

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: P392590

Luminaire Tested: **MWL-3-30-57-UNV-L835-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392590
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-3-30-57-UNV-L835-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

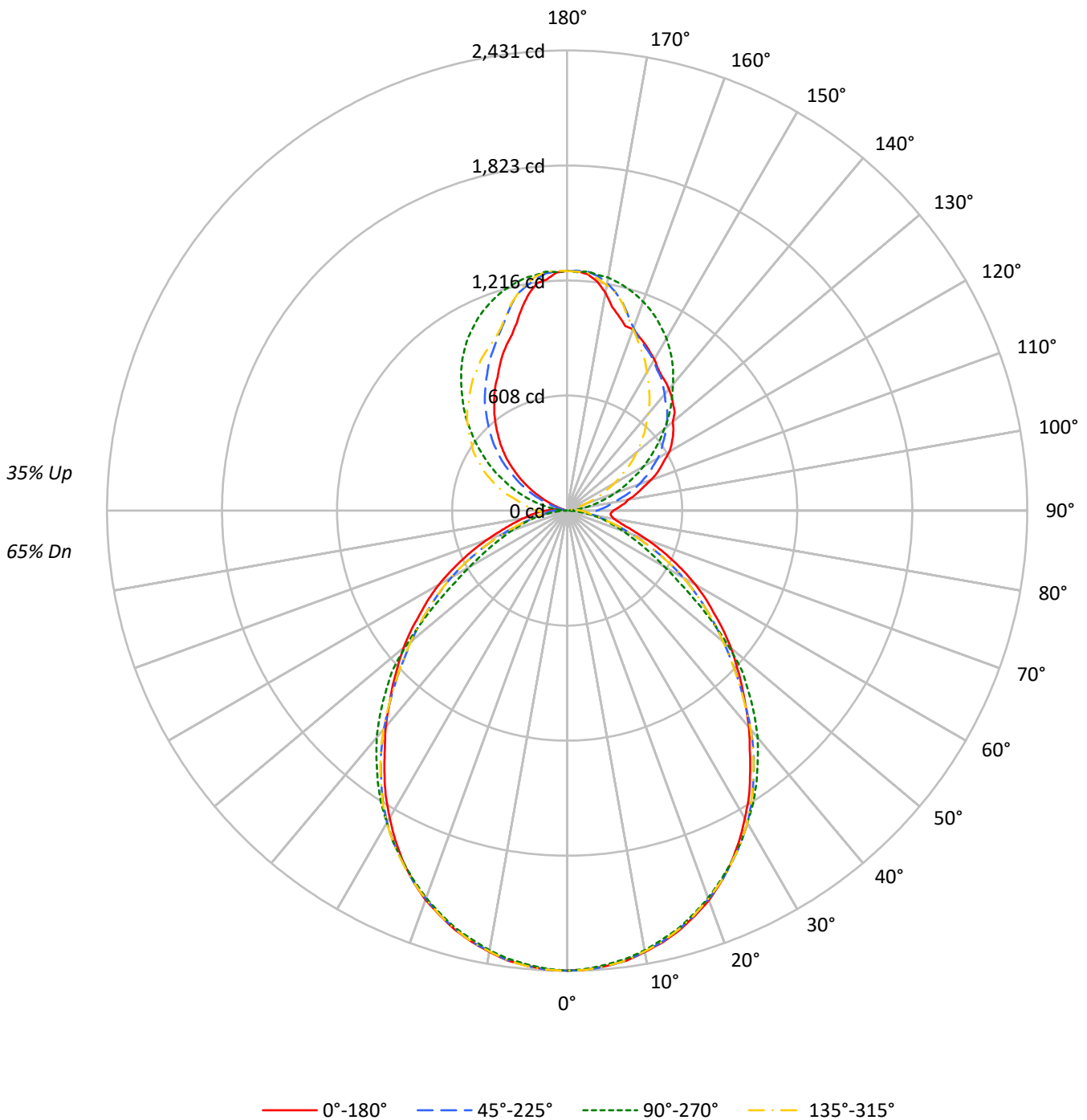
Lumens per Lamp: N/A
Luminaire Lumens: 8671.0 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 97.6
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	111	111	111	111	104	104	104	104	92	92	92	80	80	80	70	70	70	65
1	101	97	93	90	95	91	88	85	81	78	76	71	69	67	62	61	59	55
2	93	85	79	74	87	80	75	70	71	67	64	63	60	57	55	53	51	47
3	85	75	68	62	80	71	65	59	63	58	54	56	52	49	49	46	44	40
4	78	67	59	53	73	63	56	51	57	51	46	50	46	42	44	41	38	35
5	72	60	52	46	67	57	50	44	51	45	40	45	41	37	40	36	33	31
6	66	54	46	40	62	51	44	39	46	40	36	41	36	33	37	33	30	27
7	61	49	41	35	58	47	39	34	42	36	32	38	33	29	34	30	27	24
8	57	45	37	32	54	43	35	30	38	32	28	35	30	26	31	27	24	22
9	53	41	33	28	50	39	32	27	35	30	25	32	27	24	29	25	22	20
10	50	38	30	26	47	36	29	25	33	27	23	30	25	21	27	23	20	18

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	20931	20931	20931	20931
5°	20618	19132	20618	19132
10°	20209	17534	20209	17534
15°	19725	16047	19701	16047
20°	19109	14628	19086	14628
25°	18305	13281	18280	13281
30°	17290	12003	17257	12003
35°	16151	10789	16124	10789
40°	15042	9566	15006	9566
45°	13949	8261	13920	8261
50°	12994	6797	12964	6797
55°	11874	5102	11853	5102
60°	10867	3746	10856	3746
65°	9530	2820	9530	2820
70°	8180	2112	8197	2112
75°	6973	1519	7032	1519
80°	6965	971	6497	971
85°	8763	397	6545	397



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	228.9	2.6
10°-20°	644.3	7.4
20°-30°	944.4	10.9
30°-40°	1071.0	12.4
40°-50°	1006.9	11.6
50°-60°	799.2	9.2
60°-70°	519.8	6.0
70°-80°	265.1	3.1
80°-90°	134.6	1.6
90°-100°	127.6	1.5
100°-110°	200.2	2.3
110°-120°	337.8	3.9
120°-130°	458.1	5.3
130°-140°	522.3	6.0
140°-150°	520.6	6.0
150°-160°	453.1	5.2
160°-170°	318.7	3.7
170°-180°	118.7	1.4
0°-30°	1817.6	21.0
0°-40°	2888.5	33.3
0°-60°	4694.6	54.1
0°-90°	5614.0	64.7
90°-120°	665.6	7.7
90°-150°	2166.6	25.0
90°-180°	3057.0	35.3
0°-180°	8671.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2431	2431	2431	2431	2431	
5°	2414	2407	2414	2407	2414	229
15°	2295	2282	2292	2282	2295	646
25°	2051	2050	2048	2050	2051	942
35°	1686	1745	1683	1745	1686	1054
45°	1304	1357	1302	1357	1304	1008
55°	948	825	946	825	948	852
65°	607	435	607	435	607	605
75°	318	216	321	216	318	349
85°	230	50	171	50	230	193
90°	244	2	110	2	244	135
95°	284	37	72	37	284	242
105°	395	178	19	178	395	418
115°	546	362	128	362	546	542
125°	682	567	312	567	682	609
135°	792	774	499	774	792	611
145°	870	968	670	968	870	548
155°	971	1118	843	1118	971	448
165°	1061	1218	1027	1218	1061	301
175°	1253	1268	1226	1268	1253	117
180°	1266	1266	1266	1266	1266	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2430.7	2430.7	2430.7	2430.7	2430.7	2430.7	2430.7	2430.7	2430.7	2430.7	2430.7
2.5°	2427.0	2427.7	2427.6	2424.6	2422.6	2423.7	2427.6	2427.7	2427.8	2427.7	2427.6
5°	2414.2	2416.9	2415.8	2410.9	2407.0	2410.9	2415.0	2416.9	2414.2	2416.9	2415.0
7.5°	2398.4	2397.3	2397.3	2390.3	2387.3	2389.4	2396.3	2396.3	2398.4	2396.3	2396.3
10°	2367.8	2368.8	2364.8	2361.9	2358.9	2360.9	2363.9	2366.9	2367.8	2366.9	2363.9
12.5°	2335.3	2333.4	2331.4	2326.5	2320.7	2326.5	2331.4	2331.5	2333.4	2331.5	2331.4
15°	2294.9	2288.2	2289.2	2286.2	2282.4	2285.3	2288.3	2286.3	2292.1	2286.3	2288.3
17.5°	2243.8	2241.0	2239.1	2237.2	2231.3	2237.2	2238.2	2240.0	2241.0	2240.0	2238.2
20°	2190.7	2186.9	2183.0	2183.1	2177.3	2182.3	2182.2	2185.0	2188.0	2185.0	2182.2
22.5°	2124.0	2124.0	2123.1	2121.2	2115.4	2120.3	2122.2	2122.1	2122.1	2122.1	2122.2
25°	2051.3	2052.2	2055.3	2056.4	2049.6	2055.5	2053.4	2049.5	2048.5	2049.5	2053.4
27.5°	1967.7	1974.6	1984.5	1986.5	1982.8	1985.6	1982.7	1971.8	1965.0	1971.8	1982.7
30°	1878.3	1884.2	1905.8	1915.7	1904.1	1913.9	1903.1	1881.4	1874.7	1881.4	1903.1
32.5°	1787.9	1789.8	1816.4	1831.2	1829.4	1829.4	1813.6	1786.2	1784.2	1786.2	1813.6
35°	1685.8	1687.7	1717.2	1744.7	1744.9	1742.0	1714.5	1685.0	1683.0	1685.0	1714.5
37.5°	1584.6	1586.5	1618.0	1648.4	1654.4	1645.7	1615.2	1583.8	1581.8	1583.8	1615.2
40°	1494.1	1483.3	1509.9	1546.2	1565.0	1544.5	1506.2	1479.7	1490.5	1479.7	1506.2
42.5°	1393.9	1380.1	1392.9	1440.1	1462.8	1438.3	1390.3	1376.5	1390.3	1376.5	1390.3
45°	1304.5	1280.9	1284.8	1327.1	1356.7	1325.3	1281.3	1278.2	1301.8	1278.2	1281.3
47.5°	1214.1	1189.5	1177.7	1215.1	1252.5	1214.3	1174.2	1186.8	1211.4	1186.8	1174.2
50°	1130.5	1101.1	1077.5	1093.3	1112.1	1091.5	1073.9	1097.5	1127.9	1097.5	1073.9
52.5°	1041.1	1016.5	981.3	983.2	969.6	981.5	978.6	1013.0	1038.5	1013.0	978.6
55°	947.8	933.1	887.9	864.4	825.2	862.6	885.2	930.4	946.1	930.4	885.2
57.5°	868.2	851.5	797.5	746.5	696.5	744.7	794.8	848.9	866.5	848.9	794.8
60°	782.8	769.1	708.2	629.6	594.3	628.8	706.4	767.3	782.0	767.3	706.4
62.5°	694.4	684.6	617.7	528.4	508.9	527.5	616.0	682.8	693.5	682.8	616.0
65°	607.0	594.3	524.5	442.9	435.2	442.0	523.6	593.4	607.0	593.4	523.6
67.5°	527.4	507.8	442.9	369.3	368.3	369.3	442.0	506.9	527.4	506.9	442.0
70°	448.9	421.4	362.4	307.4	314.3	307.4	362.4	422.3	449.8	422.3	362.4
72.5°	377.2	344.7	292.7	250.4	259.3	249.5	292.7	345.6	378.9	345.6	292.7
75°	318.2	274.0	230.8	200.4	216.1	200.4	231.7	274.9	320.9	274.9	231.7
77.5°	278.2	228.4	178.8	154.2	172.9	154.2	179.6	225.7	274.6	225.7	179.6
80°	251.1	200.7	144.1	116.8	130.6	116.8	142.3	186.3	234.2	186.3	142.3
82.5°	238.1	188.8	128.2	84.4	90.3	84.4	117.5	156.6	204.2	156.6	117.5
85°	229.5	193.0	129.2	65.4	50.0	63.7	103.4	138.6	171.4	138.6	103.4
87.5°	234.0	206.4	139.4	65.2	14.7	52.6	88.5	120.7	142.1	120.7	88.5
90°	244.2	224.6	157.7	70.1	1.9	36.2	69.4	98.7	110.5	98.7	69.4
92.5°	263.9	248.2	179.0	83.0	15.2	21.4	56.7	83.1	88.9	83.1	56.7
95°	283.9	274.7	203.6	97.7	36.7	8.5	42.9	67.6	72.4	67.6	42.9
97.5°	309.5	301.0	225.1	126.9	64.4	12.7	27.9	55.6	59.6	55.6	27.9
100°	326.6	318.8	252.6	165.3	99.3	31.4	16.1	38.6	45.5	38.6	16.1
102.5°	362.6	347.0	282.2	201.9	135.8	57.3	16.3	25.8	30.8	25.8	16.3
105°	394.7	377.3	326.0	240.2	177.8	92.1	37.7	18.6	19.1	18.6	37.7
107.5°	427.1	416.3	365.2	279.5	222.4	132.3	68.1	37.9	27.4	37.9	68.1
110°	470.7	458.1	403.6	318.7	268.8	175.0	102.9	65.4	53.2	65.4	102.9



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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°	512.6	503.6	439.3	359.8	316.9	221.5	145.7	101.2	88.7	101.2	145.7
115°	545.6	540.2	481.3	399.1	361.5	275.1	194.0	143.1	128.0	143.1	194.0
117.5°	580.4	578.5	511.6	438.4	416.1	322.3	237.7	185.0	169.1	185.0	237.7
120°	624.1	616.1	553.6	477.6	466.9	372.4	285.9	233.2	217.3	233.2	285.9
122.5°	654.5	649.1	589.2	515.1	515.1	423.2	332.3	279.7	262.8	279.7	332.3
125°	682.1	679.4	616.1	552.6	566.8	470.5	384.1	330.5	311.8	330.5	384.1
127.5°	707.2	709.8	650.9	593.7	619.5	518.7	434.9	377.0	356.4	377.0	434.9
130°	728.6	737.4	683.9	632.1	669.4	572.3	480.4	422.5	409.1	422.5	480.4
132.5°	770.5	765.2	717.8	670.4	724.0	620.5	528.6	468.0	452.8	468.0	528.6
135°	791.9	793.7	747.2	703.4	774.0	668.6	574.1	514.4	499.2	514.4	574.1
137.5°	817.7	812.4	770.4	743.6	820.4	715.0	618.7	563.5	539.4	563.5	618.7
140°	836.5	835.6	800.7	779.3	870.3	760.5	664.2	608.1	585.8	608.1	664.2
142.5°	856.2	861.5	832.1	818.6	920.3	808.8	714.2	651.8	630.4	651.8	714.2
145°	869.5	881.1	862.3	867.7	967.6	862.3	757.1	693.7	670.5	693.7	757.1
147.5°	891.8	907.0	883.7	902.4	1008.7	909.6	799.0	737.4	716.9	737.4	799.0
150°	922.2	929.3	914.9	951.6	1050.5	963.2	842.7	779.4	758.9	779.4	842.7
152.5°	946.3	955.2	939.0	1003.3	1083.6	1010.4	890.8	820.5	796.4	820.5	890.8
155°	971.2	974.8	963.2	1054.2	1118.3	1057.7	929.2	866.0	842.8	866.0	929.2
157.5°	994.4	1001.6	988.1	1092.5	1148.7	1098.8	972.9	911.5	890.9	911.5	972.9
160°	1019.4	1018.4	1025.6	1137.1	1173.7	1134.5	1019.4	960.4	932.9	960.4	1019.4
162.5°	1022.1	1038.1	1076.5	1169.4	1198.7	1166.7	1069.3	996.1	972.1	996.1	1069.3
165°	1061.3	1075.6	1134.6	1197.0	1217.5	1194.3	1131.8	1055.1	1026.6	1055.1	1131.8
167.5°	1101.4	1133.6	1180.9	1228.2	1235.4	1220.2	1179.2	1125.5	1098.8	1125.5	1179.2
170°	1167.4	1196.0	1220.2	1239.8	1249.6	1240.7	1208.6	1181.7	1163.7	1181.7	1208.6
172.5°	1220.1	1238.8	1248.8	1261.2	1254.9	1251.4	1235.4	1221.9	1212.0	1221.9	1235.4
175°	1253.0	1257.6	1266.5	1262.1	1267.5	1257.7	1258.6	1263.8	1226.3	1263.8	1258.6
177.5°	1264.6	1271.8	1268.4	1260.4	1261.2	1259.5	1263.0	1265.6	1259.3	1265.6	1263.0
180°	1265.6	1265.6	1265.6	1265.6	1265.6	1265.6	1265.6	1265.6	1265.6	1265.6	1265.6



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2430.7	2430.7	2430.7	2430.7	2430.7	2430.7
2.5°	2423.7	2422.6	2424.6	2427.6	2427.7	2427.0
5°	2410.9	2407.0	2410.9	2415.8	2416.9	2414.2
7.5°	2389.4	2387.3	2390.3	2397.3	2397.3	2398.4
10°	2360.9	2358.9	2361.9	2364.8	2368.8	2367.8
12.5°	2326.5	2320.7	2326.5	2331.4	2333.4	2335.3
15°	2285.3	2282.4	2286.2	2289.2	2288.2	2294.9
17.5°	2237.2	2231.3	2237.2	2239.1	2241.0	2243.8
20°	2182.3	2177.3	2183.1	2183.0	2186.9	2190.7
22.5°	2120.3	2115.4	2121.2	2123.1	2124.0	2124.0
25°	2055.5	2049.6	2056.4	2055.3	2052.2	2051.3
27.5°	1985.6	1982.8	1986.5	1984.5	1974.6	1967.7
30°	1913.9	1904.1	1915.7	1905.8	1884.2	1878.3
32.5°	1829.4	1829.4	1831.2	1816.4	1789.8	1787.9
35°	1742.0	1744.9	1744.7	1717.2	1687.7	1685.8
37.5°	1645.7	1654.4	1648.4	1618.0	1586.5	1584.6
40°	1544.5	1565.0	1546.2	1509.9	1483.3	1494.1
42.5°	1438.3	1462.8	1440.1	1392.9	1380.1	1393.9
45°	1325.3	1356.7	1327.1	1284.8	1280.9	1304.5
47.5°	1214.3	1252.5	1215.1	1177.7	1189.5	1214.1
50°	1091.5	1112.1	1093.3	1077.5	1101.1	1130.5
52.5°	981.5	969.6	983.2	981.3	1016.5	1041.1
55°	862.6	825.2	864.4	887.9	933.1	947.8
57.5°	744.7	696.5	746.5	797.5	851.5	868.2
60°	628.8	594.3	629.6	708.2	769.1	782.8
62.5°	527.5	508.9	528.4	617.7	684.6	694.4
65°	442.0	435.2	442.9	524.5	594.3	607.0
67.5°	369.3	368.3	369.3	442.9	507.8	527.4
70°	307.4	314.3	307.4	362.4	421.4	448.9
72.5°	249.5	259.3	250.4	292.7	344.7	377.2
75°	200.4	216.1	200.4	230.8	274.0	318.2
77.5°	154.2	172.9	154.2	178.8	228.4	278.2
80°	116.8	130.6	116.8	144.1	200.7	251.1
82.5°	84.4	90.3	84.4	128.2	188.8	238.1
85°	63.7	50.0	65.4	129.2	193.0	229.5
87.5°	52.6	14.7	65.2	139.4	206.4	234.0
90°	36.2	1.9	70.1	157.7	224.6	244.2
92.5°	21.4	15.2	83.0	179.0	248.2	263.9
95°	8.5	36.7	97.7	203.6	274.7	283.9
97.5°	12.7	64.4	126.9	225.1	301.0	309.5
100°	31.4	99.3	165.3	252.6	318.8	326.6
102.5°	57.3	135.8	201.9	282.2	347.0	362.6
105°	92.1	177.8	240.2	326.0	377.3	394.7
107.5°	132.3	222.4	279.5	365.2	416.3	427.1
110°	175.0	268.8	318.7	403.6	458.1	470.7



TEST NUMBER: P392590

CATALOG NUMBER: MWL-3-30-57-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	221.5	316.9	359.8	439.3	503.6	512.6
115°	275.1	361.5	399.1	481.3	540.2	545.6
117.5°	322.3	416.1	438.4	511.6	578.5	580.4
120°	372.4	466.9	477.6	553.6	616.1	624.1
122.5°	423.2	515.1	515.1	589.2	649.1	654.5
125°	470.5	566.8	552.6	616.1	679.4	682.1
127.5°	518.7	619.5	593.7	650.9	709.8	707.2
130°	572.3	669.4	632.1	683.9	737.4	728.6
132.5°	620.5	724.0	670.4	717.8	765.2	770.5
135°	668.6	774.0	703.4	747.2	793.7	791.9
137.5°	715.0	820.4	743.6	770.4	812.4	817.7
140°	760.5	870.3	779.3	800.7	835.6	836.5
142.5°	808.8	920.3	818.6	832.1	861.5	856.2
145°	862.3	967.6	867.7	862.3	881.1	869.5
147.5°	909.6	1008.7	902.4	883.7	907.0	891.8
150°	963.2	1050.5	951.6	914.9	929.3	922.2
152.5°	1010.4	1083.6	1003.3	939.0	955.2	946.3
155°	1057.7	1118.3	1054.2	963.2	974.8	971.2
157.5°	1098.8	1148.7	1092.5	988.1	1001.6	994.4
160°	1134.5	1173.7	1137.1	1025.6	1018.4	1019.4
162.5°	1166.7	1198.7	1169.4	1076.5	1038.1	1022.1
165°	1194.3	1217.5	1197.0	1134.6	1075.6	1061.3
167.5°	1220.2	1235.4	1228.2	1180.9	1133.6	1101.4
170°	1240.7	1249.6	1239.8	1220.2	1196.0	1167.4
172.5°	1251.4	1254.9	1261.2	1248.8	1238.8	1220.1
175°	1257.7	1267.5	1262.1	1266.5	1257.6	1253.0
177.5°	1259.5	1261.2	1260.4	1268.4	1271.8	1264.6
180°	1265.6	1265.6	1265.6	1265.6	1265.6	1265.6

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