

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: P392653

Luminaire Tested: **MWL-4-26-73-UNV-L835-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392653
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-1 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-4-26-73-UNV-L835-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

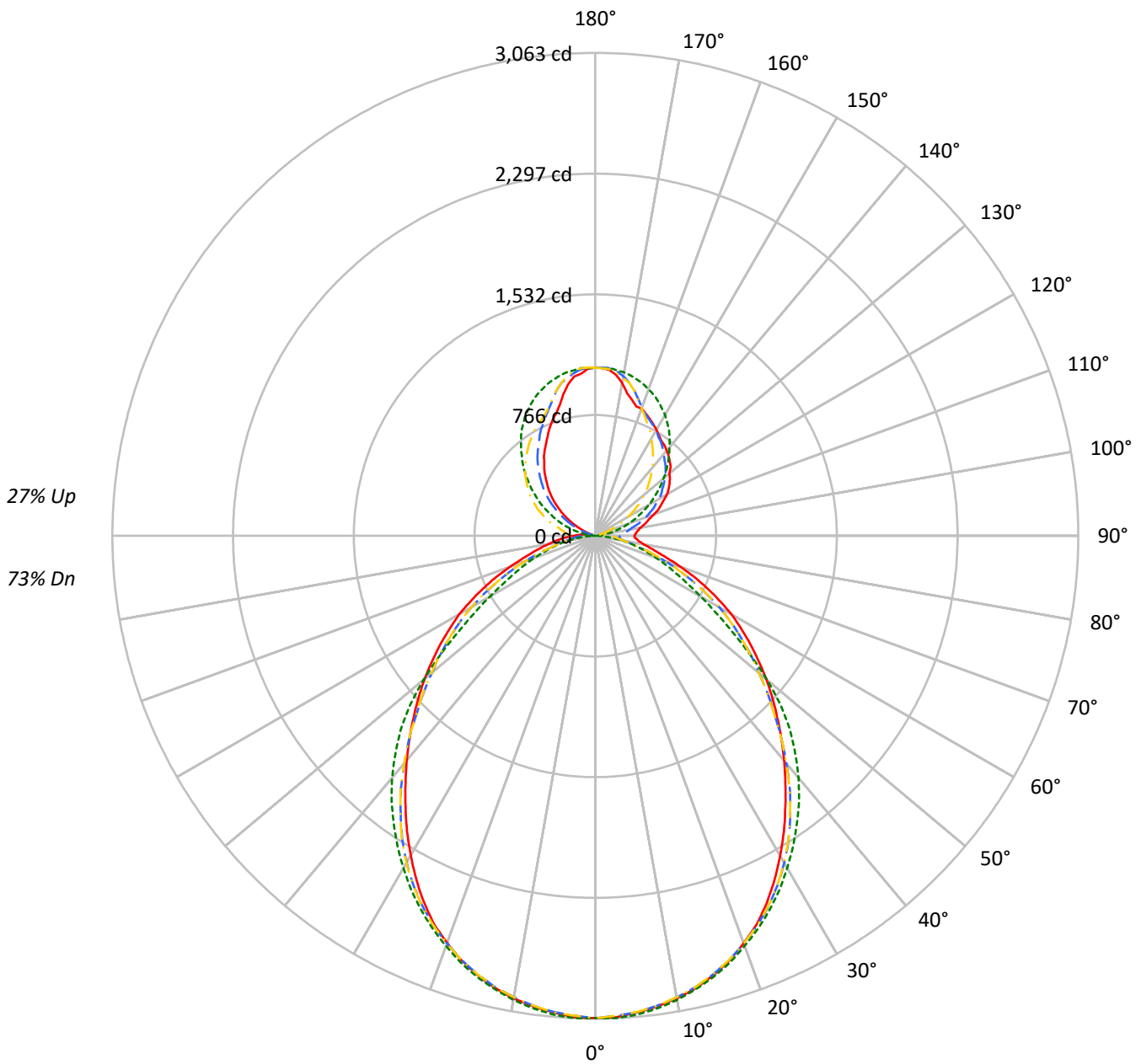
Lumens per Lamp: N/A
Luminaire Lumens: 9708.0 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 108.1
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



— 0°-180° - - 45°-225° - - - 90°-270° - - - 135°-315°



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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	50	30	10	0	
RCR																						
0	113	113	113	113	107	107	107	107	96	96	96	86	86	86	77	77	77	73				
1	103	99	95	91	98	94	91	87	85	82	80	77	75	73	69	67	66	62				
2	94	87	81	76	89	83	77	73	75	71	67	68	65	62	61	59	56	53				
3	87	77	70	64	82	73	67	61	67	61	57	61	56	53	55	51	49	45				
4	79	69	61	54	75	65	58	53	60	54	49	54	50	46	49	45	42	39				
5	73	61	53	47	69	59	51	46	54	48	43	49	44	40	45	41	37	34				
6	68	55	47	41	64	53	46	40	49	42	38	45	39	35	41	36	33	31				
7	63	50	42	37	60	48	41	35	44	38	33	41	35	31	37	33	29	27				
8	59	46	38	33	56	44	37	32	41	34	30	37	32	28	34	30	27	24				
9	55	42	34	29	52	41	33	29	37	31	27	35	29	26	32	27	24	22				
10	51	39	31	27	49	37	31	26	35	29	25	32	27	23	30	25	22	20				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	19761	19761	19761	19761
5°	19498	18175	19498	18175
10°	19187	16669	19187	16669
15°	18775	15277	18760	15277
20°	18215	13951	18200	13951
25°	17473	12720	17458	12720
30°	16489	11505	16468	11505
35°	15436	10332	15419	10332
40°	14442	9190	14419	9190
45°	13500	7979	13481	7979
50°	12637	6520	12617	6520
55°	11760	4905	11745	4905
60°	10906	3649	10898	3649
65°	9702	2749	9702	2749
70°	8434	2067	8445	2067
75°	7354	1481	7396	1481
80°	7276	952	6942	952
85°	8994	426	7347	426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	288.5	3.0
10°-20°	813.8	8.4
20°-30°	1193.3	12.3
30°-40°	1350.6	13.9
40°-50°	1272.5	13.1
50°-60°	1018.2	10.5
60°-70°	670.4	6.9
70°-80°	342.2	3.5
80°-90°	163.3	1.7
90°-100°	123.9	1.3
100°-110°	171.4	1.8
110°-120°	284.9	2.9
120°-130°	386.3	4.0
130°-140°	440.1	4.5
140°-150°	438.7	4.5
150°-160°	381.6	3.9
160°-170°	268.3	2.8
170°-180°	99.9	1.0
0°-30°	2295.6	23.6
0°-40°	3646.2	37.6
0°-60°	5936.9	61.2
0°-90°	7112.9	73.3
90°-120°	580.2	6.0
90°-150°	1845.1	19.0
90°-180°	2595.0	26.7
0°-180°	9708.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	3060	3060	3060	3060	3060	
5°	3035	3049	3035	3049	3035	288
15°	2886	2897	2884	2897	2886	813
25°	2571	2617	2569	2617	2571	1181
35°	2101	2228	2098	2228	2101	1315
45°	1632	1747	1630	1747	1632	1261
55°	1200	1058	1198	1058	1200	1074
65°	777	566	777	566	777	771
75°	409	281	412	281	409	446
85°	266	72	217	72	266	225
90°	248	2	135	2	248	137
95°	262	32	84	32	262	220
105°	337	150	21	150	337	358
115°	460	305	108	305	460	456
125°	574	477	263	477	574	513
135°	667	652	421	652	667	515
145°	732	814	565	814	732	462
155°	818	942	710	942	818	377
165°	894	1026	864	1026	894	253
175°	1054	1068	1032	1068	1054	98
180°	1066	1066	1066	1066	1066	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3059.8	3059.8	3059.8	3059.8	3059.8	3059.8	3059.8	3059.8	3059.8	3059.8	3059.8
2.5°	3056.6	3056.1	3047.8	3064.3	3063.3	3063.5	3047.8	3056.1	3057.3	3056.1	3047.8
5°	3035.0	3040.4	3033.0	3049.7	3048.8	3049.7	3032.3	3040.4	3035.0	3040.4	3032.3
7.5°	3012.1	3019.5	3006.7	3026.2	3024.2	3025.4	3006.0	3018.8	3012.1	3018.8	3006.0
10°	2979.5	2982.1	2973.3	2991.0	2990.0	2990.3	2972.6	2980.7	2979.5	2980.7	2972.6
12.5°	2939.7	2938.9	2932.3	2948.0	2946.3	2948.0	2932.3	2937.4	2938.2	2937.4	2932.3
15°	2886.4	2885.8	2881.2	2896.9	2897.1	2896.1	2880.4	2884.3	2884.1	2884.3	2880.4
17.5°	2826.5	2824.9	2822.2	2839.1	2839.1	2839.1	2821.4	2824.2	2824.2	2824.2	2821.4
20°	2750.8	2753.9	2752.4	2769.4	2768.7	2768.7	2751.7	2752.4	2748.5	2752.4	2751.7
22.5°	2670.4	2673.3	2678.7	2700.6	2696.9	2699.9	2678.0	2671.9	2668.9	2671.9	2678.0
25°	2571.1	2577.0	2594.9	2618.0	2617.3	2617.3	2593.4	2574.8	2568.9	2574.8	2593.4
27.5°	2461.0	2476.8	2500.6	2529.4	2529.8	2528.6	2499.1	2474.5	2458.8	2474.5	2499.1
30°	2344.1	2360.8	2396.2	2436.7	2433.5	2435.2	2393.9	2358.5	2341.1	2358.5	2393.9
32.5°	2225.2	2241.9	2282.2	2330.5	2335.0	2329.1	2279.9	2238.9	2222.2	2238.9	2279.9
35°	2100.6	2108.4	2154.6	2227.3	2228.1	2225.2	2152.4	2106.3	2098.4	2106.3	2152.4
37.5°	1979.7	1981.6	2027.8	2104.5	2121.7	2102.3	2025.7	1979.5	1977.5	1979.5	2025.7
40°	1862.7	1852.9	1885.3	1971.1	2004.7	1969.6	1882.4	1849.9	1859.8	1849.9	1882.4
42.5°	1746.7	1734.9	1749.0	1833.5	1877.9	1832.0	1746.7	1732.0	1743.8	1732.0	1746.7
45°	1632.0	1610.4	1607.5	1692.0	1747.2	1690.5	1604.4	1608.2	1629.8	1608.2	1604.4
47.5°	1523.0	1497.4	1482.7	1547.7	1596.9	1547.0	1479.6	1495.1	1520.7	1495.1	1479.6
50°	1413.9	1389.3	1354.9	1400.3	1422.2	1398.8	1351.9	1386.2	1411.6	1386.2	1351.9
52.5°	1305.8	1287.1	1243.1	1258.8	1234.5	1257.3	1240.8	1284.0	1303.5	1284.0	1240.8
55°	1199.8	1183.1	1129.0	1108.7	1057.8	1107.1	1126.8	1180.8	1198.3	1180.8	1126.8
57.5°	1095.6	1085.8	1019.0	958.3	903.5	956.8	1016.7	1083.5	1094.2	1083.5	1016.7
60°	996.7	985.9	908.2	814.1	771.8	813.3	906.6	984.3	995.9	984.3	906.6
62.5°	884.6	879.7	792.2	686.3	659.0	685.5	790.7	878.1	883.8	878.1	790.7
65°	776.7	762.0	680.4	576.2	565.6	575.4	679.6	761.2	776.7	761.2	679.6
67.5°	672.5	650.9	575.2	481.1	484.0	481.1	574.5	650.1	672.5	650.1	574.5
70°	574.5	541.0	473.2	397.5	410.3	397.5	473.2	541.8	575.2	541.8	473.2
72.5°	483.0	441.8	379.9	323.8	339.9	323.1	379.9	442.6	484.6	442.6	379.9
75°	409.3	357.3	295.6	258.3	280.9	258.3	296.3	358.0	411.6	358.0	296.3
77.5°	355.4	296.4	230.8	199.3	226.8	199.3	231.5	294.2	352.4	294.2	231.5
80°	311.2	254.8	184.9	147.2	170.8	147.2	183.3	242.9	296.9	242.9	183.3
82.5°	281.0	231.1	162.4	105.9	119.7	105.9	153.4	204.0	252.5	204.0	153.4
85°	265.9	222.1	153.3	84.6	71.5	83.0	131.6	176.3	217.2	176.3	131.6
87.5°	249.7	219.4	151.5	78.1	26.5	67.6	108.7	147.3	172.5	147.3	108.7
90°	247.6	226.2	159.8	75.2	1.8	46.7	85.6	120.5	134.9	120.5	85.6
92.5°	255.0	240.1	171.9	79.8	14.0	28.0	69.1	101.3	107.9	101.3	69.1
95°	261.7	255.2	187.4	86.9	31.9	11.9	52.4	81.1	83.8	81.1	52.4
97.5°	276.1	272.2	200.8	107.0	55.2	11.0	35.0	65.9	65.9	65.9	35.0
100°	288.6	284.9	218.9	139.3	83.7	26.7	20.0	49.2	52.2	49.2	20.0
102.5°	314.7	301.7	239.8	170.0	114.5	48.5	16.2	31.5	35.5	31.5	16.2
105°	336.9	321.5	274.6	202.4	149.8	77.7	32.2	19.9	20.9	19.9	32.2
107.5°	360.3	350.9	307.6	236.4	187.3	112.5	57.7	32.7	24.2	32.7	57.7
110°	395.9	386.9	340.0	269.4	227.3	148.5	87.0	56.7	44.7	56.7	87.0



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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°	431.9	425.2	369.9	303.9	267.8	187.5	123.0	86.7	75.5	86.7	123.0
115°	459.7	454.9	405.4	336.1	305.4	231.8	163.7	121.0	108.5	121.0	163.7
117.5°	488.9	487.3	431.0	369.1	350.4	271.6	200.6	156.3	143.0	156.3	200.6
120°	525.7	518.7	466.2	402.2	393.2	313.6	241.1	196.8	183.5	196.8	241.1
122.5°	551.3	547.5	496.2	434.7	433.7	357.3	280.1	236.8	221.8	236.8	280.1
125°	574.5	573.0	518.7	466.2	477.3	397.2	323.6	279.6	263.1	279.6	323.6
127.5°	595.5	597.7	549.0	500.7	522.5	437.7	367.4	317.8	300.6	317.8	367.4
130°	613.6	621.0	576.8	532.3	564.5	482.0	405.7	356.2	344.9	356.2	405.7
132.5°	648.8	644.3	605.3	564.5	609.5	522.5	446.2	394.4	381.6	394.4	446.2
135°	666.8	668.3	630.1	592.3	651.6	563.0	484.4	433.4	420.6	433.4	484.4
137.5°	688.6	684.0	649.5	627.0	690.6	603.1	522.0	474.7	454.4	474.7	522.0
140°	704.4	703.6	675.1	657.1	732.6	641.3	560.3	512.2	493.5	512.2	560.3
142.5°	721.9	726.3	700.5	690.1	774.6	681.9	601.6	550.0	532.0	550.0	601.6
145°	732.1	742.8	726.1	731.4	814.5	726.9	637.5	585.3	564.7	585.3	637.5
147.5°	751.8	763.6	744.9	760.6	848.9	766.6	673.6	621.0	604.7	621.0	673.6
150°	776.4	782.4	771.1	801.2	884.2	810.9	710.4	656.3	639.0	656.3	710.4
152.5°	796.7	804.1	791.4	845.4	911.9	851.4	750.9	690.8	670.6	690.8	750.9
155°	817.7	820.6	811.7	888.2	942.2	891.2	783.1	729.1	709.6	729.1	783.1
157.5°	837.2	843.1	832.6	920.5	967.8	925.7	820.0	767.4	750.1	767.4	820.0
160°	858.2	858.2	864.2	958.0	988.8	955.8	859.0	809.4	785.4	809.4	859.0
162.5°	860.4	874.7	906.9	984.3	1009.0	982.0	900.9	839.4	818.4	839.4	900.9
165°	893.5	906.2	955.0	1007.6	1025.8	1005.3	952.7	888.9	864.2	888.9	952.7
167.5°	927.0	954.0	994.0	1034.8	1040.8	1028.0	992.5	947.2	924.7	947.2	992.5
170°	982.3	1007.6	1027.0	1044.5	1052.8	1045.3	1017.3	995.5	979.3	995.5	1017.3
172.5°	1026.5	1043.5	1051.0	1062.5	1057.3	1054.3	1039.8	1029.3	1019.9	1029.3	1039.8
175°	1054.4	1059.3	1066.1	1063.3	1067.8	1059.6	1059.3	1064.6	1031.8	1064.6	1059.3
177.5°	1064.1	1071.4	1067.5	1061.8	1062.5	1061.0	1063.1	1066.1	1059.6	1066.1	1063.1
180°	1066.1	1066.1	1066.1	1066.1	1066.1	1066.1	1066.1	1066.1	1066.1	1066.1	1066.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3059.8	3059.8	3059.8	3059.8	3059.8	3059.8
2.5°	3063.5	3063.3	3064.3	3047.8	3056.1	3056.6
5°	3049.7	3048.8	3049.7	3033.0	3040.4	3035.0
7.5°	3025.4	3024.2	3026.2	3006.7	3019.5	3012.1
10°	2990.3	2990.0	2991.0	2973.3	2982.1	2979.5
12.5°	2948.0	2946.3	2948.0	2932.3	2938.9	2939.7
15°	2896.1	2897.1	2896.9	2881.2	2885.8	2886.4
17.5°	2839.1	2839.1	2839.1	2822.2	2824.9	2826.5
20°	2768.7	2768.7	2769.4	2752.4	2753.9	2750.8
22.5°	2699.9	2696.9	2700.6	2678.7	2673.3	2670.4
25°	2617.3	2617.3	2618.0	2594.9	2577.0	2571.1
27.5°	2528.6	2529.8	2529.4	2500.6	2476.8	2461.0
30°	2435.2	2433.5	2436.7	2396.2	2360.8	2344.1
32.5°	2329.1	2335.0	2330.5	2282.2	2241.9	2225.2
35°	2225.2	2228.1	2227.3	2154.6	2108.4	2100.6
37.5°	2102.3	2121.7	2104.5	2027.8	1981.6	1979.7
40°	1969.6	2004.7	1971.1	1885.3	1852.9	1862.7
42.5°	1832.0	1877.9	1833.5	1749.0	1734.9	1746.7
45°	1690.5	1747.2	1692.0	1607.5	1610.4	1632.0
47.5°	1547.0	1596.9	1547.7	1482.7	1497.4	1523.0
50°	1398.8	1422.2	1400.3	1354.9	1389.3	1413.9
52.5°	1257.3	1234.5	1258.8	1243.1	1287.1	1305.8
55°	1107.1	1057.8	1108.7	1129.0	1183.1	1199.8
57.5°	956.8	903.5	958.3	1019.0	1085.8	1095.6
60°	813.3	771.8	814.1	908.2	985.9	996.7
62.5°	685.5	659.0	686.3	792.2	879.7	884.6
65°	575.4	565.6	576.2	680.4	762.0	776.7
67.5°	481.1	484.0	481.1	575.2	650.9	672.5
70°	397.5	410.3	397.5	473.2	541.0	574.5
72.5°	323.1	339.9	323.8	379.9	441.8	483.0
75°	258.3	280.9	258.3	295.6	357.3	409.3
77.5°	199.3	226.8	199.3	230.8	296.4	355.4
80°	147.2	170.8	147.2	184.9	254.8	311.2
82.5°	105.9	119.7	105.9	162.4	231.1	281.0
85°	83.0	71.5	84.6	153.3	222.1	265.9
87.5°	67.6	26.5	78.1	151.5	219.4	249.7
90°	46.7	1.8	75.2	159.8	226.2	247.6
92.5°	28.0	14.0	79.8	171.9	240.1	255.0
95°	11.9	31.9	86.9	187.4	255.2	261.7
97.5°	11.0	55.2	107.0	200.8	272.2	276.1
100°	26.7	83.7	139.3	218.9	284.9	288.6
102.5°	48.5	114.5	170.0	239.8	301.7	314.7
105°	77.7	149.8	202.4	274.6	321.5	336.9
107.5°	112.5	187.3	236.4	307.6	350.9	360.3
110°	148.5	227.3	269.4	340.0	386.9	395.9



TEST NUMBER: P392653

CATALOG NUMBER: MWL-4-26-73-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	187.5	267.8	303.9	369.9	425.2	431.9
115°	231.8	305.4	336.1	405.4	454.9	459.7
117.5°	271.6	350.4	369.1	431.0	487.3	488.9
120°	313.6	393.2	402.2	466.2	518.7	525.7
122.5°	357.3	433.7	434.7	496.2	547.5	551.3
125°	397.2	477.3	466.2	518.7	573.0	574.5
127.5°	437.7	522.5	500.7	549.0	597.7	595.5
130°	482.0	564.5	532.3	576.8	621.0	613.6
132.5°	522.5	609.5	564.5	605.3	644.3	648.8
135°	563.0	651.6	592.3	630.1	668.3	666.8
137.5°	603.1	690.6	627.0	649.5	684.0	688.6
140°	641.3	732.6	657.1	675.1	703.6	704.4
142.5°	681.9	774.6	690.1	700.5	726.3	721.9
145°	726.9	814.5	731.4	726.1	742.8	732.1
147.5°	766.6	848.9	760.6	744.9	763.6	751.8
150°	810.9	884.2	801.2	771.1	782.4	776.4
152.5°	851.4	911.9	845.4	791.4	804.1	796.7
155°	891.2	942.2	888.2	811.7	820.6	817.7
157.5°	925.7	967.8	920.5	832.6	843.1	837.2
160°	955.8	988.8	958.0	864.2	858.2	858.2
162.5°	982.0	1009.0	984.3	906.9	874.7	860.4
165°	1005.3	1025.8	1007.6	955.0	906.2	893.5
167.5°	1028.0	1040.8	1034.8	994.0	954.0	927.0
170°	1045.3	1052.8	1044.5	1027.0	1007.6	982.3
172.5°	1054.3	1057.3	1062.5	1051.0	1043.5	1026.5
175°	1059.6	1067.8	1063.3	1066.1	1059.3	1054.4
177.5°	1061.0	1062.5	1061.8	1067.5	1071.4	1064.1
180°	1066.1	1066.1	1066.1	1066.1	1066.1	1066.1

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