

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: P392644

Luminaire Tested: **MWL-4-26-33-UNV-L835-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392644
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-4-26-33-UNV-L835-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

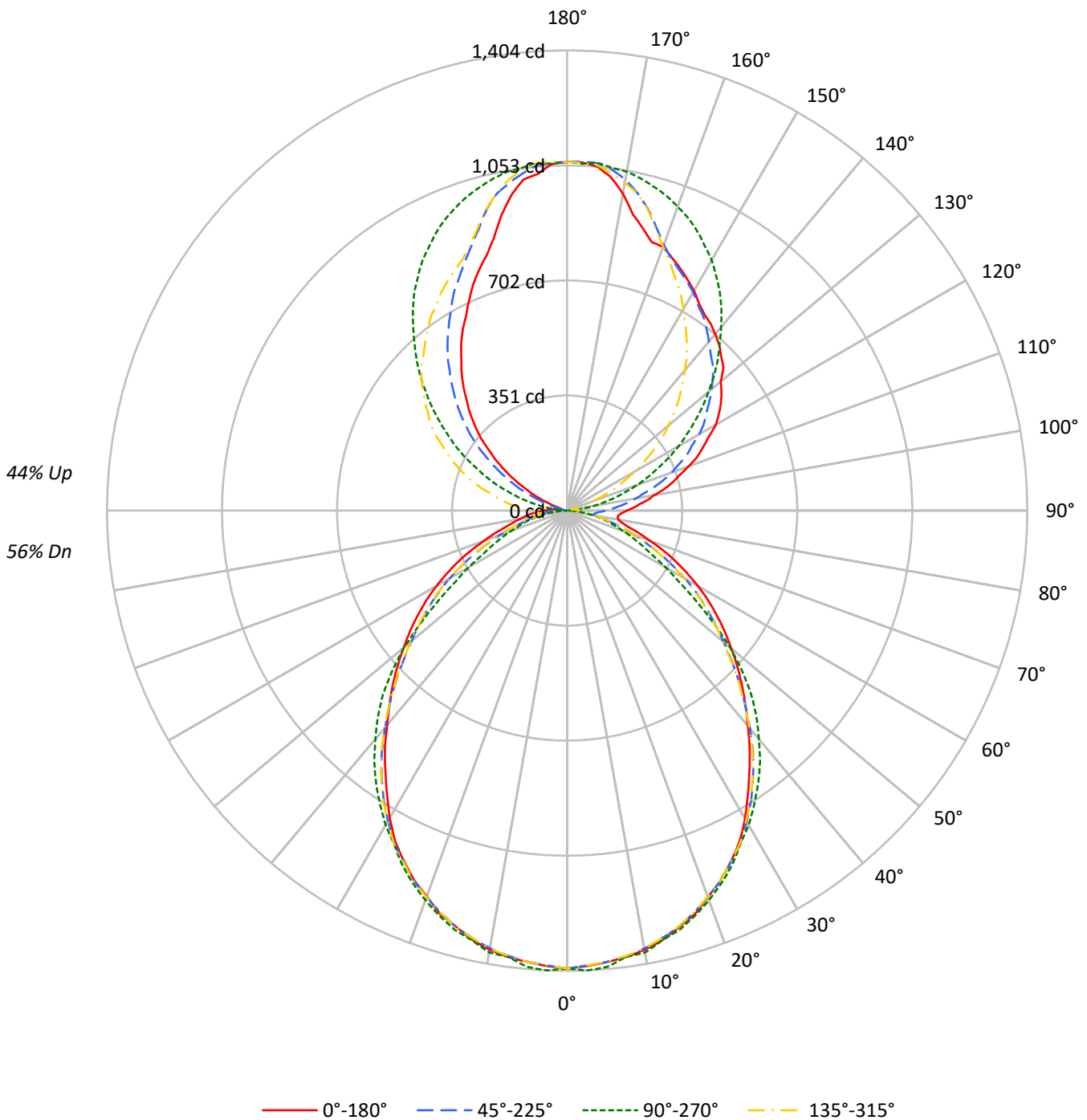
Lumens per Lamp: N/A
Luminaire Lumens: 5831.0 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 57
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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	62	62	62	56
1	99	95	91	88	92	88	85	82	76	74	72	65	63	62	55	54	52	48
2	91	83	77	72	84	78	72	68	67	63	60	58	55	52	49	47	45	40
3	83	74	66	61	77	69	62	57	60	55	51	51	48	44	43	41	38	35
4	76	65	58	52	71	61	54	49	53	48	44	46	42	38	39	36	33	30
5	70	58	50	44	65	55	48	42	48	42	38	41	37	34	35	32	29	26
6	65	53	45	39	60	49	42	37	43	37	33	38	33	30	32	29	26	23
7	60	48	40	34	56	45	38	33	39	34	29	34	30	26	29	26	23	21
8	56	43	36	30	52	41	34	29	36	30	26	31	27	24	27	24	21	19
9	52	40	32	27	48	37	31	26	33	27	24	29	24	21	25	22	19	17
10	49	36	29	24	45	34	28	23	31	25	21	27	22	19	23	20	17	15

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	9022	9022	9022	9022
5°	8885	8332	8885	8332
10°	8764	7634	8764	7634
15°	8560	6985	8545	6985
20°	8310	6374	8296	6374
25°	8029	5794	8014	5794
30°	7634	5237	7613	5237
35°	7123	4713	7107	4713
40°	6648	4171	6624	4171
45°	6240	3630	6222	3630
50°	5838	2970	5819	2970
55°	5460	2221	5446	2221
60°	5046	1642	5037	1642
65°	4558	1220	4558	1220
70°	3932	914	3943	914
75°	3453	673	3493	673
80°	3713	432	3381	432
85°	5338	198	3690	198



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.6	2.3
10°-20°	371.2	6.4
20°-30°	545.2	9.4
30°-40°	619.4	10.6
40°-50°	583.6	10.0
50°-60°	465.7	8.0
60°-70°	307.3	5.3
70°-80°	160.6	2.8
80°-90°	87.7	1.5
90°-100°	98.5	1.7
100°-110°	168.0	2.9
110°-120°	283.4	4.9
120°-130°	384.8	6.6
130°-140°	438.7	7.5
140°-150°	437.3	7.5
150°-160°	380.7	6.5
160°-170°	267.8	4.6
170°-180°	99.7	1.7
0°-30°	1048.0	18.0
0°-40°	1667.3	28.6
0°-60°	2716.6	46.6
0°-90°	3272.2	56.1
90°-120°	549.8	9.4
90°-150°	1810.6	31.1
90°-180°	2559.0	43.9
0°-180°	5831.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1397	1397	1397	1397	1397	
5°	1383	1398	1383	1398	1383	131
15°	1316	1325	1314	1325	1316	371
25°	1182	1192	1179	1192	1182	543
35°	969	1016	967	1016	969	607
45°	754	795	752	795	754	582
55°	557	479	556	479	557	499
65°	365	251	365	251	365	361
75°	192	128	194	128	192	213
85°	158	33	109	33	158	130
90°	182	2	69	2	182	101
95°	221	31	44	31	221	192
105°	333	149	17	149	333	351
115°	458	304	106	304	458	454
125°	573	476	261	476	573	511
135°	665	650	419	650	665	513
145°	730	812	563	812	730	460
155°	816	940	708	940	816	376
165°	892	1023	862	1023	892	253
175°	1053	1065	1031	1065	1053	98
180°	1064	1064	1064	1064	1064	



TEST NUMBER: P392644

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1396.9	1396.9	1396.9	1396.9	1396.9	1396.9	1396.9	1396.9	1396.9	1396.9	1396.9
2.5°	1390.9	1389.4	1388.9	1396.6	1404.4	1395.8	1388.9	1389.4	1391.5	1389.4	1388.9
5°	1383.0	1384.5	1383.0	1391.8	1397.7	1391.8	1382.2	1384.5	1383.0	1384.5	1382.2
7.5°	1373.9	1377.3	1371.4	1380.0	1373.2	1379.3	1370.7	1376.6	1373.9	1376.6	1370.7
10°	1360.9	1360.6	1356.7	1365.5	1369.4	1364.8	1356.0	1359.1	1360.9	1359.1	1356.0
12.5°	1342.7	1337.0	1336.3	1342.2	1342.4	1342.2	1336.3	1335.5	1341.2	1335.5	1336.3
15°	1316.0	1319.3	1314.7	1320.6	1324.7	1319.8	1313.9	1317.8	1313.7	1317.8	1313.9
17.5°	1292.4	1291.8	1286.2	1290.3	1296.2	1290.3	1285.4	1291.1	1290.1	1291.1	1285.4
20°	1255.0	1257.2	1254.7	1264.8	1265.0	1264.1	1253.9	1255.7	1252.8	1255.7	1253.9
22.5°	1221.8	1223.8	1223.3	1223.5	1230.6	1222.8	1222.5	1222.3	1220.3	1222.3	1222.5
25°	1181.5	1181.5	1182.7	1194.0	1192.3	1193.3	1181.2	1179.2	1179.2	1179.2	1181.2
27.5°	1139.2	1137.3	1145.3	1152.5	1145.1	1151.7	1143.9	1135.0	1137.0	1135.0	1143.9
30°	1085.2	1087.1	1095.0	1112.9	1107.8	1111.4	1092.8	1084.9	1082.2	1084.9	1092.8
32.5°	1026.2	1034.1	1044.9	1068.7	1062.3	1067.2	1042.6	1031.1	1023.3	1031.1	1042.6
35°	969.4	972.4	989.1	1017.6	1016.4	1015.4	986.9	970.2	967.2	970.2	986.9
37.5°	915.3	910.4	931.1	961.5	966.9	959.4	928.9	908.3	913.2	908.3	928.9
40°	857.4	858.3	867.2	903.8	909.9	902.4	864.2	855.4	854.4	855.4	864.2
42.5°	805.3	795.4	803.6	840.9	854.9	839.5	801.3	792.5	802.3	792.5	801.3
45°	754.4	741.7	742.7	775.1	794.9	773.6	739.6	739.4	752.2	739.4	739.6
47.5°	704.3	688.6	680.7	706.5	723.2	705.8	677.7	686.3	702.1	686.3	677.7
50°	653.2	638.5	622.7	638.7	647.8	637.2	619.7	635.4	651.0	635.4	619.7
52.5°	606.0	589.3	569.9	571.8	562.3	570.4	567.6	586.3	603.8	586.3	567.6
55°	557.1	542.3	517.8	502.3	479.0	500.8	515.5	540.1	555.6	540.1	515.5
57.5°	509.9	499.1	467.6	436.5	405.2	434.9	465.4	496.8	508.4	496.8	465.4
60°	461.1	452.2	415.9	370.8	347.2	370.0	414.3	450.6	460.3	450.6	414.3
62.5°	411.9	405.0	362.8	310.9	292.4	310.1	361.2	403.5	411.1	403.5	361.2
65°	364.9	354.1	310.9	261.7	251.1	261.0	310.1	353.3	364.9	353.3	310.1
67.5°	316.8	304.0	262.7	217.7	215.7	217.7	261.9	303.2	316.8	303.2	261.9
70°	267.8	255.1	218.7	180.4	181.3	180.4	218.7	255.8	268.6	255.8	218.7
72.5°	230.5	208.9	179.4	148.9	153.1	148.2	179.4	209.6	232.1	209.6	179.4
75°	192.2	168.6	141.3	118.7	127.6	118.7	142.0	169.3	194.4	169.3	142.0
77.5°	170.6	141.1	109.9	95.1	101.0	95.1	110.6	138.9	167.7	138.9	110.6
80°	158.8	126.1	87.6	71.6	77.4	71.6	86.0	114.1	144.6	114.1	86.0
82.5°	155.2	124.9	81.8	50.9	53.9	50.9	72.8	97.9	126.7	97.9	72.8
85°	157.8	132.7	87.5	41.4	33.2	39.8	65.8	86.9	109.1	86.9	65.8
87.5°	167.2	147.6	98.5	43.7	8.8	33.2	55.6	75.6	89.9	75.6	55.6
90°	181.7	166.3	117.6	51.6	1.8	23.1	43.3	60.5	69.1	60.5	43.3
92.5°	203.0	190.0	136.5	66.0	13.0	14.3	33.7	51.2	55.8	51.2	33.7
95°	221.4	216.9	161.9	82.0	31.0	7.0	26.8	42.8	43.5	42.8	26.8
97.5°	247.6	242.8	187.0	106.1	54.3	10.0	21.2	36.5	37.4	36.5	21.2
100°	268.9	266.3	213.0	138.3	82.8	25.8	14.1	30.6	32.5	30.6	14.1
102.5°	303.9	291.9	237.9	169.1	113.5	47.5	14.3	21.7	24.7	21.7	14.3
105°	333.0	319.5	273.6	201.4	148.8	76.8	31.3	17.9	17.0	17.9	31.3
107.5°	359.3	348.9	306.7	234.4	186.4	110.6	56.7	30.8	23.2	30.8	56.7
110°	393.9	384.0	339.0	268.4	225.4	147.5	86.0	53.8	42.8	53.8	86.0



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CATALOG NUMBER: MWL-4-26-33-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	430.0	422.2	369.0	302.9	265.9	186.5	122.1	83.7	73.5	83.7	122.1
115°	457.7	453.0	403.5	335.2	304.4	230.9	161.8	119.0	106.5	119.0	161.8
117.5°	487.0	486.3	429.0	368.2	349.4	270.7	198.6	155.3	141.0	155.3	198.6
120°	523.8	517.8	464.3	401.2	392.3	312.6	239.1	195.8	181.5	195.8	239.1
122.5°	549.3	545.6	495.3	432.8	432.8	355.4	279.1	234.8	219.9	234.8	279.1
125°	572.6	571.0	517.8	464.3	476.3	395.2	322.7	277.7	261.1	277.7	322.7
127.5°	593.6	595.8	547.1	498.8	520.5	435.8	365.4	315.9	298.7	315.9	365.4
130°	611.6	619.1	574.9	530.4	562.6	480.0	403.8	354.2	342.9	354.2	403.8
132.5°	646.9	642.4	603.4	563.6	607.6	521.5	444.3	392.5	379.7	392.5	444.3
135°	664.9	666.4	628.2	591.4	649.7	562.1	482.5	431.5	418.7	431.5	482.5
137.5°	686.6	682.1	647.6	625.1	688.7	601.1	520.0	472.8	452.5	472.8	520.0
140°	702.5	701.7	673.2	655.2	730.7	639.4	558.4	510.3	491.5	510.3	558.4
142.5°	719.0	723.4	698.6	688.2	772.7	679.9	599.6	547.1	529.1	547.1	599.6
145°	730.2	739.9	724.2	729.5	812.5	725.0	635.6	582.3	562.8	582.3	635.6
147.5°	748.9	761.7	742.9	758.7	847.0	764.7	671.7	619.1	601.8	619.1	671.7
150°	774.5	780.5	769.2	799.3	882.3	809.0	708.5	654.4	637.1	654.4	708.5
152.5°	794.7	802.2	789.4	843.5	910.0	849.5	748.9	688.9	668.6	688.9	748.9
155°	815.8	818.7	809.8	886.3	940.3	889.3	781.2	727.2	707.7	727.2	781.2
157.5°	835.2	841.2	830.7	918.6	965.9	923.8	818.0	765.5	748.2	765.5	818.0
160°	856.3	856.3	862.3	956.1	986.9	953.9	857.1	807.5	783.4	807.5	857.1
162.5°	858.5	872.8	905.0	982.4	1007.1	980.1	899.0	837.5	816.5	837.5	899.0
165°	891.6	904.3	953.1	1005.7	1022.9	1003.4	950.8	887.0	862.3	887.0	950.8
167.5°	926.1	953.1	992.1	1031.9	1037.9	1025.1	990.6	946.3	923.8	946.3	990.6
170°	981.4	1004.7	1025.1	1041.6	1049.9	1042.4	1015.4	992.6	978.3	992.6	1015.4
172.5°	1025.6	1041.6	1049.1	1059.6	1054.4	1051.4	1037.9	1027.4	1018.9	1027.4	1037.9
175°	1053.4	1057.4	1064.1	1060.4	1064.9	1056.7	1057.4	1062.7	1030.9	1062.7	1057.4
177.5°	1063.2	1069.5	1065.6	1058.9	1059.6	1058.2	1061.2	1064.1	1058.6	1064.1	1061.2
180°	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1



TEST NUMBER: P392644

CATALOG NUMBER: MWL-4-26-33-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1396.9	1396.9	1396.9	1396.9	1396.9	1396.9
2.5°	1395.8	1404.4	1396.6	1388.9	1389.4	1390.9
5°	1391.8	1397.7	1391.8	1383.0	1384.5	1383.0
7.5°	1379.3	1373.2	1380.0	1371.4	1377.3	1373.9
10°	1364.8	1369.4	1365.5	1356.7	1360.6	1360.9
12.5°	1342.2	1342.4	1342.2	1336.3	1337.0	1342.7
15°	1319.8	1324.7	1320.6	1314.7	1319.3	1316.0
17.5°	1290.3	1296.2	1290.3	1286.2	1291.8	1292.4
20°	1264.1	1265.0	1264.8	1254.7	1257.2	1255.0
22.5°	1222.8	1230.6	1223.5	1223.3	1223.8	1221.8
25°	1193.3	1192.3	1194.0	1182.7	1181.5	1181.5
27.5°	1151.7	1145.1	1152.5	1145.3	1137.3	1139.2
30°	1111.4	1107.8	1112.9	1095.0	1087.1	1085.2
32.5°	1067.2	1062.3	1068.7	1044.9	1034.1	1026.2
35°	1015.4	1016.4	1017.6	989.1	972.4	969.4
37.5°	959.4	966.9	961.5	931.1	910.4	915.3
40°	902.4	909.9	903.8	867.2	858.3	857.4
42.5°	839.5	854.9	840.9	803.6	795.4	805.3
45°	773.6	794.9	775.1	742.7	741.7	754.4
47.5°	705.8	723.2	706.5	680.7	688.6	704.3
50°	637.2	647.8	638.7	622.7	638.5	653.2
52.5°	570.4	562.3	571.8	569.9	589.3	606.0
55°	500.8	479.0	502.3	517.8	542.3	557.1
57.5°	434.9	405.2	436.5	467.6	499.1	509.9
60°	370.0	347.2	370.8	415.9	452.2	461.1
62.5°	310.1	292.4	310.9	362.8	405.0	411.9
65°	261.0	251.1	261.7	310.9	354.1	364.9
67.5°	217.7	215.7	217.7	262.7	304.0	316.8
70°	180.4	181.3	180.4	218.7	255.1	267.8
72.5°	148.2	153.1	148.9	179.4	208.9	230.5
75°	118.7	127.6	118.7	141.3	168.6	192.2
77.5°	95.1	101.0	95.1	109.9	141.1	170.6
80°	71.6	77.4	71.6	87.6	126.1	158.8
82.5°	50.9	53.9	50.9	81.8	124.9	155.2
85°	39.8	33.2	41.4	87.5	132.7	157.8
87.5°	33.2	8.8	43.7	98.5	147.6	167.2
90°	23.1	1.8	51.6	117.6	166.3	181.7
92.5°	14.3	13.0	66.0	136.5	190.0	203.0
95°	7.0	31.0	82.0	161.9	216.9	221.4
97.5°	10.0	54.3	106.1	187.0	242.8	247.6
100°	25.8	82.8	138.3	213.0	266.3	268.9
102.5°	47.5	113.5	169.1	237.9	291.9	303.9
105°	76.8	148.8	201.4	273.6	319.5	333.0
107.5°	110.6	186.4	234.4	306.7	348.9	359.3
110°	147.5	225.4	268.4	339.0	384.0	393.9



TEST NUMBER: P392644

CATALOG NUMBER: MWL-4-26-33-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	186.5	265.9	302.9	369.0	422.2	430.0
115°	230.9	304.4	335.2	403.5	453.0	457.7
117.5°	270.7	349.4	368.2	429.0	486.3	487.0
120°	312.6	392.3	401.2	464.3	517.8	523.8
122.5°	355.4	432.8	432.8	495.3	545.6	549.3
125°	395.2	476.3	464.3	517.8	571.0	572.6
127.5°	435.8	520.5	498.8	547.1	595.8	593.6
130°	480.0	562.6	530.4	574.9	619.1	611.6
132.5°	521.5	607.6	563.6	603.4	642.4	646.9
135°	562.1	649.7	591.4	628.2	666.4	664.9
137.5°	601.1	688.7	625.1	647.6	682.1	686.6
140°	639.4	730.7	655.2	673.2	701.7	702.5
142.5°	679.9	772.7	688.2	698.6	723.4	719.0
145°	725.0	812.5	729.5	724.2	739.9	730.2
147.5°	764.7	847.0	758.7	742.9	761.7	748.9
150°	809.0	882.3	799.3	769.2	780.5	774.5
152.5°	849.5	910.0	843.5	789.4	802.2	794.7
155°	889.3	940.3	886.3	809.8	818.7	815.8
157.5°	923.8	965.9	918.6	830.7	841.2	835.2
160°	953.9	986.9	956.1	862.3	856.3	856.3
162.5°	980.1	1007.1	982.4	905.0	872.8	858.5
165°	1003.4	1022.9	1005.7	953.1	904.3	891.6
167.5°	1025.1	1037.9	1031.9	992.1	953.1	926.1
170°	1042.4	1049.9	1041.6	1025.1	1004.7	981.4
172.5°	1051.4	1054.4	1059.6	1049.1	1041.6	1025.6
175°	1056.7	1064.9	1060.4	1064.1	1057.4	1053.4
177.5°	1058.2	1059.6	1058.9	1065.6	1069.5	1063.2
180°	1064.1	1064.1	1064.1	1064.1	1064.1	1064.1

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