

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: P392583

Luminaire Tested: **MWL-3-30-33-UNV-L830-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392583
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1910-565-13 &
Test Lab: INNOVATION CENTER
Issue Date: 12/2/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: MWL-3-30-33-UNV-L830-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

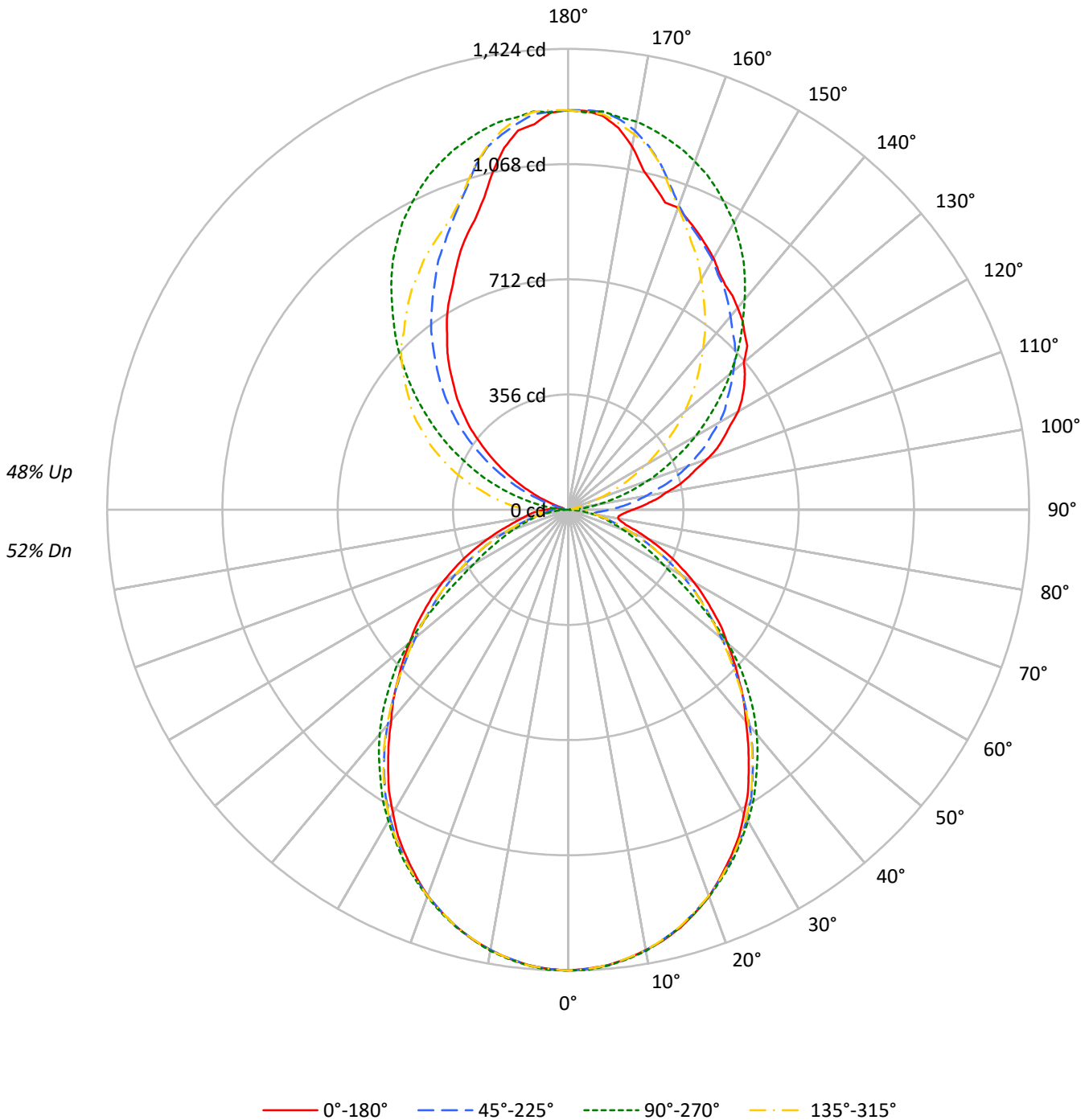
Lumens per Lamp: N/A
Luminaire Lumens: 6219.0 lumens
Efficiency: N/A
Efficacy: 97.2 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 64
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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50	44
2	90	83	77	72	83	77	72	67	66	62	58	55	53	50	46	44	42	38
3	82	73	66	60	76	68	62	56	58	53	50	49	46	43	41	39	36	32
4	75	65	57	51	70	60	54	48	52	47	43	44	40	37	37	34	32	28
5	69	58	50	44	64	54	47	42	47	41	37	40	36	32	34	30	28	25
6	64	52	44	38	59	49	42	36	42	37	32	36	32	29	31	27	25	22
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	20
8	55	43	35	30	51	40	33	29	35	30	26	30	26	23	26	22	20	18
9	51	39	32	27	48	37	30	26	32	27	23	28	24	21	24	20	18	16
10	48	36	29	24	45	34	27	23	30	24	21	26	22	19	22	19	16	15

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	12261	12261	12261	12261
5°	12064	11241	12064	11241
10°	11792	10291	11792	10291
15°	11494	9391	11471	9391
20°	11095	8549	11072	8549
25°	10580	7766	10556	7766
30°	9996	7005	9964	7005
35°	9310	6253	9284	6253
40°	8595	5541	8560	5541
45°	7979	4778	7951	4778
50°	7375	3934	7345	3934
55°	6813	2942	6790	2942
60°	6231	2134	6219	2134
65°	5556	1604	5556	1604
70°	4789	1211	4805	1211
75°	4098	877	4155	877
80°	4352	563	3895	563
85°	6323	243	4158	243



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.9	2.2
10°-20°	375.9	6.0
20°-30°	548.6	8.8
30°-40°	620.0	10.0
40°-50°	579.7	9.3
50°-60°	457.6	7.4
60°-70°	299.2	4.8
70°-80°	156.0	2.5
80°-90°	88.7	1.4
90°-100°	109.2	1.8
100°-110°	193.0	3.1
110°-120°	328.2	5.3
120°-130°	445.8	7.2
130°-140°	508.4	8.2
140°-150°	507.0	8.2
150°-160°	441.5	7.1
160°-170°	310.6	5.0
170°-180°	115.7	1.9
0°-30°	1058.4	17.0
0°-40°	1678.4	27.0
0°-60°	2715.8	43.7
0°-90°	3259.7	52.4
90°-120°	630.4	10.1
90°-150°	2091.6	33.6
90°-180°	2959.0	47.6
0°-180°	6219.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1424	1424	1424	1424	1424	
5°	1413	1414	1413	1414	1413	134
15°	1337	1336	1335	1336	1337	376
25°	1186	1198	1183	1198	1186	545
35°	972	1011	969	1011	972	608
45°	746	785	744	785	746	577
55°	544	476	542	476	544	488
65°	354	248	354	248	354	350
75°	187	125	190	125	187	208
85°	166	31	109	31	166	134
90°	199	2	68	2	199	110
95°	251	36	45	36	251	218
105°	382	173	15	173	382	403
115°	531	352	123	352	531	527
125°	663	553	302	553	663	592
135°	771	754	485	754	771	595
145°	846	943	652	943	846	534
155°	946	1090	820	1090	946	436
165°	1034	1186	1000	1186	1034	293
175°	1222	1235	1196	1235	1222	114
180°	1234	1234	1234	1234	1234	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1423.9	1423.9	1423.9	1423.9	1423.9	1423.9	1423.9	1423.9	1423.9	1423.9	1423.9
2.5°	1419.3	1422.0	1419.9	1420.8	1422.7	1419.9	1419.9	1422.0	1420.1	1422.0	1419.9
5°	1412.6	1414.3	1413.2	1413.2	1414.2	1413.2	1412.4	1414.3	1412.6	1414.3	1412.4
7.5°	1399.0	1401.8	1398.9	1400.7	1400.7	1399.9	1398.0	1400.8	1399.0	1400.8	1398.0
10°	1381.6	1384.5	1382.6	1382.6	1384.5	1381.6	1381.6	1382.7	1381.6	1382.7	1381.6
12.5°	1362.4	1362.5	1359.6	1361.5	1360.6	1361.5	1359.6	1360.6	1360.5	1360.6	1359.6
15°	1337.3	1335.6	1334.6	1335.6	1335.7	1334.7	1333.8	1333.8	1334.6	1333.8	1333.8
17.5°	1305.6	1306.8	1302.9	1305.9	1305.9	1305.9	1302.1	1305.8	1302.9	1305.8	1302.1
20°	1272.0	1271.2	1270.3	1272.3	1272.4	1271.5	1269.4	1269.3	1269.3	1269.3	1269.4
22.5°	1228.9	1231.8	1232.9	1236.8	1235.9	1235.9	1232.0	1230.0	1227.1	1230.0	1232.0
25°	1185.7	1190.5	1193.5	1199.4	1198.5	1198.5	1191.7	1187.8	1183.0	1187.8	1191.7
27.5°	1140.6	1141.6	1150.3	1159.0	1155.3	1158.1	1148.5	1138.9	1137.9	1138.9	1148.5
30°	1085.9	1090.7	1103.2	1112.9	1111.2	1111.1	1100.5	1088.0	1082.4	1088.0	1100.5
32.5°	1034.1	1036.0	1052.3	1063.9	1065.0	1062.1	1049.6	1032.4	1030.5	1032.4	1049.6
35°	971.8	976.6	993.9	1014.0	1011.3	1011.3	991.2	973.9	969.1	973.9	991.2
37.5°	913.2	916.1	935.3	960.3	960.4	957.6	932.6	913.4	910.5	913.4	932.6
40°	853.7	852.8	871.0	898.8	906.6	897.1	867.4	849.2	850.2	849.2	867.4
42.5°	803.8	792.3	804.8	835.5	848.1	833.7	802.2	788.7	800.3	788.7	802.2
45°	746.2	734.7	741.4	770.2	784.7	768.5	738.0	732.1	743.6	732.1	738.0
47.5°	694.4	680.0	679.0	700.2	720.4	699.4	675.6	677.4	691.8	677.4	675.6
50°	641.6	628.1	618.5	633.0	643.7	631.3	615.1	624.7	639.0	624.7	615.1
52.5°	596.5	578.2	562.0	565.8	558.3	564.1	559.4	574.8	593.9	574.8	559.4
55°	543.8	532.3	509.2	496.8	475.8	495.1	506.6	529.7	542.0	529.7	506.6
57.5°	496.7	486.2	458.3	428.7	399.0	427.0	455.8	483.6	495.0	483.6	455.8
60°	448.8	438.3	404.7	361.6	338.5	360.7	403.0	436.6	448.0	436.6	403.0
62.5°	398.9	392.2	353.8	305.0	291.6	304.1	352.1	390.5	398.1	390.5	352.1
65°	353.9	342.4	303.0	256.0	247.5	255.1	302.2	341.5	353.9	341.5	302.2
67.5°	307.8	293.4	256.0	212.9	211.9	212.9	255.1	292.6	307.8	292.6	255.1
70°	262.8	246.5	211.9	176.4	180.3	176.4	211.9	247.4	263.7	247.4	211.9
72.5°	223.5	201.4	173.5	144.7	148.7	143.9	173.5	202.2	225.2	202.2	173.5
75°	187.0	162.0	138.1	116.0	124.7	116.0	139.0	162.9	189.6	162.9	139.0
77.5°	167.1	135.7	106.5	91.1	99.7	91.1	107.3	133.1	163.6	133.1	107.3
80°	156.9	125.0	86.0	70.0	75.7	70.0	84.3	111.0	140.4	111.0	84.3
82.5°	156.7	125.8	81.1	49.8	53.7	49.8	70.6	94.5	123.6	94.5	70.6
85°	165.6	138.6	88.8	39.9	30.6	38.2	63.5	85.4	108.9	85.4	63.5
87.5°	179.6	159.3	105.4	44.4	8.6	32.2	55.8	75.6	89.8	75.6	55.8
90°	199.2	182.9	128.1	55.0	1.8	21.9	41.9	59.9	68.5	59.9	41.9
92.5°	225.1	210.8	153.7	73.4	14.9	13.2	34.3	49.5	54.2	49.5	34.3
95°	251.4	244.3	183.5	93.5	35.8	6.3	26.6	42.0	44.8	42.0	26.6
97.5°	282.1	274.8	212.2	123.0	62.9	11.4	19.6	35.1	38.0	35.1	19.6
100°	307.4	302.7	243.8	160.5	96.0	29.8	12.9	29.1	32.9	29.1	12.9
102.5°	348.4	334.1	274.7	196.2	131.7	55.0	15.0	20.4	24.3	20.4	15.0
105°	381.6	364.7	317.4	233.6	172.7	89.0	35.9	14.3	14.8	14.3	35.9
107.5°	413.3	403.7	355.7	272.0	216.3	128.2	65.6	34.2	22.9	34.2	65.6
110°	456.9	445.5	393.3	310.3	261.6	170.0	99.5	62.0	49.0	62.0	99.5



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CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	498.8	490.0	428.1	350.5	308.6	215.4	141.4	96.9	84.8	96.9	141.4
115°	531.0	525.7	468.2	387.9	352.2	266.8	187.6	137.8	123.2	137.8	187.6
117.5°	564.0	563.2	497.8	426.3	404.5	312.9	230.3	178.8	162.3	178.8	230.3
120°	606.7	599.8	538.8	464.6	454.1	361.8	277.3	225.9	209.3	225.9	277.3
122.5°	636.4	632.1	573.6	502.2	502.2	412.4	322.6	271.3	253.8	271.3	322.6
125°	663.4	661.6	599.8	538.8	552.7	458.6	373.2	320.9	301.7	320.9	373.2
127.5°	687.8	690.4	633.8	578.9	604.1	505.7	422.8	365.3	345.3	365.3	422.8
130°	708.8	717.4	666.1	615.5	652.9	557.1	467.3	409.8	396.7	409.8	467.3
132.5°	749.7	744.5	699.2	652.9	705.2	604.1	514.4	454.2	439.4	454.2	514.4
135°	770.6	772.3	727.9	685.2	754.1	651.2	558.8	499.5	484.7	499.5	558.8
137.5°	795.8	790.7	750.5	724.4	799.4	696.5	602.4	547.5	524.0	547.5	602.4
140°	814.2	813.3	780.2	759.3	848.1	740.9	646.9	591.1	569.3	591.1	646.9
142.5°	833.4	838.5	809.8	797.7	897.0	788.1	694.8	633.8	612.9	633.8	694.8
145°	846.4	857.7	839.4	845.6	943.2	840.4	736.6	674.7	652.0	674.7	736.6
147.5°	868.2	883.0	861.2	879.5	983.3	886.5	778.5	717.4	697.4	717.4	778.5
150°	897.9	904.8	891.7	926.6	1024.2	937.9	821.2	758.4	738.3	758.4	821.2
152.5°	921.4	930.1	915.2	978.0	1056.4	985.0	868.2	798.5	775.0	798.5	868.2
155°	945.8	949.2	938.9	1027.7	1090.4	1031.2	905.6	843.0	820.3	843.0	905.6
157.5°	968.4	975.4	963.2	1065.2	1120.1	1071.3	948.4	887.4	867.3	887.4	948.4
160°	992.8	992.8	999.8	1108.8	1144.5	1106.2	993.8	936.2	908.3	936.2	993.8
162.5°	995.5	1012.0	1049.5	1139.3	1168.0	1136.7	1042.5	971.0	946.6	971.0	1042.5
165°	1033.8	1048.7	1105.3	1166.3	1186.3	1163.7	1102.6	1028.6	999.8	1028.6	1102.6
167.5°	1073.9	1105.3	1150.6	1196.8	1203.8	1188.9	1148.9	1097.4	1071.3	1097.4	1148.9
170°	1139.3	1166.3	1188.9	1208.1	1217.7	1209.0	1177.6	1152.3	1135.7	1152.3	1177.6
172.5°	1189.8	1208.1	1216.8	1229.0	1222.9	1219.4	1203.8	1191.6	1181.9	1191.6	1203.8
175°	1221.9	1226.4	1234.2	1229.9	1235.2	1225.6	1226.4	1232.5	1195.8	1232.5	1226.4
177.5°	1233.3	1240.4	1236.0	1228.2	1229.0	1227.3	1230.8	1234.2	1228.1	1234.2	1230.8
180°	1234.2	1234.2	1234.2	1234.2	1234.2	1234.2	1234.2	1234.2	1234.2	1234.2	1234.2



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1423.9	1423.9	1423.9	1423.9	1423.9	1423.9
2.5°	1419.9	1422.7	1420.8	1419.9	1422.0	1419.3
5°	1413.2	1414.2	1413.2	1413.2	1414.3	1412.6
7.5°	1399.9	1400.7	1400.7	1398.9	1401.8	1399.0
10°	1381.6	1384.5	1382.6	1382.6	1384.5	1381.6
12.5°	1361.5	1360.6	1361.5	1359.6	1362.5	1362.4
15°	1334.7	1335.7	1335.6	1334.6	1335.6	1337.3
17.5°	1305.9	1305.9	1305.9	1302.9	1306.8	1305.6
20°	1271.5	1272.4	1272.3	1270.3	1271.2	1272.0
22.5°	1235.9	1235.9	1236.8	1232.9	1231.8	1228.9
25°	1198.5	1198.5	1199.4	1193.5	1190.5	1185.7
27.5°	1158.1	1155.3	1159.0	1150.3	1141.6	1140.6
30°	1111.1	1111.2	1112.9	1103.2	1090.7	1085.9
32.5°	1062.1	1065.0	1063.9	1052.3	1036.0	1034.1
35°	1011.3	1011.3	1014.0	993.9	976.6	971.8
37.5°	957.6	960.4	960.3	935.3	916.1	913.2
40°	897.1	906.6	898.8	871.0	852.8	853.7
42.5°	833.7	848.1	835.5	804.8	792.3	803.8
45°	768.5	784.7	770.2	741.4	734.7	746.2
47.5°	699.4	720.4	700.2	679.0	680.0	694.4
50°	631.3	643.7	633.0	618.5	628.1	641.6
52.5°	564.1	558.3	565.8	562.0	578.2	596.5
55°	495.1	475.8	496.8	509.2	532.3	543.8
57.5°	427.0	399.0	428.7	458.3	486.2	496.7
60°	360.7	338.5	361.6	404.7	438.3	448.8
62.5°	304.1	291.6	305.0	353.8	392.2	398.9
65°	255.1	247.5	256.0	303.0	342.4	353.9
67.5°	212.9	211.9	212.9	256.0	293.4	307.8
70°	176.4	180.3	176.4	211.9	246.5	262.8
72.5°	143.9	148.7	144.7	173.5	201.4	223.5
75°	116.0	124.7	116.0	138.1	162.0	187.0
77.5°	91.1	99.7	91.1	106.5	135.7	167.1
80°	70.0	75.7	70.0	86.0	125.0	156.9
82.5°	49.8	53.7	49.8	81.1	125.8	156.7
85°	38.2	30.6	39.9	88.8	138.6	165.6
87.5°	32.2	8.6	44.4	105.4	159.3	179.6
90°	21.9	1.8	55.0	128.1	182.9	199.2
92.5°	13.2	14.9	73.4	153.7	210.8	225.1
95°	6.3	35.8	93.5	183.5	244.3	251.4
97.5°	11.4	62.9	123.0	212.2	274.8	282.1
100°	29.8	96.0	160.5	243.8	302.7	307.4
102.5°	55.0	131.7	196.2	274.7	334.1	348.4
105°	89.0	172.7	233.6	317.4	364.7	381.6
107.5°	128.2	216.3	272.0	355.7	403.7	413.3
110°	170.0	261.6	310.3	393.3	445.5	456.9



TEST NUMBER: P392583

CATALOG NUMBER: MWL-3-30-33-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	215.4	308.6	350.5	428.1	490.0	498.8
115°	266.8	352.2	387.9	468.2	525.7	531.0
117.5°	312.9	404.5	426.3	497.8	563.2	564.0
120°	361.8	454.1	464.6	538.8	599.8	606.7
122.5°	412.4	502.2	502.2	573.6	632.1	636.4
125°	458.6	552.7	538.8	599.8	661.6	663.4
127.5°	505.7	604.1	578.9	633.8	690.4	687.8
130°	557.1	652.9	615.5	666.1	717.4	708.8
132.5°	604.1	705.2	652.9	699.2	744.5	749.7
135°	651.2	754.1	685.2	727.9	772.3	770.6
137.5°	696.5	799.4	724.4	750.5	790.7	795.8
140°	740.9	848.1	759.3	780.2	813.3	814.2
142.5°	788.1	897.0	797.7	809.8	838.5	833.4
145°	840.4	943.2	845.6	839.4	857.7	846.4
147.5°	886.5	983.3	879.5	861.2	883.0	868.2
150°	937.9	1024.2	926.6	891.7	904.8	897.9
152.5°	985.0	1056.4	978.0	915.2	930.1	921.4
155°	1031.2	1090.4	1027.7	938.9	949.2	945.8
157.5°	1071.3	1120.1	1065.2	963.2	975.4	968.4
160°	1106.2	1144.5	1108.8	999.8	992.8	992.8
162.5°	1136.7	1168.0	1139.3	1049.5	1012.0	995.5
165°	1163.7	1186.3	1166.3	1105.3	1048.7	1033.8
167.5°	1188.9	1203.8	1196.8	1150.6	1105.3	1073.9
170°	1209.0	1217.7	1208.1	1188.9	1166.3	1139.3
172.5°	1219.4	1222.9	1229.0	1216.8	1208.1	1189.8
175°	1225.6	1235.2	1229.9	1234.2	1226.4	1221.9
177.5°	1227.3	1229.0	1228.2	1236.0	1240.4	1233.3
180°	1234.2	1234.2	1234.2	1234.2	1234.2	1234.2

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