

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: P197463

Luminaire Tested: **8WSL-LD2-65-UPL15-UNV-L840-CD1-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P197463  
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-LD2-65-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  
OT50W

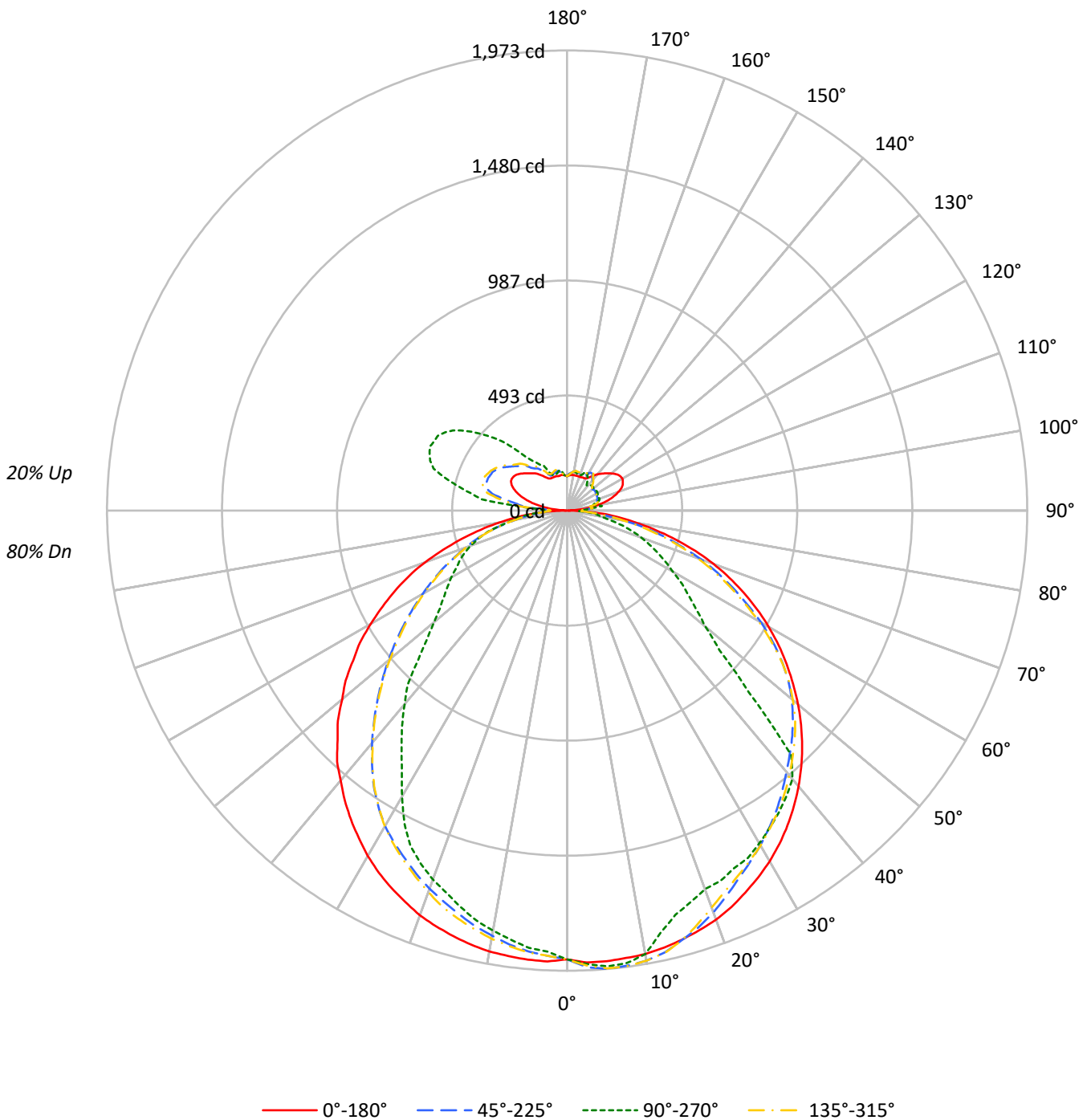
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6809.0 lumens  
Efficiency: N/A  
Efficacy: 118.2 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): 57.6  
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	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°	5450	5450	5450	5450
5°	5515	5577	5496	5351
10°	5553	5553	5521	5261
15°	5584	5260	5538	5163
20°	5626	5207	5567	5074
25°	5647	5288	5578	4964
30°	5679	5390	5592	4631
35°	5698	5469	5591	4278
40°	5709	5554	5587	4011
45°	5708	4416	5575	3610
50°	5694	3407	5549	3280
55°	5672	3142	5531	3185
60°	5656	2966	5506	3254
65°	5611	2872	5463	3406
70°	5525	2799	5378	3641
75°	5270	2659	5101	3868
80°	4936	2414	4793	3856
85°	4953	3159	4596	4596



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	183.1	2.7
10°-20°	519.6	7.6
20°-30°	785.2	11.5
30°-40°	945.0	13.9
40°-50°	961.1	14.1
50°-60°	836.5	12.3
60°-70°	652.5	9.6
70°-80°	403.4	5.9
80°-90°	141.9	2.1
90°-100°	133.6	2.0
100°-110°	258.7	3.8
110°-120°	283.1	4.2
120°-130°	248.2	3.6
130°-140°	186.0	2.7
140°-150°	127.3	1.9
150°-160°	81.1	1.2
160°-170°	47.4	0.7
170°-180°	15.3	0.2
0°-30°	1487.9	21.9
0°-40°	2432.9	35.7
0°-60°	4230.5	62.1
0°-90°	5428.4	79.7
90°-120°	675.4	9.9
90°-150°	1236.9	18.2
90°-180°	1381.0	20.3
0°-180°	6809.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1924	1924	1924	1924	1924	
5°	1939	1962	1933	1882	1939	185
15°	1904	1794	1889	1760	1904	538
25°	1807	1692	1785	1588	1807	834
35°	1648	1582	1617	1237	1648	1031
45°	1425	1102	1392	901	1425	1099
55°	1149	636	1120	645	1149	1027
65°	837	428	815	508	837	827
75°	482	243	466	353	482	510
85°	152	97	141	141	152	152
90°	2	62	2	97	2	12
95°	60	102	46	203	60	62
105°	190	126	183	541	190	198
115°	263	144	263	649	263	257
125°	267	150	267	599	267	238
135°	225	150	225	437	225	175
145°	177	150	181	261	177	113
155°	157	181	155	179	157	72
165°	155	164	152	166	155	44
175°	152	159	152	155	152	15
180°	148	148	148	148	148	



TEST NUMBER: P197463

CATALOG NUMBER: 8WSL-LD2-65-UPL15-UNV-L840-CD1-U

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1924.0	1924.0	1924.0	1924.0	1924.0	1924.0	1924.0	1924.0	1924.0	1924.0	1924.0
2.5°	1939.4	1930.6	1959.3	1961.5	1946.1	1952.7	1952.7	1928.4	1935.0	1906.3	1910.7
5°	1939.4	1941.6	1972.6	1970.4	1961.5	1963.7	1970.4	1939.4	1932.8	1893.1	1897.5
7.5°	1935.0	1946.1	1968.2	1965.9	1957.1	1959.3	1970.4	1943.9	1926.2	1879.8	1877.6
10°	1930.6	1941.6	1959.3	1948.3	1930.6	1937.2	1959.3	1941.6	1919.6	1864.3	1851.1
12.5°	1919.6	1930.6	1939.4	1884.2	1853.3	1879.8	1941.6	1930.6	1906.3	1842.2	1824.6
15°	1904.1	1917.3	1906.3	1829.0	1793.6	1817.9	1906.3	1915.1	1888.6	1813.5	1791.4
17.5°	1886.4	1901.9	1873.2	1787.0	1760.5	1771.6	1859.9	1895.3	1868.8	1784.8	1758.3
20°	1866.5	1884.2	1833.4	1742.8	1727.4	1736.2	1811.3	1873.2	1846.7	1753.9	1725.2
22.5°	1840.0	1859.9	1787.0	1711.9	1718.5	1711.9	1767.1	1844.5	1815.7	1720.8	1687.6
25°	1806.9	1829.0	1740.6	1685.4	1692.0	1689.8	1729.6	1806.9	1784.8	1681.0	1645.7
27.5°	1773.8	1795.9	1698.7	1667.7	1678.8	1665.5	1694.2	1767.1	1749.5	1639.0	1605.9
30°	1736.2	1760.5	1656.7	1636.8	1647.9	1639.0	1658.9	1727.4	1709.7	1594.8	1561.7
32.5°	1694.2	1718.5	1612.5	1599.3	1614.7	1603.7	1616.9	1683.2	1663.3	1546.2	1506.5
35°	1647.9	1672.2	1566.1	1566.1	1581.6	1568.3	1575.0	1639.0	1616.9	1497.7	1444.6
37.5°	1597.1	1623.6	1515.3	1526.4	1544.0	1530.8	1530.8	1592.6	1566.1	1444.6	1374.0
40°	1544.0	1572.8	1462.3	1486.6	1502.1	1486.6	1482.2	1544.0	1510.9	1391.6	1301.1
42.5°	1486.6	1517.5	1413.7	1442.4	1422.5	1442.4	1431.4	1493.2	1460.1	1334.2	1226.0
45°	1424.8	1464.5	1365.1	1347.4	1102.3	1334.2	1380.6	1440.2	1391.6	1279.0	1150.9
47.5°	1360.7	1402.7	1312.1	1184.0	885.8	1170.7	1325.4	1382.8	1334.2	1219.3	1075.7
50°	1292.2	1340.8	1256.9	1042.6	773.1	1029.4	1263.5	1323.1	1259.1	1155.3	1000.6
52.5°	1221.5	1274.6	1195.0	921.1	698.0	907.9	1197.2	1259.1	1197.2	1086.8	927.7
55°	1148.6	1203.9	1122.1	808.5	636.2	806.3	1119.9	1190.6	1119.9	1018.3	854.9
57.5°	1075.7	1137.6	1044.8	726.7	583.2	715.7	1033.8	1119.9	1053.7	947.6	784.2
60°	998.4	1055.9	960.9	638.4	523.5	636.2	947.6	1047.0	971.9	874.7	715.7
62.5°	918.9	983.0	870.3	561.1	474.9	558.9	854.9	965.3	892.4	799.6	649.4
65°	837.2	899.0	784.2	499.2	428.5	494.8	768.7	881.4	815.1	724.5	587.6
67.5°	753.2	810.7	698.0	439.6	382.1	435.2	680.3	793.0	735.6	647.2	521.3
70°	667.1	720.1	609.7	382.1	338.0	379.9	594.2	702.4	649.4	567.7	461.7
72.5°	576.5	625.1	516.9	326.9	291.6	324.7	503.6	609.7	554.4	483.8	408.7
75°	481.5	527.9	430.7	271.7	243.0	269.5	417.5	510.3	466.1	406.4	346.8
77.5°	391.0	437.4	342.4	209.8	185.5	205.4	326.9	417.5	379.9	329.1	282.7
80°	302.6	340.2	251.8	156.8	148.0	156.8	245.2	320.3	293.8	258.4	220.9
82.5°	223.1	245.2	170.1	128.1	128.1	128.1	165.7	227.5	216.5	192.2	167.9
85°	152.4	152.4	114.9	97.2	97.2	97.2	112.7	134.7	141.4	128.1	128.1
87.5°	64.1	66.3	59.6	53.0	50.8	53.0	57.4	55.2	55.2	61.8	77.3
90°	2.2	28.7	48.6	59.6	61.8	57.4	44.2	26.5	2.2	37.6	68.5
92.5°	15.5	61.8	57.4	75.1	77.3	70.7	59.6	48.6	8.8	68.5	72.9
95°	59.6	72.9	112.7	114.9	101.6	97.2	110.4	68.5	46.4	92.8	185.5
97.5°	95.0	110.4	101.6	132.5	150.2	132.5	106.0	106.0	88.4	143.6	216.5
100°	130.3	117.1	103.8	114.9	132.5	117.1	99.4	117.1	123.7	167.9	265.1
102.5°	163.5	130.3	130.3	112.7	114.9	110.4	125.9	128.1	154.6	190.0	326.9
105°	190.0	134.7	137.0	128.1	125.9	128.1	137.0	137.0	183.3	209.8	355.6
107.5°	214.3	139.2	134.7	141.4	143.6	141.4	134.7	139.2	209.8	223.1	362.3
110°	234.1	141.4	137.0	141.4	148.0	141.4	137.0	143.6	231.9	236.4	366.7



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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°	251.8	143.6	141.4	139.2	145.8	139.2	141.4	148.0	249.6	243.0	366.7
115°	262.9	145.8	141.4	141.4	143.6	141.4	143.6	150.2	262.9	245.2	362.3
117.5°	269.5	150.2	143.6	145.8	148.0	145.8	143.6	154.6	271.7	254.0	360.1
120°	273.9	165.7	143.6	148.0	150.2	148.0	143.6	167.9	273.9	258.4	351.2
122.5°	271.7	172.3	145.8	148.0	152.4	148.0	145.8	174.5	271.7	256.2	340.2
125°	267.3	178.9	145.8	145.8	150.2	148.0	148.0	178.9	267.3	251.8	324.7
127.5°	258.4	194.4	145.8	148.0	148.0	148.0	148.0	192.2	258.4	254.0	309.2
130°	247.4	205.4	141.4	150.2	148.0	152.4	145.8	205.4	247.4	247.4	296.0
132.5°	236.4	209.8	141.4	150.2	150.2	152.4	143.6	209.8	236.4	238.6	282.7
135°	225.3	214.3	150.2	148.0	150.2	150.2	152.4	214.3	225.3	229.7	273.9
137.5°	214.3	216.5	161.3	141.4	148.0	143.6	165.7	216.5	216.5	216.5	260.7
140°	203.2	214.3	170.1	137.0	139.2	141.4	174.5	216.5	207.6	209.8	238.6
142.5°	190.0	207.6	176.7	148.0	137.0	152.4	181.1	214.3	194.4	203.2	227.5
145°	176.7	201.0	190.0	163.5	150.2	170.1	196.6	207.6	181.1	198.8	220.9
147.5°	165.7	190.0	192.2	172.3	165.7	178.9	198.8	198.8	167.9	190.0	205.4
150°	159.0	178.9	185.5	178.9	172.3	187.8	194.4	183.3	159.0	183.3	192.2
152.5°	156.8	170.1	170.1	187.8	185.5	196.6	178.9	174.5	154.6	176.7	174.5
155°	156.8	167.9	163.5	172.3	181.1	181.1	170.1	170.1	154.6	176.7	165.7
157.5°	154.6	170.1	163.5	161.3	165.7	170.1	170.1	172.3	154.6	172.3	165.7
160°	154.6	172.3	165.7	159.0	161.3	167.9	172.3	172.3	154.6	172.3	167.9
162.5°	154.6	167.9	167.9	161.3	161.3	170.1	172.3	170.1	154.6	167.9	172.3
165°	154.6	167.9	170.1	165.7	163.5	174.5	172.3	165.7	152.4	165.7	174.5
167.5°	154.6	163.5	172.3	167.9	167.9	174.5	174.5	163.5	152.4	159.0	174.5
170°	154.6	161.3	170.1	167.9	170.1	176.7	170.1	161.3	154.6	156.8	167.9
172.5°	154.6	156.8	165.7	167.9	167.9	172.3	165.7	156.8	154.6	152.4	161.3
175°	152.4	156.8	161.3	161.3	159.0	165.7	159.0	154.6	152.4	150.2	154.6
177.5°	150.2	152.4	156.8	156.8	152.4	156.8	152.4	150.2	150.2	148.0	152.4
180°	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0	148.0



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1924.0	1924.0	1924.0	1924.0	1924.0	1924.0
2.5°	1908.5	1893.1	1897.5	1910.7	1908.5	1939.4
5°	1888.6	1882.0	1882.0	1901.9	1899.7	1939.4
7.5°	1866.5	1855.5	1862.1	1884.2	1890.8	1935.0
10°	1837.8	1829.0	1831.2	1864.3	1875.4	1930.6
12.5°	1809.1	1800.3	1806.9	1837.8	1853.3	1919.6
15°	1776.0	1760.5	1778.2	1811.3	1831.2	1904.1
17.5°	1736.2	1718.5	1736.2	1780.4	1804.7	1886.4
20°	1700.9	1683.2	1694.2	1740.6	1773.8	1866.5
22.5°	1661.1	1639.0	1647.9	1698.7	1740.6	1840.0
25°	1616.9	1588.2	1601.5	1656.7	1703.1	1806.9
27.5°	1559.5	1510.9	1544.0	1612.5	1656.7	1773.8
30°	1480.0	1415.9	1468.9	1563.9	1614.7	1736.2
32.5°	1387.2	1318.7	1376.2	1504.3	1566.1	1694.2
35°	1296.6	1237.0	1290.0	1442.4	1517.5	1647.9
37.5°	1217.1	1161.9	1210.5	1371.7	1464.5	1597.1
40°	1135.4	1084.6	1133.2	1296.6	1411.5	1544.0
42.5°	1060.3	1011.7	1058.1	1221.5	1354.1	1486.6
45°	980.8	901.2	976.3	1144.2	1292.2	1424.8
47.5°	896.8	812.9	890.2	1069.1	1230.4	1360.7
50°	819.5	744.4	815.1	991.8	1164.1	1292.2
52.5°	751.0	687.0	748.8	914.5	1095.6	1221.5
55°	687.0	645.0	689.2	843.8	1031.6	1148.6
57.5°	636.2	607.5	638.4	775.3	960.9	1075.7
60°	592.0	574.3	594.2	706.9	885.8	998.4
62.5°	543.4	536.8	543.4	640.6	812.9	918.9
65°	501.4	508.1	501.4	580.9	735.6	837.2
67.5°	461.7	477.1	463.9	516.9	658.3	753.2
70°	417.5	439.6	419.7	459.5	578.7	667.1
72.5°	371.1	397.6	371.1	404.2	494.8	576.5
75°	322.5	353.4	324.7	344.6	415.3	481.5
77.5°	269.5	289.4	273.9	280.5	338.0	391.0
80°	214.3	236.4	216.5	220.9	267.3	302.6
82.5°	178.9	194.4	181.1	167.9	198.8	223.1
85°	132.5	141.4	137.0	130.3	137.0	152.4
87.5°	81.7	86.1	81.7	81.7	70.7	64.1
90°	90.6	97.2	90.6	70.7	39.8	2.2
92.5°	92.8	101.6	92.8	77.3	75.1	15.5
95°	207.6	203.2	220.9	201.0	114.9	59.6
97.5°	322.5	368.9	333.5	240.8	154.6	95.0
100°	371.1	415.3	386.6	300.4	176.7	130.3
102.5°	428.5	477.1	446.2	351.2	198.8	163.5
105°	499.2	541.2	514.7	371.1	218.7	190.0
107.5°	536.8	600.8	547.8	379.9	231.9	214.3
110°	556.6	625.1	574.3	382.1	243.0	234.1





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	572.1	638.4	585.4	382.1	247.4	251.8
115°	572.1	649.4	585.4	375.5	254.0	262.9
117.5°	572.1	642.8	585.4	368.9	262.9	269.5
120°	552.2	640.6	569.9	360.1	265.1	273.9
122.5°	536.8	622.9	547.8	349.0	265.1	271.7
125°	508.1	598.6	521.3	335.8	260.7	267.3
127.5°	477.1	563.3	488.2	320.3	262.9	258.4
130°	448.4	523.5	455.0	304.8	254.0	247.4
132.5°	410.9	479.3	417.5	293.8	245.2	236.4
135°	375.5	437.4	384.4	285.0	234.1	225.3
137.5°	338.0	393.2	346.8	267.3	223.1	214.3
140°	293.8	338.0	302.6	247.4	216.5	203.2
142.5°	265.1	289.4	273.9	238.6	207.6	190.0
145°	247.4	260.7	254.0	229.7	203.2	176.7
147.5°	229.7	243.0	236.4	212.1	192.2	165.7
150°	223.1	223.1	231.9	196.6	185.5	159.0
152.5°	198.8	216.5	207.6	178.9	181.1	156.8
155°	170.1	178.9	178.9	172.3	181.1	156.8
157.5°	159.0	165.7	167.9	172.3	176.7	154.6
160°	159.0	161.3	167.9	174.5	174.5	154.6
162.5°	163.5	161.3	172.3	178.9	170.1	154.6
165°	167.9	165.7	176.7	181.1	165.7	154.6
167.5°	172.3	172.3	181.1	178.9	161.3	154.6
170°	172.3	176.7	181.1	172.3	159.0	154.6
172.5°	165.7	167.9	172.3	161.3	152.4	154.6
175°	156.8	154.6	161.3	154.6	152.4	152.4
177.5°	152.4	145.8	152.4	150.2	148.0	150.2
180°	148.0	148.0	148.0	148.0	148.0	148.0

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