

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: P392646

Luminaire Tested: **MWL-4-26-45-UNV-L930-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392646  
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-4-26-45-UNV-L930-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

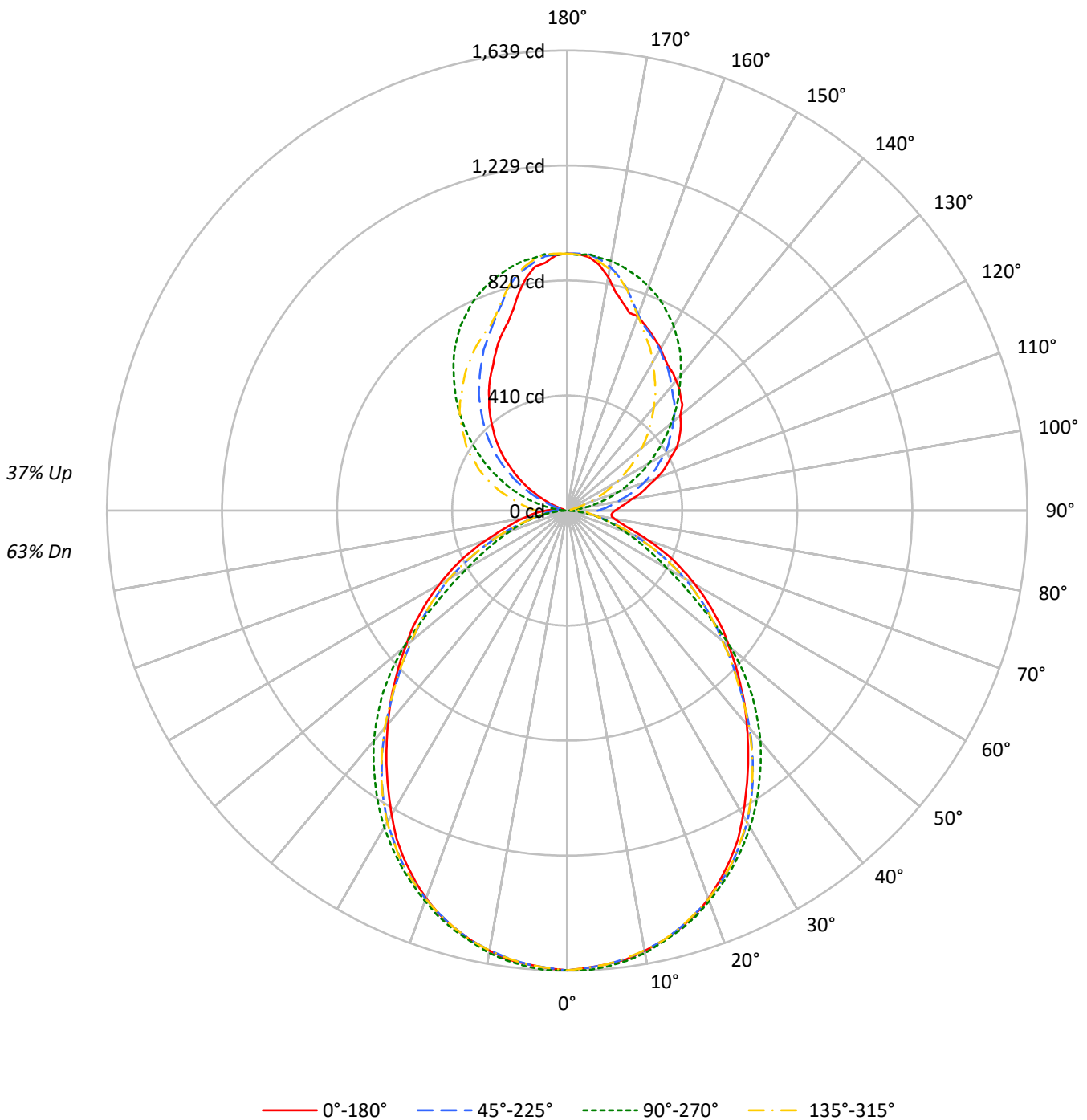
Lumens per Lamp: N/A  
Luminaire Lumens: 6009.4 lumens  
Efficiency: N/A  
Efficacy: 86.5 lumens/watt  
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')  
CIE Type: Semi-Direct

Input Watts (W): 69.488  
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: P392646  
CATALOG NUMBER: MWL-4-26-45-UNV-L930-EDD

### Luminous Intensity Polar Plot





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

RF	20				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	50	56	50	46	49	45	41	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	41	36	31	37	32	29	33	29	26	23
8	57	44	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	24	32	27	23	29	24	21	26	22	19	17

**AVERAGE LUMINANCE (cd/sqm):**

	0°	90°	180°	270°
0°	10576	10576	10576	10576
5°	10421	9720	10421	9720
10°	10252	8921	10252	8921
15°	10033	8165	10020	8165
20°	9743	7457	9731	7457
25°	9335	6795	9321	6795
30°	8812	6158	8794	6158
35°	8250	5523	8237	5523
40°	7721	4912	7702	4912
45°	7206	4257	7189	4257
50°	6720	3499	6702	3499
55°	6270	2615	6257	2615
60°	5754	1935	5746	1935
65°	5208	1473	5208	1473
70°	4473	1101	4484	1101
75°	3865	797	3899	797
80°	4005	508	3717	508
85°	5365	235	3948	235



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	154.3	2.6
10°-20°	435.1	7.2
20°-30°	637.7	10.6
30°-40°	721.8	12.0
40°-50°	679.9	11.3
50°-60°	542.9	9.0
60°-70°	356.8	5.9
70°-80°	182.4	3.0
80°-90°	92.9	1.5
90°-100°	89.5	1.5
100°-110°	144.4	2.4
110°-120°	243.9	4.1
120°-130°	331.0	5.5
130°-140°	377.2	6.3
140°-150°	376.1	6.3
150°-160°	327.5	5.4
160°-170°	230.3	3.8
170°-180°	85.8	1.4
0°-30°	1227.0	20.4
0°-40°	1948.8	32.4
0°-60°	3171.7	52.8
0°-90°	3803.8	63.3
90°-120°	477.8	8.0
90°-150°	1562.1	26.0
90°-180°	2206.0	36.7
0°-180°	6009.4	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1638	1638	1638	1638	1638	
5°	1622	1630	1622	1630	1622	154
15°	1542	1548	1540	1548	1542	435
25°	1374	1398	1372	1398	1374	631
35°	1123	1191	1121	1191	1123	702
45°	871	932	869	932	871	674
55°	640	564	638	564	640	573
65°	417	303	417	303	417	411
75°	215	151	217	151	215	237
85°	159	40	117	40	159	132
90°	171	2	74	2	171	94
95°	197	27	44	27	197	169
105°	285	128	13	128	285	301
115°	394	262	92	262	394	391
125°	492	410	225	410	492	440
135°	572	559	360	559	572	441
145°	628	700	484	700	628	396
155°	702	809	609	809	702	324
165°	767	880	742	880	767	217
175°	906	917	887	917	906	84
180°	915	915	915	915	915	



TEST NUMBER: P392646

CATALOG NUMBER: MWL-4-26-45-UNV-L930-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1637.5	1637.5	1637.5	1637.5	1637.5	1637.5	1637.5	1637.5	1637.5	1637.5	1637.5
2.5°	1630.5	1635.2	1630.5	1639.7	1638.8	1639.0	1630.5	1635.2	1631.1	1635.2	1630.5
5°	1622.1	1626.7	1622.9	1629.6	1630.5	1629.6	1622.2	1626.7	1622.1	1626.7	1622.2
7.5°	1612.5	1612.9	1608.7	1617.8	1617.8	1617.1	1608.1	1612.4	1612.5	1612.4	1608.1
10°	1592.0	1595.2	1591.0	1600.2	1600.2	1599.7	1590.4	1593.9	1592.0	1593.9	1590.4
12.5°	1570.5	1571.5	1569.2	1576.8	1573.6	1576.8	1569.2	1570.3	1569.2	1570.3	1569.2
15°	1542.5	1541.9	1541.3	1549.8	1548.3	1549.2	1540.7	1540.7	1540.5	1540.7	1540.7
17.5°	1511.2	1510.7	1508.4	1517.0	1517.8	1517.0	1507.7	1510.1	1509.3	1510.1	1507.7
20°	1471.4	1470.8	1472.9	1479.8	1480.0	1479.2	1472.2	1469.5	1469.5	1469.5	1472.2
22.5°	1423.4	1428.5	1430.6	1440.9	1440.3	1440.3	1429.9	1427.2	1422.2	1427.2	1429.9
25°	1373.6	1379.5	1389.0	1397.8	1398.1	1397.3	1387.7	1377.5	1371.6	1377.5	1387.7
27.5°	1318.6	1325.4	1334.8	1352.9	1351.6	1352.2	1333.6	1323.5	1316.7	1323.5	1333.6
30°	1252.7	1262.8	1282.3	1301.0	1302.6	1299.8	1280.3	1260.9	1250.1	1260.9	1280.3
32.5°	1186.7	1197.0	1220.5	1245.3	1249.9	1244.0	1218.6	1194.4	1184.3	1194.4	1218.6
35°	1122.7	1129.5	1153.1	1187.8	1191.0	1185.9	1151.3	1127.6	1120.9	1127.6	1151.3
37.5°	1058.4	1060.1	1083.0	1124.4	1132.4	1122.5	1081.1	1058.3	1056.6	1058.3	1081.1
40°	995.9	991.7	1011.2	1053.7	1071.6	1052.4	1008.6	989.2	993.4	989.2	1008.6
42.5°	935.1	925.8	932.8	983.5	1002.3	982.2	930.9	923.2	932.5	923.2	930.9
45°	871.1	860.1	860.1	905.8	932.1	904.4	857.5	858.1	869.1	858.1	857.5
47.5°	811.9	798.4	792.4	830.7	851.8	830.0	789.9	796.4	810.0	796.4	789.9
50°	751.9	740.9	724.0	747.0	763.3	745.7	721.4	738.3	749.9	738.3	721.4
52.5°	700.3	685.1	662.5	670.1	660.2	668.8	660.6	682.5	698.4	682.5	660.6
55°	639.7	631.2	602.4	594.2	564.0	592.9	600.5	629.3	638.4	629.3	600.5
57.5°	583.9	578.8	542.5	511.5	482.9	510.1	540.5	576.9	582.6	576.9	540.5
60°	525.8	523.3	484.4	437.3	409.3	436.6	483.0	522.0	525.1	522.0	483.0
62.5°	469.2	465.8	422.7	366.2	354.6	365.6	421.3	464.5	468.5	464.5	421.3
65°	416.9	407.7	362.9	305.4	303.0	304.7	362.1	407.0	416.9	407.0	362.1
67.5°	360.3	345.9	303.7	254.8	259.0	254.8	303.0	345.2	360.3	345.2	303.0
70°	304.7	286.1	252.3	211.8	218.5	211.8	252.3	286.8	305.4	286.8	252.3
72.5°	254.8	233.7	203.3	172.8	183.2	172.2	203.3	234.4	256.2	234.4	203.3
75°	215.1	190.6	159.5	137.6	151.1	137.6	160.2	191.2	217.0	191.2	160.2
77.5°	189.8	156.9	122.4	106.4	121.5	106.4	123.0	155.0	187.3	155.0	123.0
80°	171.3	139.7	99.0	79.2	91.1	79.2	97.6	129.4	159.0	129.4	97.6
82.5°	160.5	130.2	88.9	56.4	64.1	56.4	81.2	107.0	136.0	107.0	81.2
85°	158.6	134.4	90.4	45.7	39.5	44.4	71.8	95.0	116.7	95.0	71.8
87.5°	162.4	143.0	96.5	46.1	13.6	37.0	59.7	81.1	96.0	81.1	59.7
90°	170.6	156.6	110.4	49.5	1.5	24.9	46.6	65.6	73.8	65.6	46.6
92.5°	183.8	173.5	125.8	60.1	11.2	15.7	37.4	54.2	57.3	54.2	37.4
95°	197.2	194.2	144.3	72.2	26.6	7.7	28.2	44.4	44.2	44.4	28.2
97.5°	215.5	213.0	162.5	91.2	46.7	8.6	20.0	35.6	34.8	35.6	20.0
100°	232.1	230.7	183.1	119.0	71.1	22.2	12.1	28.0	28.8	28.0	12.1
102.5°	261.3	251.0	204.5	145.4	97.6	40.9	12.2	18.7	21.2	18.7	12.2
105°	284.7	273.1	235.3	173.2	127.9	66.0	26.9	13.7	12.9	13.7	26.9
107.5°	307.3	300.1	263.7	202.4	160.3	96.0	48.8	26.4	18.2	26.4	48.8
110°	338.7	331.1	291.5	230.9	194.7	126.9	74.0	47.1	36.8	47.1	74.0



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CATALOG NUMBER: MWL-4-26-45-UNV-L930-EDD

**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	369.8	363.9	317.3	260.5	229.5	160.4	105.0	72.8	63.2	72.8	105.0
115°	393.6	390.4	347.0	288.2	261.8	198.6	139.1	103.2	91.7	103.2	139.1
117.5°	418.8	418.2	368.9	316.6	300.5	232.8	170.8	133.6	121.3	133.6	170.8
120°	450.4	445.3	400.1	345.0	337.3	268.9	206.5	168.4	156.1	168.4	206.5
122.5°	472.4	469.2	425.9	372.2	372.2	305.6	240.0	201.9	189.0	201.9	240.0
125°	492.5	491.1	445.3	399.3	409.6	339.9	277.4	238.8	224.6	238.8	277.4
127.5°	510.4	512.4	470.5	429.8	447.6	375.6	314.3	271.6	256.8	271.6	314.3
130°	526.0	532.4	494.4	456.9	483.8	413.7	347.2	304.7	294.9	304.7	347.2
132.5°	556.3	552.4	518.9	484.6	522.5	448.4	382.0	337.5	326.5	337.5	382.0
135°	571.8	573.0	540.2	508.6	558.7	483.4	414.9	371.0	360.0	371.0	414.9
137.5°	590.5	586.6	556.9	537.5	592.2	516.9	447.2	406.5	389.2	406.5	447.2
140°	604.1	603.4	578.9	563.4	628.3	549.8	480.1	438.8	422.7	438.8	480.1
142.5°	618.3	622.1	600.8	591.8	664.5	584.7	515.7	470.5	455.0	470.5	515.7
145°	627.9	636.2	622.8	627.4	699.6	623.4	546.6	500.8	484.0	500.8	546.6
147.5°	644.1	655.0	638.9	652.5	728.4	657.6	577.6	532.4	517.6	532.4	577.6
150°	666.0	671.2	661.4	687.3	759.6	695.7	609.2	562.7	547.8	562.7	609.2
152.5°	683.4	689.9	678.9	725.4	783.5	730.6	644.1	592.4	575.0	592.4	644.1
155°	701.5	704.0	696.4	762.2	808.7	764.7	671.8	625.4	608.6	625.4	671.8
157.5°	718.2	723.4	714.3	790.0	830.6	794.4	703.5	658.3	643.4	658.3	703.5
160°	736.4	736.4	741.5	822.2	848.7	820.3	737.1	694.5	673.8	694.5	737.1
162.5°	738.3	750.5	778.3	844.8	866.1	842.8	773.1	720.2	702.1	720.2	773.1
165°	766.7	777.7	819.6	864.8	879.6	862.9	817.6	762.8	741.5	762.8	817.6
167.5°	796.3	819.6	853.2	887.4	892.6	881.6	851.9	813.8	794.4	813.8	851.9
170°	844.0	864.8	881.6	895.7	902.9	896.4	873.2	854.4	841.3	854.4	873.2
172.5°	882.0	895.7	902.2	911.2	907.6	904.1	892.6	883.5	876.3	883.5	892.6
175°	905.9	909.3	915.1	911.9	916.6	908.7	909.3	913.9	886.6	913.9	909.3
177.5°	914.3	919.7	916.4	910.6	911.2	910.0	912.6	915.1	910.3	915.1	912.6
180°	915.1	915.1	915.1	915.1	915.1	915.1	915.1	915.1	915.1	915.1	915.1



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CATALOG NUMBER: MWL-4-26-45-UNV-L930-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1637.5	1637.5	1637.5	1637.5	1637.5	1637.5
2.5°	1639.0	1638.8	1639.7	1630.5	1635.2	1630.5
5°	1629.6	1630.5	1629.6	1622.9	1626.7	1622.1
7.5°	1617.1	1617.8	1617.8	1608.7	1612.9	1612.5
10°	1599.7	1600.2	1600.2	1591.0	1595.2	1592.0
12.5°	1576.8	1573.6	1576.8	1569.2	1571.5	1570.5
15°	1549.2	1548.3	1549.8	1541.3	1541.9	1542.5
17.5°	1517.0	1517.8	1517.0	1508.4	1510.7	1511.2
20°	1479.2	1480.0	1479.8	1472.9	1470.8	1471.4
22.5°	1440.3	1440.3	1440.9	1430.6	1428.5	1423.4
25°	1397.3	1398.1	1397.8	1389.0	1379.5	1373.6
27.5°	1352.2	1351.6	1352.9	1334.8	1325.4	1318.6
30°	1299.8	1302.6	1301.0	1282.3	1262.8	1252.7
32.5°	1244.0	1249.9	1245.3	1220.5	1197.0	1186.7
35°	1185.9	1191.0	1187.8	1153.1	1129.5	1122.7
37.5°	1122.5	1132.4	1124.4	1083.0	1060.1	1058.4
40°	1052.4	1071.6	1053.7	1011.2	991.7	995.9
42.5°	982.2	1002.3	983.5	932.8	925.8	935.1
45°	904.4	932.1	905.8	860.1	860.1	871.1
47.5°	830.0	851.8	830.7	792.4	798.4	811.9
50°	745.7	763.3	747.0	724.0	740.9	751.9
52.5°	668.8	660.2	670.1	662.5	685.1	700.3
55°	592.9	564.0	594.2	602.4	631.2	639.7
57.5°	510.1	482.9	511.5	542.5	578.8	583.9
60°	436.6	409.3	437.3	484.4	523.3	525.8
62.5°	365.6	354.6	366.2	422.7	465.8	469.2
65°	304.7	303.0	305.4	362.9	407.7	416.9
67.5°	254.8	259.0	254.8	303.7	345.9	360.3
70°	211.8	218.5	211.8	252.3	286.1	304.7
72.5°	172.2	183.2	172.8	203.3	233.7	254.8
75°	137.6	151.1	137.6	159.5	190.6	215.1
77.5°	106.4	121.5	106.4	122.4	156.9	189.8
80°	79.2	91.1	79.2	99.0	139.7	171.3
82.5°	56.4	64.1	56.4	88.9	130.2	160.5
85°	44.4	39.5	45.7	90.4	134.4	158.6
87.5°	37.0	13.6	46.1	96.5	143.0	162.4
90°	24.9	1.5	49.5	110.4	156.6	170.6
92.5°	15.7	11.2	60.1	125.8	173.5	183.8
95°	7.7	26.6	72.2	144.3	194.2	197.2
97.5°	8.6	46.7	91.2	162.5	213.0	215.5
100°	22.2	71.1	119.0	183.1	230.7	232.1
102.5°	40.9	97.6	145.4	204.5	251.0	261.3
105°	66.0	127.9	173.2	235.3	273.1	284.7
107.5°	96.0	160.3	202.4	263.7	300.1	307.3
110°	126.9	194.7	230.9	291.5	331.1	338.7





TEST NUMBER: P392646

CATALOG NUMBER: MWL-4-26-45-UNV-L930-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	160.4	229.5	260.5	317.3	363.9	369.8
115°	198.6	261.8	288.2	347.0	390.4	393.6
117.5°	232.8	300.5	316.6	368.9	418.2	418.8
120°	268.9	337.3	345.0	400.1	445.3	450.4
122.5°	305.6	372.2	372.2	425.9	469.2	472.4
125°	339.9	409.6	399.3	445.3	491.1	492.5
127.5°	375.6	447.6	429.8	470.5	512.4	510.4
130°	413.7	483.8	456.9	494.4	532.4	526.0
132.5°	448.4	522.5	484.6	518.9	552.4	556.3
135°	483.4	558.7	508.6	540.2	573.0	571.8
137.5°	516.9	592.2	537.5	556.9	586.6	590.5
140°	549.8	628.3	563.4	578.9	603.4	604.1
142.5°	584.7	664.5	591.8	600.8	622.1	618.3
145°	623.4	699.6	627.4	622.8	636.2	627.9
147.5°	657.6	728.4	652.5	638.9	655.0	644.1
150°	695.7	759.6	687.3	661.4	671.2	666.0
152.5°	730.6	783.5	725.4	678.9	689.9	683.4
155°	764.7	808.7	762.2	696.4	704.0	701.5
157.5°	794.4	830.6	790.0	714.3	723.4	718.2
160°	820.3	848.7	822.2	741.5	736.4	736.4
162.5°	842.8	866.1	844.8	778.3	750.5	738.3
165°	862.9	879.6	864.8	819.6	777.7	766.7
167.5°	881.6	892.6	887.4	853.2	819.6	796.3
170°	896.4	902.9	895.7	881.6	864.8	844.0
172.5°	904.1	907.6	911.2	902.2	895.7	882.0
175°	908.7	916.6	911.9	915.1	909.3	905.9
177.5°	910.0	911.2	910.6	916.4	919.7	914.3
180°	915.1	915.1	915.1	915.1	915.1	915.1

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