

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: P392585

Luminaire Tested: **MWL-3-30-33-UNV-L940-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392585
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-L940-EDD
Description: MWL 3FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

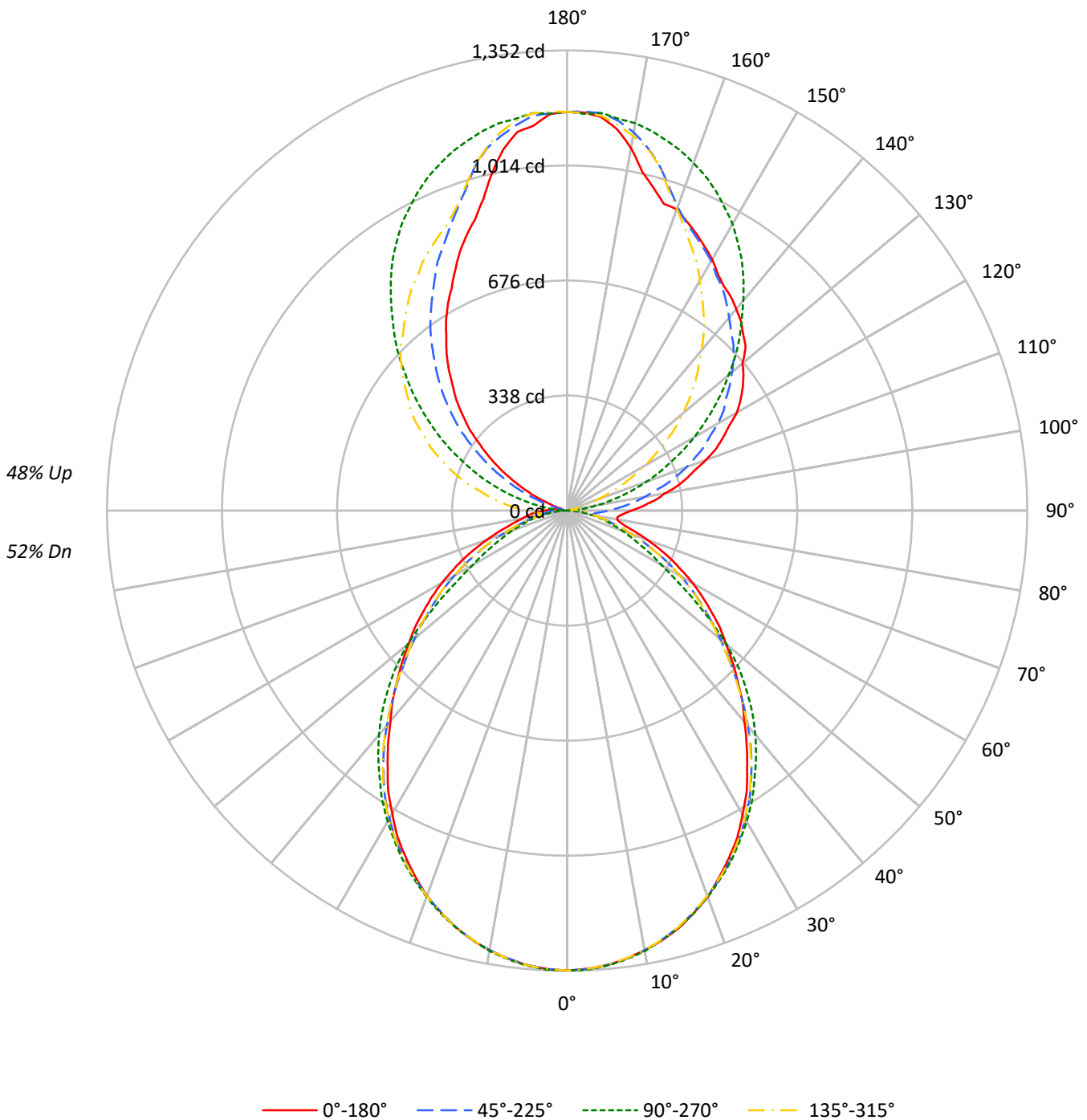
Lumens per Lamp: N/A
Luminaire Lumens: 5903.0 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.14 / 1.17 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 3' x H: 0.42')
CIE Type: General Diffuse

Input Watts (W): 64.64
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



TEST NUMBER: P392585
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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	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°	11638	11638	11638	11638
5°	11451	10669	11451	10669
10°	11193	9769	11193	9769
15°	10910	8914	10888	8914
20°	10532	8115	10509	8115
25°	10043	7371	10020	7371
30°	9488	6649	9457	6649
35°	8837	5935	8812	5935
40°	8158	5260	8125	5260
45°	7574	4535	7547	4535
50°	7000	3735	6971	3735
55°	6466	2792	6446	2792
60°	5914	2025	5903	2025
65°	5273	1522	5273	1522
70°	4547	1150	4561	1150
75°	3889	832	3942	832
80°	4133	534	3698	534
85°	6003	231	3944	231



TEST NUMBER: P392585

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.1	2.2
10°-20°	356.8	6.0
20°-30°	520.7	8.8
30°-40°	588.5	10.0
40°-50°	550.3	9.3
50°-60°	434.4	7.4
60°-70°	284.0	4.8
70°-80°	148.0	2.5
80°-90°	84.2	1.4
90°-100°	103.6	1.8
100°-110°	183.2	3.1
110°-120°	311.6	5.3
120°-130°	423.2	7.2
130°-140°	482.5	8.2
140°-150°	481.2	8.2
150°-160°	419.0	7.1
160°-170°	294.8	5.0
170°-180°	109.8	1.9
0°-30°	1004.6	17.0
0°-40°	1593.1	27.0
0°-60°	2577.8	43.7
0°-90°	3094.0	52.4
90°-120°	598.4	10.1
90°-150°	1985.3	33.6
90°-180°	2809.0	47.6
0°-180°	5903.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1352	1352	1352	1352	1352	
5°	1341	1342	1341	1342	1341	127
15°	1269	1268	1267	1268	1269	357
25°	1126	1138	1123	1138	1126	518
35°	922	960	920	960	922	577
45°	708	745	706	745	708	548
55°	516	452	514	452	516	463
65°	336	235	336	235	336	333
75°	178	118	180	118	178	197
85°	157	29	103	29	157	127
90°	189	2	65	2	189	104
95°	239	34	42	34	239	207
105°	362	164	14	164	362	382
115°	504	334	117	334	504	500
125°	630	525	286	525	630	562
135°	731	716	460	716	731	565
145°	803	895	619	895	803	507
155°	898	1035	779	1035	898	414
165°	981	1126	949	1126	981	278
175°	1160	1172	1135	1172	1160	108
180°	1172	1172	1172	1172	1172	



TEST NUMBER: P392585

CATALOG NUMBER: MWL-3-30-33-UNV-L940-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1351.5	1351.5	1351.5	1351.5	1351.5	1351.5	1351.5	1351.5	1351.5	1351.5	1351.5
2.5°	1347.2	1349.7	1347.8	1348.6	1350.4	1347.8	1347.8	1349.7	1348.0	1349.7	1347.8
5°	1340.8	1342.4	1341.4	1341.4	1342.3	1341.4	1340.6	1342.4	1340.8	1342.4	1340.6
7.5°	1327.9	1330.6	1327.8	1329.6	1329.6	1328.7	1326.9	1329.7	1327.9	1329.7	1326.9
10°	1311.4	1314.2	1312.3	1312.3	1314.2	1311.4	1311.4	1312.4	1311.4	1312.4	1311.4
12.5°	1293.1	1293.2	1290.5	1292.3	1291.5	1292.3	1290.5	1291.5	1291.4	1291.5	1290.5
15°	1269.3	1267.7	1266.8	1267.7	1267.8	1266.9	1266.0	1266.0	1266.8	1266.0	1266.0
17.5°	1239.3	1240.4	1236.7	1239.6	1239.6	1239.6	1235.9	1239.5	1236.7	1239.5	1235.9
20°	1207.4	1206.6	1205.7	1207.7	1207.8	1206.8	1204.9	1204.8	1204.8	1204.8	1204.9
22.5°	1166.5	1169.2	1170.2	1174.0	1173.1	1173.1	1169.4	1167.5	1164.8	1167.5	1169.4
25°	1125.5	1130.0	1132.9	1138.4	1137.6	1137.6	1131.1	1127.5	1122.9	1127.5	1131.1
27.5°	1082.7	1083.6	1091.9	1100.1	1096.6	1099.2	1090.1	1081.0	1080.1	1081.0	1090.1
30°	1030.7	1035.3	1047.1	1056.3	1054.7	1054.6	1044.6	1032.7	1027.4	1032.7	1044.6
32.5°	981.5	983.4	998.8	1009.9	1010.9	1008.1	996.3	980.0	978.2	980.0	996.3
35°	922.4	927.0	943.4	962.5	959.9	959.9	940.8	924.4	919.8	924.4	940.8
37.5°	866.8	869.6	887.8	911.5	911.6	908.9	885.2	867.0	864.3	867.0	885.2
40°	810.3	809.4	826.7	853.2	860.5	851.5	823.4	806.1	807.0	806.1	823.4
42.5°	763.0	752.0	763.9	793.0	805.0	791.4	761.4	748.7	759.6	748.7	761.4
45°	708.3	697.4	703.7	731.1	744.8	729.4	700.5	694.9	705.8	694.9	700.5
47.5°	659.1	645.4	644.5	664.6	683.8	663.8	641.2	643.0	656.6	643.0	641.2
50°	609.0	596.2	587.1	600.9	611.0	599.2	583.8	592.9	606.5	592.9	583.8
52.5°	566.2	548.8	533.4	537.1	529.9	535.5	531.0	545.6	563.7	545.6	531.0
55°	516.1	505.2	483.3	471.6	451.6	469.9	480.9	502.7	514.5	502.7	480.9
57.5°	471.5	461.5	435.1	406.9	378.7	405.3	432.6	459.0	469.9	459.0	432.6
60°	426.0	416.0	384.1	343.2	321.3	342.4	382.5	414.4	425.2	414.4	382.5
62.5°	378.7	372.3	335.8	289.5	276.8	288.6	334.2	370.6	377.8	370.6	334.2
65°	335.9	325.0	287.6	243.0	234.9	242.2	286.8	324.2	335.9	324.2	286.8
67.5°	292.2	278.5	243.0	202.1	201.2	202.1	242.2	277.7	292.2	277.7	242.2
70°	249.5	234.0	201.2	167.5	171.1	167.5	201.2	234.8	250.3	234.8	201.2
72.5°	212.1	191.1	164.7	137.4	141.1	136.6	164.7	192.0	213.7	192.0	164.7
75°	177.5	153.8	131.1	110.2	118.4	110.2	131.9	154.6	179.9	154.6	131.9
77.5°	158.6	128.8	101.0	86.5	94.7	86.5	101.9	126.4	155.3	126.4	101.9
80°	149.0	118.6	81.6	66.4	71.9	66.4	80.0	105.3	133.3	105.3	80.0
82.5°	148.8	119.4	77.0	47.3	50.9	47.3	67.1	89.7	117.3	89.7	67.1
85°	157.2	131.6	84.3	37.9	29.1	36.3	60.3	81.1	103.3	81.1	60.3
87.5°	170.5	151.2	100.0	42.2	8.2	30.5	52.9	71.8	85.3	71.8	52.9
90°	189.1	173.6	121.6	52.2	1.7	20.8	39.7	56.9	65.1	56.9	39.7
92.5°	213.7	200.1	145.9	69.7	14.1	12.6	32.5	47.0	51.5	47.0	32.5
95°	238.6	231.9	174.2	88.7	34.0	6.0	25.2	39.9	42.5	39.9	25.2
97.5°	267.8	260.8	201.4	116.7	59.7	10.8	18.6	33.3	36.1	33.3	18.6
100°	291.8	287.4	231.4	152.3	91.1	28.2	12.2	27.6	31.3	27.6	12.2
102.5°	330.7	317.2	260.8	186.2	125.0	52.2	14.2	19.4	23.1	19.4	14.2
105°	362.3	346.1	301.3	221.8	163.9	84.5	34.1	13.6	14.0	13.6	34.1
107.5°	392.3	383.2	337.7	258.2	205.3	121.7	62.2	32.4	21.8	32.4	62.2
110°	433.7	422.8	373.3	294.6	248.3	161.4	94.5	58.9	46.6	58.9	94.5



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CATALOG NUMBER: MWL-3-30-33-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	473.4	465.1	406.4	332.6	292.9	204.5	134.2	92.0	80.5	92.0	134.2
115°	504.0	499.0	444.4	368.2	334.3	253.2	178.0	130.8	116.9	130.8	178.0
117.5°	535.4	534.5	472.5	404.6	383.9	297.0	218.6	169.7	154.1	169.7	218.6
120°	575.9	569.3	511.4	441.0	431.0	343.4	263.2	214.4	198.7	214.4	263.2
122.5°	604.1	600.0	544.5	476.7	476.7	391.4	306.2	257.5	240.9	257.5	306.2
125°	629.7	628.0	569.3	511.4	524.6	435.3	354.2	304.6	286.4	304.6	354.2
127.5°	652.9	655.4	601.6	549.5	573.4	480.0	401.3	346.8	327.7	346.8	401.3
130°	672.8	681.0	632.2	584.2	619.7	528.8	443.5	388.9	376.6	388.9	443.5
132.5°	711.6	706.6	663.6	619.7	669.4	573.4	488.3	431.1	417.1	431.1	488.3
135°	731.4	733.1	690.9	650.3	715.8	618.1	530.4	474.1	460.1	474.1	530.4
137.5°	755.4	750.5	712.4	687.6	758.8	661.1	571.8	519.7	497.4	519.7	571.8
140°	772.8	772.0	740.5	720.7	805.0	703.3	614.0	561.1	540.4	561.1	614.0
142.5°	791.0	795.9	768.7	757.1	851.4	748.0	659.5	601.6	581.7	601.6	659.5
145°	803.4	814.2	796.8	802.6	895.2	797.7	699.2	640.4	618.9	640.4	699.2
147.5°	824.1	838.1	817.4	834.8	933.3	841.5	738.9	681.0	661.9	681.0	738.9
150°	852.2	858.8	846.4	879.5	972.1	890.2	779.4	719.9	700.8	719.9	779.4
152.5°	874.6	882.9	868.7	928.3	1002.8	935.0	824.1	757.9	735.6	757.9	824.1
155°	897.7	901.0	891.1	975.5	1035.0	978.8	859.6	800.1	778.6	800.1	859.6
157.5°	919.2	925.9	914.3	1011.0	1063.2	1016.9	900.2	842.3	823.3	842.3	900.2
160°	942.4	942.4	949.0	1052.4	1086.3	1050.0	943.3	888.6	862.2	888.6	943.3
162.5°	944.9	960.6	996.2	1081.4	1108.6	1078.9	989.5	921.7	898.5	921.7	989.5
165°	981.3	995.4	1049.1	1107.0	1126.0	1104.5	1046.6	976.3	949.0	976.3	1046.6
167.5°	1019.3	1049.1	1092.1	1136.0	1142.6	1128.5	1090.5	1041.7	1016.9	1041.7	1090.5
170°	1081.4	1107.0	1128.5	1146.7	1155.8	1147.5	1117.7	1093.8	1078.0	1093.8	1117.7
172.5°	1129.3	1146.7	1155.0	1166.6	1160.7	1157.5	1142.6	1131.0	1121.8	1131.0	1142.6
175°	1159.8	1164.1	1171.5	1167.4	1172.4	1163.3	1164.1	1169.9	1135.0	1169.9	1164.1
177.5°	1170.6	1177.3	1173.2	1165.8	1166.6	1164.9	1168.2	1171.5	1165.7	1171.5	1168.2
180°	1171.5	1171.5	1171.5	1171.5	1171.5	1171.5	1171.5	1171.5	1171.5	1171.5	1171.5



TEST NUMBER: P392585

CATALOG NUMBER: MWL-3-30-33-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1351.5	1351.5	1351.5	1351.5	1351.5	1351.5
2.5°	1347.8	1350.4	1348.6	1347.8	1349.7	1347.2
5°	1341.4	1342.3	1341.4	1341.4	1342.4	1340.8
7.5°	1328.7	1329.6	1329.6	1327.8	1330.6	1327.9
10°	1311.4	1314.2	1312.3	1312.3	1314.2	1311.4
12.5°	1292.3	1291.5	1292.3	1290.5	1293.2	1293.1
15°	1266.9	1267.8	1267.7	1266.8	1267.7	1269.3
17.5°	1239.6	1239.6	1239.6	1236.7	1240.4	1239.3
20°	1206.8	1207.8	1207.7	1205.7	1206.6	1207.4
22.5°	1173.1	1173.1	1174.0	1170.2	1169.2	1166.5
25°	1137.6	1137.6	1138.4	1132.9	1130.0	1125.5
27.5°	1099.2	1096.6	1100.1	1091.9	1083.6	1082.7
30°	1054.6	1054.7	1056.3	1047.1	1035.3	1030.7
32.5°	1008.1	1010.9	1009.9	998.8	983.4	981.5
35°	959.9	959.9	962.5	943.4	927.0	922.4
37.5°	908.9	911.6	911.5	887.8	869.6	866.8
40°	851.5	860.5	853.2	826.7	809.4	810.3
42.5°	791.4	805.0	793.0	763.9	752.0	763.0
45°	729.4	744.8	731.1	703.7	697.4	708.3
47.5°	663.8	683.8	664.6	644.5	645.4	659.1
50°	599.2	611.0	600.9	587.1	596.2	609.0
52.5°	535.5	529.9	537.1	533.4	548.8	566.2
55°	469.9	451.6	471.6	483.3	505.2	516.1
57.5°	405.3	378.7	406.9	435.1	461.5	471.5
60°	342.4	321.3	343.2	384.1	416.0	426.0
62.5°	288.6	276.8	289.5	335.8	372.3	378.7
65°	242.2	234.9	243.0	287.6	325.0	335.9
67.5°	202.1	201.2	202.1	243.0	278.5	292.2
70°	167.5	171.1	167.5	201.2	234.0	249.5
72.5°	136.6	141.1	137.4	164.7	191.1	212.1
75°	110.2	118.4	110.2	131.1	153.8	177.5
77.5°	86.5	94.7	86.5	101.0	128.8	158.6
80°	66.4	71.9	66.4	81.6	118.6	149.0
82.5°	47.3	50.9	47.3	77.0	119.4	148.8
85°	36.3	29.1	37.9	84.3	131.6	157.2
87.5°	30.5	8.2	42.2	100.0	151.2	170.5
90°	20.8	1.7	52.2	121.6	173.6	189.1
92.5°	12.6	14.1	69.7	145.9	200.1	213.7
95°	6.0	34.0	88.7	174.2	231.9	238.6
97.5°	10.8	59.7	116.7	201.4	260.8	267.8
100°	28.2	91.1	152.3	231.4	287.4	291.8
102.5°	52.2	125.0	186.2	260.8	317.2	330.7
105°	84.5	163.9	221.8	301.3	346.1	362.3
107.5°	121.7	205.3	258.2	337.7	383.2	392.3
110°	161.4	248.3	294.6	373.3	422.8	433.7



TEST NUMBER: P392585

CATALOG NUMBER: MWL-3-30-33-UNV-L940-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	204.5	292.9	332.6	406.4	465.1	473.4
115°	253.2	334.3	368.2	444.4	499.0	504.0
117.5°	297.0	383.9	404.6	472.5	534.5	535.4
120°	343.4	431.0	441.0	511.4	569.3	575.9
122.5°	391.4	476.7	476.7	544.5	600.0	604.1
125°	435.3	524.6	511.4	569.3	628.0	629.7
127.5°	480.0	573.4	549.5	601.6	655.4	652.9
130°	528.8	619.7	584.2	632.2	681.0	672.8
132.5°	573.4	669.4	619.7	663.6	706.6	711.6
135°	618.1	715.8	650.3	690.9	733.1	731.4
137.5°	661.1	758.8	687.6	712.4	750.5	755.4
140°	703.3	805.0	720.7	740.5	772.0	772.8
142.5°	748.0	851.4	757.1	768.7	795.9	791.0
145°	797.7	895.2	802.6	796.8	814.2	803.4
147.5°	841.5	933.3	834.8	817.4	838.1	824.1
150°	890.2	972.1	879.5	846.4	858.8	852.2
152.5°	935.0	1002.8	928.3	868.7	882.9	874.6
155°	978.8	1035.0	975.5	891.1	901.0	897.7
157.5°	1016.9	1063.2	1011.0	914.3	925.9	919.2
160°	1050.0	1086.3	1052.4	949.0	942.4	942.4
162.5°	1078.9	1108.6	1081.4	996.2	960.6	944.9
165°	1104.5	1126.0	1107.0	1049.1	995.4	981.3
167.5°	1128.5	1142.6	1136.0	1092.1	1049.1	1019.3
170°	1147.5	1155.8	1146.7	1128.5	1107.0	1081.4
172.5°	1157.5	1160.7	1166.6	1155.0	1146.7	1129.3
175°	1163.3	1172.4	1167.4	1171.5	1164.1	1159.8
177.5°	1164.9	1166.6	1165.8	1173.2	1177.3	1170.6
180°	1171.5	1171.5	1171.5	1171.5	1171.5	1171.5

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