

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: P192464

Luminaire Tested: **4WSL-LD2-55-UPL8-UNV-L850-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P192464
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28106)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 4WSL-LD2-55-UPL8-UNV-L850-CD1-U
Description: 4FT Linear Wavestream System, 8% Uplight, L850
Light Source: (238) 5000K CCT, 80 CRI LEDS
EL236N0119D850
Ballast/Driver: OSRAM
OT50W

Summary

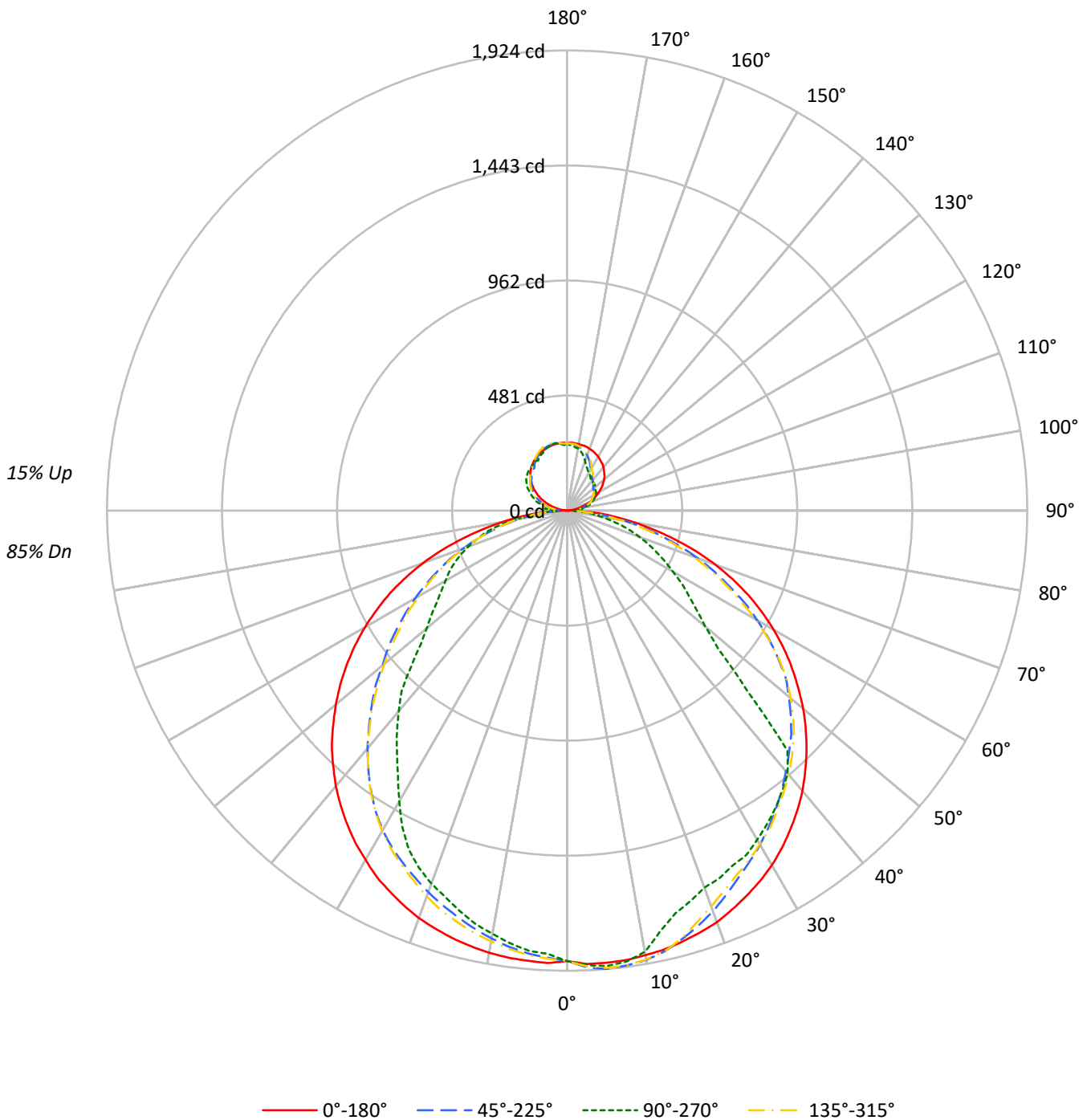
Lumens per Lamp: N/A
Luminaire Lumens: 6247.0 lumens
Efficiency: N/A
Efficacy: 125.2 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.19 / 1.36
Luminous Opening: Rectangular (W 0.5' x L: 3.8' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 49.9
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: P192464

CATALOG NUMBER: 4WSL-LD2-55-UPL8-UNV-L850-CD1-U

Luminous Intensity Polar Plot





TEST NUMBER: P192464

CATALOG NUMBER: 4WSL-LD2-55-UPL8-UNV-L850-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	115	115	115	115	111	111	111	111	103	103	103	95	95	95	88	88	88	85
1	105	101	96	92	101	97	93	90	90	87	84	83	81	79	78	76	74	71
2	96	88	81	75	92	84	78	73	78	73	69	73	69	65	68	65	62	59
3	87	77	69	62	83	74	67	61	69	63	58	64	59	55	60	56	52	50
4	80	68	59	53	76	66	58	52	61	55	49	57	52	47	53	49	45	42
5	73	61	52	45	70	59	51	44	55	48	43	51	45	41	48	43	39	37
6	68	55	46	40	65	53	45	39	50	43	37	47	40	36	44	38	34	32
7	63	49	41	35	60	48	40	34	45	38	33	42	36	32	40	35	31	28
8	58	45	37	31	56	44	36	30	41	34	29	39	33	28	37	31	27	25
9	54	41	33	28	52	40	33	27	38	31	26	36	30	26	34	29	25	23
10	51	38	30	25	49	37	30	25	35	28	24	33	27	23	31	26	22	21

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	10670	10670	10670	10670
5°	10791	10871	10745	10504
10°	10857	10776	10799	10336
15°	10940	10230	10857	10171
20°	11039	10115	10929	10005
25°	11105	10235	10978	9781
30°	11199	10395	11028	9181
35°	11254	10501	11087	8576
40°	11319	10603	11125	8097
45°	11342	8530	11148	7399
50°	11356	6629	11125	6754
55°	11333	6135	11114	6552
60°	11310	5781	11059	6649
65°	11191	5542	10948	6973
70°	10889	5344	10621	7282
75°	10196	5032	9887	7681
80°	9275	4607	8880	7301
85°	9042	4979	8125	6552



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.0	2.9
10°-20°	508.4	8.1
20°-30°	769.7	12.3
30°-40°	929.4	14.9
40°-50°	948.8	15.2
50°-60°	829.5	13.3
60°-70°	643.0	10.3
70°-80°	386.6	6.2
80°-90°	119.3	1.9
90°-100°	50.3	0.8
100°-110°	96.2	1.5
110°-120°	130.7	2.1
120°-130°	148.6	2.4
130°-140°	150.7	2.4
140°-150°	138.7	2.2
150°-160°	114.4	1.8
160°-170°	76.9	1.2
170°-180°	26.7	0.4
0°-30°	1457.1	23.3
0°-40°	2386.5	38.2
0°-60°	4164.9	66.7
0°-90°	5313.7	85.1
90°-120°	277.2	4.4
90°-150°	715.2	11.4
90°-180°	933.0	14.9
0°-180°	6247.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1883	1883	1883	1883	1883	
5°	1898	1912	1889	1847	1898	181
15°	1865	1744	1851	1734	1865	527
25°	1776	1637	1756	1565	1776	820
35°	1627	1518	1603	1240	1627	1019
45°	1416	1065	1391	924	1416	1092
55°	1147	621	1125	663	1147	1026
65°	835	413	817	520	835	824
75°	466	230	452	351	466	494
85°	139	77	125	101	139	140
90°	2	42	2	48	2	9
95°	12	58	12	93	12	15
105°	64	99	62	125	64	69
115°	125	127	123	169	125	124
125°	180	145	175	208	180	159
135°	220	159	218	230	220	170
145°	248	169	246	244	248	156
155°	268	198	266	258	268	124
165°	280	246	278	280	280	79
175°	284	270	284	278	284	27
180°	280	280	280	280	280	



TEST NUMBER: P192464

CATALOG NUMBER: 4WSL-LD2-55-UPL8-UNV-L850-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1883.4	1883.4	1883.4	1883.4	1883.4	1883.4	1883.4	1883.4	1883.4	1883.4	1883.4
2.5°	1897.5	1887.4	1911.6	1915.6	1901.5	1905.6	1907.6	1885.4	1893.5	1863.2	1871.3
5°	1897.5	1895.5	1923.7	1919.7	1911.6	1913.6	1919.7	1893.5	1889.4	1853.1	1859.2
7.5°	1895.5	1899.5	1917.7	1913.6	1901.5	1907.6	1917.7	1897.5	1885.4	1843.1	1841.0
10°	1887.4	1893.5	1907.6	1895.5	1873.3	1883.4	1905.6	1893.5	1877.3	1826.9	1816.8
12.5°	1879.4	1883.4	1887.4	1837.0	1800.7	1824.9	1887.4	1883.4	1865.2	1808.8	1790.6
15°	1865.2	1871.3	1855.2	1782.6	1744.2	1768.4	1851.1	1867.3	1851.1	1782.6	1760.4
17.5°	1849.1	1855.2	1820.9	1740.2	1712.0	1724.1	1804.7	1847.1	1833.0	1758.4	1730.1
20°	1831.0	1837.0	1782.6	1695.9	1677.7	1687.8	1760.4	1824.9	1812.8	1730.1	1697.9
22.5°	1804.7	1814.8	1738.2	1665.6	1663.6	1663.6	1718.0	1798.7	1786.6	1695.9	1661.6
25°	1776.5	1786.6	1693.8	1637.4	1637.4	1637.4	1679.7	1764.4	1756.3	1659.6	1625.3
27.5°	1746.3	1756.3	1653.5	1617.2	1623.3	1613.2	1647.5	1726.1	1726.1	1623.3	1587.0
30°	1712.0	1722.1	1613.2	1584.9	1589.0	1584.9	1611.2	1685.8	1685.8	1580.9	1542.6
32.5°	1671.7	1681.7	1568.8	1546.6	1554.7	1550.7	1576.9	1645.4	1647.5	1536.6	1490.2
35°	1627.3	1639.4	1522.4	1510.3	1518.4	1512.4	1530.5	1603.1	1603.1	1488.2	1429.7
37.5°	1580.9	1593.0	1474.0	1470.0	1478.1	1472.0	1486.1	1558.7	1554.7	1437.7	1365.2
40°	1530.5	1544.6	1423.6	1423.6	1433.7	1429.7	1441.8	1512.4	1504.3	1387.3	1298.6
42.5°	1474.0	1492.2	1373.2	1375.2	1363.1	1379.3	1391.4	1464.0	1447.8	1330.9	1226.0
45°	1415.6	1437.7	1324.8	1288.5	1064.7	1274.4	1338.9	1415.6	1391.4	1274.4	1155.4
47.5°	1353.1	1381.3	1268.4	1135.3	857.0	1117.1	1282.5	1355.1	1326.8	1213.9	1086.9
50°	1288.5	1320.8	1209.9	1004.2	752.1	984.0	1220.0	1294.6	1262.3	1151.4	1008.2
52.5°	1217.9	1254.2	1153.4	889.3	681.6	871.1	1155.4	1236.1	1195.8	1084.9	943.7
55°	1147.4	1185.7	1076.8	790.5	621.1	774.3	1080.8	1161.5	1125.2	1016.3	873.1
57.5°	1074.8	1113.1	1000.2	703.7	568.6	687.6	996.1	1092.9	1052.6	945.7	802.6
60°	998.2	1036.5	917.5	625.1	510.2	613.0	909.4	1016.3	976.0	873.1	734.0
62.5°	917.5	955.8	838.9	552.5	461.8	542.4	814.7	941.7	897.3	796.5	663.4
65°	834.8	863.1	746.1	484.0	413.4	475.9	730.0	848.9	816.7	715.8	596.9
67.5°	748.1	776.3	665.4	423.5	367.0	415.4	647.3	766.3	730.0	637.2	530.3
70°	657.4	681.6	580.7	365.0	322.6	358.9	560.6	673.5	641.2	554.5	459.8
72.5°	564.6	586.8	490.0	310.5	276.3	306.5	469.8	580.7	548.5	467.8	395.2
75°	465.8	488.0	405.3	256.1	229.9	252.1	387.2	481.9	451.7	385.1	328.7
77.5°	373.0	399.3	320.6	201.6	183.5	197.6	304.5	389.2	358.9	308.5	264.2
80°	284.3	306.5	237.9	153.3	141.2	151.2	221.8	296.4	272.2	237.9	205.7
82.5°	205.7	217.8	163.3	112.9	106.9	110.9	151.2	209.7	197.6	171.4	151.2
85°	139.1	137.1	100.8	78.6	76.6	78.6	90.7	127.0	125.0	114.9	96.8
87.5°	58.5	54.4	46.4	32.3	28.2	30.2	36.3	48.4	46.4	48.4	46.4
90°	2.0	20.2	32.3	40.3	42.3	40.3	32.3	20.2	2.0	22.2	36.3
92.5°	4.0	26.2	38.3	44.4	48.4	44.4	36.3	26.2	4.0	34.3	36.3
95°	12.1	36.3	44.4	54.4	58.5	54.4	44.4	34.3	12.1	30.2	54.4
97.5°	24.2	46.4	52.4	60.5	62.5	58.5	50.4	46.4	22.2	54.4	56.5
100°	36.3	58.5	68.6	68.6	70.6	68.6	66.5	56.5	34.3	60.5	68.6
102.5°	50.4	66.5	78.6	84.7	84.7	84.7	78.6	66.5	46.4	74.6	94.8
105°	64.5	72.6	86.7	94.8	98.8	94.8	86.7	74.6	62.5	86.7	100.8
107.5°	80.7	78.6	94.8	102.8	106.9	102.8	94.8	80.7	76.6	96.8	112.9
110°	96.8	86.7	102.8	110.9	112.9	110.9	102.8	86.7	92.8	108.9	125.0



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CATALOG NUMBER: 4WSL-LD2-55-UPL8-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	110.9	92.8	110.9	119.0	121.0	119.0	110.9	94.8	106.9	117.0	137.1
115°	125.0	98.8	114.9	125.0	127.0	125.0	114.9	100.8	123.0	127.0	147.2
117.5°	139.1	106.9	119.0	131.1	133.1	131.1	121.0	108.9	137.1	139.1	157.3
120°	153.3	117.0	125.0	135.1	139.1	137.1	125.0	119.0	149.2	149.2	165.4
122.5°	165.4	125.0	131.1	139.1	143.2	139.1	131.1	129.1	163.3	159.3	175.4
125°	179.5	133.1	135.1	143.2	145.2	143.2	137.1	135.1	175.4	167.4	181.5
127.5°	189.5	143.2	139.1	147.2	149.2	147.2	141.2	145.2	187.5	183.5	187.5
130°	201.6	153.3	143.2	151.2	153.3	153.3	143.2	157.3	197.6	195.6	195.6
132.5°	211.7	163.3	147.2	155.3	157.3	157.3	149.2	165.4	207.7	205.7	201.6
135°	219.8	177.4	155.3	155.3	159.3	159.3	157.3	179.5	217.8	215.8	211.7
137.5°	227.9	189.5	161.3	157.3	159.3	159.3	165.4	191.6	225.8	225.8	217.8
140°	235.9	201.6	165.4	161.3	161.3	165.4	171.4	203.7	233.9	233.9	219.8
142.5°	244.0	211.7	171.4	167.4	163.3	171.4	177.4	215.8	240.0	242.0	225.8
145°	248.0	221.8	179.5	173.4	169.4	179.5	187.5	225.8	246.0	250.0	237.9
147.5°	254.1	231.9	189.5	177.4	177.4	183.5	195.6	233.9	252.1	256.1	244.0
150°	260.1	240.0	197.6	183.5	179.5	189.5	203.7	242.0	258.1	262.1	252.1
152.5°	264.2	248.0	209.7	191.6	187.5	199.6	217.8	248.0	262.1	266.2	260.1
155°	268.2	254.1	223.8	199.6	197.6	207.7	229.9	254.1	266.2	270.2	266.2
157.5°	272.2	260.1	233.9	211.7	203.7	219.8	240.0	262.1	270.2	274.2	272.2
160°	274.2	264.2	246.0	223.8	219.8	233.9	250.0	264.2	272.2	278.3	276.3
162.5°	278.3	268.2	254.1	237.9	233.9	246.0	258.1	270.2	276.3	280.3	280.3
165°	280.3	272.2	262.1	250.0	246.0	258.1	264.2	274.2	278.3	280.3	282.3
167.5°	280.3	276.3	268.2	258.1	256.1	266.2	272.2	278.3	280.3	280.3	284.3
170°	282.3	278.3	272.2	266.2	264.2	272.2	274.2	280.3	282.3	280.3	286.3
172.5°	282.3	280.3	276.3	270.2	266.2	276.3	278.3	280.3	282.3	280.3	284.3
175°	284.3	280.3	280.3	276.3	270.2	280.3	280.3	280.3	284.3	280.3	282.3
177.5°	284.3	280.3	280.3	278.3	274.2	280.3	280.3	280.3	284.3	280.3	282.3
180°	280.3	280.3	280.3	280.3	280.3	280.3	280.3	280.3	280.3	280.3	280.3



TEST NUMBER: P192464

CATALOG NUMBER: 4WSL-LD2-55-UPL8-UNV-L850-CD1-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1883.4	1883.4	1883.4	1883.4	1883.4	1883.4
2.5°	1869.3	1855.2	1859.2	1875.3	1869.3	1897.5
5°	1855.2	1847.1	1847.1	1865.2	1863.2	1897.5
7.5°	1833.0	1824.9	1828.9	1849.1	1853.1	1895.5
10°	1806.8	1796.7	1800.7	1828.9	1839.0	1887.4
12.5°	1778.5	1770.5	1774.5	1806.8	1820.9	1879.4
15°	1746.3	1734.2	1746.3	1780.5	1798.7	1865.2
17.5°	1710.0	1693.8	1708.0	1752.3	1774.5	1849.1
20°	1673.7	1659.6	1667.6	1716.0	1748.3	1831.0
22.5°	1637.4	1617.2	1625.3	1675.7	1716.0	1804.7
25°	1595.0	1564.8	1580.9	1635.4	1681.7	1776.5
27.5°	1538.6	1492.2	1526.5	1595.0	1641.4	1746.3
30°	1464.0	1403.5	1453.9	1546.6	1599.1	1712.0
32.5°	1381.3	1316.8	1373.2	1492.2	1554.7	1671.7
35°	1298.6	1240.1	1290.5	1431.7	1508.3	1627.3
37.5°	1220.0	1169.6	1215.9	1367.2	1459.9	1580.9
40°	1145.4	1094.9	1143.3	1296.6	1407.5	1530.5
42.5°	1070.7	1024.4	1070.7	1222.0	1353.1	1474.0
45°	996.1	923.5	992.1	1149.4	1294.6	1415.6
47.5°	915.5	830.8	909.4	1070.7	1232.1	1353.1
50°	838.9	766.3	834.8	998.2	1167.5	1288.5
52.5°	772.3	713.8	768.3	923.5	1101.0	1217.9
55°	709.8	663.4	709.8	851.0	1030.4	1147.4
57.5°	653.3	623.1	655.4	788.4	957.8	1074.8
60°	604.9	586.8	607.0	711.8	885.2	998.2
62.5°	558.6	556.5	560.6	651.3	808.6	917.5
65°	510.2	520.2	510.2	586.8	732.0	834.8
67.5°	461.8	481.9	465.8	522.3	649.3	748.1
70°	417.4	439.6	417.4	455.7	566.6	657.4
72.5°	367.0	395.2	367.0	393.2	479.9	564.6
75°	318.6	350.9	320.6	328.7	397.2	465.8
77.5°	266.2	296.4	272.2	266.2	320.6	373.0
80°	211.7	223.8	211.7	209.7	248.0	284.3
82.5°	147.2	157.3	147.2	153.3	181.5	205.7
85°	96.8	100.8	96.8	98.8	121.0	139.1
87.5°	40.3	40.3	40.3	50.4	54.4	58.5
90°	44.4	48.4	44.4	36.3	22.2	2.0
92.5°	46.4	50.4	46.4	40.3	26.2	4.0
95°	82.7	92.8	78.6	50.4	42.3	12.1
97.5°	66.5	72.6	68.6	58.5	52.4	24.2
100°	78.6	84.7	78.6	82.7	64.5	36.3
102.5°	92.8	96.8	94.8	96.8	78.6	50.4
105°	121.0	125.0	121.0	104.9	90.7	64.5
107.5°	129.1	139.1	131.1	117.0	102.8	80.7
110°	139.1	147.2	141.2	129.1	112.9	96.8



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	149.2	159.3	153.3	143.2	121.0	110.9
115°	161.3	169.4	165.4	153.3	133.1	125.0
117.5°	173.4	179.5	175.4	161.3	145.2	139.1
120°	183.5	191.6	187.5	171.4	155.3	153.3
122.5°	191.6	199.6	195.6	181.5	165.4	165.4
125°	199.6	207.7	203.7	189.5	173.4	179.5
127.5°	205.7	215.8	211.7	195.6	191.6	189.5
130°	213.7	219.8	217.8	201.6	201.6	201.6
132.5°	217.8	225.8	221.8	209.7	213.7	211.7
135°	219.8	229.9	225.8	219.8	223.8	219.8
137.5°	223.8	231.9	229.9	225.8	233.9	227.9
140°	229.9	233.9	235.9	229.9	242.0	235.9
142.5°	235.9	237.9	242.0	235.9	250.0	244.0
145°	240.0	244.0	248.0	248.0	256.1	248.0
147.5°	240.0	246.0	246.0	252.1	264.2	254.1
150°	246.0	242.0	254.1	260.1	268.2	260.1
152.5°	254.1	252.1	262.1	268.2	272.2	264.2
155°	256.1	258.1	264.2	274.2	276.3	268.2
157.5°	264.2	262.1	272.2	280.3	280.3	272.2
160°	270.2	270.2	280.3	284.3	282.3	274.2
162.5°	276.3	276.3	286.3	286.3	284.3	278.3
165°	280.3	280.3	290.4	288.4	284.3	280.3
167.5°	282.3	284.3	292.4	290.4	284.3	280.3
170°	284.3	284.3	292.4	288.4	284.3	282.3
172.5°	284.3	282.3	290.4	286.3	282.3	282.3
175°	282.3	278.3	286.3	282.3	282.3	284.3
177.5°	280.3	274.2	280.3	280.3	282.3	284.3
180°	280.3	280.3	280.3	280.3	280.3	280.3

(END OF REPORT)