

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: FAIL-SAFE

Report Number: P392591

Luminaire Tested: **MWL-3-30-57-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392591
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-13 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-3-30-57-UNV-L940-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

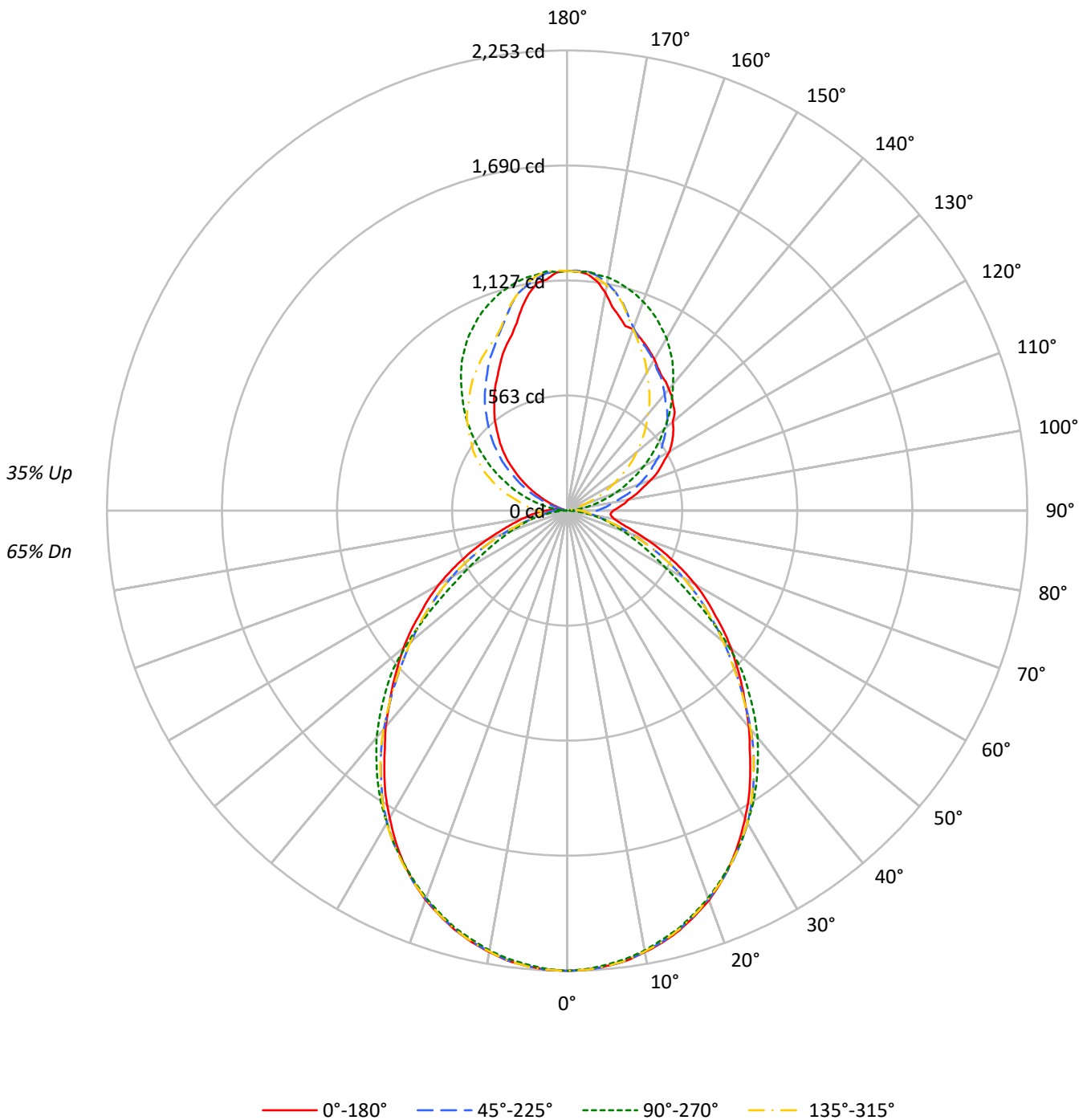
Lumens per Lamp: N/A
Luminaire Lumens: 8038.8 lumens
Efficiency: N/A
Efficacy: 81.5 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 98.576
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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	101	97	93	90	95	91	88	85	81	78	76	71	69	67	62	61	59	55
2	93	85	79	74	87	80	75	70	71	67	64	63	60	57	55	53	51	47
3	85	75	68	62	80	71	65	59	63	58	54	56	52	49	49	46	44	40
4	78	67	59	53	73	63	56	51	57	51	46	50	46	42	44	41	38	35
5	72	60	52	46	67	57	50	44	51	45	40	45	41	37	40	36	33	31
6	66	54	46	40	62	51	44	39	46	40	36	41	36	33	37	33	30	27
7	61	49	41	35	58	47	39	34	42	36	32	38	33	29	34	30	27	24
8	57	45	37	32	54	43	35	30	38	32	28	35	30	26	31	27	24	22
9	53	41	33	28	50	39	32	27	35	30	25	32	27	24	29	25	22	20
10	50	38	30	26	47	36	29	25	33	27	23	30	25	21	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	19404	19404	19404	19404
5°	19114	17737	19114	17737
10°	18735	16256	18735	16256
15°	18286	14877	18264	14877
20°	17715	13561	17693	13561
25°	16969	12312	16946	12312
30°	16029	11128	15998	11128
35°	14972	10002	14948	10002
40°	13945	8868	13912	8868
45°	12931	7658	12904	7658
50°	12047	6302	12019	6302
55°	11010	4731	10988	4731
60°	10076	3473	10065	3473
65°	8836	2614	8836	2614
70°	7585	1958	7599	1958
75°	6464	1409	6519	1409
80°	6458	900	6022	900
85°	8122	369	6067	369



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.2	2.6
10°-20°	597.3	7.4
20°-30°	875.5	10.9
30°-40°	992.8	12.4
40°-50°	933.4	11.6
50°-60°	740.9	9.2
60°-70°	481.9	6.0
70°-80°	245.8	3.1
80°-90°	124.7	1.6
90°-100°	118.3	1.5
100°-110°	185.6	2.3
110°-120°	313.2	3.9
120°-130°	424.7	5.3
130°-140°	484.2	6.0
140°-150°	482.7	6.0
150°-160°	420.0	5.2
160°-170°	295.4	3.7
170°-180°	110.0	1.4
0°-30°	1685.0	21.0
0°-40°	2677.8	33.3
0°-60°	4352.2	54.1
0°-90°	5204.6	64.7
90°-120°	617.1	7.7
90°-150°	2008.7	25.0
90°-180°	2834.0	35.3
0°-180°	8038.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2253	2253	2253	2253	2253	
5°	2238	2232	2238	2232	2238	212
15°	2128	2116	2125	2116	2128	599
25°	1902	1900	1899	1900	1902	873
35°	1563	1618	1560	1618	1563	977
45°	1209	1258	1207	1258	1209	934
55°	879	765	877	765	879	790
65°	563	403	563	403	563	561
75°	295	200	298	200	295	324
85°	213	46	159	46	213	179
90°	226	2	102	2	226	125
95°	263	34	67	34	263	224
105°	366	165	18	165	366	388
115°	506	335	119	335	506	502
125°	632	526	289	526	632	565
135°	734	718	463	718	734	567
145°	806	897	622	897	806	508
155°	900	1037	781	1037	900	415
165°	984	1129	952	1129	984	279
175°	1162	1175	1137	1175	1162	108
180°	1173	1173	1173	1173	1173	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2253.4	2253.4	2253.4	2253.4	2253.4	2253.4	2253.4	2253.4	2253.4	2253.4	2253.4
2.5°	2250.0	2250.7	2250.6	2247.8	2246.0	2247.0	2250.6	2250.7	2250.8	2250.7	2250.6
5°	2238.1	2240.7	2239.7	2235.1	2231.5	2235.1	2238.8	2240.7	2238.1	2240.7	2238.8
7.5°	2223.4	2222.4	2222.4	2216.0	2213.2	2215.2	2221.5	2221.5	2223.4	2221.5	2221.5
10°	2195.1	2196.0	2192.4	2189.6	2186.9	2188.7	2191.5	2194.3	2195.1	2194.3	2191.5
12.5°	2165.0	2163.2	2161.4	2156.8	2151.5	2156.8	2161.4	2161.5	2163.2	2161.5	2161.4
15°	2127.5	2121.3	2122.2	2119.5	2115.9	2118.7	2121.4	2119.6	2125.0	2119.6	2121.4
17.5°	2080.1	2077.6	2075.8	2074.0	2068.6	2074.0	2074.9	2076.7	2077.6	2076.7	2074.9
20°	2030.9	2027.4	2023.8	2023.9	2018.5	2023.1	2023.0	2025.6	2028.4	2025.6	2023.0
22.5°	1969.1	1969.1	1968.2	1966.5	1961.1	1965.7	1967.4	1967.3	1967.3	1967.3	1967.4
25°	1901.6	1902.6	1905.4	1906.4	1900.1	1905.6	1903.7	1900.0	1899.1	1900.0	1903.7
27.5°	1824.2	1830.6	1839.8	1841.6	1838.1	1840.8	1838.1	1828.0	1821.7	1828.0	1838.1
30°	1741.3	1746.8	1766.8	1776.0	1765.3	1774.3	1764.3	1744.2	1737.9	1744.2	1764.3
32.5°	1657.5	1659.3	1683.9	1697.7	1695.9	1695.9	1681.3	1655.9	1654.1	1655.9	1681.3
35°	1562.8	1564.6	1592.0	1617.5	1617.7	1614.9	1589.4	1562.1	1560.3	1562.1	1589.4
37.5°	1469.0	1470.8	1499.9	1528.2	1533.7	1525.6	1497.4	1468.2	1466.4	1468.2	1497.4
40°	1385.1	1375.1	1399.7	1433.4	1450.8	1431.8	1396.4	1371.8	1381.8	1371.8	1396.4
42.5°	1292.2	1279.5	1291.3	1335.0	1356.1	1333.4	1288.8	1276.1	1288.8	1276.1	1288.8
45°	1209.3	1187.4	1191.1	1230.3	1257.7	1228.6	1187.8	1185.0	1206.8	1185.0	1187.8
47.5°	1125.5	1102.7	1091.8	1126.5	1161.1	1125.7	1088.5	1100.2	1123.0	1100.2	1088.5
50°	1048.1	1020.8	998.9	1013.6	1031.0	1012.0	995.7	1017.5	1045.7	1017.5	995.7
52.5°	965.2	942.4	909.7	911.6	898.9	909.9	907.3	939.2	962.8	939.2	907.3
55°	878.8	865.1	823.2	801.4	765.1	799.8	820.7	862.6	877.1	862.6	820.7
57.5°	805.0	789.5	739.4	692.1	645.7	690.4	736.9	787.0	803.3	787.0	736.9
60°	725.8	713.0	656.5	583.7	550.9	582.9	654.9	711.4	725.0	711.4	654.9
62.5°	643.8	634.7	572.7	489.9	471.8	489.1	571.1	633.0	643.0	633.0	571.1
65°	562.8	550.9	486.3	410.6	403.4	409.8	485.4	550.1	562.8	550.1	485.4
67.5°	489.0	470.8	410.6	342.4	341.5	342.4	409.8	469.9	489.0	469.9	409.8
70°	416.2	390.7	336.0	285.0	291.4	285.0	336.0	391.5	417.0	391.5	336.0
72.5°	349.7	319.6	271.3	232.1	240.4	231.3	271.3	320.4	351.3	320.4	271.3
75°	295.0	254.0	214.0	185.8	200.4	185.8	214.8	254.8	297.5	254.8	214.8
77.5°	257.9	211.7	165.7	143.0	160.3	143.0	166.5	209.3	254.6	209.3	166.5
80°	232.8	186.0	133.6	108.3	121.1	108.3	131.9	172.7	217.1	172.7	131.9
82.5°	220.8	175.0	118.9	78.3	83.7	78.3	109.0	145.2	189.3	145.2	109.0
85°	212.7	178.9	119.8	60.7	46.4	59.0	95.8	128.5	158.9	128.5	95.8
87.5°	216.9	191.3	129.2	60.4	13.7	48.7	82.1	111.9	131.7	111.9	82.1
90°	226.4	208.2	146.2	65.0	1.7	33.5	64.3	91.5	102.4	91.5	64.3
92.5°	244.6	230.1	165.9	77.0	14.1	19.9	52.6	77.1	82.5	77.1	52.6
95°	263.2	254.7	188.8	90.6	34.0	7.8	39.8	62.7	67.1	62.7	39.8
97.5°	286.9	279.1	208.7	117.6	59.7	11.8	25.9	51.6	55.2	51.6	25.9
100°	302.8	295.6	234.2	153.2	92.0	29.2	14.9	35.8	42.2	35.8	14.9
102.5°	336.2	321.7	261.7	187.1	125.9	53.1	15.1	24.0	28.5	24.0	15.1
105°	365.9	349.8	302.2	222.7	164.8	85.4	35.0	17.2	17.7	17.2	35.0
107.5°	396.0	385.9	338.6	259.1	206.2	122.6	63.1	35.2	25.4	35.2	63.1
110°	436.4	424.7	374.2	295.5	249.2	162.3	95.4	60.7	49.3	60.7	95.4



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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°	475.2	466.9	407.3	333.6	293.8	205.4	135.1	93.8	82.3	93.8	135.1
115°	505.8	500.8	446.3	370.0	335.2	255.0	179.9	132.7	118.7	132.7	179.9
117.5°	538.1	536.4	474.3	406.4	385.8	298.8	220.4	171.6	156.8	171.6	220.4
120°	578.6	571.2	513.2	442.8	432.9	345.2	265.0	216.2	201.4	216.2	265.0
122.5°	606.8	601.8	546.3	477.6	477.6	392.3	308.0	259.3	243.6	259.3	308.0
125°	632.4	629.8	571.2	512.3	525.5	436.2	356.1	306.4	289.1	306.4	356.1
127.5°	655.6	658.1	603.4	550.4	574.4	480.9	403.2	349.5	330.5	349.5	403.2
130°	675.5	683.7	634.0	586.0	620.6	530.6	445.3	391.7	379.3	391.7	445.3
132.5°	714.3	709.4	665.5	621.6	671.2	575.3	490.1	433.9	419.8	433.9	490.1
135°	734.2	735.8	692.7	652.2	717.6	619.9	532.3	476.9	462.8	476.9	532.3
137.5°	758.1	753.2	714.2	689.4	760.6	662.9	573.6	522.4	500.1	522.4	573.6
140°	775.5	774.7	742.4	722.5	806.9	705.1	615.8	563.8	543.1	563.8	615.8
142.5°	793.8	798.7	771.4	758.9	853.2	749.8	662.2	604.3	584.5	604.3	662.2
145°	806.1	816.9	799.5	804.4	897.1	799.5	701.9	643.1	621.6	643.1	701.9
147.5°	826.8	840.9	819.3	836.7	935.2	843.3	740.7	683.7	664.6	683.7	740.7
150°	855.0	861.5	848.2	882.2	974.0	893.0	781.3	722.6	703.6	722.6	781.3
152.5°	877.3	885.6	870.6	930.1	1004.6	936.8	825.9	760.7	738.4	760.7	825.9
155°	900.4	903.7	893.0	977.3	1036.8	980.6	861.4	802.9	781.4	802.9	861.4
157.5°	921.9	928.6	916.1	1012.9	1064.9	1018.7	902.0	845.0	826.0	845.0	902.0
160°	945.1	944.2	950.8	1054.2	1088.0	1051.8	945.1	890.4	864.9	890.4	945.1
162.5°	947.6	962.4	998.0	1084.0	1111.3	1081.6	991.4	923.5	901.3	923.5	991.4
165°	984.0	997.2	1051.9	1109.6	1128.7	1107.2	1049.3	978.2	951.7	978.2	1049.3
167.5°	1021.2	1051.0	1094.8	1138.6	1145.3	1131.1	1093.1	1043.5	1018.7	1043.5	1093.1
170°	1082.2	1108.7	1131.1	1149.4	1158.5	1150.2	1120.4	1095.5	1078.8	1095.5	1120.4
172.5°	1131.0	1148.4	1157.6	1169.2	1163.4	1160.1	1145.3	1132.8	1123.6	1132.8	1145.3
175°	1161.6	1165.8	1174.1	1170.0	1175.0	1165.9	1166.8	1171.6	1136.8	1171.6	1166.8
177.5°	1172.3	1179.1	1175.9	1168.4	1169.2	1167.6	1170.9	1173.2	1167.4	1173.2	1170.9
180°	1173.2	1173.2	1173.2	1173.2	1173.2	1173.2	1173.2	1173.2	1173.2	1173.2	1173.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2253.4	2253.4	2253.4	2253.4	2253.4	2253.4
2.5°	2247.0	2246.0	2247.8	2250.6	2250.7	2250.0
5°	2235.1	2231.5	2235.1	2239.7	2240.7	2238.1
7.5°	2215.2	2213.2	2216.0	2222.4	2222.4	2223.4
10°	2188.7	2186.9	2189.6	2192.4	2196.0	2195.1
12.5°	2156.8	2151.5	2156.8	2161.4	2163.2	2165.0
15°	2118.7	2115.9	2119.5	2122.2	2121.3	2127.5
17.5°	2074.0	2068.6	2074.0	2075.8	2077.6	2080.1
20°	2023.1	2018.5	2023.9	2023.8	2027.4	2030.9
22.5°	1965.7	1961.1	1966.5	1968.2	1969.1	1969.1
25°	1905.6	1900.1	1906.4	1905.4	1902.6	1901.6
27.5°	1840.8	1838.1	1841.6	1839.8	1830.6	1824.2
30°	1774.3	1765.3	1776.0	1766.8	1746.8	1741.3
32.5°	1695.9	1695.9	1697.7	1683.9	1659.3	1657.5
35°	1614.9	1617.7	1617.5	1592.0	1564.6	1562.8
37.5°	1525.6	1533.7	1528.2	1499.9	1470.8	1469.0
40°	1431.8	1450.8	1433.4	1399.7	1375.1	1385.1
42.5°	1333.4	1356.1	1335.0	1291.3	1279.5	1292.2
45°	1228.6	1257.7	1230.3	1191.1	1187.4	1209.3
47.5°	1125.7	1161.1	1126.5	1091.8	1102.7	1125.5
50°	1012.0	1031.0	1013.6	998.9	1020.8	1048.1
52.5°	909.9	898.9	911.6	909.7	942.4	965.2
55°	799.8	765.1	801.4	823.2	865.1	878.8
57.5°	690.4	645.7	692.1	739.4	789.5	805.0
60°	582.9	550.9	583.7	656.5	713.0	725.8
62.5°	489.1	471.8	489.9	572.7	634.7	643.8
65°	409.8	403.4	410.6	486.3	550.9	562.8
67.5°	342.4	341.5	342.4	410.6	470.8	489.0
70°	285.0	291.4	285.0	336.0	390.7	416.2
72.5°	231.3	240.4	232.1	271.3	319.6	349.7
75°	185.8	200.4	185.8	214.0	254.0	295.0
77.5°	143.0	160.3	143.0	165.7	211.7	257.9
80°	108.3	121.1	108.3	133.6	186.0	232.8
82.5°	78.3	83.7	78.3	118.9	175.0	220.8
85°	59.0	46.4	60.7	119.8	178.9	212.7
87.5°	48.7	13.7	60.4	129.2	191.3	216.9
90°	33.5	1.7	65.0	146.2	208.2	226.4
92.5°	19.9	14.1	77.0	165.9	230.1	244.6
95°	7.8	34.0	90.6	188.8	254.7	263.2
97.5°	11.8	59.7	117.6	208.7	279.1	286.9
100°	29.2	92.0	153.2	234.2	295.6	302.8
102.5°	53.1	125.9	187.1	261.7	321.7	336.2
105°	85.4	164.8	222.7	302.2	349.8	365.9
107.5°	122.6	206.2	259.1	338.6	385.9	396.0
110°	162.3	249.2	295.5	374.2	424.7	436.4



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	205.4	293.8	333.6	407.3	466.9	475.2
115°	255.0	335.2	370.0	446.3	500.8	505.8
117.5°	298.8	385.8	406.4	474.3	536.4	538.1
120°	345.2	432.9	442.8	513.2	571.2	578.6
122.5°	392.3	477.6	477.6	546.3	601.8	606.8
125°	436.2	525.5	512.3	571.2	629.8	632.4
127.5°	480.9	574.4	550.4	603.4	658.1	655.6
130°	530.6	620.6	586.0	634.0	683.7	675.5
132.5°	575.3	671.2	621.6	665.5	709.4	714.3
135°	619.9	717.6	652.2	692.7	735.8	734.2
137.5°	662.9	760.6	689.4	714.2	753.2	758.1
140°	705.1	806.9	722.5	742.4	774.7	775.5
142.5°	749.8	853.2	758.9	771.4	798.7	793.8
145°	799.5	897.1	804.4	799.5	816.9	806.1
147.5°	843.3	935.2	836.7	819.3	840.9	826.8
150°	893.0	974.0	882.2	848.2	861.5	855.0
152.5°	936.8	1004.6	930.1	870.6	885.6	877.3
155°	980.6	1036.8	977.3	893.0	903.7	900.4
157.5°	1018.7	1064.9	1012.9	916.1	928.6	921.9
160°	1051.8	1088.0	1054.2	950.8	944.2	945.1
162.5°	1081.6	1111.3	1084.0	998.0	962.4	947.6
165°	1107.2	1128.7	1109.6	1051.9	997.2	984.0
167.5°	1131.1	1145.3	1138.6	1094.8	1051.0	1021.2
170°	1150.2	1158.5	1149.4	1131.1	1108.7	1082.2
172.5°	1160.1	1163.4	1169.2	1157.6	1148.4	1131.0
175°	1165.9	1175.0	1170.0	1174.1	1165.8	1161.6
177.5°	1167.6	1169.2	1168.4	1175.9	1179.1	1172.3
180°	1173.2	1173.2	1173.2	1173.2	1173.2	1173.2

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