

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-L935-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-L935-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

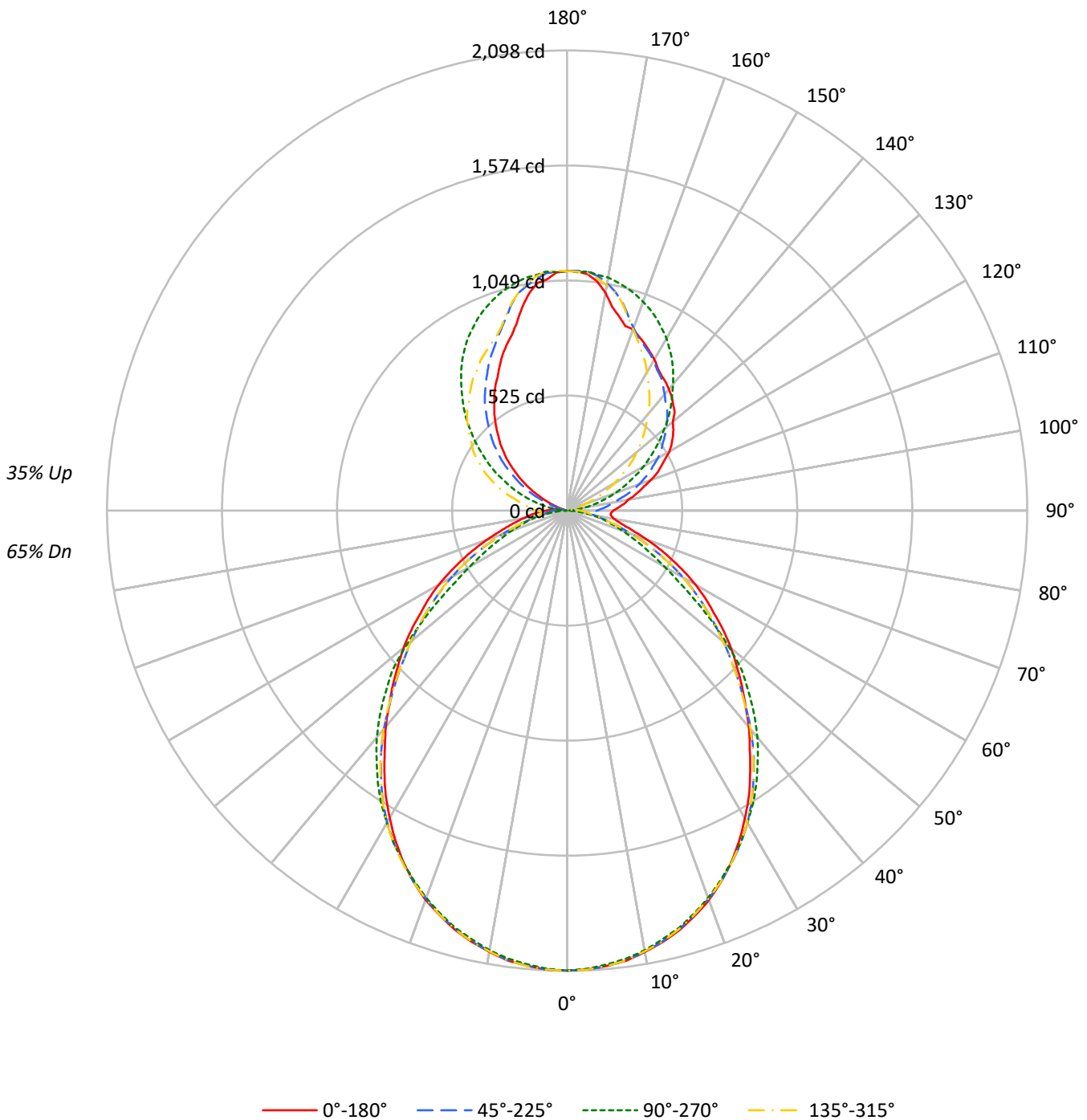
Lumens per Lamp: N/A
Luminaire Lumens: 7482.2 lumens
Efficiency: N/A
Efficacy: 75.9 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 98.576
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°	18062	18062	18062	18062
5°	17791	16509	17791	16509
10°	17439	15130	17439	15130
15°	17021	13847	17000	13847
20°	16490	12623	16469	12623
25°	15795	11460	15774	11460
30°	14920	10357	14891	10357
35°	13937	9310	13914	9310
40°	12980	8254	12949	8254
45°	12037	7128	12011	7128
50°	11212	5865	11187	5865
55°	10247	4403	10228	4403
60°	9378	3233	9368	3233
65°	8223	2433	8223	2433
70°	7060	1822	7072	1822
75°	6017	1311	6068	1311
80°	6011	838	5606	838
85°	7560	343	5647	343



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.5	2.6
10°-20°	556.0	7.4
20°-30°	814.9	10.9
30°-40°	924.1	12.4
40°-50°	868.8	11.6
50°-60°	689.6	9.2
60°-70°	448.5	6.0
70°-80°	228.8	3.1
80°-90°	116.1	1.6
90°-100°	110.1	1.5
100°-110°	172.8	2.3
110°-120°	291.5	3.9
120°-130°	395.3	5.3
130°-140°	450.7	6.0
140°-150°	449.2	6.0
150°-160°	391.0	5.2
160°-170°	275.0	3.7
170°-180°	102.4	1.4
0°-30°	1568.4	21.0
0°-40°	2492.5	33.3
0°-60°	4051.0	54.1
0°-90°	4844.4	64.7
90°-120°	574.3	7.7
90°-150°	1869.5	25.0
90°-180°	2638.0	35.3
0°-180°	7482.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2098	2098	2098	2098	2098	
5°	2083	2077	2083	2077	2083	198
15°	1980	1970	1978	1970	1980	558
25°	1770	1769	1768	1769	1770	813
35°	1455	1506	1452	1506	1455	910
45°	1126	1171	1123	1171	1126	870
55°	818	712	816	712	818	736
65°	524	376	524	376	524	522
75°	275	186	277	186	275	301
85°	198	43	148	43	198	167
90°	211	2	95	2	211	117
95°	245	32	62	32	245	209
105°	341	153	16	153	341	361
115°	471	312	110	312	471	467
125°	589	489	269	489	589	526
135°	683	668	431	668	683	527
145°	750	835	579	835	750	473
155°	838	965	727	965	838	387
165°	916	1051	886	1051	916	260
175°	1081	1094	1058	1094	1081	101
180°	1092	1092	1092	1092	1092	



TEST NUMBER: P392590

CATALOG NUMBER: MWL-3-30-57-UNV-L935-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2097.5	2097.5	2097.5	2097.5	2097.5	2097.5	2097.5	2097.5	2097.5	2097.5	2097.5
2.5°	2094.3	2094.9	2094.8	2092.2	2090.5	2091.4	2094.8	2094.9	2094.9	2094.9	2094.8
5°	2083.2	2085.5	2084.6	2080.4	2077.0	2080.4	2083.9	2085.5	2083.2	2085.5	2083.9
7.5°	2069.6	2068.6	2068.6	2062.6	2060.0	2061.8	2067.8	2067.8	2069.6	2067.8	2067.8
10°	2043.2	2044.0	2040.6	2038.1	2035.5	2037.2	2039.8	2042.4	2043.2	2042.4	2039.8
12.5°	2015.1	2013.5	2011.8	2007.5	2002.5	2007.5	2011.8	2011.9	2013.5	2011.9	2011.8
15°	1980.3	1974.5	1975.4	1972.8	1969.5	1972.0	1974.6	1972.8	1977.9	1972.8	1974.6
17.5°	1936.2	1933.8	1932.1	1930.5	1925.4	1930.5	1931.3	1932.9	1933.8	1932.9	1931.3
20°	1890.4	1887.1	1883.7	1883.8	1878.8	1883.1	1883.0	1885.4	1888.0	1885.4	1883.0
22.5°	1832.8	1832.8	1832.0	1830.4	1825.4	1829.6	1831.2	1831.2	1831.2	1831.2	1831.2
25°	1770.1	1770.8	1773.5	1774.5	1768.6	1773.7	1771.9	1768.5	1767.7	1768.5	1771.9
27.5°	1697.9	1703.9	1712.4	1714.2	1711.0	1713.4	1710.9	1701.5	1695.6	1701.5	1710.9
30°	1620.8	1625.9	1644.5	1653.1	1643.0	1651.5	1642.2	1623.5	1617.7	1623.5	1642.2
32.5°	1542.8	1544.4	1567.4	1580.1	1578.6	1578.6	1565.0	1541.3	1539.6	1541.3	1565.0
35°	1454.7	1456.3	1481.8	1505.5	1505.7	1503.2	1479.4	1454.0	1452.3	1454.0	1479.4
37.5°	1367.4	1369.0	1396.2	1422.4	1427.6	1420.1	1393.8	1366.7	1364.9	1366.7	1393.8
40°	1289.3	1279.9	1302.9	1334.2	1350.4	1332.7	1299.7	1276.8	1286.2	1276.8	1299.7
42.5°	1202.8	1190.9	1201.9	1242.7	1262.3	1241.1	1199.7	1187.8	1199.7	1187.8	1199.7
45°	1125.7	1105.3	1108.7	1145.2	1170.7	1143.6	1105.6	1103.0	1123.3	1103.0	1105.6
47.5°	1047.6	1026.4	1016.2	1048.5	1080.8	1047.8	1013.2	1024.1	1045.3	1024.1	1013.2
50°	975.5	950.1	929.8	943.4	959.6	941.9	926.7	947.0	973.3	947.0	926.7
52.5°	898.4	877.1	846.8	848.4	836.7	846.9	844.4	874.1	896.1	874.1	844.4
55°	817.9	805.2	766.2	745.9	712.1	744.3	763.8	802.8	816.4	802.8	763.8
57.5°	749.2	734.8	688.2	644.2	601.0	642.6	685.8	732.5	747.7	732.5	685.8
60°	675.5	663.7	611.1	543.3	512.8	542.6	609.6	662.1	674.8	662.1	609.6
62.5°	599.2	590.7	533.0	456.0	439.1	455.2	531.5	589.2	598.4	589.2	531.5
65°	523.8	512.8	452.6	382.2	375.5	381.4	451.8	512.0	523.8	512.0	451.8
67.5°	455.1	438.2	382.2	318.7	317.8	318.7	381.4	437.4	455.1	437.4	381.4
70°	387.4	363.6	312.7	265.3	271.2	265.3	312.7	364.4	388.1	364.4	312.7
72.5°	325.5	297.4	252.6	216.1	223.7	215.3	252.6	298.2	327.0	298.2	252.6
75°	274.6	236.4	199.2	172.9	186.5	172.9	199.9	237.2	276.9	237.2	199.9
77.5°	240.1	197.1	154.3	133.1	149.2	133.1	155.0	194.8	237.0	194.8	155.0
80°	216.7	173.2	124.3	100.8	112.7	100.8	122.8	160.8	202.1	160.8	122.8
82.5°	205.5	162.9	110.6	72.8	77.9	72.8	101.4	135.1	176.2	135.1	101.4
85°	198.0	166.5	111.5	56.4	43.1	55.0	89.2	119.6	147.9	119.6	89.2
87.5°	201.9	178.1	120.3	56.3	12.7	45.4	76.4	104.2	122.6	104.2	76.4
90°	210.7	193.8	136.1	60.5	1.6	31.2	59.9	85.2	95.4	85.2	59.9
92.5°	227.7	214.2	154.5	71.6	13.1	18.5	48.9	71.7	76.7	71.7	48.9
95°	245.0	237.0	175.7	84.3	31.7	7.3	37.0	58.3	62.5	58.3	37.0
97.5°	267.1	259.7	194.2	109.5	55.6	11.0	24.1	48.0	51.4	48.0	24.1
100°	281.8	275.1	218.0	142.6	85.7	27.1	13.9	33.3	39.3	33.3	13.9
102.5°	312.9	299.4	243.5	174.2	117.2	49.4	14.1	22.3	26.6	22.3	14.1
105°	340.6	325.6	281.3	207.3	153.4	79.5	32.5	16.0	16.5	16.0	32.5
107.5°	368.5	359.2	315.1	241.2	191.9	114.2	58.8	32.7	23.6	32.7	58.8
110°	406.2	395.3	348.3	275.0	231.9	151.0	88.8	56.4	45.9	56.4	88.8



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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°	442.3	434.6	379.1	310.5	273.5	191.1	125.7	87.3	76.5	87.3	125.7
115°	470.8	466.1	415.3	344.4	311.9	237.4	167.4	123.5	110.5	123.5	167.4
117.5°	500.8	499.2	441.5	378.3	359.1	278.1	205.1	159.6	145.9	159.6	205.1
120°	538.5	531.6	477.7	412.1	402.9	321.3	246.7	201.2	187.5	201.2	246.7
122.5°	564.8	560.1	508.4	444.5	444.5	365.2	286.7	241.4	226.8	241.4	286.7
125°	588.6	586.3	531.6	476.8	489.1	406.0	331.4	285.2	269.1	285.2	331.4
127.5°	610.2	612.5	561.7	512.3	534.6	447.6	375.3	325.3	307.5	325.3	375.3
130°	628.7	636.3	590.1	545.4	577.6	493.8	414.5	364.6	353.0	364.6	414.5
132.5°	664.9	660.3	619.4	578.5	624.7	535.4	456.1	403.8	390.7	403.8	456.1
135°	683.3	684.9	644.8	607.0	667.9	576.9	495.4	443.9	430.8	443.9	495.4
137.5°	705.6	701.0	664.8	641.7	707.9	617.0	533.9	486.2	465.4	486.2	533.9
140°	721.8	721.0	690.9	672.5	751.0	656.2	573.1	524.7	505.5	524.7	573.1
142.5°	738.8	743.4	718.0	706.4	794.1	697.9	616.3	562.4	544.0	562.4	616.3
145°	750.3	760.3	744.1	748.7	834.9	744.1	653.3	598.6	578.6	598.6	653.3
147.5°	769.5	782.7	762.5	778.7	870.4	784.9	689.5	636.3	618.6	636.3	689.5
150°	795.8	801.9	789.5	821.1	906.5	831.1	727.2	672.5	654.9	672.5	727.2
152.5°	816.6	824.2	810.3	865.7	935.0	871.9	768.7	708.0	687.2	708.0	768.7
155°	838.0	841.2	831.1	909.7	965.0	912.7	801.8	747.3	727.3	747.3	801.8
157.5°	858.1	864.3	852.6	942.7	991.2	948.2	839.5	786.5	768.8	786.5	839.5
160°	879.6	878.8	885.0	981.2	1012.8	979.0	879.6	828.7	805.0	828.7	879.6
162.5°	882.0	895.8	928.9	1009.1	1034.4	1006.7	922.7	859.5	838.8	859.5	922.7
165°	915.8	928.1	979.0	1032.9	1050.6	1030.6	976.6	910.4	885.9	910.4	976.6
167.5°	950.4	978.2	1019.0	1059.8	1066.0	1052.9	1017.5	971.2	948.2	971.2	1017.5
170°	1007.3	1032.0	1052.9	1069.8	1078.3	1070.6	1042.9	1019.7	1004.2	1019.7	1042.9
172.5°	1052.8	1069.0	1077.6	1088.3	1082.9	1079.8	1066.0	1054.4	1045.8	1054.4	1066.0
175°	1081.2	1085.2	1092.9	1089.1	1093.7	1085.3	1086.0	1090.5	1058.2	1090.5	1086.0
177.5°	1091.2	1097.4	1094.5	1087.6	1088.3	1086.8	1089.8	1092.1	1086.6	1092.1	1089.8
180°	1092.1	1092.1	1092.1	1092.1	1092.1	1092.1	1092.1	1092.1	1092.1	1092.1	1092.1



TEST NUMBER: P392590

CATALOG NUMBER: MWL-3-30-57-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2097.5	2097.5	2097.5	2097.5	2097.5	2097.5
2.5°	2091.4	2090.5	2092.2	2094.8	2094.9	2094.3
5°	2080.4	2077.0	2080.4	2084.6	2085.5	2083.2
7.5°	2061.8	2060.0	2062.6	2068.6	2068.6	2069.6
10°	2037.2	2035.5	2038.1	2040.6	2044.0	2043.2
12.5°	2007.5	2002.5	2007.5	2011.8	2013.5	2015.1
15°	1972.0	1969.5	1972.8	1975.4	1974.5	1980.3
17.5°	1930.5	1925.4	1930.5	1932.1	1933.8	1936.2
20°	1883.1	1878.8	1883.8	1883.7	1887.1	1890.4
22.5°	1829.6	1825.4	1830.4	1832.0	1832.8	1832.8
25°	1773.7	1768.6	1774.5	1773.5	1770.8	1770.1
27.5°	1713.4	1711.0	1714.2	1712.4	1703.9	1697.9
30°	1651.5	1643.0	1653.1	1644.5	1625.9	1620.8
32.5°	1578.6	1578.6	1580.1	1567.4	1544.4	1542.8
35°	1503.2	1505.7	1505.5	1481.8	1456.3	1454.7
37.5°	1420.1	1427.6	1422.4	1396.2	1369.0	1367.4
40°	1332.7	1350.4	1334.2	1302.9	1279.9	1289.3
42.5°	1241.1	1262.3	1242.7	1201.9	1190.9	1202.8
45°	1143.6	1170.7	1145.2	1108.7	1105.3	1125.7
47.5°	1047.8	1080.8	1048.5	1016.2	1026.4	1047.6
50°	941.9	959.6	943.4	929.8	950.1	975.5
52.5°	846.9	836.7	848.4	846.8	877.1	898.4
55°	744.3	712.1	745.9	766.2	805.2	817.9
57.5°	642.6	601.0	644.2	688.2	734.8	749.2
60°	542.6	512.8	543.3	611.1	663.7	675.5
62.5°	455.2	439.1	456.0	533.0	590.7	599.2
65°	381.4	375.5	382.2	452.6	512.8	523.8
67.5°	318.7	317.8	318.7	382.2	438.2	455.1
70°	265.3	271.2	265.3	312.7	363.6	387.4
72.5°	215.3	223.7	216.1	252.6	297.4	325.5
75°	172.9	186.5	172.9	199.2	236.4	274.6
77.5°	133.1	149.2	133.1	154.3	197.1	240.1
80°	100.8	112.7	100.8	124.3	173.2	216.7
82.5°	72.8	77.9	72.8	110.6	162.9	205.5
85°	55.0	43.1	56.4	111.5	166.5	198.0
87.5°	45.4	12.7	56.3	120.3	178.1	201.9
90°	31.2	1.6	60.5	136.1	193.8	210.7
92.5°	18.5	13.1	71.6	154.5	214.2	227.7
95°	7.3	31.7	84.3	175.7	237.0	245.0
97.5°	11.0	55.6	109.5	194.2	259.7	267.1
100°	27.1	85.7	142.6	218.0	275.1	281.8
102.5°	49.4	117.2	174.2	243.5	299.4	312.9
105°	79.5	153.4	207.3	281.3	325.6	340.6
107.5°	114.2	191.9	241.2	315.1	359.2	368.5
110°	151.0	231.9	275.0	348.3	395.3	406.2



TEST NUMBER: P392590

CATALOG NUMBER: MWL-3-30-57-UNV-L935-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	191.1	273.5	310.5	379.1	434.6	442.3
115°	237.4	311.9	344.4	415.3	466.1	470.8
117.5°	278.1	359.1	378.3	441.5	499.2	500.8
120°	321.3	402.9	412.1	477.7	531.6	538.5
122.5°	365.2	444.5	444.5	508.4	560.1	564.8
125°	406.0	489.1	476.8	531.6	586.3	588.6
127.5°	447.6	534.6	512.3	561.7	612.5	610.2
130°	493.8	577.6	545.4	590.1	636.3	628.7
132.5°	535.4	624.7	578.5	619.4	660.3	664.9
135°	576.9	667.9	607.0	644.8	684.9	683.3
137.5°	617.0	707.9	641.7	664.8	701.0	705.6
140°	656.2	751.0	672.5	690.9	721.0	721.8
142.5°	697.9	794.1	706.4	718.0	743.4	738.8
145°	744.1	834.9	748.7	744.1	760.3	750.3
147.5°	784.9	870.4	778.7	762.5	782.7	769.5
150°	831.1	906.5	821.1	789.5	801.9	795.8
152.5°	871.9	935.0	865.7	810.3	824.2	816.6
155°	912.7	965.0	909.7	831.1	841.2	838.0
157.5°	948.2	991.2	942.7	852.6	864.3	858.1
160°	979.0	1012.8	981.2	885.0	878.8	879.6
162.5°	1006.7	1034.4	1009.1	928.9	895.8	882.0
165°	1030.6	1050.6	1032.9	979.0	928.1	915.8
167.5°	1052.9	1066.0	1059.8	1019.0	978.2	950.4
170°	1070.6	1078.3	1069.8	1052.9	1032.0	1007.3
172.5°	1079.8	1082.9	1088.3	1077.6	1069.0	1052.8
175°	1085.3	1093.7	1089.1	1092.9	1085.2	1081.2
177.5°	1086.8	1088.3	1087.6	1094.5	1097.4	1091.2
180°	1092.1	1092.1	1092.1	1092.1	1092.1	1092.1

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