

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: P392575

Luminaire Tested: **MWL-3-27-57-UNV-L835-EDD**

Issue Date: 3/12/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P392575  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &  
Test Lab: INNOVATION CENTER  
Issue Date: 3/12/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-3-27-57-UNV-L835-EDD  
Description: MWL 3FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

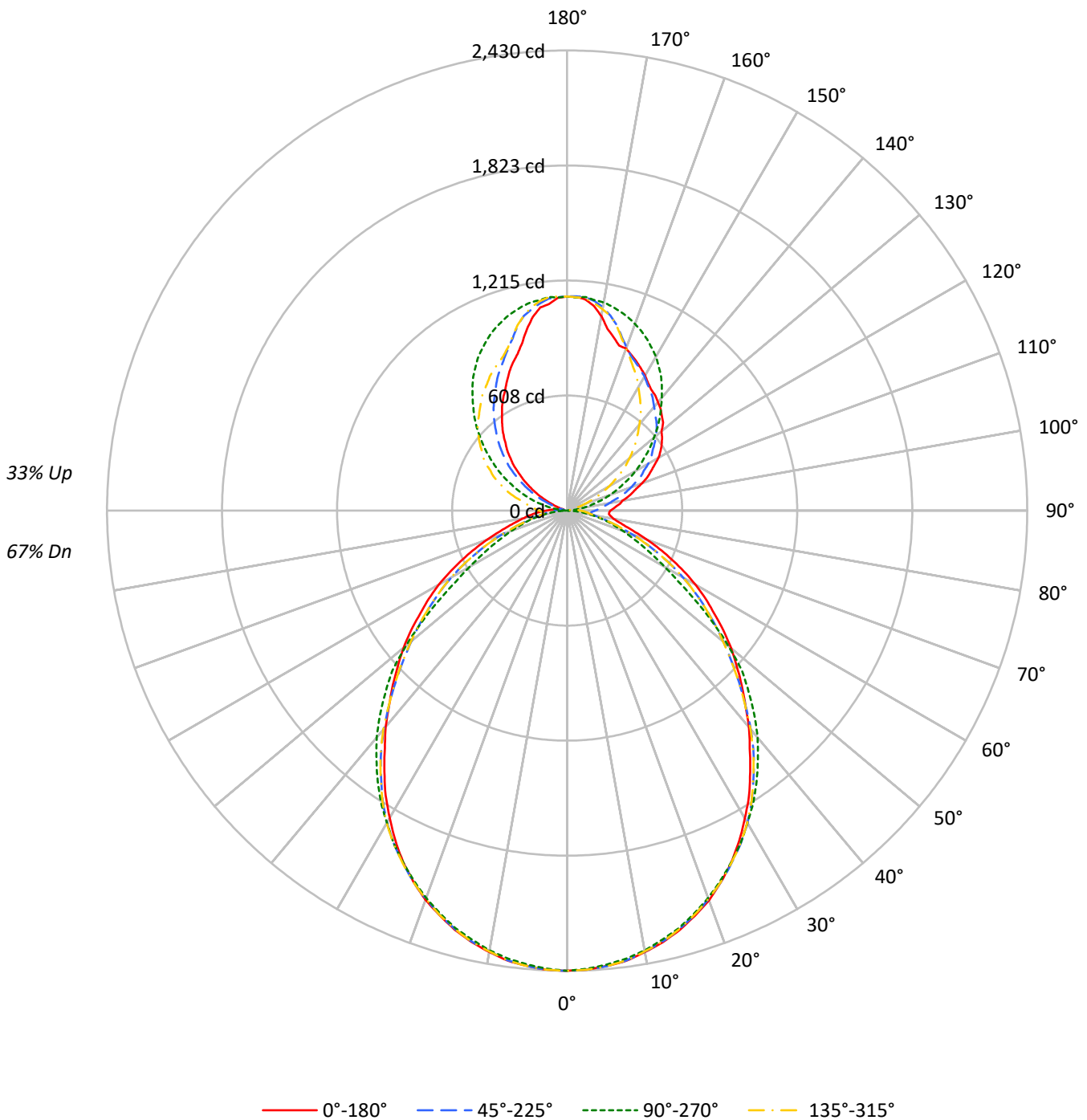
Lumens per Lamp: N/A  
Luminaire Lumens: 8345.0 lumens  
Efficiency: N/A  
Efficacy: 88.8 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')  
CIE Type: Semi-Direct

Input Watts (W): 94  
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: P392575  
CATALOG NUMBER: MWL-3-27-57-UNV-L835-EDD

### 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	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	102	98	94	90	96	92	89	86	82	79	77	73	71	69	64	63	61	57
2	93	86	80	74	88	81	76	71	72	68	65	64	61	58	57	55	52	49
3	85	76	69	63	80	72	65	60	64	59	55	57	53	50	51	48	45	42
4	78	68	60	54	74	64	57	51	58	52	47	51	47	43	46	42	39	36
5	72	61	52	46	68	57	50	45	52	46	41	46	42	38	41	38	35	32
6	67	55	46	41	63	52	44	39	47	41	36	42	37	33	38	34	31	28
7	62	49	41	36	58	47	40	35	43	37	32	39	34	30	35	31	27	25
8	58	45	37	32	54	43	36	31	39	33	29	35	30	27	32	28	25	23
9	54	41	34	29	51	40	33	28	36	30	26	33	28	24	30	25	22	20
10	50	38	31	26	48	36	30	25	33	28	24	30	25	22	27	23	20	19

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	20926	20926	20926	20926
5°	20614	19127	20614	19127
10°	20206	17530	20206	17530
15°	19717	16045	19697	16045
20°	19102	14626	19081	14626
25°	18297	13278	18277	13278
30°	17283	12001	17253	12001
35°	16144	10787	16121	10787
40°	15036	9563	15003	9563
45°	13943	8258	13918	8258
50°	12989	6795	12961	6795
55°	11870	5100	11849	5100
60°	10863	3744	10852	3744
65°	9526	2819	9526	2819
70°	8177	2110	8191	2110
75°	6968	1519	7023	1519
80°	6893	970	6474	970
85°	8458	397	6484	397



TEST NUMBER: P392575

CATALOG NUMBER: MWL-3-27-57-UNV-L835-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	228.8	2.7
10°-20°	644.2	7.7
20°-30°	944.1	11.3
30°-40°	1070.7	12.8
40°-50°	1006.6	12.1
50°-60°	798.9	9.6
60°-70°	519.5	6.2
70°-80°	264.9	3.2
80°-90°	132.0	1.6
90°-100°	118.3	1.4
100°-110°	179.4	2.2
110°-120°	301.9	3.6
120°-130°	409.3	4.9
130°-140°	466.5	5.6
140°-150°	465.0	5.6
150°-160°	404.6	4.8
160°-170°	284.5	3.4
170°-180°	105.9	1.3
0°-30°	1817.2	21.8
0°-40°	2887.8	34.6
0°-60°	4693.3	56.2
0°-90°	5609.6	67.2
90°-120°	599.6	7.2
90°-150°	1940.3	23.3
90°-180°	2735.0	32.8
0°-180°	8345.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2430	2430	2430	2430	2430	
5°	2414	2406	2414	2406	2414	229
15°	2294	2282	2292	2282	2294	646
25°	2050	2049	2048	2049	2050	942
35°	1685	1745	1683	1745	1685	1054
45°	1304	1356	1302	1356	1304	1007
55°	948	825	946	825	948	852
65°	607	435	607	435	607	604
75°	318	216	320	216	318	349
85°	222	50	170	50	222	188
90°	229	2	110	2	229	127
95°	261	33	72	33	261	221
105°	354	159	18	159	354	375
115°	488	323	115	323	488	484
125°	609	506	279	506	609	544
135°	707	691	446	691	707	546
145°	777	864	599	864	777	490
155°	867	999	753	999	867	400
165°	948	1087	917	1087	948	269
175°	1119	1132	1095	1132	1119	104
180°	1130	1130	1130	1130	1130	



TEST NUMBER: P392575

CATALOG NUMBER: MWL-3-27-57-UNV-L835-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1
2.5°	2426.6	2427.3	2426.9	2423.8	2421.8	2423.0	2426.9	2427.3	2427.5	2427.3	2426.9
5°	2413.8	2416.5	2415.1	2410.2	2406.3	2410.2	2414.3	2416.5	2413.8	2416.5	2414.3
7.5°	2398.0	2396.6	2396.6	2389.6	2386.6	2388.8	2395.9	2395.9	2398.0	2395.9	2395.9
10°	2367.4	2368.1	2364.2	2361.3	2358.3	2360.5	2363.4	2366.6	2367.4	2366.6	2363.4
12.5°	2334.5	2332.8	2331.0	2326.1	2320.4	2326.1	2331.0	2331.2	2333.0	2331.2	2331.0
15°	2294.0	2287.6	2288.7	2285.8	2282.0	2285.0	2287.9	2286.0	2291.7	2286.0	2287.9
17.5°	2242.9	2240.4	2238.6	2236.8	2230.9	2236.8	2237.8	2239.6	2240.6	2239.6	2237.8
20°	2189.9	2186.1	2182.6	2182.8	2177.0	2181.9	2181.8	2184.6	2187.5	2184.6	2181.8
22.5°	2123.2	2123.2	2122.6	2120.9	2115.1	2120.0	2121.9	2121.7	2121.7	2121.7	2121.9
25°	2050.5	2051.5	2054.6	2056.0	2049.2	2055.1	2053.1	2049.1	2048.2	2049.1	2053.1
27.5°	1967.0	1973.9	1983.9	1986.0	1982.4	1985.3	1982.3	1971.5	1964.6	1971.5	1982.3
30°	1877.5	1883.4	1905.1	1915.1	1903.8	1913.5	1902.7	1881.1	1874.3	1881.1	1902.7
32.5°	1787.1	1789.1	1815.6	1830.6	1829.0	1829.0	1813.3	1785.9	1783.9	1785.9	1813.3
35°	1685.1	1687.1	1716.6	1744.1	1744.6	1741.6	1714.1	1684.6	1682.7	1684.6	1714.1
37.5°	1583.9	1585.9	1617.3	1647.8	1654.1	1645.3	1614.9	1583.4	1581.4	1583.4	1614.9
40°	1493.5	1482.7	1509.2	1545.8	1564.6	1544.1	1506.0	1479.4	1490.2	1479.4	1506.0
42.5°	1393.2	1379.5	1392.5	1439.6	1462.4	1438.0	1390.0	1376.2	1390.0	1376.2	1390.0
45°	1304.0	1280.4	1284.4	1326.6	1356.3	1324.9	1281.1	1278.0	1301.6	1278.0	1281.1
47.5°	1213.6	1189.0	1177.2	1214.8	1252.1	1213.9	1174.0	1186.6	1211.1	1186.6	1174.0
50°	1130.1	1100.6	1077.0	1092.9	1111.7	1091.2	1073.8	1097.3	1127.6	1097.3	1073.8
52.5°	1040.6	1016.1	980.9	982.9	969.2	981.2	978.4	1012.8	1038.2	1012.8	978.4
55°	947.5	932.7	887.5	864.0	824.9	862.5	885.1	930.3	945.8	930.3	885.1
57.5°	867.9	851.2	797.1	746.1	696.2	744.5	794.7	848.7	866.2	848.7	794.7
60°	782.5	768.7	707.8	629.4	594.0	628.6	706.2	767.1	781.7	767.1	706.2
62.5°	694.0	684.2	617.4	528.1	508.7	527.3	615.8	682.6	693.2	682.6	615.8
65°	606.8	594.0	524.2	442.6	435.0	441.8	523.4	593.2	606.8	593.2	523.4
67.5°	527.1	507.5	442.6	369.1	368.1	369.1	441.8	506.7	527.1	506.7	441.8
70°	448.7	421.2	362.2	307.2	314.1	307.2	362.2	422.0	449.5	422.0	362.2
72.5°	377.0	344.6	292.5	250.2	259.3	249.4	292.5	345.3	378.6	345.3	292.5
75°	318.0	273.8	230.8	200.3	216.0	200.3	231.5	274.6	320.5	274.6	231.5
77.5°	277.2	227.9	178.7	154.1	172.8	154.1	179.5	225.4	274.1	225.4	179.5
80°	248.5	198.7	143.7	116.8	130.5	116.8	142.1	185.9	233.4	185.9	142.1
82.5°	233.2	184.8	126.8	84.3	90.2	84.3	117.1	156.2	202.9	156.2	117.1
85°	221.5	186.0	125.6	65.1	49.9	63.5	102.5	137.5	169.8	137.5	102.5
87.5°	222.7	195.9	133.0	63.3	14.7	52.2	87.6	119.4	140.7	119.4	87.6
90°	229.2	210.4	147.9	66.2	1.8	36.0	69.0	98.2	109.8	98.2	69.0
92.5°	244.6	230.2	165.5	76.2	13.8	21.2	56.4	82.7	88.5	82.7	56.4
95°	260.9	252.2	186.0	87.8	32.8	8.1	42.7	67.4	72.1	67.4	42.7
97.5°	282.1	274.3	203.3	113.4	57.5	11.5	27.4	55.2	59.2	55.2	27.4
100°	295.5	287.8	226.4	147.7	88.7	28.2	15.4	37.8	44.7	37.8	15.4
102.5°	326.2	311.7	252.2	180.3	121.5	51.3	14.9	25.1	30.0	25.1	14.9
105°	353.6	337.6	291.2	214.6	158.8	82.4	34.0	17.4	18.4	17.4	34.0
107.5°	382.0	372.1	326.3	249.6	198.7	118.2	61.1	34.4	25.2	34.4	61.1
110°	420.8	409.3	360.5	284.7	240.1	156.5	92.2	58.9	48.1	58.9	92.2



TEST NUMBER: P392575

CATALOG NUMBER: MWL-3-27-57-UNV-L835-EDD

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	458.1	449.9	392.4	321.3	283.0	197.8	130.4	90.7	79.8	90.7	130.4
115°	487.5	482.5	430.0	356.5	322.9	245.9	173.6	128.2	114.8	128.2	173.6
117.5°	518.6	516.8	457.1	391.5	371.7	288.0	212.6	165.6	151.4	165.6	212.6
120°	557.6	550.2	494.5	426.6	417.1	332.7	255.6	208.6	194.5	208.6	255.6
122.5°	584.6	579.7	526.4	460.0	460.0	378.1	297.0	250.0	235.1	250.0	297.0
125°	609.3	606.8	550.2	493.5	506.2	420.2	343.2	295.4	278.9	295.4	343.2
127.5°	631.6	634.1	581.3	530.1	553.2	463.3	388.6	337.0	318.7	337.0	388.6
130°	650.8	658.7	610.8	564.6	597.8	511.2	429.2	377.6	365.7	377.6	429.2
132.5°	688.2	683.4	641.0	598.8	646.6	554.2	472.2	418.3	404.7	418.3	472.2
135°	707.3	708.9	667.3	628.3	691.2	597.2	512.8	459.6	446.1	459.6	512.8
137.5°	730.4	725.7	688.0	664.1	732.6	638.6	552.6	503.5	481.9	503.5	552.6
140°	747.1	746.3	715.1	696.0	777.2	679.3	593.3	543.3	523.3	543.3	593.3
142.5°	764.7	769.4	743.2	731.0	821.8	722.2	638.0	582.3	563.1	582.3	638.0
145°	776.6	787.0	770.2	774.8	864.0	770.0	676.2	619.7	599.0	619.7	676.2
147.5°	796.5	810.1	789.2	805.9	900.6	812.2	713.5	658.7	640.4	658.7	713.5
150°	823.5	829.9	817.1	849.9	938.0	860.2	752.5	696.2	677.8	696.2	752.5
152.5°	845.1	853.0	838.5	895.9	967.5	902.3	795.5	732.7	711.3	732.7	795.5
155°	867.4	870.5	860.0	941.3	998.6	944.4	829.7	773.4	752.7	773.4	829.7
157.5°	888.1	894.4	882.3	975.5	1025.7	981.1	868.8	814.0	795.7	814.0	868.8
160°	910.4	909.4	915.7	1015.3	1048.0	1012.9	910.2	857.6	833.2	857.6	910.2
162.5°	912.8	926.9	961.1	1044.2	1070.4	1041.8	954.7	889.5	868.2	889.5	954.7
165°	947.8	960.3	1013.1	1068.8	1087.1	1066.5	1010.8	942.1	916.7	942.1	1010.8
167.5°	983.4	1012.1	1054.5	1096.8	1103.1	1089.6	1052.9	1005.0	981.1	1005.0	1052.9
170°	1042.2	1067.9	1089.6	1107.1	1115.8	1107.9	1079.2	1055.1	1039.0	1055.1	1079.2
172.5°	1089.2	1106.1	1115.0	1126.2	1120.6	1117.4	1103.1	1091.0	1082.0	1091.0	1103.1
175°	1118.7	1122.8	1131.0	1127.0	1131.7	1123.0	1123.8	1128.4	1094.8	1128.4	1123.8
177.5°	1129.0	1135.6	1132.5	1125.3	1126.2	1124.6	1127.8	1130.0	1124.3	1130.0	1127.8
180°	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0



TEST NUMBER: P392575

CATALOG NUMBER: MWL-3-27-57-UNV-L835-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2430.1	2430.1	2430.1	2430.1	2430.1	2430.1
2.5°	2423.0	2421.8	2423.8	2426.9	2427.3	2426.6
5°	2410.2	2406.3	2410.2	2415.1	2416.5	2413.8
7.5°	2388.8	2386.6	2389.6	2396.6	2396.6	2398.0
10°	2360.5	2358.3	2361.3	2364.2	2368.1	2367.4
12.5°	2326.1	2320.4	2326.1	2331.0	2332.8	2334.5
15°	2285.0	2282.0	2285.8	2288.7	2287.6	2294.0
17.5°	2236.8	2230.9	2236.8	2238.6	2240.4	2242.9
20°	2181.9	2177.0	2182.8	2182.6	2186.1	2189.9
22.5°	2120.0	2115.1	2120.9	2122.6	2123.2	2123.2
25°	2055.1	2049.2	2056.0	2054.6	2051.5	2050.5
27.5°	1985.3	1982.4	1986.0	1983.9	1973.9	1967.0
30°	1913.5	1903.8	1915.1	1905.1	1883.4	1877.5
32.5°	1829.0	1829.0	1830.6	1815.6	1789.1	1787.1
35°	1741.6	1744.6	1744.1	1716.6	1687.1	1685.1
37.5°	1645.3	1654.1	1647.8	1617.3	1585.9	1583.9
40°	1544.1	1564.6	1545.8	1509.2	1482.7	1493.5
42.5°	1438.0	1462.4	1439.6	1392.5	1379.5	1393.2
45°	1324.9	1356.3	1326.6	1284.4	1280.4	1304.0
47.5°	1213.9	1252.1	1214.8	1177.2	1189.0	1213.6
50°	1091.2	1111.7	1092.9	1077.0	1100.6	1130.1
52.5°	981.2	969.2	982.9	980.9	1016.1	1040.6
55°	862.5	824.9	864.0	887.5	932.7	947.5
57.5°	744.5	696.2	746.1	797.1	851.2	867.9
60°	628.6	594.0	629.4	707.8	768.7	782.5
62.5°	527.3	508.7	528.1	617.4	684.2	694.0
65°	441.8	435.0	442.6	524.2	594.0	606.8
67.5°	369.1	368.1	369.1	442.6	507.5	527.1
70°	307.2	314.1	307.2	362.2	421.2	448.7
72.5°	249.4	259.3	250.2	292.5	344.6	377.0
75°	200.3	216.0	200.3	230.8	273.8	318.0
77.5°	154.1	172.8	154.1	178.7	227.9	277.2
80°	116.8	130.5	116.8	143.7	198.7	248.5
82.5°	84.3	90.2	84.3	126.8	184.8	233.2
85°	63.5	49.9	65.1	125.6	186.0	221.5
87.5°	52.2	14.7	63.3	133.0	195.9	222.7
90°	36.0	1.8	66.2	147.9	210.4	229.2
92.5°	21.2	13.8	76.2	165.5	230.2	244.6
95°	8.1	32.8	87.8	186.0	252.2	260.9
97.5°	11.5	57.5	113.4	203.3	274.3	282.1
100°	28.2	88.7	147.7	226.4	287.8	295.5
102.5°	51.3	121.5	180.3	252.2	311.7	326.2
105°	82.4	158.8	214.6	291.2	337.6	353.6
107.5°	118.2	198.7	249.6	326.3	372.1	382.0
110°	156.5	240.1	284.7	360.5	409.3	420.8





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	197.8	283.0	321.3	392.4	449.9	458.1
115°	245.9	322.9	356.5	430.0	482.5	487.5
117.5°	288.0	371.7	391.5	457.1	516.8	518.6
120°	332.7	417.1	426.6	494.5	550.2	557.6
122.5°	378.1	460.0	460.0	526.4	579.7	584.6
125°	420.2	506.2	493.5	550.2	606.8	609.3
127.5°	463.3	553.2	530.1	581.3	634.1	631.6
130°	511.2	597.8	564.6	610.8	658.7	650.8
132.5°	554.2	646.6	598.8	641.0	683.4	688.2
135°	597.2	691.2	628.3	667.3	708.9	707.3
137.5°	638.6	732.6	664.1	688.0	725.7	730.4
140°	679.3	777.2	696.0	715.1	746.3	747.1
142.5°	722.2	821.8	731.0	743.2	769.4	764.7
145°	770.0	864.0	774.8	770.2	787.0	776.6
147.5°	812.2	900.6	805.9	789.2	810.1	796.5
150°	860.2	938.0	849.9	817.1	829.9	823.5
152.5°	902.3	967.5	895.9	838.5	853.0	845.1
155°	944.4	998.6	941.3	860.0	870.5	867.4
157.5°	981.1	1025.7	975.5	882.3	894.4	888.1
160°	1012.9	1048.0	1015.3	915.7	909.4	910.4
162.5°	1041.8	1070.4	1044.2	961.1	926.9	912.8
165°	1066.5	1087.1	1068.8	1013.1	960.3	947.8
167.5°	1089.6	1103.1	1096.8	1054.5	1012.1	983.4
170°	1107.9	1115.8	1107.1	1089.6	1067.9	1042.2
172.5°	1117.4	1120.6	1126.2	1115.0	1106.1	1089.2
175°	1123.0	1131.7	1127.0	1131.0	1122.8	1118.7
177.5°	1124.6	1126.2	1125.3	1132.5	1135.6	1129.0
180°	1130.0	1130.0	1130.0	1130.0	1130.0	1130.0

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