

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: P392576

Luminaire Tested: **MWL-3-27-57-UNV-L940-EDD**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P392576
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-L940-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

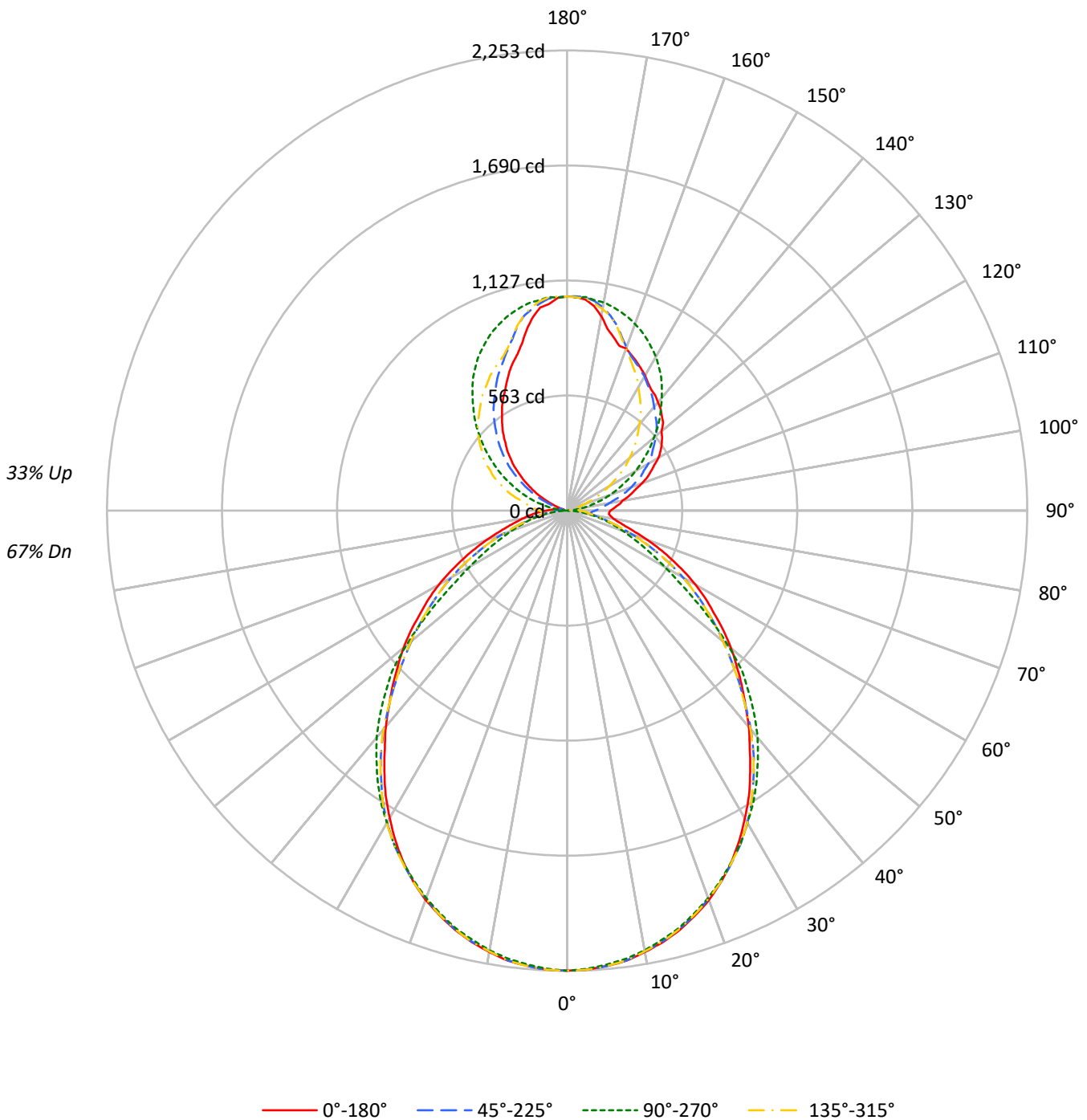
Lumens per Lamp: N/A
Luminaire Lumens: 7736.3 lumens
Efficiency: N/A
Efficacy: 81.5 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 94.94
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°	19399	19399	19399	19399
5°	19111	17731	19111	17731
10°	18732	16251	18732	16251
15°	18279	14875	18260	14875
20°	17708	13559	17689	13559
25°	16962	12310	16943	12310
30°	16022	11126	15995	11126
35°	14967	10000	14945	10000
40°	13939	8866	13909	8866
45°	12926	7656	12902	7656
50°	12041	6299	12015	6299
55°	11003	4729	10985	4729
60°	10070	3471	10061	3471
65°	8831	2613	8831	2613
70°	7581	1956	7594	1956
75°	6460	1408	6510	1408
80°	6391	899	6003	899
85°	7843	368	6010	368



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	212.1	2.7
10°-20°	597.2	7.7
20°-30°	875.3	11.3
30°-40°	992.5	12.8
40°-50°	933.1	12.1
50°-60°	740.6	9.6
60°-70°	481.6	6.2
70°-80°	245.6	3.2
80°-90°	122.3	1.6
90°-100°	109.7	1.4
100°-110°	166.4	2.2
110°-120°	279.9	3.6
120°-130°	379.4	4.9
130°-140°	432.5	5.6
140°-150°	431.1	5.6
150°-160°	375.1	4.8
160°-170°	263.8	3.4
170°-180°	98.2	1.3
0°-30°	1684.6	21.8
0°-40°	2677.1	34.6
0°-60°	4350.9	56.2
0°-90°	5200.4	67.2
90°-120°	555.9	7.2
90°-150°	1798.8	23.3
90°-180°	2536.0	32.8
0°-180°	7736.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2253	2253	2253	2253	2253	
5°	2238	2231	2238	2231	2238	212
15°	2127	2116	2124	2116	2127	599
25°	1901	1900	1899	1900	1901	873
35°	1562	1617	1560	1617	1562	977
45°	1209	1257	1207	1257	1209	934
55°	878	765	877	765	878	790
65°	562	403	562	403	562	560
75°	295	200	297	200	295	323
85°	205	46	157	46	205	174
90°	212	2	102	2	212	118
95°	242	30	67	30	242	205
105°	328	147	17	147	328	348
115°	452	299	106	299	452	449
125°	565	469	259	469	565	505
135°	656	641	414	641	656	506
145°	720	801	555	801	720	454
155°	804	926	698	926	804	371
165°	879	1008	850	1008	879	249
175°	1037	1049	1015	1049	1037	97
180°	1048	1048	1048	1048	1048	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2252.8	2252.8	2252.8	2252.8	2252.8	2252.8	2252.8	2252.8	2252.8	2252.8	2252.8
2.5°	2249.6	2250.2	2249.9	2247.0	2245.1	2246.2	2249.9	2250.2	2250.4	2250.2	2249.9
5°	2237.8	2240.2	2238.9	2234.4	2230.7	2234.4	2238.2	2240.2	2237.8	2240.2	2238.2
7.5°	2223.1	2221.8	2221.8	2215.2	2212.5	2214.5	2221.1	2221.1	2223.1	2221.1	2221.1
10°	2194.7	2195.4	2191.7	2189.0	2186.3	2188.3	2191.0	2193.9	2194.7	2193.9	2191.0
12.5°	2164.2	2162.6	2160.9	2156.4	2151.1	2156.4	2160.9	2161.1	2162.8	2161.1	2160.9
15°	2126.7	2120.7	2121.8	2119.0	2115.6	2118.3	2121.0	2119.2	2124.5	2119.2	2121.0
17.5°	2079.3	2076.9	2075.3	2073.7	2068.2	2073.7	2074.6	2076.2	2077.1	2076.2	2074.6
20°	2030.1	2026.7	2023.4	2023.6	2018.2	2022.7	2022.6	2025.2	2027.9	2025.2	2022.6
22.5°	1968.3	1968.3	1967.8	1966.2	1960.8	1965.3	1967.1	1966.9	1966.9	1966.9	1967.1
25°	1900.9	1901.8	1904.7	1906.0	1899.7	1905.2	1903.3	1899.6	1898.7	1899.6	1903.3
27.5°	1823.5	1829.9	1839.1	1841.2	1837.8	1840.4	1837.7	1827.7	1821.3	1827.7	1837.7
30°	1740.6	1746.0	1766.1	1775.4	1764.9	1773.9	1763.9	1743.8	1737.6	1743.8	1763.9
32.5°	1656.7	1658.6	1683.2	1697.0	1695.6	1695.6	1681.0	1655.6	1653.7	1655.6	1681.0
35°	1562.2	1564.0	1591.3	1616.8	1617.3	1614.6	1589.0	1561.7	1559.9	1561.7	1589.0
37.5°	1468.3	1470.2	1499.3	1527.6	1533.4	1525.3	1497.0	1467.9	1466.1	1467.9	1497.0
40°	1384.5	1374.5	1399.1	1433.0	1450.5	1431.4	1396.1	1371.5	1381.5	1371.5	1396.1
42.5°	1291.6	1278.8	1290.8	1334.6	1355.7	1333.0	1288.6	1275.8	1288.6	1275.8	1288.6
45°	1208.8	1187.0	1190.6	1229.8	1257.3	1228.3	1187.6	1184.7	1206.6	1184.7	1187.6
47.5°	1125.0	1102.2	1091.3	1126.1	1160.7	1125.3	1088.3	1100.0	1122.7	1100.0	1088.3
50°	1047.6	1020.2	998.4	1013.1	1030.5	1011.6	995.4	1017.2	1045.3	1017.2	995.4
52.5°	964.7	941.9	909.3	911.1	898.4	909.6	907.0	938.9	962.4	938.9	907.0
55°	878.3	864.6	822.8	801.0	764.8	799.6	820.5	862.4	876.8	862.4	820.5
57.5°	804.6	789.1	739.0	691.7	645.4	690.2	736.7	786.8	803.0	786.8	736.7
60°	725.4	712.7	656.2	583.5	550.7	582.7	654.7	711.2	724.7	711.2	654.7
62.5°	643.4	634.3	572.4	489.6	471.6	488.9	570.9	632.9	642.7	632.9	570.9
65°	562.5	550.7	486.0	410.4	403.3	409.6	485.3	549.9	562.5	549.9	485.3
67.5°	488.7	470.5	410.4	342.2	341.3	342.2	409.6	469.8	488.7	469.8	409.6
70°	416.0	390.5	335.8	284.8	291.2	284.8	335.8	391.2	416.7	391.2	335.8
72.5°	349.5	319.4	271.1	232.0	240.3	231.2	271.1	320.2	351.0	320.2	271.1
75°	294.8	253.8	213.9	185.7	200.3	185.7	214.7	254.6	297.1	254.6	214.7
77.5°	257.0	211.3	165.6	142.9	160.2	142.9	166.4	209.0	254.1	209.0	166.4
80°	230.4	184.2	133.2	108.2	121.0	108.2	131.7	172.4	216.4	172.4	131.7
82.5°	216.2	171.3	117.5	78.2	83.6	78.2	108.6	144.8	188.1	144.8	108.6
85°	205.4	172.5	116.4	60.3	46.3	58.9	95.0	127.5	157.4	127.5	95.0
87.5°	206.5	181.6	123.3	58.7	13.7	48.4	81.2	110.7	130.5	110.7	81.2
90°	212.5	195.1	137.1	61.4	1.6	33.3	64.0	91.0	101.8	91.0	64.0
92.5°	226.8	213.4	153.4	70.6	12.8	19.7	52.3	76.7	82.1	76.7	52.3
95°	241.9	233.8	172.5	81.4	30.4	7.5	39.5	62.5	66.9	62.5	39.5
97.5°	261.6	254.3	188.5	105.1	53.3	10.7	25.4	51.2	54.8	51.2	25.4
100°	274.0	266.9	209.9	136.9	82.3	26.1	14.3	35.1	41.5	35.1	14.3
102.5°	302.4	289.0	233.8	167.2	112.6	47.6	13.8	23.2	27.8	23.2	13.8
105°	327.8	313.0	270.0	199.0	147.2	76.4	31.5	16.1	17.0	16.1	31.5
107.5°	354.1	344.9	302.5	231.4	184.2	109.6	56.7	31.9	23.3	31.9	56.7
110°	390.1	379.5	334.2	263.9	222.6	145.0	85.5	54.6	44.6	54.6	85.5



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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°	424.7	417.1	363.8	297.8	262.4	183.4	120.9	84.1	74.0	84.1	120.9
115°	452.0	447.4	398.6	330.5	299.4	228.0	160.9	118.8	106.4	118.8	160.9
117.5°	480.8	479.1	423.8	363.0	344.6	267.0	197.1	153.5	140.4	153.5	197.1
120°	517.0	510.1	458.5	395.5	386.7	308.4	237.0	193.4	180.3	193.4	237.0
122.5°	542.0	537.5	488.0	426.5	426.5	350.5	275.3	231.8	217.9	231.8	275.3
125°	564.9	562.5	510.1	457.6	469.3	389.6	318.2	273.9	258.6	273.9	318.2
127.5°	585.6	587.8	538.9	491.4	512.9	429.5	360.2	312.4	295.5	312.4	360.2
130°	603.3	610.7	566.2	523.4	554.2	474.0	397.9	350.0	339.0	350.0	397.9
132.5°	638.0	633.6	594.3	555.1	599.4	513.8	437.8	387.8	375.2	387.8	437.8
135°	655.7	657.2	618.6	582.5	640.8	553.7	475.4	426.1	413.5	426.1	475.4
137.5°	677.1	672.8	637.9	615.7	679.2	592.0	512.3	466.8	446.8	466.8	512.3
140°	692.6	691.9	662.9	645.2	720.5	629.8	550.0	503.7	485.2	503.7	550.0
142.5°	708.9	713.3	689.0	677.7	761.9	669.6	591.5	539.8	522.1	539.8	591.5
145°	720.0	729.6	714.0	718.3	801.0	713.8	626.9	574.5	555.3	574.5	626.9
147.5°	738.4	751.0	731.6	747.1	834.9	753.0	661.5	610.7	593.7	610.7	661.5
150°	763.5	769.4	757.5	787.9	869.6	797.5	697.6	645.4	628.4	645.4	697.6
152.5°	783.5	790.8	777.4	830.6	896.9	836.5	737.5	679.3	659.5	679.3	737.5
155°	804.1	807.1	797.3	872.6	925.7	875.5	769.2	717.0	697.8	717.0	769.2
157.5°	823.4	829.2	818.0	904.3	950.8	909.5	805.4	754.7	737.7	754.7	805.4
160°	844.0	843.1	848.9	941.2	971.5	939.0	843.9	795.1	772.4	795.1	843.9
162.5°	846.2	859.3	891.0	968.0	992.3	965.8	885.0	824.6	804.9	824.6	885.0
165°	878.6	890.2	939.2	990.8	1007.8	988.6	937.0	873.3	849.8	873.3	937.0
167.5°	911.6	938.3	977.5	1016.7	1022.6	1010.0	976.1	931.6	909.5	931.6	976.1
170°	966.1	989.9	1010.0	1026.3	1034.4	1027.0	1000.4	978.1	963.1	978.1	1000.4
172.5°	1009.7	1025.4	1033.6	1044.0	1038.8	1035.8	1022.6	1011.3	1003.0	1011.3	1022.6
175°	1037.0	1040.8	1048.4	1044.8	1049.1	1041.0	1041.8	1046.0	1014.9	1046.0	1041.8
177.5°	1046.6	1052.7	1049.9	1043.2	1044.0	1042.5	1045.5	1047.5	1042.2	1047.5	1045.5
180°	1047.5	1047.5	1047.5	1047.5	1047.5	1047.5	1047.5	1047.5	1047.5	1047.5	1047.5



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CATALOG NUMBER: MWL-3-27-57-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2252.8	2252.8	2252.8	2252.8	2252.8	2252.8
2.5°	2246.2	2245.1	2247.0	2249.9	2250.2	2249.6
5°	2234.4	2230.7	2234.4	2238.9	2240.2	2237.8
7.5°	2214.5	2212.5	2215.2	2221.8	2221.8	2223.1
10°	2188.3	2186.3	2189.0	2191.7	2195.4	2194.7
12.5°	2156.4	2151.1	2156.4	2160.9	2162.6	2164.2
15°	2118.3	2115.6	2119.0	2121.8	2120.7	2126.7
17.5°	2073.7	2068.2	2073.7	2075.3	2076.9	2079.3
20°	2022.7	2018.2	2023.6	2023.4	2026.7	2030.1
22.5°	1965.3	1960.8	1966.2	1967.8	1968.3	1968.3
25°	1905.2	1899.7	1906.0	1904.7	1901.8	1900.9
27.5°	1840.4	1837.8	1841.2	1839.1	1829.9	1823.5
30°	1773.9	1764.9	1775.4	1766.1	1746.0	1740.6
32.5°	1695.6	1695.6	1697.0	1683.2	1658.6	1656.7
35°	1614.6	1617.3	1616.8	1591.3	1564.0	1562.2
37.5°	1525.3	1533.4	1527.6	1499.3	1470.2	1468.3
40°	1431.4	1450.5	1433.0	1399.1	1374.5	1384.5
42.5°	1333.0	1355.7	1334.6	1290.8	1278.8	1291.6
45°	1228.3	1257.3	1229.8	1190.6	1187.0	1208.8
47.5°	1125.3	1160.7	1126.1	1091.3	1102.2	1125.0
50°	1011.6	1030.5	1013.1	998.4	1020.2	1047.6
52.5°	909.6	898.4	911.1	909.3	941.9	964.7
55°	799.6	764.8	801.0	822.8	864.6	878.3
57.5°	690.2	645.4	691.7	739.0	789.1	804.6
60°	582.7	550.7	583.5	656.2	712.7	725.4
62.5°	488.9	471.6	489.6	572.4	634.3	643.4
65°	409.6	403.3	410.4	486.0	550.7	562.5
67.5°	342.2	341.3	342.2	410.4	470.5	488.7
70°	284.8	291.2	284.8	335.8	390.5	416.0
72.5°	231.2	240.3	232.0	271.1	319.4	349.5
75°	185.7	200.3	185.7	213.9	253.8	294.8
77.5°	142.9	160.2	142.9	165.6	211.3	257.0
80°	108.2	121.0	108.2	133.2	184.2	230.4
82.5°	78.2	83.6	78.2	117.5	171.3	216.2
85°	58.9	46.3	60.3	116.4	172.5	205.4
87.5°	48.4	13.7	58.7	123.3	181.6	206.5
90°	33.3	1.6	61.4	137.1	195.1	212.5
92.5°	19.7	12.8	70.6	153.4	213.4	226.8
95°	7.5	30.4	81.4	172.5	233.8	241.9
97.5°	10.7	53.3	105.1	188.5	254.3	261.6
100°	26.1	82.3	136.9	209.9	266.9	274.0
102.5°	47.6	112.6	167.2	233.8	289.0	302.4
105°	76.4	147.2	199.0	270.0	313.0	327.8
107.5°	109.6	184.2	231.4	302.5	344.9	354.1
110°	145.0	222.6	263.9	334.2	379.5	390.1



TEST NUMBER: P392576

CATALOG NUMBER: MWL-3-27-57-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	183.4	262.4	297.8	363.8	417.1	424.7
115°	228.0	299.4	330.5	398.6	447.4	452.0
117.5°	267.0	344.6	363.0	423.8	479.1	480.8
120°	308.4	386.7	395.5	458.5	510.1	517.0
122.5°	350.5	426.5	426.5	488.0	537.5	542.0
125°	389.6	469.3	457.6	510.1	562.5	564.9
127.5°	429.5	512.9	491.4	538.9	587.8	585.6
130°	474.0	554.2	523.4	566.2	610.7	603.3
132.5°	513.8	599.4	555.1	594.3	633.6	638.0
135°	553.7	640.8	582.5	618.6	657.2	655.7
137.5°	592.0	679.2	615.7	637.9	672.8	677.1
140°	629.8	720.5	645.2	662.9	691.9	692.6
142.5°	669.6	761.9	677.7	689.0	713.3	708.9
145°	713.8	801.0	718.3	714.0	729.6	720.0
147.5°	753.0	834.9	747.1	731.6	751.0	738.4
150°	797.5	869.6	787.9	757.5	769.4	763.5
152.5°	836.5	896.9	830.6	777.4	790.8	783.5
155°	875.5	925.7	872.6	797.3	807.1	804.1
157.5°	909.5	950.8	904.3	818.0	829.2	823.4
160°	939.0	971.5	941.2	848.9	843.1	844.0
162.5°	965.8	992.3	968.0	891.0	859.3	846.2
165°	988.6	1007.8	990.8	939.2	890.2	878.6
167.5°	1010.0	1022.6	1016.7	977.5	938.3	911.6
170°	1027.0	1034.4	1026.3	1010.0	989.9	966.1
172.5°	1035.8	1038.8	1044.0	1033.6	1025.4	1009.7
175°	1041.0	1049.1	1044.8	1048.4	1040.8	1037.0
177.5°	1042.5	1044.0	1043.2	1049.9	1052.7	1046.6
180°	1047.5	1047.5	1047.5	1047.5	1047.5	1047.5

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