

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: P392654

Luminaire Tested: **MWL-4-26-73-UNV-L940-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392654  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &  
Test Lab: INNOVATION CENTER  
Issue Date: 12/2/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: MWL-4-26-73-UNV-L940-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

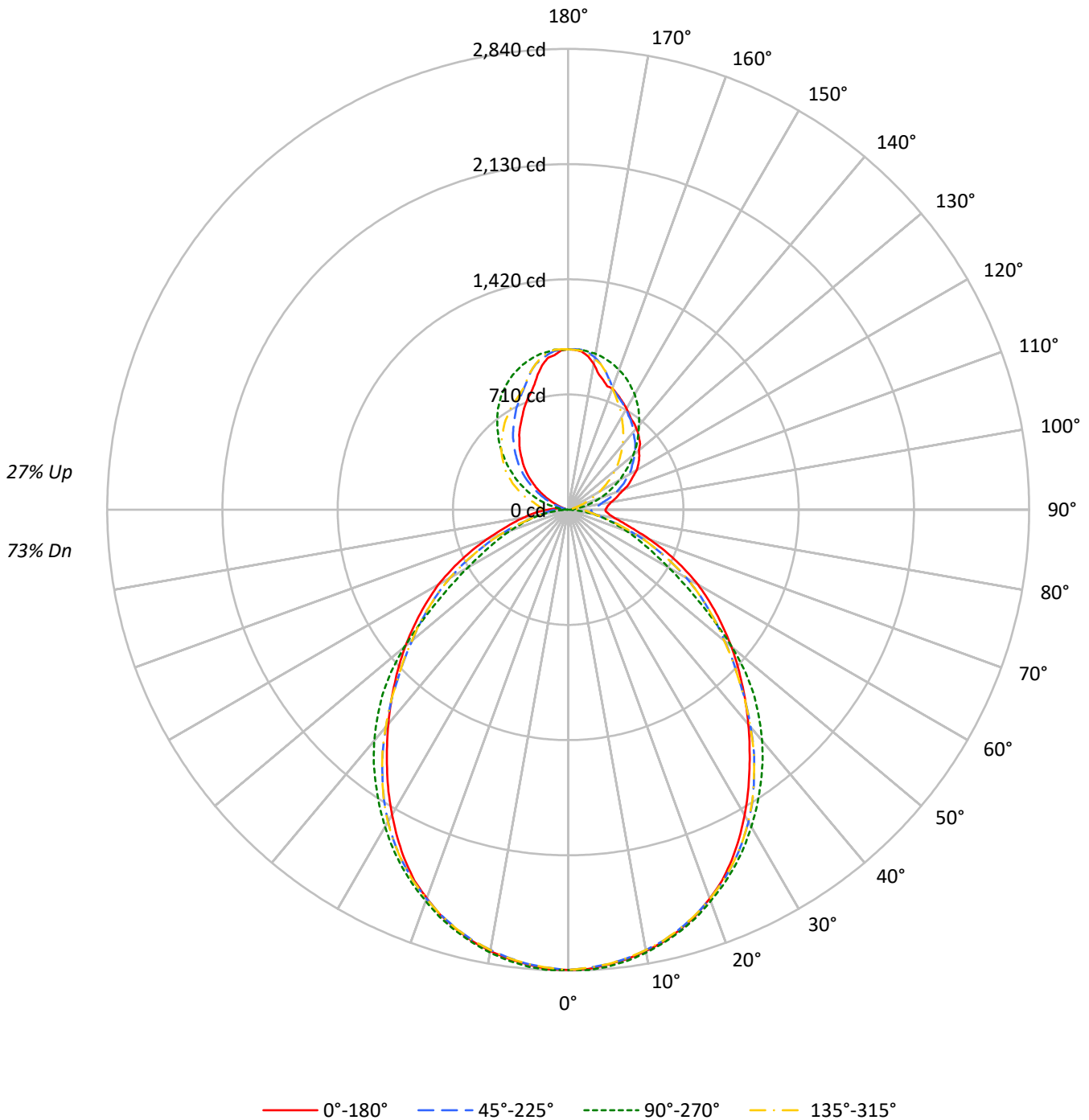
Lumens per Lamp: N/A  
Luminaire Lumens: 8999.7 lumens  
Efficiency: N/A  
Efficacy: 82.4 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')  
CIE Type: Semi-Direct

Input Watts (W): 109.181  
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	113	113	113	113	107	107	107	107	96	96	96		86	86	86		77	77	77	73
1	103	99	95	91	98	94	91	87	85	82	80		77	75	73		69	67	66	62
2	94	87	81	76	89	83	77	73	75	71	67		68	65	62		61	59	56	53
3	87	77	70	64	82	73	67	61	67	61	57		61	56	53		55	51	49	45
4	79	69	61	54	75	65	58	53	60	54	49		54	50	46		49	45	42	39
5	73	61	53	47	69	59	51	46	54	48	43		49	44	40		45	41	37	35
6	68	55	47	41	64	53	46	40	49	42	38		45	39	35		41	36	33	31
7	63	50	42	37	60	48	41	35	44	38	33		41	35	31		37	33	29	27
8	59	46	38	33	56	44	37	32	41	34	30		37	32	28		34	30	27	24
9	55	42	34	29	52	41	33	29	37	31	27		35	29	26		32	27	24	22
10	51	39	31	27	49	37	31	26	35	29	25		32	27	23		30	25	22	20

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

	0°	90°	180°	270°
0°	18320	18320	18320	18320
5°	18077	16849	18077	16849
10°	17788	15453	17788	15453
15°	17405	14162	17391	14162
20°	16886	12933	16872	12933
25°	16198	11792	16184	11792
30°	15286	10666	15267	10666
35°	14309	9579	14294	9579
40°	13388	8520	13367	8520
45°	12515	7397	12498	7397
50°	11715	6044	11696	6044
55°	10902	4547	10889	4547
60°	10110	3383	10102	3383
65°	8994	2548	8994	2548
70°	7818	1917	7829	1917
75°	6819	1373	6857	1373
80°	6745	883	6434	883
85°	8338	395	6813	395



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	267.4	3.0
10°-20°	754.4	8.4
20°-30°	1106.3	12.3
30°-40°	1252.1	13.9
40°-50°	1179.7	13.1
50°-60°	943.9	10.5
60°-70°	621.5	6.9
70°-80°	317.3	3.5
80°-90°	151.4	1.7
90°-100°	114.8	1.3
100°-110°	158.9	1.8
110°-120°	264.1	2.9
120°-130°	358.1	4.0
130°-140°	408.0	4.5
140°-150°	406.6	4.5
150°-160°	353.8	3.9
160°-170°	248.8	2.8
170°-180°	92.6	1.0
0°-30°	2128.1	23.6
0°-40°	3380.2	37.6
0°-60°	5503.8	61.2
0°-90°	6594.0	73.3
90°-120°	537.8	6.0
90°-150°	1710.5	19.0
90°-180°	2406.0	26.7
0°-180°	8999.7	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	2837	2837	2837	2837	2837	
5°	2814	2826	2814	2826	2814	267
15°	2676	2686	2674	2686	2676	754
25°	2384	2426	2381	2426	2384	1094
35°	1947	2066	1945	2066	1947	1219
45°	1513	1620	1511	1620	1513	1169
55°	1112	981	1111	981	1112	996
65°	720	524	720	524	720	715
75°	380	260	382	260	380	414
85°	246	66	201	66	246	209
90°	230	2	125	2	230	127
95°	243	30	78	30	243	204
105°	312	139	19	139	312	332
115°	426	283	101	283	426	423
125°	533	442	244	442	533	476
135°	618	604	390	604	618	477
145°	679	755	524	755	679	428
155°	758	874	658	874	758	350
165°	828	951	801	951	828	235
175°	977	990	957	990	977	91
180°	988	988	988	988	988	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2836.6	2836.6	2836.6	2836.6	2836.6	2836.6	2836.6	2836.6	2836.6	2836.6	2836.6
2.5°	2833.7	2833.2	2825.5	2840.8	2839.9	2840.1	2825.5	2833.2	2834.3	2833.2	2825.5
5°	2813.7	2818.7	2811.8	2827.3	2826.4	2827.3	2811.1	2818.7	2813.7	2818.7	2811.1
7.5°	2792.4	2799.3	2787.4	2805.5	2803.6	2804.7	2786.8	2798.6	2792.4	2798.6	2786.8
10°	2762.2	2764.6	2756.4	2772.8	2771.9	2772.2	2755.8	2763.3	2762.2	2763.3	2755.8
12.5°	2725.2	2724.5	2718.4	2732.9	2731.3	2732.9	2718.4	2723.1	2723.8	2723.1	2718.4
15°	2675.8	2675.3	2671.0	2685.6	2685.7	2684.8	2670.3	2673.9	2673.7	2673.9	2670.3
17.5°	2620.2	2618.8	2616.3	2632.0	2632.0	2632.0	2615.6	2618.1	2618.1	2618.1	2615.6
20°	2550.1	2553.0	2551.6	2567.3	2566.7	2566.7	2550.9	2551.6	2548.0	2551.6	2550.9
22.5°	2475.5	2478.3	2483.3	2503.5	2500.1	2502.9	2482.6	2476.9	2474.2	2476.9	2482.6
25°	2383.5	2389.0	2405.6	2427.0	2426.4	2426.4	2404.2	2386.9	2381.4	2386.9	2404.2
27.5°	2281.5	2296.1	2318.1	2344.8	2345.3	2344.1	2316.7	2294.0	2279.4	2294.0	2316.7
30°	2173.1	2188.6	2221.4	2258.9	2256.0	2257.5	2219.3	2186.5	2170.3	2186.5	2219.3
32.5°	2062.8	2078.3	2115.7	2160.5	2164.6	2159.1	2113.6	2075.6	2060.1	2075.6	2113.6
35°	1947.3	1954.6	1997.4	2064.8	2065.6	2062.8	1995.4	1952.6	1945.3	1952.6	1995.4
37.5°	1835.2	1837.1	1879.9	1950.9	1966.9	1948.9	1877.9	1835.0	1833.2	1835.0	1877.9
40°	1726.8	1717.7	1747.8	1827.3	1858.5	1825.9	1745.0	1715.0	1724.1	1715.0	1745.0
42.5°	1619.3	1608.4	1621.4	1699.7	1740.9	1698.4	1619.3	1605.6	1616.6	1605.6	1619.3
45°	1513.0	1492.9	1490.2	1568.5	1619.8	1567.2	1487.4	1490.8	1510.9	1490.8	1487.4
47.5°	1411.8	1388.2	1374.5	1434.8	1480.4	1434.2	1371.7	1386.1	1409.7	1386.1	1371.7
50°	1310.7	1287.9	1256.0	1298.1	1318.5	1296.8	1253.2	1285.1	1308.6	1285.1	1253.2
52.5°	1210.5	1193.2	1152.4	1166.9	1144.4	1165.6	1150.3	1190.4	1208.4	1190.4	1150.3
55°	1112.3	1096.8	1046.7	1027.8	980.6	1026.4	1044.6	1094.7	1110.9	1094.7	1044.6
57.5°	1015.7	1006.6	944.6	888.4	837.6	887.0	942.5	1004.5	1014.3	1004.5	942.5
60°	923.9	913.9	841.9	754.7	715.5	753.9	840.5	912.5	923.2	912.5	840.5
62.5°	820.1	815.5	734.4	636.2	610.9	635.5	733.0	814.1	819.4	814.1	733.0
65°	720.0	706.4	630.8	534.2	524.3	533.4	630.0	705.6	720.0	705.6	630.0
67.5°	623.5	603.4	533.3	446.0	448.7	446.0	532.5	602.7	623.5	602.7	532.5
70°	532.5	501.6	438.7	368.5	380.4	368.5	438.7	502.3	533.3	502.3	438.7
72.5°	447.8	409.5	352.1	300.2	315.1	299.6	352.1	410.3	449.3	410.3	352.1
75°	379.5	331.2	274.1	239.4	260.4	239.4	274.7	331.9	381.6	331.9	274.7
77.5°	329.5	274.8	213.9	184.8	210.3	184.8	214.6	272.7	326.7	272.7	214.6
80°	288.5	236.2	171.4	136.5	158.3	136.5	169.9	225.1	275.2	225.1	169.9
82.5°	260.5	214.2	150.5	98.2	111.0	98.2	142.2	189.1	234.1	189.1	142.2
85°	246.5	205.9	142.1	78.4	66.3	77.0	122.0	163.5	201.4	163.5	122.0
87.5°	231.5	203.4	140.5	72.4	24.6	62.7	100.8	136.6	159.9	136.6	100.8
90°	229.5	209.7	148.1	69.7	1.6	43.3	79.4	111.7	125.1	111.7	79.4
92.5°	236.4	222.6	159.4	74.0	12.9	26.0	64.1	93.9	100.0	93.9	64.1
95°	242.6	236.6	173.7	80.5	29.6	11.0	48.6	75.2	77.7	75.2	48.6
97.5°	255.9	252.4	186.1	99.2	51.2	10.2	32.4	61.1	61.1	61.1	32.4
100°	267.5	264.1	202.9	129.1	77.6	24.8	18.5	45.6	48.4	45.6	18.5
102.5°	291.7	279.7	222.3	157.6	106.1	44.9	15.0	29.2	32.9	29.2	15.0
105°	312.3	298.0	254.6	187.6	138.9	72.1	29.9	18.4	19.4	18.4	29.9
107.5°	334.0	325.3	285.2	219.1	173.7	104.3	53.5	30.3	22.4	30.3	53.5
110°	367.0	358.7	315.1	249.7	210.7	137.7	80.6	52.6	41.5	52.6	80.6



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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°	400.4	394.1	342.9	281.7	248.3	173.8	114.1	80.4	70.0	80.4	114.1
115°	426.1	421.7	375.8	311.6	283.1	214.9	151.8	112.2	100.6	112.2	151.8
117.5°	453.3	451.7	399.5	342.2	324.8	251.8	186.0	144.9	132.6	144.9	186.0
120°	487.3	480.9	432.2	372.8	364.5	290.7	223.5	182.4	170.1	182.4	223.5
122.5°	511.0	507.6	460.0	403.0	402.1	331.3	259.7	219.5	205.6	219.5	259.7
125°	532.6	531.2	480.9	432.2	442.4	368.2	300.0	259.2	243.9	259.2	300.0
127.5°	552.0	554.1	508.9	464.2	484.3	405.8	340.6	294.6	278.7	294.6	340.6
130°	568.8	575.7	534.7	493.5	523.3	446.8	376.1	330.2	319.7	330.2	376.1
132.5°	601.5	597.3	561.1	523.3	565.1	484.3	413.6	365.6	353.8	365.6	413.6
135°	618.2	619.5	584.1	549.1	604.1	522.0	449.1	401.8	390.0	401.8	449.1
137.5°	638.3	634.1	602.1	581.3	640.2	559.1	483.9	440.1	421.3	440.1	483.9
140°	653.0	652.3	625.8	609.2	679.1	594.5	519.4	474.9	457.5	474.9	519.4
142.5°	669.2	673.3	649.4	639.8	718.1	632.1	557.7	509.9	493.2	509.9	557.7
145°	678.7	688.6	673.1	678.0	755.0	673.8	591.0	542.6	523.5	542.6	591.0
147.5°	697.0	707.9	690.5	705.1	787.0	710.7	624.5	575.7	560.6	575.7	624.5
150°	719.8	725.3	714.8	742.7	819.7	751.7	658.5	608.4	592.4	608.4	658.5
152.5°	738.5	745.5	733.6	783.7	845.4	789.3	696.1	640.4	621.6	640.4	696.1
155°	758.0	760.8	752.5	823.4	873.5	826.2	726.0	675.9	657.8	675.9	726.0
157.5°	776.1	781.6	771.9	853.3	897.2	858.2	760.1	711.4	695.4	711.4	760.1
160°	795.6	795.6	801.1	888.1	916.7	886.0	796.3	750.4	728.1	750.4	796.3
162.5°	797.7	810.9	840.8	912.5	935.4	910.4	835.2	778.2	758.7	778.2	835.2
165°	828.3	840.1	885.3	934.1	950.9	932.0	883.2	824.1	801.1	824.1	883.2
167.5°	859.3	884.4	921.5	959.3	964.9	953.0	920.1	878.1	857.3	878.1	920.1
170°	910.6	934.1	952.1	968.3	976.0	969.0	943.1	922.9	907.8	922.9	943.1
172.5°	951.6	967.4	974.3	985.0	980.2	977.3	963.9	954.2	945.4	954.2	963.9
175°	977.4	982.0	988.3	985.7	989.9	982.3	982.0	986.9	956.6	986.9	982.0
177.5°	986.4	993.2	989.6	984.4	985.0	983.6	985.5	988.3	982.3	988.3	985.5
180°	988.3	988.3	988.3	988.3	988.3	988.3	988.3	988.3	988.3	988.3	988.3



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2836.6	2836.6	2836.6	2836.6	2836.6	2836.6
2.5°	2840.1	2839.9	2840.8	2825.5	2833.2	2833.7
5°	2827.3	2826.4	2827.3	2811.8	2818.7	2813.7
7.5°	2804.7	2803.6	2805.5	2787.4	2799.3	2792.4
10°	2772.2	2771.9	2772.8	2756.4	2764.6	2762.2
12.5°	2732.9	2731.3	2732.9	2718.4	2724.5	2725.2
15°	2684.8	2685.7	2685.6	2671.0	2675.3	2675.8
17.5°	2632.0	2632.0	2632.0	2616.3	2618.8	2620.2
20°	2566.7	2566.7	2567.3	2551.6	2553.0	2550.1
22.5°	2502.9	2500.1	2503.5	2483.3	2478.3	2475.5
25°	2426.4	2426.4	2427.0	2405.6	2389.0	2383.5
27.5°	2344.1	2345.3	2344.8	2318.1	2296.1	2281.5
30°	2257.5	2256.0	2258.9	2221.4	2188.6	2173.1
32.5°	2159.1	2164.6	2160.5	2115.7	2078.3	2062.8
35°	2062.8	2065.6	2064.8	1997.4	1954.6	1947.3
37.5°	1948.9	1966.9	1950.9	1879.9	1837.1	1835.2
40°	1825.9	1858.5	1827.3	1747.8	1717.7	1726.8
42.5°	1698.4	1740.9	1699.7	1621.4	1608.4	1619.3
45°	1567.2	1619.8	1568.5	1490.2	1492.9	1513.0
47.5°	1434.2	1480.4	1434.8	1374.5	1388.2	1411.8
50°	1296.8	1318.5	1298.1	1256.0	1287.9	1310.7
52.5°	1165.6	1144.4	1166.9	1152.4	1193.2	1210.5
55°	1026.4	980.6	1027.8	1046.7	1096.8	1112.3
57.5°	887.0	837.6	888.4	944.6	1006.6	1015.7
60°	753.9	715.5	754.7	841.9	913.9	923.9
62.5°	635.5	610.9	636.2	734.4	815.5	820.1
65°	533.4	524.3	534.2	630.8	706.4	720.0
67.5°	446.0	448.7	446.0	533.3	603.4	623.5
70°	368.5	380.4	368.5	438.7	501.6	532.5
72.5°	299.6	315.1	300.2	352.1	409.5	447.8
75°	239.4	260.4	239.4	274.1	331.2	379.5
77.5°	184.8	210.3	184.8	213.9	274.8	329.5
80°	136.5	158.3	136.5	171.4	236.2	288.5
82.5°	98.2	111.0	98.2	150.5	214.2	260.5
85°	77.0	66.3	78.4	142.1	205.9	246.5
87.5°	62.7	24.6	72.4	140.5	203.4	231.5
90°	43.3	1.6	69.7	148.1	209.7	229.5
92.5°	26.0	12.9	74.0	159.4	222.6	236.4
95°	11.0	29.6	80.5	173.7	236.6	242.6
97.5°	10.2	51.2	99.2	186.1	252.4	255.9
100°	24.8	77.6	129.1	202.9	264.1	267.5
102.5°	44.9	106.1	157.6	222.3	279.7	291.7
105°	72.1	138.9	187.6	254.6	298.0	312.3
107.5°	104.3	173.7	219.1	285.2	325.3	334.0
110°	137.7	210.7	249.7	315.1	358.7	367.0





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	173.8	248.3	281.7	342.9	394.1	400.4
115°	214.9	283.1	311.6	375.8	421.7	426.1
117.5°	251.8	324.8	342.2	399.5	451.7	453.3
120°	290.7	364.5	372.8	432.2	480.9	487.3
122.5°	331.3	402.1	403.0	460.0	507.6	511.0
125°	368.2	442.4	432.2	480.9	531.2	532.6
127.5°	405.8	484.3	464.2	508.9	554.1	552.0
130°	446.8	523.3	493.5	534.7	575.7	568.8
132.5°	484.3	565.1	523.3	561.1	597.3	601.5
135°	522.0	604.1	549.1	584.1	619.5	618.2
137.5°	559.1	640.2	581.3	602.1	634.1	638.3
140°	594.5	679.1	609.2	625.8	652.3	653.0
142.5°	632.1	718.1	639.8	649.4	673.3	669.2
145°	673.8	755.0	678.0	673.1	688.6	678.7
147.5°	710.7	787.0	705.1	690.5	707.9	697.0
150°	751.7	819.7	742.7	714.8	725.3	719.8
152.5°	789.3	845.4	783.7	733.6	745.5	738.5
155°	826.2	873.5	823.4	752.5	760.8	758.0
157.5°	858.2	897.2	853.3	771.9	781.6	776.1
160°	886.0	916.7	888.1	801.1	795.6	795.6
162.5°	910.4	935.4	912.5	840.8	810.9	797.7
165°	932.0	950.9	934.1	885.3	840.1	828.3
167.5°	953.0	964.9	959.3	921.5	884.4	859.3
170°	969.0	976.0	968.3	952.1	934.1	910.6
172.5°	977.3	980.2	985.0	974.3	967.4	951.6
175°	982.3	989.9	985.7	988.3	982.0	977.4
177.5°	983.6	985.0	984.4	989.6	993.2	986.4
180°	988.3	988.3	988.3	988.3	988.3	988.3

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