

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: P392608

Luminaire Tested: **MWL-3-44-25-UNV-L835-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392608
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-3-44-25-UNV-L835-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

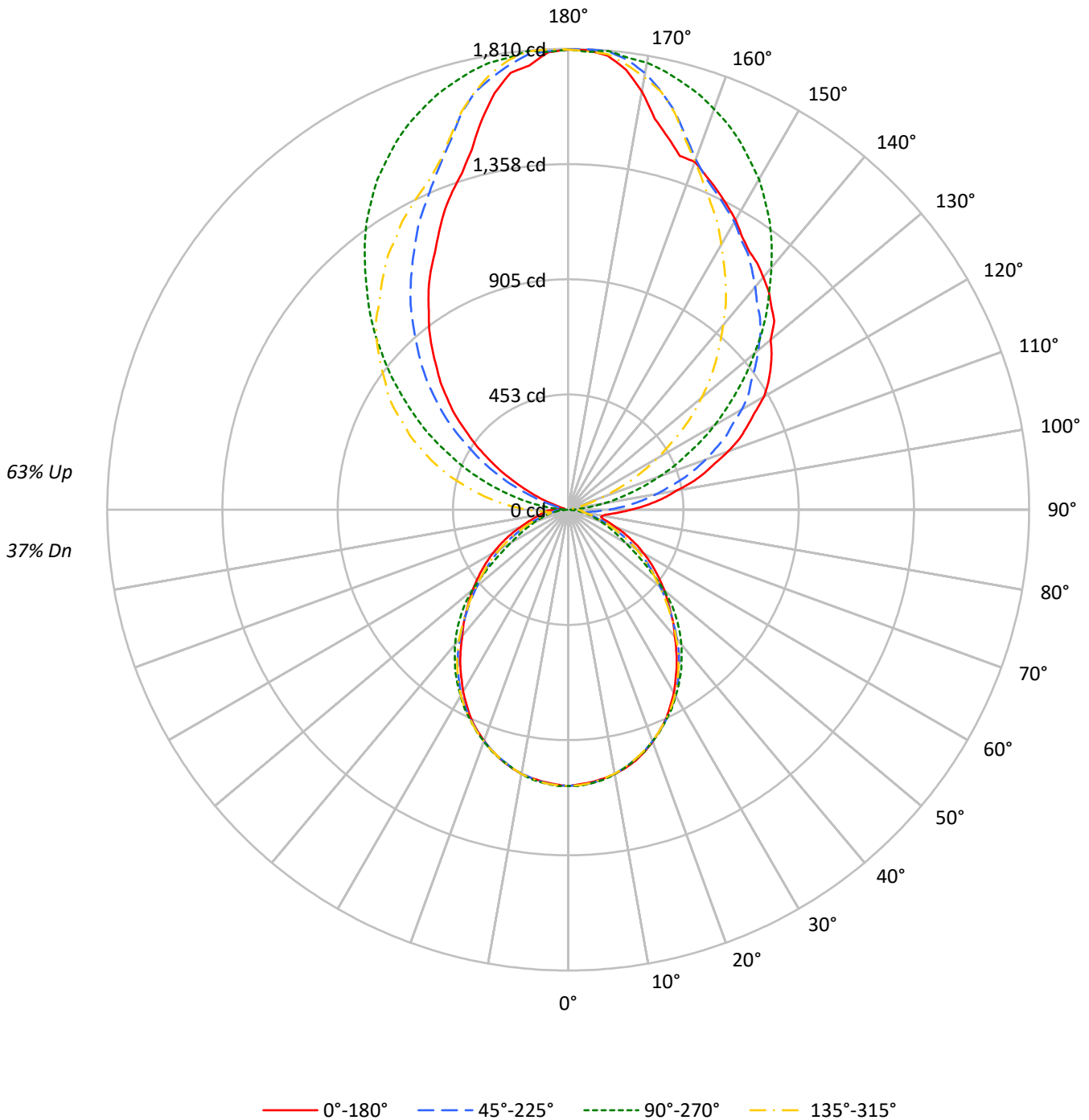
Lumens per Lamp: N/A
Luminaire Lumens: 6812.0 lumens
Efficiency: N/A
Efficacy: 86.3 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Indirect

Input Watts (W): 78.9
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



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	95	91	87	83	86	82	79	76	67	64	62	52	51	49	39	38	37	31
2	87	79	73	68	78	72	67	63	59	55	52	46	44	42	34	33	32	26
3	79	70	63	57	71	64	58	53	52	47	44	41	38	35	31	29	27	23
4	72	62	54	49	65	57	50	45	46	41	38	37	33	30	28	25	24	20
5	66	55	47	42	60	50	44	39	41	36	32	33	29	27	25	23	21	17
6	61	50	42	36	55	45	38	34	37	32	28	30	26	23	23	20	18	15
7	57	45	37	32	51	41	34	29	34	29	25	27	23	21	21	18	16	14
8	52	41	33	28	48	37	31	26	31	26	22	25	21	18	19	17	15	12
9	49	37	30	25	44	34	28	23	28	23	20	23	19	17	18	15	13	11
10	46	34	27	22	41	31	25	21	26	21	18	21	17	15	16	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9344	9344	9344	9344
5°	9167	8573	9167	8573
10°	8998	7839	8998	7839
15°	8774	7148	8741	7148
20°	8459	6512	8425	6512
25°	8098	5898	8064	5898
30°	7639	5323	7591	5323
35°	7119	4778	7082	4778
40°	6561	4226	6510	4226
45°	6082	3653	6041	3653
50°	5657	2993	5613	2993
55°	5214	2230	5182	2230
60°	4737	1635	4719	1635
65°	4211	1239	4211	1239
70°	3592	915	3616	915
75°	3136	665	3219	665
80°	3792	433	3118	433
85°	6697	190	3532	190



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.1	1.5
10°-20°	286.4	4.2
20°-30°	418.1	6.1
30°-40°	472.5	6.9
40°-50°	442.2	6.5
50°-60°	349.2	5.1
60°-70°	228.5	3.4
70°-80°	119.9	1.8
80°-90°	83.9	1.2
90°-100°	142.3	2.1
100°-110°	279.5	4.1
110°-120°	479.8	7.0
120°-130°	651.8	9.6
130°-140°	743.7	10.9
140°-150°	742.0	10.9
150°-160°	646.1	9.5
160°-170°	454.6	6.7
170°-180°	169.3	2.5
0°-30°	806.6	11.8
0°-40°	1279.0	18.8
0°-60°	2070.5	30.4
0°-90°	2502.9	36.7
90°-120°	901.6	13.2
90°-150°	3039.1	44.6
90°-180°	4309.0	63.3
0°-180°	6812.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1085	1085	1085	1085	1085	
5°	1073	1078	1073	1078	1073	102
15°	1021	1017	1017	1017	1021	287
25°	908	910	904	910	908	416
35°	743	773	739	773	743	464
45°	569	600	565	600	569	440
55°	416	361	414	361	416	373
65°	268	191	268	191	268	267
75°	143	95	147	95	143	161
85°	175	24	92	24	175	135
90°	247	1	55	1	247	136
95°	339	52	36	52	339	297
105°	552	252	15	252	552	582
115°	776	516	178	516	776	770
125°	971	808	441	808	971	867
135°	1128	1103	709	1103	1128	871
145°	1239	1380	954	1380	1239	781
155°	1384	1596	1201	1596	1384	639
165°	1514	1737	1464	1737	1514	429
175°	1790	1808	1751	1808	1790	167
180°	1807	1807	1807	1807	1807	



TEST NUMBER: P392608

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1085.1	1085.1	1085.1	1085.1	1085.1	1085.1	1085.1	1085.1	1085.1	1085.1	1085.1
2.5°	1079.3	1083.8	1082.4	1084.7	1085.7	1083.4	1082.4	1083.8	1080.6	1083.8	1082.4
5°	1073.4	1077.9	1077.5	1077.5	1078.5	1077.5	1076.2	1077.9	1073.4	1077.9	1076.2
7.5°	1064.8	1068.4	1066.4	1068.7	1069.6	1067.4	1065.1	1067.1	1064.8	1067.1	1065.1
10°	1054.3	1054.6	1053.6	1054.6	1054.6	1053.3	1052.4	1052.1	1054.3	1052.1	1052.4
12.5°	1039.2	1036.9	1035.6	1037.6	1036.3	1037.6	1035.6	1034.4	1036.6	1034.4	1035.6
15°	1020.8	1018.2	1016.0	1018.0	1016.7	1016.7	1014.7	1015.7	1017.0	1015.7	1014.7
17.5°	997.2	994.7	993.4	995.1	995.1	995.1	992.1	993.4	993.4	993.4	992.1
20°	969.7	970.4	967.8	970.5	969.2	969.2	966.6	967.8	965.9	967.8	966.6
22.5°	938.9	940.9	940.3	942.0	941.7	940.7	939.0	938.3	936.4	938.3	939.0
25°	907.5	906.5	910.1	913.5	910.2	912.2	907.6	902.7	903.7	902.7	907.6
27.5°	868.2	874.1	877.7	882.3	880.8	881.1	875.2	870.2	864.3	870.2	875.2
30°	829.9	832.8	842.6	848.2	844.4	845.7	838.8	829.0	824.7	829.0	838.8
32.5°	785.6	791.5	802.3	811.9	809.3	809.3	798.5	786.4	780.5	786.4	798.5
35°	743.1	745.0	758.8	772.6	772.7	768.7	755.0	741.2	739.2	741.2	755.0
37.5°	696.9	698.8	714.6	731.3	730.7	727.4	710.7	695.0	693.0	695.0	710.7
40°	651.7	652.7	665.4	686.8	691.4	684.2	660.3	647.5	646.6	647.5	660.3
42.5°	612.4	605.5	614.0	639.6	647.2	637.0	610.2	600.4	607.3	600.4	610.2
45°	568.8	561.0	565.9	589.5	600.0	586.9	560.8	557.1	565.0	557.1	560.8
47.5°	529.5	519.7	518.7	535.1	550.8	533.8	513.6	515.9	525.7	515.9	513.6
50°	492.2	480.4	471.5	483.0	489.6	480.5	466.4	475.3	488.3	475.3	466.4
52.5°	454.8	443.0	429.0	431.9	423.8	429.4	425.1	437.9	451.0	437.9	425.1
55°	416.2	406.4	389.7	379.5	360.6	377.0	385.8	402.5	413.6	402.5	385.8
57.5°	379.8	372.0	351.3	329.4	306.5	326.9	347.5	368.1	377.3	368.1	347.5
60°	341.2	337.3	309.8	278.0	259.4	276.7	307.2	334.7	339.9	334.7	307.2
62.5°	306.8	299.9	270.5	233.8	220.7	232.5	267.9	297.4	305.5	297.4	267.9
65°	268.2	263.3	229.9	197.4	191.2	196.2	228.6	262.0	268.2	262.0	228.6
67.5°	233.8	224.0	196.5	161.8	161.8	161.8	195.2	222.7	233.8	222.7	195.2
70°	197.1	187.3	161.8	135.2	136.2	135.2	161.8	188.6	198.4	188.6	161.8
72.5°	168.6	153.9	132.3	110.7	113.3	109.4	132.3	155.2	171.2	155.2	132.3
75°	143.1	125.4	104.5	89.7	94.6	89.7	105.7	126.7	146.9	126.7	105.7
77.5°	131.7	105.9	81.9	70.1	76.0	70.1	83.1	102.1	126.6	102.1	83.1
80°	136.7	106.1	68.0	53.4	58.3	53.4	65.5	85.7	112.4	85.7	65.5
82.5°	148.6	121.5	71.5	38.6	40.6	38.6	56.2	75.5	100.1	75.5	56.2
85°	175.4	148.9	90.8	32.6	23.9	30.1	53.8	71.1	92.5	71.1	53.8
87.5°	208.6	188.3	120.9	45.9	6.9	28.0	48.2	65.7	77.1	65.7	48.2
90°	246.6	230.0	161.0	65.8	1.3	17.3	34.6	49.9	55.1	49.9	34.6
92.5°	293.9	276.6	202.4	99.5	21.4	11.4	27.4	40.5	43.7	40.5	27.4
95°	338.9	329.2	251.3	134.7	52.1	7.1	21.5	33.0	36.3	33.0	21.5
97.5°	388.1	379.7	300.6	179.7	91.6	16.3	18.5	28.7	30.7	28.7	18.5
100°	431.0	427.8	352.1	234.6	140.1	43.1	13.9	26.9	28.9	26.9	13.9
102.5°	497.9	479.6	400.6	287.0	192.5	80.1	20.1	20.0	23.0	20.0	20.1
105°	552.3	531.5	463.1	341.8	252.5	129.9	50.8	18.3	14.8	18.3	50.8
107.5°	603.2	590.4	519.3	398.0	316.4	187.4	94.1	49.2	31.4	49.2	94.1
110°	667.1	651.8	574.2	454.1	382.7	248.6	144.0	90.0	69.6	90.0	144.0



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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°	728.3	716.8	625.2	512.9	451.7	315.1	205.2	141.1	122.0	141.1	205.2
115°	775.6	769.2	684.0	567.8	515.5	390.4	272.9	201.1	178.2	201.1	272.9
117.5°	825.4	824.2	727.3	624.0	592.0	458.0	335.4	261.1	236.8	261.1	335.4
120°	887.9	877.7	787.4	680.2	664.8	529.5	404.4	330.0	305.8	330.0	404.4
122.5°	931.4	925.0	838.5	733.7	733.7	602.2	470.7	396.4	370.9	396.4	470.7
125°	970.9	968.4	876.7	787.4	807.8	670.0	544.8	469.2	441.2	469.2	544.8
127.5°	1006.7	1010.5	926.6	846.1	883.1	738.8	617.6	534.3	504.9	534.3	617.6
130°	1037.3	1050.1	973.7	899.7	954.7	814.2	682.7	599.4	580.3	599.4	682.7
132.5°	1097.4	1089.7	1023.3	954.7	1031.2	883.1	752.6	664.5	642.8	664.5	752.6
135°	1127.9	1130.5	1065.4	1001.8	1102.7	952.1	817.8	730.9	709.3	730.9	817.8
137.5°	1165.0	1157.3	1097.7	1059.3	1169.1	1018.4	880.6	801.2	766.7	801.2	880.6
140°	1191.8	1190.5	1142.0	1111.3	1240.6	1084.6	946.7	864.9	833.1	864.9	946.7
142.5°	1219.9	1227.6	1185.4	1166.5	1312.1	1152.5	1016.9	927.5	896.9	927.5	1016.9
145°	1239.0	1255.6	1228.8	1237.7	1379.7	1230.0	1078.2	987.5	954.4	987.5	1078.2
147.5°	1270.9	1292.6	1260.7	1287.5	1438.5	1297.7	1139.4	1050.1	1020.7	1050.1	1139.4
150°	1314.4	1324.6	1305.4	1356.5	1498.4	1373.0	1202.0	1110.0	1080.8	1110.0	1202.0
152.5°	1348.9	1361.5	1338.9	1430.8	1545.7	1441.0	1269.9	1168.8	1134.3	1168.8	1269.9
155°	1384.5	1389.6	1374.3	1503.5	1595.5	1508.7	1325.9	1233.9	1200.7	1233.9	1325.9
157.5°	1417.7	1428.0	1410.1	1558.5	1638.9	1567.4	1388.4	1299.0	1269.6	1299.0	1388.4
160°	1453.5	1453.5	1463.7	1623.2	1674.6	1619.4	1454.8	1370.5	1329.7	1370.5	1454.8
162.5°	1457.4	1480.6	1536.5	1668.0	1710.1	1664.1	1526.2	1420.6	1385.8	1420.6	1526.2
165°	1513.5	1534.2	1618.1	1707.6	1736.9	1703.7	1614.4	1504.8	1463.7	1504.8	1614.4
167.5°	1572.2	1617.1	1684.6	1752.2	1762.4	1740.8	1682.0	1605.7	1568.4	1605.7	1682.0
170°	1667.0	1706.6	1740.8	1768.8	1782.8	1770.1	1724.2	1686.1	1661.9	1686.1	1724.2
172.5°	1742.4	1767.8	1781.6	1799.5	1790.5	1785.4	1762.4	1743.5	1730.9	1743.5	1762.4
175°	1789.5	1794.6	1807.1	1800.7	1808.4	1794.3	1795.6	1803.6	1751.2	1803.6	1795.6
177.5°	1806.1	1815.1	1809.7	1798.2	1799.5	1796.9	1802.0	1806.1	1798.5	1806.1	1802.0
180°	1807.1	1807.1	1807.1	1807.1	1807.1	1807.1	1807.1	1807.1	1807.1	1807.1	1807.1



TEST NUMBER: P392608

CATALOG NUMBER: MWL-3-44-25-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1085.1	1085.1	1085.1	1085.1	1085.1	1085.1
2.5°	1083.4	1085.7	1084.7	1082.4	1083.8	1079.3
5°	1077.5	1078.5	1077.5	1077.5	1077.9	1073.4
7.5°	1067.4	1069.6	1068.7	1066.4	1068.4	1064.8
10°	1053.3	1054.6	1054.6	1053.6	1054.6	1054.3
12.5°	1037.6	1036.3	1037.6	1035.6	1036.9	1039.2
15°	1016.7	1016.7	1018.0	1016.0	1018.2	1020.8
17.5°	995.1	995.1	995.1	993.4	994.7	997.2
20°	969.2	969.2	970.5	967.8	970.4	969.7
22.5°	940.7	941.7	942.0	940.3	940.9	938.9
25°	912.2	910.2	913.5	910.1	906.5	907.5
27.5°	881.1	880.8	882.3	877.7	874.1	868.2
30°	845.7	844.4	848.2	842.6	832.8	829.9
32.5°	809.3	809.3	811.9	802.3	791.5	785.6
35°	768.7	772.7	772.6	758.8	745.0	743.1
37.5°	727.4	730.7	731.3	714.6	698.8	696.9
40°	684.2	691.4	686.8	665.4	652.7	651.7
42.5°	637.0	647.2	639.6	614.0	605.5	612.4
45°	586.9	600.0	589.5	565.9	561.0	568.8
47.5°	533.8	550.8	535.1	518.7	519.7	529.5
50°	480.5	489.6	483.0	471.5	480.4	492.2
52.5°	429.4	423.8	431.9	429.0	443.0	454.8
55°	377.0	360.6	379.5	389.7	406.4	416.2
57.5°	326.9	306.5	329.4	351.3	372.0	379.8
60°	276.7	259.4	278.0	309.8	337.3	341.2
62.5°	232.5	220.7	233.8	270.5	299.9	306.8
65°	196.2	191.2	197.4	229.9	263.3	268.2
67.5°	161.8	161.8	161.8	196.5	224.0	233.8
70°	135.2	136.2	135.2	161.8	187.3	197.1
72.5°	109.4	113.3	110.7	132.3	153.9	168.6
75°	89.7	94.6	89.7	104.5	125.4	143.1
77.5°	70.1	76.0	70.1	81.9	105.9	131.7
80°	53.4	58.3	53.4	68.0	106.1	136.7
82.5°	38.6	40.6	38.6	71.5	121.5	148.6
85°	30.1	23.9	32.6	90.8	148.9	175.4
87.5°	28.0	6.9	45.9	120.9	188.3	208.6
90°	17.3	1.3	65.8	161.0	230.0	246.6
92.5°	11.4	21.4	99.5	202.4	276.6	293.9
95°	7.1	52.1	134.7	251.3	329.2	338.9
97.5°	16.3	91.6	179.7	300.6	379.7	388.1
100°	43.1	140.1	234.6	352.1	427.8	431.0
102.5°	80.1	192.5	287.0	400.6	479.6	497.9
105°	129.9	252.5	341.8	463.1	531.5	552.3
107.5°	187.4	316.4	398.0	519.3	590.4	603.2
110°	248.6	382.7	454.1	574.2	651.8	667.1



TEST NUMBER: P392608

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	315.1	451.7	512.9	625.2	716.8	728.3
115°	390.4	515.5	567.8	684.0	769.2	775.6
117.5°	458.0	592.0	624.0	727.3	824.2	825.4
120°	529.5	664.8	680.2	787.4	877.7	887.9
122.5°	602.2	733.7	733.7	838.5	925.0	931.4
125°	670.0	807.8	787.4	876.7	968.4	970.9
127.5°	738.8	883.1	846.1	926.6	1010.5	1006.7
130°	814.2	954.7	899.7	973.7	1050.1	1037.3
132.5°	883.1	1031.2	954.7	1023.3	1089.7	1097.4
135°	952.1	1102.7	1001.8	1065.4	1130.5	1127.9
137.5°	1018.4	1169.1	1059.3	1097.7	1157.3	1165.0
140°	1084.6	1240.6	1111.3	1142.0	1190.5	1191.8
142.5°	1152.5	1312.1	1166.5	1185.4	1227.6	1219.9
145°	1230.0	1379.7	1237.7	1228.8	1255.6	1239.0
147.5°	1297.7	1438.5	1287.5	1260.7	1292.6	1270.9
150°	1373.0	1498.4	1356.5	1305.4	1324.6	1314.4
152.5°	1441.0	1545.7	1430.8	1338.9	1361.5	1348.9
155°	1508.7	1595.5	1503.5	1374.3	1389.6	1384.5
157.5°	1567.4	1638.9	1558.5	1410.1	1428.0	1417.7
160°	1619.4	1674.6	1623.2	1463.7	1453.5	1453.5
162.5°	1664.1	1710.1	1668.0	1536.5	1480.6	1457.4
165°	1703.7	1736.9	1707.6	1618.1	1534.2	1513.5
167.5°	1740.8	1762.4	1752.2	1684.6	1617.1	1572.2
170°	1770.1	1782.8	1768.8	1740.8	1706.6	1667.0
172.5°	1785.4	1790.5	1799.5	1781.6	1767.8	1742.4
175°	1794.3	1808.4	1800.7	1807.1	1794.6	1789.5
177.5°	1796.9	1799.5	1798.2	1809.7	1815.1	1806.1
180°	1807.1	1807.1	1807.1	1807.1	1807.1	1807.1

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