

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: P197471

Luminaire Tested: **8WSL-LD2-75-UPL15-UNV-L840-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P197471  
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-LD2-75-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**

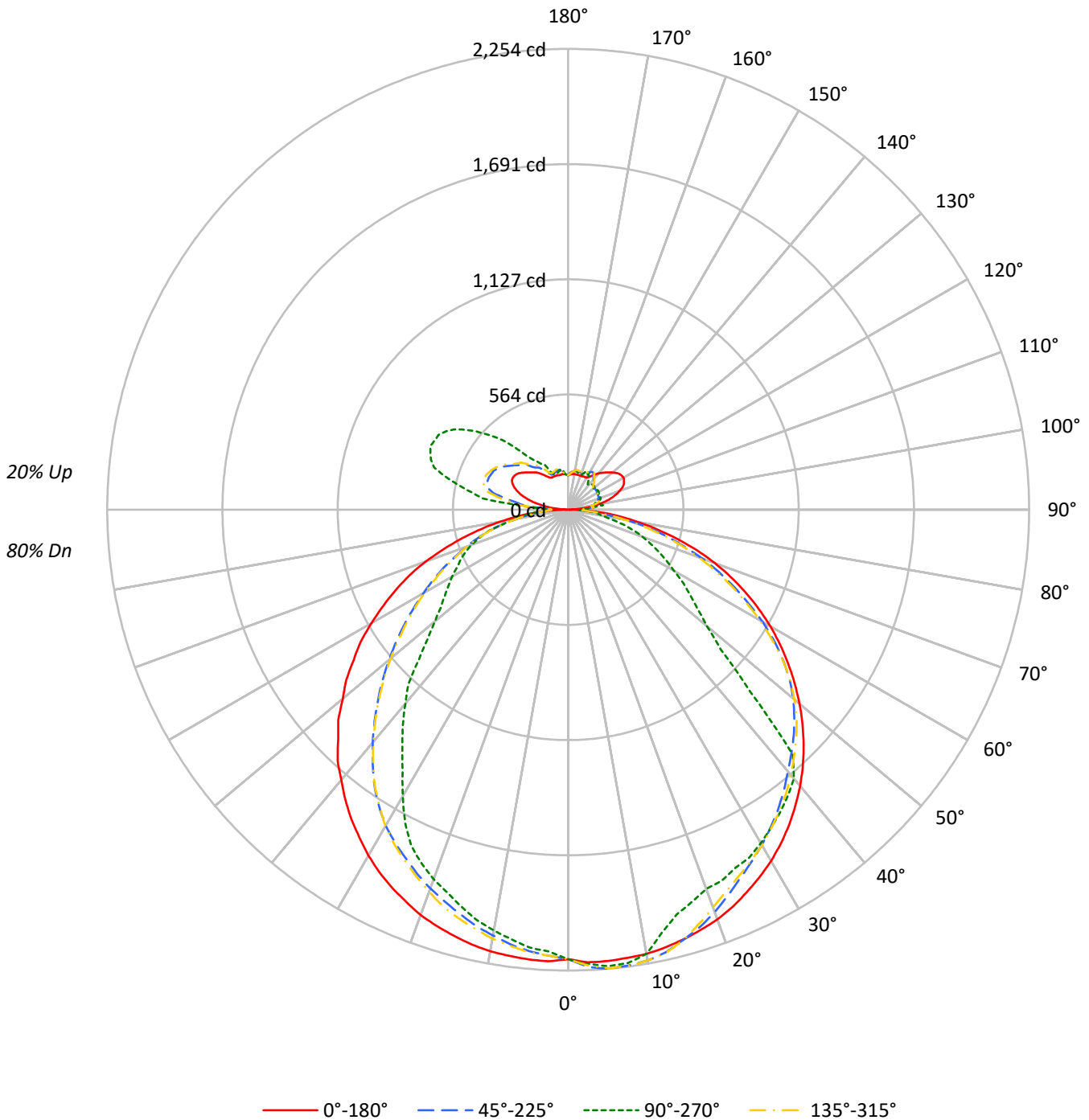
Lumens per Lamp: N/A  
Luminaire Lumens: 7780.0 lumens  
Efficiency: N/A  
Efficacy: 115.8 lumens/watt  
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35  
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 67.2  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	6227	6227	6227	6227
5°	6301	6373	6279	6115
10°	6345	6345	6309	6011
15°	6380	6010	6328	5899
20°	6429	5950	6360	5797
25°	6453	6042	6374	5672
30°	6489	6158	6390	5292
35°	6511	6249	6389	4888
40°	6523	6346	6384	4582
45°	6521	5045	6370	4125
50°	6507	3893	6340	3748
55°	6481	3590	6319	3640
60°	6463	3389	6291	3718
65°	6412	3282	6242	3891
70°	6313	3199	6145	4160
75°	6022	3038	5828	4419
80°	5641	2758	5476	4406
85°	5658	3611	5249	5249



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	209.2	2.7
10°-20°	593.7	7.6
20°-30°	897.2	11.5
30°-40°	1079.8	13.9
40°-50°	1098.1	14.1
50°-60°	955.8	12.3
60°-70°	745.6	9.6
70°-80°	460.9	5.9
80°-90°	162.2	2.1
90°-100°	152.7	2.0
100°-110°	295.6	3.8
110°-120°	323.5	4.2
120°-130°	283.6	3.6
130°-140°	212.5	2.7
140°-150°	145.5	1.9
150°-160°	92.6	1.2
160°-170°	54.1	0.7
170°-180°	17.5	0.2
0°-30°	1700.1	21.9
0°-40°	2779.9	35.7
0°-60°	4833.8	62.1
0°-90°	6202.5	79.7
90°-120°	771.8	9.9
90°-150°	1413.3	18.2
90°-180°	1577.0	20.3
0°-180°	7780.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2198	2198	2198	2198	2198	
5°	2216	2241	2208	2150	2216	211
15°	2176	2049	2158	2012	2176	615
25°	2065	1933	2039	1815	2065	953
35°	1883	1807	1848	1413	1883	1178
45°	1628	1259	1590	1030	1628	1256
55°	1312	727	1280	737	1312	1174
65°	957	490	931	580	957	945
75°	550	278	532	404	550	583
85°	174	111	162	162	174	174
90°	2	71	2	111	2	13
95°	68	116	53	232	68	71
105°	217	144	210	618	217	226
115°	300	164	300	742	300	294
125°	305	172	305	684	305	271
135°	257	172	257	500	257	200
145°	202	172	207	298	202	129
155°	179	207	177	204	179	83
165°	177	187	174	189	177	50
175°	174	182	174	177	174	17
180°	169	169	169	169	169	



TEST NUMBER: P197471

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2198.3	2198.3	2198.3	2198.3	2198.3	2198.3	2198.3	2198.3	2198.3	2198.3	2198.3
2.5°	2216.0	2205.9	2238.7	2241.2	2223.6	2231.1	2231.1	2203.4	2210.9	2178.1	2183.2
5°	2216.0	2218.5	2253.9	2251.3	2241.2	2243.8	2251.3	2216.0	2208.4	2163.0	2168.0
7.5°	2210.9	2223.6	2248.8	2246.3	2236.2	2238.7	2251.3	2221.0	2200.8	2147.8	2145.3
10°	2205.9	2218.5	2238.7	2226.1	2205.9	2213.5	2238.7	2218.5	2193.3	2130.2	2115.0
12.5°	2193.3	2205.9	2216.0	2152.9	2117.6	2147.8	2218.5	2205.9	2178.1	2104.9	2084.7
15°	2175.6	2190.8	2178.1	2089.8	2049.4	2077.2	2178.1	2188.2	2157.9	2072.1	2046.9
17.5°	2155.4	2173.1	2140.3	2041.8	2011.6	2024.2	2125.1	2165.5	2135.2	2039.3	2009.0
20°	2132.7	2152.9	2094.8	1991.4	1973.7	1983.8	2069.6	2140.3	2110.0	2004.0	1971.2
22.5°	2102.4	2125.1	2041.8	1956.0	1963.6	1956.0	2019.1	2107.5	2074.7	1966.1	1928.3
25°	2064.6	2089.8	1988.8	1925.7	1933.3	1930.8	1976.2	2064.6	2039.3	1920.7	1880.3
27.5°	2026.7	2051.9	1940.9	1905.6	1918.2	1903.0	1935.8	2019.1	1998.9	1872.7	1834.9
30°	1983.8	2011.6	1892.9	1870.2	1882.8	1872.7	1895.5	1973.7	1953.5	1822.3	1784.4
32.5°	1935.8	1963.6	1842.5	1827.3	1845.0	1832.4	1847.5	1923.2	1900.5	1766.7	1721.3
35°	1882.8	1910.6	1789.5	1789.5	1807.1	1792.0	1799.5	1872.7	1847.5	1711.2	1650.6
37.5°	1824.8	1855.1	1731.4	1744.0	1764.2	1749.1	1749.1	1819.7	1789.5	1650.6	1569.9
40°	1764.2	1797.0	1670.8	1698.6	1716.3	1698.6	1693.5	1764.2	1726.4	1590.1	1486.6
42.5°	1698.6	1733.9	1615.3	1648.1	1625.4	1648.1	1635.5	1706.2	1668.3	1524.4	1400.8
45°	1627.9	1673.4	1559.8	1539.6	1259.4	1524.4	1577.4	1645.6	1590.1	1461.3	1315.0
47.5°	1554.7	1602.7	1499.2	1352.8	1012.1	1337.7	1514.3	1580.0	1524.4	1393.2	1229.1
50°	1476.5	1532.0	1436.1	1191.3	883.4	1176.1	1443.7	1511.8	1438.6	1320.0	1143.3
52.5°	1395.7	1456.3	1365.4	1052.5	797.6	1037.3	1368.0	1438.6	1368.0	1241.8	1060.0
55°	1312.4	1375.5	1282.1	923.8	726.9	921.2	1279.6	1360.4	1279.6	1163.5	976.8
57.5°	1229.1	1299.8	1193.8	830.4	666.3	817.7	1181.2	1279.6	1203.9	1082.8	896.0
60°	1140.8	1206.4	1097.9	729.4	598.2	726.9	1082.8	1196.3	1110.5	999.5	817.7
62.5°	1049.9	1123.1	994.4	641.1	542.6	638.5	976.8	1102.9	1019.7	913.7	742.0
65°	956.6	1027.2	896.0	570.4	489.6	565.4	878.3	1007.0	931.3	827.8	671.4
67.5°	860.7	926.3	797.6	502.3	436.6	497.2	777.4	906.1	840.5	739.5	595.6
70°	762.2	822.8	696.6	436.6	386.2	434.1	678.9	802.6	742.0	648.6	527.5
72.5°	658.7	714.3	590.6	373.5	333.2	371.0	575.5	696.6	633.5	552.7	466.9
75°	550.2	603.2	492.2	310.4	277.6	307.9	477.0	583.0	532.5	464.4	396.3
77.5°	446.7	499.7	391.2	239.8	212.0	234.7	373.5	477.0	434.1	376.1	323.1
80°	345.8	388.7	287.7	179.2	169.1	179.2	280.2	366.0	335.7	295.3	252.4
82.5°	254.9	280.2	194.3	146.4	146.4	146.4	189.3	260.0	247.3	219.6	191.8
85°	174.1	174.1	131.2	111.1	111.1	111.1	128.7	154.0	161.5	146.4	146.4
87.5°	73.2	75.7	68.1	60.6	58.0	60.6	65.6	63.1	63.1	70.7	88.3
90°	2.5	32.8	55.5	68.1	70.7	65.6	50.5	30.3	2.5	42.9	78.2
92.5°	17.7	70.7	65.6	85.8	88.3	80.8	68.1	55.5	10.1	78.2	83.3
95°	68.1	83.3	128.7	131.2	116.1	111.1	126.2	78.2	53.0	106.0	212.0
97.5°	108.5	126.2	116.1	151.4	171.6	151.4	121.1	121.1	101.0	164.1	247.3
100°	148.9	133.8	118.6	131.2	151.4	133.8	113.6	133.8	141.3	191.8	302.9
102.5°	186.8	148.9	148.9	128.7	131.2	126.2	143.9	146.4	176.7	217.1	373.5
105°	217.1	154.0	156.5	146.4	143.9	146.4	156.5	156.5	209.5	239.8	406.3
107.5°	244.8	159.0	154.0	161.5	164.1	161.5	154.0	159.0	239.8	254.9	413.9
110°	267.5	161.5	156.5	161.5	169.1	161.5	156.5	164.1	265.0	270.1	419.0



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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°	287.7	164.1	161.5	159.0	166.6	159.0	161.5	169.1	285.2	277.6	419.0
115°	300.3	166.6	161.5	161.5	164.1	161.5	164.1	171.6	300.3	280.2	413.9
117.5°	307.9	171.6	164.1	166.6	169.1	166.6	164.1	176.7	310.4	290.2	411.4
120°	313.0	189.3	164.1	169.1	171.6	169.1	164.1	191.8	313.0	295.3	401.3
122.5°	310.4	196.9	166.6	169.1	174.1	169.1	166.6	199.4	310.4	292.8	388.7
125°	305.4	204.4	166.6	166.6	171.6	169.1	169.1	204.4	305.4	287.7	371.0
127.5°	295.3	222.1	166.6	169.1	169.1	169.1	169.1	219.6	295.3	290.2	353.3
130°	282.7	234.7	161.5	171.6	169.1	174.1	166.6	234.7	282.7	282.7	338.2
132.5°	270.1	239.8	161.5	171.6	171.6	174.1	164.1	239.8	270.1	272.6	323.1
135°	257.4	244.8	171.6	169.1	171.6	171.6	174.1	244.8	257.4	262.5	313.0
137.5°	244.8	247.3	184.2	161.5	169.1	164.1	189.3	247.3	247.3	247.3	297.8
140°	232.2	244.8	194.3	156.5	159.0	161.5	199.4	247.3	237.2	239.8	272.6
142.5°	217.1	237.2	201.9	169.1	156.5	174.1	207.0	244.8	222.1	232.2	260.0
145°	201.9	229.7	217.1	186.8	171.6	194.3	224.6	237.2	207.0	227.2	252.4
147.5°	189.3	217.1	219.6	196.9	189.3	204.4	227.2	227.2	191.8	217.1	234.7
150°	181.7	204.4	212.0	204.4	196.9	214.5	222.1	209.5	181.7	209.5	219.6
152.5°	179.2	194.3	194.3	214.5	212.0	224.6	204.4	199.4	176.7	201.9	199.4
155°	179.2	191.8	186.8	196.9	207.0	207.0	194.3	194.3	176.7	201.9	189.3
157.5°	176.7	194.3	186.8	184.2	189.3	194.3	194.3	196.9	176.7	196.9	189.3
160°	176.7	196.9	189.3	181.7	184.2	191.8	196.9	196.9	176.7	196.9	191.8
162.5°	176.7	191.8	191.8	184.2	184.2	194.3	196.9	194.3	176.7	191.8	196.9
165°	176.7	191.8	194.3	189.3	186.8	199.4	196.9	189.3	174.1	189.3	199.4
167.5°	176.7	186.8	196.9	191.8	191.8	199.4	199.4	186.8	174.1	181.7	199.4
170°	176.7	184.2	194.3	191.8	194.3	201.9	194.3	184.2	176.7	179.2	191.8
172.5°	176.7	179.2	189.3	191.8	191.8	196.9	189.3	179.2	176.7	174.1	184.2
175°	174.1	179.2	184.2	184.2	181.7	189.3	181.7	176.7	174.1	171.6	176.7
177.5°	171.6	174.1	179.2	179.2	174.1	179.2	174.1	171.6	171.6	169.1	174.1
180°	169.1	169.1	169.1	169.1	169.1	169.1	169.1	169.1	169.1	169.1	169.1



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2198.3	2198.3	2198.3	2198.3	2198.3	2198.3
2.5°	2180.7	2163.0	2168.0	2183.2	2180.7	2216.0
5°	2157.9	2150.4	2150.4	2173.1	2170.6	2216.0
7.5°	2132.7	2120.1	2127.7	2152.9	2160.5	2210.9
10°	2099.9	2089.8	2092.3	2130.2	2142.8	2205.9
12.5°	2067.1	2057.0	2064.6	2099.9	2117.6	2193.3
15°	2029.2	2011.6	2031.7	2069.6	2092.3	2175.6
17.5°	1983.8	1963.6	1983.8	2034.3	2062.0	2155.4
20°	1943.4	1923.2	1935.8	1988.8	2026.7	2132.7
22.5°	1898.0	1872.7	1882.8	1940.9	1988.8	2102.4
25°	1847.5	1814.7	1829.8	1892.9	1945.9	2064.6
27.5°	1781.9	1726.4	1764.2	1842.5	1892.9	2026.7
30°	1691.0	1617.8	1678.4	1786.9	1845.0	1983.8
32.5°	1585.0	1506.8	1572.4	1718.8	1789.5	1935.8
35°	1481.5	1413.4	1474.0	1648.1	1733.9	1882.8
37.5°	1390.7	1327.6	1383.1	1567.3	1673.4	1824.8
40°	1297.3	1239.2	1294.8	1481.5	1612.8	1764.2
42.5°	1211.5	1156.0	1209.0	1395.7	1547.2	1698.6
45°	1120.6	1029.8	1115.6	1307.4	1476.5	1627.9
47.5°	1024.7	928.8	1017.1	1221.6	1405.8	1554.7
50°	936.4	850.6	931.3	1133.2	1330.1	1476.5
52.5°	858.1	784.9	855.6	1044.9	1251.9	1395.7
55°	784.9	737.0	787.5	964.1	1178.7	1312.4
57.5°	726.9	694.1	729.4	885.9	1097.9	1229.1
60°	676.4	656.2	678.9	807.7	1012.1	1140.8
62.5°	620.9	613.3	620.9	731.9	928.8	1049.9
65°	572.9	580.5	572.9	663.8	840.5	956.6
67.5°	527.5	545.2	530.0	590.6	752.1	860.7
70°	477.0	502.3	479.5	525.0	661.3	762.2
72.5°	424.0	454.3	424.0	461.9	565.4	658.7
75°	368.5	403.8	371.0	393.7	474.5	550.2
77.5°	307.9	330.6	313.0	320.5	386.2	446.7
80°	244.8	270.1	247.3	252.4	305.4	345.8
82.5°	204.4	222.1	207.0	191.8	227.2	254.9
85°	151.4	161.5	156.5	148.9	156.5	174.1
87.5°	93.4	98.4	93.4	93.4	80.8	73.2
90°	103.5	111.1	103.5	80.8	45.4	2.5
92.5°	106.0	116.1	106.0	88.3	85.8	17.7
95°	237.2	232.2	252.4	229.7	131.2	68.1
97.5°	368.5	421.5	381.1	275.1	176.7	108.5
100°	424.0	474.5	441.7	343.3	201.9	148.9
102.5°	489.6	545.2	509.8	401.3	227.2	186.8
105°	570.4	618.4	588.1	424.0	249.9	217.1
107.5°	613.3	686.5	625.9	434.1	265.0	244.8
110°	636.0	714.3	656.2	436.6	277.6	267.5





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	653.7	729.4	668.8	436.6	282.7	287.7
115°	653.7	742.0	668.8	429.1	290.2	300.3
117.5°	653.7	734.5	668.8	421.5	300.3	307.9
120°	631.0	731.9	651.2	411.4	302.9	313.0
122.5°	613.3	711.7	625.9	398.8	302.9	310.4
125°	580.5	684.0	595.6	383.6	297.8	305.4
127.5°	545.2	643.6	557.8	366.0	300.3	295.3
130°	512.4	598.2	519.9	348.3	290.2	282.7
132.5°	469.4	547.7	477.0	335.7	280.2	270.1
135°	429.1	499.7	439.2	325.6	267.5	257.4
137.5°	386.2	449.3	396.3	305.4	254.9	244.8
140°	335.7	386.2	345.8	282.7	247.3	232.2
142.5°	302.9	330.6	313.0	272.6	237.2	217.1
145°	282.7	297.8	290.2	262.5	232.2	201.9
147.5°	262.5	277.6	270.1	242.3	219.6	189.3
150°	254.9	254.9	265.0	224.6	212.0	181.7
152.5°	227.2	247.3	237.2	204.4	207.0	179.2
155°	194.3	204.4	204.4	196.9	207.0	179.2
157.5°	181.7	189.3	191.8	196.9	201.9	176.7
160°	181.7	184.2	191.8	199.4	199.4	176.7
162.5°	186.8	184.2	196.9	204.4	194.3	176.7
165°	191.8	189.3	201.9	207.0	189.3	176.7
167.5°	196.9	196.9	207.0	204.4	184.2	176.7
170°	196.9	201.9	207.0	196.9	181.7	176.7
172.5°	189.3	191.8	196.9	184.2	174.1	176.7
175°	179.2	176.7	184.2	176.7	174.1	174.1
177.5°	174.1	166.6	174.1	171.6	169.1	171.6
180°	169.1	169.1	169.1	169.1	169.1	169.1

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