

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: P392594

Luminaire Tested: **MWL-3-37-25-UNV-L840-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392594  
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-3-37-25-UNV-L840-EDD  
Description: MWL 3FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6227.9 lumens  
Efficiency: N/A  
Efficacy: 103.1 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

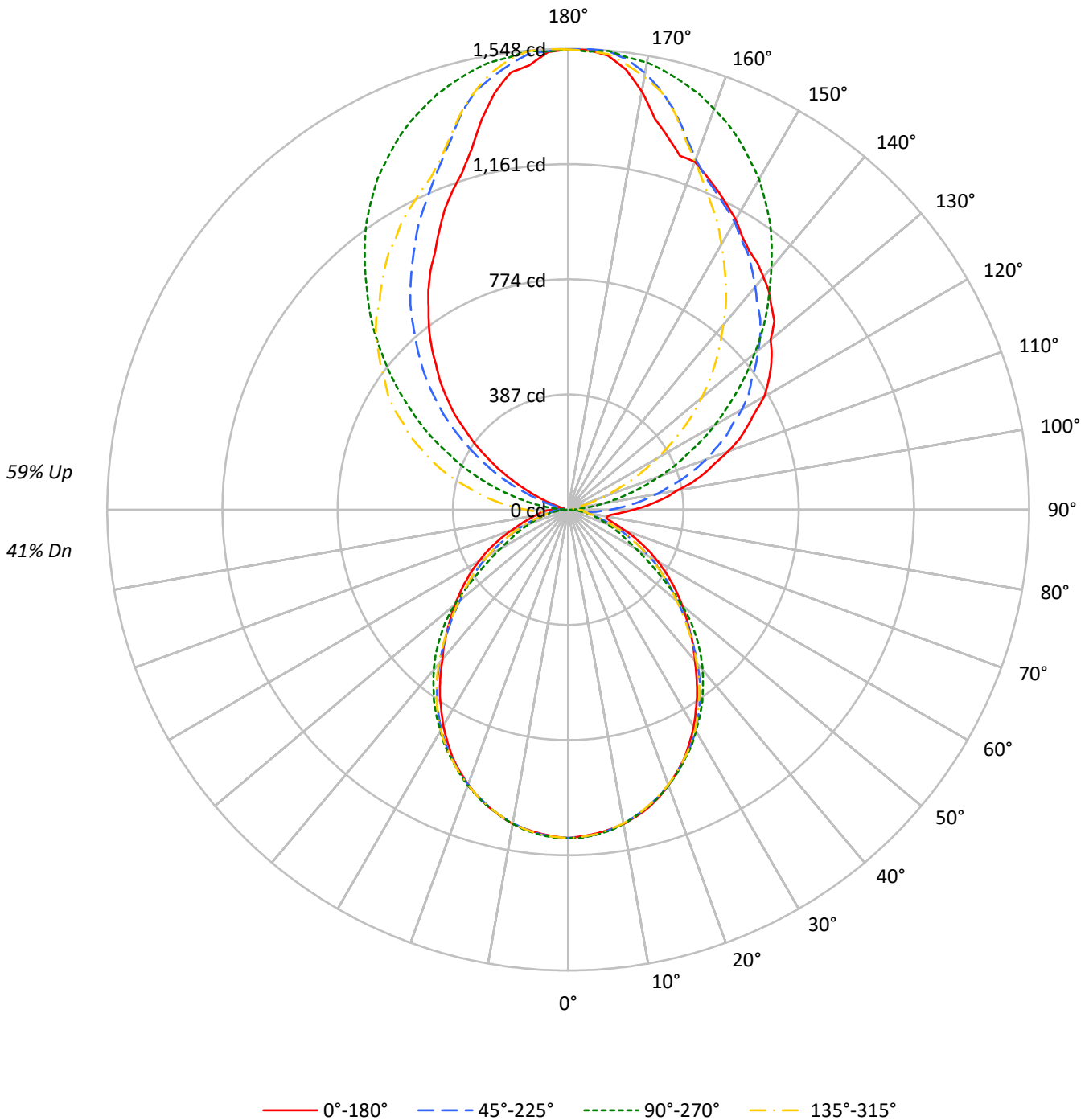
Input Watts (W): 60.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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CATALOG NUMBER: MWL-3-37-25-UNV-L840-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	50	30	10	0	
RCR																						
0	105	105	105	105	96	96	96	96	78	78	78	62	62	62	48	48	48	41				
1	96	92	88	84	87	84	80	77	69	66	64	55	53	52	42	41	40	34				
2	87	80	74	69	79	73	68	64	60	57	54	48	46	44	37	36	34	29				
3	80	71	64	58	73	65	59	54	53	49	45	43	40	37	33	31	30	25				
4	73	63	55	49	66	58	51	46	48	43	39	39	35	32	30	28	26	22				
5	67	56	48	42	61	51	44	39	43	38	34	35	31	28	27	25	23	19				
6	62	50	42	37	56	46	39	34	39	33	29	31	28	25	25	22	20	17				
7	57	45	38	32	52	42	35	30	35	30	26	29	25	22	23	20	18	15				
8	53	41	34	28	48	38	31	27	32	27	23	26	22	20	21	18	16	14				
9	50	38	30	25	45	35	28	24	29	24	21	24	20	18	19	17	15	12				
10	46	34	27	23	42	32	26	21	27	22	19	22	19	16	18	15	13	11				

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

	0°	90°	180°	270°
0°	9495	9495	9495	9495
5°	9322	8710	9322	8710
10°	9147	7966	9147	7966
15°	8912	7267	8885	7267
20°	8591	6621	8563	6621
25°	8226	5997	8197	5997
30°	7758	5412	7719	5412
35°	7230	4857	7200	4857
40°	6662	4294	6619	4294
45°	6176	3711	6141	3711
50°	5742	3040	5704	3040
55°	5293	2265	5266	2265
60°	4809	1660	4794	1660
65°	4275	1258	4275	1258
70°	3648	928	3668	928
75°	3182	676	3254	676
80°	3703	439	3126	439
85°	6167	192	3459	192



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	103.7	1.7
10°-20°	291.1	4.7
20°-30°	424.9	6.8
30°-40°	480.1	7.7
40°-50°	449.3	7.2
50°-60°	354.7	5.7
60°-70°	232.0	3.7
70°-80°	121.4	1.9
80°-90°	79.8	1.3
90°-100°	124.8	2.0
100°-110°	239.6	3.8
110°-120°	410.6	6.6
120°-130°	557.8	9.0
130°-140°	636.4	10.2
140°-150°	634.9	10.2
150°-160°	552.9	8.9
160°-170°	389.0	6.2
170°-180°	144.9	2.3
0°-30°	819.8	13.2
0°-40°	1299.9	20.9
0°-60°	2103.9	33.8
0°-90°	2537.1	40.7
90°-120°	775.0	12.4
90°-150°	2604.2	41.8
90°-180°	3691.0	59.3
0°-180°	6227.9	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1103	1103	1103	1103	1103	
5°	1092	1096	1092	1096	1092	104
15°	1037	1034	1034	1034	1037	292
25°	922	926	919	926	922	423
35°	755	786	752	786	755	471
45°	578	610	574	610	578	447
55°	422	366	420	366	422	378
65°	272	194	272	194	272	271
75°	145	96	148	96	145	162
85°	162	24	91	24	162	126
90°	218	1	55	1	218	121
95°	295	45	36	45	295	257
105°	473	216	14	216	473	499
115°	664	441	153	441	664	659
125°	831	691	378	691	831	742
135°	965	944	607	944	965	745
145°	1060	1180	817	1180	1060	668
155°	1185	1365	1028	1365	1185	546
165°	1295	1486	1252	1486	1295	367
175°	1531	1547	1498	1547	1531	143
180°	1546	1546	1546	1546	1546	



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CATALOG NUMBER: MWL-3-37-25-UNV-L840-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1102.7	1102.7	1102.7	1102.7	1102.7	1102.7	1102.7	1102.7	1102.7	1102.7	1102.7
2.5°	1097.5	1101.7	1099.8	1101.9	1102.9	1100.8	1099.8	1101.7	1098.6	1101.7	1099.8
5°	1091.5	1095.7	1094.8	1094.8	1095.8	1094.8	1093.7	1095.7	1091.5	1095.7	1093.7
7.5°	1082.6	1085.7	1083.7	1085.8	1086.8	1084.7	1082.7	1084.7	1082.6	1084.7	1082.7
10°	1071.7	1071.7	1070.7	1071.7	1071.7	1070.7	1069.7	1069.6	1071.7	1069.6	1069.7
12.5°	1055.8	1053.7	1052.7	1054.7	1053.6	1054.7	1052.7	1051.6	1053.7	1051.6	1052.7
15°	1036.9	1034.7	1032.7	1034.7	1033.6	1033.6	1031.6	1032.6	1033.7	1032.6	1031.6
17.5°	1012.9	1010.7	1009.7	1011.6	1011.6	1011.6	1008.6	1009.7	1009.7	1009.7	1008.6
20°	984.9	985.8	983.7	986.6	985.5	985.5	982.6	983.7	981.7	983.7	982.6
22.5°	953.8	955.8	955.7	957.6	957.5	956.5	954.6	953.7	951.7	953.7	954.6
25°	921.8	920.8	924.7	928.6	925.5	927.5	922.6	917.6	918.6	917.6	922.6
27.5°	881.8	887.8	891.7	896.7	895.5	895.6	889.6	884.6	878.6	884.6	889.6
30°	842.8	845.8	855.8	861.7	858.5	859.6	852.6	842.6	838.5	842.6	852.6
32.5°	797.8	803.8	814.8	824.7	822.6	822.6	811.6	799.5	793.5	799.5	811.6
35°	754.7	756.7	770.7	784.7	785.5	781.5	767.5	753.5	751.5	753.5	767.5
37.5°	707.7	709.7	725.7	742.7	742.6	739.5	722.5	706.5	704.5	706.5	722.5
40°	661.7	662.7	675.7	697.7	702.6	695.5	671.4	658.4	657.4	658.4	671.4
42.5°	621.6	614.6	623.7	649.7	657.6	647.5	620.3	610.3	617.3	610.3	620.3
45°	577.6	569.6	574.6	598.6	609.5	596.4	570.2	566.3	574.3	566.3	570.2
47.5°	537.6	527.6	526.6	543.5	559.5	542.4	522.2	524.3	534.3	524.3	522.2
50°	499.6	487.6	478.6	490.5	497.4	488.3	474.2	483.2	496.3	483.2	474.2
52.5°	461.6	449.6	435.5	438.5	430.4	436.3	432.2	445.2	458.3	445.2	432.2
55°	422.5	412.5	395.5	385.4	366.3	383.2	392.2	409.2	420.3	409.2	392.2
57.5°	385.5	377.5	356.5	334.4	311.3	332.2	353.2	374.2	383.3	374.2	353.2
60°	346.4	342.4	314.4	282.3	263.3	281.2	312.2	340.2	345.3	340.2	312.2
62.5°	311.4	304.4	274.4	237.3	224.2	236.2	272.2	302.2	310.3	302.2	272.2
65°	272.3	267.3	233.3	200.3	194.2	199.2	232.2	266.2	272.3	266.2	232.2
67.5°	237.3	227.3	199.3	164.2	164.2	164.2	198.2	226.2	237.3	226.2	198.2
70°	200.2	190.2	164.2	137.2	138.2	137.2	164.2	191.3	201.3	191.3	164.2
72.5°	171.2	156.2	134.2	112.2	115.1	111.1	134.2	157.3	173.4	157.3	134.2
75°	145.2	127.2	106.1	91.1	96.1	91.1	107.2	128.3	148.5	128.3	107.2
77.5°	131.9	106.6	83.1	71.1	77.1	71.1	84.2	103.3	127.6	103.3	84.2
80°	133.5	103.8	68.4	54.1	59.1	54.1	66.2	86.4	112.7	86.4	66.2
82.5°	140.7	114.9	69.5	39.1	41.1	39.1	56.4	75.6	99.2	75.6	56.4
85°	161.5	136.6	84.5	32.4	24.1	30.2	52.8	70.0	90.6	70.0	52.8
87.5°	187.9	169.0	109.2	42.7	7.0	27.5	46.9	64.2	75.4	64.2	46.9
90°	218.4	203.5	142.5	58.7	1.1	17.2	34.4	49.6	54.6	49.6	34.4
92.5°	257.5	242.4	176.9	86.5	18.5	11.2	27.3	40.4	43.5	40.4	27.3
95°	295.1	286.5	217.8	115.6	44.7	6.4	21.3	33.2	36.3	33.2	21.3
97.5°	336.1	328.7	258.9	153.9	78.5	14.1	17.6	28.4	30.4	28.4	17.6
100°	371.7	368.6	302.0	200.8	120.0	37.0	12.6	25.7	27.7	25.7	12.6
102.5°	428.0	411.9	342.8	245.6	164.8	68.7	17.4	18.7	21.7	18.7	17.4
105°	473.4	455.1	396.3	292.6	216.1	111.3	43.6	16.1	13.6	16.1	43.6
107.5°	516.3	505.4	444.4	340.6	270.7	160.4	80.7	42.4	27.1	42.4	80.7
110°	570.9	557.8	491.3	388.7	327.5	212.9	123.3	77.3	59.9	77.3	123.3



TEST NUMBER: P392594

CATALOG NUMBER: MWL-3-37-25-UNV-L840-EDD

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	623.5	613.5	535.0	438.9	386.5	269.6	175.7	121.0	104.6	121.0	175.7
115°	663.9	658.4	585.2	485.9	441.1	334.1	233.6	172.4	152.7	172.4	233.6
117.5°	706.5	705.4	622.4	533.9	506.6	391.9	287.1	223.7	202.9	223.7	287.1
120°	760.0	751.2	673.8	582.0	568.8	453.1	346.1	282.6	261.9	282.6	346.1
122.5°	797.1	791.6	717.5	627.9	627.9	515.3	402.9	339.4	317.6	339.4	402.9
125°	830.9	828.8	750.2	673.8	691.3	573.2	466.2	401.7	377.7	401.7	466.2
127.5°	861.5	864.8	792.8	724.0	755.7	632.3	528.4	457.4	432.3	457.4	528.4
130°	887.7	898.6	833.2	769.9	816.8	696.7	584.1	513.1	496.7	513.1	584.1
132.5°	939.0	932.5	875.7	816.8	882.4	755.7	644.2	568.8	550.2	568.8	644.2
135°	965.3	967.4	911.7	857.2	943.5	814.7	699.9	625.6	607.0	625.6	699.9
137.5°	996.9	990.4	939.1	906.4	1000.3	871.4	753.5	685.7	656.2	685.7	753.5
140°	1019.9	1018.8	977.3	951.1	1061.4	928.1	810.2	740.3	713.0	740.3	810.2
142.5°	1043.9	1050.4	1014.4	998.1	1122.6	986.1	870.3	793.8	767.6	793.8	870.3
145°	1060.3	1074.5	1051.5	1059.2	1180.5	1052.6	922.7	845.1	816.7	845.1	922.7
147.5°	1087.6	1106.1	1078.8	1101.8	1230.7	1110.5	975.1	898.6	873.5	898.6	975.1
150°	1124.7	1133.4	1117.0	1160.7	1282.0	1174.9	1028.6	950.0	924.9	950.0	1028.6
152.5°	1154.2	1165.1	1145.5	1224.2	1322.4	1232.9	1086.6	1000.2	970.7	1000.2	1086.6
155°	1184.8	1189.1	1176.0	1286.4	1365.0	1290.8	1134.5	1055.9	1027.5	1055.9	1134.5
157.5°	1213.1	1221.9	1206.6	1333.4	1402.2	1341.0	1188.0	1111.6	1086.5	1111.6	1188.0
160°	1243.7	1243.7	1252.5	1389.0	1432.7	1385.7	1244.8	1172.7	1137.8	1172.7	1244.8
162.5°	1247.0	1266.7	1314.7	1427.2	1463.2	1423.9	1306.0	1215.4	1185.8	1215.4	1306.0
165°	1295.0	1312.6	1384.6	1461.0	1486.1	1457.8	1381.3	1287.5	1252.5	1287.5	1381.3
167.5°	1345.3	1383.6	1441.4	1499.3	1508.0	1489.4	1439.2	1373.8	1342.0	1373.8	1439.2
170°	1426.2	1460.0	1489.4	1513.5	1525.5	1514.5	1475.2	1442.6	1421.8	1442.6	1475.2
172.5°	1490.6	1512.5	1524.4	1539.7	1532.0	1527.6	1508.0	1491.7	1480.8	1491.7	1508.0
175°	1531.0	1535.4	1546.2	1540.8	1547.3	1535.3	1536.4	1543.0	1498.3	1543.0	1536.4
177.5°	1545.2	1552.9	1548.4	1538.6	1539.7	1537.5	1541.8	1545.2	1538.7	1545.2	1541.8
180°	1546.2	1546.2	1546.2	1546.2	1546.2	1546.2	1546.2	1546.2	1546.2	1546.2	1546.2



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1102.7	1102.7	1102.7	1102.7	1102.7	1102.7
2.5°	1100.8	1102.9	1101.9	1099.8	1101.7	1097.5
5°	1094.8	1095.8	1094.8	1094.8	1095.7	1091.5
7.5°	1084.7	1086.8	1085.8	1083.7	1085.7	1082.6
10°	1070.7	1071.7	1071.7	1070.7	1071.7	1071.7
12.5°	1054.7	1053.6	1054.7	1052.7	1053.7	1055.8
15°	1033.6	1033.6	1034.7	1032.7	1034.7	1036.9
17.5°	1011.6	1011.6	1011.6	1009.7	1010.7	1012.9
20°	985.5	985.5	986.6	983.7	985.8	984.9
22.5°	956.5	957.5	957.6	955.7	955.8	953.8
25°	927.5	925.5	928.6	924.7	920.8	921.8
27.5°	895.6	895.5	896.7	891.7	887.8	881.8
30°	859.6	858.5	861.7	855.8	845.8	842.8
32.5°	822.6	822.6	824.7	814.8	803.8	797.8
35°	781.5	785.5	784.7	770.7	756.7	754.7
37.5°	739.5	742.6	742.7	725.7	709.7	707.7
40°	695.5	702.6	697.7	675.7	662.7	661.7
42.5°	647.5	657.6	649.7	623.7	614.6	621.6
45°	596.4	609.5	598.6	574.6	569.6	577.6
47.5°	542.4	559.5	543.5	526.6	527.6	537.6
50°	488.3	497.4	490.5	478.6	487.6	499.6
52.5°	436.3	430.4	438.5	435.5	449.6	461.6
55°	383.2	366.3	385.4	395.5	412.5	422.5
57.5°	332.2	311.3	334.4	356.5	377.5	385.5
60°	281.2	263.3	282.3	314.4	342.4	346.4
62.5°	236.2	224.2	237.3	274.4	304.4	311.4
65°	199.2	194.2	200.3	233.3	267.3	272.3
67.5°	164.2	164.2	164.2	199.3	227.3	237.3
70°	137.2	138.2	137.2	164.2	190.2	200.2
72.5°	111.1	115.1	112.2	134.2	156.2	171.2
75°	91.1	96.1	91.1	106.1	127.2	145.2
77.5°	71.1	77.1	71.1	83.1	106.6	131.9
80°	54.1	59.1	54.1	68.4	103.8	133.5
82.5°	39.1	41.1	39.1	69.5	114.9	140.7
85°	30.2	24.1	32.4	84.5	136.6	161.5
87.5°	27.5	7.0	42.7	109.2	169.0	187.9
90°	17.2	1.1	58.7	142.5	203.5	218.4
92.5°	11.2	18.5	86.5	176.9	242.4	257.5
95°	6.4	44.7	115.6	217.8	286.5	295.1
97.5°	14.1	78.5	153.9	258.9	328.7	336.1
100°	37.0	120.0	200.8	302.0	368.6	371.7
102.5°	68.7	164.8	245.6	342.8	411.9	428.0
105°	111.3	216.1	292.6	396.3	455.1	473.4
107.5°	160.4	270.7	340.6	444.4	505.4	516.3
110°	212.9	327.5	388.7	491.3	557.8	570.9





TEST NUMBER: P392594

CATALOG NUMBER: MWL-3-37-25-UNV-L840-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	269.6	386.5	438.9	535.0	613.5	623.5
115°	334.1	441.1	485.9	585.2	658.4	663.9
117.5°	391.9	506.6	533.9	622.4	705.4	706.5
120°	453.1	568.8	582.0	673.8	751.2	760.0
122.5°	515.3	627.9	627.9	717.5	791.6	797.1
125°	573.2	691.3	673.8	750.2	828.8	830.9
127.5°	632.3	755.7	724.0	792.8	864.8	861.5
130°	696.7	816.8	769.9	833.2	898.6	887.7
132.5°	755.7	882.4	816.8	875.7	932.5	939.0
135°	814.7	943.5	857.2	911.7	967.4	965.3
137.5°	871.4	1000.3	906.4	939.1	990.4	996.9
140°	928.1	1061.4	951.1	977.3	1018.8	1019.9
142.5°	986.1	1122.6	998.1	1014.4	1050.4	1043.9
145°	1052.6	1180.5	1059.2	1051.5	1074.5	1060.3
147.5°	1110.5	1230.7	1101.8	1078.8	1106.1	1087.6
150°	1174.9	1282.0	1160.7	1117.0	1133.4	1124.7
152.5°	1232.9	1322.4	1224.2	1145.5	1165.1	1154.2
155°	1290.8	1365.0	1286.4	1176.0	1189.1	1184.8
157.5°	1341.0	1402.2	1333.4	1206.6	1221.9	1213.1
160°	1385.7	1432.7	1389.0	1252.5	1243.7	1243.7
162.5°	1423.9	1463.2	1427.2	1314.7	1266.7	1247.0
165°	1457.8	1486.1	1461.0	1384.6	1312.6	1295.0
167.5°	1489.4	1508.0	1499.3	1441.4	1383.6	1345.3
170°	1514.5	1525.5	1513.5	1489.4	1460.0	1426.2
172.5°	1527.6	1532.0	1539.7	1524.4	1512.5	1490.6
175°	1535.3	1547.3	1540.8	1546.2	1535.4	1531.0
177.5°	1537.5	1539.7	1538.6	1548.4	1552.9	1545.2
180°	1546.2	1546.2	1546.2	1546.2	1546.2	1546.2

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