

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: P392645

Luminaire Tested: **MWL-4-26-33-UNV-L840-EDD**

Issue Date: 12/2/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P392645  
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-L840-EDD  
Description: MWL 4FT MEDICAL LED FIXTURE  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

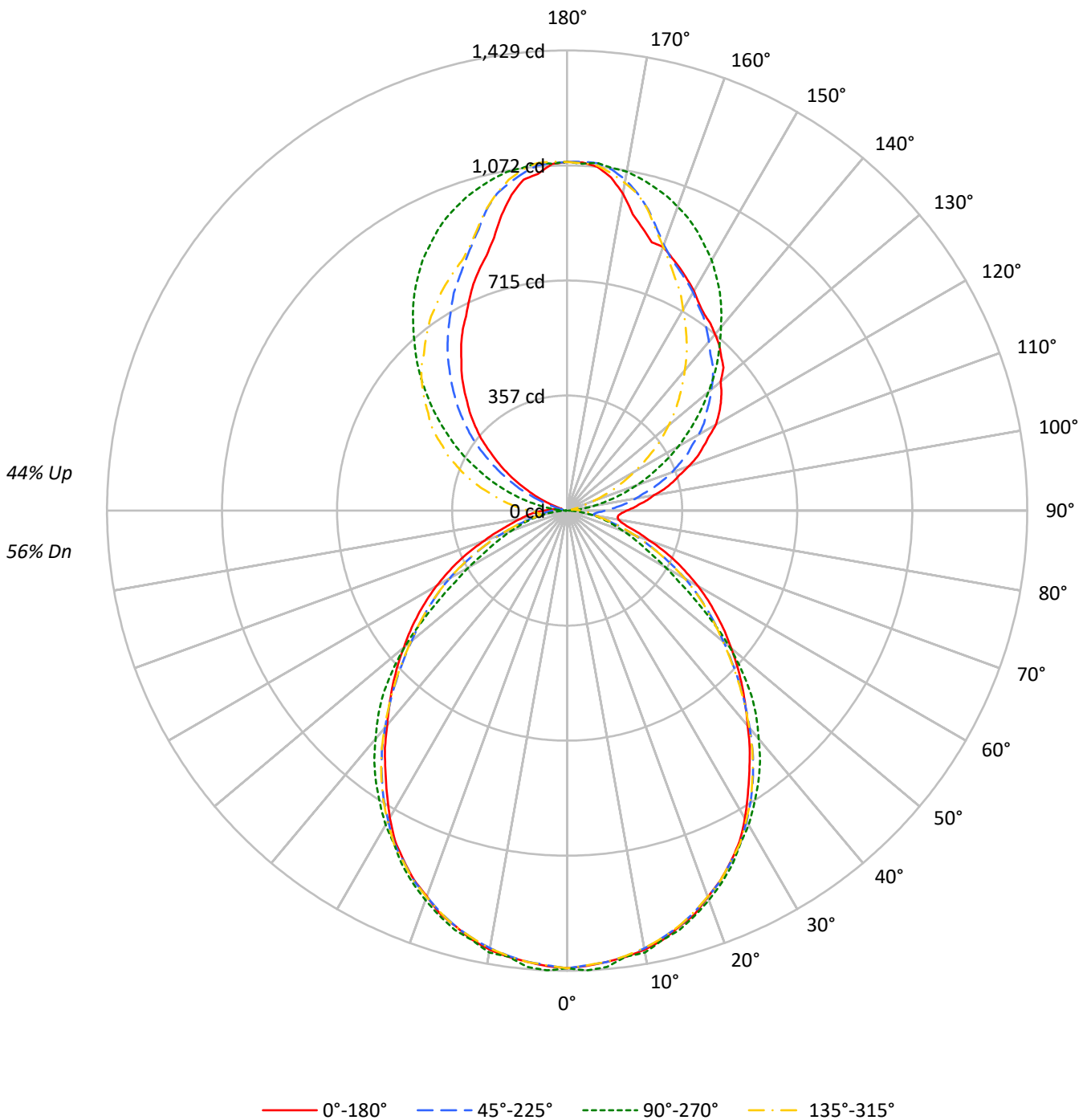
Lumens per Lamp: N/A  
Luminaire Lumens: 5932.9 lumens  
Efficiency: N/A  
Efficacy: 104.1 lumens/watt  
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25  
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')  
CIE Type: General Diffuse

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°	9180	9180	9180	9180
5°	9041	8478	9041	8478
10°	8917	7768	8917	7768
15°	8710	7108	8695	7108
20°	8456	6486	8441	6486
25°	8170	5896	8154	5896
30°	7767	5329	7746	5329
35°	7248	4796	7232	4796
40°	6764	4244	6741	4244
45°	6349	3694	6330	3694
50°	5940	3021	5920	3021
55°	5556	2260	5541	2260
60°	5133	1670	5124	1670
65°	4638	1242	4638	1242
70°	4001	930	4012	930
75°	3513	684	3554	684
80°	3778	439	3439	439
85°	5433	201	3755	201



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	133.9	2.3
10°-20°	377.7	6.4
20°-30°	554.8	9.4
30°-40°	630.2	10.6
40°-50°	593.8	10.0
50°-60°	473.8	8.0
60°-70°	312.6	5.3
70°-80°	163.4	2.8
80°-90°	89.3	1.5
90°-100°	100.2	1.7
100°-110°	170.9	2.9
110°-120°	288.3	4.9
120°-130°	391.5	6.6
130°-140°	446.3	7.5
140°-150°	445.0	7.5
150°-160°	387.4	6.5
160°-170°	272.5	4.6
170°-180°	101.5	1.7
0°-30°	1066.3	18.0
0°-40°	1696.5	28.6
0°-60°	2764.1	46.6
0°-90°	3329.4	56.1
90°-120°	559.4	9.4
90°-150°	1842.1	31.0
90°-180°	2603.0	43.9
0°-180°	5932.9	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	1421	1421	1421	1421	1421	
5°	1407	1422	1407	1422	1407	134
15°	1339	1348	1337	1348	1339	378
25°	1202	1213	1200	1213	1202	553
35°	986	1034	984	1034	986	618
45°	768	809	765	809	768	593
55°	567	487	565	487	567	507
65°	371	256	371	256	371	367
75°	196	130	198	130	196	217
85°	161	34	111	34	161	132
90°	185	2	70	2	185	102
95°	225	32	44	32	225	195
105°	339	151	17	151	339	357
115°	466	310	108	310	466	462
125°	583	485	266	485	583	520
135°	676	661	426	661	676	522
145°	743	827	573	827	743	468
155°	830	957	720	957	830	383
165°	907	1041	877	1041	907	257
175°	1072	1084	1049	1084	1072	100
180°	1083	1083	1083	1083	1083	



TEST NUMBER: P392645

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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4
2.5°	1415.2	1413.7	1413.2	1421.0	1429.0	1420.2	1413.2	1413.7	1415.9	1413.7	1413.2
5°	1407.2	1408.7	1407.2	1416.2	1422.2	1416.2	1406.4	1408.7	1407.2	1408.7	1406.4
7.5°	1397.9	1401.4	1395.4	1404.2	1397.2	1403.4	1394.7	1400.7	1397.9	1400.7	1394.7
10°	1384.7	1384.4	1380.4	1389.4	1393.4	1388.7	1379.7	1382.9	1384.7	1382.9	1379.7
12.5°	1366.2	1360.4	1359.7	1365.7	1365.9	1365.7	1359.7	1358.9	1364.7	1358.9	1359.7
15°	1339.0	1342.4	1337.7	1343.7	1347.9	1342.9	1336.9	1340.9	1336.7	1340.9	1336.9
17.5°	1315.0	1314.4	1308.7	1312.9	1318.9	1312.9	1307.9	1313.7	1312.7	1313.7	1307.9
20°	1277.0	1279.2	1276.7	1286.9	1287.2	1286.2	1275.9	1277.7	1274.7	1277.7	1275.9
22.5°	1243.2	1245.2	1244.7	1244.9	1252.2	1244.2	1243.9	1243.7	1241.7	1243.7	1243.9
25°	1202.2	1202.2	1203.4	1214.9	1213.2	1214.2	1201.9	1199.9	1199.9	1199.9	1201.9
27.5°	1159.2	1157.2	1165.4	1172.7	1165.2	1171.9	1163.9	1154.9	1156.9	1154.9	1163.9
30°	1104.2	1106.2	1114.2	1132.4	1127.2	1130.9	1111.9	1103.9	1101.2	1103.9	1111.9
32.5°	1044.2	1052.2	1063.2	1087.4	1080.9	1085.9	1060.9	1049.2	1041.2	1049.2	1060.9
35°	986.4	989.4	1006.4	1035.4	1034.2	1033.2	1004.2	987.2	984.2	987.2	1004.2
37.5°	931.4	926.4	947.4	978.4	983.9	976.2	945.2	924.2	929.2	924.2	945.2
40°	872.4	873.4	882.4	919.7	925.9	918.2	879.4	870.4	869.4	870.4	879.4
42.5°	819.3	809.3	817.6	855.7	869.9	854.2	815.3	806.3	816.3	806.3	815.3
45°	767.6	754.6	755.6	788.6	808.8	787.1	752.5	752.3	765.3	752.3	752.5
47.5°	716.6	700.6	692.6	718.8	735.8	718.1	689.5	698.3	714.3	698.3	689.5
50°	664.6	649.6	633.6	649.8	659.1	648.3	630.5	646.5	662.3	646.5	630.5
52.5°	616.6	599.6	579.8	581.8	572.1	580.3	577.5	596.5	614.3	596.5	577.5
55°	566.8	551.8	526.8	511.1	487.3	509.5	524.5	549.5	565.3	549.5	524.5
57.5°	518.8	507.8	475.8	444.1	412.3	442.5	473.5	505.5	517.3	505.5	473.5
60°	469.1	460.1	423.1	377.3	353.3	376.5	421.5	458.5	468.3	458.5	421.5
62.5°	419.1	412.1	369.1	316.3	297.5	315.5	367.5	410.5	418.3	410.5	367.5
65°	371.3	360.3	316.3	266.3	255.5	265.5	315.5	359.5	371.3	359.5	315.5
67.5°	322.3	309.3	267.3	221.5	219.5	221.5	266.5	308.5	322.3	308.5	266.5
70°	272.5	259.5	222.5	183.5	184.5	183.5	222.5	260.3	273.3	260.3	222.5
72.5°	234.5	212.5	182.5	151.5	155.8	150.8	182.5	213.3	236.1	213.3	182.5
75°	195.5	171.5	143.8	120.8	129.8	120.8	144.5	172.3	197.8	172.3	144.5
77.5°	173.6	143.6	111.8	96.8	102.8	96.8	112.5	141.3	170.6	141.3	112.5
80°	161.6	128.3	89.1	72.8	78.8	72.8	87.5	116.1	147.1	116.1	87.5
82.5°	157.9	127.1	83.2	51.8	54.8	51.8	74.1	99.6	128.9	99.6	74.1
85°	160.6	135.0	89.0	42.1	33.8	40.5	66.9	88.4	111.0	88.4	66.9
87.5°	170.1	150.2	100.2	44.5	9.0	33.8	56.6	76.9	91.5	76.9	56.6
90°	184.9	169.2	119.6	52.5	1.8	23.5	44.1	61.6	70.3	61.6	44.1
92.5°	206.5	193.3	138.9	67.2	13.2	14.5	34.3	52.1	56.8	52.1	34.3
95°	225.3	220.7	164.7	83.4	31.5	7.1	27.3	43.5	44.3	43.5	27.3
97.5°	251.9	247.0	190.3	107.9	55.2	10.2	21.6	37.1	38.1	37.1	21.6
100°	273.6	270.9	216.7	140.7	84.2	26.2	14.3	31.1	33.1	31.1	14.3
102.5°	309.2	297.0	242.0	172.0	115.5	48.3	14.5	22.1	25.1	22.1	14.5
105°	338.8	325.1	278.4	204.9	151.4	78.1	31.8	18.2	17.3	18.2	31.8
107.5°	365.6	355.0	312.0	238.5	189.6	112.5	57.7	31.3	23.6	31.3	57.7
110°	400.8	390.7	344.9	273.1	229.3	150.1	87.5	54.7	43.5	54.7	87.5



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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°	437.5	429.6	375.4	308.2	270.5	189.8	124.2	85.2	74.8	85.2	124.2
115°	465.7	460.9	410.5	341.0	309.7	234.9	164.6	121.1	108.4	121.1	164.6
117.5°	495.5	494.8	436.5	374.6	355.5	275.4	202.1	158.0	143.5	158.0	202.1
120°	532.9	526.8	472.4	408.2	399.1	318.1	243.3	199.2	184.7	199.2	243.3
122.5°	558.9	555.1	503.9	440.3	440.3	361.6	284.0	238.9	223.7	238.9	284.0
125°	582.6	581.0	526.8	472.4	484.6	402.1	328.3	282.5	265.7	282.5	328.3
127.5°	603.9	606.2	556.6	507.5	529.6	443.4	371.8	321.4	303.9	321.4	371.8
130°	622.3	629.9	584.9	539.6	572.4	488.4	410.8	360.4	348.9	360.4	410.8
132.5°	658.2	653.6	613.9	573.4	618.2	530.6	452.0	399.3	386.3	399.3	452.0
135°	676.5	678.0	639.1	601.7	661.0	571.9	490.9	439.0	426.0	439.0	490.9
137.5°	698.6	694.0	658.9	636.0	700.7	611.6	529.1	481.0	460.4	481.0	529.1
140°	714.7	713.9	684.9	666.6	743.4	650.5	568.1	519.2	500.1	519.2	568.1
142.5°	731.5	736.0	710.8	700.2	786.2	691.8	610.1	556.6	538.3	556.6	610.1
145°	742.9	752.8	736.8	742.2	826.7	737.6	646.7	592.5	572.6	592.5	646.7
147.5°	762.0	775.0	755.9	771.9	861.9	778.0	683.4	629.9	612.3	629.9	683.4
150°	788.0	794.1	782.6	813.2	897.8	823.1	720.8	665.8	648.2	665.8	720.8
152.5°	808.6	816.2	803.2	858.3	926.0	864.4	762.0	700.9	680.3	700.9	762.0
155°	830.0	833.0	823.9	901.8	956.8	904.9	794.8	739.9	720.0	739.9	794.8
157.5°	849.9	856.0	845.3	934.7	982.8	940.0	832.3	778.8	761.2	778.8	832.3
160°	871.3	871.3	877.4	972.9	1004.2	970.6	872.1	821.6	797.1	821.6	872.1
162.5°	873.6	888.1	920.9	999.6	1024.8	997.3	914.8	852.2	830.7	852.2	914.8
165°	907.2	920.2	969.8	1023.3	1040.8	1021.0	967.5	902.6	877.4	902.6	967.5
167.5°	942.3	969.8	1009.5	1050.0	1056.1	1043.1	1008.0	962.9	940.0	962.9	1008.0
170°	998.6	1022.3	1043.1	1059.9	1068.3	1060.7	1033.2	1010.0	995.5	1010.0	1033.2
172.5°	1043.6	1059.9	1067.5	1078.2	1072.9	1069.8	1056.1	1045.4	1036.8	1045.4	1056.1
175°	1071.9	1075.9	1082.8	1079.0	1083.6	1075.2	1075.9	1081.3	1049.0	1081.3	1075.9
177.5°	1081.8	1088.2	1084.3	1077.5	1078.2	1076.7	1079.8	1082.8	1077.2	1082.8	1079.8
180°	1082.8	1082.8	1082.8	1082.8	1082.8	1082.8	1082.8	1082.8	1082.8	1082.8	1082.8



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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1421.4	1421.4	1421.4	1421.4	1421.4	1421.4
2.5°	1420.2	1429.0	1421.0	1413.2	1413.7	1415.2
5°	1416.2	1422.2	1416.2	1407.2	1408.7	1407.2
7.5°	1403.4	1397.2	1404.2	1395.4	1401.4	1397.9
10°	1388.7	1393.4	1389.4	1380.4	1384.4	1384.7
12.5°	1365.7	1365.9	1365.7	1359.7	1360.4	1366.2
15°	1342.9	1347.9	1343.7	1337.7	1342.4	1339.0
17.5°	1312.9	1318.9	1312.9	1308.7	1314.4	1315.0
20°	1286.2	1287.2	1286.9	1276.7	1279.2	1277.0
22.5°	1244.2	1252.2	1244.9	1244.7	1245.2	1243.2
25°	1214.2	1213.2	1214.9	1203.4	1202.2	1202.2
27.5°	1171.9	1165.2	1172.7	1165.4	1157.2	1159.2
30°	1130.9	1127.2	1132.4	1114.2	1106.2	1104.2
32.5°	1085.9	1080.9	1087.4	1063.2	1052.2	1044.2
35°	1033.2	1034.2	1035.4	1006.4	989.4	986.4
37.5°	976.2	983.9	978.4	947.4	926.4	931.4
40°	918.2	925.9	919.7	882.4	873.4	872.4
42.5°	854.2	869.9	855.7	817.6	809.3	819.3
45°	787.1	808.8	788.6	755.6	754.6	767.6
47.5°	718.1	735.8	718.8	692.6	700.6	716.6
50°	648.3	659.1	649.8	633.6	649.6	664.6
52.5°	580.3	572.1	581.8	579.8	599.6	616.6
55°	509.5	487.3	511.1	526.8	551.8	566.8
57.5°	442.5	412.3	444.1	475.8	507.8	518.8
60°	376.5	353.3	377.3	423.1	460.1	469.1
62.5°	315.5	297.5	316.3	369.1	412.1	419.1
65°	265.5	255.5	266.3	316.3	360.3	371.3
67.5°	221.5	219.5	221.5	267.3	309.3	322.3
70°	183.5	184.5	183.5	222.5	259.5	272.5
72.5°	150.8	155.8	151.5	182.5	212.5	234.5
75°	120.8	129.8	120.8	143.8	171.5	195.5
77.5°	96.8	102.8	96.8	111.8	143.6	173.6
80°	72.8	78.8	72.8	89.1	128.3	161.6
82.5°	51.8	54.8	51.8	83.2	127.1	157.9
85°	40.5	33.8	42.1	89.0	135.0	160.6
87.5°	33.8	9.0	44.5	100.2	150.2	170.1
90°	23.5	1.8	52.5	119.6	169.2	184.9
92.5°	14.5	13.2	67.2	138.9	193.3	206.5
95°	7.1	31.5	83.4	164.7	220.7	225.3
97.5°	10.2	55.2	107.9	190.3	247.0	251.9
100°	26.2	84.2	140.7	216.7	270.9	273.6
102.5°	48.3	115.5	172.0	242.0	297.0	309.2
105°	78.1	151.4	204.9	278.4	325.1	338.8
107.5°	112.5	189.6	238.5	312.0	355.0	365.6
110°	150.1	229.3	273.1	344.9	390.7	400.8





TEST NUMBER: P392645

CATALOG NUMBER: MWL-4-26-33-UNV-L840-EDD

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	189.8	270.5	308.2	375.4	429.6	437.5
115°	234.9	309.7	341.0	410.5	460.9	465.7
117.5°	275.4	355.5	374.6	436.5	494.8	495.5
120°	318.1	399.1	408.2	472.4	526.8	532.9
122.5°	361.6	440.3	440.3	503.9	555.1	558.9
125°	402.1	484.6	472.4	526.8	581.0	582.6
127.5°	443.4	529.6	507.5	556.6	606.2	603.9
130°	488.4	572.4	539.6	584.9	629.9	622.3
132.5°	530.6	618.2	573.4	613.9	653.6	658.2
135°	571.9	661.0	601.7	639.1	678.0	676.5
137.5°	611.6	700.7	636.0	658.9	694.0	698.6
140°	650.5	743.4	666.6	684.9	713.9	714.7
142.5°	691.8	786.2	700.2	710.8	736.0	731.5
145°	737.6	826.7	742.2	736.8	752.8	742.9
147.5°	778.0	861.9	771.9	755.9	775.0	762.0
150°	823.1	897.8	813.2	782.6	794.1	788.0
152.5°	864.4	926.0	858.3	803.2	816.2	808.6
155°	904.9	956.8	901.8	823.9	833.0	830.0
157.5°	940.0	982.8	934.7	845.3	856.0	849.9
160°	970.6	1004.2	972.9	877.4	871.3	871.3
162.5°	997.3	1024.8	999.6	920.9	888.1	873.6
165°	1021.0	1040.8	1023.3	969.8	920.2	907.2
167.5°	1043.1	1056.1	1050.0	1009.5	969.8	942.3
170°	1060.7	1068.3	1059.9	1043.1	1022.3	998.6
172.5°	1069.8	1072.9	1078.2	1067.5	1059.9	1043.6
175°	1075.2	1083.6	1079.0	1082.8	1075.9	1071.9
177.5°	1076.7	1078.2	1077.5	1084.3	1088.2	1081.8
180°	1082.8	1082.8	1082.8	1082.8	1082.8	1082.8

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