

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: P392574

Luminaire Tested: **MWL-3-27-57-UNV-L830-EDD**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P392574
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &
Test Lab: INNOVATION CENTER
Issue Date: 3/12/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-3-27-57-UNV-L830-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8150.0 lumens
Efficiency: N/A
Efficacy: 86.7 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

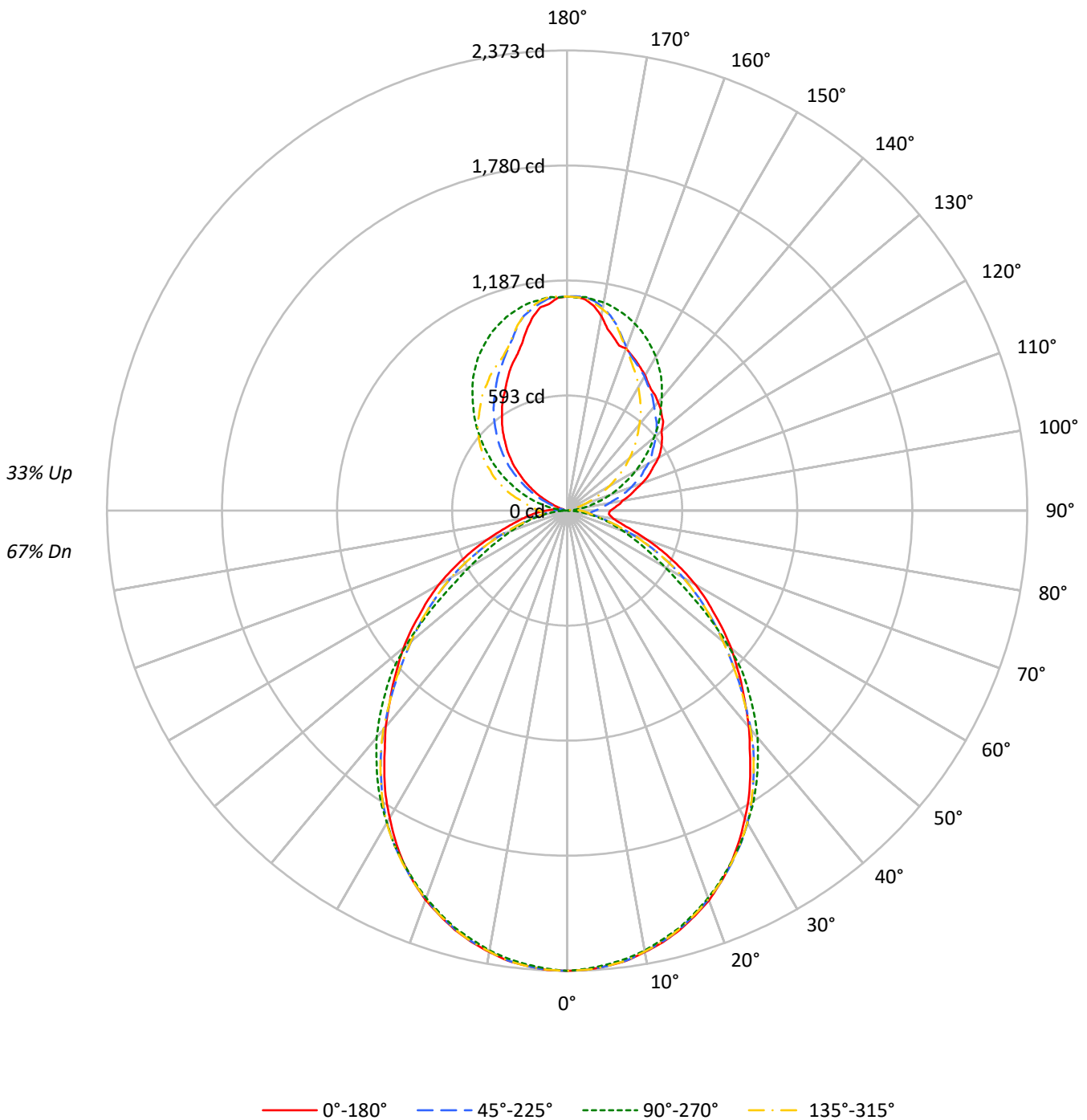
Input Watts (W): 94
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	93	93	93	82	82	82	72	72	72	67
1	102	98	94	90	96	92	89	86	82	79	77	73	71	69	64	63	61	57
2	93	86	80	74	88	81	76	71	72	68	65	64	61	58	57	55	52	49
3	85	76	69	63	80	72	65	60	64	59	55	57	53	50	51	48	45	42
4	78	68	60	54	74	64	57	51	58	52	47	51	47	43	46	42	39	36
5	72	61	52	46	68	57	50	45	52	46	41	46	42	38	41	38	35	32
6	67	55	46	41	63	52	44	39	47	41	36	42	37	33	38	34	31	28
7	62	49	41	36	58	47	40	35	43	37	32	39	34	30	35	31	27	25
8	58	45	37	32	54	43	36	31	39	33	29	35	30	27	32	28	25	23
9	54	41	34	29	51	40	33	28	36	30	26	33	28	24	30	25	22	20
10	50	38	31	26	48	36	30	25	33	28	24	30	25	22	27	23	20	19

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	20437	20437	20437	20437
5°	20133	18679	20133	18679
10°	19733	17120	19733	17120
15°	19256	15670	19237	15670
20°	18655	14284	18635	14284
25°	17870	12969	17849	12969
30°	16879	11721	16850	11721
35°	15767	10534	15744	10534
40°	14685	9340	14653	9340
45°	13617	8065	13592	8065
50°	12686	6636	12658	6636
55°	11592	4981	11572	4981
60°	10609	3657	10598	3657
65°	9304	2753	9304	2753
70°	7985	2061	8000	2061
75°	6806	1484	6859	1484
80°	6732	948	6322	948
85°	8259	388	6335	388



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	223.5	2.7
10°-20°	629.2	7.7
20°-30°	922.1	11.3
30°-40°	1045.6	12.8
40°-50°	983.0	12.1
50°-60°	780.3	9.6
60°-70°	507.4	6.2
70°-80°	258.7	3.2
80°-90°	128.9	1.6
90°-100°	115.5	1.4
100°-110°	175.3	2.2
110°-120°	294.8	3.6
120°-130°	399.7	4.9
130°-140°	455.6	5.6
140°-150°	454.1	5.6
150°-160°	395.1	4.8
160°-170°	277.9	3.4
170°-180°	103.5	1.3
0°-30°	1774.7	21.8
0°-40°	2820.3	34.6
0°-60°	4583.6	56.2
0°-90°	5478.6	67.2
90°-120°	585.6	7.2
90°-150°	1895.0	23.3
90°-180°	2671.0	32.8
0°-180°	8150.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2373	2373	2373	2373	2373	
5°	2357	2350	2357	2350	2357	224
15°	2240	2229	2238	2229	2240	631
25°	2003	2001	2000	2001	2003	920
35°	1646	1704	1643	1704	1646	1029
45°	1274	1325	1271	1325	1274	984
55°	925	806	924	806	925	832
65°	593	425	593	425	593	590
75°	311	211	313	211	311	340
85°	216	49	166	49	216	184
90°	224	2	107	2	224	124
95°	255	32	70	32	255	216
105°	345	155	18	155	345	366
115°	476	315	112	315	476	473
125°	595	494	272	494	595	531
135°	691	675	436	675	691	533
145°	758	844	585	844	758	478
155°	847	975	735	975	847	391
165°	926	1062	895	1062	926	262
175°	1092	1105	1069	1105	1092	102
180°	1104	1104	1104	1104	1104	



TEST NUMBER: P392574

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3
2.5°	2369.9	2370.6	2370.2	2367.1	2365.2	2366.4	2370.2	2370.6	2370.8	2370.6	2370.2
5°	2357.4	2360.0	2358.7	2353.9	2350.0	2353.9	2357.9	2360.0	2357.4	2360.0	2357.9
7.5°	2342.0	2340.6	2340.6	2333.7	2330.8	2333.0	2339.9	2339.9	2342.0	2339.9	2339.9
10°	2312.0	2312.8	2309.0	2306.1	2303.2	2305.3	2308.2	2311.3	2312.0	2311.3	2308.2
12.5°	2280.0	2278.2	2276.5	2271.7	2266.2	2271.7	2276.5	2276.7	2278.4	2276.7	2276.5
15°	2240.4	2234.1	2235.3	2232.4	2228.7	2231.6	2234.5	2232.6	2238.1	2232.6	2234.5
17.5°	2190.5	2188.0	2186.3	2184.6	2178.8	2184.6	2185.5	2187.3	2188.2	2187.3	2185.5
20°	2138.7	2135.0	2131.6	2131.8	2126.1	2130.9	2130.8	2133.5	2136.4	2133.5	2130.8
22.5°	2073.6	2073.6	2073.0	2071.3	2065.7	2070.5	2072.3	2072.1	2072.1	2072.1	2072.3
25°	2002.6	2003.6	2006.6	2008.0	2001.4	2007.1	2005.1	2001.3	2000.3	2001.3	2005.1
27.5°	1921.0	1927.7	1937.5	1939.6	1936.1	1938.9	1936.0	1925.4	1918.7	1925.4	1936.0
30°	1833.7	1839.4	1860.5	1870.3	1859.3	1868.8	1858.2	1837.1	1830.5	1837.1	1858.2
32.5°	1745.4	1747.3	1773.2	1787.8	1786.3	1786.3	1770.9	1744.1	1742.2	1744.1	1770.9
35°	1645.7	1647.7	1676.5	1703.3	1703.8	1700.9	1674.1	1645.3	1643.3	1645.3	1674.1
37.5°	1546.9	1548.8	1579.5	1609.3	1615.4	1606.9	1577.1	1546.4	1544.5	1546.4	1577.1
40°	1458.6	1448.0	1473.9	1509.7	1528.1	1508.0	1470.8	1444.9	1455.4	1444.9	1470.8
42.5°	1360.7	1347.3	1359.9	1406.0	1428.3	1404.4	1357.5	1344.1	1357.5	1344.1	1357.5
45°	1273.5	1250.5	1254.3	1295.6	1324.6	1294.0	1251.2	1248.1	1271.1	1248.1	1251.2
47.5°	1185.2	1161.2	1149.7	1186.4	1222.9	1185.5	1146.6	1158.8	1182.8	1158.8	1146.6
50°	1103.7	1074.9	1051.8	1067.4	1085.7	1065.7	1048.7	1071.7	1101.3	1071.7	1048.7
52.5°	1016.3	992.3	958.0	959.9	946.5	958.3	955.6	989.2	1013.9	989.2	955.6
55°	925.3	910.9	866.8	843.8	805.6	842.3	864.4	908.5	923.7	908.5	864.4
57.5°	847.6	831.3	778.5	728.7	679.9	727.1	776.1	828.9	846.0	828.9	776.1
60°	764.2	750.7	691.2	614.6	580.1	613.9	689.7	749.2	763.4	749.2	689.7
62.5°	677.8	668.2	602.9	515.8	496.8	515.0	601.4	666.7	677.0	666.7	601.4
65°	592.6	580.1	512.0	432.3	424.8	431.5	511.2	579.3	592.6	579.3	511.2
67.5°	514.8	495.6	432.3	360.5	359.5	360.5	431.5	494.9	514.8	494.9	431.5
70°	438.2	411.4	353.8	300.0	306.7	300.0	353.8	412.1	439.0	412.1	353.8
72.5°	368.2	336.5	285.6	244.4	253.2	243.6	285.6	337.3	369.7	337.3	285.6
75°	310.6	267.4	225.4	195.6	211.0	195.6	226.1	268.2	313.0	268.2	226.1
77.5°	270.8	222.6	174.5	150.5	168.7	150.5	175.3	220.2	267.7	220.2	175.3
80°	242.7	194.1	140.3	114.0	127.5	114.0	138.8	181.6	227.9	181.6	138.8
82.5°	227.8	180.4	123.8	82.3	88.1	82.3	114.4	152.5	198.2	152.5	114.4
85°	216.3	181.7	122.7	63.5	48.8	62.0	100.1	134.3	165.9	134.3	100.1
87.5°	217.5	191.3	129.9	61.8	14.4	51.0	85.5	116.6	137.4	116.6	85.5
90°	223.8	205.5	144.4	64.7	1.7	35.1	67.4	95.9	107.2	95.9	67.4
92.5°	238.9	224.8	161.6	74.4	13.4	20.7	55.1	80.8	86.5	80.8	55.1
95°	254.8	246.3	181.7	85.7	32.1	7.9	41.7	65.8	70.4	65.8	41.7
97.5°	275.6	267.9	198.6	110.8	56.1	11.2	26.8	53.9	57.8	53.9	26.8
100°	288.6	281.1	221.1	144.3	86.7	27.5	15.1	37.0	43.7	37.0	15.1
102.5°	318.6	304.4	246.3	176.1	118.6	50.1	14.6	24.5	29.3	24.5	14.6
105°	345.3	329.7	284.4	209.6	155.1	80.4	33.2	17.0	17.9	17.0	33.2
107.5°	373.1	363.4	318.6	243.8	194.1	115.5	59.7	33.6	24.6	33.6	59.7
110°	411.0	399.8	352.1	278.1	234.5	152.8	90.0	57.5	46.9	57.5	90.0



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CATALOG NUMBER: MWL-3-27-57-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	447.4	439.4	383.2	313.8	276.4	193.2	127.4	88.6	77.9	88.6	127.4
115°	476.2	471.3	419.9	348.2	315.4	240.1	169.5	125.2	112.1	125.2	169.5
117.5°	506.5	504.8	446.4	382.4	363.0	281.3	207.6	161.7	147.9	161.7	207.6
120°	544.6	537.4	483.0	416.6	407.3	324.9	249.6	203.8	189.9	203.8	249.6
122.5°	571.0	566.2	514.1	449.3	449.3	369.2	290.0	244.2	229.6	244.2	290.0
125°	595.1	592.6	537.4	482.0	494.4	410.4	335.2	288.5	272.4	288.5	335.2
127.5°	616.9	619.3	567.7	517.7	540.3	452.4	379.5	329.1	311.3	329.1	379.5
130°	635.6	643.3	596.5	551.4	583.8	499.3	419.1	368.8	357.1	368.8	419.1
132.5°	672.1	667.4	626.1	584.8	631.4	541.2	461.2	408.5	395.2	408.5	461.2
135°	690.8	692.3	651.7	613.6	675.0	583.3	500.8	448.9	435.6	448.9	500.8
137.5°	713.3	708.7	671.9	648.6	715.5	623.7	539.7	491.7	470.7	491.7	539.7
140°	729.6	728.9	698.3	679.7	759.0	663.4	579.4	530.6	511.1	530.6	579.4
142.5°	746.8	751.4	725.8	713.9	802.6	705.3	623.1	568.7	550.0	568.7	623.1
145°	758.4	768.6	752.2	756.7	843.8	752.0	660.4	605.2	585.0	605.2	660.4
147.5°	777.9	791.2	770.7	787.0	879.5	793.3	696.8	643.3	625.4	643.3	696.8
150°	804.3	810.5	798.0	830.0	916.1	840.1	734.9	679.9	662.0	679.9	734.9
152.5°	825.3	833.1	818.9	874.9	944.9	881.2	776.9	715.6	694.7	715.6	776.9
155°	847.1	850.2	839.9	919.3	975.2	922.4	810.3	755.4	735.1	755.4	810.3
157.5°	867.4	873.5	861.7	952.7	1001.7	958.2	848.5	795.0	777.1	795.0	848.5
160°	889.1	888.2	894.3	991.6	1023.5	989.3	889.0	837.6	813.7	837.6	889.0
162.5°	891.5	905.3	938.7	1019.8	1045.4	1017.5	932.4	868.7	847.9	868.7	932.4
165°	925.6	937.9	989.4	1043.9	1061.7	1041.6	987.1	920.1	895.3	920.1	987.1
167.5°	960.5	988.5	1029.9	1071.1	1077.4	1064.1	1028.3	981.5	958.2	981.5	1028.3
170°	1017.9	1042.9	1064.1	1081.2	1089.7	1082.0	1053.9	1030.4	1014.7	1030.4	1053.9
172.5°	1063.7	1080.2	1089.0	1099.9	1094.4	1091.3	1077.4	1065.5	1056.7	1065.5	1077.4
175°	1092.5	1096.6	1104.5	1100.7	1105.3	1096.8	1097.5	1102.0	1069.2	1102.0	1097.5
177.5°	1102.6	1109.0	1106.1	1099.1	1099.9	1098.3	1101.5	1103.6	1098.0	1103.6	1101.5
180°	1103.6	1103.6	1103.6	1103.6	1103.6	1103.6	1103.6	1103.6	1103.6	1103.6	1103.6



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CATALOG NUMBER: MWL-3-27-57-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2373.3	2373.3	2373.3	2373.3	2373.3	2373.3
2.5°	2366.4	2365.2	2367.1	2370.2	2370.6	2369.9
5°	2353.9	2350.0	2353.9	2358.7	2360.0	2357.4
7.5°	2333.0	2330.8	2333.7	2340.6	2340.6	2342.0
10°	2305.3	2303.2	2306.1	2309.0	2312.8	2312.0
12.5°	2271.7	2266.2	2271.7	2276.5	2278.2	2280.0
15°	2231.6	2228.7	2232.4	2235.3	2234.1	2240.4
17.5°	2184.6	2178.8	2184.6	2186.3	2188.0	2190.5
20°	2130.9	2126.1	2131.8	2131.6	2135.0	2138.7
22.5°	2070.5	2065.7	2071.3	2073.0	2073.6	2073.6
25°	2007.1	2001.4	2008.0	2006.6	2003.6	2002.6
27.5°	1938.9	1936.1	1939.6	1937.5	1927.7	1921.0
30°	1868.8	1859.3	1870.3	1860.5	1839.4	1833.7
32.5°	1786.3	1786.3	1787.8	1773.2	1747.3	1745.4
35°	1700.9	1703.8	1703.3	1676.5	1647.7	1645.7
37.5°	1606.9	1615.4	1609.3	1579.5	1548.8	1546.9
40°	1508.0	1528.1	1509.7	1473.9	1448.0	1458.6
42.5°	1404.4	1428.3	1406.0	1359.9	1347.3	1360.7
45°	1294.0	1324.6	1295.6	1254.3	1250.5	1273.5
47.5°	1185.5	1222.9	1186.4	1149.7	1161.2	1185.2
50°	1065.7	1085.7	1067.4	1051.8	1074.9	1103.7
52.5°	958.3	946.5	959.9	958.0	992.3	1016.3
55°	842.3	805.6	843.8	866.8	910.9	925.3
57.5°	727.1	679.9	728.7	778.5	831.3	847.6
60°	613.9	580.1	614.6	691.2	750.7	764.2
62.5°	515.0	496.8	515.8	602.9	668.2	677.8
65°	431.5	424.8	432.3	512.0	580.1	592.6
67.5°	360.5	359.5	360.5	432.3	495.6	514.8
70°	300.0	306.7	300.0	353.8	411.4	438.2
72.5°	243.6	253.2	244.4	285.6	336.5	368.2
75°	195.6	211.0	195.6	225.4	267.4	310.6
77.5°	150.5	168.7	150.5	174.5	222.6	270.8
80°	114.0	127.5	114.0	140.3	194.1	242.7
82.5°	82.3	88.1	82.3	123.8	180.4	227.8
85°	62.0	48.8	63.5	122.7	181.7	216.3
87.5°	51.0	14.4	61.8	129.9	191.3	217.5
90°	35.1	1.7	64.7	144.4	205.5	223.8
92.5°	20.7	13.4	74.4	161.6	224.8	238.9
95°	7.9	32.1	85.7	181.7	246.3	254.8
97.5°	11.2	56.1	110.8	198.6	267.9	275.6
100°	27.5	86.7	144.3	221.1	281.1	288.6
102.5°	50.1	118.6	176.1	246.3	304.4	318.6
105°	80.4	155.1	209.6	284.4	329.7	345.3
107.5°	115.5	194.1	243.8	318.6	363.4	373.1
110°	152.8	234.5	278.1	352.1	399.8	411.0



TEST NUMBER: P392574

CATALOG NUMBER: MWL-3-27-57-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	193.2	276.4	313.8	383.2	439.4	447.4
115°	240.1	315.4	348.2	419.9	471.3	476.2
117.5°	281.3	363.0	382.4	446.4	504.8	506.5
120°	324.9	407.3	416.6	483.0	537.4	544.6
122.5°	369.2	449.3	449.3	514.1	566.2	571.0
125°	410.4	494.4	482.0	537.4	592.6	595.1
127.5°	452.4	540.3	517.7	567.7	619.3	616.9
130°	499.3	583.8	551.4	596.5	643.3	635.6
132.5°	541.2	631.4	584.8	626.1	667.4	672.1
135°	583.3	675.0	613.6	651.7	692.3	690.8
137.5°	623.7	715.5	648.6	671.9	708.7	713.3
140°	663.4	759.0	679.7	698.3	728.9	729.6
142.5°	705.3	802.6	713.9	725.8	751.4	746.8
145°	752.0	843.8	756.7	752.2	768.6	758.4
147.5°	793.3	879.5	787.0	770.7	791.2	777.9
150°	840.1	916.1	830.0	798.0	810.5	804.3
152.5°	881.2	944.9	874.9	818.9	833.1	825.3
155°	922.4	975.2	919.3	839.9	850.2	847.1
157.5°	958.2	1001.7	952.7	861.7	873.5	867.4
160°	989.3	1023.5	991.6	894.3	888.2	889.1
162.5°	1017.5	1045.4	1019.8	938.7	905.3	891.5
165°	1041.6	1061.7	1043.9	989.4	937.9	925.6
167.5°	1064.1	1077.4	1071.1	1029.9	988.5	960.5
170°	1082.0	1089.7	1081.2	1064.1	1042.9	1017.9
172.5°	1091.3	1094.4	1099.9	1089.0	1080.2	1063.7
175°	1096.8	1105.3	1100.7	1104.5	1096.6	1092.5
177.5°	1098.3	1099.9	1099.1	1106.1	1109.0	1102.6
180°	1103.6	1103.6	1103.6	1103.6	1103.6	1103.6

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