

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: P392604

Luminaire Tested: **MWL-3-37-57-UNV-L930-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392604
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-L930-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

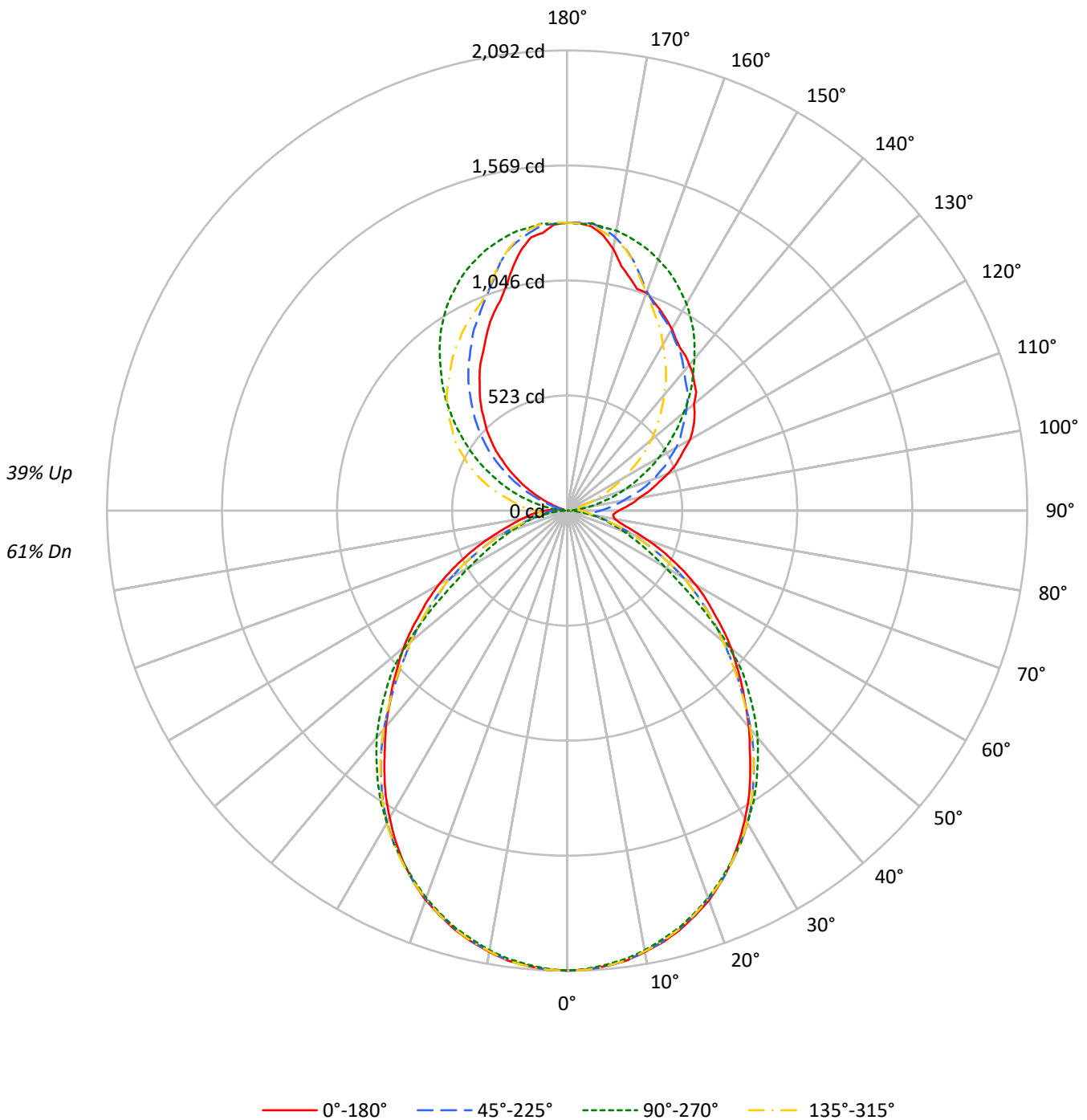
Lumens per Lamp: N/A
Luminaire Lumens: 7987.0 lumens
Efficiency: N/A
Efficacy: 75.2 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Direct

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°	18011	18011	18011	18011
5°	17738	16465	17738	16465
10°	17390	15089	17390	15089
15°	16976	13808	16953	13808
20°	16447	12586	16424	12586
25°	15753	11427	15729	11427
30°	14882	10327	14848	10327
35°	13900	9283	13875	9283
40°	12948	8233	12911	8233
45°	12008	7110	11978	7110
50°	11188	5850	11156	5850
55°	10223	4391	10200	4391
60°	9357	3225	9344	3225
65°	8205	2427	8205	2427
70°	7043	1819	7058	1819
75°	6004	1308	6065	1308
80°	6108	836	5620	836
85°	8019	343	5731	343



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.9	2.5
10°-20°	554.5	6.9
20°-30°	812.7	10.2
30°-40°	921.7	11.5
40°-50°	866.6	10.8
50°-60°	687.9	8.6
60°-70°	447.5	5.6
70°-80°	228.5	2.9
80°-90°	120.0	1.5
90°-100°	124.8	1.6
100°-110°	205.8	2.6
110°-120°	348.8	4.4
120°-130°	473.3	5.9
130°-140°	539.7	6.8
140°-150°	538.1	6.7
150°-160°	468.3	5.9
160°-170°	329.4	4.1
170°-180°	122.7	1.5
0°-30°	1564.0	19.6
0°-40°	2485.7	31.1
0°-60°	4040.2	50.6
0°-90°	4836.1	60.5
90°-120°	679.5	8.5
90°-150°	2230.5	27.9
90°-180°	3151.0	39.5
0°-180°	7987.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2092	2092	2092	2092	2092	
5°	2077	2071	2077	2071	2077	197
15°	1975	1964	1972	1964	1975	556
25°	1765	1764	1763	1764	1765	811
35°	1451	1501	1448	1501	1451	908
45°	1123	1168	1120	1168	1123	868
55°	816	710	814	710	816	734
65°	523	375	523	375	523	521
75°	274	186	277	186	274	302
85°	210	43	150	43	210	175
90°	234	2	96	2	234	130
95°	282	38	63	38	282	241
105°	406	184	17	184	406	430
115°	564	374	132	374	564	559
125°	705	586	322	586	705	629
135°	818	800	516	800	818	632
145°	899	1000	693	1000	899	567
155°	1004	1156	871	1156	1004	463
165°	1097	1258	1061	1258	1097	311
175°	1296	1310	1268	1310	1296	121
180°	1308	1308	1308	1308	1308	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2091.6	2091.6	2091.6	2091.6	2091.6	2091.6	2091.6	2091.6	2091.6	2091.6	2091.6
2.5°	2088.0	2089.1	2089.2	2086.7	2085.0	2085.7	2089.2	2089.1	2089.0	2089.1	2089.2
5°	2077.0	2079.7	2079.0	2074.8	2071.4	2074.8	2078.1	2079.7	2077.0	2079.7	2078.1
7.5°	2063.6	2062.8	2062.8	2057.0	2054.5	2056.1	2062.0	2062.0	2063.6	2062.0	2062.0
10°	2037.5	2038.4	2034.9	2032.5	2029.9	2031.6	2034.1	2036.6	2037.5	2036.6	2034.1
12.5°	2009.7	2007.9	2006.2	2002.0	1996.8	2002.0	2006.2	2006.1	2007.9	2006.1	2006.2
15°	1975.1	1969.1	1969.9	1967.3	1963.9	1966.4	1969.0	1967.2	1972.4	1967.2	1969.0
17.5°	1931.2	1928.5	1926.8	1925.0	1919.9	1925.0	1925.8	1927.6	1928.5	1927.6	1925.8
20°	1885.5	1882.1	1878.6	1878.5	1873.4	1877.6	1877.7	1880.3	1882.9	1880.3	1877.7
22.5°	1828.0	1828.0	1827.0	1825.3	1820.1	1824.3	1826.1	1826.2	1826.2	1826.2	1826.1
25°	1765.4	1766.3	1768.7	1769.5	1763.5	1768.6	1766.9	1763.6	1762.7	1763.6	1766.9
27.5°	1693.6	1699.5	1707.8	1709.6	1706.0	1708.6	1706.1	1696.8	1690.9	1696.8	1706.1
30°	1616.7	1621.7	1640.3	1648.6	1638.3	1646.9	1637.6	1619.1	1613.0	1619.1	1637.6
32.5°	1538.9	1540.6	1563.4	1576.0	1574.2	1574.2	1560.7	1536.9	1535.2	1536.9	1560.7
35°	1450.9	1452.6	1477.9	1501.6	1501.4	1498.9	1475.3	1449.9	1448.2	1449.9	1475.3
37.5°	1363.9	1365.6	1392.6	1418.7	1423.8	1416.1	1389.9	1362.8	1361.2	1362.8	1389.9
40°	1286.1	1276.8	1299.6	1330.9	1346.9	1329.0	1296.0	1273.2	1282.4	1273.2	1296.0
42.5°	1199.9	1188.1	1199.1	1239.6	1258.9	1237.7	1196.2	1184.4	1196.2	1184.4	1196.2
45°	1123.0	1102.7	1106.1	1142.4	1167.7	1140.5	1102.3	1099.9	1120.2	1099.9	1102.3
47.5°	1045.2	1024.1	1013.9	1045.9	1078.1	1045.1	1010.2	1021.3	1042.4	1021.3	1010.2
50°	973.4	948.0	927.7	941.2	957.1	939.3	924.0	944.2	970.6	944.2	924.0
52.5°	896.4	875.3	844.8	846.5	834.5	844.7	842.0	871.6	893.6	871.6	842.0
55°	816.0	803.4	764.5	744.1	710.2	742.3	761.7	800.6	814.2	800.6	761.7
57.5°	747.6	733.2	686.7	642.7	599.5	640.8	684.0	730.5	745.8	730.5	684.0
60°	674.0	662.1	609.7	542.0	511.6	541.2	607.9	660.3	673.1	660.3	607.9
62.5°	597.9	589.5	532.0	455.0	438.0	454.1	530.1	587.6	597.0	587.6	530.1
65°	522.6	511.6	451.6	381.4	374.6	380.6	450.6	510.7	522.6	510.7	450.6
67.5°	454.2	437.3	381.4	317.9	317.2	317.9	380.6	436.3	454.2	436.3	380.6
70°	386.5	362.8	312.0	264.8	270.7	264.8	312.0	363.7	387.3	363.7	312.0
72.5°	324.7	296.8	252.1	215.7	223.2	214.8	252.1	297.8	326.6	297.8	252.1
75°	274.0	236.0	198.7	172.5	186.0	172.5	199.6	236.9	276.8	236.9	199.6
77.5°	240.8	197.4	153.9	132.8	148.8	132.8	154.9	194.7	237.2	194.7	154.9
80°	220.2	175.7	124.6	100.6	112.5	100.6	122.7	161.0	202.6	161.0	122.7
82.5°	212.7	169.0	112.9	72.8	77.8	72.8	101.8	135.8	177.7	135.8	101.8
85°	210.0	177.2	117.1	57.0	43.2	55.1	90.3	120.9	150.1	120.9	90.3
87.5°	219.7	194.4	130.3	58.9	12.7	46.1	77.7	105.8	124.6	105.8	77.7
90°	234.5	216.0	151.7	66.5	1.8	31.4	60.3	85.8	96.0	85.8	60.3
92.5°	258.3	242.9	175.7	82.4	15.7	18.8	49.3	72.2	77.3	72.2	49.3
95°	281.6	272.6	203.6	100.2	37.8	7.9	37.4	58.5	62.8	58.5	37.4
97.5°	310.3	302.4	228.9	130.9	66.4	12.8	25.0	48.5	51.9	48.5	25.0
100°	331.1	324.2	259.5	170.6	102.3	32.1	14.9	34.4	40.3	34.4	14.9
102.5°	371.0	355.7	291.4	208.4	140.2	58.9	16.4	23.4	27.6	23.4	16.4
105°	406.1	388.9	336.6	248.1	183.5	94.9	38.6	17.9	17.4	17.9	38.6
107.5°	440.6	429.7	377.3	288.7	229.6	136.4	69.9	38.4	27.1	38.4	69.9
110°	485.9	473.2	416.9	329.4	277.6	180.8	105.9	67.0	54.0	67.0	105.9



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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°	529.4	520.2	453.9	371.8	327.5	228.8	150.2	104.0	91.0	104.0	150.2
115°	563.6	558.1	497.1	412.4	373.7	284.0	200.0	147.4	131.6	147.4	200.0
117.5°	599.6	597.9	528.6	452.9	429.9	332.9	245.2	190.8	174.1	190.8	245.2
120°	644.8	636.5	572.0	493.6	482.4	384.7	295.1	240.6	223.9	240.6	295.1
122.5°	676.1	670.7	608.9	532.4	532.4	437.3	343.0	288.5	271.0	288.5	343.0
125°	704.8	702.1	636.5	571.1	585.9	486.2	396.6	341.2	321.7	341.2	396.6
127.5°	730.6	733.4	672.5	613.5	640.3	536.0	449.1	389.2	368.0	389.2	449.1
130°	752.7	762.0	706.7	653.2	692.0	591.3	496.2	436.2	422.4	436.2	496.2
132.5°	796.1	790.6	741.7	692.9	748.2	641.2	546.1	483.3	467.5	483.3	546.1
135°	818.3	820.1	772.2	726.9	799.9	691.0	593.2	531.2	515.6	531.2	593.2
137.5°	845.0	839.6	796.2	768.6	847.9	739.0	639.3	582.0	557.1	582.0	639.3
140°	864.5	863.6	827.7	805.5	899.6	786.0	686.4	628.1	605.1	628.1	686.4
142.5°	884.8	890.3	859.8	846.1	951.3	835.9	738.0	673.4	651.2	673.4	738.0
145°	898.6	910.6	891.2	896.9	1000.2	891.3	782.3	716.7	692.8	716.7	782.3
147.5°	921.7	937.4	913.4	932.9	1042.7	940.2	825.8	762.0	740.8	762.0	825.8
150°	953.1	960.4	945.7	983.5	1086.0	995.5	871.0	805.4	784.2	805.4	871.0
152.5°	978.0	987.2	970.7	1037.1	1120.2	1044.5	920.8	847.8	822.9	847.8	920.8
155°	1003.9	1007.5	995.6	1089.7	1156.2	1093.5	960.5	894.9	870.9	894.9	960.5
157.5°	1027.8	1035.2	1021.5	1129.5	1187.6	1135.9	1005.7	942.0	920.8	942.0	1005.7
160°	1053.7	1052.8	1060.2	1175.6	1213.4	1172.8	1053.8	992.8	964.1	992.8	1053.8
162.5°	1056.4	1073.1	1112.9	1208.8	1239.2	1205.9	1105.5	1029.7	1004.7	1029.7	1105.5
165°	1097.0	1111.9	1172.7	1237.3	1258.5	1234.6	1169.9	1090.7	1061.1	1090.7	1169.9
167.5°	1138.7	1171.9	1220.7	1269.7	1277.1	1261.3	1218.9	1163.6	1135.9	1163.6	1218.9
170°	1207.1	1236.5	1261.3	1281.7	1291.9	1282.5	1249.3	1221.8	1203.4	1221.8	1249.3
172.5°	1261.5	1280.9	1290.9	1303.8	1297.3	1293.6	1277.1	1263.3	1253.2	1263.3	1277.1
175°	1295.7	1300.2	1309.3	1304.8	1310.3	1300.1	1301.0	1306.7	1268.0	1306.7	1301.0
177.5°	1307.6	1315.0	1311.2	1302.9	1303.8	1302.0	1305.6	1308.5	1302.2	1308.5	1305.6
180°	1308.5	1308.5	1308.5	1308.5	1308.5	1308.5	1308.5	1308.5	1308.5	1308.5	1308.5



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CATALOG NUMBER: MWL-3-37-57-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2091.6	2091.6	2091.6	2091.6	2091.6	2091.6
2.5°	2085.7	2085.0	2086.7	2089.2	2089.1	2088.0
5°	2074.8	2071.4	2074.8	2079.0	2079.7	2077.0
7.5°	2056.1	2054.5	2057.0	2062.8	2062.8	2063.6
10°	2031.6	2029.9	2032.5	2034.9	2038.4	2037.5
12.5°	2002.0	1996.8	2002.0	2006.2	2007.9	2009.7
15°	1966.4	1963.9	1967.3	1969.9	1969.1	1975.1
17.5°	1925.0	1919.9	1925.0	1926.8	1928.5	1931.2
20°	1877.6	1873.4	1878.5	1878.6	1882.1	1885.5
22.5°	1824.3	1820.1	1825.3	1827.0	1828.0	1828.0
25°	1768.6	1763.5	1769.5	1768.7	1766.3	1765.4
27.5°	1708.6	1706.0	1709.6	1707.8	1699.5	1693.6
30°	1646.9	1638.3	1648.6	1640.3	1621.7	1616.7
32.5°	1574.2	1574.2	1576.0	1563.4	1540.6	1538.9
35°	1498.9	1501.4	1501.6	1477.9	1452.6	1450.9
37.5°	1416.1	1423.8	1418.7	1392.6	1365.6	1363.9
40°	1329.0	1346.9	1330.9	1299.6	1276.8	1286.1
42.5°	1237.7	1258.9	1239.6	1199.1	1188.1	1199.9
45°	1140.5	1167.7	1142.4	1106.1	1102.7	1123.0
47.5°	1045.1	1078.1	1045.9	1013.9	1024.1	1045.2
50°	939.3	957.1	941.2	927.7	948.0	973.4
52.5°	844.7	834.5	846.5	844.8	875.3	896.4
55°	742.3	710.2	744.1	764.5	803.4	816.0
57.5°	640.8	599.5	642.7	686.7	733.2	747.6
60°	541.2	511.6	542.0	609.7	662.1	674.0
62.5°	454.1	438.0	455.0	532.0	589.5	597.9
65°	380.6	374.6	381.4	451.6	511.6	522.6
67.5°	317.9	317.2	317.9	381.4	437.3	454.2
70°	264.8	270.7	264.8	312.0	362.8	386.5
72.5°	214.8	223.2	215.7	252.1	296.8	324.7
75°	172.5	186.0	172.5	198.7	236.0	274.0
77.5°	132.8	148.8	132.8	153.9	197.4	240.8
80°	100.6	112.5	100.6	124.6	175.7	220.2
82.5°	72.8	77.8	72.8	112.9	169.0	212.7
85°	55.1	43.2	57.0	117.1	177.2	210.0
87.5°	46.1	12.7	58.9	130.3	194.4	219.7
90°	31.4	1.8	66.5	151.7	216.0	234.5
92.5°	18.8	15.7	82.4	175.7	242.9	258.3
95°	7.9	37.8	100.2	203.6	272.6	281.6
97.5°	12.8	66.4	130.9	228.9	302.4	310.3
100°	32.1	102.3	170.6	259.5	324.2	331.1
102.5°	58.9	140.2	208.4	291.4	355.7	371.0
105°	94.9	183.5	248.1	336.6	388.9	406.1
107.5°	136.4	229.6	288.7	377.3	429.7	440.6
110°	180.8	277.6	329.4	416.9	473.2	485.9



TEST NUMBER: P392604

CATALOG NUMBER: MWL-3-37-57-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	228.8	327.5	371.8	453.9	520.2	529.4
115°	284.0	373.7	412.4	497.1	558.1	563.6
117.5°	332.9	429.9	452.9	528.6	597.9	599.6
120°	384.7	482.4	493.6	572.0	636.5	644.8
122.5°	437.3	532.4	532.4	608.9	670.7	676.1
125°	486.2	585.9	571.1	636.5	702.1	704.8
127.5°	536.0	640.3	613.5	672.5	733.4	730.6
130°	591.3	692.0	653.2	706.7	762.0	752.7
132.5°	641.2	748.2	692.9	741.7	790.6	796.1
135°	691.0	799.9	726.9	772.2	820.1	818.3
137.5°	739.0	847.9	768.6	796.2	839.6	845.0
140°	786.0	899.6	805.5	827.7	863.6	864.5
142.5°	835.9	951.3	846.1	859.8	890.3	884.8
145°	891.3	1000.2	896.9	891.2	910.6	898.6
147.5°	940.2	1042.7	932.9	913.4	937.4	921.7
150°	995.5	1086.0	983.5	945.7	960.4	953.1
152.5°	1044.5	1120.2	1037.1	970.7	987.2	978.0
155°	1093.5	1156.2	1089.7	995.6	1007.5	1003.9
157.5°	1135.9	1187.6	1129.5	1021.5	1035.2	1027.8
160°	1172.8	1213.4	1175.6	1060.2	1052.8	1053.7
162.5°	1205.9	1239.2	1208.8	1112.9	1073.1	1056.4
165°	1234.6	1258.5	1237.3	1172.7	1111.9	1097.0
167.5°	1261.3	1277.1	1269.7	1220.7	1171.9	1138.7
170°	1282.5	1291.9	1281.7	1261.3	1236.5	1207.1
172.5°	1293.6	1297.3	1303.8	1290.9	1280.9	1261.5
175°	1300.1	1310.3	1304.8	1309.3	1300.2	1295.7
177.5°	1302.0	1303.8	1302.9	1311.2	1315.0	1307.6
180°	1308.5	1308.5	1308.5	1308.5	1308.5	1308.5

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