

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: P197407

Luminaire Tested: **8WSL-LD2-60-UPL8-UNV-L840-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197407
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: 8WSL-LD2-60-UPL8-UNV-L840-CD1-U
Description: 8FT. Linear Wavestream System, 8% Uplight, L840
Light Source: (476) 4000K CCT, 80 CRI LEDS
EL236N0119D840
Ballast/Driver: OSRAM
OT50W

Summary

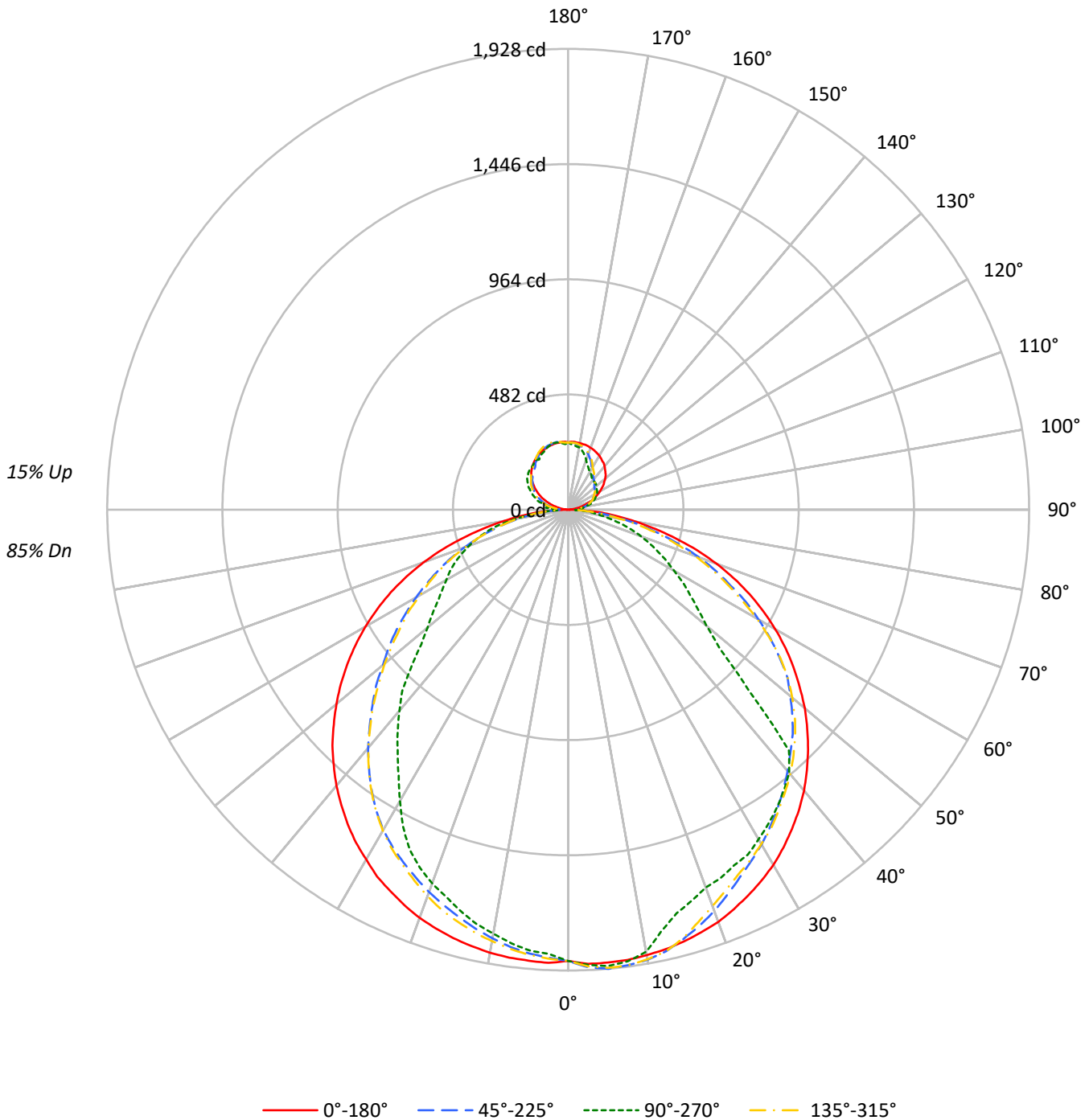
Lumens per Lamp: N/A
Luminaire Lumens: 6261.8 lumens
Efficiency: N/A
Efficacy: 117.0 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.19 / 1.36
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

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	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°	5347	5347	5347	5347
5°	5408	5448	5385	5265
10°	5442	5401	5413	5180
15°	5483	5127	5441	5098
20°	5532	5069	5477	5014
25°	5565	5130	5502	4902
30°	5613	5209	5527	4601
35°	5640	5263	5557	4299
40°	5673	5314	5575	4058
45°	5684	4275	5587	3708
50°	5692	3322	5576	3385
55°	5680	3074	5570	3284
60°	5668	2897	5542	3332
65°	5609	2778	5487	3495
70°	5457	2678	5324	3649
75°	5110	2522	4956	3849
80°	4649	2308	4452	3660
85°	4534	2496	4072	3286



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.5	2.9
10°-20°	509.6	8.1
20°-30°	771.5	12.3
30°-40°	931.6	14.9
40°-50°	951.1	15.2
50°-60°	831.5	13.3
60°-70°	644.5	10.3
70°-80°	387.5	6.2
80°-90°	119.6	1.9
90°-100°	50.4	0.8
100°-110°	96.4	1.5
110°-120°	131.0	2.1
120°-130°	148.9	2.4
130°-140°	151.1	2.4
140°-150°	139.0	2.2
150°-160°	114.7	1.8
160°-170°	77.1	1.2
170°-180°	26.8	0.4
0°-30°	1460.6	23.3
0°-40°	2392.1	38.2
0°-60°	4174.7	66.7
0°-90°	5326.3	85.1
90°-120°	277.9	4.4
90°-150°	716.8	11.4
90°-180°	935.0	14.9
0°-180°	6261.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1888	1888	1888	1888	1888	
5°	1902	1916	1894	1852	1902	181
15°	1870	1748	1856	1738	1870	529
25°	1781	1641	1760	1568	1781	822
35°	1631	1522	1607	1243	1631	1021
45°	1419	1067	1395	926	1419	1094
55°	1150	622	1128	665	1150	1028
65°	837	414	819	522	837	826
75°	467	230	453	352	467	495
85°	140	77	125	101	140	141
90°	2	42	2	48	2	9
95°	12	59	12	93	12	15
105°	65	99	63	125	65	69
115°	125	127	123	170	125	124
125°	180	146	176	208	180	160
135°	220	160	218	230	220	170
145°	249	170	247	245	249	156
155°	269	198	267	259	269	124
165°	281	247	279	281	281	79
175°	285	271	285	279	285	27
180°	281	281	281	281	281	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1887.8	1887.8	1887.8	1887.8	1887.8	1887.8	1887.8	1887.8	1887.8	1887.8	1887.8
2.5°	1902.0	1891.9	1916.1	1920.2	1906.0	1910.1	1912.1	1889.9	1898.0	1867.6	1875.7
5°	1902.0	1900.0	1928.3	1924.2	1916.1	1918.2	1924.2	1898.0	1893.9	1857.5	1863.6
7.5°	1900.0	1904.0	1922.2	1918.2	1906.0	1912.1	1922.2	1902.0	1889.9	1847.4	1845.4
10°	1891.9	1898.0	1912.1	1900.0	1877.7	1887.8	1910.1	1898.0	1881.8	1831.2	1821.1
12.5°	1883.8	1887.8	1891.9	1841.4	1805.0	1829.2	1891.9	1887.8	1869.7	1813.1	1794.9
15°	1869.7	1875.7	1859.5	1786.8	1748.4	1772.6	1855.5	1871.7	1855.5	1786.8	1764.5
17.5°	1853.5	1859.5	1825.2	1744.3	1716.0	1728.2	1809.0	1851.5	1837.3	1762.5	1734.2
20°	1835.3	1841.4	1786.8	1699.9	1681.7	1691.8	1764.5	1829.2	1817.1	1734.2	1701.9
22.5°	1809.0	1819.1	1742.3	1669.5	1667.5	1667.5	1722.1	1803.0	1790.8	1699.9	1665.5
25°	1780.7	1790.8	1697.8	1641.3	1641.3	1641.3	1683.7	1768.6	1760.5	1663.5	1629.1
27.5°	1750.4	1760.5	1657.4	1621.0	1627.1	1617.0	1651.4	1730.2	1730.2	1627.1	1590.7
30°	1716.0	1726.1	1617.0	1588.7	1592.7	1588.7	1615.0	1689.8	1689.8	1584.7	1546.3
32.5°	1675.6	1685.7	1572.5	1550.3	1558.4	1554.3	1580.6	1649.3	1651.4	1540.2	1493.7
35°	1631.1	1643.3	1526.0	1513.9	1522.0	1515.9	1534.1	1606.9	1606.9	1491.7	1433.1
37.5°	1584.7	1596.8	1477.5	1473.5	1481.6	1475.5	1489.7	1562.4	1558.4	1441.1	1368.4
40°	1534.1	1548.3	1427.0	1427.0	1437.1	1433.1	1445.2	1515.9	1507.8	1390.6	1301.7
42.5°	1477.5	1495.7	1376.5	1378.5	1366.4	1382.5	1394.7	1467.4	1451.3	1334.0	1228.9
45°	1418.9	1441.1	1328.0	1291.6	1067.2	1277.4	1342.1	1418.9	1394.7	1277.4	1158.2
47.5°	1356.3	1384.6	1271.4	1138.0	859.0	1119.8	1285.5	1358.3	1330.0	1216.8	1089.5
50°	1291.6	1323.9	1212.7	1006.6	753.9	986.4	1222.9	1297.6	1265.3	1154.1	1010.6
52.5°	1220.8	1257.2	1156.2	891.4	683.2	873.2	1158.2	1239.0	1198.6	1087.4	945.9
55°	1150.1	1188.5	1079.3	792.3	622.5	776.2	1083.4	1164.2	1127.9	1018.7	875.2
57.5°	1077.3	1115.7	1002.5	705.4	570.0	689.2	998.5	1095.5	1055.1	948.0	804.5
60°	1000.5	1038.9	919.7	626.6	511.4	614.5	911.6	1018.7	978.3	875.2	735.7
62.5°	919.7	958.1	840.8	553.8	462.9	543.7	816.6	943.9	899.5	798.4	665.0
65°	836.8	865.1	747.9	485.1	414.4	477.0	731.7	850.9	818.6	717.5	598.3
67.5°	749.9	778.2	667.0	424.5	367.9	416.4	648.8	768.1	731.7	638.7	531.6
70°	658.9	683.2	582.1	365.8	323.4	359.8	561.9	675.1	642.8	555.8	460.8
72.5°	565.9	588.2	491.2	311.3	276.9	307.2	471.0	582.1	549.8	468.9	396.2
75°	466.9	489.1	406.3	256.7	230.4	252.7	388.1	483.1	452.8	386.1	329.5
77.5°	373.9	400.2	321.4	202.1	183.9	198.1	305.2	390.1	359.8	309.3	264.8
80°	285.0	307.2	238.5	153.6	141.5	151.6	222.3	297.1	272.9	238.5	206.2
82.5°	206.2	218.3	163.7	113.2	107.1	111.2	151.6	210.2	198.1	171.8	151.6
85°	139.5	137.4	101.1	78.8	76.8	78.8	91.0	127.3	125.3	115.2	97.0
87.5°	58.6	54.6	46.5	32.3	28.3	30.3	36.4	48.5	46.5	48.5	46.5
90°	2.0	20.2	32.3	40.4	42.4	40.4	32.3	20.2	2.0	22.2	36.4
92.5°	4.0	26.3	38.4	44.5	48.5	44.5	36.4	26.3	4.0	34.4	36.4
95°	12.1	36.4	44.5	54.6	58.6	54.6	44.5	34.4	12.1	30.3	54.6
97.5°	24.3	46.5	52.6	60.6	62.7	58.6	50.5	46.5	22.2	54.6	56.6
100°	36.4	58.6	68.7	68.7	70.7	68.7	66.7	56.6	34.4	60.6	68.7
102.5°	50.5	66.7	78.8	84.9	84.9	84.9	78.8	66.7	46.5	74.8	95.0
105°	64.7	72.8	86.9	95.0	99.0	95.0	86.9	74.8	62.7	86.9	101.1
107.5°	80.8	78.8	95.0	103.1	107.1	103.1	95.0	80.8	76.8	97.0	113.2
110°	97.0	86.9	103.1	111.2	113.2	111.2	103.1	86.9	93.0	109.1	125.3



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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°	111.2	93.0	111.2	119.3	121.3	119.3	111.2	95.0	107.1	117.2	137.4
115°	125.3	99.0	115.2	125.3	127.3	125.3	115.2	101.1	123.3	127.3	147.6
117.5°	139.5	107.1	119.3	131.4	133.4	131.4	121.3	109.1	137.4	139.5	157.7
120°	153.6	117.2	125.3	135.4	139.5	137.4	125.3	119.3	149.6	149.6	165.7
122.5°	165.7	125.3	131.4	139.5	143.5	139.5	131.4	129.4	163.7	159.7	175.8
125°	179.9	133.4	135.4	143.5	145.5	143.5	137.4	135.4	175.8	167.8	181.9
127.5°	190.0	143.5	139.5	147.6	149.6	147.6	141.5	145.5	188.0	183.9	188.0
130°	202.1	153.6	143.5	151.6	153.6	153.6	143.5	157.7	198.1	196.1	196.1
132.5°	212.2	163.7	147.6	155.6	157.7	157.7	149.6	165.7	208.2	206.2	202.1
135°	220.3	177.9	155.6	155.6	159.7	159.7	157.7	179.9	218.3	216.3	212.2
137.5°	228.4	190.0	161.7	157.7	159.7	159.7	165.7	192.0	226.4	226.4	218.3
140°	236.5	202.1	165.7	161.7	161.7	165.7	171.8	204.1	234.5	234.5	220.3
142.5°	244.6	212.2	171.8	167.8	163.7	171.8	177.9	216.3	240.5	242.5	226.4
145°	248.6	222.3	179.9	173.8	169.8	179.9	188.0	226.4	246.6	250.6	238.5
147.5°	254.7	232.4	190.0	177.9	177.9	183.9	196.1	234.5	252.7	256.7	244.6
150°	260.7	240.5	198.1	183.9	179.9	190.0	204.1	242.5	258.7	262.8	252.7
152.5°	264.8	248.6	210.2	192.0	188.0	200.1	218.3	248.6	262.8	266.8	260.7
155°	268.8	254.7	224.4	200.1	198.1	208.2	230.4	254.7	266.8	270.8	266.8
157.5°	272.9	260.7	234.5	212.2	204.1	220.3	240.5	262.8	270.8	274.9	272.9
160°	274.9	264.8	246.6	224.4	220.3	234.5	250.6	264.8	272.9	278.9	276.9
162.5°	278.9	268.8	254.7	238.5	234.5	246.6	258.7	270.8	276.9	281.0	281.0
165°	281.0	272.9	262.8	250.6	246.6	258.7	264.8	274.9	278.9	281.0	283.0
167.5°	281.0	276.9	268.8	258.7	256.7	266.8	272.9	278.9	281.0	281.0	285.0
170°	283.0	278.9	272.9	266.8	264.8	272.9	274.9	281.0	283.0	281.0	287.0
172.5°	283.0	281.0	276.9	270.8	266.8	276.9	278.9	281.0	283.0	281.0	285.0
175°	285.0	281.0	281.0	276.9	270.8	281.0	281.0	281.0	285.0	281.0	283.0
177.5°	285.0	281.0	281.0	278.9	274.9	281.0	281.0	281.0	285.0	281.0	283.0
180°	281.0	281.0	281.0	281.0	281.0	281.0	281.0	281.0	281.0	281.0	281.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1887.8	1887.8	1887.8	1887.8	1887.8	1887.8
2.5°	1873.7	1859.5	1863.6	1879.8	1873.7	1902.0
5°	1859.5	1851.5	1851.5	1869.7	1867.6	1902.0
7.5°	1837.3	1829.2	1833.3	1853.5	1857.5	1900.0
10°	1811.0	1800.9	1805.0	1833.3	1843.4	1891.9
12.5°	1782.7	1774.7	1778.7	1811.0	1825.2	1883.8
15°	1750.4	1738.3	1750.4	1784.8	1803.0	1869.7
17.5°	1714.0	1697.8	1712.0	1756.5	1778.7	1853.5
20°	1677.6	1663.5	1671.6	1720.1	1752.4	1835.3
22.5°	1641.3	1621.0	1629.1	1679.7	1720.1	1809.0
25°	1598.8	1568.5	1584.7	1639.2	1685.7	1780.7
27.5°	1542.2	1495.7	1530.1	1598.8	1645.3	1750.4
30°	1467.4	1406.8	1457.3	1550.3	1602.8	1716.0
32.5°	1384.6	1319.9	1376.5	1495.7	1558.4	1675.6
35°	1301.7	1243.1	1293.6	1435.1	1511.9	1631.1
37.5°	1222.9	1172.3	1218.8	1370.4	1463.4	1584.7
40°	1148.1	1097.5	1146.0	1299.7	1410.8	1534.1
42.5°	1073.3	1026.8	1073.3	1224.9	1356.3	1477.5
45°	998.5	925.7	994.5	1152.1	1297.6	1418.9
47.5°	917.6	832.8	911.6	1073.3	1235.0	1356.3
50°	840.8	768.1	836.8	1000.5	1170.3	1291.6
52.5°	774.1	715.5	770.1	925.7	1103.6	1220.8
55°	711.5	665.0	711.5	853.0	1032.9	1150.1
57.5°	654.9	624.6	656.9	790.3	960.1	1077.3
60°	606.4	588.2	608.4	713.5	887.3	1000.5
62.5°	559.9	557.9	561.9	652.9	810.5	919.7
65°	511.4	521.5	511.4	588.2	733.7	836.8
67.5°	462.9	483.1	466.9	523.5	650.8	749.9
70°	418.4	440.6	418.4	456.8	568.0	658.9
72.5°	367.9	396.2	367.9	394.1	481.1	565.9
75°	319.4	351.7	321.4	329.5	398.2	466.9
77.5°	266.8	297.1	272.9	266.8	321.4	373.9
80°	212.2	224.4	212.2	210.2	248.6	285.0
82.5°	147.6	157.7	147.6	153.6	181.9	206.2
85°	97.0	101.1	97.0	99.0	121.3	139.5
87.5°	40.4	40.4	40.4	50.5	54.6	58.6
90°	44.5	48.5	44.5	36.4	22.2	2.0
92.5°	46.5	50.5	46.5	40.4	26.3	4.0
95°	82.9	93.0	78.8	50.5	42.4	12.1
97.5°	66.7	72.8	68.7	58.6	52.6	24.3
100°	78.8	84.9	78.8	82.9	64.7	36.4
102.5°	93.0	97.0	95.0	97.0	78.8	50.5
105°	121.3	125.3	121.3	105.1	91.0	64.7
107.5°	129.4	139.5	131.4	117.2	103.1	80.8
110°	139.5	147.6	141.5	129.4	113.2	97.0



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	149.6	159.7	153.6	143.5	121.3	111.2
115°	161.7	169.8	165.7	153.6	133.4	125.3
117.5°	173.8	179.9	175.8	161.7	145.5	139.5
120°	183.9	192.0	188.0	171.8	155.6	153.6
122.5°	192.0	200.1	196.1	181.9	165.7	165.7
125°	200.1	208.2	204.1	190.0	173.8	179.9
127.5°	206.2	216.3	212.2	196.1	192.0	190.0
130°	214.3	220.3	218.3	202.1	202.1	202.1
132.5°	218.3	226.4	222.3	210.2	214.3	212.2
135°	220.3	230.4	226.4	220.3	224.4	220.3
137.5°	224.4	232.4	230.4	226.4	234.5	228.4
140°	230.4	234.5	236.5	230.4	242.5	236.5
142.5°	236.5	238.5	242.5	236.5	250.6	244.6
145°	240.5	244.6	248.6	248.6	256.7	248.6
147.5°	240.5	246.6	246.6	252.7	264.8	254.7
150°	246.6	242.5	254.7	260.7	268.8	260.7
152.5°	254.7	252.7	262.8	268.8	272.9	264.8
155°	256.7	258.7	264.8	274.9	276.9	268.8
157.5°	264.8	262.8	272.9	281.0	281.0	272.9
160°	270.8	270.8	281.0	285.0	283.0	274.9
162.5°	276.9	276.9	287.0	287.0	285.0	278.9
165°	281.0	281.0	291.1	289.0	285.0	281.0
167.5°	283.0	285.0	293.1	291.1	285.0	281.0
170°	285.0	285.0	293.1	289.0	285.0	283.0
172.5°	285.0	283.0	291.1	287.0	283.0	283.0
175°	283.0	278.9	287.0	283.0	283.0	285.0
177.5°	281.0	274.9	281.0	281.0	283.0	285.0
180°	281.0	281.0	281.0	281.0	281.0	281.0

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