

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: P197465

Luminaire Tested: **8WSL-LD2-70-UPL15-UNV-L830-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197465
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-LD2-70-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
OT85W1202772A0DIML

Summary

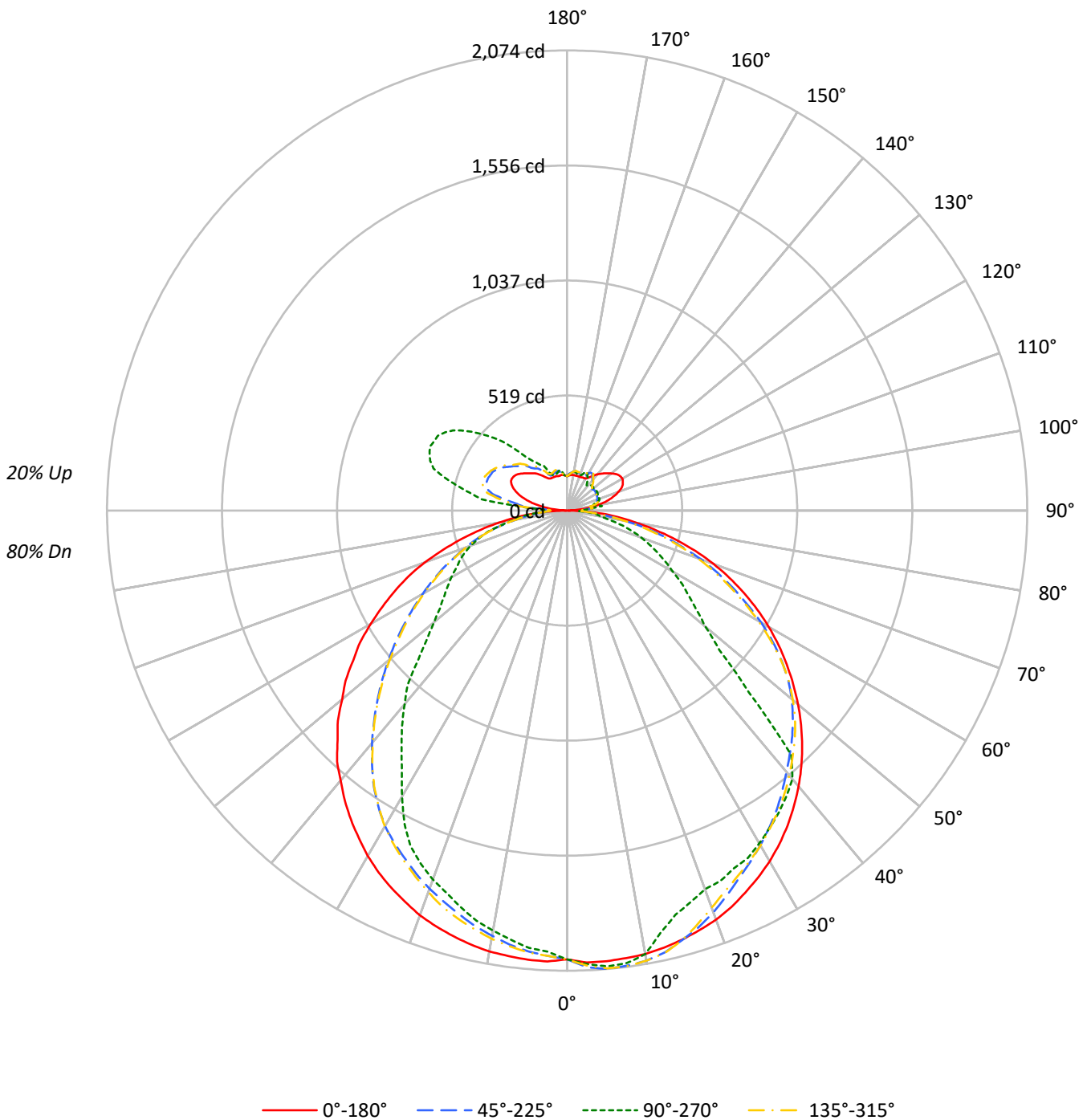
Lumens per Lamp: N/A
Luminaire Lumens: 7157.8 lumens
Efficiency: N/A
Efficacy: 112.5 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 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

TEST NUMBER: P197465

CATALOG NUMBER: 8WSL-LD2-70-UPL15-UNV-L830-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P197465

CATALOG NUMBER: 8WSL-LD2-70-UPL15-UNV-L830-CD1-U

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°	5729	5729	5729	5729
5°	5797	5863	5777	5625
10°	5837	5837	5804	5530
15°	5870	5529	5822	5427
20°	5915	5474	5852	5334
25°	5937	5559	5864	5218
30°	5970	5666	5879	4868
35°	5990	5749	5878	4497
40°	6002	5839	5873	4216
45°	6000	4642	5860	3795
50°	5986	3581	5833	3448
55°	5963	3303	5814	3348
60°	5946	3118	5788	3420
65°	5899	3019	5743	3580
70°	5808	2943	5654	3827
75°	5540	2795	5363	4066
80°	5189	2538	5037	4054
85°	5207	3322	4830	4830



TEST NUMBER: P197465

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.5	2.7
10°-20°	546.2	7.6
20°-30°	825.4	11.5
30°-40°	993.4	13.9
40°-50°	1010.3	14.1
50°-60°	879.4	12.3
60°-70°	686.0	9.6
70°-80°	424.1	5.9
80°-90°	149.2	2.1
90°-100°	140.5	2.0
100°-110°	272.0	3.8
110°-120°	297.6	4.2
120°-130°	260.9	3.6
130°-140°	195.5	2.7
140°-150°	133.8	1.9
150°-160°	85.2	1.2
160°-170°	49.8	0.7
170°-180°	16.1	0.2
0°-30°	1564.1	21.9
0°-40°	2557.6	35.7
0°-60°	4447.2	62.1
0°-90°	5706.5	79.7
90°-120°	710.0	9.9
90°-150°	1300.2	18.2
90°-180°	1451.0	20.3
0°-180°	7157.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2022	2022	2022	2022	2022	
5°	2039	2062	2032	1978	2039	194
15°	2002	1886	1985	1851	2002	566
25°	1900	1779	1876	1670	1900	877
35°	1732	1663	1700	1300	1732	1084
45°	1498	1159	1463	947	1498	1155
55°	1208	669	1177	678	1208	1080
65°	880	450	857	534	880	870
75°	506	255	490	372	506	536
85°	160	102	149	149	160	160
90°	2	65	2	102	2	12
95°	63	107	49	214	63	65
105°	200	132	193	569	200	208
115°	276	151	276	683	276	271
125°	281	158	281	629	281	250
135°	237	158	237	460	237	184
145°	186	158	190	274	186	118
155°	165	190	162	188	165	76
165°	162	172	160	174	162	46
175°	160	167	160	162	160	15
180°	156	156	156	156	156	



TEST NUMBER: P197465

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2022.5	2022.5	2022.5	2022.5	2022.5	2022.5	2022.5	2022.5	2022.5	2022.5	2022.5
2.5°	2038.8	2029.5	2059.7	2062.0	2045.7	2052.7	2052.7	2027.2	2034.1	2003.9	2008.6
5°	2038.8	2041.1	2073.6	2071.3	2062.0	2064.3	2071.3	2038.8	2031.8	1990.0	1994.7
7.5°	2034.1	2045.7	2069.0	2066.6	2057.4	2059.7	2071.3	2043.4	2024.8	1976.1	1973.8
10°	2029.5	2041.1	2059.7	2048.1	2029.5	2036.5	2059.7	2041.1	2017.9	1959.8	1945.9
12.5°	2017.9	2029.5	2038.8	1980.7	1948.2	1976.1	2041.1	2029.5	2003.9	1936.6	1918.0
15°	2001.6	2015.6	2003.9	1922.7	1885.5	1911.1	2003.9	2013.2	1985.4	1906.4	1883.2
17.5°	1983.0	1999.3	1969.1	1878.6	1850.7	1862.3	1955.2	1992.3	1964.5	1876.2	1848.4
20°	1962.1	1980.7	1927.3	1832.1	1815.9	1825.1	1904.1	1969.1	1941.2	1843.7	1813.5
22.5°	1934.3	1955.2	1878.6	1799.6	1806.6	1799.6	1857.7	1938.9	1908.7	1808.9	1774.1
25°	1899.5	1922.7	1829.8	1771.7	1778.7	1776.4	1818.2	1899.5	1876.2	1767.1	1729.9
27.5°	1864.6	1887.8	1785.7	1753.2	1764.8	1750.8	1781.0	1857.7	1839.1	1723.0	1688.1
30°	1825.1	1850.7	1741.6	1720.7	1732.3	1723.0	1743.9	1815.9	1797.3	1676.5	1641.7
32.5°	1781.0	1806.6	1695.1	1681.2	1697.4	1685.8	1699.8	1769.4	1748.5	1625.4	1583.7
35°	1732.3	1757.8	1646.3	1646.3	1662.6	1648.7	1655.6	1723.0	1699.8	1574.4	1518.6
37.5°	1678.9	1706.7	1592.9	1604.5	1623.1	1609.2	1609.2	1674.2	1646.3	1518.6	1444.3
40°	1623.1	1653.3	1537.2	1562.8	1579.0	1562.8	1558.1	1623.1	1588.3	1462.9	1367.7
42.5°	1562.8	1595.3	1486.1	1516.3	1495.4	1516.3	1504.7	1569.7	1534.9	1402.5	1288.7
45°	1497.7	1539.5	1435.0	1416.5	1158.7	1402.5	1451.3	1514.0	1462.9	1344.5	1209.8
47.5°	1430.4	1474.5	1379.3	1244.6	931.1	1230.7	1393.2	1453.6	1402.5	1281.8	1130.8
50°	1358.4	1409.5	1321.3	1096.0	812.7	1082.1	1328.2	1390.9	1323.6	1214.4	1051.9
52.5°	1284.1	1339.8	1256.2	968.3	733.8	954.4	1258.6	1323.6	1258.6	1142.5	975.3
55°	1207.5	1265.5	1179.6	849.9	668.8	847.6	1177.3	1251.6	1177.3	1070.5	898.6
57.5°	1130.8	1195.9	1098.3	764.0	613.0	752.4	1086.7	1177.3	1107.6	996.2	824.3
60°	1049.6	1109.9	1010.1	671.1	550.3	668.8	996.2	1100.7	1021.7	919.5	752.4
62.5°	966.0	1033.3	914.9	589.8	499.2	587.5	898.6	1014.7	938.1	840.6	682.7
65°	880.1	945.1	824.3	524.8	450.5	520.1	808.1	926.5	856.8	761.6	617.7
67.5°	791.8	852.2	733.8	462.1	401.7	457.4	715.2	833.6	773.2	680.4	548.0
70°	701.3	757.0	640.9	401.7	355.3	399.4	624.6	738.4	682.7	596.8	485.3
72.5°	606.1	657.1	543.4	343.7	306.5	341.3	529.4	640.9	582.8	508.5	429.6
75°	506.2	555.0	452.8	285.6	255.4	283.3	438.9	536.4	490.0	427.3	364.6
77.5°	411.0	459.8	359.9	220.6	195.1	216.0	343.7	438.9	399.4	346.0	297.2
80°	318.1	357.6	264.7	164.9	155.6	164.9	257.7	336.7	308.8	271.7	232.2
82.5°	234.5	257.7	178.8	134.7	134.7	134.7	174.2	239.2	227.6	202.0	176.5
85°	160.2	160.2	120.7	102.2	102.2	102.2	118.4	141.6	148.6	134.7	134.7
87.5°	67.3	69.7	62.7	55.7	53.4	55.7	60.4	58.1	58.1	65.0	81.3
90°	2.3	30.2	51.1	62.7	65.0	60.4	46.4	27.9	2.3	39.5	72.0
92.5°	16.3	65.0	60.4	79.0	81.3	74.3	62.7	51.1	9.3	72.0	76.6
95°	62.7	76.6	118.4	120.7	106.8	102.2	116.1	72.0	48.8	97.5	195.1
97.5°	99.8	116.1	106.8	139.3	157.9	139.3	111.5	111.5	92.9	150.9	227.6
100°	137.0	123.1	109.1	120.7	139.3	123.1	104.5	123.1	130.0	176.5	278.6
102.5°	171.8	137.0	137.0	118.4	120.7	116.1	132.4	134.7	162.5	199.7	343.7
105°	199.7	141.6	144.0	134.7	132.4	134.7	144.0	144.0	192.7	220.6	373.9
107.5°	225.2	146.3	141.6	148.6	150.9	148.6	141.6	146.3	220.6	234.5	380.8
110°	246.1	148.6	144.0	148.6	155.6	148.6	144.0	150.9	243.8	248.5	385.5



TEST NUMBER: P197465

CATALOG NUMBER: 8WSL-LD2-70-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°	264.7	150.9	148.6	146.3	153.3	146.3	148.6	155.6	262.4	255.4	385.5
115°	276.3	153.3	148.6	148.6	150.9	148.6	150.9	157.9	276.3	257.7	380.8
117.5°	283.3	157.9	150.9	153.3	155.6	153.3	150.9	162.5	285.6	267.0	378.5
120°	287.9	174.2	150.9	155.6	157.9	155.6	150.9	176.5	287.9	271.7	369.2
122.5°	285.6	181.1	153.3	155.6	160.2	155.6	153.3	183.4	285.6	269.4	357.6
125°	281.0	188.1	153.3	153.3	157.9	155.6	155.6	188.1	281.0	264.7	341.3
127.5°	271.7	204.3	153.3	155.6	155.6	155.6	155.6	202.0	271.7	267.0	325.1
130°	260.1	216.0	148.6	157.9	155.6	160.2	153.3	216.0	260.1	260.1	311.2
132.5°	248.5	220.6	148.6	157.9	157.9	160.2	150.9	220.6	248.5	250.8	297.2
135°	236.9	225.2	157.9	155.6	157.9	157.9	160.2	225.2	236.9	241.5	287.9
137.5°	225.2	227.6	169.5	148.6	155.6	150.9	174.2	227.6	227.6	227.6	274.0
140°	213.6	225.2	178.8	144.0	146.3	148.6	183.4	227.6	218.3	220.6	250.8
142.5°	199.7	218.3	185.8	155.6	144.0	160.2	190.4	225.2	204.3	213.6	239.2
145°	185.8	211.3	199.7	171.8	157.9	178.8	206.7	218.3	190.4	209.0	232.2
147.5°	174.2	199.7	202.0	181.1	174.2	188.1	209.0	209.0	176.5	199.7	216.0
150°	167.2	188.1	195.1	188.1	181.1	197.4	204.3	192.7	167.2	192.7	202.0
152.5°	164.9	178.8	178.8	197.4	195.1	206.7	188.1	183.4	162.5	185.8	183.4
155°	164.9	176.5	171.8	181.1	190.4	190.4	178.8	178.8	162.5	185.8	174.2
157.5°	162.5	178.8	171.8	169.5	174.2	178.8	178.8	181.1	162.5	181.1	174.2
160°	162.5	181.1	174.2	167.2	169.5	176.5	181.1	181.1	162.5	181.1	176.5
162.5°	162.5	176.5	176.5	169.5	169.5	178.8	181.1	178.8	162.5	176.5	181.1
165°	162.5	176.5	178.8	174.2	171.8	183.4	181.1	174.2	160.2	174.2	183.4
167.5°	162.5	171.8	181.1	176.5	176.5	183.4	183.4	171.8	160.2	167.2	183.4
170°	162.5	169.5	178.8	176.5	178.8	185.8	178.8	169.5	162.5	164.9	176.5
172.5°	162.5	164.9	174.2	176.5	176.5	181.1	174.2	164.9	162.5	160.2	169.5
175°	160.2	164.9	169.5	169.5	167.2	174.2	167.2	162.5	160.2	157.9	162.5
177.5°	157.9	160.2	164.9	164.9	160.2	164.9	160.2	157.9	157.9	155.6	160.2
180°	155.6	155.6	155.6	155.6	155.6	155.6	155.6	155.6	155.6	155.6	155.6



TEST NUMBER: P197465

CATALOG NUMBER: 8WSL-LD2-70-UPL15-UNV-L830-CD1-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2022.5	2022.5	2022.5	2022.5	2022.5	2022.5
2.5°	2006.3	1990.0	1994.7	2008.6	2006.3	2038.8
5°	1985.4	1978.4	1978.4	1999.3	1997.0	2038.8
7.5°	1962.1	1950.5	1957.5	1980.7	1987.7	2034.1
10°	1932.0	1922.7	1925.0	1959.8	1971.4	2029.5
12.5°	1901.8	1892.5	1899.5	1932.0	1948.2	2017.9
15°	1866.9	1850.7	1869.3	1904.1	1925.0	2001.6
17.5°	1825.1	1806.6	1825.1	1871.6	1897.1	1983.0
20°	1788.0	1769.4	1781.0	1829.8	1864.6	1962.1
22.5°	1746.2	1723.0	1732.3	1785.7	1829.8	1934.3
25°	1699.8	1669.6	1683.5	1741.6	1790.3	1899.5
27.5°	1639.4	1588.3	1623.1	1695.1	1741.6	1864.6
30°	1555.8	1488.4	1544.2	1644.0	1697.4	1825.1
32.5°	1458.3	1386.3	1446.6	1581.3	1646.3	1781.0
35°	1363.1	1300.4	1356.1	1516.3	1595.3	1732.3
37.5°	1279.5	1221.4	1272.5	1442.0	1539.5	1678.9
40°	1193.5	1140.1	1191.2	1363.1	1483.8	1623.1
42.5°	1114.6	1063.5	1112.3	1284.1	1423.4	1562.8
45°	1031.0	947.4	1026.4	1202.8	1358.4	1497.7
47.5°	942.8	854.5	935.8	1123.9	1293.4	1430.4
50°	861.5	782.5	856.8	1042.6	1223.7	1358.4
52.5°	789.5	722.2	787.2	961.3	1151.7	1284.1
55°	722.2	678.0	724.5	887.0	1084.4	1207.5
57.5°	668.8	638.6	671.1	815.0	1010.1	1130.8
60°	622.3	603.7	624.6	743.1	931.1	1049.6
62.5°	571.2	564.3	571.2	673.4	854.5	966.0
65°	527.1	534.1	527.1	610.7	773.2	880.1
67.5°	485.3	501.6	487.6	543.4	692.0	791.8
70°	438.9	462.1	441.2	483.0	608.4	701.3
72.5°	390.1	418.0	390.1	424.9	520.1	606.1
75°	339.0	371.5	341.3	362.2	436.5	506.2
77.5°	283.3	304.2	287.9	294.9	355.3	411.0
80°	225.2	248.5	227.6	232.2	281.0	318.1
82.5°	188.1	204.3	190.4	176.5	209.0	234.5
85°	139.3	148.6	144.0	137.0	144.0	160.2
87.5°	85.9	90.6	85.9	85.9	74.3	67.3
90°	95.2	102.2	95.2	74.3	41.8	2.3
92.5°	97.5	106.8	97.5	81.3	79.0	16.3
95°	218.3	213.6	232.2	211.3	120.7	62.7
97.5°	339.0	387.8	350.6	253.1	162.5	99.8
100°	390.1	436.5	406.4	315.8	185.8	137.0
102.5°	450.5	501.6	469.1	369.2	209.0	171.8
105°	524.8	568.9	541.0	390.1	229.9	199.7
107.5°	564.3	631.6	575.9	399.4	243.8	225.2
110°	585.2	657.1	603.7	401.7	255.4	246.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	601.4	671.1	615.3	401.7	260.1	264.7
115°	601.4	682.7	615.3	394.8	267.0	276.3
117.5°	601.4	675.7	615.3	387.8	276.3	283.3
120°	580.5	673.4	599.1	378.5	278.6	287.9
122.5°	564.3	654.8	575.9	366.9	278.6	285.6
125°	534.1	629.3	548.0	353.0	274.0	281.0
127.5°	501.6	592.1	513.2	336.7	276.3	271.7
130°	471.4	550.3	478.3	320.4	267.0	260.1
132.5°	431.9	503.9	438.9	308.8	257.7	248.5
135°	394.8	459.8	404.0	299.5	246.1	236.9
137.5°	355.3	413.3	364.6	281.0	234.5	225.2
140°	308.8	355.3	318.1	260.1	227.6	213.6
142.5°	278.6	304.2	287.9	250.8	218.3	199.7
145°	260.1	274.0	267.0	241.5	213.6	185.8
147.5°	241.5	255.4	248.5	222.9	202.0	174.2
150°	234.5	234.5	243.8	206.7	195.1	167.2
152.5°	209.0	227.6	218.3	188.1	190.4	164.9
155°	178.8	188.1	188.1	181.1	190.4	164.9
157.5°	167.2	174.2	176.5	181.1	185.8	162.5
160°	167.2	169.5	176.5	183.4	183.4	162.5
162.5°	171.8	169.5	181.1	188.1	178.8	162.5
165°	176.5	174.2	185.8	190.4	174.2	162.5
167.5°	181.1	181.1	190.4	188.1	169.5	162.5
170°	181.1	185.8	190.4	181.1	167.2	162.5
172.5°	174.2	176.5	181.1	169.5	160.2	162.5
175°	164.9	162.5	169.5	162.5	160.2	160.2
177.5°	160.2	153.3	160.2	157.9	155.6	157.9
180°	155.6	155.6	155.6	155.6	155.6	155.6

(END OF REPORT)