

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: P197460

Luminaire Tested: **8WSL-LD2-60-UPL15-UNV-L850-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197460
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-L850-CD1-U
Description: 8FT. Linear Wavestream System, 15% Uplight, L850
Light Source: (476) 5000K CCT, 80 CRI LEDS
EL236N0119D850
Ballast/Driver: OSRAM
OT50W

Summary

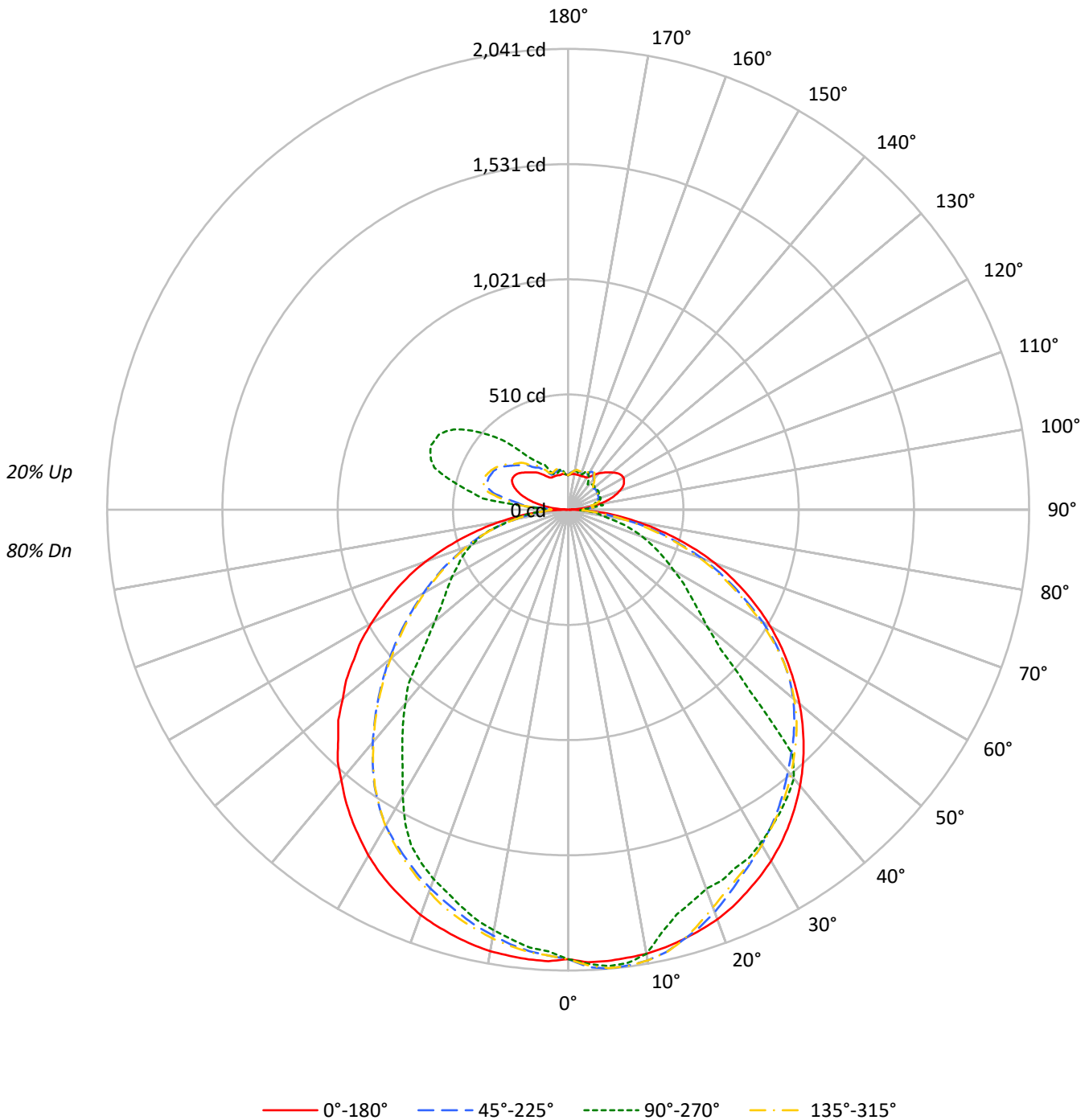
Lumens per Lamp: N/A
Luminaire Lumens: 7043.7 lumens
Efficiency: N/A
Efficacy: 131.7 lumens/watt
Spacing Criteria (0/90/45): 1.32 / 1.19 / 1.35
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

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°	5638	5638	5638	5638
5°	5705	5770	5685	5536
10°	5744	5744	5711	5442
15°	5776	5441	5729	5341
20°	5821	5386	5758	5249
25°	5842	5471	5770	5135
30°	5875	5576	5785	4791
35°	5895	5658	5784	4425
40°	5906	5745	5780	4149
45°	5904	4568	5767	3735
50°	5891	3525	5740	3394
55°	5868	3250	5721	3295
60°	5852	3068	5696	3366
65°	5804	2971	5652	3523
70°	5715	2895	5564	3766
75°	5451	2751	5276	4001
80°	5107	2497	4957	3988
85°	5125	3266	4752	4752



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.4	2.7
10°-20°	537.5	7.6
20°-30°	812.3	11.5
30°-40°	977.6	13.9
40°-50°	994.2	14.1
50°-60°	865.4	12.3
60°-70°	675.0	9.6
70°-80°	417.3	5.9
80°-90°	146.8	2.1
90°-100°	138.2	2.0
100°-110°	267.6	3.8
110°-120°	292.8	4.2
120°-130°	256.8	3.6
130°-140°	192.4	2.7
140°-150°	131.7	1.9
150°-160°	83.9	1.2
160°-170°	49.0	0.7
170°-180°	15.8	0.2
0°-30°	1539.2	21.9
0°-40°	2516.8	35.7
0°-60°	4376.4	62.1
0°-90°	5615.5	79.7
90°-120°	698.7	9.9
90°-150°	1279.5	18.2
90°-180°	1428.0	20.3
0°-180°	7043.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1990	1990	1990	1990	1990	
5°	2006	2029	1999	1947	2006	191
15°	1970	1856	1954	1821	1970	557
25°	1869	1750	1846	1643	1869	863
35°	1705	1636	1673	1280	1705	1066
45°	1474	1140	1440	932	1474	1137
55°	1188	658	1158	667	1188	1063
65°	866	443	843	526	866	856
75°	498	251	482	366	498	528
85°	158	100	146	146	158	157
90°	2	64	2	100	2	12
95°	62	105	48	210	62	64
105°	196	130	190	560	196	205
115°	272	148	272	672	272	266
125°	276	155	276	619	276	246
135°	233	155	233	452	233	181
145°	183	155	187	270	183	116
155°	162	187	160	185	162	75
165°	160	169	158	171	160	45
175°	158	164	158	160	158	15
180°	153	153	153	153	153	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1990.3	1990.3	1990.3	1990.3	1990.3	1990.3	1990.3	1990.3	1990.3	1990.3	1990.3
2.5°	2006.3	1997.1	2026.9	2029.1	2013.1	2020.0	2020.0	1994.9	2001.7	1972.0	1976.6
5°	2006.3	2008.6	2040.6	2038.3	2029.1	2031.4	2038.3	2006.3	1999.4	1958.3	1962.9
7.5°	2001.7	2013.1	2036.0	2033.7	2024.6	2026.9	2038.3	2010.9	1992.6	1944.6	1942.3
10°	1997.1	2008.6	2026.9	2015.4	1997.1	2004.0	2026.9	2008.6	1985.7	1928.6	1914.9
12.5°	1985.7	1997.1	2006.3	1949.2	1917.2	1944.6	2008.6	1997.1	1972.0	1905.7	1887.5
15°	1969.7	1983.4	1972.0	1892.0	1855.5	1880.6	1972.0	1981.2	1953.7	1876.0	1853.2
17.5°	1951.4	1967.4	1937.7	1848.6	1821.2	1832.6	1924.0	1960.6	1933.2	1846.3	1818.9
20°	1930.9	1949.2	1896.6	1802.9	1786.9	1796.1	1873.8	1937.7	1910.3	1814.3	1784.6
22.5°	1903.5	1924.0	1848.6	1770.9	1777.8	1770.9	1828.1	1908.0	1878.3	1780.1	1745.8
25°	1869.2	1892.0	1800.6	1743.5	1750.4	1748.1	1789.2	1869.2	1846.3	1738.9	1702.4
27.5°	1834.9	1857.8	1757.2	1725.2	1736.7	1722.9	1752.6	1828.1	1809.8	1695.5	1661.2
30°	1796.1	1821.2	1713.8	1693.2	1704.7	1695.5	1716.1	1786.9	1768.6	1649.8	1615.5
32.5°	1752.6	1777.8	1668.1	1654.4	1670.4	1659.0	1672.7	1741.2	1720.7	1599.5	1558.4
35°	1704.7	1729.8	1620.1	1620.1	1636.1	1622.4	1629.3	1695.5	1672.7	1549.3	1494.4
37.5°	1652.1	1679.5	1567.6	1579.0	1597.3	1583.6	1583.6	1647.5	1620.1	1494.4	1421.3
40°	1597.3	1627.0	1512.7	1537.9	1553.8	1537.9	1533.3	1597.3	1563.0	1439.6	1345.9
42.5°	1537.9	1569.8	1462.4	1492.1	1471.6	1492.1	1480.7	1544.7	1510.4	1380.2	1268.2
45°	1473.9	1515.0	1412.2	1393.9	1140.2	1380.2	1428.2	1489.9	1439.6	1323.1	1190.5
47.5°	1407.6	1451.0	1357.3	1224.8	916.3	1211.1	1371.0	1430.5	1380.2	1261.4	1112.8
50°	1336.8	1387.0	1300.2	1078.6	799.8	1064.8	1307.1	1368.8	1302.5	1195.1	1035.1
52.5°	1263.6	1318.5	1236.2	952.9	722.1	939.2	1238.5	1302.5	1238.5	1124.3	959.7
55°	1188.2	1245.4	1160.8	836.3	658.1	834.0	1158.5	1231.7	1158.5	1053.4	884.3
57.5°	1112.8	1176.8	1080.8	751.8	603.3	740.4	1069.4	1158.5	1090.0	980.3	811.2
60°	1032.9	1092.3	994.0	660.4	541.6	658.1	980.3	1083.1	1005.4	904.9	740.4
62.5°	950.6	1016.9	900.3	580.4	491.3	578.1	884.3	998.6	923.2	827.2	671.8
65°	866.0	930.0	811.2	516.4	443.3	511.9	795.2	911.7	843.2	749.5	607.8
67.5°	779.2	838.6	722.1	454.7	395.3	450.2	703.8	820.3	760.9	669.5	539.3
70°	690.1	744.9	630.7	395.3	349.6	393.0	614.7	726.7	671.8	587.3	477.6
72.5°	596.4	646.7	534.7	338.2	301.6	335.9	521.0	630.7	573.6	500.4	422.7
75°	498.1	546.1	445.6	281.1	251.4	278.8	431.9	527.9	482.1	420.5	358.8
77.5°	404.5	452.4	354.2	217.1	191.9	212.5	338.2	431.9	393.0	340.5	292.5
80°	313.1	351.9	260.5	162.2	153.1	162.2	253.6	331.3	303.9	267.4	228.5
82.5°	230.8	253.6	176.0	132.5	132.5	132.5	171.4	235.4	223.9	198.8	173.7
85°	157.7	157.7	118.8	100.5	100.5	100.5	116.5	139.4	146.2	132.5	132.5
87.5°	66.3	68.6	61.7	54.8	52.6	54.8	59.4	57.1	57.1	64.0	80.0
90°	2.3	29.7	50.3	61.7	64.0	59.4	45.7	27.4	2.3	38.8	70.8
92.5°	16.0	64.0	59.4	77.7	80.0	73.1	61.7	50.3	9.1	70.8	75.4
95°	61.7	75.4	116.5	118.8	105.1	100.5	114.3	70.8	48.0	96.0	191.9
97.5°	98.3	114.3	105.1	137.1	155.4	137.1	109.7	109.7	91.4	148.5	223.9
100°	134.8	121.1	107.4	118.8	137.1	121.1	102.8	121.1	128.0	173.7	274.2
102.5°	169.1	134.8	134.8	116.5	118.8	114.3	130.2	132.5	160.0	196.5	338.2
105°	196.5	139.4	141.7	132.5	130.2	132.5	141.7	141.7	189.7	217.1	367.9
107.5°	221.7	144.0	139.4	146.2	148.5	146.2	139.4	144.0	217.1	230.8	374.8
110°	242.2	146.2	141.7	146.2	153.1	146.2	141.7	148.5	239.9	244.5	379.3



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CATALOG NUMBER: 8WSL-LD2-60-UPL15-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°	260.5	148.5	146.2	144.0	150.8	144.0	146.2	153.1	258.2	251.4	379.3
115°	271.9	150.8	146.2	146.2	148.5	146.2	148.5	155.4	271.9	253.6	374.8
117.5°	278.8	155.4	148.5	150.8	153.1	150.8	148.5	160.0	281.1	262.8	372.5
120°	283.3	171.4	148.5	153.1	155.4	153.1	148.5	173.7	283.3	267.4	363.3
122.5°	281.1	178.2	150.8	153.1	157.7	153.1	150.8	180.5	281.1	265.1	351.9
125°	276.5	185.1	150.8	150.8	155.4	153.1	153.1	185.1	276.5	260.5	335.9
127.5°	267.4	201.1	150.8	153.1	153.1	153.1	153.1	198.8	267.4	262.8	319.9
130°	255.9	212.5	146.2	155.4	153.1	157.7	150.8	212.5	255.9	255.9	306.2
132.5°	244.5	217.1	146.2	155.4	155.4	157.7	148.5	217.1	244.5	246.8	292.5
135°	233.1	221.7	155.4	153.1	155.4	155.4	157.7	221.7	233.1	237.6	283.3
137.5°	221.7	223.9	166.8	146.2	153.1	148.5	171.4	223.9	223.9	223.9	269.6
140°	210.2	221.7	176.0	141.7	144.0	146.2	180.5	223.9	214.8	217.1	246.8
142.5°	196.5	214.8	182.8	153.1	141.7	157.7	187.4	221.7	201.1	210.2	235.4
145°	182.8	207.9	196.5	169.1	155.4	176.0	203.4	214.8	187.4	205.7	228.5
147.5°	171.4	196.5	198.8	178.2	171.4	185.1	205.7	205.7	173.7	196.5	212.5
150°	164.5	185.1	191.9	185.1	178.2	194.2	201.1	189.7	164.5	189.7	198.8
152.5°	162.2	176.0	176.0	194.2	191.9	203.4	185.1	180.5	160.0	182.8	180.5
155°	162.2	173.7	169.1	178.2	187.4	187.4	176.0	176.0	160.0	182.8	171.4
157.5°	160.0	176.0	169.1	166.8	171.4	176.0	176.0	178.2	160.0	178.2	171.4
160°	160.0	178.2	171.4	164.5	166.8	173.7	178.2	178.2	160.0	178.2	173.7
162.5°	160.0	173.7	173.7	166.8	166.8	176.0	178.2	176.0	160.0	173.7	178.2
165°	160.0	173.7	176.0	171.4	169.1	180.5	178.2	171.4	157.7	171.4	180.5
167.5°	160.0	169.1	178.2	173.7	173.7	180.5	180.5	169.1	157.7	164.5	180.5
170°	160.0	166.8	176.0	173.7	176.0	182.8	176.0	166.8	160.0	162.2	173.7
172.5°	160.0	162.2	171.4	173.7	173.7	178.2	171.4	162.2	160.0	157.7	166.8
175°	157.7	162.2	166.8	166.8	164.5	171.4	164.5	160.0	157.7	155.4	160.0
177.5°	155.4	157.7	162.2	162.2	157.7	162.2	157.7	155.4	155.4	153.1	157.7
180°	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1	153.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1990.3	1990.3	1990.3	1990.3	1990.3	1990.3
2.5°	1974.3	1958.3	1962.9	1976.6	1974.3	2006.3
5°	1953.7	1946.9	1946.9	1967.4	1965.2	2006.3
7.5°	1930.9	1919.5	1926.3	1949.2	1956.0	2001.7
10°	1901.2	1892.0	1894.3	1928.6	1940.0	1997.1
12.5°	1871.5	1862.3	1869.2	1901.2	1917.2	1985.7
15°	1837.2	1821.2	1839.5	1873.8	1894.3	1969.7
17.5°	1796.1	1777.8	1796.1	1841.8	1866.9	1951.4
20°	1759.5	1741.2	1752.6	1800.6	1834.9	1930.9
22.5°	1718.4	1695.5	1704.7	1757.2	1800.6	1903.5
25°	1672.7	1643.0	1656.7	1713.8	1761.8	1869.2
27.5°	1613.3	1563.0	1597.3	1668.1	1713.8	1834.9
30°	1531.0	1464.7	1519.6	1617.8	1670.4	1796.1
32.5°	1435.0	1364.2	1423.6	1556.1	1620.1	1752.6
35°	1341.3	1279.6	1334.5	1492.1	1569.8	1704.7
37.5°	1259.1	1201.9	1252.2	1419.0	1515.0	1652.1
40°	1174.5	1122.0	1172.2	1341.3	1460.2	1597.3
42.5°	1096.8	1046.6	1094.5	1263.6	1400.7	1537.9
45°	1014.6	932.3	1010.0	1183.7	1336.8	1473.9
47.5°	927.7	840.9	920.9	1106.0	1272.8	1407.6
50°	847.8	770.1	843.2	1026.0	1204.2	1336.8
52.5°	776.9	710.7	774.6	946.0	1133.4	1263.6
55°	710.7	667.2	712.9	872.9	1067.1	1188.2
57.5°	658.1	628.4	660.4	802.1	994.0	1112.8
60°	612.4	594.1	614.7	731.2	916.3	1032.9
62.5°	562.1	555.3	562.1	662.7	840.9	950.6
65°	518.7	525.6	518.7	601.0	760.9	866.0
67.5°	477.6	493.6	479.9	534.7	680.9	779.2
70°	431.9	454.7	434.2	475.3	598.7	690.1
72.5°	383.9	411.3	383.9	418.2	511.9	596.4
75°	333.6	365.6	335.9	356.5	429.6	498.1
77.5°	278.8	299.3	283.3	290.2	349.6	404.5
80°	221.7	244.5	223.9	228.5	276.5	313.1
82.5°	185.1	201.1	187.4	173.7	205.7	230.8
85°	137.1	146.2	141.7	134.8	141.7	157.7
87.5°	84.5	89.1	84.5	84.5	73.1	66.3
90°	93.7	100.5	93.7	73.1	41.1	2.3
92.5°	96.0	105.1	96.0	80.0	77.7	16.0
95°	214.8	210.2	228.5	207.9	118.8	61.7
97.5°	333.6	381.6	345.0	249.1	160.0	98.3
100°	383.9	429.6	399.9	310.8	182.8	134.8
102.5°	443.3	493.6	461.6	363.3	205.7	169.1
105°	516.4	559.8	532.4	383.9	226.2	196.5
107.5°	555.3	621.5	566.7	393.0	239.9	221.7
110°	575.8	646.7	594.1	395.3	251.4	242.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	591.8	660.4	605.5	395.3	255.9	260.5
115°	591.8	671.8	605.5	388.5	262.8	271.9
117.5°	591.8	665.0	605.5	381.6	271.9	278.8
120°	571.3	662.7	589.5	372.5	274.2	283.3
122.5°	555.3	644.4	566.7	361.0	274.2	281.1
125°	525.6	619.3	539.3	347.3	269.6	276.5
127.5°	493.6	582.7	505.0	331.3	271.9	267.4
130°	463.9	541.6	470.7	315.3	262.8	255.9
132.5°	425.0	495.9	431.9	303.9	253.6	244.5
135°	388.5	452.4	397.6	294.8	242.2	233.1
137.5°	349.6	406.7	358.8	276.5	230.8	221.7
140°	303.9	349.6	313.1	255.9	223.9	210.2
142.5°	274.2	299.3	283.3	246.8	214.8	196.5
145°	255.9	269.6	262.8	237.6	210.2	182.8
147.5°	237.6	251.4	244.5	219.4	198.8	171.4
150°	230.8	230.8	239.9	203.4	191.9	164.5
152.5°	205.7	223.9	214.8	185.1	187.4	162.2
155°	176.0	185.1	185.1	178.2	187.4	162.2
157.5°	164.5	171.4	173.7	178.2	182.8	160.0
160°	164.5	166.8	173.7	180.5	180.5	160.0
162.5°	169.1	166.8	178.2	185.1	176.0	160.0
165°	173.7	171.4	182.8	187.4	171.4	160.0
167.5°	178.2	178.2	187.4	185.1	166.8	160.0
170°	178.2	182.8	187.4	178.2	164.5	160.0
172.5°	171.4	173.7	178.2	166.8	157.7	160.0
175°	162.2	160.0	166.8	160.0	157.7	157.7
177.5°	157.7	150.8	157.7	155.4	153.1	155.4
180°	153.1	153.1	153.1	153.1	153.1	153.1

(END OF REPORT)