

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: P197457

Luminaire Tested: **8WSL-LD2-60-UPL15-UNV-L830-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197457
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-LD2-60-UPL15-UNV-L830-CD1-U
Description: 8FT. Linear Wavestream System, 15% Uplight, L830
Light Source: (476) 3000K CCT, 80 CRI LEDS
EL236N0119D830
Ballast/Driver: OSRAM
OT50W

Summary

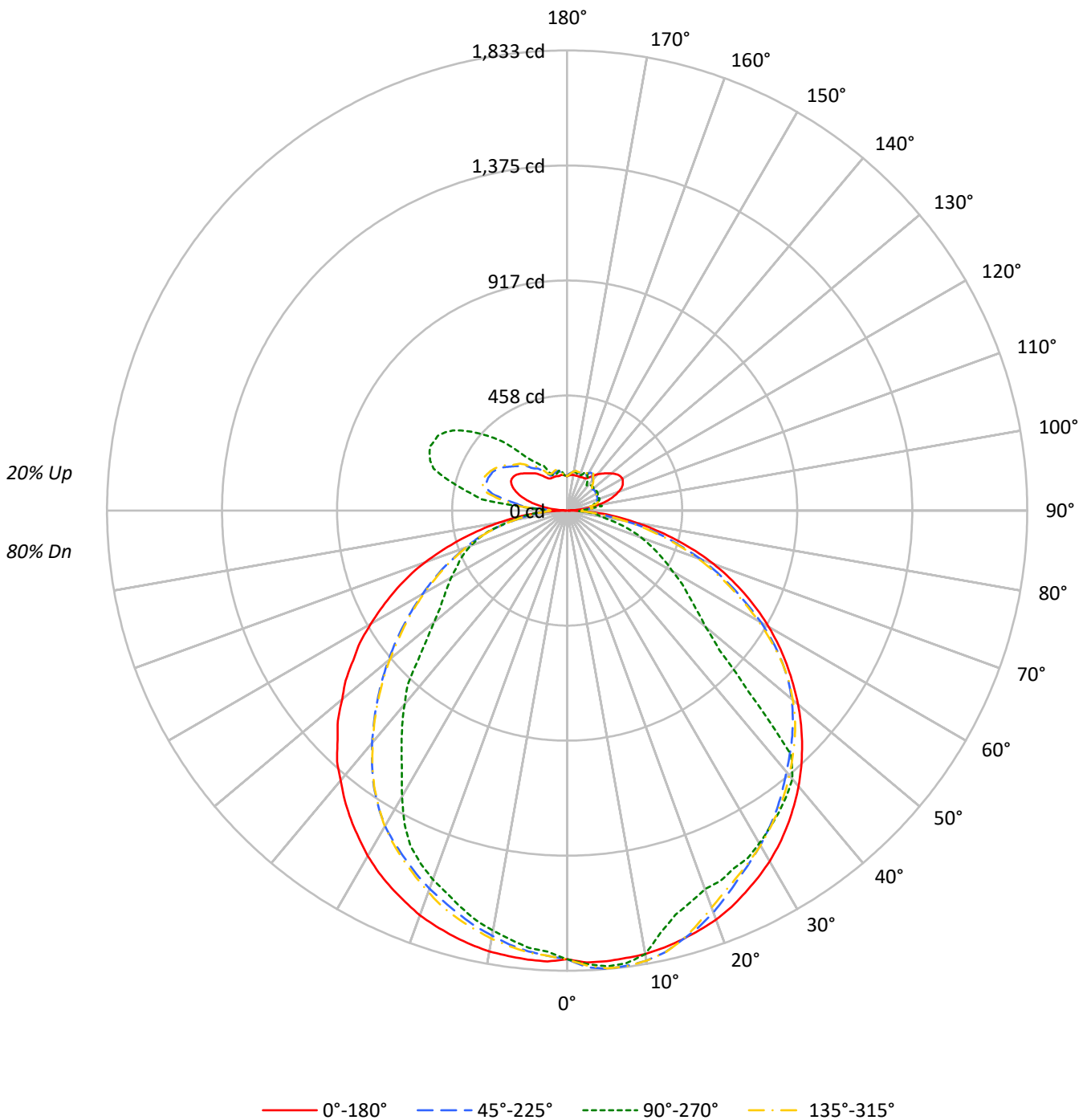
Lumens per Lamp: N/A
Luminaire Lumens: 6325.8 lumens
Efficiency: N/A
Efficacy: 118.2 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 53.5
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°	5063	5063	5063	5063
5°	5123	5182	5106	4971
10°	5159	5159	5129	4887
15°	5188	4886	5145	4796
20°	5227	4838	5172	4714
25°	5247	4913	5182	4612
30°	5276	5007	5195	4302
35°	5294	5081	5195	3974
40°	5304	5160	5190	3726
45°	5302	4102	5179	3354
50°	5290	3165	5155	3048
55°	5270	2919	5138	2959
60°	5255	2756	5115	3023
65°	5213	2668	5075	3164
70°	5133	2601	4997	3382
75°	4897	2470	4739	3593
80°	4585	2243	4452	3582
85°	4602	2935	4267	4267



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	170.1	2.7
10°-20°	482.7	7.6
20°-30°	729.5	11.5
30°-40°	878.0	13.9
40°-50°	892.9	14.1
50°-60°	777.2	12.3
60°-70°	606.2	9.6
70°-80°	374.8	5.9
80°-90°	131.9	2.1
90°-100°	124.1	2.0
100°-110°	240.4	3.8
110°-120°	263.0	4.2
120°-130°	230.6	3.6
130°-140°	172.8	2.7
140°-150°	118.3	1.9
150°-160°	75.3	1.2
160°-170°	44.0	0.7
170°-180°	14.2	0.2
0°-30°	1382.3	21.9
0°-40°	2260.3	35.7
0°-60°	3930.3	62.1
0°-90°	5043.1	79.7
90°-120°	627.5	9.9
90°-150°	1149.1	18.2
90°-180°	1283.0	20.3
0°-180°	6325.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1787	1787	1787	1787	1787	
5°	1802	1822	1796	1748	1802	172
15°	1769	1666	1755	1636	1769	500
25°	1679	1572	1658	1476	1679	775
35°	1531	1469	1502	1149	1531	958
45°	1324	1024	1293	837	1324	1021
55°	1067	591	1040	599	1067	954
65°	778	398	757	472	778	769
75°	447	226	433	328	447	474
85°	142	90	131	131	142	141
90°	2	58	2	90	2	11
95°	55	94	43	189	55	57
105°	176	117	170	503	176	184
115°	244	133	244	603	244	239
125°	248	140	248	556	248	221
135°	209	140	209	406	209	163
145°	164	140	168	242	164	105
155°	146	168	144	166	146	67
165°	144	152	142	154	144	41
175°	142	148	142	144	142	14
180°	138	138	138	138	138	



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CATALOG NUMBER: 8WSL-LD2-60-UPL15-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1787.4	1787.4	1787.4	1787.4	1787.4	1787.4	1787.4	1787.4	1787.4	1787.4	1787.4
2.5°	1801.8	1793.6	1820.3	1822.3	1807.9	1814.1	1814.1	1791.5	1797.7	1771.0	1775.1
5°	1801.8	1803.8	1832.6	1830.5	1822.3	1824.4	1830.5	1801.8	1795.6	1758.7	1762.8
7.5°	1797.7	1807.9	1828.5	1826.4	1818.2	1820.3	1830.5	1805.9	1789.5	1746.4	1744.3
10°	1793.6	1803.8	1820.3	1810.0	1793.6	1799.7	1820.3	1803.8	1783.3	1732.0	1719.7
12.5°	1783.3	1793.6	1801.8	1750.5	1721.8	1746.4	1803.8	1793.6	1771.0	1711.5	1695.1
15°	1769.0	1781.3	1771.0	1699.2	1666.3	1688.9	1771.0	1779.2	1754.6	1684.8	1664.3
17.5°	1752.5	1766.9	1740.2	1660.2	1635.6	1645.8	1727.9	1760.7	1736.1	1658.1	1633.5
20°	1734.1	1750.5	1703.3	1619.1	1604.8	1613.0	1682.8	1740.2	1715.6	1629.4	1602.7
22.5°	1709.4	1727.9	1660.2	1590.4	1596.6	1590.4	1641.7	1713.5	1686.9	1598.6	1567.8
25°	1678.7	1699.2	1617.1	1565.8	1571.9	1569.9	1606.8	1678.7	1658.1	1561.7	1528.9
27.5°	1647.9	1668.4	1578.1	1549.4	1559.6	1547.3	1574.0	1641.7	1625.3	1522.7	1491.9
30°	1613.0	1635.6	1539.1	1520.6	1530.9	1522.7	1541.2	1604.8	1588.4	1481.7	1450.9
32.5°	1574.0	1596.6	1498.1	1485.8	1500.1	1489.9	1502.2	1563.7	1545.3	1436.5	1399.6
35°	1530.9	1553.5	1455.0	1455.0	1469.3	1457.0	1463.2	1522.7	1502.2	1391.4	1342.1
37.5°	1483.7	1508.3	1407.8	1418.0	1434.5	1422.1	1422.1	1479.6	1455.0	1342.1	1276.4
40°	1434.5	1461.1	1358.5	1381.1	1395.5	1381.1	1377.0	1434.5	1403.7	1292.9	1208.7
42.5°	1381.1	1409.8	1313.4	1340.1	1321.6	1340.1	1329.8	1387.3	1356.5	1239.5	1138.9
45°	1323.6	1360.6	1268.2	1251.8	1024.0	1239.5	1282.6	1338.0	1292.9	1188.2	1069.2
47.5°	1264.1	1303.1	1219.0	1100.0	822.9	1087.6	1231.3	1284.6	1239.5	1132.8	999.4
50°	1200.5	1245.7	1167.7	968.6	718.3	956.3	1173.8	1229.2	1169.7	1073.3	929.6
52.5°	1134.8	1184.1	1110.2	855.7	648.5	843.4	1112.3	1169.7	1112.3	1009.7	861.9
55°	1067.1	1118.4	1042.5	751.1	591.0	749.0	1040.4	1106.1	1040.4	946.0	794.2
57.5°	999.4	1056.9	970.7	675.2	541.8	664.9	960.4	1040.4	978.9	880.4	728.5
60°	927.6	980.9	892.7	593.1	486.4	591.0	880.4	972.7	902.9	812.7	664.9
62.5°	853.7	913.2	808.5	521.2	441.2	519.2	794.2	896.8	829.1	742.9	603.3
65°	777.8	835.2	728.5	463.8	398.1	459.7	714.1	818.8	757.2	673.1	545.9
67.5°	699.8	753.1	648.5	408.4	355.0	404.3	632.1	736.7	683.4	601.3	484.3
70°	619.8	669.0	566.4	355.0	314.0	353.0	552.0	652.6	603.3	527.4	428.9
72.5°	535.6	580.8	480.2	303.7	270.9	301.7	467.9	566.4	515.1	449.4	379.6
75°	447.4	490.5	400.2	252.4	225.7	250.4	387.9	474.0	433.0	377.6	322.2
77.5°	363.2	406.3	318.1	195.0	172.4	190.9	303.7	387.9	353.0	305.8	262.7
80°	281.1	316.0	233.9	145.7	137.5	145.7	227.8	297.6	272.9	240.1	205.2
82.5°	207.3	227.8	158.0	119.0	119.0	119.0	153.9	211.4	201.1	178.5	156.0
85°	141.6	141.6	106.7	90.3	90.3	90.3	104.7	125.2	131.3	119.0	119.0
87.5°	59.5	61.6	55.4	49.3	47.2	49.3	53.4	51.3	51.3	57.5	71.8
90°	2.1	26.7	45.1	55.4	57.5	53.4	41.0	24.6	2.1	34.9	63.6
92.5°	14.4	57.5	53.4	69.8	71.8	65.7	55.4	45.1	8.2	63.6	67.7
95°	55.4	67.7	104.7	106.7	94.4	90.3	102.6	63.6	43.1	86.2	172.4
97.5°	88.2	102.6	94.4	123.1	139.5	123.1	98.5	98.5	82.1	133.4	201.1
100°	121.1	108.8	96.5	106.7	123.1	108.8	92.3	108.8	114.9	156.0	246.3
102.5°	151.9	121.1	121.1	104.7	106.7	102.6	117.0	119.0	143.7	176.5	303.7
105°	176.5	125.2	127.2	119.0	117.0	119.0	127.2	127.2	170.3	195.0	330.4
107.5°	199.1	129.3	125.2	131.3	133.4	131.3	125.2	129.3	195.0	207.3	336.6
110°	217.5	131.3	127.2	131.3	137.5	131.3	127.2	133.4	215.5	219.6	340.7



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CATALOG NUMBER: 8WSL-LD2-60-UPL15-UNV-L830-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	233.9	133.4	131.3	129.3	135.4	129.3	131.3	137.5	231.9	225.7	340.7
115°	244.2	135.4	131.3	131.3	133.4	131.3	133.4	139.5	244.2	227.8	336.6
117.5°	250.4	139.5	133.4	135.4	137.5	135.4	133.4	143.7	252.4	236.0	334.5
120°	254.5	153.9	133.4	137.5	139.5	137.5	133.4	156.0	254.5	240.1	326.3
122.5°	252.4	160.1	135.4	137.5	141.6	137.5	135.4	162.1	252.4	238.0	316.0
125°	248.3	166.2	135.4	135.4	139.5	137.5	137.5	166.2	248.3	233.9	301.7
127.5°	240.1	180.6	135.4	137.5	137.5	137.5	137.5	178.5	240.1	236.0	287.3
130°	229.8	190.9	131.3	139.5	137.5	141.6	135.4	190.9	229.8	229.8	275.0
132.5°	219.6	195.0	131.3	139.5	139.5	141.6	133.4	195.0	219.6	221.6	262.7
135°	209.3	199.1	139.5	137.5	139.5	139.5	141.6	199.1	209.3	213.4	254.5
137.5°	199.1	201.1	149.8	131.3	137.5	133.4	153.9	201.1	201.1	201.1	242.2
140°	188.8	199.1	158.0	127.2	129.3	131.3	162.1	201.1	192.9	195.0	221.6
142.5°	176.5	192.9	164.2	137.5	127.2	141.6	168.3	199.1	180.6	188.8	211.4
145°	164.2	186.7	176.5	151.9	139.5	158.0	182.6	192.9	168.3	184.7	205.2
147.5°	153.9	176.5	178.5	160.1	153.9	166.2	184.7	184.7	156.0	176.5	190.9
150°	147.8	166.2	172.4	166.2	160.1	174.4	180.6	170.3	147.8	170.3	178.5
152.5°	145.7	158.0	158.0	174.4	172.4	182.6	166.2	162.1	143.7	164.2	162.1
155°	145.7	156.0	151.9	160.1	168.3	168.3	158.0	158.0	143.7	164.2	153.9
157.5°	143.7	158.0	151.9	149.8	153.9	158.0	158.0	160.1	143.7	160.1	153.9
160°	143.7	160.1	153.9	147.8	149.8	156.0	160.1	160.1	143.7	160.1	156.0
162.5°	143.7	156.0	156.0	149.8	149.8	158.0	160.1	158.0	143.7	156.0	160.1
165°	143.7	156.0	158.0	153.9	151.9	162.1	160.1	153.9	141.6	153.9	162.1
167.5°	143.7	151.9	160.1	156.0	156.0	162.1	162.1	151.9	141.6	147.8	162.1
170°	143.7	149.8	158.0	156.0	158.0	164.2	158.0	149.8	143.7	145.7	156.0
172.5°	143.7	145.7	153.9	156.0	156.0	160.1	153.9	145.7	143.7	141.6	149.8
175°	141.6	145.7	149.8	149.8	147.8	153.9	147.8	143.7	141.6	139.5	143.7
177.5°	139.5	141.6	145.7	145.7	141.6	145.7	141.6	139.5	139.5	137.5	141.6
180°	137.5	137.5	137.5	137.5	137.5	137.5	137.5	137.5	137.5	137.5	137.5



TEST NUMBER: P197457

CATALOG NUMBER: 8WSL-LD2-60-UPL15-UNV-L830-CD1-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1787.4	1787.4	1787.4	1787.4	1787.4	1787.4
2.5°	1773.1	1758.7	1762.8	1775.1	1773.1	1801.8
5°	1754.6	1748.4	1748.4	1766.9	1764.9	1801.8
7.5°	1734.1	1723.8	1730.0	1750.5	1756.6	1797.7
10°	1707.4	1699.2	1701.2	1732.0	1742.3	1793.6
12.5°	1680.7	1672.5	1678.7	1707.4	1721.8	1783.3
15°	1649.9	1635.6	1652.0	1682.8	1701.2	1769.0
17.5°	1613.0	1596.6	1613.0	1654.0	1676.6	1752.5
20°	1580.2	1563.7	1574.0	1617.1	1647.9	1734.1
22.5°	1543.2	1522.7	1530.9	1578.1	1617.1	1709.4
25°	1502.2	1475.5	1487.8	1539.1	1582.2	1678.7
27.5°	1448.8	1403.7	1434.5	1498.1	1539.1	1647.9
30°	1374.9	1315.4	1364.7	1452.9	1500.1	1613.0
32.5°	1288.8	1225.1	1278.5	1397.5	1455.0	1574.0
35°	1204.6	1149.2	1198.5	1340.1	1409.8	1530.9
37.5°	1130.7	1079.4	1124.6	1274.4	1360.6	1483.7
40°	1054.8	1007.6	1052.8	1204.6	1311.3	1434.5
42.5°	985.0	939.9	983.0	1134.8	1258.0	1381.1
45°	911.2	837.3	907.1	1063.0	1200.5	1323.6
47.5°	833.2	755.2	827.0	993.2	1143.0	1264.1
50°	761.3	691.6	757.2	921.4	1081.5	1200.5
52.5°	697.7	638.2	695.7	849.6	1017.9	1134.8
55°	638.2	599.2	640.3	783.9	958.4	1067.1
57.5°	591.0	564.3	593.1	720.3	892.7	999.4
60°	550.0	533.6	552.0	656.7	822.9	927.6
62.5°	504.8	498.7	504.8	595.1	755.2	853.7
65°	465.8	472.0	465.8	539.7	683.4	777.8
67.5°	428.9	443.3	431.0	480.2	611.5	699.8
70°	387.9	408.4	389.9	426.8	537.7	619.8
72.5°	344.8	369.4	344.8	375.5	459.7	535.6
75°	299.6	328.3	301.7	320.1	385.8	447.4
77.5°	250.4	268.8	254.5	260.6	314.0	363.2
80°	199.1	219.6	201.1	205.2	248.3	281.1
82.5°	166.2	180.6	168.3	156.0	184.7	207.3
85°	123.1	131.3	127.2	121.1	127.2	141.6
87.5°	75.9	80.0	75.9	75.9	65.7	59.5
90°	84.1	90.3	84.1	65.7	36.9	2.1
92.5°	86.2	94.4	86.2	71.8	69.8	14.4
95°	192.9	188.8	205.2	186.7	106.7	55.4
97.5°	299.6	342.7	309.9	223.7	143.7	88.2
100°	344.8	385.8	359.1	279.1	164.2	121.1
102.5°	398.1	443.3	414.5	326.3	184.7	151.9
105°	463.8	502.8	478.2	344.8	203.2	176.5
107.5°	498.7	558.2	508.9	353.0	215.5	199.1
110°	517.1	580.8	533.6	355.0	225.7	217.5



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	531.5	593.1	543.8	355.0	229.8	233.9
115°	531.5	603.3	543.8	348.9	236.0	244.2
117.5°	531.5	597.2	543.8	342.7	244.2	250.4
120°	513.0	595.1	529.5	334.5	246.3	254.5
122.5°	498.7	578.7	508.9	324.2	246.3	252.4
125°	472.0	556.1	484.3	311.9	242.2	248.3
127.5°	443.3	523.3	453.5	297.6	244.2	240.1
130°	416.6	486.4	422.7	283.2	236.0	229.8
132.5°	381.7	445.3	387.9	272.9	227.8	219.6
135°	348.9	406.3	357.1	264.7	217.5	209.3
137.5°	314.0	365.3	322.2	248.3	207.3	199.1
140°	272.9	314.0	281.1	229.8	201.1	188.8
142.5°	246.3	268.8	254.5	221.6	192.9	176.5
145°	229.8	242.2	236.0	213.4	188.8	164.2
147.5°	213.4	225.7	219.6	197.0	178.5	153.9
150°	207.3	207.3	215.5	182.6	172.4	147.8
152.5°	184.7	201.1	192.9	166.2	168.3	145.7
155°	158.0	166.2	166.2	160.1	168.3	145.7
157.5°	147.8	153.9	156.0	160.1	164.2	143.7
160°	147.8	149.8	156.0	162.1	162.1	143.7
162.5°	151.9	149.8	160.1	166.2	158.0	143.7
165°	156.0	153.9	164.2	168.3	153.9	143.7
167.5°	160.1	160.1	168.3	166.2	149.8	143.7
170°	160.1	164.2	168.3	160.1	147.8	143.7
172.5°	153.9	156.0	160.1	149.8	141.6	143.7
175°	145.7	143.7	149.8	143.7	141.6	141.6
177.5°	141.6	135.4	141.6	139.5	137.5	139.5
180°	137.5	137.5	137.5	137.5	137.5	137.5

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