

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: P392578

Luminaire Tested: **MWL-3-30-25-UNV-L835-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392578  
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-3-30-25-UNV-L835-EDD  
Description: MWL 3FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

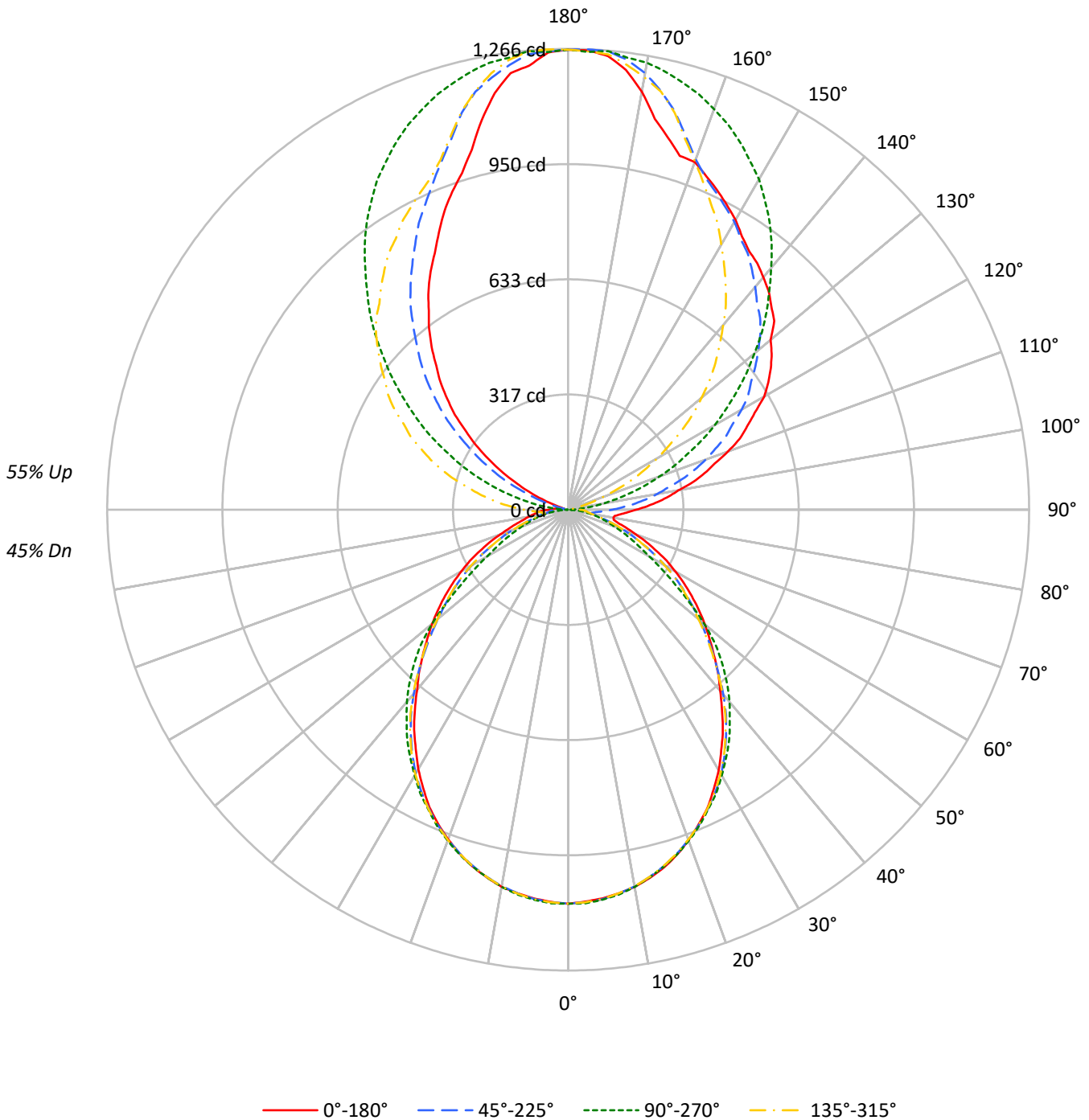
Lumens per Lamp: N/A  
Luminaire Lumens: 5505.0 lumens  
Efficiency: N/A  
Efficacy: 104.3 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')  
CIE Type: General Diffuse

Input Watts (W): 52.8  
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										
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	50	30	10	50	30	10	0														
RCR																																						
0	106	106	106	106	97	97	97	97	81	81	81	66	66	66	52	52	52	45																				
1	97	93	89	85	89	85	82	79	71	68	66	58	56	55	46	45	44	38																				
2	88	81	75	70	81	75	69	65	62	59	55	51	48	46	41	39	37	32																				
3	81	72	64	59	74	66	60	55	55	51	47	45	42	39	36	34	32	28																				
4	74	64	56	50	68	59	52	47	49	44	40	41	37	34	33	30	28	24																				
5	68	57	49	43	62	52	45	40	44	39	35	37	33	30	30	27	25	21																				
6	63	51	43	37	57	47	40	35	40	35	31	33	29	26	27	24	22	19																				
7	58	46	38	33	53	43	36	31	36	31	27	30	26	23	25	22	19	17																				
8	54	42	34	29	49	39	32	27	33	28	24	28	24	21	23	20	17	15																				
9	50	38	31	26	46	36	29	24	30	25	22	26	22	19	21	18	16	14																				
10	47	35	28	23	43	33	26	22	28	23	19	24	20	17	19	17	14	12																				

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

	0°	90°	180°	270°
0°	9322	9322	9322	9322
5°	9154	8549	9154	8549
10°	8979	7820	8979	7820
15°	8745	7135	8721	7135
20°	8429	6501	8404	6501
25°	8071	5888	8046	5888
30°	7611	5313	7578	5313
35°	7093	4768	7068	4768
40°	6534	4214	6498	4214
45°	6057	3641	6029	3641
50°	5630	2983	5600	2983
55°	5190	2222	5168	2222
60°	4716	1628	4703	1628
65°	4192	1234	4192	1234
70°	3579	910	3595	910
75°	3118	663	3177	663
80°	3504	430	3035	430
85°	5499	187	3280	187



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	101.8	1.8
10°-20°	285.8	5.2
20°-30°	417.1	7.6
30°-40°	471.1	8.6
40°-50°	440.8	8.0
50°-60°	348.0	6.3
60°-70°	227.6	4.1
70°-80°	118.7	2.2
80°-90°	73.5	1.3
90°-100°	105.1	1.9
100°-110°	196.4	3.6
110°-120°	335.8	6.1
120°-130°	456.0	8.3
130°-140°	520.2	9.4
140°-150°	519.0	9.4
150°-160°	451.9	8.2
160°-170°	317.9	5.8
170°-180°	118.4	2.2
0°-30°	804.7	14.6
0°-40°	1275.8	23.2
0°-60°	2064.7	37.5
0°-90°	2484.4	45.1
90°-120°	637.3	11.6
90°-150°	2132.4	38.7
90°-180°	3021.0	54.9
0°-180°	5505.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1082	1082	1082	1082	1082	
5°	1072	1076	1072	1076	1072	102
15°	1017	1015	1015	1015	1017	286
25°	904	909	902	909	904	415
35°	740	771	738	771	740	462
45°	566	598	564	598	566	438
55°	414	359	412	359	414	371
65°	267	190	267	190	267	265
75°	142	94	145	94	142	158
85°	144	24	86	24	144	114
90°	186	1	52	1	186	103
95°	247	37	35	37	247	214
105°	388	177	12	177	388	409
115°	543	361	125	361	543	539
125°	679	565	309	565	679	607
135°	789	771	496	771	789	609
145°	867	965	668	965	867	546
155°	968	1116	840	1116	968	447
165°	1058	1215	1024	1215	1058	300
175°	1251	1265	1224	1265	1251	117
180°	1264	1264	1264	1264	1264	



TEST NUMBER: P392578

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1082.5	1082.5	1082.5	1082.5	1082.5	1082.5	1082.5	1082.5	1082.5	1082.5	1082.5
2.5°	1077.7	1081.5	1079.4	1081.3	1082.3	1080.4	1079.4	1081.5	1078.6	1081.5	1079.4
5°	1071.9	1075.6	1074.5	1074.5	1075.5	1074.5	1073.6	1075.6	1071.9	1075.6	1073.6
7.5°	1062.9	1065.8	1063.8	1065.7	1066.6	1064.8	1062.8	1064.8	1062.9	1064.8	1062.8
10°	1052.0	1052.0	1051.0	1052.0	1052.0	1051.0	1050.0	1050.1	1052.0	1050.1	1050.0
12.5°	1036.2	1034.3	1033.3	1035.3	1034.4	1035.3	1033.3	1032.4	1034.3	1032.4	1033.3
15°	1017.4	1015.6	1013.7	1015.6	1014.8	1014.8	1012.8	1013.8	1014.7	1013.8	1012.8
17.5°	993.8	992.0	991.1	993.1	993.1	993.1	990.2	991.1	991.1	991.1	990.2
20°	966.3	967.4	965.5	968.6	967.7	967.7	964.6	965.5	963.5	965.5	964.6
22.5°	935.9	937.9	938.0	940.1	940.2	939.2	937.1	936.0	934.1	936.0	937.1
25°	904.5	903.5	907.5	911.6	908.7	910.7	905.7	900.7	901.7	900.7	905.7
27.5°	865.2	871.1	875.1	880.0	879.2	879.1	873.2	868.3	862.4	868.3	873.2
30°	826.8	829.8	839.6	845.6	842.9	843.7	836.9	827.0	823.2	827.0	836.9
32.5°	782.6	788.5	799.3	809.2	807.4	807.4	796.6	784.9	779.0	784.9	796.6
35°	740.4	742.4	756.2	769.9	771.1	767.2	753.4	739.7	737.7	739.7	753.4
37.5°	694.3	696.2	711.9	728.7	728.8	725.9	709.2	693.5	691.5	693.5	709.2
40°	649.0	650.0	662.8	684.4	689.4	682.7	659.2	646.4	645.4	646.4	659.2
42.5°	609.7	602.9	611.7	637.3	645.2	635.5	609.0	599.2	606.1	599.2	609.0
45°	566.5	558.6	563.5	587.1	598.0	585.4	560.0	556.0	563.8	556.0	560.0
47.5°	527.2	517.4	516.4	533.2	548.9	532.3	512.8	514.7	524.5	514.7	512.8
50°	489.8	478.0	469.2	481.1	488.1	479.3	465.7	474.5	487.2	474.5	465.7
52.5°	452.5	440.7	427.0	430.0	422.2	428.2	424.4	437.2	449.8	437.2	424.4
55°	414.3	404.4	387.7	378.0	359.4	376.2	385.1	401.8	412.5	401.8	385.1
57.5°	377.9	370.0	349.4	327.9	305.4	326.1	346.7	367.4	376.1	367.4	346.7
60°	339.7	335.7	308.2	276.9	258.2	276.0	306.4	334.0	338.8	334.0	306.4
62.5°	305.3	298.4	268.9	232.6	220.0	231.7	267.1	296.6	304.4	296.6	267.1
65°	267.0	262.1	228.7	196.3	190.5	195.4	227.8	261.2	267.0	261.2	227.8
67.5°	232.6	222.8	195.3	161.0	161.0	161.0	194.4	221.9	232.6	221.9	194.4
70°	196.4	186.5	161.0	134.4	135.4	134.4	161.0	187.4	197.3	187.4	161.0
72.5°	167.9	153.1	131.5	109.9	112.9	109.0	131.5	154.0	169.6	154.0	131.5
75°	142.3	124.6	104.1	89.3	94.3	89.3	105.0	125.5	145.0	125.5	105.0
77.5°	127.9	103.6	81.5	69.7	75.6	69.7	82.4	100.9	124.2	100.9	82.4
80°	126.3	98.5	66.4	53.0	57.9	53.0	64.7	84.1	109.4	84.1	64.7
82.5°	129.0	105.3	65.4	38.2	40.2	38.2	54.6	73.1	95.1	73.1	54.6
85°	144.0	121.3	76.2	31.1	23.5	29.3	50.3	66.8	85.9	66.8	50.3
87.5°	163.2	146.4	95.1	38.6	6.9	26.0	44.3	60.7	71.4	60.7	44.3
90°	186.2	173.5	121.4	50.4	0.9	16.5	33.0	47.6	52.5	47.6	33.0
92.5°	216.7	204.0	148.5	72.2	15.2	10.6	26.2	38.9	41.8	38.9	26.2
95°	246.6	239.3	181.0	94.7	36.7	5.5	20.3	32.2	35.1	32.2	20.3
97.5°	279.0	272.5	213.4	125.9	64.4	11.7	16.1	27.1	29.1	27.1	16.1
100°	306.9	304.1	247.7	164.3	98.3	30.5	11.2	23.9	25.8	23.9	11.2
102.5°	351.8	338.2	280.3	200.9	134.8	56.3	14.3	17.0	20.0	17.0	14.3
105°	387.8	372.4	324.0	239.2	176.8	91.1	35.8	13.7	12.2	13.7	35.8
107.5°	422.2	413.4	363.2	278.5	221.4	131.3	66.1	35.0	22.5	35.0	66.1
110°	466.8	456.1	401.7	317.7	267.8	174.1	100.9	63.5	49.2	63.5	100.9



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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°	509.7	501.7	437.4	358.8	316.0	220.5	143.8	99.3	85.8	99.3	143.8
115°	542.7	538.3	478.4	397.2	360.6	273.1	191.1	141.1	125.1	141.1	191.1
117.5°	577.5	576.6	508.7	436.5	414.2	320.4	234.8	183.1	166.2	183.1	234.8
120°	621.2	614.2	550.7	475.7	465.0	370.4	283.0	231.3	214.4	231.3	283.0
122.5°	651.6	647.2	586.3	513.2	513.2	421.2	329.3	277.7	259.9	277.7	329.3
125°	679.2	677.5	613.2	550.7	564.9	468.6	381.1	328.6	308.9	328.6	381.1
127.5°	704.3	706.9	648.0	591.8	617.6	516.8	431.9	374.1	353.5	374.1	431.9
130°	725.7	734.6	681.0	629.2	667.5	569.4	477.4	419.6	406.2	419.6	477.4
132.5°	767.6	762.3	715.9	667.5	721.1	617.6	526.7	465.1	449.9	465.1	526.7
135°	789.0	790.8	745.3	700.5	771.1	665.8	572.2	511.5	496.3	511.5	572.2
137.5°	814.8	809.5	767.5	740.7	817.5	712.1	615.8	560.6	536.5	560.6	615.8
140°	833.6	832.7	798.8	777.4	867.4	758.6	662.3	605.2	582.9	605.2	662.3
142.5°	853.3	858.6	829.2	815.7	917.5	805.9	711.4	648.9	627.5	648.9	711.4
145°	866.6	878.2	859.5	865.8	964.7	860.5	754.2	690.8	667.6	690.8	754.2
147.5°	889.0	904.1	881.8	900.5	1005.8	907.7	797.1	734.6	714.0	734.6	797.1
150°	919.3	926.4	913.0	948.7	1047.7	960.3	840.8	776.5	756.0	776.5	840.8
152.5°	943.4	952.3	936.1	1000.4	1080.7	1007.6	888.0	817.6	793.5	817.6	888.0
155°	968.4	971.9	961.3	1051.3	1115.5	1054.9	927.3	863.1	839.9	863.1	927.3
157.5°	991.6	998.7	986.3	1089.6	1145.9	1095.9	971.0	908.6	888.1	908.6	971.0
160°	1016.5	1016.5	1023.7	1135.2	1170.8	1132.6	1017.5	958.5	930.0	958.5	1017.5
162.5°	1019.3	1035.2	1074.6	1166.5	1195.9	1163.8	1067.4	993.2	969.2	993.2	1067.4
165°	1058.5	1072.7	1131.7	1194.1	1214.7	1191.5	1129.0	1052.2	1023.7	1052.2	1129.0
167.5°	1099.6	1130.7	1178.1	1225.4	1232.5	1217.3	1176.3	1122.7	1096.9	1122.7	1176.3
170°	1165.5	1193.1	1217.3	1237.0	1246.8	1237.8	1205.7	1178.9	1161.9	1178.9	1205.7
172.5°	1218.2	1236.0	1245.9	1258.4	1252.1	1248.6	1232.5	1219.1	1210.1	1219.1	1232.5
175°	1251.1	1254.8	1263.7	1259.3	1264.7	1254.9	1255.7	1260.9	1224.4	1260.9	1255.7
177.5°	1262.7	1269.0	1265.6	1257.5	1258.4	1256.6	1260.2	1262.7	1257.4	1262.7	1260.2
180°	1263.7	1263.7	1263.7	1263.7	1263.7	1263.7	1263.7	1263.7	1263.7	1263.7	1263.7



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1082.5	1082.5	1082.5	1082.5	1082.5	1082.5
2.5°	1080.4	1082.3	1081.3	1079.4	1081.5	1077.7
5°	1074.5	1075.5	1074.5	1074.5	1075.6	1071.9
7.5°	1064.8	1066.6	1065.7	1063.8	1065.8	1062.9
10°	1051.0	1052.0	1052.0	1051.0	1052.0	1052.0
12.5°	1035.3	1034.4	1035.3	1033.3	1034.3	1036.2
15°	1014.8	1014.8	1015.6	1013.7	1015.6	1017.4
17.5°	993.1	993.1	993.1	991.1	992.0	993.8
20°	967.7	967.7	968.6	965.5	967.4	966.3
22.5°	939.2	940.2	940.1	938.0	937.9	935.9
25°	910.7	908.7	911.6	907.5	903.5	904.5
27.5°	879.1	879.2	880.0	875.1	871.1	865.2
30°	843.7	842.9	845.6	839.6	829.8	826.8
32.5°	807.4	807.4	809.2	799.3	788.5	782.6
35°	767.2	771.1	769.9	756.2	742.4	740.4
37.5°	725.9	728.8	728.7	711.9	696.2	694.3
40°	682.7	689.4	684.4	662.8	650.0	649.0
42.5°	635.5	645.2	637.3	611.7	602.9	609.7
45°	585.4	598.0	587.1	563.5	558.6	566.5
47.5°	532.3	548.9	533.2	516.4	517.4	527.2
50°	479.3	488.1	481.1	469.2	478.0	489.8
52.5°	428.2	422.2	430.0	427.0	440.7	452.5
55°	376.2	359.4	378.0	387.7	404.4	414.3
57.5°	326.1	305.4	327.9	349.4	370.0	377.9
60°	276.0	258.2	276.9	308.2	335.7	339.7
62.5°	231.7	220.0	232.6	268.9	298.4	305.3
65°	195.4	190.5	196.3	228.7	262.1	267.0
67.5°	161.0	161.0	161.0	195.3	222.8	232.6
70°	134.4	135.4	134.4	161.0	186.5	196.4
72.5°	109.0	112.9	109.9	131.5	153.1	167.9
75°	89.3	94.3	89.3	104.1	124.6	142.3
77.5°	69.7	75.6	69.7	81.5	103.6	127.9
80°	53.0	57.9	53.0	66.4	98.5	126.3
82.5°	38.2	40.2	38.2	65.4	105.3	129.0
85°	29.3	23.5	31.1	76.2	121.3	144.0
87.5°	26.0	6.9	38.6	95.1	146.4	163.2
90°	16.5	0.9	50.4	121.4	173.5	186.2
92.5°	10.6	15.2	72.2	148.5	204.0	216.7
95°	5.5	36.7	94.7	181.0	239.3	246.6
97.5°	11.7	64.4	125.9	213.4	272.5	279.0
100°	30.5	98.3	164.3	247.7	304.1	306.9
102.5°	56.3	134.8	200.9	280.3	338.2	351.8
105°	91.1	176.8	239.2	324.0	372.4	387.8
107.5°	131.3	221.4	278.5	363.2	413.4	422.2
110°	174.1	267.8	317.7	401.7	456.1	466.8





TEST NUMBER: P392578

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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	220.5	316.0	358.8	437.4	501.7	509.7
115°	273.1	360.6	397.2	478.4	538.3	542.7
117.5°	320.4	414.2	436.5	508.7	576.6	577.5
120°	370.4	465.0	475.7	550.7	614.2	621.2
122.5°	421.2	513.2	513.2	586.3	647.2	651.6
125°	468.6	564.9	550.7	613.2	677.5	679.2
127.5°	516.8	617.6	591.8	648.0	706.9	704.3
130°	569.4	667.5	629.2	681.0	734.6	725.7
132.5°	617.6	721.1	667.5	715.9	762.3	767.6
135°	665.8	771.1	700.5	745.3	790.8	789.0
137.5°	712.1	817.5	740.7	767.5	809.5	814.8
140°	758.6	867.4	777.4	798.8	832.7	833.6
142.5°	805.9	917.5	815.7	829.2	858.6	853.3
145°	860.5	964.7	865.8	859.5	878.2	866.6
147.5°	907.7	1005.8	900.5	881.8	904.1	889.0
150°	960.3	1047.7	948.7	913.0	926.4	919.3
152.5°	1007.6	1080.7	1000.4	936.1	952.3	943.4
155°	1054.9	1115.5	1051.3	961.3	971.9	968.4
157.5°	1095.9	1145.9	1089.6	986.3	998.7	991.6
160°	1132.6	1170.8	1135.2	1023.7	1016.5	1016.5
162.5°	1163.8	1195.9	1166.5	1074.6	1035.2	1019.3
165°	1191.5	1214.7	1194.1	1131.7	1072.7	1058.5
167.5°	1217.3	1232.5	1225.4	1178.1	1130.7	1099.6
170°	1237.8	1246.8	1237.0	1217.3	1193.1	1165.5
172.5°	1248.6	1252.1	1258.4	1245.9	1236.0	1218.2
175°	1254.9	1264.7	1259.3	1263.7	1254.8	1251.1
177.5°	1256.6	1258.4	1257.5	1265.6	1269.0	1262.7
180°	1263.7	1263.7	1263.7	1263.7	1263.7	1263.7

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