.5	1006.6	894.8	725.7
67.5°	930.3	1001.2	862.1	542.9	472.0	537.4	840.2	979.4	908.4	799.3	643.8
70°	823.9	889.3	752.9	472.0	417.4	469.2	733.8	867.5	802.0	701.1	570.2
72.5°	712.0	772.0	638.4	403.7	360.1	401.0	622.0	752.9	684.7	597.4	504.7
75°	594.7	652.0	532.0	335.5	300.1	332.8	515.6	630.2	575.6	502.0	428.3
77.5°	482.9	540.2	422.8	259.2	229.2	253.7	403.7	515.6	469.2	406.5	349.2
80°	373.7	420.1	311.0	193.7	182.8	193.7	302.8	395.6	362.8	319.2	272.8
82.5°	275.5	302.8	210.1	158.2	158.2	158.2	204.6	281.0	267.3	237.3	207.3
85°	188.2	188.2	141.9	120.0	120.0	120.0	139.1	166.4	174.6	158.2	158.2
87.5°	79.1	81.8	73.7	65.5	62.7	65.5	70.9	68.2	68.2	76.4	95.5
90°	2.7	35.5	60.0	73.7	76.4	70.9	54.6	32.7	2.7	46.4	84.6
92.5°	19.1	76.4	70.9	92.8	95.5	87.3	73.7	60.0	10.9	84.6	90.0
95°	73.7	90.0	139.1	141.9	125.5	120.0	136.4	84.6	57.3	114.6	229.2
97.5°	117.3	136.4	125.5	163.7	185.5	163.7	130.9	130.9	109.1	177.3	267.3
100°	161.0	144.6	128.2	141.9	163.7	144.6	122.8	144.6	152.8	207.3	327.4
102.5°	201.9	161.0	161.0	139.1	141.9	136.4	155.5	158.2	191.0	234.6	403.7
105°	234.6	166.4	169.1	158.2	155.5	158.2	169.1	169.1	226.4	259.2	439.2
107.5°	264.6	171.9	166.4	174.6	177.3	174.6	166.4	171.9	259.2	275.5	447.4
110°	289.2	174.6	169.1	174.6	182.8	174.6	169.1	177.3	286.4	291.9	452.9



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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°	311.0	177.3	174.6	171.9	180.1	171.9	174.6	182.8	308.3	300.1	452.9
115°	324.6	180.1	174.6	174.6	177.3	174.6	177.3	185.5	324.6	302.8	447.4
117.5°	332.8	185.5	177.3	180.1	182.8	180.1	177.3	191.0	335.5	313.7	444.7
120°	338.3	204.6	177.3	182.8	185.5	182.8	177.3	207.3	338.3	319.2	433.8
122.5°	335.5	212.8	180.1	182.8	188.2	182.8	180.1	215.5	335.5	316.5	420.1
125°	330.1	221.0	180.1	180.1	185.5	182.8	182.8	221.0	330.1	311.0	401.0
127.5°	319.2	240.1	180.1	182.8	182.8	182.8	182.8	237.3	319.2	313.7	381.9
130°	305.5	253.7	174.6	185.5	182.8	188.2	180.1	253.7	305.5	305.5	365.6
132.5°	291.9	259.2	174.6	185.5	185.5	188.2	177.3	259.2	291.9	294.6	349.2
135°	278.3	264.6	185.5	182.8	185.5	185.5	188.2	264.6	278.3	283.7	338.3
137.5°	264.6	267.3	199.1	174.6	182.8	177.3	204.6	267.3	267.3	267.3	321.9
140°	251.0	264.6	210.1	169.1	171.9	174.6	215.5	267.3	256.4	259.2	294.6
142.5°	234.6	256.4	218.2	182.8	169.1	188.2	223.7	264.6	240.1	251.0	281.0
145°	218.2	248.3	234.6	201.9	185.5	210.1	242.8	256.4	223.7	245.5	272.8
147.5°	204.6	234.6	237.3	212.8	204.6	221.0	245.5	245.5	207.3	234.6	253.7
150°	196.4	221.0	229.2	221.0	212.8	231.9	240.1	226.4	196.4	226.4	237.3
152.5°	193.7	210.1	210.1	231.9	229.2	242.8	221.0	215.5	191.0	218.2	215.5
155°	193.7	207.3	201.9	212.8	223.7	223.7	210.1	210.1	191.0	218.2	204.6
157.5°	191.0	210.1	201.9	199.1	204.6	210.1	210.1	212.8	191.0	212.8	204.6
160°	191.0	212.8	204.6	196.4	199.1	207.3	212.8	212.8	191.0	212.8	207.3
162.5°	191.0	207.3	207.3	199.1	199.1	210.1	212.8	210.1	191.0	207.3	212.8
165°	191.0	207.3	210.1	204.6	201.9	215.5	212.8	204.6	188.2	204.6	215.5
167.5°	191.0	201.9	212.8	207.3	207.3	215.5	215.5	201.9	188.2	196.4	215.5
170°	191.0	199.1	210.1	207.3	210.1	218.2	210.1	199.1	191.0	193.7	207.3
172.5°	191.0	193.7	204.6	207.3	207.3	212.8	204.6	193.7	191.0	188.2	199.1
175°	188.2	193.7	199.1	199.1	196.4	204.6	196.4	191.0	188.2	185.5	191.0
177.5°	185.5	188.2	193.7	193.7	188.2	193.7	188.2	185.5	185.5	182.8	188.2
180°	182.8	182.8	182.8	182.8	182.8	182.8	182.8	182.8	182.8	182.8	182.8



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2376.1	2376.1	2376.1	2376.1	2376.1	2376.1
2.5°	2357.0	2337.9	2343.4	2359.8	2357.0	2395.2
5°	2332.5	2324.3	2324.3	2348.8	2346.1	2395.2
7.5°	2305.2	2291.6	2299.7	2327.0	2335.2	2389.8
10°	2269.7	2258.8	2261.5	2302.5	2316.1	2384.3
12.5°	2234.3	2223.4	2231.5	2269.7	2288.8	2370.7
15°	2193.3	2174.2	2196.1	2237.0	2261.5	2351.6
17.5°	2144.2	2122.4	2144.2	2198.8	2228.8	2329.7
20°	2100.6	2078.8	2092.4	2149.7	2190.6	2305.2
22.5°	2051.5	2024.2	2035.1	2097.9	2149.7	2272.5
25°	1996.9	1961.5	1977.8	2046.0	2103.3	2231.5
27.5°	1926.0	1866.0	1906.9	1991.5	2046.0	2190.6
30°	1827.8	1748.7	1814.1	1931.5	1994.2	2144.2
32.5°	1713.2	1628.6	1699.6	1857.8	1934.2	2092.4
35°	1601.4	1527.7	1593.2	1781.4	1874.2	2035.1
37.5°	1503.1	1434.9	1495.0	1694.1	1808.7	1972.4
40°	1402.2	1339.5	1399.5	1601.4	1743.2	1906.9
42.5°	1309.5	1249.4	1306.7	1508.6	1672.3	1836.0
45°	1211.2	1113.0	1205.8	1413.1	1595.9	1759.6
47.5°	1107.6	1003.9	1099.4	1320.4	1519.5	1680.5
50°	1012.1	919.3	1006.6	1224.9	1437.7	1595.9
52.5°	927.5	848.4	924.8	1129.4	1353.1	1508.6
55°	848.4	796.6	851.1	1042.1	1274.0	1418.6
57.5°	785.7	750.2	788.4	957.5	1186.7	1328.6
60°	731.1	709.3	733.8	873.0	1093.9	1233.1
62.5°	671.1	662.9	671.1	791.1	1003.9	1134.9
65°	619.3	627.4	619.3	717.5	908.4	1033.9
67.5°	570.2	589.3	572.9	638.4	813.0	930.3
70°	515.6	542.9	518.3	567.4	714.7	823.9
72.5°	458.3	491.0	458.3	499.2	611.1	712.0
75°	398.3	436.5	401.0	425.6	512.9	594.7
77.5°	332.8	357.4	338.3	346.5	417.4	482.9
80°	264.6	291.9	267.3	272.8	330.1	373.7
82.5°	221.0	240.1	223.7	207.3	245.5	275.5
85°	163.7	174.6	169.1	161.0	169.1	188.2
87.5°	100.9	106.4	100.9	100.9	87.3	79.1
90°	111.8	120.0	111.8	87.3	49.1	2.7
92.5°	114.6	125.5	114.6	95.5	92.8	19.1
95°	256.4	251.0	272.8	248.3	141.9	73.7
97.5°	398.3	455.6	411.9	297.4	191.0	117.3
100°	458.3	512.9	477.4	371.0	218.2	161.0
102.5°	529.2	589.3	551.1	433.8	245.5	201.9
105°	616.5	668.4	635.6	458.3	270.1	234.6
107.5°	662.9	742.0	676.6	469.2	286.4	264.6
110°	687.5	772.0	709.3	472.0	300.1	289.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	706.6	788.4	722.9	472.0	305.5	311.0
115°	706.6	802.0	722.9	463.8	313.7	324.6
117.5°	706.6	793.9	722.9	455.6	324.6	332.8
120°	682.0	791.1	703.8	444.7	327.4	338.3
122.5°	662.9	769.3	676.6	431.0	327.4	335.5
125°	627.4	739.3	643.8	414.7	321.9	330.1
127.5°	589.3	695.7	602.9	395.6	324.6	319.2
130°	553.8	646.5	562.0	376.5	313.7	305.5
132.5°	507.4	592.0	515.6	362.8	302.8	291.9
135°	463.8	540.2	474.7	351.9	289.2	278.3
137.5°	417.4	485.6	428.3	330.1	275.5	264.6
140°	362.8	417.4	373.7	305.5	267.3	251.0
142.5°	327.4	357.4	338.3	294.6	256.4	234.6
145°	305.5	321.9	313.7	283.7	251.0	218.2
147.5°	283.7	300.1	291.9	261.9	237.3	204.6
150°	275.5	275.5	286.4	242.8	229.2	196.4
152.5°	245.5	267.3	256.4	221.0	223.7	193.7
155°	210.1	221.0	221.0	212.8	223.7	193.7
157.5°	196.4	204.6	207.3	212.8	218.2	191.0
160°	196.4	199.1	207.3	215.5	215.5	191.0
162.5°	201.9	199.1	212.8	221.0	210.1	191.0
165°	207.3	204.6	218.2	223.7	204.6	191.0
167.5°	212.8	212.8	223.7	221.0	199.1	191.0
170°	212.8	218.2	223.7	212.8	196.4	191.0
172.5°	204.6	207.3	212.8	199.1	188.2	191.0
175°	193.7	191.0	199.1	191.0	188.2	188.2
177.5°	188.2	180.1	188.2	185.5	182.8	185.5
180°	182.8	182.8	182.8	182.8	182.8	182.8

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