

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-L835-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-L835-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

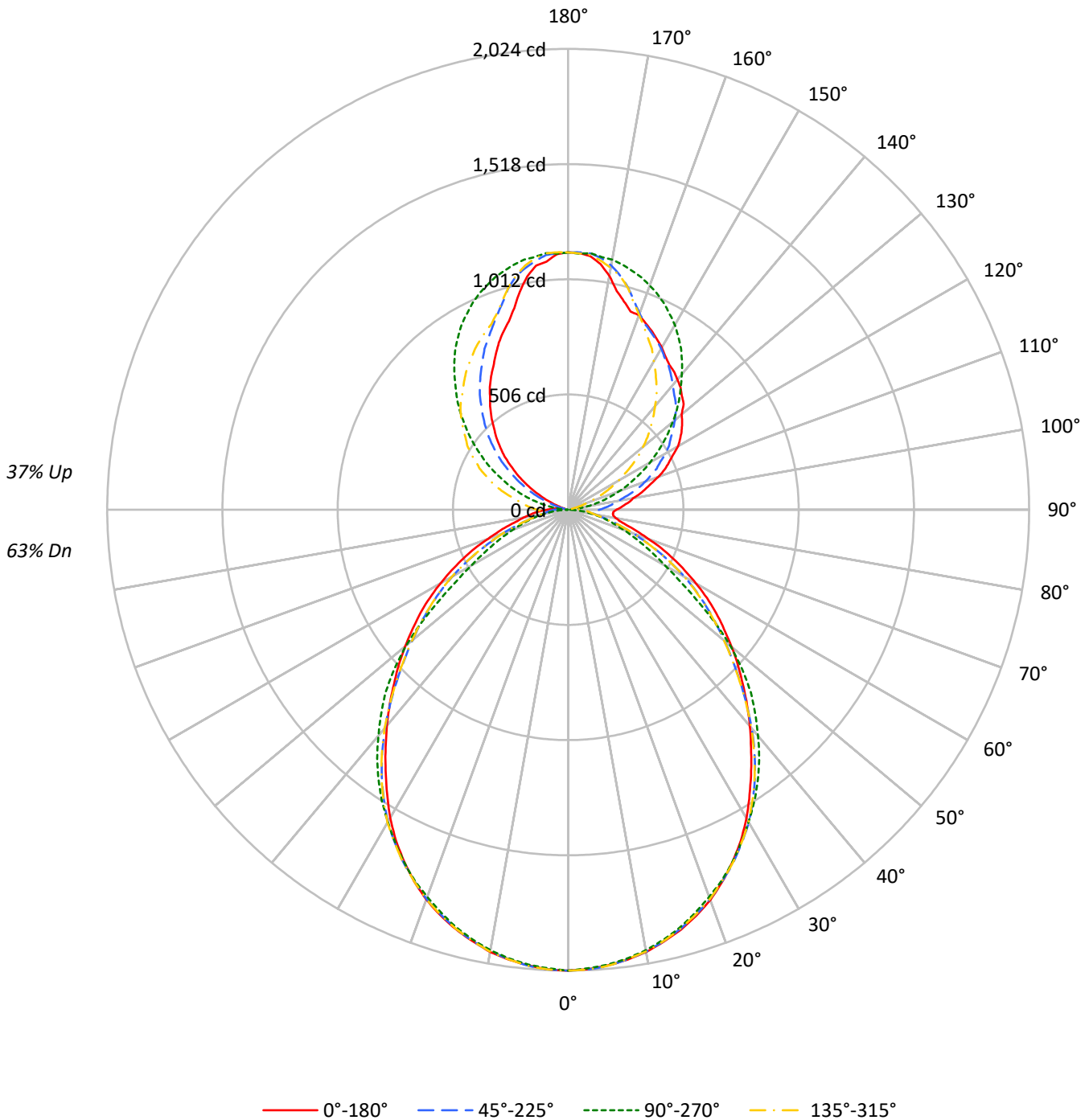
Lumens per Lamp: N/A
Luminaire Lumens: 7400.0 lumens
Efficiency: N/A
Efficacy: 93.4 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.17 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 79.2
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°	17432	17432	17432	17432
5°	17158	15941	17158	15941
10°	16835	14602	16835	14602
15°	16417	13352	16396	13352
20°	15915	12158	15894	12158
25°	15230	11057	15209	11057
30°	14417	9983	14387	9983
35°	13416	8971	13392	8971
40°	12494	7925	12462	7925
45°	11591	6901	11564	6901
50°	10765	5678	10737	5678
55°	9950	4238	9930	4238
60°	8995	3107	8983	3107
65°	7983	2348	7983	2348
70°	6799	1741	6814	1741
75°	5870	1256	5925	1256
80°	5914	795	5492	795
85°	7522	335	5548	335



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.5	2.6
10°-20°	536.5	7.2
20°-30°	786.1	10.6
30°-40°	891.0	12.0
40°-50°	837.9	11.3
50°-60°	665.1	9.0
60°-70°	432.9	5.9
70°-80°	220.8	3.0
80°-90°	113.7	1.5
90°-100°	111.7	1.5
100°-110°	178.5	2.4
110°-120°	301.2	4.1
120°-130°	408.8	5.5
130°-140°	466.0	6.3
140°-150°	464.6	6.3
150°-160°	404.4	5.5
160°-170°	284.4	3.8
170°-180°	105.9	1.4
0°-30°	1513.1	20.4
0°-40°	2404.1	32.5
0°-60°	3907.0	52.8
0°-90°	4674.5	63.2
90°-120°	591.4	8.0
90°-150°	1930.9	26.1
90°-180°	2726.0	36.8
0°-180°	7400.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2024	2024	2024	2024	2024	
5°	2009	2006	2009	2006	2009	191
15°	1910	1899	1908	1899	1910	538
25°	1707	1706	1704	1706	1707	785
35°	1400	1451	1398	1451	1400	876
45°	1084	1133	1082	1133	1084	838
55°	794	685	793	685	794	709
65°	508	362	508	362	508	504
75°	268	179	270	179	268	293
85°	197	42	145	42	197	164
90°	212	2	92	2	212	117
95°	249	33	60	33	249	213
105°	352	159	16	159	352	372
115°	487	323	114	323	487	483
125°	608	506	278	506	608	543
135°	706	690	445	690	706	545
145°	776	863	598	863	776	489
155°	866	998	752	998	866	400
165°	947	1086	916	1086	947	269
175°	1118	1131	1094	1131	1118	104
180°	1130	1130	1130	1130	1130	



TEST NUMBER: P392572

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2024.4	2024.4	2024.4	2024.4	2024.4	2024.4	2024.4	2024.4	2024.4	2024.4	2024.4
2.5°	2019.9	2022.6	2021.2	2018.1	2016.1	2017.3	2021.2	2022.6	2020.8	2022.6	2021.2
5°	2009.1	2011.8	2011.4	2007.5	2005.5	2007.5	2010.6	2011.8	2009.1	2011.8	2010.6
7.5°	1993.3	1996.8	1991.9	1990.8	1987.8	1990.0	1991.1	1996.1	1993.3	1996.1	1991.1
10°	1972.5	1974.2	1971.3	1966.4	1964.4	1965.6	1970.5	1972.7	1972.5	1972.7	1970.5
12.5°	1942.6	1942.8	1940.0	1936.1	1934.3	1936.1	1940.0	1941.2	1941.0	1941.2	1940.0
15°	1910.0	1907.4	1905.6	1902.7	1899.0	1901.9	1904.9	1905.8	1907.6	1905.8	1904.9
17.5°	1869.7	1868.1	1864.4	1861.6	1855.7	1861.6	1863.6	1867.3	1867.3	1867.3	1863.6
20°	1824.5	1821.7	1820.1	1815.4	1809.6	1814.5	1819.3	1820.1	1822.1	1820.1	1819.3
22.5°	1768.6	1768.6	1766.1	1765.3	1762.4	1764.4	1765.3	1767.1	1767.1	1767.1	1765.3
25°	1706.7	1708.7	1712.8	1711.2	1706.4	1710.3	1711.2	1706.3	1704.4	1706.3	1711.2
27.5°	1639.9	1642.8	1649.9	1654.0	1646.5	1653.2	1648.3	1640.5	1637.5	1640.5	1648.3
30°	1566.2	1571.1	1586.8	1592.9	1583.6	1591.3	1584.4	1568.7	1562.9	1568.7	1584.4
32.5°	1482.6	1490.5	1509.2	1523.1	1520.6	1521.5	1506.8	1487.2	1479.4	1487.2	1506.8
35°	1400.3	1407.1	1429.7	1451.4	1450.9	1448.9	1427.3	1404.7	1397.8	1404.7	1427.3
37.5°	1318.7	1319.7	1343.3	1372.7	1378.0	1370.3	1340.8	1317.2	1316.2	1317.2	1340.8
40°	1241.0	1238.1	1253.8	1288.4	1296.5	1286.7	1250.6	1234.8	1237.8	1234.8	1250.6
42.5°	1162.4	1151.6	1158.7	1200.9	1215.9	1199.3	1156.2	1148.4	1159.2	1148.4	1156.2
45°	1084.0	1069.2	1067.3	1104.6	1133.3	1103.0	1064.0	1066.8	1081.5	1066.8	1064.0
47.5°	1011.3	992.6	978.8	1006.5	1035.0	1005.6	975.6	990.1	1008.8	990.1	975.6
50°	936.6	915.9	895.3	912.2	929.0	910.5	892.0	912.7	934.1	912.7	892.0
52.5°	862.8	846.1	815.9	814.9	808.1	813.2	813.4	842.9	860.4	842.9	813.4
55°	794.2	777.5	739.2	721.6	685.4	720.0	736.7	775.1	792.6	775.1	736.7
57.5°	722.5	709.7	665.5	622.3	577.3	620.8	663.0	707.3	720.8	707.3	663.0
60°	647.9	641.0	589.9	522.3	492.8	521.5	588.3	639.4	647.1	639.4	588.3
62.5°	577.1	571.2	513.2	440.7	422.2	439.9	511.7	569.7	576.3	569.7	511.7
65°	508.5	494.8	436.8	368.0	362.3	367.2	436.0	494.0	508.5	494.0	436.0
67.5°	443.7	426.0	366.0	308.2	308.2	308.2	365.2	425.2	443.7	425.2	365.2
70°	373.1	351.5	304.3	255.1	259.1	255.1	304.3	352.3	373.9	352.3	304.3
72.5°	319.0	283.6	247.3	207.0	215.0	206.2	247.3	284.4	320.6	284.4	247.3
75°	267.9	230.6	192.4	163.9	178.7	163.9	193.2	231.4	270.4	231.4	193.2
77.5°	231.1	189.6	148.2	128.6	143.3	128.6	149.0	187.1	227.9	187.1	149.0
80°	213.2	169.2	120.1	96.1	106.9	96.1	118.5	156.5	198.0	156.5	118.5
82.5°	199.8	161.2	108.1	69.6	76.5	69.6	98.5	132.6	169.5	132.6	98.5
85°	197.0	163.4	109.9	55.2	42.1	53.7	86.8	114.9	145.3	114.9	86.8
87.5°	199.1	178.2	119.2	55.4	12.8	44.3	73.8	101.7	117.2	101.7	73.8
90°	211.5	195.7	137.1	60.3	1.8	30.1	58.2	83.4	92.1	83.4	58.2
92.5°	231.9	217.4	156.7	73.2	13.8	18.3	47.6	70.0	75.8	70.0	47.6
95°	249.2	241.4	179.2	86.8	32.8	7.1	35.8	56.6	60.3	56.6	35.8
97.5°	273.3	266.4	199.4	113.4	57.5	11.5	23.5	47.4	50.3	47.4	23.5
100°	289.6	283.9	224.5	147.7	87.8	28.2	13.5	33.9	38.8	33.9	13.5
102.5°	322.3	307.8	252.2	180.4	120.5	51.3	14.9	21.1	26.0	21.1	14.9
105°	351.7	336.6	291.2	214.7	158.8	82.4	34.0	16.4	16.4	16.4	34.0
107.5°	381.0	371.1	326.3	249.6	198.7	118.2	61.1	33.4	24.2	33.4	61.1
110°	419.9	409.4	360.5	284.7	240.1	156.5	92.2	58.9	47.1	58.9	92.2



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CATALOG NUMBER: MWL-3-27-47-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	457.1	449.0	392.5	321.3	283.1	197.8	130.4	89.7	78.8	89.7	130.4
115°	486.6	481.6	429.0	355.6	323.0	244.9	172.6	127.2	113.8	127.2	172.6
117.5°	517.7	515.9	456.1	390.6	370.7	287.1	211.6	164.6	150.5	164.6	211.6
120°	556.7	550.3	493.6	425.7	416.1	331.7	254.7	208.7	193.5	208.7	254.7
122.5°	583.7	579.8	525.4	460.1	460.1	378.1	296.0	250.0	234.1	250.0	296.0
125°	608.4	606.8	549.3	493.6	506.3	420.3	342.2	295.4	277.9	295.4	342.2
127.5°	630.7	633.1	580.4	530.1	553.2	463.3	387.6	336.0	317.8	336.0	387.6
130°	649.9	657.8	610.8	563.7	597.9	510.3	429.2	376.6	364.7	376.6	429.2
132.5°	687.3	682.5	641.1	597.9	645.6	553.2	472.3	417.3	403.8	417.3	472.3
135°	706.4	707.9	667.4	627.4	690.3	596.3	512.8	458.7	445.1	458.7	512.8
137.5°	729.5	724.8	688.1	664.2	731.7	638.7	552.7	502.5	481.0	502.5	552.7
140°	746.2	745.4	715.1	696.1	776.3	679.3	593.3	542.3	522.4	542.3	593.3
142.5°	763.8	768.5	742.2	731.0	820.9	722.3	637.1	581.4	562.2	581.4	637.1
145°	775.7	786.1	769.3	774.9	863.1	770.1	675.3	618.8	598.1	618.8	675.3
147.5°	795.6	809.2	789.2	805.9	899.7	812.3	713.5	657.8	639.4	657.8	713.5
150°	822.6	829.0	817.1	849.0	937.1	859.3	752.6	695.3	676.9	695.3	752.6
152.5°	844.2	852.1	838.6	896.0	966.6	902.4	795.6	731.8	710.4	731.8	795.6
155°	866.5	869.6	860.1	941.4	997.7	944.5	829.8	772.5	751.8	772.5	829.8
157.5°	887.2	893.5	882.4	974.6	1024.8	980.2	868.8	813.1	794.8	813.1	868.8
160°	909.5	909.5	915.8	1015.4	1047.1	1013.0	910.3	857.7	832.3	857.7	910.3
162.5°	911.9	927.0	961.2	1043.3	1069.5	1040.9	954.8	889.6	867.3	889.6	954.8
165°	946.9	960.4	1012.2	1068.0	1086.2	1065.6	1009.9	942.2	915.8	942.2	1009.9
167.5°	983.5	1012.2	1053.6	1095.9	1102.3	1088.7	1052.0	1005.1	981.2	1005.1	1052.0
170°	1042.3	1067.0	1088.7	1106.2	1114.9	1107.0	1078.3	1054.2	1039.1	1054.2	1078.3
172.5°	1088.3	1105.2	1114.2	1125.4	1119.8	1116.5	1102.3	1090.1	1081.1	1090.1	1102.3
175°	1117.8	1121.9	1130.1	1126.1	1130.9	1122.1	1122.9	1127.5	1093.9	1127.5	1122.9
177.5°	1128.1	1134.7	1131.6	1124.5	1125.4	1123.7	1126.9	1129.1	1123.4	1129.1	1126.9
180°	1130.1	1130.1	1130.1	1130.1	1130.1	1130.1	1130.1	1130.1	1130.1	1130.1	1130.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2024.4	2024.4	2024.4	2024.4	2024.4	2024.4
2.5°	2017.3	2016.1	2018.1	2021.2	2022.6	2019.9
5°	2007.5	2005.5	2007.5	2011.4	2011.8	2009.1
7.5°	1990.0	1987.8	1990.8	1991.9	1996.8	1993.3
10°	1965.6	1964.4	1966.4	1971.3	1974.2	1972.5
12.5°	1936.1	1934.3	1936.1	1940.0	1942.8	1942.6
15°	1901.9	1899.0	1902.7	1905.6	1907.4	1910.0
17.5°	1861.6	1855.7	1861.6	1864.4	1868.1	1869.7
20°	1814.5	1809.6	1815.4	1820.1	1821.7	1824.5
22.5°	1764.4	1762.4	1765.3	1766.1	1768.6	1768.6
25°	1710.3	1706.4	1711.2	1712.8	1708.7	1706.7
27.5°	1653.2	1646.5	1654.0	1649.9	1642.8	1639.9
30°	1591.3	1583.6	1592.9	1586.8	1571.1	1566.2
32.5°	1521.5	1520.6	1523.1	1509.2	1490.5	1482.6
35°	1448.9	1450.9	1451.4	1429.7	1407.1	1400.3
37.5°	1370.3	1378.0	1372.7	1343.3	1319.7	1318.7
40°	1286.7	1296.5	1288.4	1253.8	1238.1	1241.0
42.5°	1199.3	1215.9	1200.9	1158.7	1151.6	1162.4
45°	1103.0	1133.3	1104.6	1067.3	1069.2	1084.0
47.5°	1005.6	1035.0	1006.5	978.8	992.6	1011.3
50°	910.5	929.0	912.2	895.3	915.9	936.6
52.5°	813.2	808.1	814.9	815.9	846.1	862.8
55°	720.0	685.4	721.6	739.2	777.5	794.2
57.5°	620.8	577.3	622.3	665.5	709.7	722.5
60°	521.5	492.8	522.3	589.9	641.0	647.9
62.5°	439.9	422.2	440.7	513.2	571.2	577.1
65°	367.2	362.3	368.0	436.8	494.8	508.5
67.5°	308.2	308.2	308.2	366.0	426.0	443.7
70°	255.1	259.1	255.1	304.3	351.5	373.1
72.5°	206.2	215.0	207.0	247.3	283.6	319.0
75°	163.9	178.7	163.9	192.4	230.6	267.9
77.5°	128.6	143.3	128.6	148.2	189.6	231.1
80°	96.1	106.9	96.1	120.1	169.2	213.2
82.5°	69.6	76.5	69.6	108.1	161.2	199.8
85°	53.7	42.1	55.2	109.9	163.4	197.0
87.5°	44.3	12.8	55.4	119.2	178.2	199.1
90°	30.1	1.8	60.3	137.1	195.7	211.5
92.5°	18.3	13.8	73.2	156.7	217.4	231.9
95°	7.1	32.8	86.8	179.2	241.4	249.2
97.5°	11.5	57.5	113.4	199.4	266.4	273.3
100°	28.2	87.8	147.7	224.5	283.9	289.6
102.5°	51.3	120.5	180.4	252.2	307.8	322.3
105°	82.4	158.8	214.7	291.2	336.6	351.7
107.5°	118.2	198.7	249.6	326.3	371.1	381.0
110°	156.5	240.1	284.7	360.5	409.4	419.9



TEST NUMBER: P392572

CATALOG NUMBER: MWL-3-27-47-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	197.8	283.1	321.3	392.5	449.0	457.1
115°	244.9	323.0	355.6	429.0	481.6	486.6
117.5°	287.1	370.7	390.6	456.1	515.9	517.7
120°	331.7	416.1	425.7	493.6	550.3	556.7
122.5°	378.1	460.1	460.1	525.4	579.8	583.7
125°	420.3	506.3	493.6	549.3	606.8	608.4
127.5°	463.3	553.2	530.1	580.4	633.1	630.7
130°	510.3	597.9	563.7	610.8	657.8	649.9
132.5°	553.2	645.6	597.9	641.1	682.5	687.3
135°	596.3	690.3	627.4	667.4	707.9	706.4
137.5°	638.7	731.7	664.2	688.1	724.8	729.5
140°	679.3	776.3	696.1	715.1	745.4	746.2
142.5°	722.3	820.9	731.0	742.2	768.5	763.8
145°	770.1	863.1	774.9	769.3	786.1	775.7
147.5°	812.3	899.7	805.9	789.2	809.2	795.6
150°	859.3	937.1	849.0	817.1	829.0	822.6
152.5°	902.4	966.6	896.0	838.6	852.1	844.2
155°	944.5	997.7	941.4	860.1	869.6	866.5
157.5°	980.2	1024.8	974.6	882.4	893.5	887.2
160°	1013.0	1047.1	1015.4	915.8	909.5	909.5
162.5°	1040.9	1069.5	1043.3	961.2	927.0	911.9
165°	1065.6	1086.2	1068.0	1012.2	960.4	946.9
167.5°	1088.7	1102.3	1095.9	1053.6	1012.2	983.5
170°	1107.0	1114.9	1106.2	1088.7	1067.0	1042.3
172.5°	1116.5	1119.8	1125.4	1114.2	1105.2	1088.3
175°	1122.1	1130.9	1126.1	1130.1	1121.9	1117.8
177.5°	1123.7	1125.4	1124.5	1131.6	1134.7	1128.1
180°	1130.1	1130.1	1130.1	1130.1	1130.1	1130.1

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