

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: P392571

Luminaire Tested: **MWL-3-27-47-UNV-L930-EDD**

Issue Date: 3/12/2020

Test Information

Test Method: LM-79-08
Report Number: P392571
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-3-27-47-UNV-L930-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

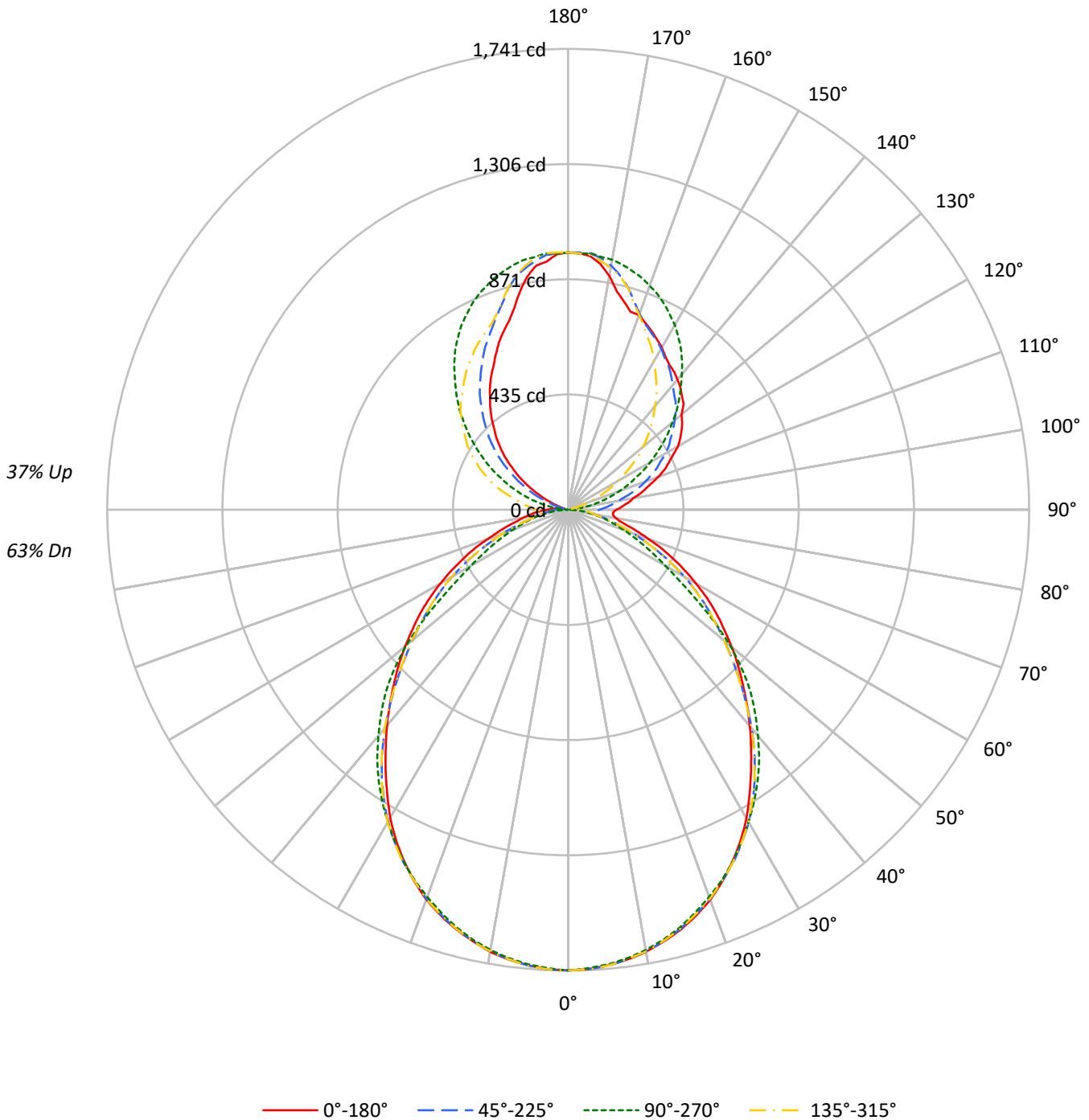
Lumens per Lamp: N/A
Luminaire Lumens: 6363.4 lumens
Efficiency: N/A
Efficacy: 79.6 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 79.992
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	91	91	91	79	79	79	68	68	68	63
1	101	97	93	89	95	91	87	84	80	77	75	70	68	66	61	59	58	54
2	92	85	79	74	86	80	75	70	71	66	63	62	59	56	54	52	50	46
3	85	75	68	62	79	71	64	59	63	58	53	55	51	48	48	45	43	39
4	78	67	59	53	73	63	56	51	56	50	46	49	45	42	43	40	37	34
5	71	60	52	46	67	57	49	44	50	44	40	45	40	36	39	36	33	30
6	66	54	46	40	62	51	44	38	46	40	35	41	36	32	36	32	29	26
7	61	49	41	35	57	46	39	34	42	36	31	37	32	29	33	29	26	24
8	57	45	37	31	53	42	35	30	38	32	28	34	29	26	30	26	23	21
9	53	41	33	28	50	39	32	27	35	29	25	31	27	23	28	24	21	19
10	50	38	30	25	47	36	29	25	32	27	23	29	24	21	26	22	19	17

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	14989	14989	14989	14989
5°	14755	13707	14755	13707
10°	14477	12556	14477	12556
15°	14116	11482	14099	11482
20°	13685	10455	13667	10455
25°	13096	9508	13078	9508
30°	12397	8584	12372	8584
35°	11536	7714	11516	7714
40°	10744	6815	10716	6815
45°	9967	5934	9944	5934
50°	9257	4883	9233	4883
55°	8557	3644	8538	3644
60°	7734	2672	7726	2672
65°	6865	2018	6865	2018
70°	5848	1497	5859	1497
75°	5049	1080	5095	1080
80°	5085	683	4724	683
85°	6468	288	4769	288



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.8	2.6
10°-20°	461.3	7.2
20°-30°	676.0	10.6
30°-40°	766.1	12.0
40°-50°	720.5	11.3
50°-60°	572.0	9.0
60°-70°	372.3	5.9
70°-80°	189.9	3.0
80°-90°	97.7	1.5
90°-100°	96.1	1.5
100°-110°	153.5	2.4
110°-120°	259.0	4.1
120°-130°	351.6	5.5
130°-140°	400.8	6.3
140°-150°	399.5	6.3
150°-160°	347.7	5.5
160°-170°	244.6	3.8
170°-180°	91.0	1.4
0°-30°	1301.1	20.4
0°-40°	2067.3	32.5
0°-60°	3359.7	52.8
0°-90°	4019.6	63.2
90°-120°	508.6	8.0
90°-150°	1660.4	26.1
90°-180°	2344.0	36.8
0°-180°	6363.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1741	1741	1741	1741	1741	
5°	1728	1724	1728	1724	1728	164
15°	1642	1633	1640	1633	1642	463
25°	1468	1467	1466	1467	1468	675
35°	1204	1248	1202	1248	1204	754
45°	932	974	930	974	932	721
55°	683	589	682	589	683	610
65°	437	312	437	312	437	434
75°	230	154	232	154	230	252
85°	169	36	125	36	169	141
90°	182	2	79	2	182	101
95°	214	28	52	28	214	183
105°	302	137	14	137	302	320
115°	418	278	98	278	418	415
125°	523	435	239	435	523	467
135°	608	594	383	594	608	469
145°	667	742	514	742	667	421
155°	745	858	646	858	745	344
165°	814	934	788	934	814	231
175°	961	972	941	972	961	90
180°	972	972	972	972	972	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1740.7	1740.7	1740.7	1740.7	1740.7	1740.7	1740.7	1740.7	1740.7	1740.7	1740.7
2.5°	1737.0	1739.3	1738.1	1735.4	1733.7	1734.7	1738.1	1739.3	1737.8	1739.3	1738.1
5°	1727.7	1730.0	1729.7	1726.2	1724.5	1726.2	1728.9	1730.0	1727.7	1730.0	1728.9
7.5°	1714.1	1717.2	1712.9	1711.9	1709.3	1711.2	1712.2	1716.4	1714.1	1716.4	1712.2
10°	1696.2	1697.7	1695.1	1690.9	1689.2	1690.2	1694.4	1696.4	1696.2	1696.4	1694.4
12.5°	1670.5	1670.7	1668.3	1664.8	1663.4	1664.8	1668.3	1669.3	1669.1	1669.3	1668.3
15°	1642.4	1640.2	1638.7	1636.1	1633.0	1635.4	1638.0	1638.9	1640.4	1638.9	1638.0
17.5°	1607.8	1606.4	1603.2	1600.8	1595.7	1600.8	1602.5	1605.8	1605.8	1605.8	1602.5
20°	1568.9	1566.5	1565.2	1561.1	1556.1	1560.3	1564.5	1565.2	1566.8	1565.2	1564.5
22.5°	1520.9	1520.9	1518.7	1518.0	1515.5	1517.3	1518.0	1519.5	1519.5	1519.5	1518.0
25°	1467.6	1469.3	1472.9	1471.5	1467.4	1470.8	1471.5	1467.3	1465.6	1467.3	1471.5
27.5°	1410.1	1412.7	1418.7	1422.4	1415.8	1421.7	1417.4	1410.6	1408.1	1410.6	1417.4
30°	1346.8	1351.0	1364.5	1369.8	1361.7	1368.4	1362.5	1348.9	1344.0	1348.9	1362.5
32.5°	1275.0	1281.7	1297.8	1309.7	1307.5	1308.4	1295.7	1278.9	1272.1	1278.9	1295.7
35°	1204.1	1210.0	1229.4	1248.0	1247.7	1245.9	1227.3	1207.9	1202.0	1207.9	1227.3
37.5°	1134.0	1134.8	1155.1	1180.4	1185.0	1178.3	1153.0	1132.7	1131.9	1132.7	1153.0
40°	1067.2	1064.6	1078.2	1107.9	1114.9	1106.5	1075.4	1061.9	1064.4	1061.9	1075.4
42.5°	999.5	990.3	996.4	1032.7	1045.6	1031.2	994.3	987.5	996.8	987.5	994.3
45°	932.1	919.4	917.7	949.9	974.5	948.5	915.0	917.3	930.0	917.3	915.0
47.5°	869.6	853.6	841.7	865.5	890.0	864.7	838.9	851.4	867.5	851.4	838.9
50°	805.4	787.6	769.8	784.4	798.9	782.9	767.1	784.8	803.3	784.8	767.1
52.5°	742.0	727.6	701.6	700.7	694.9	699.3	699.5	724.8	739.9	724.8	699.5
55°	683.0	668.7	635.6	620.5	589.4	619.2	633.5	666.5	681.5	666.5	633.5
57.5°	621.3	610.3	572.2	535.2	496.4	533.8	570.1	608.2	619.9	608.2	570.1
60°	557.1	551.2	507.3	449.1	423.8	448.4	505.9	549.9	556.5	549.9	505.9
62.5°	496.2	491.2	441.3	379.0	363.1	378.3	440.0	489.8	495.6	489.8	440.0
65°	437.3	425.5	375.6	316.5	311.5	315.7	374.9	424.8	437.3	424.8	374.9
67.5°	381.5	366.3	314.8	265.0	265.0	265.0	314.1	365.6	381.5	365.6	314.1
70°	320.9	302.2	261.7	219.4	222.8	219.4	261.7	302.9	321.5	302.9	261.7
72.5°	274.4	243.9	212.6	177.9	184.9	177.3	212.6	244.6	275.7	244.6	212.6
75°	230.4	198.3	165.4	141.0	153.6	141.0	166.2	199.0	232.5	199.0	166.2
77.5°	198.7	163.1	127.4	110.6	123.2	110.6	128.1	161.0	196.0	161.0	128.1
80°	183.3	145.5	103.3	82.7	91.9	82.7	102.0	134.5	170.3	134.5	102.0
82.5°	171.8	138.6	93.0	59.9	65.8	59.9	84.7	114.0	145.8	114.0	84.7
85°	169.4	140.5	94.5	47.5	36.2	46.1	74.7	98.8	124.9	98.8	74.7
87.5°	171.3	153.2	102.5	47.6	11.0	38.1	63.5	87.4	100.7	87.4	63.5
90°	181.9	168.3	117.9	51.9	1.5	25.9	50.0	71.8	79.2	71.8	50.0
92.5°	199.3	186.9	134.7	63.0	11.8	15.8	40.9	60.1	65.2	60.1	40.9
95°	214.2	207.5	154.1	74.7	28.3	6.1	30.7	48.7	51.9	48.7	30.7
97.5°	235.0	229.1	171.5	97.6	49.5	9.9	20.2	40.8	43.2	40.8	20.2
100°	249.1	244.2	193.0	127.1	75.5	24.2	11.6	29.1	33.4	29.1	11.6
102.5°	277.1	264.7	216.9	155.1	103.6	44.1	12.9	18.1	22.4	18.1	12.9
105°	302.4	289.5	250.4	184.6	136.6	70.8	29.2	14.1	14.1	14.1	29.2
107.5°	327.6	319.1	280.6	214.7	170.9	101.7	52.6	28.7	20.8	28.7	52.6
110°	361.1	352.0	310.0	244.9	206.5	134.5	79.2	50.6	40.5	50.6	79.2



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CATALOG NUMBER: MWL-3-27-47-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	393.1	386.1	337.5	276.3	243.4	170.1	112.2	77.1	67.8	77.1	112.2
115°	418.4	414.1	368.9	305.8	277.7	210.6	148.5	109.4	97.9	109.4	148.5
117.5°	445.2	443.6	392.3	335.9	318.8	246.9	182.0	141.6	129.4	141.6	182.0
120°	478.7	473.2	424.4	366.0	357.8	285.3	219.0	179.4	166.4	179.4	219.0
122.5°	502.0	498.5	451.8	395.6	395.6	325.2	254.6	215.0	201.3	215.0	254.6
125°	523.2	521.8	472.4	424.4	435.3	361.4	294.3	254.0	239.1	254.0	294.3
127.5°	542.3	544.4	499.1	455.9	475.7	398.4	333.4	289.0	273.2	289.0	333.4
130°	558.9	565.6	525.3	484.7	514.1	438.8	369.1	323.8	313.6	323.8	369.1
132.5°	591.0	586.9	551.3	514.1	555.2	475.7	406.1	358.9	347.2	358.9	406.1
135°	607.5	608.8	573.9	539.5	593.5	512.8	441.0	394.5	382.8	394.5	441.0
137.5°	627.3	623.2	591.7	571.2	629.2	549.2	475.2	432.1	413.7	432.1	475.2
140°	641.6	641.0	614.9	598.6	667.5	584.2	510.2	466.4	449.2	466.4	510.2
142.5°	656.8	660.8	638.3	628.7	705.9	621.1	547.8	499.9	483.4	499.9	547.8
145°	667.0	676.0	661.5	666.4	742.3	662.2	580.7	532.1	514.3	532.1	580.7
147.5°	684.1	695.9	678.7	693.0	773.7	698.5	613.6	565.6	549.9	565.6	613.6
150°	707.4	712.9	702.6	730.0	805.8	738.9	647.2	597.9	582.1	597.9	647.2
152.5°	725.9	732.8	721.1	770.4	831.2	776.0	684.1	629.3	610.9	629.3	684.1
155°	745.1	747.8	739.6	809.5	858.0	812.2	713.6	664.3	646.5	664.3	713.6
157.5°	763.0	768.3	758.8	838.1	881.3	842.9	747.1	699.2	683.4	699.2	747.1
160°	782.1	782.1	787.5	873.1	900.4	871.1	782.8	737.6	715.7	737.6	782.8
162.5°	784.2	797.1	826.6	897.1	919.7	895.1	821.1	765.0	745.8	765.0	821.1
165°	814.2	825.9	870.5	918.4	934.0	916.3	868.4	810.1	787.5	810.1	868.4
167.5°	845.7	870.5	906.0	942.4	947.9	936.1	904.6	864.3	843.7	864.3	904.6
170°	896.3	917.5	936.1	951.2	958.8	951.9	927.3	906.6	893.5	906.6	927.3
172.5°	935.9	950.4	958.1	967.8	962.9	960.1	947.9	937.4	929.7	937.4	947.9
175°	961.2	964.8	971.8	968.4	972.4	964.9	965.6	969.6	940.6	969.6	965.6
177.5°	970.0	975.8	973.1	967.0	967.8	966.3	969.1	970.9	966.0	970.9	969.1
180°	971.8	971.8	971.8	971.8	971.8	971.8	971.8	971.8	971.8	971.8	971.8



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CATALOG NUMBER: MWL-3-27-47-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1740.7	1740.7	1740.7	1740.7	1740.7	1740.7
2.5°	1734.7	1733.7	1735.4	1738.1	1739.3	1737.0
5°	1726.2	1724.5	1726.2	1729.7	1730.0	1727.7
7.5°	1711.2	1709.3	1711.9	1712.9	1717.2	1714.1
10°	1690.2	1689.2	1690.9	1695.1	1697.7	1696.2
12.5°	1664.8	1663.4	1664.8	1668.3	1670.7	1670.5
15°	1635.4	1633.0	1636.1	1638.7	1640.2	1642.4
17.5°	1600.8	1595.7	1600.8	1603.2	1606.4	1607.8
20°	1560.3	1556.1	1561.1	1565.2	1566.5	1568.9
22.5°	1517.3	1515.5	1518.0	1518.7	1520.9	1520.9
25°	1470.8	1467.4	1471.5	1472.9	1469.3	1467.6
27.5°	1421.7	1415.8	1422.4	1418.7	1412.7	1410.1
30°	1368.4	1361.7	1369.8	1364.5	1351.0	1346.8
32.5°	1308.4	1307.5	1309.7	1297.8	1281.7	1275.0
35°	1245.9	1247.7	1248.0	1229.4	1210.0	1204.1
37.5°	1178.3	1185.0	1180.4	1155.1	1134.8	1134.0
40°	1106.5	1114.9	1107.9	1078.2	1064.6	1067.2
42.5°	1031.2	1045.6	1032.7	996.4	990.3	999.5
45°	948.5	974.5	949.9	917.7	919.4	932.1
47.5°	864.7	890.0	865.5	841.7	853.6	869.6
50°	782.9	798.9	784.4	769.8	787.6	805.4
52.5°	699.3	694.9	700.7	701.6	727.6	742.0
55°	619.2	589.4	620.5	635.6	668.7	683.0
57.5°	533.8	496.4	535.2	572.2	610.3	621.3
60°	448.4	423.8	449.1	507.3	551.2	557.1
62.5°	378.3	363.1	379.0	441.3	491.2	496.2
65°	315.7	311.5	316.5	375.6	425.5	437.3
67.5°	265.0	265.0	265.0	314.8	366.3	381.5
70°	219.4	222.8	219.4	261.7	302.2	320.9
72.5°	177.3	184.9	177.9	212.6	243.9	274.4
75°	141.0	153.6	141.0	165.4	198.3	230.4
77.5°	110.6	123.2	110.6	127.4	163.1	198.7
80°	82.7	91.9	82.7	103.3	145.5	183.3
82.5°	59.9	65.8	59.9	93.0	138.6	171.8
85°	46.1	36.2	47.5	94.5	140.5	169.4
87.5°	38.1	11.0	47.6	102.5	153.2	171.3
90°	25.9	1.5	51.9	117.9	168.3	181.9
92.5°	15.8	11.8	63.0	134.7	186.9	199.3
95°	6.1	28.3	74.7	154.1	207.5	214.2
97.5°	9.9	49.5	97.6	171.5	229.1	235.0
100°	24.2	75.5	127.1	193.0	244.2	249.1
102.5°	44.1	103.6	155.1	216.9	264.7	277.1
105°	70.8	136.6	184.6	250.4	289.5	302.4
107.5°	101.7	170.9	214.7	280.6	319.1	327.6
110°	134.5	206.5	244.9	310.0	352.0	361.1



TEST NUMBER: P392571

CATALOG NUMBER: MWL-3-27-47-UNV-L930-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	170.1	243.4	276.3	337.5	386.1	393.1
115°	210.6	277.7	305.8	368.9	414.1	418.4
117.5°	246.9	318.8	335.9	392.3	443.6	445.2
120°	285.3	357.8	366.0	424.4	473.2	478.7
122.5°	325.2	395.6	395.6	451.8	498.5	502.0
125°	361.4	435.3	424.4	472.4	521.8	523.2
127.5°	398.4	475.7	455.9	499.1	544.4	542.3
130°	438.8	514.1	484.7	525.3	565.6	558.9
132.5°	475.7	555.2	514.1	551.3	586.9	591.0
135°	512.8	593.5	539.5	573.9	608.8	607.5
137.5°	549.2	629.2	571.2	591.7	623.2	627.3
140°	584.2	667.5	598.6	614.9	641.0	641.6
142.5°	621.1	705.9	628.7	638.3	660.8	656.8
145°	662.2	742.3	666.4	661.5	676.0	667.0
147.5°	698.5	773.7	693.0	678.7	695.9	684.1
150°	738.9	805.8	730.0	702.6	712.9	707.4
152.5°	776.0	831.2	770.4	721.1	732.8	725.9
155°	812.2	858.0	809.5	739.6	747.8	745.1
157.5°	842.9	881.3	838.1	758.8	768.3	763.0
160°	871.1	900.4	873.1	787.5	782.1	782.1
162.5°	895.1	919.7	897.1	826.6	797.1	784.2
165°	916.3	934.0	918.4	870.5	825.9	814.2
167.5°	936.1	947.9	942.4	906.0	870.5	845.7
170°	951.9	958.8	951.2	936.1	917.5	896.3
172.5°	960.1	962.9	967.8	958.1	950.4	935.9
175°	964.9	972.4	968.4	971.8	964.8	961.2
177.5°	966.3	967.8	967.0	973.1	975.8	970.0
180°	971.8	971.8	971.8	971.8	971.8	971.8

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