

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: P392572

Luminaire Tested: **MWL-3-27-47-UNV-L935-EDD**

Issue Date: 3/12/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P392572  
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-L935-EDD  
Description: MWL 3FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6385.4 lumens  
Efficiency: N/A  
Efficacy: 79.8 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

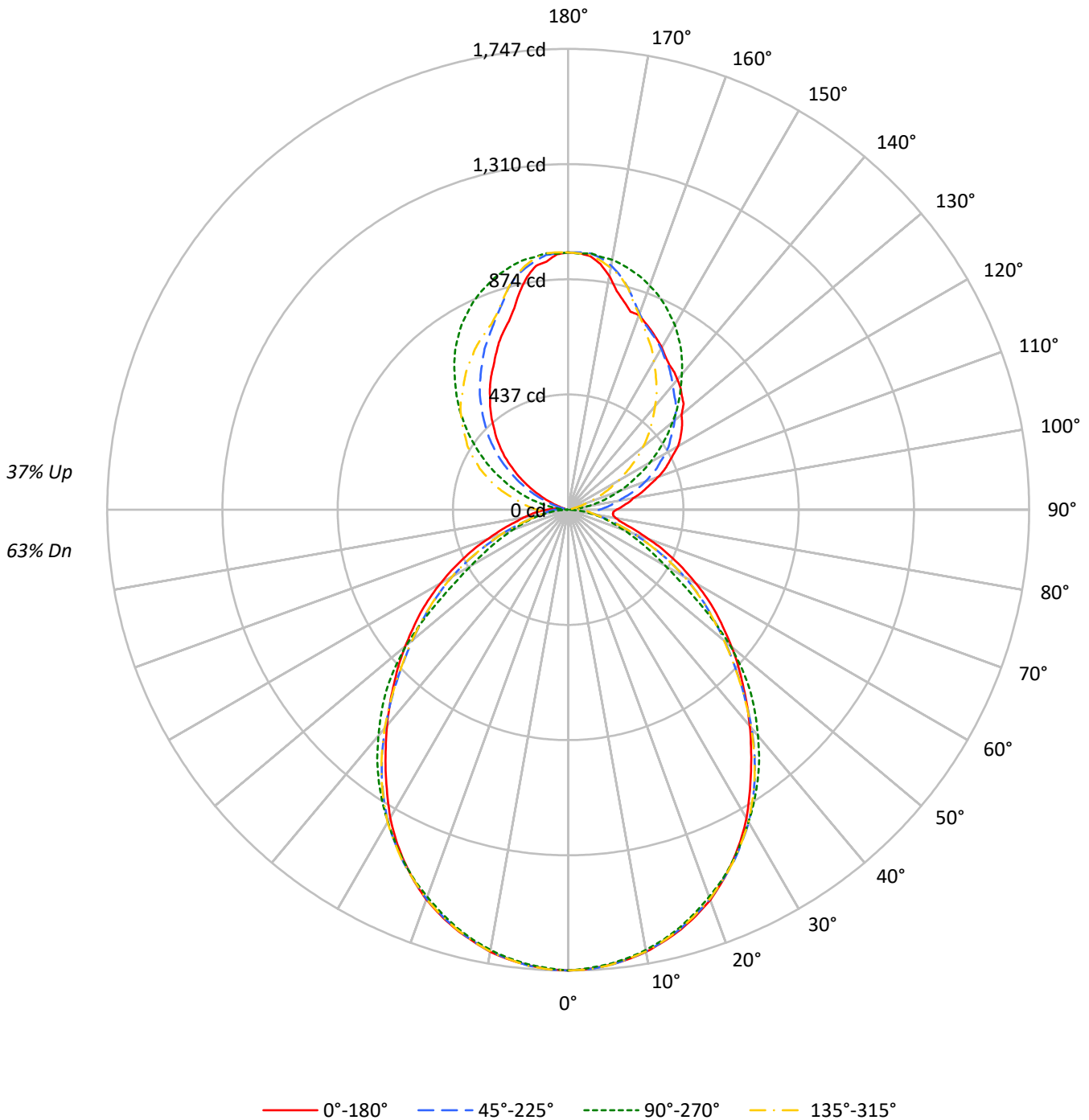
Input Watts (W): 79.992  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P392572

CATALOG NUMBER: MWL-3-27-47-UNV-L935-EDD

### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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	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°	15043	15043	15043	15043
5°	14806	13755	14806	13755
10°	14527	12600	14527	12600
15°	14165	11521	14148	11521
20°	13733	10491	13715	10491
25°	13141	9541	13124	9541
30°	12441	8614	12414	8614
35°	11576	7741	11556	7741
40°	10782	6838	10753	6838
45°	10002	5954	9979	5954
50°	9289	4900	9264	4900
55°	8585	3657	8568	3657
60°	7762	2680	7752	2680
65°	6889	2026	6889	2026
70°	5866	1502	5879	1502
75°	5066	1084	5112	1084
80°	5104	685	4741	685
85°	6491	289	4788	289



TEST NUMBER: P392572

CATALOG NUMBER: MWL-3-27-47-UNV-L935-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	164.4	2.6
10°-20°	462.9	7.2
20°-30°	678.3	10.6
30°-40°	768.8	12.0
40°-50°	723.0	11.3
50°-60°	573.9	9.0
60°-70°	373.6	5.9
70°-80°	190.5	3.0
80°-90°	98.1	1.5
90°-100°	96.4	1.5
100°-110°	154.0	2.4
110°-120°	259.9	4.1
120°-130°	352.8	5.5
130°-140°	402.1	6.3
140°-150°	400.9	6.3
150°-160°	348.9	5.5
160°-170°	245.4	3.8
170°-180°	91.4	1.4
0°-30°	1305.7	20.4
0°-40°	2074.5	32.5
0°-60°	3371.4	52.8
0°-90°	4033.6	63.2
90°-120°	510.3	8.0
90°-150°	1666.2	26.1
90°-180°	2352.0	36.8
0°-180°	6385.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1747	1747	1747	1747	1747	
5°	1734	1730	1734	1730	1734	164
15°	1648	1639	1646	1639	1648	464
25°	1473	1472	1471	1472	1473	677
35°	1208	1252	1206	1252	1208	756
45°	935	978	933	978	935	723
55°	685	591	684	591	685	612
65°	439	313	439	313	439	435
75°	231	154	233	154	231	253
85°	170	36	125	36	170	142
90°	182	2	80	2	182	101
95°	215	28	52	28	215	184
105°	304	137	14	137	304	321
115°	420	279	98	279	420	417
125°	525	437	240	437	525	469
135°	610	596	384	596	610	471
145°	669	745	516	745	669	422
155°	748	861	649	861	748	345
165°	817	937	790	937	817	232
175°	964	976	944	976	964	90
180°	975	975	975	975	975	



TEST NUMBER: P392572

CATALOG NUMBER: MWL-3-27-47-UNV-L935-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1746.9	1746.9	1746.9	1746.9	1746.9	1746.9	1746.9	1746.9	1746.9	1746.9	1746.9
2.5°	1743.0	1745.3	1744.1	1741.4	1739.7	1740.7	1744.1	1745.3	1743.7	1745.3	1744.1
5°	1733.7	1736.0	1735.6	1732.3	1730.5	1732.3	1734.9	1736.0	1733.7	1736.0	1734.9
7.5°	1720.0	1723.0	1718.8	1717.9	1715.3	1717.2	1718.1	1722.4	1720.0	1722.4	1718.1
10°	1702.1	1703.5	1701.0	1696.8	1695.1	1696.1	1700.3	1702.2	1702.1	1702.2	1700.3
12.5°	1676.3	1676.4	1674.0	1670.7	1669.1	1670.7	1674.0	1675.1	1674.9	1675.1	1674.0
15°	1648.1	1645.9	1644.3	1641.8	1638.6	1641.1	1643.7	1644.5	1646.1	1644.5	1643.7
17.5°	1613.4	1612.0	1608.8	1606.4	1601.3	1606.4	1608.1	1611.3	1611.3	1611.3	1608.1
20°	1574.4	1571.9	1570.6	1566.5	1561.5	1565.7	1569.9	1570.6	1572.3	1570.6	1569.9
22.5°	1526.1	1526.1	1524.0	1523.3	1520.8	1522.5	1523.3	1524.8	1524.8	1524.8	1523.3
25°	1472.7	1474.4	1478.0	1476.6	1472.5	1475.8	1476.6	1472.4	1470.7	1472.4	1476.6
27.5°	1415.1	1417.6	1423.7	1427.2	1420.8	1426.5	1422.3	1415.6	1413.0	1415.6	1422.3
30°	1351.5	1355.7	1369.2	1374.5	1366.5	1373.1	1367.2	1353.6	1348.6	1353.6	1367.2
32.5°	1279.3	1286.2	1302.3	1314.3	1312.1	1312.9	1300.2	1283.3	1276.6	1283.3	1300.2
35°	1208.3	1214.2	1233.7	1252.4	1252.0	1250.3	1231.6	1212.1	1206.2	1212.1	1231.6
37.5°	1137.9	1138.8	1159.1	1184.5	1189.1	1182.4	1157.0	1136.6	1135.7	1136.6	1157.0
40°	1070.9	1068.4	1081.9	1111.8	1118.7	1110.3	1079.1	1065.5	1068.1	1065.5	1079.1
42.5°	1003.0	993.7	999.8	1036.3	1049.2	1034.9	997.7	991.0	1000.3	991.0	997.7
45°	935.4	922.6	921.0	953.2	977.9	951.8	918.1	920.5	933.2	920.5	918.1
47.5°	872.7	856.5	844.6	868.5	893.1	867.7	841.8	854.4	870.5	854.4	841.8
50°	808.2	790.3	772.6	787.1	801.6	785.7	769.7	787.6	806.0	787.6	769.7
52.5°	744.5	730.1	704.0	703.2	697.3	701.7	701.9	727.3	742.4	727.3	701.9
55°	685.3	670.9	637.9	622.7	591.4	621.3	635.7	668.8	683.9	668.8	635.7
57.5°	623.4	612.4	574.3	537.0	498.2	535.7	572.1	610.3	622.0	610.3	572.1
60°	559.1	553.1	509.0	450.7	425.2	450.0	507.6	551.7	558.4	551.7	507.6
62.5°	498.0	492.9	442.8	380.3	364.3	379.6	441.5	491.6	497.3	491.6	441.5
65°	438.8	427.0	376.9	317.5	312.6	316.9	376.2	426.3	438.8	426.3	376.2
67.5°	382.9	367.6	315.8	265.9	265.9	265.9	315.1	366.9	382.9	366.9	315.1
70°	321.9	303.3	262.6	220.1	223.6	220.1	262.6	304.0	322.6	304.0	262.6
72.5°	275.3	244.7	213.4	178.6	185.5	177.9	213.4	245.4	276.6	245.4	213.4
75°	231.2	199.0	166.0	141.4	154.2	141.4	166.7	199.7	233.3	199.7	166.7
77.5°	199.4	163.6	127.9	111.0	123.7	111.0	128.6	161.4	196.7	161.4	128.6
80°	184.0	146.0	103.6	82.9	92.2	82.9	102.3	135.0	170.9	135.0	102.3
82.5°	172.4	139.1	93.3	60.1	66.0	60.1	85.0	114.4	146.3	114.4	85.0
85°	170.0	141.0	94.8	47.6	36.3	46.3	74.9	99.1	125.4	99.1	74.9
87.5°	171.8	153.8	102.9	47.8	11.0	38.2	63.7	87.8	101.1	87.8	63.7
90°	182.5	168.9	118.3	52.0	1.6	26.0	50.2	72.0	79.5	72.0	50.2
92.5°	200.1	187.6	135.2	63.2	11.9	15.8	41.1	60.4	65.4	60.4	41.1
95°	215.0	208.3	154.6	74.9	28.3	6.1	30.9	48.8	52.0	48.8	30.9
97.5°	235.8	229.9	172.1	97.9	49.6	9.9	20.3	40.9	43.4	40.9	20.3
100°	249.9	245.0	193.7	127.5	75.8	24.3	11.6	29.3	33.5	29.3	11.6
102.5°	278.1	265.6	217.6	155.7	104.0	44.3	12.9	18.2	22.4	18.2	12.9
105°	303.5	290.5	251.3	185.3	137.0	71.1	29.3	14.2	14.2	14.2	29.3
107.5°	328.8	320.2	281.6	215.4	171.5	102.0	52.7	28.8	20.9	28.8	52.7
110°	362.3	353.3	311.1	245.7	207.2	135.0	79.6	50.8	40.6	50.8	79.6



TEST NUMBER: P392572

CATALOG NUMBER: MWL-3-27-47-UNV-L935-EDD

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	394.4	387.4	338.7	277.2	244.3	170.7	112.5	77.4	68.0	77.4	112.5
115°	419.9	415.6	370.2	306.8	278.7	211.3	148.9	109.8	98.2	109.8	148.9
117.5°	446.7	445.2	393.6	337.0	319.9	247.7	182.6	142.0	129.9	142.0	182.6
120°	480.4	474.9	425.9	367.3	359.1	286.2	219.8	180.1	167.0	180.1	219.8
122.5°	503.7	500.3	453.4	397.0	397.0	326.3	255.4	215.7	202.0	215.7	255.4
125°	525.0	523.6	474.0	425.9	436.9	362.7	295.3	254.9	239.8	254.9	295.3
127.5°	544.2	546.3	500.8	457.4	477.4	399.8	334.5	289.9	274.2	289.9	334.5
130°	560.8	567.6	527.1	486.4	515.9	440.3	370.4	325.0	314.7	325.0	370.4
132.5°	593.1	588.9	553.2	515.9	557.1	477.4	407.5	360.1	348.4	360.1	407.5
135°	609.6	610.8	575.9	541.4	595.7	514.5	442.5	395.8	384.1	395.8	442.5
137.5°	629.5	625.4	593.8	573.1	631.4	551.1	476.9	433.6	415.1	433.6	476.9
140°	643.9	643.2	617.1	600.7	669.9	586.2	512.0	468.0	450.8	468.0	512.0
142.5°	659.1	663.1	640.4	630.8	708.4	623.3	549.8	501.7	485.1	501.7	549.8
145°	669.4	678.3	663.8	668.7	744.8	664.5	582.7	534.0	516.1	534.0	582.7
147.5°	686.5	698.3	681.0	695.4	776.4	700.9	615.7	567.6	551.7	567.6	615.7
150°	709.8	715.3	705.1	732.6	808.6	741.5	649.4	600.0	584.1	600.0	649.4
152.5°	728.5	735.3	723.6	773.2	834.1	778.7	686.5	631.5	613.0	631.5	686.5
155°	747.7	750.4	742.2	812.3	860.9	815.0	716.0	666.6	648.7	666.6	716.0
157.5°	765.6	771.0	761.4	841.0	884.3	845.8	749.7	701.6	685.8	701.6	749.7
160°	784.8	784.8	790.2	876.2	903.5	874.1	785.5	740.1	718.2	740.1	785.5
162.5°	786.9	799.9	829.4	900.3	922.9	898.2	823.9	767.6	748.4	767.6	823.9
165°	817.1	828.7	873.4	921.6	937.3	919.5	871.4	813.0	790.2	813.0	871.4
167.5°	848.7	873.4	909.2	945.7	951.2	939.4	907.8	867.3	846.7	867.3	907.8
170°	899.4	920.7	939.4	954.5	962.0	955.2	930.5	909.7	896.6	909.7	930.5
172.5°	939.1	953.7	961.4	971.1	966.3	963.4	951.2	940.6	932.9	940.6	951.2
175°	964.5	968.1	975.2	971.7	975.9	968.3	969.0	972.9	943.9	972.9	969.0
177.5°	973.4	979.1	976.5	970.3	971.1	969.6	972.4	974.3	969.4	974.3	972.4
180°	975.2	975.2	975.2	975.2	975.2	975.2	975.2	975.2	975.2	975.2	975.2



TEST NUMBER: P392572

CATALOG NUMBER: MWL-3-27-47-UNV-L935-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1746.9	1746.9	1746.9	1746.9	1746.9	1746.9
2.5°	1740.7	1739.7	1741.4	1744.1	1745.3	1743.0
5°	1732.3	1730.5	1732.3	1735.6	1736.0	1733.7
7.5°	1717.2	1715.3	1717.9	1718.8	1723.0	1720.0
10°	1696.1	1695.1	1696.8	1701.0	1703.5	1702.1
12.5°	1670.7	1669.1	1670.7	1674.0	1676.4	1676.3
15°	1641.1	1638.6	1641.8	1644.3	1645.9	1648.1
17.5°	1606.4	1601.3	1606.4	1608.8	1612.0	1613.4
20°	1565.7	1561.5	1566.5	1570.6	1571.9	1574.4
22.5°	1522.5	1520.8	1523.3	1524.0	1526.1	1526.1
25°	1475.8	1472.5	1476.6	1478.0	1474.4	1472.7
27.5°	1426.5	1420.8	1427.2	1423.7	1417.6	1415.1
30°	1373.1	1366.5	1374.5	1369.2	1355.7	1351.5
32.5°	1312.9	1312.1	1314.3	1302.3	1286.2	1279.3
35°	1250.3	1252.0	1252.4	1233.7	1214.2	1208.3
37.5°	1182.4	1189.1	1184.5	1159.1	1138.8	1137.9
40°	1110.3	1118.7	1111.8	1081.9	1068.4	1070.9
42.5°	1034.9	1049.2	1036.3	999.8	993.7	1003.0
45°	951.8	977.9	953.2	921.0	922.6	935.4
47.5°	867.7	893.1	868.5	844.6	856.5	872.7
50°	785.7	801.6	787.1	772.6	790.3	808.2
52.5°	701.7	697.3	703.2	704.0	730.1	744.5
55°	621.3	591.4	622.7	637.9	670.9	685.3
57.5°	535.7	498.2	537.0	574.3	612.4	623.4
60°	450.0	425.2	450.7	509.0	553.1	559.1
62.5°	379.6	364.3	380.3	442.8	492.9	498.0
65°	316.9	312.6	317.5	376.9	427.0	438.8
67.5°	265.9	265.9	265.9	315.8	367.6	382.9
70°	220.1	223.6	220.1	262.6	303.3	321.9
72.5°	177.9	185.5	178.6	213.4	244.7	275.3
75°	141.4	154.2	141.4	166.0	199.0	231.2
77.5°	111.0	123.7	111.0	127.9	163.6	199.4
80°	82.9	92.2	82.9	103.6	146.0	184.0
82.5°	60.1	66.0	60.1	93.3	139.1	172.4
85°	46.3	36.3	47.6	94.8	141.0	170.0
87.5°	38.2	11.0	47.8	102.9	153.8	171.8
90°	26.0	1.6	52.0	118.3	168.9	182.5
92.5°	15.8	11.9	63.2	135.2	187.6	200.1
95°	6.1	28.3	74.9	154.6	208.3	215.0
97.5°	9.9	49.6	97.9	172.1	229.9	235.8
100°	24.3	75.8	127.5	193.7	245.0	249.9
102.5°	44.3	104.0	155.7	217.6	265.6	278.1
105°	71.1	137.0	185.3	251.3	290.5	303.5
107.5°	102.0	171.5	215.4	281.6	320.2	328.8
110°	135.0	207.2	245.7	311.1	353.3	362.3





TEST NUMBER: P392572

CATALOG NUMBER: MWL-3-27-47-UNV-L935-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	170.7	244.3	277.2	338.7	387.4	394.4
115°	211.3	278.7	306.8	370.2	415.6	419.9
117.5°	247.7	319.9	337.0	393.6	445.2	446.7
120°	286.2	359.1	367.3	425.9	474.9	480.4
122.5°	326.3	397.0	397.0	453.4	500.3	503.7
125°	362.7	436.9	425.9	474.0	523.6	525.0
127.5°	399.8	477.4	457.4	500.8	546.3	544.2
130°	440.3	515.9	486.4	527.1	567.6	560.8
132.5°	477.4	557.1	515.9	553.2	588.9	593.1
135°	514.5	595.7	541.4	575.9	610.8	609.6
137.5°	551.1	631.4	573.1	593.8	625.4	629.5
140°	586.2	669.9	600.7	617.1	643.2	643.9
142.5°	623.3	708.4	630.8	640.4	663.1	659.1
145°	664.5	744.8	668.7	663.8	678.3	669.4
147.5°	700.9	776.4	695.4	681.0	698.3	686.5
150°	741.5	808.6	732.6	705.1	715.3	709.8
152.5°	778.7	834.1	773.2	723.6	735.3	728.5
155°	815.0	860.9	812.3	742.2	750.4	747.7
157.5°	845.8	884.3	841.0	761.4	771.0	765.6
160°	874.1	903.5	876.2	790.2	784.8	784.8
162.5°	898.2	922.9	900.3	829.4	799.9	786.9
165°	919.5	937.3	921.6	873.4	828.7	817.1
167.5°	939.4	951.2	945.7	909.2	873.4	848.7
170°	955.2	962.0	954.5	939.4	920.7	899.4
172.5°	963.4	966.3	971.1	961.4	953.7	939.1
175°	968.3	975.9	971.7	975.2	968.1	964.5
177.5°	969.6	971.1	970.3	976.5	979.1	973.4
180°	975.2	975.2	975.2	975.2	975.2	975.2

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