

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: P392643

Luminaire Tested: **MWL-4-26-33-UNV-L830-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392643
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-L830-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

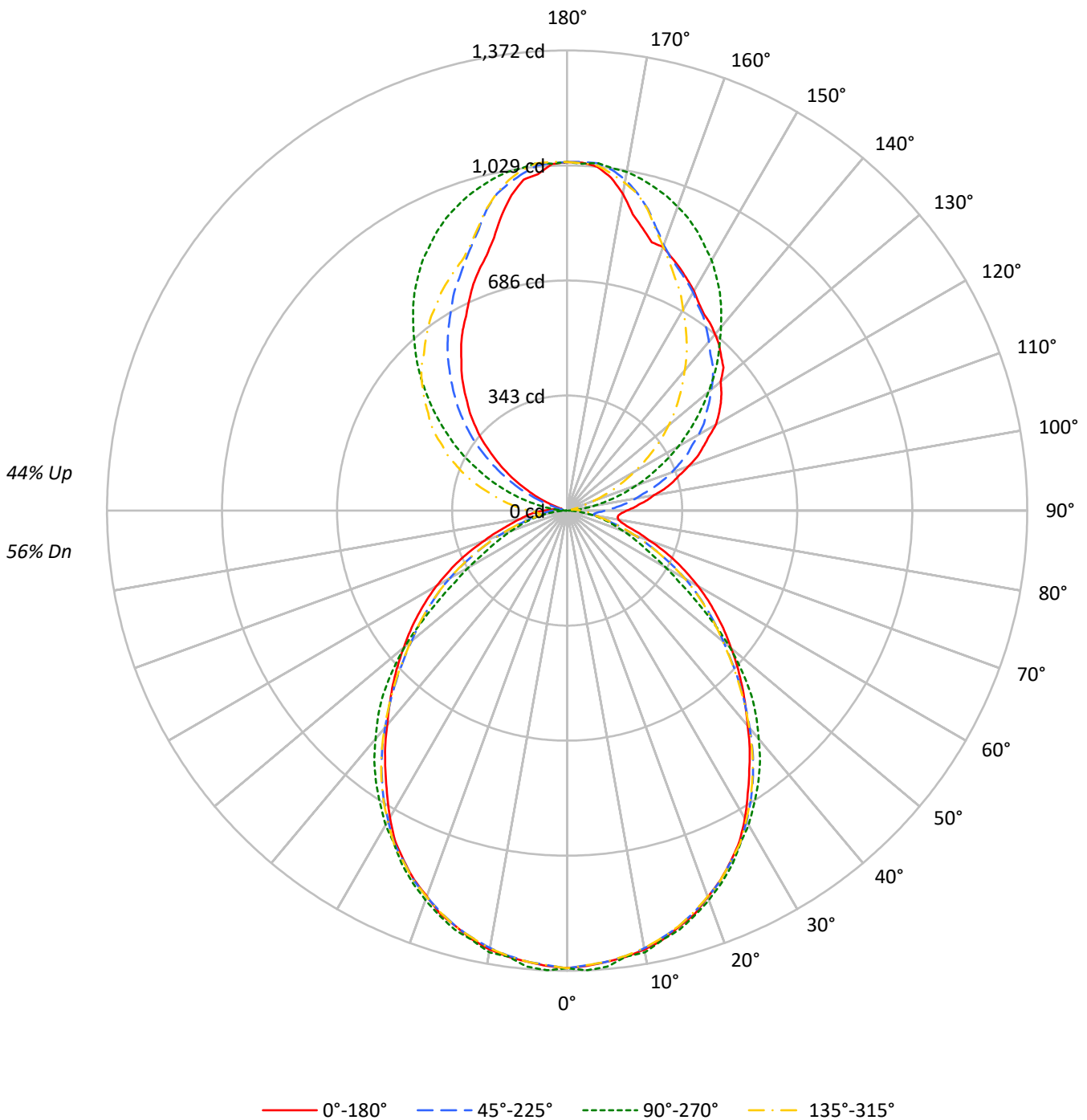
Lumens per Lamp: N/A
Luminaire Lumens: 5695.0 lumens
Efficiency: N/A
Efficacy: 99.9 lumens/watt
Spacing Criteria (0/90/45): 1.16 / 1.18 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: General Diffuse

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



TEST NUMBER: P392643
CATALOG NUMBER: MWL-4-26-33-UNV-L830-EDD

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°	8812	8812	8812	8812
5°	8678	8138	8678	8138
10°	8559	7457	8559	7457
15°	8360	6822	8346	6822
20°	8117	6225	8102	6225
25°	7842	5659	7827	5659
30°	7456	5116	7435	5116
35°	6957	4603	6942	4603
40°	6492	4074	6470	4074
45°	6096	3546	6076	3546
50°	5702	2900	5683	2900
55°	5333	2169	5319	2169
60°	4927	1603	4919	1603
65°	4452	1192	4452	1192
70°	3841	892	3852	892
75°	3373	657	3412	657
80°	3626	421	3301	421
85°	5216	193	3606	193



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L830-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.5	2.3
10°-20°	362.5	6.4
20°-30°	532.5	9.4
30°-40°	604.9	10.6
40°-50°	570.0	10.0
50°-60°	454.8	8.0
60°-70°	300.1	5.3
70°-80°	156.8	2.8
80°-90°	85.7	1.5
90°-100°	96.2	1.7
100°-110°	164.0	2.9
110°-120°	276.8	4.9
120°-130°	375.8	6.6
130°-140°	428.4	7.5
140°-150°	427.1	7.5
150°-160°	371.9	6.5
160°-170°	261.5	4.6
170°-180°	97.4	1.7
0°-30°	1023.5	18.0
0°-40°	1628.5	28.6
0°-60°	2653.2	46.6
0°-90°	3195.8	56.1
90°-120°	537.0	9.4
90°-150°	1768.3	31.1
90°-180°	2499.0	43.9
0°-180°	5695.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1364	1364	1364	1364	1364	
5°	1351	1365	1351	1365	1351	128
15°	1285	1294	1283	1294	1285	363
25°	1154	1164	1152	1164	1154	530
35°	947	993	945	993	947	593
45°	737	776	735	776	737	569
55°	544	468	543	468	544	487
65°	356	245	356	245	356	352
75°	188	125	190	125	188	208
85°	154	32	107	32	154	127
90°	178	2	68	2	178	98
95°	216	30	42	30	216	187
105°	325	145	17	145	325	342
115°	447	297	104	297	447	444
125°	559	465	255	465	559	499
135°	649	634	409	634	649	501
145°	713	794	550	794	713	450
155°	797	918	691	918	797	367
165°	871	999	842	999	871	247
175°	1029	1040	1007	1040	1029	96
180°	1039	1039	1039	1039	1039	



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L830-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	1364.4	1364.4	1364.4	1364.4	1364.4	1364.4	1364.4	1364.4	1364.4	1364.4	1364.4
2.5°	1358.4	1357.0	1356.5	1364.0	1371.7	1363.2	1356.5	1357.0	1359.1	1357.0	1356.5
5°	1350.7	1352.2	1350.7	1359.4	1365.1	1359.4	1350.0	1352.2	1350.7	1352.2	1350.0
7.5°	1341.8	1345.2	1339.4	1347.9	1341.1	1347.1	1338.7	1344.5	1341.8	1344.5	1338.7
10°	1329.1	1328.8	1325.0	1333.6	1337.5	1333.0	1324.3	1327.4	1329.1	1327.4	1324.3
12.5°	1311.4	1305.8	1305.1	1310.9	1311.1	1310.9	1305.1	1304.4	1309.9	1304.4	1305.1
15°	1285.3	1288.5	1284.0	1289.8	1293.8	1289.0	1283.3	1287.1	1283.1	1287.1	1283.3
17.5°	1262.2	1261.7	1256.2	1260.2	1266.0	1260.2	1255.4	1261.0	1260.0	1261.0	1255.4
20°	1225.8	1227.9	1225.5	1235.3	1235.5	1234.6	1224.7	1226.4	1223.5	1226.4	1224.7
22.5°	1193.3	1195.2	1194.7	1194.9	1201.9	1194.3	1194.0	1193.8	1191.9	1193.8	1194.0
25°	1153.9	1153.9	1155.1	1166.1	1164.5	1165.5	1153.7	1151.7	1151.7	1151.7	1153.7
27.5°	1112.7	1110.7	1118.6	1125.6	1118.4	1124.9	1117.2	1108.5	1110.5	1108.5	1117.2
30°	1059.9	1061.8	1069.5	1086.9	1082.0	1085.5	1067.3	1059.6	1057.0	1059.6	1067.3
32.5°	1002.3	1010.0	1020.5	1043.7	1037.5	1042.3	1018.3	1007.1	999.4	1007.1	1018.3
35°	946.8	949.7	966.0	993.8	992.7	991.7	963.9	947.6	944.7	947.6	963.9
37.5°	894.0	889.2	909.4	939.1	944.4	937.0	907.2	887.1	891.9	887.1	907.2
40°	837.4	838.3	847.0	882.8	888.7	881.3	844.1	835.4	834.5	835.4	844.1
42.5°	786.5	776.9	784.8	821.3	835.0	819.9	782.6	774.0	783.6	774.0	782.6
45°	736.9	724.4	725.3	757.0	776.4	755.6	722.4	722.2	734.6	722.2	722.4
47.5°	687.9	672.5	664.9	690.0	706.3	689.3	661.9	670.3	685.7	670.3	661.9
50°	638.0	623.6	608.2	623.8	632.7	622.3	605.2	620.6	635.8	620.6	605.2
52.5°	591.9	575.6	556.6	558.5	549.2	557.1	554.4	572.6	589.7	572.6	554.4
55°	544.1	529.7	505.7	490.6	467.8	489.1	503.5	527.5	542.7	527.5	503.5
57.5°	498.0	487.5	456.7	426.3	395.8	424.8	454.5	485.3	496.6	485.3	454.5
60°	450.3	441.7	406.2	362.2	339.1	361.4	404.6	440.1	449.5	440.1	404.6
62.5°	402.3	395.6	354.3	303.6	285.6	302.9	352.8	394.1	401.5	394.1	352.8
65°	356.4	345.9	303.6	255.6	245.3	254.9	302.9	345.1	356.4	345.1	302.9
67.5°	309.4	296.9	256.6	212.6	210.7	212.6	255.8	296.1	309.4	296.1	255.8
70°	261.6	249.1	213.6	176.1	177.1	176.1	213.6	249.9	262.4	249.9	213.6
72.5°	225.1	204.0	175.2	145.4	149.6	144.8	175.2	204.8	226.6	204.8	175.2
75°	187.7	164.6	138.0	116.0	124.6	116.0	138.7	165.4	189.9	165.4	138.7
77.5°	166.6	137.8	107.3	92.9	98.7	92.9	108.0	135.6	163.8	135.6	108.0
80°	155.1	123.2	85.5	69.9	75.6	69.9	84.0	111.4	141.2	111.4	84.0
82.5°	151.6	122.0	79.9	49.7	52.6	49.7	71.1	95.6	123.7	95.6	71.1
85°	154.2	129.6	85.4	40.4	32.4	38.9	64.2	84.9	106.6	84.9	64.2
87.5°	163.3	144.2	96.2	42.7	8.6	32.4	54.3	73.8	87.8	73.8	54.3
90°	177.5	162.4	114.8	50.4	1.7	22.6	42.3	59.1	67.5	59.1	42.3
92.5°	198.2	185.6	133.3	64.5	12.7	13.9	32.9	50.0	54.5	50.0	32.9
95°	216.3	211.9	158.1	80.1	30.2	6.8	26.2	41.8	42.5	41.8	26.2
97.5°	241.8	237.1	182.7	103.6	53.0	9.8	20.7	35.6	36.6	35.6	20.7
100°	262.6	260.0	208.0	135.1	80.8	25.2	13.7	29.9	31.8	29.9	13.7
102.5°	296.8	285.1	232.3	165.1	110.9	46.4	13.9	21.2	24.1	21.2	13.9
105°	325.2	312.1	267.2	196.7	145.3	75.0	30.5	17.5	16.6	17.5	30.5
107.5°	351.0	340.8	299.5	228.9	182.0	108.0	55.4	30.0	22.7	30.0	55.4
110°	384.7	375.0	331.1	262.2	220.1	144.1	84.0	52.5	41.8	52.5	84.0



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	420.0	412.4	360.4	295.9	259.7	182.2	119.2	81.8	71.8	81.8	119.2
115°	447.0	442.4	394.1	327.3	297.3	225.5	158.0	116.2	104.1	116.2	158.0
117.5°	475.7	475.0	419.0	359.6	341.3	264.4	194.0	151.7	137.8	151.7	194.0
120°	511.6	505.7	453.5	391.8	383.1	305.4	233.6	191.2	177.3	191.2	233.6
122.5°	536.5	532.9	483.7	422.7	422.7	347.1	272.6	229.3	214.7	229.3	272.6
125°	559.3	557.7	505.7	453.5	465.2	386.0	315.1	271.2	255.1	271.2	315.1
127.5°	579.7	581.9	534.3	487.2	508.4	425.6	356.9	308.5	291.7	308.5	356.9
130°	597.4	604.7	561.5	518.0	549.5	468.8	394.3	346.0	334.9	346.0	394.3
132.5°	631.8	627.4	589.3	550.4	593.4	509.3	433.9	383.3	370.8	383.3	433.9
135°	649.4	650.8	613.5	577.6	634.5	549.0	471.2	421.4	408.9	421.4	471.2
137.5°	670.6	666.2	632.5	610.5	672.6	587.1	507.9	461.7	442.0	461.7	507.9
140°	686.1	685.3	657.5	639.9	713.6	624.4	545.3	498.4	480.1	498.4	545.3
142.5°	702.2	706.5	682.3	672.2	754.7	664.1	585.7	534.3	516.7	534.3	585.7
145°	713.1	722.6	707.3	712.5	793.6	708.1	620.8	568.8	549.7	568.8	620.8
147.5°	731.5	744.0	725.6	741.0	827.3	746.8	656.0	604.7	587.8	604.7	656.0
150°	756.4	762.3	751.3	780.6	861.7	790.1	691.9	639.1	622.2	639.1	691.9
152.5°	776.2	783.5	771.0	823.8	888.8	829.7	731.5	672.8	653.0	672.8	731.5
155°	796.8	799.6	790.9	865.6	918.4	868.6	763.0	710.3	691.2	710.3	763.0
157.5°	815.8	821.6	811.3	897.2	943.3	902.3	799.0	747.6	730.7	747.6	799.0
160°	836.3	836.3	842.2	933.8	963.9	931.6	837.1	788.7	765.2	788.7	837.1
162.5°	838.5	852.4	883.9	959.5	983.7	957.3	878.1	818.0	797.4	818.0	878.1
165°	870.8	883.2	930.9	982.2	999.0	980.0	928.6	866.3	842.2	866.3	928.6
167.5°	904.5	930.9	969.0	1007.8	1013.7	1001.2	967.5	924.2	902.3	924.2	967.5
170°	958.5	981.3	1001.2	1017.3	1025.4	1018.1	991.7	969.4	955.5	969.4	991.7
172.5°	1001.7	1017.3	1024.6	1034.9	1029.8	1026.9	1013.7	1003.4	995.2	1003.4	1013.7
175°	1028.9	1032.7	1039.3	1035.7	1040.1	1032.0	1032.7	1037.9	1006.9	1037.9	1032.7
177.5°	1038.4	1044.5	1040.8	1034.2	1034.9	1033.5	1036.5	1039.3	1034.0	1039.3	1036.5
180°	1039.3	1039.3	1039.3	1039.3	1039.3	1039.3	1039.3	1039.3	1039.3	1039.3	1039.3



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	1364.4	1364.4	1364.4	1364.4	1364.4	1364.4
2.5°	1363.2	1371.7	1364.0	1356.5	1357.0	1358.4
5°	1359.4	1365.1	1359.4	1350.7	1352.2	1350.7
7.5°	1347.1	1341.1	1347.9	1339.4	1345.2	1341.8
10°	1333.0	1337.5	1333.6	1325.0	1328.8	1329.1
12.5°	1310.9	1311.1	1310.9	1305.1	1305.8	1311.4
15°	1289.0	1293.8	1289.8	1284.0	1288.5	1285.3
17.5°	1260.2	1266.0	1260.2	1256.2	1261.7	1262.2
20°	1234.6	1235.5	1235.3	1225.5	1227.9	1225.8
22.5°	1194.3	1201.9	1194.9	1194.7	1195.2	1193.3
25°	1165.5	1164.5	1166.1	1155.1	1153.9	1153.9
27.5°	1124.9	1118.4	1125.6	1118.6	1110.7	1112.7
30°	1085.5	1082.0	1086.9	1069.5	1061.8	1059.9
32.5°	1042.3	1037.5	1043.7	1020.5	1010.0	1002.3
35°	991.7	992.7	993.8	966.0	949.7	946.8
37.5°	937.0	944.4	939.1	909.4	889.2	894.0
40°	881.3	888.7	882.8	847.0	838.3	837.4
42.5°	819.9	835.0	821.3	784.8	776.9	786.5
45°	755.6	776.4	757.0	725.3	724.4	736.9
47.5°	689.3	706.3	690.0	664.9	672.5	687.9
50°	622.3	632.7	623.8	608.2	623.6	638.0
52.5°	557.1	549.2	558.5	556.6	575.6	591.9
55°	489.1	467.8	490.6	505.7	529.7	544.1
57.5°	424.8	395.8	426.3	456.7	487.5	498.0
60°	361.4	339.1	362.2	406.2	441.7	450.3
62.5°	302.9	285.6	303.6	354.3	395.6	402.3
65°	254.9	245.3	255.6	303.6	345.9	356.4
67.5°	212.6	210.7	212.6	256.6	296.9	309.4
70°	176.1	177.1	176.1	213.6	249.1	261.6
72.5°	144.8	149.6	145.4	175.2	204.0	225.1
75°	116.0	124.6	116.0	138.0	164.6	187.7
77.5°	92.9	98.7	92.9	107.3	137.8	166.6
80°	69.9	75.6	69.9	85.5	123.2	155.1
82.5°	49.7	52.6	49.7	79.9	122.0	151.6
85°	38.9	32.4	40.4	85.4	129.6	154.2
87.5°	32.4	8.6	42.7	96.2	144.2	163.3
90°	22.6	1.7	50.4	114.8	162.4	177.5
92.5°	13.9	12.7	64.5	133.3	185.6	198.2
95°	6.8	30.2	80.1	158.1	211.9	216.3
97.5°	9.8	53.0	103.6	182.7	237.1	241.8
100°	25.2	80.8	135.1	208.0	260.0	262.6
102.5°	46.4	110.9	165.1	232.3	285.1	296.8
105°	75.0	145.3	196.7	267.2	312.1	325.2
107.5°	108.0	182.0	228.9	299.5	340.8	351.0
110°	144.1	220.1	262.2	331.1	375.0	384.7



TEST NUMBER: P392643

CATALOG NUMBER: MWL-4-26-33-UNV-L830-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	182.2	259.7	295.9	360.4	412.4	420.0
115°	225.5	297.3	327.3	394.1	442.4	447.0
117.5°	264.4	341.3	359.6	419.0	475.0	475.7
120°	305.4	383.1	391.8	453.5	505.7	511.6
122.5°	347.1	422.7	422.7	483.7	532.9	536.5
125°	386.0	465.2	453.5	505.7	557.7	559.3
127.5°	425.6	508.4	487.2	534.3	581.9	579.7
130°	468.8	549.5	518.0	561.5	604.7	597.4
132.5°	509.3	593.4	550.4	589.3	627.4	631.8
135°	549.0	634.5	577.6	613.5	650.8	649.4
137.5°	587.1	672.6	610.5	632.5	666.2	670.6
140°	624.4	713.6	639.9	657.5	685.3	686.1
142.5°	664.1	754.7	672.2	682.3	706.5	702.2
145°	708.1	793.6	712.5	707.3	722.6	713.1
147.5°	746.8	827.3	741.0	725.6	744.0	731.5
150°	790.1	861.7	780.6	751.3	762.3	756.4
152.5°	829.7	888.8	823.8	771.0	783.5	776.2
155°	868.6	918.4	865.6	790.9	799.6	796.8
157.5°	902.3	943.3	897.2	811.3	821.6	815.8
160°	931.6	963.9	933.8	842.2	836.3	836.3
162.5°	957.3	983.7	959.5	883.9	852.4	838.5
165°	980.0	999.0	982.2	930.9	883.2	870.8
167.5°	1001.2	1013.7	1007.8	969.0	930.9	904.5
170°	1018.1	1025.4	1017.3	1001.2	981.3	958.5
172.5°	1026.9	1029.8	1034.9	1024.6	1017.3	1001.7
175°	1032.0	1040.1	1035.7	1039.3	1032.7	1028.9
177.5°	1033.5	1034.9	1034.2	1040.8	1044.5	1038.4
180°	1039.3	1039.3	1039.3	1039.3	1039.3	1039.3

(END OF REPORT)