

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: P392650

Luminaire Tested: **MWL-4-26-60-UNV-L835-EDD**

Issue Date: 12/2/2019

Test Information

Test Method: LM-79-08
Report Number: P392650
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-4-26-60-UNV-L835-EDD
Description: MWL 4FT MEDICAL LED FIXTURE
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

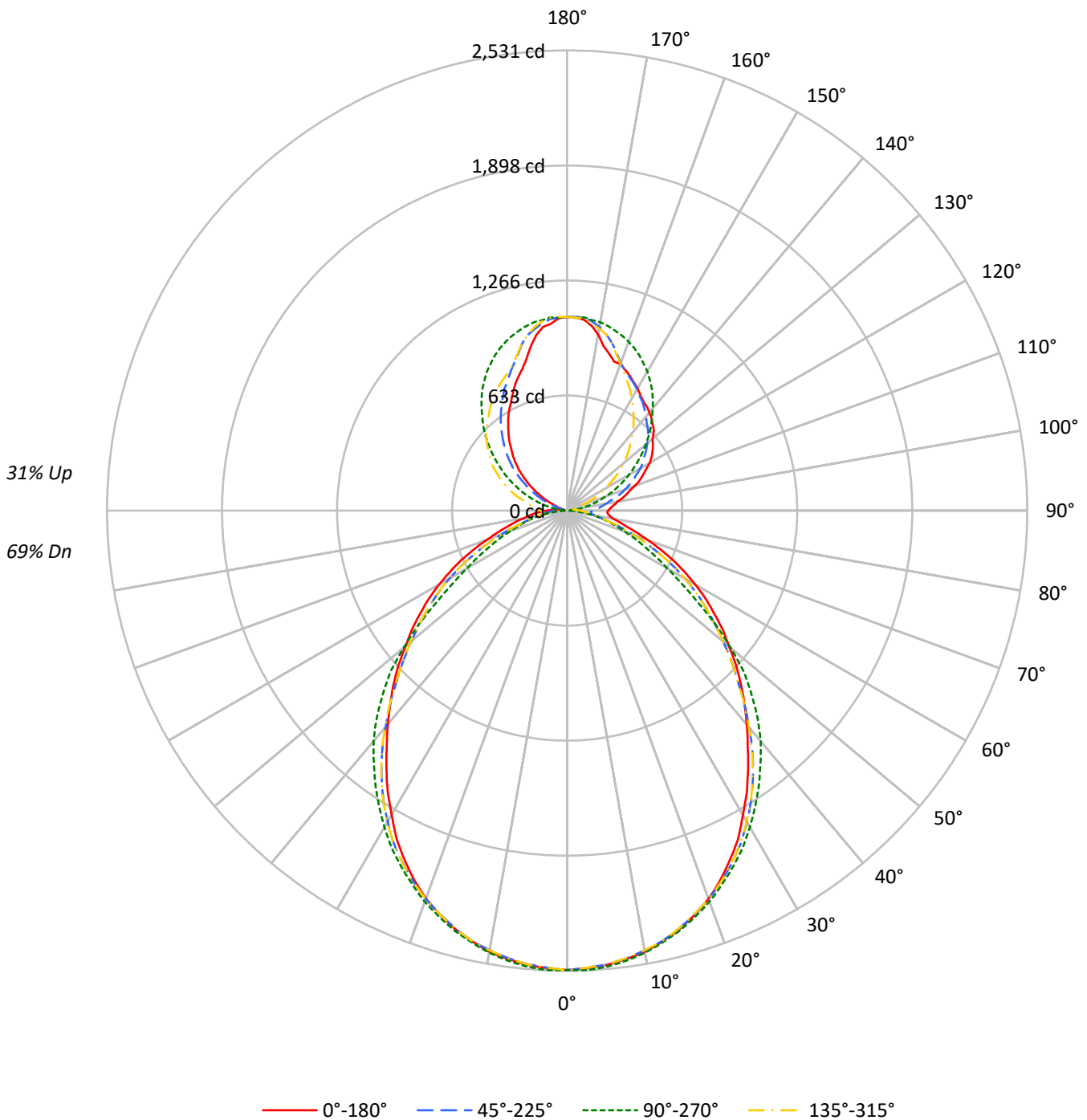
Lumens per Lamp: N/A
Luminaire Lumens: 8452.0 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Spacing Criteria (0/90/45): 1.15 / 1.19 / 1.25
Luminous Opening: Rectangular w/ Sides (W: 0.42' x L: 4' x H: 0.42')
CIE Type: Semi-Direct

Input Watts (W): 87.9
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	50	30	10	0	
RCR																						
0	112	112	112	112	106	106	106	106	94	94	94	84	84	84	74	74	74	69				
1	102	98	94	91	97	93	89	86	83	80	78	74	72	70	66	64	63	59				
2	94	86	80	75	88	82	76	72	73	69	65	66	62	59	59	56	54	50				
3	86	76	69	63	81	72	66	60	65	60	56	59	54	51	52	49	46	43				
4	79	68	60	54	74	65	57	52	58	52	48	52	48	44	47	43	40	37				
5	73	61	53	47	68	58	50	45	52	46	42	47	42	39	43	39	35	33				
6	67	55	47	41	63	52	45	39	48	41	37	43	38	34	39	35	31	29				
7	62	50	42	36	59	48	40	35	43	37	33	39	34	30	36	31	28	26				
8	58	45	38	32	55	43	36	31	40	34	29	36	31	27	33	29	25	23				
9	54	42	34	29	51	40	33	28	37	31	26	33	28	25	30	26	23	21				
10	51	38	31	26	48	37	30	25	34	28	24	31	26	22	28	24	21	19				

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	16321	16321	16321	16321
5°	16114	15011	16114	15011
10°	15864	13765	15864	13765
15°	15508	12613	15493	12613
20°	15052	11534	15037	11534
25°	14407	10499	14392	10499
30°	13600	9502	13579	9502
35°	12748	8527	12733	8527
40°	11920	7595	11896	7595
45°	11183	6561	11164	6561
50°	10380	5380	10359	5380
55°	9669	4053	9656	4053
60°	8895	3008	8886	3008
65°	7996	2281	7996	2281
70°	6875	1686	6887	1686
75°	6030	1227	6071	1227
80°	6011	793	5677	793
85°	7635	356	5984	356



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	238.2	2.8
10°-20°	671.9	7.9
20°-30°	985.2	11.7
30°-40°	1115.2	13.2
40°-50°	1050.5	12.4
50°-60°	839.9	9.9
60°-70°	551.5	6.5
70°-80°	281.6	3.3
80°-90°	137.4	1.6
90°-100°	114.5	1.4
100°-110°	169.8	2.0
110°-120°	284.2	3.4
120°-130°	385.6	4.6
130°-140°	439.4	5.2
140°-150°	438.1	5.2
150°-160°	381.2	4.5
160°-170°	268.1	3.2
170°-180°	99.8	1.2
0°-30°	1895.3	22.4
0°-40°	3010.5	35.6
0°-60°	4900.9	58.0
0°-90°	5871.4	69.5
90°-120°	568.5	6.7
90°-150°	1831.5	21.7
90°-180°	2581.0	30.5
0°-180°	8452.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2527	2527	2527	2527	2527	
5°	2508	2518	2508	2518	2508	238
15°	2384	2392	2382	2392	2384	671
25°	2120	2160	2118	2160	2120	974
35°	1735	1839	1733	1839	1735	1085
45°	1352	1437	1350	1437	1352	1042
55°	986	874	985	874	986	885
65°	640	469	640	469	640	633
75°	336	233	338	233	336	367
85°	226	60	177	60	226	191
90°	225	2	112	2	225	124
95°	247	31	69	31	247	209
105°	334	150	18	150	334	354
115°	459	304	108	304	459	455
125°	574	477	262	477	574	512
135°	666	651	420	651	666	514
145°	732	814	565	814	732	461
155°	817	941	709	941	817	377
165°	892	1024	863	1024	892	253
175°	1053	1067	1031	1067	1053	98
180°	1065	1065	1065	1065	1065	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	2527.1	2527.1	2527.1	2527.1	2527.1	2527.1	2527.1	2527.1	2527.1	2527.1	2527.1
2.5°	2518.0	2524.4	2516.1	2529.6	2530.6	2528.8	2516.1	2524.4	2518.7	2524.4	2516.1
5°	2508.2	2513.6	2505.2	2517.0	2518.0	2517.0	2504.5	2513.6	2508.2	2513.6	2504.5
7.5°	2488.2	2493.6	2483.8	2498.4	2497.4	2497.6	2483.1	2493.0	2488.2	2493.0	2483.1
10°	2463.5	2462.2	2456.3	2469.1	2469.1	2468.4	2455.6	2460.7	2463.5	2460.7	2455.6
12.5°	2426.6	2427.8	2424.2	2434.0	2432.2	2434.0	2424.2	2426.3	2425.1	2426.3	2424.2
15°	2384.2	2381.6	2379.0	2392.7	2391.9	2391.9	2378.2	2380.1	2381.9	2380.1	2378.2
17.5°	2332.1	2332.5	2328.8	2341.8	2342.8	2341.8	2328.0	2331.8	2329.8	2331.8	2328.0
20°	2273.1	2273.3	2273.8	2287.8	2289.0	2287.1	2273.0	2271.8	2270.8	2271.8	2273.0
22.5°	2200.6	2208.4	2210.9	2227.8	2226.1	2227.1	2210.1	2207.0	2199.1	2207.0	2210.1
25°	2120.0	2126.9	2140.8	2161.0	2160.3	2160.3	2139.4	2124.6	2117.7	2124.6	2139.4
27.5°	2035.5	2045.3	2066.1	2091.0	2090.5	2090.2	2064.7	2043.0	2033.2	2043.0	2064.7
30°	1933.3	1946.0	1977.5	2010.1	2009.9	2008.6	1975.2	1943.8	1930.3	1943.8	1975.2
32.5°	1838.9	1848.7	1885.1	1927.6	1927.1	1926.1	1882.8	1845.8	1836.0	1845.8	1882.8
35°	1734.9	1744.8	1782.1	1835.2	1838.9	1833.0	1779.9	1742.6	1732.8	1742.6	1779.9
37.5°	1631.7	1637.6	1675.0	1737.9	1747.2	1735.7	1672.8	1635.5	1629.6	1635.5	1672.8
40°	1537.4	1531.5	1557.0	1630.1	1656.8	1628.6	1554.1	1528.5	1534.4	1528.5	1554.1
42.5°	1443.0	1431.2	1443.3	1517.0	1550.7	1515.6	1441.1	1428.3	1440.1	1428.3	1441.1
45°	1351.9	1326.4	1327.4	1397.1	1436.7	1395.7	1324.3	1324.1	1349.7	1324.1	1324.3
47.5°	1259.6	1235.0	1225.2	1277.4	1320.7	1276.8	1222.1	1232.7	1257.3	1232.7	1222.1
50°	1161.3	1145.5	1120.0	1155.6	1173.6	1154.1	1116.9	1142.5	1159.0	1142.5	1116.9
52.5°	1079.7	1060.0	1022.9	1036.7	1028.1	1035.2	1020.6	1057.0	1077.4	1057.0	1020.6
55°	986.5	975.7	933.5	913.1	874.0	911.5	931.2	973.5	985.1	973.5	931.2
57.5°	904.0	895.1	841.1	795.2	744.3	793.6	838.8	892.9	902.5	892.9	838.8
60°	812.9	812.9	748.0	674.5	636.2	673.7	746.4	811.3	812.1	811.3	746.4
62.5°	725.4	722.5	653.7	566.4	549.9	565.6	652.1	720.9	724.6	720.9	652.1
65°	640.1	626.3	559.5	474.0	469.3	473.2	558.7	625.6	640.1	625.6	558.7
67.5°	551.6	534.9	469.1	393.6	402.5	393.6	468.3	534.1	551.6	534.1	468.3
70°	468.3	444.7	390.7	324.8	334.6	324.8	390.7	445.5	469.1	445.5	390.7
72.5°	399.5	361.2	314.0	265.8	280.9	265.2	314.0	362.0	401.1	362.0	314.0
75°	335.6	292.4	243.5	213.1	232.7	213.1	244.2	293.2	337.9	293.2	244.2
77.5°	294.4	242.4	190.5	164.9	186.5	164.9	191.2	240.1	291.5	240.1	191.2
80°	257.1	209.6	153.4	122.7	142.3	122.7	151.8	197.6	242.8	197.6	151.8
82.5°	237.7	193.7	133.9	88.3	98.1	88.3	124.9	166.7	209.2	166.7	124.9
85°	225.7	189.7	130.7	69.9	59.8	68.3	109.0	143.9	176.9	143.9	109.0
87.5°	221.2	195.8	132.9	67.3	19.7	56.8	90.0	123.7	144.0	123.7	90.0
90°	225.0	205.6	145.1	67.3	1.8	38.8	70.9	99.9	112.3	99.9	70.9
92.5°	235.4	221.4	160.1	73.9	13.0	22.1	57.3	82.7	88.3	82.7	57.3
95°	247.0	242.5	177.6	84.9	31.0	9.9	42.6	68.3	69.1	68.3	42.6
97.5°	264.3	260.4	195.9	107.0	54.3	11.0	30.1	54.2	54.2	54.2	30.1
100°	279.7	277.1	215.9	139.3	83.7	26.7	17.0	41.4	43.3	41.4	17.0
102.5°	308.8	296.8	238.8	170.0	114.5	48.5	15.2	26.6	29.6	26.6	15.2
105°	334.0	319.5	274.6	202.4	149.8	77.7	32.2	17.9	18.0	17.9	32.2
107.5°	359.3	349.9	307.6	235.4	187.3	111.5	57.7	31.7	23.2	31.7	57.7
110°	394.9	385.9	339.9	268.4	226.3	147.5	87.0	55.7	43.7	55.7	87.0



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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°	431.0	424.2	369.9	302.9	266.8	186.5	123.0	85.7	74.5	85.7	123.0
115°	458.7	454.0	404.4	335.1	304.4	230.9	162.8	120.0	107.5	120.0	162.8
117.5°	488.0	486.3	430.0	369.1	350.4	271.6	199.6	155.3	142.0	155.3	199.6
120°	524.7	518.7	465.3	402.2	393.2	313.6	240.1	196.8	182.5	196.8	240.1
122.5°	550.3	546.5	495.2	433.7	433.7	356.4	279.1	235.8	220.8	235.8	279.1
125°	573.6	572.0	518.7	465.3	477.2	396.2	323.6	278.6	262.1	278.6	323.6
127.5°	594.5	596.8	548.0	499.8	521.5	436.8	366.4	316.9	299.7	316.9	366.4
130°	612.6	620.0	575.8	531.3	563.5	481.0	404.7	355.2	343.9	355.2	404.7
132.5°	647.9	643.3	604.3	564.5	608.5	522.5	445.2	393.4	380.6	393.4	445.2
135°	665.8	667.3	629.1	592.3	650.6	563.0	483.4	432.4	419.7	432.4	483.4
137.5°	687.6	683.0	648.5	626.0	689.6	602.1	521.0	473.7	453.5	473.7	521.0
140°	703.4	702.6	674.1	656.1	731.6	640.3	559.3	511.3	492.5	511.3	559.3
142.5°	719.9	725.3	699.6	689.1	773.7	680.9	600.6	549.0	530.0	549.0	600.6
145°	732.1	741.8	725.1	730.4	813.5	725.9	636.6	584.3	564.7	584.3	636.6
147.5°	750.9	763.6	743.9	759.6	848.0	765.6	672.6	621.0	603.7	621.0	672.6
150°	775.4	781.4	770.1	800.2	883.2	809.9	709.4	655.3	638.0	655.3	709.4
152.5°	795.7	803.1	790.4	844.4	911.0	850.4	749.9	689.8	669.6	689.8	749.9
155°	816.7	819.7	810.7	887.2	941.2	890.2	782.1	728.2	708.6	728.2	782.1
157.5°	836.2	842.2	831.6	919.5	966.8	924.7	819.0	766.4	749.1	766.4	819.0
160°	857.2	857.2	863.2	957.0	987.8	954.8	858.0	808.4	784.4	808.4	858.0
162.5°	859.5	873.7	905.9	983.3	1008.1	981.0	899.9	838.4	817.4	838.4	899.9
165°	892.5	905.3	954.0	1006.6	1023.8	1004.3	951.7	888.0	863.2	888.0	951.7
167.5°	927.0	954.0	993.0	1033.8	1039.8	1027.0	991.5	947.2	924.7	947.2	991.5
170°	982.3	1006.6	1026.0	1042.6	1051.8	1043.3	1016.3	994.5	979.3	994.5	1016.3
172.5°	1025.5	1042.6	1050.0	1061.5	1056.3	1053.3	1038.8	1028.3	1018.9	1028.3	1038.8
175°	1053.4	1058.3	1065.1	1062.3	1066.8	1058.6	1058.3	1063.6	1030.9	1063.6	1058.3
177.5°	1063.1	1070.4	1066.5	1060.8	1061.5	1060.0	1062.1	1065.1	1058.6	1065.1	1062.1
180°	1065.1	1065.1	1065.1	1065.1	1065.1	1065.1	1065.1	1065.1	1065.1	1065.1	1065.1



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	2527.1	2527.1	2527.1	2527.1	2527.1	2527.1
2.5°	2528.8	2530.6	2529.6	2516.1	2524.4	2518.0
5°	2517.0	2518.0	2517.0	2505.2	2513.6	2508.2
7.5°	2497.6	2497.4	2498.4	2483.8	2493.6	2488.2
10°	2468.4	2469.1	2469.1	2456.3	2462.2	2463.5
12.5°	2434.0	2432.2	2434.0	2424.2	2427.8	2426.6
15°	2391.9	2391.9	2392.7	2379.0	2381.6	2384.2
17.5°	2341.8	2342.8	2341.8	2328.8	2332.5	2332.1
20°	2287.1	2289.0	2287.8	2273.8	2273.3	2273.1
22.5°	2227.1	2226.1	2227.8	2210.9	2208.4	2200.6
25°	2160.3	2160.3	2161.0	2140.8	2126.9	2120.0
27.5°	2090.2	2090.5	2091.0	2066.1	2045.3	2035.5
30°	2008.6	2009.9	2010.1	1977.5	1946.0	1933.3
32.5°	1926.1	1927.1	1927.6	1885.1	1848.7	1838.9
35°	1833.0	1838.9	1835.2	1782.1	1744.8	1734.9
37.5°	1735.7	1747.2	1737.9	1675.0	1637.6	1631.7
40°	1628.6	1656.8	1630.1	1557.0	1531.5	1537.4
42.5°	1515.6	1550.7	1517.0	1443.3	1431.2	1443.0
45°	1395.7	1436.7	1397.1	1327.4	1326.4	1351.9
47.5°	1276.8	1320.7	1277.4	1225.2	1235.0	1259.6
50°	1154.1	1173.6	1155.6	1120.0	1145.5	1161.3
52.5°	1035.2	1028.1	1036.7	1022.9	1060.0	1079.7
55°	911.5	874.0	913.1	933.5	975.7	986.5
57.5°	793.6	744.3	795.2	841.1	895.1	904.0
60°	673.7	636.2	674.5	748.0	812.9	812.9
62.5°	565.6	549.9	566.4	653.7	722.5	725.4
65°	473.2	469.3	474.0	559.5	626.3	640.1
67.5°	393.6	402.5	393.6	469.1	534.9	551.6
70°	324.8	334.6	324.8	390.7	444.7	468.3
72.5°	265.2	280.9	265.8	314.0	361.2	399.5
75°	213.1	232.7	213.1	243.5	292.4	335.6
77.5°	164.9	186.5	164.9	190.5	242.4	294.4
80°	122.7	142.3	122.7	153.4	209.6	257.1
82.5°	88.3	98.1	88.3	133.9	193.7	237.7
85°	68.3	59.8	69.9	130.7	189.7	225.7
87.5°	56.8	19.7	67.3	132.9	195.8	221.2
90°	38.8	1.8	67.3	145.1	205.6	225.0
92.5°	22.1	13.0	73.9	160.1	221.4	235.4
95°	9.9	31.0	84.9	177.6	242.5	247.0
97.5°	11.0	54.3	107.0	195.9	260.4	264.3
100°	26.7	83.7	139.3	215.9	277.1	279.7
102.5°	48.5	114.5	170.0	238.8	296.8	308.8
105°	77.7	149.8	202.4	274.6	319.5	334.0
107.5°	111.5	187.3	235.4	307.6	349.9	359.3
110°	147.5	226.3	268.4	339.9	385.9	394.9



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CATALOG NUMBER: MWL-4-26-60-UNV-L835-EDD

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	186.5	266.8	302.9	369.9	424.2	431.0
115°	230.9	304.4	335.1	404.4	454.0	458.7
117.5°	271.6	350.4	369.1	430.0	486.3	488.0
120°	313.6	393.2	402.2	465.3	518.7	524.7
122.5°	356.4	433.7	433.7	495.2	546.5	550.3
125°	396.2	477.2	465.3	518.7	572.0	573.6
127.5°	436.8	521.5	499.8	548.0	596.8	594.5
130°	481.0	563.5	531.3	575.8	620.0	612.6
132.5°	522.5	608.5	564.5	604.3	643.3	647.9
135°	563.0	650.6	592.3	629.1	667.3	665.8
137.5°	602.1	689.6	626.0	648.5	683.0	687.6
140°	640.3	731.6	656.1	674.1	702.6	703.4
142.5°	680.9	773.7	689.1	699.6	725.3	719.9
145°	725.9	813.5	730.4	725.1	741.8	732.1
147.5°	765.6	848.0	759.6	743.9	763.6	750.9
150°	809.9	883.2	800.2	770.1	781.4	775.4
152.5°	850.4	911.0	844.4	790.4	803.1	795.7
155°	890.2	941.2	887.2	810.7	819.7	816.7
157.5°	924.7	966.8	919.5	831.6	842.2	836.2
160°	954.8	987.8	957.0	863.2	857.2	857.2
162.5°	981.0	1008.1	983.3	905.9	873.7	859.5
165°	1004.3	1023.8	1006.6	954.0	905.3	892.5
167.5°	1027.0	1039.8	1033.8	993.0	954.0	927.0
170°	1043.3	1051.8	1042.6	1026.0	1006.6	982.3
172.5°	1053.3	1056.3	1061.5	1050.0	1042.6	1025.5
175°	1058.6	1066.8	1062.3	1065.1	1058.3	1053.4
177.5°	1060.0	1061.5	1060.8	1066.5	1070.4	1063.1
180°	1065.1	1065.1	1065.1	1065.1	1065.1	1065.1

(END OF REPORT)