

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: P192461

Luminaire Tested: **4WSL-LD2-55-UPL8-UNV-L830-CD1-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P192461
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-L830-CD1-U
Description: 4FT Linear Wavestream System, 8% Uplight, L830
Light Source: (238) 3000K CCT, 80 CRI LEDS
EL236N0119D830
Ballast/Driver: OSRAM
OT50W

Summary

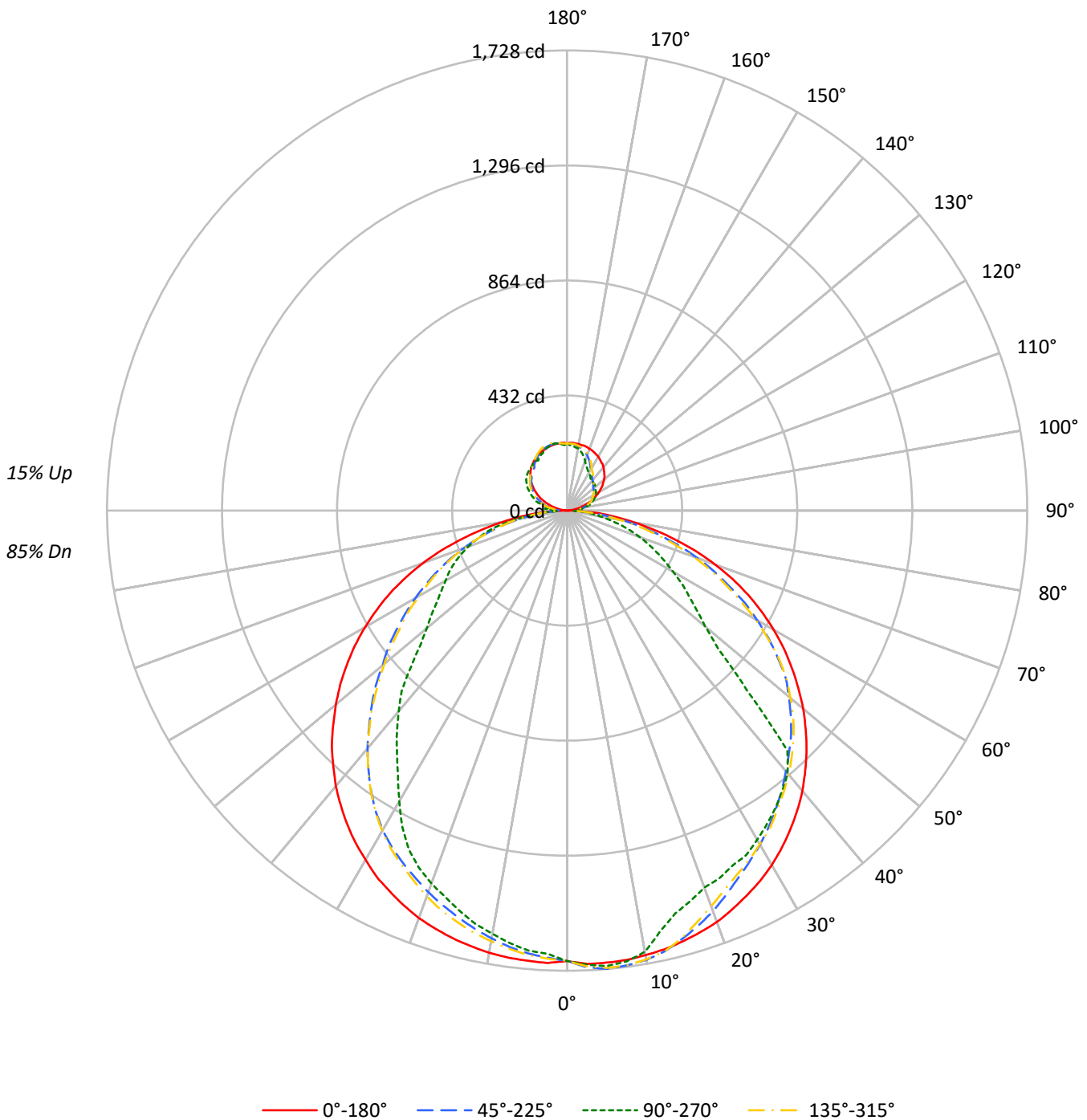
Lumens per Lamp: N/A
Luminaire Lumens: 5610.0 lumens
Efficiency: N/A
Efficacy: 112.4 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.19 / 1.36
Luminous Opening: Rectangular (W 0.5' x L: 3.8' x H: 0')
CIE Type: Semi-Direct

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: P192461

CATALOG NUMBER: 4WSL-LD2-55-UPL8-UNV-L830-CD1-U

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°	9582	9582	9582	9582
5°	9690	9763	9649	9433
10°	9751	9678	9698	9282
15°	9824	9187	9750	9134
20°	9913	9083	9815	8985
25°	9973	9191	9860	8784
30°	10057	9335	9903	8245
35°	10107	9431	9956	7702
40°	10164	9522	9990	7272
45°	10185	7660	10011	6645
50°	10198	5953	9991	6065
55°	10177	5508	9981	5885
60°	10157	5190	9931	5971
65°	10050	4976	9831	6263
70°	9778	4799	9539	6539
75°	9156	4518	8878	6897
80°	8329	4137	7977	6558
85°	8119	4472	7300	5883



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.8	2.9
10°-20°	456.6	8.1
20°-30°	691.2	12.3
30°-40°	834.6	14.9
40°-50°	852.1	15.2
50°-60°	745.0	13.3
60°-70°	577.4	10.3
70°-80°	347.1	6.2
80°-90°	107.2	1.9
90°-100°	45.2	0.8
100°-110°	86.4	1.5
110°-120°	117.4	2.1
120°-130°	133.4	2.4
130°-140°	135.3	2.4
140°-150°	124.6	2.2
150°-160°	102.8	1.8
160°-170°	69.1	1.2
170°-180°	24.0	0.4
0°-30°	1308.5	23.3
0°-40°	2143.1	38.2
0°-60°	3740.2	66.7
0°-90°	4771.9	85.1
90°-120°	248.9	4.4
90°-150°	642.2	11.4
90°-180°	838.0	14.9
0°-180°	5610.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1691	1691	1691	1691	1691	
5°	1704	1717	1697	1659	1704	162
15°	1675	1566	1662	1557	1675	474
25°	1595	1470	1577	1405	1595	736
35°	1461	1364	1440	1114	1461	915
45°	1271	956	1250	829	1271	980
55°	1030	558	1010	596	1030	921
65°	750	371	733	467	750	740
75°	418	206	406	315	418	444
85°	125	69	112	90	125	126
90°	2	38	2	44	2	8
95°	11	52	11	83	11	14
105°	58	89	56	112	58	62
115°	112	114	110	152	112	111
125°	161	130	158	186	161	143
135°	197	143	196	206	197	152
145°	223	152	221	219	223	140
155°	241	178	239	232	241	111
165°	252	221	250	252	252	71
175°	255	243	255	250	255	24
180°	252	252	252	252	252	



TEST NUMBER: P192461

CATALOG NUMBER: 4WSL-LD2-55-UPL8-UNV-L830-CD1-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1691.3	1691.3	1691.3	1691.3	1691.3	1691.3	1691.3	1691.3	1691.3	1691.3	1691.3
2.5°	1704.0	1695.0	1716.7	1720.3	1707.6	1711.3	1713.1	1693.1	1700.4	1673.2	1680.5
5°	1704.0	1702.2	1727.6	1723.9	1716.7	1718.5	1723.9	1700.4	1696.8	1664.2	1669.6
7.5°	1702.2	1705.8	1722.1	1718.5	1707.6	1713.1	1722.1	1704.0	1693.1	1655.1	1653.3
10°	1695.0	1700.4	1713.1	1702.2	1682.3	1691.3	1711.3	1700.4	1685.9	1640.6	1631.6
12.5°	1687.7	1691.3	1695.0	1649.7	1617.1	1638.8	1695.0	1691.3	1675.0	1624.3	1608.0
15°	1675.0	1680.5	1666.0	1600.8	1566.4	1588.1	1662.4	1676.9	1662.4	1600.8	1580.9
17.5°	1660.6	1666.0	1635.2	1562.8	1537.4	1548.3	1620.7	1658.7	1646.1	1579.1	1553.7
20°	1644.3	1649.7	1600.8	1522.9	1506.6	1515.7	1580.9	1638.8	1628.0	1553.7	1524.7
22.5°	1620.7	1629.8	1561.0	1495.8	1494.0	1494.0	1542.8	1615.3	1604.4	1522.9	1492.1
25°	1595.4	1604.4	1521.1	1470.4	1470.4	1470.4	1508.4	1584.5	1577.3	1490.3	1459.5
27.5°	1568.2	1577.3	1484.9	1452.3	1457.7	1448.7	1479.5	1550.1	1550.1	1457.7	1425.1
30°	1537.4	1546.5	1448.7	1423.3	1427.0	1423.3	1446.9	1513.9	1513.9	1419.7	1385.3
32.5°	1501.2	1510.3	1408.8	1388.9	1396.2	1392.5	1416.1	1477.7	1479.5	1379.9	1338.2
35°	1461.4	1472.2	1367.2	1356.3	1363.6	1358.1	1374.4	1439.6	1439.6	1336.4	1283.9
37.5°	1419.7	1430.6	1323.7	1320.1	1327.4	1321.9	1334.6	1399.8	1396.2	1291.1	1225.9
40°	1374.4	1387.1	1278.5	1278.5	1287.5	1283.9	1294.8	1358.1	1350.9	1245.9	1166.2
42.5°	1323.7	1340.0	1233.2	1235.0	1224.1	1238.6	1249.5	1314.7	1300.2	1195.2	1101.0
45°	1271.2	1291.1	1189.7	1157.1	956.1	1144.5	1202.4	1271.2	1249.5	1144.5	1037.6
47.5°	1215.1	1240.4	1139.0	1019.5	769.6	1003.2	1151.7	1216.9	1191.5	1090.1	976.1
50°	1157.1	1186.1	1086.5	901.8	675.4	883.7	1095.6	1162.6	1133.6	1034.0	905.4
52.5°	1093.8	1126.4	1035.8	798.6	612.1	782.3	1037.6	1110.1	1073.8	974.2	847.5
55°	1030.4	1064.8	967.0	709.9	557.7	695.4	970.6	1043.1	1010.5	912.7	784.1
57.5°	965.2	999.6	898.2	632.0	510.7	617.5	894.6	981.5	945.3	849.3	720.7
60°	896.4	930.8	823.9	561.4	458.1	550.5	816.7	912.7	876.5	784.1	659.2
62.5°	823.9	858.3	753.3	496.2	414.7	487.1	731.6	845.7	805.8	715.3	595.8
65°	749.7	775.0	670.0	434.6	371.2	427.4	655.5	762.4	733.4	642.9	536.0
67.5°	671.8	697.2	597.6	380.3	329.6	373.0	581.3	688.1	655.5	572.2	476.3
70°	590.3	612.1	521.5	327.8	289.7	322.3	503.4	604.8	575.9	498.0	412.9
72.5°	507.0	527.0	440.0	278.9	248.1	275.2	421.9	521.5	492.6	420.1	354.9
75°	418.3	438.2	364.0	230.0	206.4	226.4	347.7	432.8	405.6	345.9	295.2
77.5°	335.0	358.5	287.9	181.1	164.8	177.5	273.4	349.5	322.3	277.1	237.2
80°	255.3	275.2	213.7	137.6	126.8	135.8	199.2	266.2	244.5	213.7	184.7
82.5°	184.7	195.6	146.7	101.4	96.0	99.6	135.8	188.3	177.5	153.9	135.8
85°	124.9	123.1	90.5	70.6	68.8	70.6	81.5	114.1	112.3	103.2	86.9
87.5°	52.5	48.9	41.6	29.0	25.4	27.2	32.6	43.5	41.6	43.5	41.6
90°	1.8	18.1	29.0	36.2	38.0	36.2	29.0	18.1	1.8	19.9	32.6
92.5°	3.6	23.5	34.4	39.8	43.5	39.8	32.6	23.5	3.6	30.8	32.6
95°	10.9	32.6	39.8	48.9	52.5	48.9	39.8	30.8	10.9	27.2	48.9
97.5°	21.7	41.6	47.1	54.3	56.1	52.5	45.3	41.6	19.9	48.9	50.7
100°	32.6	52.5	61.6	61.6	63.4	61.6	59.8	50.7	30.8	54.3	61.6
102.5°	45.3	59.8	70.6	76.1	76.1	76.1	70.6	59.8	41.6	67.0	85.1
105°	57.9	65.2	77.9	85.1	88.7	85.1	77.9	67.0	56.1	77.9	90.5
107.5°	72.4	70.6	85.1	92.4	96.0	92.4	85.1	72.4	68.8	86.9	101.4
110°	86.9	77.9	92.4	99.6	101.4	99.6	92.4	77.9	83.3	97.8	112.3



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CATALOG NUMBER: 4WSL-LD2-55-UPL8-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°	99.6	83.3	99.6	106.8	108.7	106.8	99.6	85.1	96.0	105.0	123.1
115°	112.3	88.7	103.2	112.3	114.1	112.3	103.2	90.5	110.5	114.1	132.2
117.5°	124.9	96.0	106.8	117.7	119.5	117.7	108.7	97.8	123.1	124.9	141.2
120°	137.6	105.0	112.3	121.3	124.9	123.1	112.3	106.8	134.0	134.0	148.5
122.5°	148.5	112.3	117.7	124.9	128.6	124.9	117.7	115.9	146.7	143.1	157.5
125°	161.2	119.5	121.3	128.6	130.4	128.6	123.1	121.3	157.5	150.3	163.0
127.5°	170.2	128.6	124.9	132.2	134.0	132.2	126.8	130.4	168.4	164.8	168.4
130°	181.1	137.6	128.6	135.8	137.6	137.6	128.6	141.2	177.5	175.7	175.7
132.5°	190.1	146.7	132.2	139.4	141.2	141.2	134.0	148.5	186.5	184.7	181.1
135°	197.4	159.4	139.4	139.4	143.1	143.1	141.2	161.2	195.6	193.8	190.1
137.5°	204.6	170.2	144.9	141.2	143.1	143.1	148.5	172.0	202.8	202.8	195.6
140°	211.9	181.1	148.5	144.9	144.9	148.5	153.9	182.9	210.1	210.1	197.4
142.5°	219.1	190.1	153.9	150.3	146.7	153.9	159.4	193.8	215.5	217.3	202.8
145°	222.7	199.2	161.2	155.7	152.1	161.2	168.4	202.8	220.9	224.5	213.7
147.5°	228.2	208.2	170.2	159.4	159.4	164.8	175.7	210.1	226.4	230.0	219.1
150°	233.6	215.5	177.5	164.8	161.2	170.2	182.9	217.3	231.8	235.4	226.4
152.5°	237.2	222.7	188.3	172.0	168.4	179.3	195.6	222.7	235.4	239.0	233.6
155°	240.8	228.2	201.0	179.3	177.5	186.5	206.4	228.2	239.0	242.7	239.0
157.5°	244.5	233.6	210.1	190.1	182.9	197.4	215.5	235.4	242.7	246.3	244.5
160°	246.3	237.2	220.9	201.0	197.4	210.1	224.5	237.2	244.5	249.9	248.1
162.5°	249.9	240.8	228.2	213.7	210.1	220.9	231.8	242.7	248.1	251.7	251.7
165°	251.7	244.5	235.4	224.5	220.9	231.8	237.2	246.3	249.9	251.7	253.5
167.5°	251.7	248.1	240.8	231.8	230.0	239.0	244.5	249.9	251.7	251.7	255.3
170°	253.5	249.9	244.5	239.0	237.2	244.5	246.3	251.7	253.5	251.7	257.1
172.5°	253.5	251.7	248.1	242.7	239.0	248.1	249.9	251.7	253.5	251.7	255.3
175°	255.3	251.7	251.7	248.1	242.7	251.7	251.7	251.7	255.3	251.7	253.5
177.5°	255.3	251.7	251.7	249.9	246.3	251.7	251.7	251.7	255.3	251.7	253.5
180°	251.7	251.7	251.7	251.7	251.7	251.7	251.7	251.7	251.7	251.7	251.7



TEST NUMBER: P192461

CATALOG NUMBER: 4WSL-LD2-55-UPL8-UNV-L830-CD1-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1691.3	1691.3	1691.3	1691.3	1691.3	1691.3
2.5°	1678.7	1666.0	1669.6	1684.1	1678.7	1704.0
5°	1666.0	1658.7	1658.7	1675.0	1673.2	1704.0
7.5°	1646.1	1638.8	1642.4	1660.6	1664.2	1702.2
10°	1622.5	1613.5	1617.1	1642.4	1651.5	1695.0
12.5°	1597.2	1589.9	1593.6	1622.5	1635.2	1687.7
15°	1568.2	1557.3	1568.2	1599.0	1615.3	1675.0
17.5°	1535.6	1521.1	1533.8	1573.6	1593.6	1660.6
20°	1503.0	1490.3	1497.6	1541.0	1570.0	1644.3
22.5°	1470.4	1452.3	1459.5	1504.8	1541.0	1620.7
25°	1432.4	1405.2	1419.7	1468.6	1510.3	1595.4
27.5°	1381.7	1340.0	1370.8	1432.4	1474.0	1568.2
30°	1314.7	1260.4	1305.6	1388.9	1436.0	1537.4
32.5°	1240.4	1182.5	1233.2	1340.0	1396.2	1501.2
35°	1166.2	1113.7	1158.9	1285.7	1354.5	1461.4
37.5°	1095.6	1050.3	1091.9	1227.8	1311.1	1419.7
40°	1028.6	983.3	1026.8	1164.4	1264.0	1374.4
42.5°	961.6	919.9	961.6	1097.4	1215.1	1323.7
45°	894.6	829.4	890.9	1032.2	1162.6	1271.2
47.5°	822.1	746.1	816.7	961.6	1106.4	1215.1
50°	753.3	688.1	749.7	896.4	1048.5	1157.1
52.5°	693.6	641.0	689.9	829.4	988.7	1093.8
55°	637.4	595.8	637.4	764.2	925.3	1030.4
57.5°	586.7	559.6	588.5	708.0	860.2	965.2
60°	543.3	527.0	545.1	639.2	795.0	896.4
62.5°	501.6	499.8	503.4	584.9	726.2	823.9
65°	458.1	467.2	458.1	527.0	657.3	749.7
67.5°	414.7	432.8	418.3	469.0	583.1	671.8
70°	374.8	394.8	374.8	409.3	508.9	590.3
72.5°	329.6	354.9	329.6	353.1	431.0	507.0
75°	286.1	315.1	287.9	295.2	356.7	418.3
77.5°	239.0	266.2	244.5	239.0	287.9	335.0
80°	190.1	201.0	190.1	188.3	222.7	255.3
82.5°	132.2	141.2	132.2	137.6	163.0	184.7
85°	86.9	90.5	86.9	88.7	108.7	124.9
87.5°	36.2	36.2	36.2	45.3	48.9	52.5
90°	39.8	43.5	39.8	32.6	19.9	1.8
92.5°	41.6	45.3	41.6	36.2	23.5	3.6
95°	74.2	83.3	70.6	45.3	38.0	10.9
97.5°	59.8	65.2	61.6	52.5	47.1	21.7
100°	70.6	76.1	70.6	74.2	57.9	32.6
102.5°	83.3	86.9	85.1	86.9	70.6	45.3
105°	108.7	112.3	108.7	94.2	81.5	57.9
107.5°	115.9	124.9	117.7	105.0	92.4	72.4
110°	124.9	132.2	126.8	115.9	101.4	86.9



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	134.0	143.1	137.6	128.6	108.7	99.6
115°	144.9	152.1	148.5	137.6	119.5	112.3
117.5°	155.7	161.2	157.5	144.9	130.4	124.9
120°	164.8	172.0	168.4	153.9	139.4	137.6
122.5°	172.0	179.3	175.7	163.0	148.5	148.5
125°	179.3	186.5	182.9	170.2	155.7	161.2
127.5°	184.7	193.8	190.1	175.7	172.0	170.2
130°	192.0	197.4	195.6	181.1	181.1	181.1
132.5°	195.6	202.8	199.2	188.3	192.0	190.1
135°	197.4	206.4	202.8	197.4	201.0	197.4
137.5°	201.0	208.2	206.4	202.8	210.1	204.6
140°	206.4	210.1	211.9	206.4	217.3	211.9
142.5°	211.9	213.7	217.3	211.9	224.5	219.1
145°	215.5	219.1	222.7	222.7	230.0	222.7
147.5°	215.5	220.9	220.9	226.4	237.2	228.2
150°	220.9	217.3	228.2	233.6	240.8	233.6
152.5°	228.2	226.4	235.4	240.8	244.5	237.2
155°	230.0	231.8	237.2	246.3	248.1	240.8
157.5°	237.2	235.4	244.5	251.7	251.7	244.5
160°	242.7	242.7	251.7	255.3	253.5	246.3
162.5°	248.1	248.1	257.1	257.1	255.3	249.9
165°	251.7	251.7	260.8	259.0	255.3	251.7
167.5°	253.5	255.3	262.6	260.8	255.3	251.7
170°	255.3	255.3	262.6	259.0	255.3	253.5
172.5°	255.3	253.5	260.8	257.1	253.5	253.5
175°	253.5	249.9	257.1	253.5	253.5	255.3
177.5°	251.7	246.3	251.7	251.7	253.5	255.3
180°	251.7	251.7	251.7	251.7	251.7	251.7

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