

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: P392606

Luminaire Tested: **MWL-3-37-57-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392606
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-3-37-57-UNV-L940-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

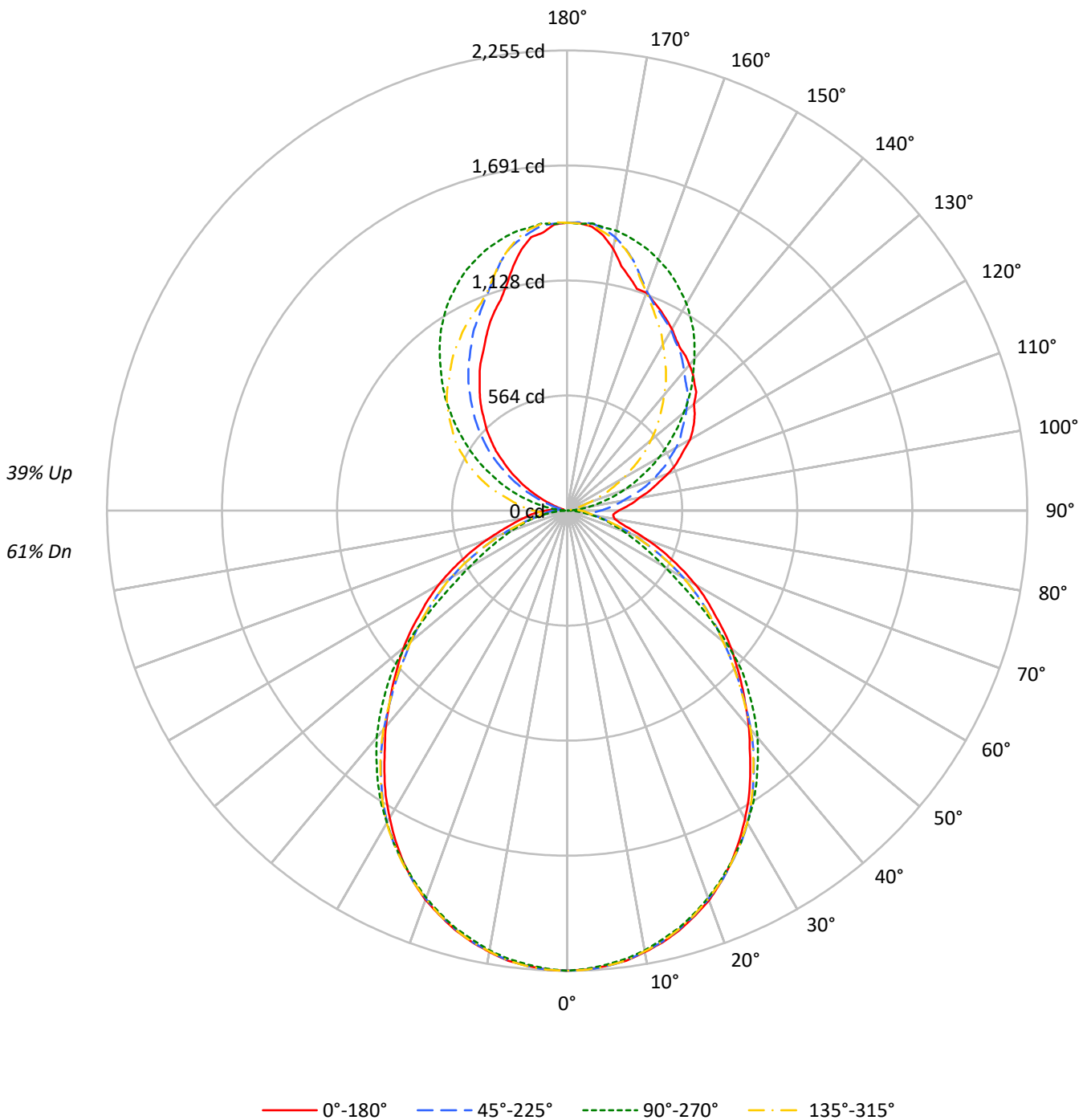
Lumens per Lamp: N/A
Luminaire Lumens: 8609.8 lumens
Efficiency: N/A
Efficacy: 81.0 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 106.252
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	110	110	110	110	103	103	103	103	89	89	89	77	77	77	66	66	66	61
1	100	96	92	89	94	90	87	84	79	76	74	68	66	65	59	57	56	51
2	92	84	78	73	86	79	74	69	69	65	62	60	57	55	52	50	48	44
3	84	75	67	61	78	70	64	58	62	57	52	54	50	47	46	44	41	38
4	77	66	58	52	72	62	55	50	55	50	45	48	44	40	42	39	36	33
5	71	59	51	45	66	56	49	43	49	44	39	43	39	35	38	34	32	29
6	66	53	45	40	61	50	43	38	45	39	34	39	35	31	35	31	28	25
7	61	48	40	35	57	46	39	33	41	35	31	36	31	28	32	28	25	23
8	56	44	36	31	53	42	35	30	37	31	27	33	28	25	29	25	23	20
9	53	40	33	28	49	38	31	27	34	29	25	31	26	22	27	23	20	18
10	49	37	30	25	46	35	29	24	32	26	22	28	24	20	25	21	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	19416	19416	19416	19416
5°	19122	17748	19122	17748
10°	18746	16265	18746	16265
15°	18300	14885	18275	14885
20°	17730	13568	17705	13568
25°	16982	12318	16956	12318
30°	16043	11134	16006	11134
35°	14985	10008	14957	10008
40°	13958	8874	13919	8874
45°	12945	7665	12913	7665
50°	12060	6306	12025	6306
55°	11021	4734	10996	4734
60°	10086	3477	10072	3477
65°	8844	2617	8844	2617
70°	7592	1960	7610	1960
75°	6473	1410	6539	1410
80°	6583	902	6058	902
85°	8645	370	6178	370



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.3	2.5
10°-20°	597.7	6.9
20°-30°	876.0	10.2
30°-40°	993.5	11.5
40°-50°	934.2	10.9
50°-60°	741.5	8.6
60°-70°	482.3	5.6
70°-80°	246.3	2.9
80°-90°	129.3	1.5
90°-100°	134.5	1.6
100°-110°	221.9	2.6
110°-120°	376.0	4.4
120°-130°	510.2	5.9
130°-140°	581.7	6.8
140°-150°	580.0	6.7
150°-160°	504.9	5.9
160°-170°	355.1	4.1
170°-180°	132.2	1.5
0°-30°	1686.0	19.6
0°-40°	2679.6	31.1
0°-60°	4355.2	50.6
0°-90°	5213.2	60.5
90°-120°	732.4	8.5
90°-150°	2404.4	27.9
90°-180°	3397.0	39.5
0°-180°	8609.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2255	2255	2255	2255	2255	
5°	2239	2233	2239	2233	2239	213
15°	2129	2117	2126	2117	2129	599
25°	1903	1901	1900	1901	1903	874
35°	1564	1619	1561	1619	1564	978
45°	1211	1259	1208	1259	1211	935
55°	880	766	878	766	880	791
65°	563	404	563	404	563	561
75°	295	200	298	200	295	325
85°	226	47	162	47	226	189
90°	253	2	104	2	253	140
95°	304	41	68	41	304	260
105°	438	198	19	198	438	463
115°	608	403	142	403	608	603
125°	760	632	347	632	760	678
135°	882	862	556	862	882	681
145°	969	1078	747	1078	969	611
155°	1082	1246	939	1246	1082	499
165°	1183	1357	1144	1357	1183	335
175°	1397	1412	1367	1412	1397	130
180°	1411	1411	1411	1411	1411	



TEST NUMBER: P392606

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2254.7	2254.7	2254.7	2254.7	2254.7	2254.7	2254.7	2254.7	2254.7	2254.7	2254.7
2.5°	2250.9	2252.0	2252.1	2249.4	2247.6	2248.4	2252.1	2252.0	2251.9	2252.0	2252.1
5°	2239.0	2241.9	2241.1	2236.6	2232.9	2236.6	2240.1	2241.9	2239.0	2241.9	2240.1
7.5°	2224.5	2223.7	2223.7	2217.4	2214.7	2216.4	2222.8	2222.8	2224.5	2222.8	2222.8
10°	2196.4	2197.3	2193.7	2190.9	2188.2	2190.0	2192.7	2195.4	2196.4	2195.4	2192.7
12.5°	2166.4	2164.5	2162.7	2158.1	2152.6	2158.1	2162.7	2162.6	2164.5	2162.6	2162.7
15°	2129.1	2122.6	2123.5	2120.8	2117.0	2119.8	2122.5	2120.7	2126.2	2120.7	2122.5
17.5°	2081.8	2078.9	2077.0	2075.1	2069.7	2075.1	2076.0	2077.9	2078.9	2077.9	2076.0
20°	2032.6	2028.8	2025.1	2025.0	2019.5	2024.0	2024.1	2026.9	2029.7	2026.9	2024.1
22.5°	1970.5	1970.5	1969.5	1967.6	1962.1	1966.6	1968.5	1968.6	1968.6	1968.6	1968.5
25°	1903.1	1904.0	1906.7	1907.5	1901.0	1906.5	1904.7	1901.1	1900.2	1901.1	1904.7
27.5°	1825.7	1832.0	1841.1	1842.9	1839.1	1841.9	1839.1	1829.1	1822.7	1829.1	1839.1
30°	1742.8	1748.2	1768.3	1777.3	1766.2	1775.4	1765.3	1745.3	1738.8	1745.3	1765.3
32.5°	1658.9	1660.8	1685.4	1698.9	1697.0	1697.0	1682.4	1656.8	1655.0	1656.8	1682.4
35°	1564.1	1565.9	1593.2	1618.8	1618.6	1615.8	1590.3	1563.0	1561.2	1563.0	1590.3
37.5°	1470.2	1472.1	1501.2	1529.5	1534.8	1526.5	1498.3	1469.1	1467.3	1469.1	1498.3
40°	1386.4	1376.4	1401.0	1434.7	1451.9	1432.7	1397.1	1372.5	1382.5	1372.5	1397.1
42.5°	1293.5	1280.7	1292.6	1336.3	1357.2	1334.3	1289.6	1276.8	1289.6	1276.8	1289.6
45°	1210.6	1188.7	1192.4	1231.5	1258.8	1229.5	1188.3	1185.7	1207.6	1185.7	1188.3
47.5°	1126.8	1104.0	1093.0	1127.6	1162.2	1126.6	1089.0	1101.0	1123.8	1101.0	1089.0
50°	1049.2	1021.9	1000.0	1014.5	1031.7	1012.5	996.0	1017.9	1046.2	1017.9	996.0
52.5°	966.3	943.5	910.6	912.5	899.6	910.5	907.6	939.5	963.3	939.5	907.6
55°	879.7	866.0	824.1	802.1	765.6	800.1	821.1	863.0	877.7	863.0	821.1
57.5°	805.9	790.4	740.3	692.8	646.2	690.8	737.3	787.4	803.9	787.4	737.3
60°	726.5	713.8	657.3	584.3	551.5	583.3	655.3	711.8	725.5	711.8	655.3
62.5°	644.5	635.4	573.4	490.4	472.1	489.4	571.4	633.4	643.5	633.4	571.4
65°	563.3	551.5	486.8	411.2	403.8	410.2	485.8	550.5	563.3	550.5	485.8
67.5°	489.5	471.3	411.2	342.8	341.8	342.8	410.2	470.3	489.5	470.3	410.2
70°	416.6	391.0	336.4	285.4	291.7	285.4	336.4	392.0	417.6	392.0	336.4
72.5°	350.0	320.0	271.7	232.5	240.6	231.5	271.7	321.0	352.0	321.0	271.7
75°	295.4	254.4	214.2	186.0	200.5	186.0	215.2	255.4	298.4	255.4	215.2
77.5°	259.6	212.8	165.9	143.1	160.4	143.1	166.9	209.8	255.7	209.8	166.9
80°	237.3	189.3	134.3	108.5	121.3	108.5	132.3	173.5	218.4	173.5	132.3
82.5°	229.3	182.1	121.6	78.4	83.9	78.4	109.7	146.3	191.5	146.3	109.7
85°	226.4	191.0	126.2	61.4	46.6	59.4	97.3	130.3	161.8	130.3	97.3
87.5°	236.8	209.6	140.5	63.5	13.7	49.7	83.7	114.1	134.3	114.1	83.7
90°	252.7	232.8	163.5	71.7	1.9	33.9	65.1	92.6	103.5	92.6	65.1
92.5°	278.3	261.9	189.4	88.8	16.9	20.2	53.1	77.8	83.4	77.8	53.1
95°	303.5	293.8	219.4	108.1	40.7	8.6	40.4	63.0	67.7	63.0	40.4
97.5°	334.5	325.9	246.8	141.1	71.5	13.8	27.0	52.3	55.9	52.3	27.0
100°	356.9	349.5	279.7	183.9	110.2	34.6	16.0	37.1	43.5	37.1	16.0
102.5°	400.0	383.5	314.1	224.7	151.1	63.5	17.7	25.2	29.8	25.2	17.7
105°	437.7	419.2	362.9	267.5	197.8	102.3	41.5	19.2	18.8	19.2	41.5
107.5°	475.0	463.2	406.7	311.2	247.5	147.1	75.3	41.4	29.2	41.4	75.3
110°	523.8	510.0	449.4	355.1	299.3	194.9	114.2	72.3	58.2	72.3	114.2



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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°	570.7	560.8	489.3	400.8	353.1	246.5	161.9	112.1	98.0	112.1	161.9
115°	607.5	601.6	535.9	444.5	402.8	306.2	215.6	158.9	141.9	158.9	215.6
117.5°	646.3	644.4	569.8	488.3	463.4	358.9	264.3	205.6	187.6	205.6	264.3
120°	695.1	686.1	616.5	532.1	520.1	414.6	318.1	259.3	241.4	259.3	318.1
122.5°	728.9	723.0	656.4	573.8	573.8	471.3	369.8	311.0	292.1	311.0	369.8
125°	759.7	756.9	686.1	615.6	631.6	524.1	427.5	367.8	346.9	367.8	427.5
127.5°	787.6	790.6	725.0	661.4	690.2	577.8	484.2	419.5	396.6	419.5	484.2
130°	811.4	821.4	761.8	704.1	745.9	637.4	534.9	470.2	455.3	470.2	534.9
132.5°	858.2	852.2	799.6	746.8	806.6	691.2	588.7	521.0	504.0	521.0	588.7
135°	882.1	884.0	832.4	783.6	862.3	744.9	639.4	572.6	555.8	572.6	639.4
137.5°	910.9	905.0	858.3	828.5	914.0	796.6	689.2	627.4	600.5	627.4	689.2
140°	931.9	930.9	892.1	868.3	969.7	847.3	739.9	677.1	652.3	677.1	739.9
142.5°	953.7	959.7	926.9	912.0	1025.4	901.1	795.6	725.9	702.0	725.9	795.6
145°	968.7	981.6	960.7	966.8	1078.3	960.8	843.3	772.6	746.7	772.6	843.3
147.5°	993.6	1010.4	984.6	1005.6	1124.0	1013.5	890.1	821.4	798.5	821.4	890.1
150°	1027.4	1035.3	1019.4	1060.2	1170.8	1073.2	938.9	868.2	845.3	868.2	938.9
152.5°	1054.2	1064.3	1046.3	1118.1	1207.6	1126.0	992.6	913.9	887.0	913.9	992.6
155°	1082.2	1086.1	1073.3	1174.8	1246.4	1178.8	1035.4	964.7	938.8	964.7	1035.4
157.5°	1108.0	1116.0	1101.2	1217.6	1280.3	1224.5	1084.2	1015.4	992.6	1015.4	1084.2
160°	1135.9	1135.0	1143.0	1267.3	1308.1	1264.3	1136.0	1070.3	1039.3	1070.3	1136.0
162.5°	1138.9	1156.8	1199.6	1303.1	1335.9	1300.0	1191.7	1110.1	1083.1	1110.1	1191.7
165°	1182.6	1198.6	1264.2	1333.9	1356.7	1330.9	1261.2	1175.8	1143.9	1175.8	1261.2
167.5°	1227.5	1263.3	1316.0	1368.7	1376.7	1359.7	1314.0	1254.4	1224.5	1254.4	1314.0
170°	1301.2	1332.9	1359.7	1381.7	1392.6	1382.6	1346.8	1317.1	1297.2	1317.1	1346.8
172.5°	1359.9	1380.8	1391.6	1405.6	1398.5	1394.5	1376.7	1361.8	1351.0	1361.8	1376.7
175°	1396.7	1401.6	1411.5	1406.6	1412.5	1401.5	1402.5	1408.6	1366.9	1408.6	1402.5
177.5°	1409.7	1417.6	1413.5	1404.6	1405.6	1403.5	1407.5	1410.6	1403.7	1410.6	1407.5
180°	1410.6	1410.6	1410.6	1410.6	1410.6	1410.6	1410.6	1410.6	1410.6	1410.6	1410.6



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CATALOG NUMBER: MWL-3-37-57-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2254.7	2254.7	2254.7	2254.7	2254.7	2254.7
2.5°	2248.4	2247.6	2249.4	2252.1	2252.0	2250.9
5°	2236.6	2232.9	2236.6	2241.1	2241.9	2239.0
7.5°	2216.4	2214.7	2217.4	2223.7	2223.7	2224.5
10°	2190.0	2188.2	2190.9	2193.7	2197.3	2196.4
12.5°	2158.1	2152.6	2158.1	2162.7	2164.5	2166.4
15°	2119.8	2117.0	2120.8	2123.5	2122.6	2129.1
17.5°	2075.1	2069.7	2075.1	2077.0	2078.9	2081.8
20°	2024.0	2019.5	2025.0	2025.1	2028.8	2032.6
22.5°	1966.6	1962.1	1967.6	1969.5	1970.5	1970.5
25°	1906.5	1901.0	1907.5	1906.7	1904.0	1903.1
27.5°	1841.9	1839.1	1842.9	1841.1	1832.0	1825.7
30°	1775.4	1766.2	1777.3	1768.3	1748.2	1742.8
32.5°	1697.0	1697.0	1698.9	1685.4	1660.8	1658.9
35°	1615.8	1618.6	1618.8	1593.2	1565.9	1564.1
37.5°	1526.5	1534.8	1529.5	1501.2	1472.1	1470.2
40°	1432.7	1451.9	1434.7	1401.0	1376.4	1386.4
42.5°	1334.3	1357.2	1336.3	1292.6	1280.7	1293.5
45°	1229.5	1258.8	1231.5	1192.4	1188.7	1210.6
47.5°	1126.6	1162.2	1127.6	1093.0	1104.0	1126.8
50°	1012.5	1031.7	1014.5	1000.0	1021.9	1049.2
52.5°	910.5	899.6	912.5	910.6	943.5	966.3
55°	800.1	765.6	802.1	824.1	866.0	879.7
57.5°	690.8	646.2	692.8	740.3	790.4	805.9
60°	583.3	551.5	584.3	657.3	713.8	726.5
62.5°	489.4	472.1	490.4	573.4	635.4	644.5
65°	410.2	403.8	411.2	486.8	551.5	563.3
67.5°	342.8	341.8	342.8	411.2	471.3	489.5
70°	285.4	291.7	285.4	336.4	391.0	416.6
72.5°	231.5	240.6	232.5	271.7	320.0	350.0
75°	186.0	200.5	186.0	214.2	254.4	295.4
77.5°	143.1	160.4	143.1	165.9	212.8	259.6
80°	108.5	121.3	108.5	134.3	189.3	237.3
82.5°	78.4	83.9	78.4	121.6	182.1	229.3
85°	59.4	46.6	61.4	126.2	191.0	226.4
87.5°	49.7	13.7	63.5	140.5	209.6	236.8
90°	33.9	1.9	71.7	163.5	232.8	252.7
92.5°	20.2	16.9	88.8	189.4	261.9	278.3
95°	8.6	40.7	108.1	219.4	293.8	303.5
97.5°	13.8	71.5	141.1	246.8	325.9	334.5
100°	34.6	110.2	183.9	279.7	349.5	356.9
102.5°	63.5	151.1	224.7	314.1	383.5	400.0
105°	102.3	197.8	267.5	362.9	419.2	437.7
107.5°	147.1	247.5	311.2	406.7	463.2	475.0
110°	194.9	299.3	355.1	449.4	510.0	523.8



TEST NUMBER: P392606

CATALOG NUMBER: MWL-3-37-57-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	246.5	353.1	400.8	489.3	560.8	570.7
115°	306.2	402.8	444.5	535.9	601.6	607.5
117.5°	358.9	463.4	488.3	569.8	644.4	646.3
120°	414.6	520.1	532.1	616.5	686.1	695.1
122.5°	471.3	573.8	573.8	656.4	723.0	728.9
125°	524.1	631.6	615.6	686.1	756.9	759.7
127.5°	577.8	690.2	661.4	725.0	790.6	787.6
130°	637.4	745.9	704.1	761.8	821.4	811.4
132.5°	691.2	806.6	746.8	799.6	852.2	858.2
135°	744.9	862.3	783.6	832.4	884.0	882.1
137.5°	796.6	914.0	828.5	858.3	905.0	910.9
140°	847.3	969.7	868.3	892.1	930.9	931.9
142.5°	901.1	1025.4	912.0	926.9	959.7	953.7
145°	960.8	1078.3	966.8	960.7	981.6	968.7
147.5°	1013.5	1124.0	1005.6	984.6	1010.4	993.6
150°	1073.2	1170.8	1060.2	1019.4	1035.3	1027.4
152.5°	1126.0	1207.6	1118.1	1046.3	1064.3	1054.2
155°	1178.8	1246.4	1174.8	1073.3	1086.1	1082.2
157.5°	1224.5	1280.3	1217.6	1101.2	1116.0	1108.0
160°	1264.3	1308.1	1267.3	1143.0	1135.0	1135.9
162.5°	1300.0	1335.9	1303.1	1199.6	1156.8	1138.9
165°	1330.9	1356.7	1333.9	1264.2	1198.6	1182.6
167.5°	1359.7	1376.7	1368.7	1316.0	1263.3	1227.5
170°	1382.6	1392.6	1381.7	1359.7	1332.9	1301.2
172.5°	1394.5	1398.5	1405.6	1391.6	1380.8	1359.9
175°	1401.5	1412.5	1406.6	1411.5	1401.6	1396.7
177.5°	1403.5	1405.6	1404.6	1413.5	1417.6	1409.7
180°	1410.6	1410.6	1410.6	1410.6	1410.6	1410.6

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